MAYER environmental

European Metal Recycling Ltd.

Oldbury Site,
Union Road, B69 3EL

Environmental Assessment Report

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Project Reference : 71740E	Dated : October 2010
Project Manager	Authorised
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1 EXECUTIVE SUMMARY

The Site

Mayer Environmental Ltd. (MEL) was commissioned by European Metal Recycling Ltd. (EMR) to undertake an intrusive site investigation at the site on Union Road, Oldbury.

The purpose of the investigation was to determine the current condition of the site and to provide sufficient information to design a suitable remedial strategy if required. The site is to be developed by Innovative Environmental Solutions (UK) Ltd., a joint venture of EMR and Chinook Sciences LLC, to house a pyrolysis and waste treatment plant with the majority of the site surface covered by concrete paving. We understand that part of the eastern side of the site will be covered by soft landscaping. An outline of the proposed works was sent to the regulators for comment before the works were undertaken.

The site is located on Union Road, Oldbury and is roughly triangular in shape measuring approximately 8.7 hectares in area. The Ordnance Survey National Grid Reference of the site is 398310, 290880. The site is currently derelict and disused with the majority of the infrastructure either demolished or vandalised. The site is bordered to the north by the Birmingham Canal, to the south-east by the Anglo African Industrial Park and to the south-west by the River Tame. The site has had a long history of industrial use from a colliery and furnaces to an oil depot housing a large number of above ground storage tanks. The site levels have been built up over the years with fill materials identified from previous intrusive investigations as comprising mainly colliery and steel manufacturing wastes.

Site work was undertaken between the 14th and 16th June 2010 during a period of dry weather. Ground conditions were investigated by the sinking of nineteen boreholes using a shell and auger rig (denoted BHME01 through BHME19) and the excavation of nineteen trial pits using a JCB (denoted TPME01 through TPME19). The boreholes were located to target areas where little previous investigation had been undertaken and areas where previous boreholes had been lost or damaged. Three of the existing boreholes (BH14, BH104 and BH7) were mirrored to validate the data we have on file and confirm that it can be relied on. Monitoring wells were installed in all borehole locations.

The ground conditions were logged during the site works and samples were collected at regular intervals or changes of strata for analysis. Selected samples were submitted for testing in accordance with the specification of works. Ground water samples were taken from the boreholes on three separate occasions and submitted for analysis in accordance with the specification of the works.

Findings

In the majority of locations the fill materials were found to overlie the natural marl, although the depth to the base of the fill materials varied significantly across the site. Overall, the base of the fill materials tend to be shallower in the areas of the former lorry park and the infilled canal basin becoming deeper towards the River Tame. However, cross-sections of the ground conditions show undulations in the depth of the base of the fill materials which produce pits and troughs which could cause any liquid/mobile contamination present to pool in certain areas, preventing significant migration across the rest of the site.

The data recorded from both previous boreholes and the MEL boreholes suggests that the groundwater levels vary significantly across the site. The findings confirm previous evidence of the presence of two perched groundwater tables on site, a shallow table and a deeper table. The shallow table appears to sit between 2m and 3m bgl in the area of the infilled canal basin. The deeper table is located across the rest of the site and appears to sit between 7m and 10m bgl.

The cross sections indicate that the base of the fill materials generally slopes down towards the River Tame and the groundwater levels recorded broadly follow this pattern. Therefore the general groundwater flow is considered to be towards the river as would be expected.

The presence of free phase product appears to be confined mainly to the basin area with a small plume extending away from this area down towards the River Tame. The plume appears to be quite narrow and not to be spreading laterally. Previous monitoring of the boreholes by other consultants over time identified free phase product across large areas of the site. Therefore, it can be seen that the free product currently present is on a much reduced scale from that seen in the past.

Visual and olfactory evidence of hydrocarbon contamination was encountered in a number of locations across the site, particularly in the area of the infilled basin and the boreholes to the west of this area.

With regard to risks to human health only a small number of elevated levels of contaminants were detected within the near surface soils. However, as the majority of the site is to be covered by buildings or concrete paving no pathway will exist to the site's end users and therefore there is considered to be little significant risk. The areas where soft landscaping is proposed displayed no significant levels of contaminants with regard to human health.

Risks to construction workers from the contaminants encountered, especially the asbestos, are still an issue as a pathway will be present when the site is being developed.

Elevated levels of carbon dioxide and depleted oxygen levels were detected in a number of locations across the site. As carbon dioxide is a heavy gas there is a risk to the site's end users

from accumulation of carbon dioxide within, for example, basements and sumps.

With regard to risks to controlled waters, areas of free phase hydrocarbon product and dissolved hydrocarbon contamination have been detected at various locations across the site. The contaminated area appears to be in the area of the infilled canal basin and to the west of this with a narrow free phase plume extending from the edge of the basin towards the River Tame.

The most significant area of hydrocarbon contamination was noted to be in the area of the infilled canal basin based on evidence from the trial pitting exercise where an oily liquid was noted to be pooling at a depth of approximately 2m.

The locations of the mine shafts have now been confirmed and it can be seen that they are located under the area of the site with the most significant hydrocarbon contamination. Therefore, a potential pathway is considered to exist between the groundwater in the fill materials and the underlying Secondary A aquifer. The marl has been shown to be practically impermeable and therefore the mine shafts are the only potential pathway to the aquifer that is considered significant.

Sampling and analysis of the waters from the discharge point indicate that the interceptor drain running along the edge of the River Tame is still acting to protect the river and therefore no pollutant linkage is considered to exist for the river.

The quantity and density of the vegetation currently present on the site suggests that any contaminants within the fill materials are not having a significant detrimental effect on flora and fauna on the site. However, if the area to the west of the site is to be developed into an area of soft landscaping the levels of phytotoxic metals detected may have an impact on any less hardy planting schemes. The stands of Japanese Knotweed noted on the site are currently being treated.

It is recommended that the findings of this report are submitted to the regulators for comment and a remedial strategy is produced to remove the pollutant linkages that have been shown to be present on the site.

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Appendices

2 INTRODUCTION

Mayer Environmental Ltd. (MEL) was commissioned by European Metal Recycling Ltd. (EMR) to undertake an intrusive site investigation at the site on Union Road, Oldbury.

A number of investigations, reports and assessments have been undertaken for the site over the past twenty years. A phase I desk study and a summary of the previous investigations were detailed in the MEL 'Phase I Desk Study and Environmental Summary Report' referenced 71740 and dated April 2010. Other reports also considered include those undertaken by Clancy Consulting Ltd and Hydrock Consultants Ltd.

Authorisation to undertake the works was provided by EMR.

3 PURPOSE

The purpose of the investigation was to determine the current condition of the site and to provide sufficient information to design a suitable remedial strategy if required.

The site is to be developed by Innovative Environmental Solutions (UK) Ltd., a joint venture of EMR and Chinook Sciences LLC, to house a pyrolysis and waste treatment plant with the majority of the site surface covered by concrete paving. We understand that part of the eastern side of the site will be covered by soft landscaping.

An outline of the proposed works was sent to the Environment Agency (EA) to consider the issues relating to controlled waters, and the local authority, Sandwell Borough Council (SBC), to consider human health exposure issues, for comment before the works were undertaken.

4 SCOPE

This report presents our observations, borehole, trial pit and monitoring logs, laboratory results and interpretation of these logs, observations and results. The scope of works was agreed with EMR and the regulators prior to the investigation being carried out.

On any site, and in particular on sites of potentially contaminative previous uses, ground conditions can change rapidly over short distances and there may be differences in ground conditions between exploratory positions. It should be noted that investigation beneath building footprints has not been possible. No responsibility can therefore be accepted for ground conditions that have not been revealed by the site investigation.

Site assessments can range from limited observations to extensive investigations and testing. The degree of uncertainty in interpreting a site's environmental condition will depend upon the budget and scope of work authorised by the client. Some degree of uncertainty will always exist.

This report has been prepared solely for the benefit of our client, European Metal Recycling Ltd for the purpose as outlined above.

No warranty is offered to any third party and no responsibility or liability will be accepted for any loss or damage in the event that this report is relied upon, either in its entirety or in part, by a third party or used in circumstances for which it was not originally intended. This report shall not be transferred to or relied upon by any other party without express written permission of Mayer Environmental Ltd.

5 THE SITE

5.1 Site Location

The site is located on Union Road, Oldbury. The Ordnance Survey National Grid Reference of the site is 398310, 290880.

5.2 Site Description and Setting

The site investigated is roughly triangular in shape measuring approximately 8.7 hectares in area.

The site forms a generally level area with a steep bank running down to the River Tame on the south-west side. The River Tame borders the south-west of the site at a level approximately 10m lower than the site levels. An access track runs adjacent to the river. The western most corner of the site is situated at a T-junction of the Birmingham Canal and Gower Branch Canal. The Birmingham Canal runs along the northern site boundary. An industrial estate comprising works and warehouses lies adjacent to the south-eastern boundary.

The maps show the Union Road to run in a north-south direction across the site. Concrete blocks and herras fencing have been placed to block the entrance to deter unlawful entry.

The site has previously been used as a fuel terminal (to the west of Union Road as it runs across the site) and lorry park (to the east of Union Road) but the majority of the buildings and structures have now been demolished or vandalised. Railway sidings run along the northern edge branching onto the site from the main rail line that runs east to west along the northern side of the Birmingham Canal. Four buildings were located in former lorry park area of the site. Two of the buildings appeared to be derelict workshops with inspection pits sunk into the floor. One of the buildings, to the west of the workshops is completely burnt out whilst the small brick building to the east was of unknown use and has now been demolished. A small number of derelict small brick buildings were located along the Union Road as it crosses the site.

The majority of the former lorry park of the site is covered by concrete paving in poor condition. A small bund of materials were noted in the south-east corner of this area and a section of this area, next to Union Road, appears to be slightly built up.

The rest of the site is covered by overgrown vegetation and young trees with a small number of concrete and tarmac roadways running east to west and north to south across the area. In the middle of the site an area of mounded materials is located which is now overgrown by large shrubs.

In the southern section of the site a number of stands of Japanese Knotweed were noted. These stands are currently being treated.

Two large concrete interceptors are located on the south-western boundary of the site at site surface level. They are currently out of operation although both are filled with water with some evidence of free phase hydrocarbons being present. A small bunded tank and a collapsed small brick building associated with the interceptor tanks are located to the south of the tanks.

A French drain has previously been constructed along the entire length of the site boundary with the River Tame. An interceptor has been placed within the drain with a consented discharge point flowing out into the river. The drain and interceptor have been installed to protect the river by intercepting groundwater flow from the site before it reaches the river. The covers of the interceptor are missing. The access track that runs alongside the river runs along the top of the drain.

5.3 Summary of Desk Study Findings

The site has had a long history of industrial use from a colliery and furnaces to an oil depot. It is understood from Coal Authority reports that three mine shafts are located on the site associated with the former colliery. The oil depot covered the majority of the site at its peak and comprised a number of above ground tank farms. Information from previous reports suggests that there were up to 31 above ground storage tanks (ASTs) located on the site. These were reported to contain leaded and unleaded gasoline, kerosene, diesel and black oil which was brought on via a pipeline in the north-east corner of the site via railway. Distribution from the depot was then via road tanker.

Due to this varied industrial history a large amount of fill materials have been used on site to build up levels over the years. A number of refuse tips have also been identified as being present from the historic maps. Previous investigations indicate that the fill materials are likely to be colliery waste and the like.

5.4 Summary of Review of Previous Reports

Previous reports identified that free phase hydrocarbon product was present on the perched groundwater underlying the site. Sampling from boreholes installed during previous investigations by MEL suggests that this free phase product is still present in discontinuous areas across the site. The sampling also indicates that MTBE and hydrocarbons are present within the dissolved phase.

The French drain installed as a cut off drain during a previous phase of works discharges water to the River Tame. Sampling of this discharge point by MEL suggests that the drain is still acting to protect the river.

The potential presence of the historic mine shafts was identified as being a potential pollutant pathway into the coal measures below.

With regard to human health the previous investigations did not identify any significant risk to human health from the near surface soils with only one 'hotspot' area of BTEX identified in previous borehole BH107.

Ground gases have also been recorded on the site during previous investigations.

6 ENVIRONMENTAL SETTING

6.1 Geology

Geological records (British Geological Survey Map 1:50,000 sheet 168) indicate that the site is underlain by made ground that overlies the Etruria Marl Formation, comprising mudstone, that is part of the Upper Coal Measures. This overlies the Middle Coal Measures (productive measures). The records also show that a narrow band of alluvium, comprising clay, silt, sand and gravel, is present underlying the made ground along the south-western boundary of the site adjacent to the River Tame.

6.2 Groundwater Vulnerability

Both the alluvium underlying part of the site and the Etruria Marl Formation, as part of the coal measures, are classified by the Environment Agency as Secondary A aquifers. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. However, the mudstone that comprises the marl is more likely to be characteristic of Unproductive strata.

The Middle Coal Measures that underlie the site are generally considered as aquifers with only limited or local potential.

Soil information for this area is based on fewer observations than elsewhere. A worst case vulnerability classification of H (soils of high leaching potential) must therefore be assumed. Soils of high leaching potential have little ability to attenuate diffuse source pollutants and liquid discharges and have the potential to move rapidly to underlying strata or to shallow groundwater.

6.3 Surface Water

The site is bounded on 2 sides by surface water features. To the north the Birmingham Canal is located. To the south-west the Gower Branch Canal, branching off from the Birmingham Canal, borders the site for a short distance. The River Tame then passes under the Gower Branch Canal and borders the site for the rest of the south-western boundary. The River Tame flows in a south-east to north-west direction.

The river quality of both the Gower Branch Canal and the River Tame in close proximity to the site has been classified as D (Fair) by the Environment Agency (EA). The river quality of the Birmingham Canal within close proximity to the site has been classified as E (Poor).

7 PRELIMINARY CONCEPTUAL MODEL

The risk assessment process is one that develops as more information becomes available to the risk assessor. Potential sources of contamination, exposure pathways and sensitive receptors are identified and placed in to the context of a conceptual site model.

At this stage of the risk assessment the aim is to:

- Determine the sources of contamination and to identify specific contaminants of concern;
- Identify where these contaminants may reside – soils, ground or surface waters, ground gases etc;
- Identify possible target receptors and their relative sensitivity to these contaminants if exposed;
- Identify and characterise contaminant migration pathways to determine whether a linkage exists;
- and; create a conceptual model for the site displaying the sources – pathways – targets identified placing them in to context to demonstrate how the site may present a risk.

The conceptual site model is a dynamic representation of the site, to be refined and developed at each stage of the site investigation process. It is also to be used to direct and inform future investigation by highlighting areas requiring further investigation or eliminating those considered to be of insignificant or acceptable risk.

The conceptual site model contains the three elements:

- the **source** - probable or actual contaminants their nature and location;
- the **receptor**– existing and, within reason, foreseeable targets upon which the source may impact these may be either on or off site; and,
- the **pathway –** means by which the source and the receptor may come in to contact.

Where a **source – pathway – receptor** pollutant linkage is envisaged, an estimation of the risk posed by this linkage can be made. Should any one of the three elements be absent, then there is no risk.

The tables below have been based on information from the MEL Environmental Summary Report.

7.1 Potential Sources of Contamination

Contamination sources are based upon the previous land use of the site and potentially contaminative land use in the vicinity of the site.

Source	Contaminant	Location
Residual contamination within the fill materials	Metals, petroleum hydrocarbons, PAHs, BTEX, asbestos	On site
Free Phase product located on surface of perched groundwater	BTEX, petroleum hydrocarbons	On site
Residual dissolved contamination within perched groundwater	Petroleum hydrocarbons, BTEX, MTBE	On site
Fill materials	Ground gases	On site
Historic landfill sites in surrounding area	Ground gases	Off site - the closest located 87m to the west

7.2 Potential Receptors

Receptor	Qualifying Comments
Site users/residents	Future site workers
Ground workers/maintenance staff/construction workers	Construction workers
Site Neighbours	Industrial properties neighbouring the site
Ground water	Perched groundwater in the fill materials and Secondary A aquifer in the alluvium underlying part of the site. The Etruria Formation is considered as unproductive strata.
Buried Services	Water mains, power or other below ground services
Surface water	River Tame
Local Ecological Systems	Local environment

7.3 Potential Exposure Pathways

Exposure Pathway	Qualifying Comments
Direct contact	Contact with exposed skin or eyes with soil, dusts (in or outdoors) or water (in or out doors)
Ingestion	Consumption of soils, dust (in or outdoors) or water (in or outdoors).
Inhalation	Inhalation of soil dust, vapours, gases (in and outdoors)
Soil Leaching	Water soluble contaminants leaching through soil to impact on ground waters, contacting human receptors.
Under ground services	Degradation caused by aggressive soil or water based contaminants, migration of ground gases.
Groundwater	Percolation etc.
Mine shafts	It is thought that three historic mine shafts exist on the site which could provide preferential pathways from the perched groundwater to the upper coal measures below.

7.4 Preliminary Pollutant Linkages

Source	Contaminant	Pathway	Receptor	Probability
Residual contamination within the fill materials	Metals, petroleum hydrocarbons, PAHs, BTEX, asbestos	• Direct Contact • Ingestion • Inhalation (dust and vapours) • Soil Leaching • Structural/service degradation	Construction workers Future site users Groundwater Buildings and services Flora and Fauna	P
Free Phase product located on surface of perched groundwater	BTEX, petroleum hydrocarbons	• Inhalation (vapour) • Soil Leaching • Structural/service degradation	Future site users Construction Workers Groundwater Buildings and services	P
Residual dissolved contamination within perched groundwater	Petroleum hydrocarbons, BTEX, MTBE	• Inhalation (vapour) • Soil Leaching • Mine Shafts • Structural/service degradation	Future site users Construction workers Groundwater Buildings & services	P
Fill Materials	Ground gases	• Inhalation (gases)	Future site users Construction workers	P
Historic landfill sites in surrounding area	Ground gases	• Inhalation (gases)	Future site users Construction workers	P

Possible – P Improbable - I

7.5 Summary

Potential pollution linkages exist on the site.

8 METHOD OF SITE INVESTIGATION

Site work was undertaken between the 14th and 16th June 2010 during a period of dry weather.

Ground conditions were investigated by the drilling of nineteen boreholes using shell and auger rigs (denoted BHME01 through BHME19) and the excavation of nineteen trial pits (denoted TPME01 through TPME19).

Prior to commencing, services were scanned for at all locations. The boreholes were located to target areas where little previous investigation had been undertaken and areas where previous boreholes had been lost or damaged. Three of the existing boreholes (BH14, BH104 and BH7) were mirrored to validate the data we have on file and confirm that it can be relied on.

The nineteen shell and auger boreholes were drilled to a maximum depth of 13.5m bgl. Installations were placed within all the boreholes to enable gas and groundwater monitoring. Installations were of 50mm diameter HDPE pipe with clean screw thread (no adhesive) connections. In each borehole a two metre section of plain pipe was installed and slotted sections of pipe were attached to the base of the fill materials. The slotted section of the borehole annulus was then backfilled with gravel. When the plain pipe was reached the borehole annulus was backfilled with bentonite granules to form a seal. Where the natural ground was reached bentonite seals were also placed at the change between the natural materials and the fill materials.

At the surface the installations were capped off with a gas tap and lockable raised metal cover. These were set into concrete mountings.

The nineteen trial pits were located to investigate the area of the infilled canal basin in the north of the site and to give a good spread across the site. The trial pits were excavated using a JCB to a maximum depth of 3.6mbgl. All excavations were backfilled with arisings in the same order as excavated on completion.

Groundwater levels were monitored and samples taken on three separate return visits; 23rd-24th June, 19th-20th July and 23rd-24th August 2010. On each occasion all nineteen MEL boreholes and the corresponding 'mirror' boreholes were monitored for groundwater level. On the first visit all boreholes that had sufficient groundwater were sampled. On the subsequent visits selected boreholes were sampled based on the previous data. The existing boreholes were monitored during the drilling phase to determine groundwater levels but no sampling, other than subsequently from the 'mirror' boreholes, was undertaken. Previously, selected existing boreholes were sampled by MEL in March 2010 with the results included within the Environmental Summary Report.

Locations of the boreholes and trial pits are marked on the site plan included in appendix 1. Photographs are included within appendix 2. Borehole and trial pit logs are included within appendix 3. Groundwater monitoring and sampling information is included within appendix 5.

Soil samples were collected into clean new plastic bags and when sampled for organic analysis, in glass jars. Groundwater samples were collected in glass bottles. Glassware was placed within cool boxes prior to dispatch to the laboratory.

9 GROUND CONDITIONS

For the purposes of reporting the subject site will be split in three separate areas:

- Area A – eastern section of the site formerly known as the former lorry park;
- Area B – Northern section of site running adjacent to the rail lines; and
- Area C – Southern section of site running adjacent to the steep slope down to the River Tame.

A site plan included in appendix 1 shows the locations of these areas.

9.1 Geology and Hydrogeology

Geological records (British Geological Survey Map 1:50,000 sheet 168) indicate that the site is underlain by made ground that overlies the Etruria Marl Formation, comprising mudstone, that is part of the Upper Coal Measures. This overlies the Middle Coal Measures (productive measures). The records also show that a narrow band of alluvium, comprising clay, silt, sand and gravel, is present underlying the made ground along the south-western boundary of the site adjacent to the River Tame. The alluvium is classified as a Secondary A aquifer. The Etruria Marl Formation is classified as unproductive strata.

9.2 On-Site Ground Conditions

9.2.1 Area A

Generally the ground conditions were comparable across this area of the site. Concrete was encountered at the majority of the borehole and trial pit locations to a maximum thickness of 0.4m. Fill materials were encountered in all locations to a maximum depth of 7.7m bgl in location BHME12. The fill generally comprised varying proportions of clay, sand and gravel. In locations BHME18 and BHME19 an ashy fill material was encountered.

Underlying the fill materials natural ground was reached at all borehole locations. The clay generally comprised a firm to stiff silty clay which is considered to represent the Etruria Marl.

Evidence of hydrocarbon contamination was encountered at location BHME19 at a depth of 3m bgl where a slight hydrocarbon odour was noted. No evidence of hydrocarbon contamination was noted at any other borehole or trial pit location in this area.

9.2.2 Area B

The surface of the locations in this area was split between tarmac and concrete on the roadways and topsoil in the other areas. The depth of fill materials ranged from 5m bgl in BHME13 to 10.4m bgl in BHME05. As expected the base of the fill materials were not encountered at any trial pit location. The base of the fill materials were not encountered in four of the borehole locations either. At locations BHME14, BHME16 and BHME17 refusals on cobbles of slag materials were encountered at depths of 7.5m bgl, 9.0m bgl and 7.1m bgl respectively. At location BHME13 a concrete base was located at a depth of 5.0m bgl. It is thought that this obstruction could form the base of one of the arms of the infilled canal basins that historically extended onto the site.

The fill materials in this area generally comprised slightly clayey, gravelly, ashy materials with frequent fragments of clinker, brick and slag materials. At location BHME05 a chalky clay material was encountered to a depth of 7.0m bgl overlying the ashy materials. In locations TPME12, TPME13 and TPME14b a sandy clay material was encountered to the full depth excavated. These trial pits are located in the area of one of the former canal basins. No further boreholes were drilled in this area due to uneven ground and lack of access caused by the presence of formerly tipped materials. Therefore the full depth of fill materials in the former basin area was not determined during this investigation. Previous investigations, prior to the tipping of the materials determined the base of the fill materials in this area to be between 4.1m bgl and 4.2m bgl (WEEKs BH115 and BH221a respectively).

Where encountered, the natural materials underlying the fill materials generally comprised a firm to stiff silty clay, considered to represent the Etruria Marl.

Evidence of hydrocarbon contamination was noted in a number of locations in this area. Pooling oily liquid with a strong hydrocarbon odour was noted in locations TPME12, TPME13 and TPME14b at a maximum depth of 2.4m bgl. In locations TPME07 and TPME08 strong hydrocarbon odours were noted from 3.0m bgl and 2.6m bgl respectively. To the west of the infilled basin area hydrocarbon odours were noted in the fill materials at three locations, BHME04, BHME05 and BHME09, from depths of 9.0m bgl, 3.0m bgl and 2.0m bgl respectively. The strongest odours were noted in BHME04 and BHME09.

Within location TPME07 pockets of light blue fibrous material were noted at a depth of 2.8m. Pockets of fibrous materials were also noted in locations TPME02 and TPME04 at depths of 2.5m bgl in both locations.

9.2.3 Area C

The majority of the locations in this area were covered by topsoil and vegetation at the surface. The depth of the fill materials ranged from 9.3m bgl in BHME03 to 12.2m bgl in BHME01. As expected the base of the fill materials were not reached in any of the trial pit locations.

The fill materials in this area generally comprised sand and ash with frequent fragments of clinker, bricks and slag.

The natural materials underlying the fill materials generally comprised a firm to stiff silty clay, considered to represent the Etruria Marl.

Evidence of hydrocarbon contamination was noted in a number of locations in this area. Within BHME01and TPME04 strong hydrocarbon odours were noted at depths of 11.2m and 0.7m respectively. A slight hydrocarbon odour was also noted in BHME07 from a depth of 8m bgl.

At the base of trial pit TPME15 liquid soaked hessian sacks were encountered which had a sweet yet bitter odour, similar to that of linseed oil.

9.2.4 Comparison of 'Mirror' Boreholes

BHME04 was drilled to mirror BH7 (drilled by Wilkinson Associates in 1997). The boreholes are located approximately 5m apart. Both boreholes encountered the base of the fill materials at a similar depth; 10.5m in BH7 and 10.2m in BHME04. Underlying the fill the natural clay was encountered to the full depth drilled. The fill materials were similar and generally comprised sand and ash with fragments of clinker and slag. Evidence of hydrocarbon contamination was noted in both locations within the fill with a slight odour from 7.5m bgl in BH7 and a strong odour and sheen from 9m bgl in BHME04. The response zones of the monitoring wells differ slightly. The well within BH7 had a response zone at the base of the fill between 7.3m and 10.25m bgl. The well within BHME04 was installed with a response zone through the fill materials from 2m to 10m bgl. The groundwater levels recorded during the monitoring visits are similar between the two locations with depths of around 7.7m bgl.

BHME18 was drilled to mirror BH104 (drilled by Wilkinson Associates in 1999). The boreholes are located approximately 5m apart. Both boreholes encountered the base of the fill materials at a similar depth, 6.2m bgl in BHME18 and 6.4m bgl in BH104. Underlying the fill the natural clay was encountered to the full depth drilled. The fill materials were similar and generally comprised ashy materials with brick fragments. No evidence of hydrocarbon contamination was noted at either location. The response zones of the monitoring wells are similar between depths of 2m and 4m bgl in BHME18 and 1m to 7.4m bgl in BH104. The

groundwater levels recorded during the monitoring visits are similar between the two locations with depths ranging from 3.75m bgl to 3.94m bgl.

BHME10 was drilled to mirror BH24 (drilled by Wilkinson Associates in 1997). The boreholes are located approximately 3m apart, although BH24 was located on the raised embankment next to the rail lines whilst BHME10 was located on the adjacent roadway. In BHME10 the base of the fill materials was encountered at 6.7m bgl and the fill generally comprised sand, clay and brick crush. In BH24 the base was encountered at 10.2m bgl and the fill materials generally comprised ash. Underlying the fill in both locations the natural clay was encountered to the full depth drilled. Hydrocarbon odours were noted in BH24 from 8m bgl. No evidence of hydrocarbon contamination was noted in BHME10. The response zones within the monitoring wells were at different depths with the zone on BH24 situated from 5.6m to 11.5m bgl. The response zone in BHME10 was situated between 2m and 6m bgl. No groundwater was present in BHME10 on each monitoring visit and groundwater was recorded at levels of 9.8m bgl and 9.72m bgl in BH24.

9.2.5 Cross-Sections

A number of cross-sections have been produced for the site. Overall, the base of the fill materials tend to be shallower in the areas of the former lorry park and the infilled canal basin becoming deeper towards the River Tame. However, the cross-sections show undulations in the depth of the base of the fill materials which produce hollows and troughs which could cause any contamination present to pool in certain areas, preventing significant migration across the rest of the site.

The cross-sections are included in appendix 4 and on the site plans in appendix 1.

9.3 Groundwater Conditions

During drilling groundwater was not encountered at any trial pit location and only in a small number of borehole locations (BHME01, BHME04, BHME08, BHME09, BHME13, BHME18 and BHME19). The depths to the groundwater during drilling varied significantly with recorded depths ranging from 3.2m bgl in BHME13 to 11.2m bgl in BHME01.

Monitoring wells were installed in all locations and the depth of the groundwater was monitored on 3 separate occasions; 23rd June, 19th July and 23rd August 2010.

The groundwater levels in the boreholes drilled during previous phases of investigation were also monitored on one occasion during the intrusive investigation.

Groundwater was not encountered in all of the MEL boreholes during the monitoring visits.

Samples were taken from the boreholes using either a mechanical pump or by hand bailing. The pump was used where sufficient water was present to purge the borehole of three well volumes before sampling. Where only small quantities of groundwater were present hand bailing was used to purge as much water as possible before sampling. In some locations it was not possible to purge the borehole at all.

Details of methods and quantities of groundwater purged are included with the groundwater monitoring data in appendix 5.

9.3.1 Area A

The groundwater levels detected within BHME18, BHME19 and previous location BH104 in the eastern part of this area generally lie between 3.5m and 4.0m bgl. The levels recorded within BHME11 and BHME12 are slightly deeper generally between 5m and 7.5m bgl. No free phase product was recorded in any of the boreholes located within this area. No visual or olfactory evidence of hydrocarbon contamination within the groundwater was noted during the monitoring visits.

9.3.2 Area B

The groundwater levels are fairly shallow in the area of the infilled basin between 2 to 3m bgl and dropping to around 7m bgl to the west of the basin. Free phase product was noted in a number of boreholes in these areas; BH115, BH221A, BHME09 and BH8 with thicknesses of 21cm, 60cm, 7cm and 0.1cm respectively. Additionally during the excavation of trial pits TP12, TP13 and TP14b in the infilled basin area a black oily liquid with a strong hydrocarbon odour was noted to pool in the base of the pits between 2-3m bgl. Within the area to the west of the basin the groundwater sampled from locations BHME04 and BHME05 displayed visual and olfactory evidence of hydrocarbons although no free phase product was recorded as being present.

BHME10, BHME14, BHME16 and BHME17 were recorded as dry on all three visits. However, it should be noted that locations BHME14, BHME16 and BHME17 were not able to be progressed into the natural strata due to obstructions. Therefore it is possible that groundwater is present in these areas but at a slightly deeper depth than that able to be drilled.

BHME13 was noted to be dry during the July and August visits. It is thought that the borehole was vandalised and blocked after the first visit preventing any further monitoring or sampling from taking place.

9.3.3 Area C

Of the five MEL boreholes drilled in this area only two, BHME02 and BHME07, were recorded as having groundwater present on all three monitoring visits. BHME03 was dry on all occasions. The groundwater levels recorded in this area appear to be shallower in BHME07 and BHME08, close to the centre of the site, at depths of around 9m bgl with the groundwater levels in boreholes close to the River Tame becoming deeper between depths of 9.5m (BHME02) and 11.43m (BHME01). Groundwater levels recorded in the previous boreholes that could be found broadly show this trend. However, there does appear to be an anomaly to this trend in the area around BH208 and BH211 towards the centre of the site where the groundwater was recorded at depths of up to 11.13m bgl.

Free product was noted in a number of the previous boreholes in this area with thicknesses ranging from 2cm in BH214 to 36cm in BH110. The free product appears to form a narrow plume from the area of free product noted in Area B down towards the River Tame. In BH211, where deeper groundwater levels were recorded and away from the plume area, free product thicknesses of 3cm were noted.

Evidence of hydrocarbon contamination was noted in BHME01 during the July and August visits where a hydrocarbon sheen and strong odour were present.

There appears to be only a minimal quantity of groundwater in this area with the majority of the boreholes unable to be purged of significant quantities of water.

9.3.4 Summary

The data recorded from both previous boreholes and the MEL boreholes suggests that the groundwater levels vary significantly and not consistently across the site. The findings confirm previous evidence of the presence of two groundwater tables across the site, a shallow table and a deeper table. The shallow table appears to sit between 2m and 3m bgl in the area of the infilled canal basin. The deeper table is located across the rest of the site at depths of between 7m and 10m bgl.

The cross sections described in section 9.2.5 indicate that the base of the fill materials generally slopes down towards the River Tame and the groundwater levels recorded broadly follow this pattern. Therefore the general groundwater flow is considered to be towards the river as would be expected. The cross-sections also show that undulations in the depth of the fill materials are present forming dips and troughs which could cause pockets of contamination to be isolated and prevent their migration to other areas of the site. This could be the reason why the shallower groundwater table is present in the basin area.

The presence of free phase product appears to be confined mainly to the basin area with a small plume extending away from this area down towards the River Tame in a south-westerly direction. The plume appears to be quite narrow and not to be spreading laterally to the north-west or south-east. Previous monitoring of the boreholes by other consultants over time identified free phase product across large areas of the site. Therefore, it can be seen that the free product currently present is on a much reduced scale from that seen in the past.

A site plan included in appendix 1 illustrates the distribution of free phase product recorded.

9.4 Laboratory Analysis

Representative samples of the various fill and natural materials were submitted for contamination analysis at NAMAS/UKAS accredited laboratories.

Fifty nine soil samples were submitted for a general suite of contaminants including metals and poly-aromatic hydrocarbons. Of these twenty one of the fill samples were also screened for asbestos fibres and ten analysed for polychlorinated biphenyls (PCBs).

Sixty soil samples were submitted for speciated petroleum hydrocarbon analysis (TPHCWG) and fifteen for volatile and semi-volatile organic compounds (VOCs/SVOCs).

In total twenty six groundwater samples were submitted for TPHCWG and fourteen for a general suite of contaminants to give an overall idea of water quality.

A sample log is included within in Appendix 7 and the data is presented in the certificates of analysis in appendices 8, 9 and 10.

9.5 Gas Monitoring

Gas monitoring was undertaken on three separate occasions at the same time as the groundwater monitoring and sampling.

Gas monitoring was undertaken using portable landfill gas monitoring equipment. An analox infra red monitor was used to measure concentrations of methane, carbon dioxide and oxygen. The analox instrument is intrinsically safe and displays the presence of the three gases in the range of 0.1% to 100% concentration. The instrument samples continuously by pumping air over its detectors and displaying the concentration of methane, carbon dioxide and oxygen. Atmospheric pressure was also recorded. The presence of volatile organic compounds (VOCs) were recorded using a photo ionisation detector (PID).

Where gas valves were still in place on the monitoring wells flow rates were recorded. However, it should be noted that the majority of the wells no longer have gas valves due to recurring theft from the site.

The data is presented in the certificates of analysis in appendix 6.

10 RESULTS OF ANALYSIS - SOILS

Comments and recommendations are based on current UK good practice. Where this is not available, other risk assessment tools will be applied.

Certificates of Analysis are included in Appendix 8.

Application of Soil Guideline Values

Until recently Soil Guideline Values (SGVs) were used as a screening tool for use in the assessment of land affected by contamination. However, concern was expressed that some of the published SGVs were at concentrations at or around background concentrations and a technical note issued in 2005 (CLAN 2/05) formally recognised that a difference existed between published SGVs and the concentration of contaminants in the soil which could be capable of presenting 'significant potential of significant harm'. Subsequently a technical note was issued in 2006 (CLAN 4/06) stating that no more SGVs would be produced until further guidance on human health risk assessment had been determined. Technical note CLAN 6/06 then put forward proposals for the development of SGVs and the technical guidance in which they are set.

In August 2008 the Environment Agency (EA) officially withdrew CLEA reports CLR7 to CLR10 and all SGV reports. At the same time an updated version of the CLEA software and handbook (v1.03 beta) and new reports 'Human Health Toxicological Assessment of Contaminants' (revised version of CLR9) and 'Updated Technical Background to the CLEA Model' (updated version of CLR10) were released. After a consultation period the CLEA software and handbook were re-released as version 1.04 in January 2009 along with final versions of the Toxicological and CLEA reports. The software and handbook have subsequently been updated to version 1.06 incorporating a number of minor changes. It should be noted that the existing individual TOX reports will be withdrawn as and when new versions become available based on the new guidance. In 2009 revised TOX reports and SGVs were published for selected contaminants (arsenic, mercury, nickel, selenium, phenol, polychlorinated biphenyls (PCBs) and BTEX). As only a select number of SGVs are currently in existence the document 'Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition (Chartered Institute of Environmental Health) 2009' has been used. The GACs (general assessment criteria) do not have the same status as SGVs, but the values have been created using the CLEA model. The input parameters used within the model have been researched using a strict hierarchy of source documents and all of the derivation and assumptions made to create a GAC value is provided within this document. It is made clear within the text whether the parameter value determined is being compared to SGV or a GAC. A summary of the SGVs and GACs has been included in Appendix 11.

Please note that no GAC has been generated for lead. Currently no relevant toxicological data is available for this parameter and until such time as a new SGV is published under the new framework the old SGV value will continue to be used as an assessment tool.

Commercial

There are many different kinds of workplace and work-related activities. This land use assumes a typical commercial or light industrial property consisting of a three storey building at which employees spend most time indoors and are involved in office based or relatively light physical work. The critical receptor is considered to be a female adult aged 16-65 years.

Pathways

Pathways used in the CLEA model include direct soil and indoor dust ingestion, skin contact with soils and indoor dust, inhalation of indoor and outdoor dust and vapours, and for example the significance of consuming produce grown within the soils of interest (both the direct consumption and consumption of soils adhering to produce). Each of these pathways of exposure is considered and the significance of each weighted based upon the parameter of interest. This may require re-interpretation once the proposed layout has been finalised.

10.1 Area A

10.1.1 Asbestos

Asbestos fibres were not detected in any of the three samples from this area submitted for asbestos analysis. The fibrous materials visually identified in locations TPME02 and TPME04 were confirmed as not comprising asbestos.

10.1.2 pH Values

The soil pH values in the samples analysed ranged from slightly alkaline to extremely alkaline (pH range between 7.9 and 9.6).

10.1.3 Electrical Conductivity & Soluble Sulphates

The electrical conductivity values (a measure of salinity) were found to be low to moderate in all of the soil samples analysed.

All soil samples contained soluble sulphate concentrations within class DS1 according to BRE Special Digest 1 'Concrete in aggressive ground, 2001.

10.1.4 Metals

When considering a proposed commercial end use the level of lead detected in two of the fill samples, BHME12 6m (1,100mg/kg) and TPME02 2.6m (3,000mg/kg), were in excess of the Soil Guideline Value (SGV) of 750 mg/kg. However, both concentrations were at depth and would therefore not be considered a risk to human health.

Of the remaining parameters determined none were detected at levels that would be considered significant.

10.1.5 Phenol and Cyanide

Phenols are a group of chemically related compounds, which can occur naturally in low concentrations in the environment. They may be encountered in wastes as a result of industrial pollution. Phenols can be corrosive by skin contact and may also act as poisons. Phenols can cause flavour and odour tainting of drinking waters when present in only trace concentrations. These compounds have however been used in medicines as antiseptics for many years, and can be found in preparations such as TCP today.

The levels of phenols detected would not be considered significant.

The concentration of cyanide detected in two samples of the fill materials would be considered slightly elevated; TPME01 0.55m and TPME02 2.6m with concentrations of 34mg/kg and 27mg/kg respectively.

10.1.6 Sulphur & Sulphides

The concentrations of total sulphur and sulphides detected within the soil samples would not be considered significant.

10.1.7 Petroleum Hydrocarbons

Extractable petroleum hydrocarbons (EPH) were determined through extraction and analysis by gas chromatography (GC).

The term 'extractable petroleum hydrocarbons' actually represents a range of compounds of differing character. This can range from the very light and volatile petrol/gasoline through to the very heavy and viscous bitumens and tars.

Two samples of the fill materials displayed levels of hydrocarbons that, although not considered significant with regard to human health and a commercial end use, would be considered slightly elevated. Samples BHME19 3.0m and TPME04 3.0m displayed slightly elevated hydrocarbons eluting over the heavier diesel range. A slight hydrocarbon odour was noted in BHME19.

No significant levels of petroleum hydrocarbons were detected in any of the remaining samples analysed.

10.1.8 Poly Aromatic Hydrocarbons

Poly aromatic hydrocarbons (PAHs) are a range of chemical compounds based on multiple carbon rings. PAHs occur naturally in the environment but are more commonly associated with environmental pollution. They are formed as products of combustion and therefore occur in vehicle exhaust emissions and used engine oil. They are also a major component of coal tar, and can occur in road tar and bitumen, usually as the larger, less volatile PAHs.

Probably the most commonly used PAH standard is the list of sixteen priority pollutants adopted by the United States Environmental Protection Agency (US EPA16).

No significant levels of total PAHs were detected within any of the samples analysed with regard to a commercial end use.

10.1.9 Semi Volatile & Volatile Organic Compounds (SVOCs & VOCs)

Within the samples submitted for analysis the majority of compounds analysed, apart from the PAHs, were below detection and therefore would not be considered significant.

10.1.10 Polychlorinated Biphenyls (PCBs)

PCBs are actually a range of 209 compounds called congeners, which exhibit different physical and chemical properties. They range from fine oily liquids to thick resin like materials, their properties changing in relation to the degree of chlorination within the congeners.

The low levels of PCBs detected would not be considered significant.

10.2 Area B

10.2.1 Asbestos

Of the nine samples of fill materials analysed for asbestos, one was determined as containing asbestos. Sample TPME07 1.2m, where fibrous materials were visually identified, was determined as containing chysotile fibres

Asbestos fibres were not detected in the remaining samples analysed.

10.2.2 pH Values

The soil pH values in the samples analysed ranged from slightly alkaline to extremely alkaline (pH range between 7.1 and 12.0).

10.2.3 Electrical Conductivity & Soluble Sulphates

The electrical conductivity values (a measure of salinity) were found to be low to moderate in all of the soil samples analysed.

The majority of the soil samples contained soluble sulphate concentrations within class DS1 according to BRE Special Digest 1 'Concrete in aggressive ground, 2001. Sample BHME06 4.0m would be classified as DS2.

10.2.4 Metals

When considering a proposed commercial end use the level of lead detected in one of the fill samples, TPME11 0.9m (2,300mg/kg), was in excess of the Soil Guideline Value (SGV) of 750 mg/kg.

A number of samples of the fill materials displayed elevated levels of copper and zinc. Whilst not considered a risk to human health with regard to a commercial end use, the levels detected could be considered an issue with regard to phytotoxicity. Locations BHME16, BHME17 and TPME18 are located in an area understood to be covered by proposed soft landscaping. Samples of the fill materials from the top 0.5m in locations BHME17 and TPME18 displayed elevated levels of both copper and zinc.

Of the remaining parameters determined none were detected at levels that would be considered significant.

10.2.5 Phenol and Cyanide

Phenols are a group of chemically related compounds, which can occur naturally in low concentrations in the environment. They may be encountered in wastes as a result of industrial pollution. Phenols can be corrosive by skin contact and may also act as poisons. Phenols can cause flavour and odour tainting of drinking waters when present in only trace concentrations. These compounds have however been used in medicines as antiseptics for many years, and can be found in preparations such as TCP today.

The levels of phenols and cyanide detected would not be considered significant.

10.2.6 Sulphur & Sulphides

The concentrations of total sulphur detected within the soil samples would not be considered significant.

The concentration of sulphide detected in one of the samples of the fill materials analysed would be considered elevated. Sample BHME14 7.5m displayed a concentration of 2,500mg/kg. Fragments of blue and green glassy slag were noted during the investigation.

10.2.7 Petroleum Hydrocarbons

Extractable petroleum hydrocarbons (EPH) were determined through extraction and analysis by gas chromatography (GC).

The term 'extractable petroleum hydrocarbons' actually represents a range of compounds of differing character. This can range from the very light and volatile petrol/gasoline through to the very heavy and viscous bitumens and tars.

Elevated levels of hydrocarbons were detected in a number of samples in area B.

Within sample BHME04 9.0m elevated levels of BTEX, particularly benzene, were detected. This coincides with a strong hydrocarbon odour and sheen noted on the fill materials during the site works. However, a sample of the natural marl taken from below this depth did not display any significant levels of hydrocarbons.

Sample BHME06 0.5m displayed elevated levels of hydrocarbons eluting within the heavier diesel range fractions.

Samples of the fill materials from varying depths within location BHME09 displayed slightly elevated levels of BTEX. Low levels of the heavier end aliphatic and aromatic hydrocarbons were also detected. Hydrocarbon odours were noted throughout the fill materials at this location.

Within two trial pits in the western area of Area B, TPME07 and TPME08, strong hydrocarbon odours were noted during the site works from depths of 3.0m and 2.6m respectively. The analysis indicates that elevated levels of hydrocarbons were detected in sample TPME07 3.0m and TPME08 2.6m. The levels detected in TPME07 would be considered significantly elevated. The hydrocarbons detected in both samples elute within the heavier diesel fractions.

Within trial pits TPME12, TPME13 and TPME14b pooling liquid with a strong hydrocarbon odour was noted at the base of the pits between 2m and 3m bgl. Analysis of samples from the fill materials at this depth indicate the presence of elevated levels of heavy end hydrocarbons eluting within the heavier diesel fractions.

No significant levels of petroleum hydrocarbons were detected in any of the remaining samples analysed.

10.2.8 Poly Aromatic Hydrocarbons

Poly aromatic hydrocarbons (PAHs) are a range of chemical compounds based on multiple carbon rings. PAHs occur naturally in the environment but are more commonly associated with environmental pollution. They are formed as products of combustion and therefore occur in vehicle exhaust emissions and used engine oil. They are also a major component of coal tar, and can occur in road tar and bitumen, usually as the larger, less volatile PAHs.

Probably the most commonly used PAH standard is the list of sixteen priority pollutants adopted by the United States Environmental Protection Agency (US EPA16).

When considering a proposed commercial end use the concentrations of a number of PAHs detected in sample BHME05 9.0m, including benzo(a)anthracene, benzo(b/k)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene, would be considered elevated. However, the elevated concentrations are at significant depth and would therefore not be considered a risk to human health.

No significant levels of total PAHs were detected within the remaining samples analysed with regard to a commercial end use.

10.2.9 Semi Volatile & Volatile Organic Compounds (SVOCs & VOCs)

Within samples of the fill materials analysed the majority of SVOCs analysed, apart from the PAHs, were below detection and therefore would not be considered significant.

The VOC analysis displayed a number of samples from BHME09 with elevated levels of BTEX compounds. The remaining parameters were below the level of detection and therefore would not be considered significant.

10.2.10 Polychlorinated Biphenyls (PCBs)

PCBs are actually a range of 209 compounds called congeners, which exhibit different physical and chemical properties. They range from fine oily liquids to thick resin like materials, their properties changing in relation to the degree of chlorination within the congeners.

The low levels of PCBs detected would not be considered significant.

10.3 Area C

10.3.1 Asbestos

Of the nine samples of fill materials analysed for asbestos, two were determined as containing asbestos. Samples BHME01 0.5m and BHME02 1.0m were determined as containing chrysotile fibres. No evidence of asbestos containing materials or fibrous materials were noted during the site works.

Asbestos fibres were not detected in the remaining samples analysed.

10.3.2 pH Values

The soil pH values in the samples analysed ranged from slightly alkaline to extremely alkaline (pH range between 7.2 and 9.0).

10.3.3 Electrical Conductivity & Soluble Sulphates

The electrical conductivity values (a measure of salinity) were found to be low to moderate in all of the soil samples analysed.

The majority of the soil samples contained soluble sulphate concentrations within class DS1 according to BRE Special Digest 1 'Concrete in aggressive ground, 2001. Samples BHME01 6.0m and BHME02 1.0m would be classified as DS2.

10.3.4 Metals

A number of samples of the fill materials displayed elevated levels of copper and zinc. Whilst not considered a risk to human health with regard to a commercial end use, the levels detected could be considered an issue with regard to phytotoxicity. Locations BHME03, and TPME19 are located in an area understood to be covered by proposed soft landscaping. Samples of the fill materials from the top 0.5m in both locations displayed elevated levels of both copper and zinc.

Of the remaining parameters determined none were detected at levels that would be considered significant.

10.3.5 Phenol and Cyanide

Phenols are a group of chemically related compounds, which can occur naturally in low concentrations in the environment. They may be encountered in wastes as a result of industrial pollution. Phenols can be corrosive by skin contact and may also act as poisons. Phenols can cause flavour and odour tainting of drinking waters when present in only trace concentrations. These compounds have however been used in medicines as antiseptics for many years, and can be found in preparations such as TCP today.

The levels of phenols and cyanide detected would not be considered significant.

10.3.6 Sulphur & Sulphides

The concentrations of total sulphur and sulphide detected within the soil samples would not be considered significant.

10.3.7 Petroleum Hydrocarbons

Extractable petroleum hydrocarbons (EPH) were determined through extraction and analysis by gas chromatography (GC).

The term 'extractable petroleum hydrocarbons' actually represents a range of compounds of differing character. This can range from the very light and volatile petrol/gasoline through to the very heavy and viscous bitumens and tars.

The majority of the samples analysed from area C were not shown to display elevated levels of hydrocarbons.

Within location TPME15 liquid soaked hessian sacks were noted at a depth of 2.0m bgl. The sacks had a strong odour similar to that of linseed oil. The analysis of a sample of the fill materials from this depth shows significantly elevated levels of hydrocarbons. The laboratory described the sample as showing peaks of free fatty acid compounds consistent with the presence of animal/vegetable oils. This would appear to be consistent with the odour of linseed oil noted on the hessian sacks found at this location.

10.3.8 Poly Aromatic Hydrocarbons

Poly aromatic hydrocarbons (PAHs) are a range of chemical compounds based on multiple carbon rings. PAHs occur naturally in the environment but are more commonly associated with environmental pollution. They are formed as products of combustion and therefore occur in vehicle exhaust emissions and used engine oil. They are also a major component of coal tar, and can occur in road tar and bitumen, usually as the larger, less volatile PAHs.

Probably the most commonly used PAH standard is the list of sixteen priority pollutants adopted by the United States Environmental Protection Agency (US EPA16).

When considering a proposed commercial end use the concentration of benzo(a)pyrene detected within sample TPME09 0.3m (27mg/kg) would be considered elevated when compared to the relevant GAC (14mg/kg).

No significant levels of total PAHs were detected within the remaining samples analysed with regard to a commercial end use.

10.3.9 Semi Volatile & Volatile Organic Compounds (SVOCs & VOCs)

Within samples of the fill materials analysed the majority of SVOCs analysed, apart from the PAHs, were below detection and therefore would not be considered significant.

The VOC analysis displayed elevated levels of BTEX compounds within sample TPME15 2.0m. The remaining parameters were below the level of detection and therefore would not be considered significant.

10.3.10 Polychlorinated Biphenyls (PCBs)

PCBs are actually a range of 209 compounds called congeners, which exhibit different physical and chemical properties. They range from fine oily liquids to thick resin like materials, their properties changing in relation to the degree of chlorination within the congeners.

The levels of PCBs determined within sample TPME19 0.2m could be considered elevated with a total value of 7 congeners of 22.3ug/kg. The levels detected within the remaining samples analysed would not be considered significant.

10.4 Physical Testing

Physical testing including permeabilty, porosity and particle size distribution was undertaken on three samples. Two samples of the fill materials were tested from BHME04 and BHME18. Due to the poor recovery of the marl across the site a composite sample of this material was submitted for analysis.

The sample from BHME04 was described as a sandy gravelly SILT/CLAY with a very low permeability value of $3.23x10^{-9}$ m/s.

The sample from BHME18 was described as a SAND & GRAVEL with a low permeability value of $1.33x10^{-6}$ m/s.

The composite marl sample was described as a CLAY with a permeability value of $7.29x10^{-10}$ m/s making it practically impermeable.

10.5 Summary

With regard to the concentrations of metals detected across the site, only a small no of significant levels of lead were detected when considering a commercial end use. Of these only the concentration detected in TPME11 at 0.9m (2,300mg/kg) could be considered significant as it is near surface.

Slightly elevated levels of cyanide were detected near surface in two locations in the eastern area of the site (area A) with values of 34mg/kg and 27mg/kg.

Chrysotile fibres and fragments of asbestos tile (found during both the MEL and Clancy investigation – see section 13 below for summary of Clancy investigation) were detected in a number of locations near surface across the site.

A number of elevated hydrocarbon levels of hydrocarbons were detected within the fill materials across the site, with the majority located at depth and eluting over the heavier diesel range. The elevated levels associated with the hessian sacks in TPME15 are considered to comprise linseed oil. The underlying marl does not appear to have been impacted by the contamination within the fill materials.

The elevated levels, apart from TPME15, appear to be mainly concentrated within the area of the infilled basin and the area to the west of this. The levels detected, although considered elevated, would not be considered significant when compared to relevant SGVs and GACs for a commercial end use.

Only a small number of samples displayed elevated levels of PAHs. Of these only the levels of benzo(a)pyrene detected in sample TPME09 0.3m (27mg/kg) would be considered a risk to human health as it was detected near surface.

With regard to PCBs elevated levels were only noted in one sample from the near surface in location TPME19 (total of 7 congeners 22.3ug/kg)

11 RESULTS OF ANALYSIS – GROUNDWATER & DISCHARGE

11.1 Groundwater Analysis

Groundwater sampling was undertaken on three separate occasions; 23rd-24th June, 19th-20th July and 23rd-24th August 2010. As the controlled water receptors are considered as both the underlying Secondary A aquifer and the River Tame, where available, the parameters analysed have been compared to the relevant UK Drinking Water Standards (DWS) and Environment Quality Standards (EQS) for freshwater.

All samples were submitted for TPHCWG analysis with selected samples, where sufficient quantities of samples permitted, submitted for a general water quality suite including metals, pH, electrical conductivity and chemical oxygen demand (COD).

Certificates of analysis are presented in appendices 9 and 10.

11.1.1 Area A

Groundwater samples were taken from the following boreholes in Area A during the three monitoring visits.

23rd-24th June 2010	19th-20th July 2010	23rd-24th August 2010
BHME11	BHME12	BHME12
BHME12	BHME18	BHME18
BHME18	BHME19	
BHME19		

BHME11 did not display any significant levels of hydrocarbons during the first round of testing and subsequently was not re-sampled.

Samples from BHME12 were submitted for TPHCWG analysis on all three occasions. No visual or olfactory evidence of hydrocarbon contamination was noted during any site visit. The sample taken in June displayed an elevated level of hydrocarbons within the C10-C35 aliphatic and aromatic fractions with a total concentration of 55mg/l. However, subsequent analysis the following month displayed only low levels of hydrocarbons within these fractions (1.67mg/l). There was insufficient groundwater during the August visit to analyse the full suite hydrocarbon suite. No BTEX were detected in any of the samples from this location.

BHME18 was sampled from on all three occasions and submitted for TPHCWG and the general water quality suite each time. Overall, the samples were generally of reasonable quality with only slightly elevated levels of iron on one occasion and elevated manganese on all occasions compared to the relevant DWS. The level of iron identified did not exceed the relevant EQS. No EQS is available for manganese. The samples taken in June and August did not display any significant levels of hydrocarbons. The sample from July displayed only low levels of hydrocarbons within the heavier fraction (~1.7mg/l). No evidence of hydrocarbon contamination was noted during sampling.

Samples from BHME19 were taken on two occasions. Both samples were submitted for TPHCWG and the June sample was also submitted for the water quality suite. The samples were shown to be of reasonable quality with only a slightly elevated level of manganese present. No significant levels of hydrocarbons were detected in either sample.

11.1.2 Area B

Groundwater samples were taken from the following boreholes in Area B during the three monitoring visits.

23rd-24th June 2010	19th-20th July 2010	23rd-24th August 2010
BHME04	BHME04	BHME04
BHME05	BHME05	BHME09
BHME09	BHME09	
BHME13		
BHME15		

Samples from BHME04 were shown to be of poor quality. On two occasions the samples were submitted for the general water quality suite. Elevated levels of iron and manganese were identified in both samples. Significantly elevated levels of hydrocarbons were noted in all three samples with the highest concentrations present in the sample taken in July. Significantly elevated levels of BTEX were also noted in all samples. Visual and olfactory evidence of hydrocarbon contamination was noted on all visits.

Samples taken from BHME05 were submitted for TPHCWG analysis. The sample taken in June was analysed only for BTEX and hydrocarbons within the lighter fractions due to insufficient quantities of groundwater being present for sampling. Trace levels of BTEX and hydrocarbons were detected. The sample from July was analysed only for the C10 to C35 hydrocarbon fractions again due to insufficient quantities of water. Elevated levels of hydrocarbons throughout the C10-C35 range were shown to be present (~42mg/l). Visual and olfactory evidence of hydrocarbon contamination was noted during the June and July monitoring visits. Insufficient groundwater was present for sampling in August.

Samples from BHME09 were submitted for TPHCWG analysis on all three occasions. The groundwater was noted to be visually of poor quality with oil staining noted on the bailer during the visits in June and July. Minimal groundwater was encountered during the August visit with a layer of thick brown free product present on the surface – a sample of the free product was taken for identification but no groundwater sample was taken due to the lack of water present. Slightly elevated levels of benzene were noted in both groundwater samples. Levels of hydrocarbons were detected in both samples with a higher concentration detected in the July sample. The highest levels of hydrocarbons appear to fall within the lighter range aliphatic fractions suggesting the range of a petrol type product. The free product analysed was shown to elute over the diesel range.

A sample taken from BHME13 during the June monitoring visit was submitted for both TPHCWG analysis and the general water quality suite. The sample displayed slightly elevated levels of manganese and iron and low levels of hydrocarbons within the C10-C35 range. No samples were taken during subsequent visits due to the well being vandalised and blocked.

BHME15 did not display any significant levels of hydrocarbons during the first round of testing and subsequently was not re-sampled.

11.1.3 Area C

Groundwater samples were taken from the following boreholes in Area C during the three monitoring visits.

23rd-24th June 2010	19th-20th July 2010	23rd-24th August 2010
BHME02	BHME01	BHME01
BHME07	BHME02	
BHME08		

Samples from BHME01 were only taken on the July and August visits due to the well being dry during the June visit. The two samples were submitted for TPHCWG only. The samples were shown to contain significantly elevated levels of hydrocarbons, particularly in the sample taken during the August visit (~143.8mg/l), eluting mainly over the heavier range diesel fractions. Visual and olfactory evidence of hydrocarbon contamination was noted during the July and August sampling.

Samples were taken from BHME02 in June and July only due to insufficient groundwater being present for sampling in August. Both samples were submitted for TPHCWG analysis with the June sample also submitted for the general water quality suite. Elevated levels of iron, manganese and sulphate were noted within the June sample but hydrocarbons were not recorded above the level of detection. The sample taken in July was analysed only for the C10-C35 hydrocarbon fractions due to insufficient quantities of groundwater being present for sampling. Elevated levels of hydrocarbons (~52.4mg/l), mainly within the aliphatic C12-C21 fractions were shown to be present. No visual and olfactory evidence of hydrocarbon contamination was noted during the visits.

Samples taken from BHME07 and BHME08 displayed only low levels of hydrocarbons within the diesel range during the first round of testing and subsequently were not re-sampled.

11.2 Comparison of 'Mirror' Boreholes

Samples were taken from 'mirror' boreholes BHME18 and BH104 during the July and August monitoring visits. The samples were submitted for both TPHCWG analysis and the general water quality suite. The analysis indicates that generally the groundwaters are of a similar composition displaying slightly elevated levels of iron, manganese and sulphate. The samples taken in July displayed only low levels of hydrocarbons. The samples taken during the August visit did not display levels of hydrocarbons above the level of detection.

Samples were taken from 'mirror' boreholes BHME04 and BH7 during the July and August monitoring visits. The samples were submitted for both TPHCWG analysis and the general water quality suite. The analysis indicates that generally the groundwaters are off a similar composition displaying slightly elevated levels of iron and manganese. The August sample from BH7 also displayed an elevated level of sulphate. The samples taken from BHME04

displayed significantly elevated levels of hydrocarbons and BTEX during both visits. The samples from BH7 displayed low levels of hydrocarbons and MTBE (methyl tertiary butyl ether).

No groundwater was encountered in BHME10 and therefore no comparison could be made to BH24.

11.2.1 Conclusions

The 'mirror' boreholes were drilled to determine if information from previous investigations could be relied upon. If the information is deemed reliable the previous boreholes that are still in place on the site may then be used for future remedial/monitoring works limiting the need to drill new boreholes.

The ground conditions encountered appeared to be similar between two of the 'mirror' pairs; BHME04/BH7 and BHME18/BH104. The ground conditions between BH24 and BHME10 were noted to be different with the fill materials encountered at a shallower depth within BHME10 and no groundwater encountered within BHME10. BH24 being located on the bund where the rail tracks are situated could account for some of these differences.

The quality of the groundwater sampled within the two sets of boreholes where groundwater was encountered, BHME04/BH7 and BHME18/BH104, was generally noted to be similar with regards to pH, metals, electrical conductivity etc. It was noted that elevated levels of BTEX and petroleum hydrocarbons were detected in BHME04 but not in BH7. However, it has been shown that the groundwater conditions, including visual and olfactory evidence of hydrocarbon contamination and presence of free phase product, are variable in this area of the site and can change within short distances. The levels of hydrocarbons detected in BHME18 and BH104 were not noted to be significantly different.

Therefore it is considered that overall the information from previous investigations can be relied upon and the previous boreholes still in existence could be utilised in any future works.

11.3 Discharge Analysis

Two samples from the discharge point into the River Tame were taken during the July and August monitoring visits.

The sample taken in August displayed an elevated concentration of iron above the relevant EQS (1mg/l) with a concentrations of 19mg/l. The iron concentration detected in the sample from July was below the relevant EQS. Low levels of hydrocarbons were detected in both samples with concentrations of 0.51mg/l (July) and 0.43mg/l (August). The threshold of hydrocarbons permitted on the discharge consent is 5mg/l.

None of the remaining parameters determined for any sample analysed exceeded the relevant EQS.

11.4 Summary

Elevated levels of iron and manganese were detected in a number of locations across the site.

A number of boreholes displayed elevated levels of hydrocarbons with the majority concentrated in the area to the west of the infilled basin. The majority of hydrocarbons present have been shown to elute within the heavier diesel range. Significant levels of BTEX were detected in BHME04 and BHME09. In BHME09 the hydrocarbons eluted over the lighter range aliphatics indicating the presence of a petrol type product. Hydrocarbons were also detected within BHME01 eluting over the diesel range.

The discharge analysis indicates that the interceptor drain is still working to protect the River Tame.

12 GAS MONITORING DATA

Gas monitoring was undertaken on three separate occasions; 23rd June, 19th July and 23rd August 2010.

As stated previously in section 9.5 flow rates were only recorded where gas valves were still in place.

Gas monitoring data is included within appendix 6.

12.1 Area A

Four boreholes (BHME11, BHME12, BHME18 and BHME19) were monitored on three separate occasions within Area A. Flow rates were recorded in BHME11 and BHME19 on the first occasion and in BHME18 on all three occasions. Flow rates were not recorded in BHME12 on any occasion.

Within boreholes BHME11 and BHME12 depleted levels of oxygen (minimum of 0.8% in BHME12) and elevated levels of carbon dioxide (maximum concentration of 17% in BHME12) were detected. This pattern was common throughout all monitoring occasions for BHME12 but only in June and July for BHME11. No significant levels of ground gases were

detected in BHME12 in August. No significant flow rates or concentrations of VOCs were recorded.

Within boreholes BHME18 and BHME19 the concentrations of ground gases detected would generally not be considered significant. One anomaly was noted in BHME19 during the July monitoring visit where slightly elevated levels of carbon dioxide (8.7%) and depleted levels of oxygen (11.4%) were detected. No significant flow rates or concentrations of VOCs were recorded.

12.2 Area B

Ten boreholes (BHME04, BHME05, BHME06, BHME09, BHME10, BHME11, BHME14, BHME5, BHME16 and BHME17) were monitored on three separate occasions within Area B. Flow rates were recorded in BHME04, BHME10, BHME13, BHME15, BHME16, BHM17 on the first occasion and in BHME06 on all three occasions. Flow rates were not recorded in BHME05, BHME09 and BHME14 on any occasion.

Within boreholes BHME04, BHME05, BHME06, BHME09 and BHME17 the concentrations of ground gases detected would generally not be considered significant. No significant flow rates or levels of VOCs were recorded.

Within BHME10, BHME13 and BHME15 depleted oxygen levels (concentrations ranging from 15.5% in BHME10 in August to 0.5% in BHME15 in July) and elevated carbon dioxide levels (concentrations ranging from 2.9% in BHME10 in August to 16.2% in BHME15 in July) were detected.

Within BHME14 depleted oxygen levels (8.7%) and slightly elevated carbon dioxide levels (8.4%) were recorded during the June visit. No other significant levels of ground gases or VOCs were recorded during subsequent visits. No flow rates were recorded.

Within BHME16 slightly depleted oxygen levels were recorded during the June and July visits (15.9% and 14.5% respectively). No other significant levels of ground gases or VOCs were recorded during subsequent visits. No significant flow rates were recorded.

12.3 Area C

Five boreholes (BHME01, BHME02, BHME03, BHME07 and BHME08) were monitored on three separate occasions in Area C. Flow rates were recorded in BHME03 and BHME08 on the first occasion, in BHME01 on all three occasions and in BHME07 on the second two occasions. Flow rates were not recorded in BHME02 on any occasion.

The levels of ground gases and VOCs at all locations in Area C were generally not detected at significant concentrations. Within BHME02 depleted oxygen levels were recorded in June and

July (3.2% and 1.7% respectively) with low levels of carbon dioxide (2.3% and 2.7% respectively). No significant flow rates were recorded.

12.4 Summary

No significant levels of methane were recorded at any location. No significant flow rates were recorded, although they were not recorded at all locations due to the issue of missing gas valves.

A number of locations across the site showed elevated levels of carbon dioxide and depleted levels of oxygen.

13 SUMMARY OF GEOTECHNICAL INVESTIGATION

An intrusive site investigation was undertaken by Clancy Consulting Ltd (CCL) in June 2010. The purpose of their investigation was to undertake a geotechnical appraisal of the site. The findings are reported in the document 'Geotechnical Ground Investigation – Site at Union Road, Oldbury' report ref. 10/0311/001 dated July 2010. A brief summary of the findings of the ground investigation are included below.

The investigation was carried out between the 2nd and 9th June 2010 and comprised the drilling of nine boreholes (denoted BH1 through BH9) using a shell and auger rig to a maximum depth of 15.0m bgl and the excavation of thirteen trial pits (denoted TP1 through TP13) to a maximum depth of 4.8m bgl.

The ground conditions encountered were similar to those recorded by MEL. Fill materials were encountered to depths of between 5.9m bgl in BH4 in the eastern part of the site to 13.0m bgl in BH9 in the western area. The fill materials generally comprised ashy gravelly sand with fragments of slag, clinker, brick, concrete and sandstone. Alluvium deposits were present in six locations (BH1, BH4, BH5, BH7, BH8 and BH9). The marl was encountered at all locations apart from BH6 at depths ranging from 6.8m bgl in BH3 in the west of the site to 13.7m bgl in BH9 in the western part of the site.

Perched groundwater was encountered in seven borehole locations at depths ranging from 3.5m bgl in BH5 to 10.5m bgl in BH9.

Visual and olfactory evidence of hydrocarbon contamination was noted at seven locations across the site (TP1, TP2, TP8, TP10, TP12, TP13 and BH7) at depths ranging from 0.2m bgl in TP1 to 4.3m bgl in BH7. Fragments of asbestos cement were encountered in two locations (TP3 and TP9) at depths of 1.0m .0m bgl respectively.

14 MINE SHAFT INVESTIGATION

Information from the phase I desk study showed that potentially three historic mine shafts were present in the area to the west of the infilled canal basin. In order to confirm the presence of the mine shafts MEL commissioned Hydrock Consultants Ltd (HCL) to undertake an intrusive investigation to locate the shafts.

The works were undertaken between the 19th and 21st July 2010 and consisted of probing for the mine shafts using rotary drilling techniques. The investigation proved the existence of the three mineshafts at locations close to where the Coal Authority report originally identified them. For full details on the findings of the investigation please refer to the HCL report included within appendix 10. The positions of the mine shafts are also shown on the site plan included in appendix 1.

15 RISK ASSESSMENT

Completing the risk assessment process requires that the potential for pollution linkages be assessed against the proposed conceptual model within section 7.

As discussed the conceptual site model contains three elements:

- the **source** - probable or actual contaminants their nature and location;
- the **receptor**– existing and, within reason, foreseeable targets upon which the source may impact these may be either on or off site; and,
- the **pathway** – means by which the source and the receptor may come in to contact.

Where a **source – pathway – receptor** pollutant linkage is envisaged, an estimation of the risk posed by this linkage can be made. Should any one of the three elements be absent, then there is no risk.

15.1 Human Health

With regard to risks to human health only a small number of elevated levels of contaminants were detected within the near surface soils. However, as the majority of the site is to be covered by buildings or concrete paving no pathway will exist to the site's end users and therefore there is considered to be no risk. The areas where soft landscaping is proposed displayed no significant levels of contaminants with regard to human health.

Risks to construction workers from the contaminants encountered, especially the asbestos, are still an issue as the potential exposure pathway will still be present when the site is being developed.

Elevated levels of carbon dioxide and depleted oxygen levels were detected in a number of locations across the site. As carbon dioxide is a heavy gas there is a risk to the site's end users from accumulation of carbon dioxide within areas such as basements and sumps.

15.2 Controlled Waters

Areas of free phase hydrocarbon product and dissolved hydrocarbon contamination have been detected at various locations across the site. The contaminated area appears to be in the area of the infilled basin and to the west of this with a narrow free phase plume extending from the edge of the basin towards the River Tame.

The most significant area of hydrocarbon contamination was noted to be in the area of the infilled basin based on evidence from the trial pitting exercise where an oily liquid was noted to be pooling at a depth of approximately 2m.

The locations of the mine shafts have now been confirmed and it can be seen that they are located under the area of the site with the most significant hydrocarbon contamination. Therefore, a potential pathway is considered to exist between the groundwater in the fill materials and the underlying Secondary A aquifer. The marl has been shown to be practically impermeable and therefore the mine shafts are the only pathway to the aquifer that is considered significant.

Sampling and analysis of the waters from the discharge point indicate that the interceptor drain running along the edge of the River tame is still acting to protect the river and therefore no pollutant linkage is considered to exist for the river.

15.3 Flora & Fauna

The quantity and density of the vegetation currently present on the site suggests that any contaminants within the fill materials are not having a significant detrimental effect on flora and fauna on the site. However, if the area to the west of the site is to be developed into an area of soft landscaping the levels of phytotoxic metals detected may have an impact on any less hardy planting schemes.

16 CONCLUSIONS & RECOMMENDATIONS

A small number of pollutant linkages have been identified as being present on the site. It is proposed to produce a remedial strategy for the site to eliminate these linkages.

The mineshafts are considered a potential pathway for the contaminated groundwaters within the fill to impact on the underlying minor aquifer. The remedial strategy will therefore recommend treatment/sealing to close the potential pathway and to stabilise the area for construction purposes. Advice on the treatment of the mineshafts is currently being sought from a specialist contractor.

Although, the interceptor drain appears to be acting to protect the River Tame it is recommended that removal of the free phase product identified in the narrow plume and infilled basin is considered. Consideration should also be given to removal of the free product identified in the area of BH211. Further investigation works, such as trenching, may be required in the basin area to fully understand the extent of the contaminated area. Mounds of tipped materials currently present in this area may need to be moved to facilitate further works in this area.

No significant risks to human health for the site's end users are considered to exist once the development has been completed. However, a risk to construction workers during the development of the site is considered to exist. It is recommended that provisions are put into place such as appropriate PPE and procedures for dealing with the uncovering of asbestos tile and asbestos fibres in order to protect the workers. Hotspot removal where elevated levels of particularly odourous contaminants have been encountered near surface, such as the hessian sacks in TPME15, could also be undertaken.

As elevated levels of carbon dioxide have been encountered across the site, basements and sump areas should be sealed against the ingress of ground gases.

If an area of soft landscaping is to be present on the developed site we would recommend that a clean imported growing medium is brought onto site for this purpose. To ensure the success of any planting scheme specialist soil science advice should also be considered.

Sandwell Borough Council will be consulted on the human health issues and the Environment Agency will be consulted on the controlled waters issues. Remedial strategies to deal with the potential linkages identified will be discussed with the regulators and approval sought from them before any remedial works are undertaken. This report should be sent to the regulators to facilitate discussions.

We refer you to the HSE guidance document; 'Protection of Workers and the General Public during the Development of Contaminated Land' HMSO 1991, for safe working practices.

==========

We would like to thank European Metal Recycling Ltd for entrusting Mayer Environmental Ltd with this commission. If there are matters arising from our report which merit further attention, we would be pleased to offer any assistance.

Rebecca Beddard

Environmental Consultant

Appendix 1

Site Plans

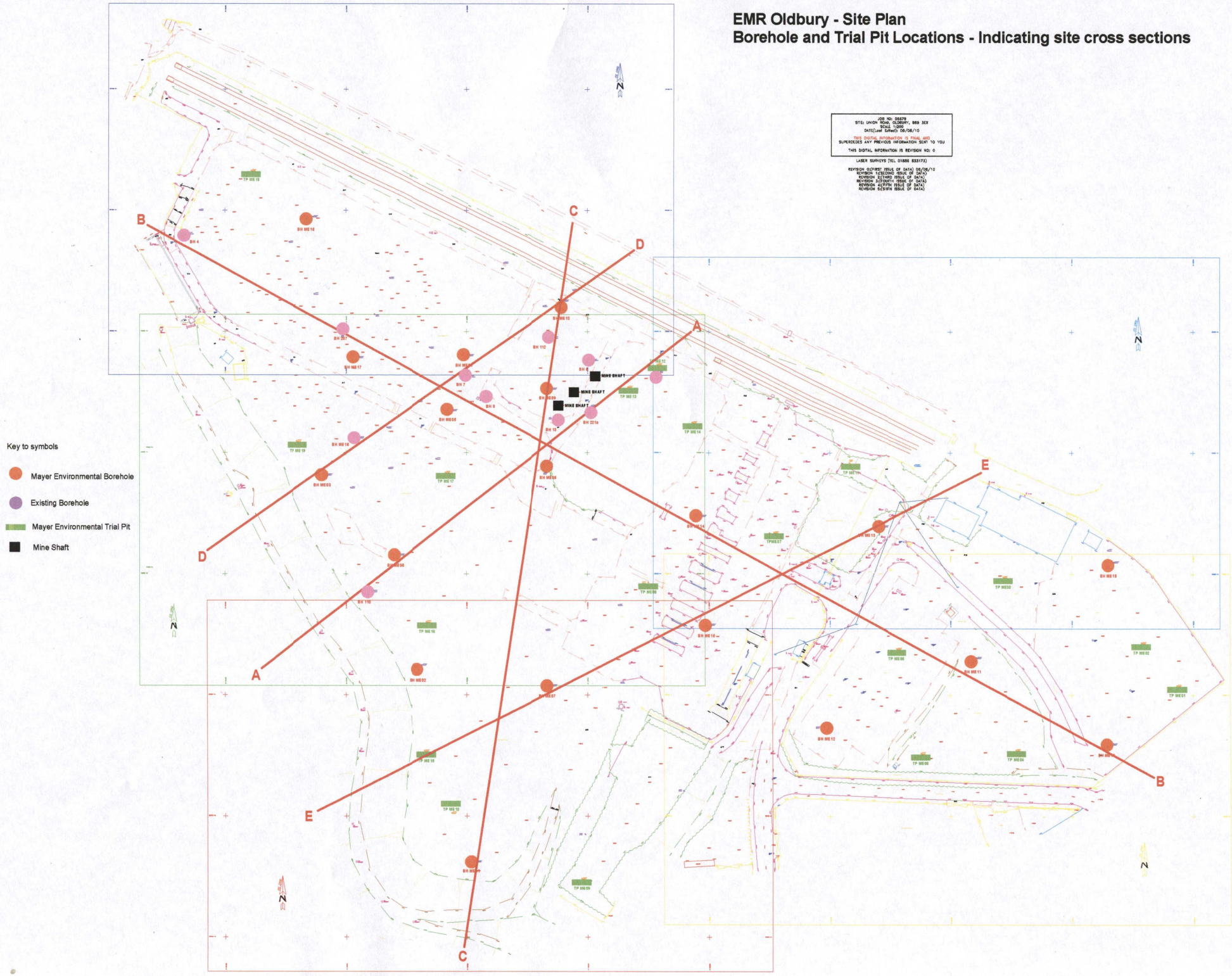
EMR Oldbury - Site Plan
Borehole and Trial Pit Locations

JOB NO: 06879
SITE: UNION ROAD OLDBURY, B69 3EX
SCALL 1:200
DATE(Last Edited): 05/08/10
THIS DIGITAL INFORMATION IS FINAL ANY
SUPERCEDES ANY PREVIOUS INFORMATION SENT TO YOU
THIS DIGITAL INFORMATION IS REVISION NO: 0
LASER SURVEYS (TEL 01886 833173)
REVISION 0(FIRST ISSUE OF DATA) 05/08/10
REVISION 1(SECOND ISSUE OF DATA)
REVISION 2(THIRD ISSUE OF DATA)
REVISION 3(FOURTH ISSUE OF DATA)
REVISION 4(FIFTH ISSUE OF DATA)
REVISION 5(SIXTH ISSUE OF DATA)

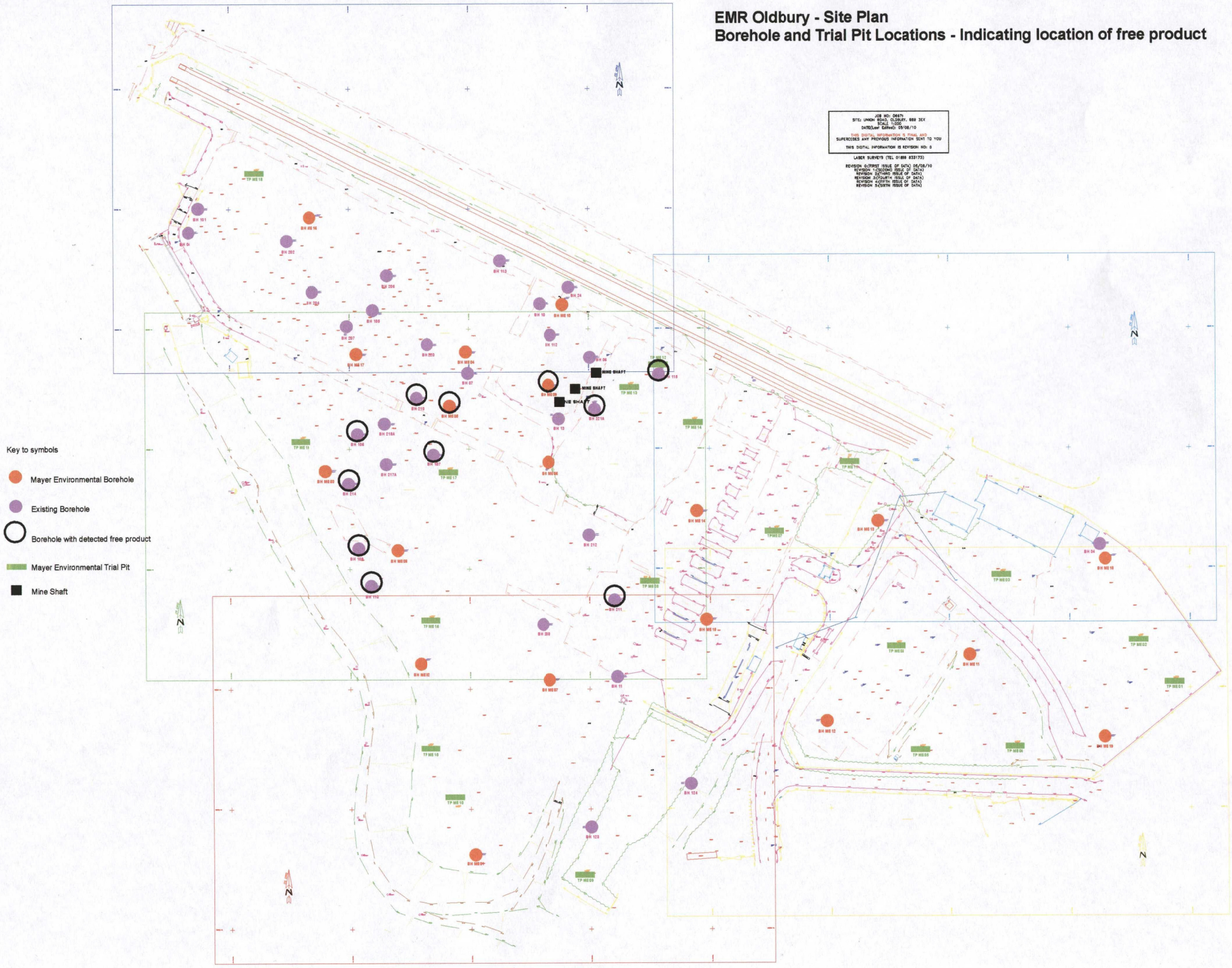
Key to symbols

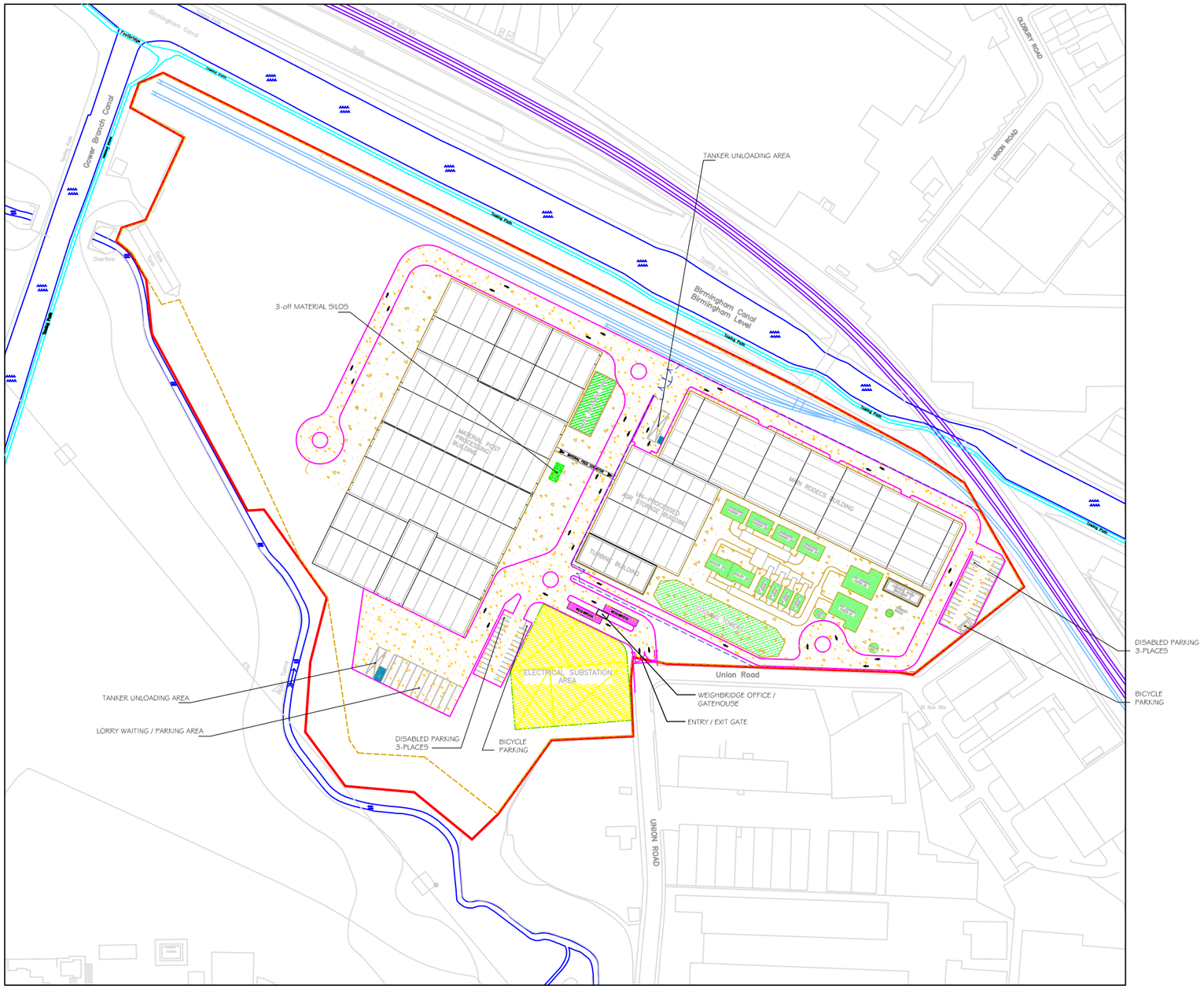
- Mayer Environmental Borehole
- Existing Borehole
- Mayer Environmental Trial Pit
- Mine Shaft

EMR Oldbury - Site Plan
Borehole and Trial Pit Locations - Indicating site cross sections



EMR Oldbury - Site Plan
Borehole and Trial Pit Locations - Indicating location of free product





20 0 20 40 60 80 100

Metres

N

W E

S

KEY:

- = PLANNING APPLICATION BOUNDARY
- = WATERWAYS
- = COVERED BUILDING AREA
- = ANNOTATIONS
- = EXTERNAL EQUIPMENT
- = VEHICLE ROADWAYS
- = HARD STANDING AREAS
- = ELECTRICAL SUBSTATION
- = FUEL STORAGE AREA
- = SUBSTATION PERIMETER FENCING
- = PERIMETER FENCING
- = CANAL TOWING PATHS/WALKWAYS
- = ASR PROCESSING PLANT PERIMETER FENCING
- = EXISTING ROADWAYS & BUILDINGS
- = EXISTING RAIL SIDINGS
- = REDUNDANT RAIL SIDINGS
- = VEHICLE MOVEMENT/CIRCULATION

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REV	DESCRIPTION	NAME	DATE

TITLE: SITE PLAN - OLDBURY DEVELOPMENT

A3

DO NOT SCALE IF IN DOUBT, ASK

ALL DIMENSIONS IN MILLIMETRES U.S.O

DRAWN	S.BOOTH
CHECKED	D.BACON
SCALE	1:2500
DATE	25/08/10

DRAWING No: 031-A03

REV: B2

SHEET: 1 OF 2

N
W E
S

KEY:

= PLANNING APPLICATION BOUNDARY

= COVERED BUILDING AREA

= EXTERNAL EQUIPMENT

= PERIMETER FENCING

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REV	DESCRIPTION	NAME	DATE

TITLE SITE PLAN - OLDBURY DEVELOPMENT — A3

DO NOT SCALE IF IN DOUBT, ASK	DRAWN	S.BOOTH	DRAWING No	REV
	CHECKED	D.BACON	031-A03	B2
ALL DIMENSIONS IN MILLIMETRES U.S.O	SCALE	1:2500		
	DATE	25/08/10	SHEET	2 OF 2

Appendix 2

Photographs

Photograph 1: TPME02 showing fragments of fibrous material

Photograph 2: TPME04

Photograph 3: Light blue fibrous material noted in TPME07

Photograph 4: TPME08 showing seepage into trial pit

Photograph 5: TPME10

Photograph 6: Pooling oily liquid at the base of TPME13

Photograph 7: Tipped material inhibiting further investigation works in the area of the infilled canal basin

Photograph 8: Liquid soaked hessian sacks encountered in TPME15

Photograph 9: Free phase oil product in bailer from BH107 (August)

Photograph 10: Free phase oil product in bailer from BH221a (August)

Photograph 11: Investigation undertaken by Hydrock to determine locations of mine shafts

Photograph 12: Investigation undertaken by Hydrock to determine locations of mine shafts

Appendix 3

Borehole & Trial Pit Logs

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME01**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	14/06/2010	START DIA:	150mm
DATE COMPLETED:	14/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black/brown silty slightly clayey ash FILL. Frequent coarse brick fragments and occasional slate and clinker fragments noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
At 2.0m rare glass fragments noted.		1.5						
		2.0		2.0m	Sample			
		2.5						
From 3.0m occasional subangular, medium gravel of flint noted.		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
		5.5						
At 6.0m occasional brick cobbles and pockets of friable red/brown clay with layers of pale yellow and green staining.		6.0		6.0m	Sample*			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						
		9.0		9.0m	Sample			
Black/brown silty ash FILL with frequent light grey sandy clay pockets.		9.5						
		10.0		10.0m	Sample			
		10.5						
Black slightly clayey, ashy, gravelly FILL. Gravel is fine to coarse, subangular to angular of flint. Occasional small metal fragments noted.		11.0					▼	Groundwater strike at 11.0m. Rose to 10.75m after 20 mins.
		11.2		11.2m	Sample*			Strong hydrocarbon odour and sheen noted within fill materials from 11.2m.
		11.5						
		12.0						
Firm light grey and brown mottled silty CLAY.		12.5						Poor recovery from clay.
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME02**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	14/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Dark brown silty ashy clay FILL. Frequent clinker fragments and brick cobbles present. Occasional glass fragments noted.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
		2.0		2.0m	Sample			
		2.5						
Dark brown sandy clayey silty FILL. Frequent clinker and slag fragments present. Occasional large metal and wood fragments noted.		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample			
		4.5						
Black/brown slightly sandy, silty FILL with occasional slag, clinker, brick and wood fragments noted.		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						
		9.0		9.0m	Sample			
		9.5						
		10.0		10.0m	Sample			
		10.5						
		11.0		11.0m	Sample			
		11.5						
Firm red/brown CLAY.		12.0		11.8m	Sample*			
		12.5						No groundwater encountered
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME03**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black silty FILL with occasional small slag fragments.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
		2.0		2.0m	Sample			
Black silty FILL with frequent large slag and clinker fragments. Occasional fragments of slate noted. Occasional small dark grey sandy clay pockets present.		2.5						
		3.0		3.0m	Sample			
		3.5						
Black silty ashy FILL with occasional medium sized fragments of slag, brick and clinker.		4.0		4.0m	Sample*			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						
		9.0		9.0m	Sample			
Stiff orange/brown and light grey mottled silty CLAY.		9.5		9.3m	Sample			
		10.0						
		10.5						No groundwater encountered
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME04**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black silty ashy FILL with frequent small brick, slag and clinker fragments.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
Frequent dark grey silty clay pockets in a black silty ashy matrix. Frequent fragments of clinker and slate noted within the pockets.		1.5						
		2.0		2.0m	Sample			
		2.5						
At 3.0m large slag cobbles noted.		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample			
		4.5						
Black ashy silty clay FILL with very frequent small clinker fragments. Small light grey silty clay pockets present - pockets get larger with depth.		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						Groundwater strike at 9.0m rising to 8.25m after 20mins.
		9.0		9.0m	Sample*			Strong hydrocarbon odour and sheen from 9.0m
		9.5						
		10.0						
Stiff light brown/orange CLAY		10.5		10.2m	Sample*			
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME05**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black slighty silty clay FILL with pockets of cream coloured putty chalk.		0.5		0.5m	Sample*			Slight hydrocarbon odour from 0.1m
		1.0		1.0m	Sample			
Pockets of cream coloured putty chalk in a black slightly sandy clayey matrix. FILL		1.5						
		2.0		2.0m	Sample			
Black slightly sandy clay FILL with frequent clinker fragments. Pockets of light grey clay and cream/beige colour putty chalk.		2.5						
		3.0		3.0m	Sample			Slight hydrocarbon odour from 3.0m
Pockets of soft light grey/beige silty clay with frequent fragemnts of crea, colour putty chalk in a black sandy, ashy matrix. Frequent slag and clinker fragments noted. FILL		3.5						
		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
Brown/grey sandy clay FILL with frequent chalk fragments and beige sandy clay pockets. Frequent small ash and clinker fragments noted.		7.0		7.0m	Sample			
		7.5						
Black/brown ashy sandy clay FILL with frequent chalk fragments and slag cobbles.		8.0		8.0m	Sample			
		8.5						
		9.0		9.0m	Sample*			
Dark grey/black ashy FILL with frequent chalk fragments and occasional beige clay pockets. Occasional brick cobbles present.		9.5						
		10.0		10.0m	Sample*			Slight hydrocarbon odour from 10.0m
Firm light grey and red/brown mottled CLAY		10.5		10.4m	Sample*			
		11.0						
		11.5						No groundwater encountered
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME06**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
TARMAC		0.0						Borehole fitted with raised cover
Brown sandy gravely FILL. Sand is fine. Gravel is coarse, suabangular of brick and slag and occasionally rounded flints.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
Black sandy ashy gravely FILL. Gravel is coarse subangular to subrounded of flints and brick. Frequent coarse fragments of ash and clinker present.		1.5						
		2.0		2.0m	Sample			
		2.5						
		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample*			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						
		9.0		9.0m	Sample			
Stiff orange/brown and light grey mottled CLAY		9.5		9.35m	Sample			
		10.0						
		10.5						No groundwater encountered
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME07**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black/brown slightly gravelly, slightly silty FILL. Gravel is subangular to subrounded of flint and brick. Occasional small ash pockets and clinker fragments noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample*			
		1.5						
		2.0		2.0m	Sample			
		2.5						
Black sandy silt FILL with occasional red brick fragments.		3.0		3.0m	Sample			
		3.5						
Black/brown very fine sand FILL with occasional small metal fragments.		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample*			Slight hydrocarbon odour from 8.0m
		8.5						
		9.0		9.0m	Sample			Slight hydrocarbon odour from 9.0m
Black very fine sand FILL with occasional dark grey clay pockets.		9.5						
		10.0		10.0m	Sample			
Stiff red/brown silty CLAY		10.5		10.4m	Sample*			
		11.0						
		11.5						No groundwater encountered
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME08**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
TARMAC		0.0						Borehole fitted with raised cover
Black sandy ashy gravelly FILL. Gravel is medium to coarse, subrounded to rounded of light grey and red/brown hard mudstone fragments.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
Dark brown sandy ashy FILL with occasional pockets of red/brown sand and fine brick fragments.		2.0		2.0m	Sample*			
		2.5						
		3.0		3.0m	Sample			
From 4.0m occasional slag cobbles noted.		3.5						
		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample*			Slight sweet odour noted from 7.0m
		7.5						
		8.0		8.0m	Sample			
		8.5						
Red/brown sandy ashy FILL with frequent medium to coarse and cobble size slag fragments.		9.0		9.0m	Sample*			Slight sweet odour noted from 9.0m
		9.5						
		10.0		10.0m	Sample		▼	Groundwater strike at 10.0m rising to 9.9m after 20mins.
Stiff light grey and brown mottled silty CLAY		10.5		10.4m	Sample			
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME09**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Brown sandy clayey gravel FILL. Gravel is medium to coarse, subrounded of flint. Occasional brick cobbles noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
Brown sandy clay FILL with frequent pockets of dark grey clay with ash and clinker fragments.		2.0		2.0m	Sample*			Strong hydrocarbon odour from 2.0m
		2.5						
Grey/green clay pockets in a matrix of black ash and clinker. Occasional cobbles of slag noted.		3.0		3.0m	Sample			Slight hydrocarbon odour from 3.0m
		3.5						
Black/brown ashy clay FILL with frequent small clinker and slag fragments.		4.0		4.0m	Sample			Slight hydrocarbon odour from 4.0m
		4.5						
Grey/green clay pockets in a matrix of black ash and clinker.		5.0		5.0m	Sample			Hydrocarbon odour from 5.0m
		5.5						
		6.0		6.0m	Sample			
		6.5						
		7.0		7.0m	Sample			
		7.5					▼	Groundwater strike at 7.6m rising to 7.5m after 20mins.
		8.0		8.0m	Sample*			
		8.5						
		9.0						
		9.5		9.6m	Sample*			
Light grey and red/brown mottled silty CLAY.		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME10**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Orange/brown gravely sand FILL. Gravel is fine to coarse, subangular to subrounded of flint and brick.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
Brown silty sandy clay FILL with frequent fragments of brick, clinker and slate.		2.0		2.0m	Sample			
		2.5						
		3.0		3.0m	Sample*			
		3.5						
Red sandy brick crush FILL.		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
Stiff orange and brown mottled CLAY.		6.5		6.6m	Sample			
		7.0						
		7.5						No groundwater encountered
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME11**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Brown sandy gravelly FILL. Gravel is fine to coarse, subangular to subrounded of flint. Occasional fine brick and clinker fragments noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
		2.0		2.0m	Sample			
		2.5						
Firm orange/brown silty clay FILL with occasional clinker fragments.		3.0		3.0m	Sample			
		3.5		3.5m	Sample*			
Light grey gravelly clay FILL. Gravel is fine, subangular of light grey mudstone.		4.0						
		4.5						
		5.0		5.0m	Sample			
Firm grey slightly silty CLAY.		5.5		5.5m	Sample			No groundwater encountered
		6.0						
		6.5						
		7.0						
		7.5						
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME12**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Light brown sandy gravelly FILL. Gravel is fine to coarse, subangular to subrounded of flint and limestone. Occasional fine brick fragments noted.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
Dark brown sandy gravelly clay FILL. Gravel is fine to coarse, subangular of flint and limestone. Frequent medium sized brick fragments and small clinker fragments noted.		2.0		2.0m	Sample			
		2.5						
		3.0		3.0m	Sample			
		3.5						
Brown/grey gravelly sandy FILL. Gravel is medium to coarse, subangular of quartz, limestone and flint. Frequent fine brick, clinker and ash fragments.		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample*			
		5.5						
		6.0		6.0m	Sample*			
		6.5						
		7.0		7.0m	Sample			
Firm orange/brown and light grey mottled CLAY.		7.5						
		7.75		7.75m	Sample			No groundwater encountered
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME13**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Black/brown sandy ashy gravely FILL. Gravel is fine to coarse, subangular to subrounded of flint, clinker and slag.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
		2.0		2.0m	Sample			
Soft light brown/orangesandy clay FILL with occasional clinker fragments.		2.5						
		3.0		3.0m	Sample*		▼	Groundwater strike at 3.2m.
Very soft light brown slightly sandy clay FILL.		3.5						
		4.0		4.0m	Sample			
Dark grey sandy gravely clay FILL. Gravel is fine to medium, subangular of flint.		4.5						
		5.0		5.0m	Sample*			Concrete obstruction encountered at 5.0m. Possible base of former canal basin?
		5.5						
		6.0						
		6.5						
		7.0						
		7.5						
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME14**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Light grey sandy gravel sub base material. FILL		0.5		0.5m	Sample			
CONCRETE boulder		1.0		1.0m	Sample*			
Brown/black slightly sandy gravely silt FILL. Gravel is fine to coarse, subangular of flint and limestone. Frequent coarse clinker fragments noted. Fill materials get sandier with depth. At 3m fragments of glass bottles and metal noted.		1.5 2.0 2.5 3.0 3.5 4.0		2.0m 3.0m 4.0m	Sample Sample Sample			
Black/brown fine sand FILL with frequent red brick framents and occasional coarse slag fragments.		4.5 5.0 5.5		5.0m	Sample			
Red crush FILL of hard, fine grained, laminated rock. Occasional small ash, clinker and slag fragments noted.		6.0 6.5		6.0m	Sample			
Orange/brown sandy gravely FILL. Gravel is mainly fragments of red/brown slag and coarser fragments of blue/green glass type slag.		7.0 7.5		7.0m 7.5m	Sample Sample*			No groundwater encountered Refused at 7.5m on green/blue slag
		8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME15**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	15/06/2010	START DIA:	150mm
DATE COMPLETED:	15/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Black sandy gravely FILL. Sand is very fine. Gravel is fine to coarse, subangular to subrounded of flint. At 2.0m occasional glass fragments noted.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
		2.0		2.0m	Sample			
Brown/black sandy gravely FILL with occasional pockets of orange and light grey sand. Gravel is fine to coarse, subangular of flint. Frequent slag fragments present. At 3.0m one piece of hessian sacking present. At 4.0m occasional large clinker and glass fragments noted.		2.5						
		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample			
		4.5						
Black ashy FILL with frequent large slag fragments. Occasional fine fragments of brick noted.		5.0		5.0m	Sample			
		5.5						
Red brick crush. FILL		6.0		6.0m	Sample			
		6.5						
Black/brown ashy slightly clayey FILL with frequent medium size slag fragments.		7.0		7.0m	Sample*			Fill materials damp at 6.8m.
		7.5						
Firm light grey and orange mottled CLAY.		8.0		7.7m	Sample			
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME16**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	14/06/2010	START DIA:	150mm
DATE COMPLETED:	14/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black slightly gravely silt FILL. Gravel is fine to coarse, subangular to subrounded of flint.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
Black/brown gravely silt FILL. Gravel is coarse of clinker and slag.		2.0		2.0m	Sample			
		2.5						
Black silt FILL with occasional large slag fragments.		3.0		3.0m	Sample			
		3.5						
Light brown/grey ashy FILL with frequent large slag and clinker fragments.		4.0		4.0m	Sample			
		4.5						
Orange/brown brick crush and ash FILL with frequent medium sized slag fragments.		5.0		5.0m	Sample*			
		5.5						
		6.0		6.0m	Sample*			
		6.5						
		7.0		7.0m	Sample			
		7.5						
		8.0		8.0m	Sample			
		8.5						Refused on cobble of slag at 9.0m
		9.0		9.0m	Sample			No groundwater encountered
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME17**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	14/06/2010	START DIA:	150mm
DATE COMPLETED:	14/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
Grass over brown silty TOPSOIL		0.0						Borehole fitted with raised cover
Black/brown gravely silty ash FILL. Gravel is fine to coarse, subangular to subrounded of flint. Occasional large slag and clinker fragments noted. rare glass fragments and occasional medium sized brick fragments noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
		2.0		2.0m	Sample			
		2.5						
Black/brown slightly gravely silt FILL with frequent large ash pockets and slag fragments. Gravel is fine to coarse, subangular to subrounded of flint.		3.0		3.0m	Sample*			
		3.5						
		4.0		4.0m	Sample			
		4.5						
		5.0		5.0m	Sample			
Brown silty gravely FILL with frequent small black ash pockets. Gravel is fine to coarse, subangular of slag.		5.5						
		6.0		6.0m	Sample			
Red/orange brick and slag crush. FILL		6.5						Refused on cobble of slag at 7.05m
		7.0		7.0m	Sample			No groundwater encountered
		7.5						
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME18**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with raised cover
Black ashy FILL with occasional fragments of red brick.		0.5		0.5m	Sample			
		1.0		1.0m	Sample*			
		1.5						
		2.0		2.0m	Sample			
		2.5						
		3.0		3.0m	Sample			
		3.5						
		4.0		4.0m	Sample*			Groundwater strike at 3.8m rising to 3.45m after 20mins.
		4.5						
		5.0		5.0m	Sample			
		5.5						
		6.0		6.0m	Sample			
Stiff brown sandy CLAY.		6.5		6.5m	Sample*			
		7.0						
		7.5						
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

RECORD OF BORING

MAYER environmental

MAYER REF:	71740		
CLIENT:	European Metal Recycling Ltd	**BOREHOLE No.**	**BHME19**
LOCATION:	Union Road, Oldbury	TYPE OF BORING:	Shell & Auger
DATE STARTED:	16/06/2010	START DIA:	150mm
DATE COMPLETED:	16/06/2010	REDUCED DIA:	150mm

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	STAND PIPE	GROUND WATER	REMARKS
CONCRETE		0.0						Borehole fitted with flush cover
Black sandy ashy FILL with occasional subangular gravel of limestone, brick, concrete and clinker. Occasional metal fragments noted.		0.5		0.5m	Sample*			
		1.0		1.0m	Sample			
		1.5						
		2.0		2.0m	Sample			
		2.5						
		3.0		3.0m	Sample*			Slight hydrocarbon odour noted at 3.0m.
		3.5						
		4.0					▼	Groundwater strike at 4.0m.
		4.5						
		5.0		5-7m	Sample*			
Black ash FILL with occasional cobbles of slag.		5.5						
		6.0						Poor recovery between 5.2 and 7.5m.
		6.5						
		7.0						
Stiff red/brown and light grey mottled slightly silty CLAY.		7.5		7.5m	Sample			
		8.0						
		8.5						
		9.0						
		9.5						
		10.0						
		10.5						
		11.0						
		11.5						
		12.0						
		12.5						
		13.0						
		13.5						
		14.0						

Ground surface level approximate, not surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME01

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced Concrete.		0.0					
Light yellowish brown clayey gravel FILL with angular medium to large fragments of flints and glass. Two large cobbles of concrete.		0.5		0.55m	Sample *		
Dark brown sandy clay FILL with medium angular flint fragments.		1.0		1.60m	Sample *		
		1.5					
		2.0		2.40m	Sample		
		2.5					
		3.0		3.10m	Sample		
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME02

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced Concrete.		0.0					
Orange brown clayey gravel FILL with small to large fragments of flints, glass, brick and clinker.		0.5		0.65m	Sample *		
Fine red brick crush		1.0		1.00m	Sample		
Dark red-brown sandy FILL with occasional angular to sub-rounded flints, clinker and glass fragments, with rare long, thin metal fragments		1.5					
Dark brown clayey sand FILL with occasional small sub-rounded flints, rare white fibrous material.		2.0					
Dark brown sandy FILL with occasional angular to rounded flints and brick fragments		2.5		2.60m	Sample *		
		3.0					
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME03

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced Concrete.		0.0					
Dark brown sandy clayey gravel FILL with frequent small to large angular to sub-rounded fragments of flints, brick, glass, clinker and slag.		0.5		0.55m	Sample *		
		1.0		1.10m	Sample		
Very dark brown/ black silty gravel FILL with frequent medium to large fragments of brick, clinker, glass and slag.		1.5					
		2.0					
Dark reddy brown clay FILL with frequent small fragments of brick.		2.5		2.65m	Sample		
Orange brown sandy clay FILL with occasional medium rounded flints and gravels.		3.0					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME04

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Loose gravels on top of large loose cobbles of concrete.		0.0		0.30m	Sample *		
Dark brown topsoil FILL with occasional small fragments of brick and flints.		0.5		1.10m	Sample		
Reddy brown stiff clay FILL with frequent small to medium angular to sub-rounded fragments of clinker, glass and brick.		1.0		1.80m	Sample *		
Dark grey / black silty sand FILL with frequent pockets of brick crush and rare pockets of stiff orange clay.		1.5		3.10m	Sample		
Dark brown/black sand FILL with small to medium fragments of brick, slag and clinker with pockets of broken tiles and fibrous material.		2.0		3.20m	Sample *		
		2.5					
		3.0					
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME05

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Loose gravels.		0.0					
Brown sandy gravel FILL with small to medium flints, bricks, clinker and slag.		0.5		0.35m	Sample *		@ 0.65m bgl - Large cobbles of bricks, concrete and section of wall.
Building crush of large fragments to medium cobbles of concrete, brick and tiles.		1.0		0.95m	Sample		
Medium brown sandy FILL with frequent medium fragments of flint, brick, clinker and slag.		1.5					
		2.0					
		2.5					
		3.0		2.90m	Sample		
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME06

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced concrete.		0.0					
Green-grey stiff clay FILL with frequent small flints, gravels and clinker fragments.		0.5		0.50m	Sample *		
Building rubble and crush of small to medium cobbles of concrete, brick and tiles.		1.0		1.10m	Sample		
Multi-coloured (yellow, brown, black, orange) very stiff clay FILL with frequent small to medium sub-rounded flints, gravels and clinker.		1.5					
Brown sand FILL with large pockets of stiff yellow clay and frequent fragments of brick and flints.		2.0		2.20m	Sample		
Brown sand FILL with frequent small fragments of brick, clinker and glass.		2.5					
		3.0		3.20m	Sample		
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME07

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced concrete.		0.0					
Green and brown sandy gravel FILL with medium to large fragments of brick, clinker, slag and glass.		0.5		0.45m	Sample *		
		1.0		1.20m	Sample *		
Dark brown sandy gravel FILL with frequent angular to sub-rounded flints, glass, clinker, slag and brick fragments. Pockets of light blue fibrous material.		1.5					
		2.0					
		2.5		2.5m	Sample		@ 2.8m bgl Pockets of light blue fibrous material
Large cobbles of black tarmac and slag fragments, with strong hydrocarbon odour.		3.0		3.10m	Sample *		
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME08

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Reinforced concrete.		0.0					
Brown sandy gravel FILL with frequent medium sub-rounded flints, bricks, clinker and glass fragments.		0.5		0.50m	Sample *		
		1.0		1.10m	Sample		
Dark brown/black gravel FILL with frequent fragments of flints, slag, clinker and ex-furnace material. Pocket of medium to large cobbles of slag @ 2.6m bgl.		1.5					@ 1.6m bgl top of concrete support for drain
		2.0		1.90m	Sample		@ 2.2m bgl seepage into trial pit
		2.5					@ 2.8m bgl hydrocarbon odour detected
		3.0		2.80m	Sample		
		3.5		3.20m	Sample *		@ 3.1m very strong hydrocarbon odour detected

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME09

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Tarmac		0.0					
Orange brown silty sandy gravel FILL with frequent small cobbles of brick.		0.5		0.30m	Sample *		
Orange and red building rubble and crush		1.0		0.90m	Sample		
Black/grey-black silty sandy gravel FILL with frequent large fragments of brick, and small fragments of clinker and slag. Pockets of grey clay. Strong hydrocarbon odour.		1.5		1.70m	Sample *		@ 2.0m hydrocarbon odour detected
Reddy brown sandy clay FILL with frequent small fragments of brick, glass, clinker and slag. Rare large cobbles of brick.		2.0		2.80m	Sample		
Yellowish-orange clay FILL with rare small brick and slag fragments		2.5		3.50m	Sample		
		3.0					
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME10

CLIENT: European Metal Recycling Ltd

DATE: 15th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0		0.20m	Sample *		
Dark brown silty clay FILL with frequent medium to large fragments of brick, clinker and slag.		0.5					
Brick crush with large cobbles of slag and furnace materials.		1.0		1.10m	Sample *		
Brown-orange gravelly sand FILL with small to medium fragments of brick, clinker and glass and rare large fragments of slag and brick.		1.5					
Brown sandy FILL with large pockets of grey clay fill and fragments of cloth and brick.		2.0					
		2.5		2.70m	Sample		
		3.0					
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME11

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Tarmac		0.0					
Concrete		0.5		0.60m	Sample		
Medium brown sandy gravel FILL with frequent small to medium fllints, clinker, ash and brick fragments.		1.0		0.90m	Sample *		
		1.5					
Dark brown/black silty sandy FILL with frequent small to medium angular to sub-rounded brick, flint, clinker and ash fragments.		2.0					
		2.5					
		3.0		3.10m	Sample		
Dark brown/black gravel FILL with cobbles of slag and furnace waste.		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME12

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0		0.20m	Sample *		
Brown sandy FILL with occasional sub-angular ro sub-rounded brick and clinker.		0.5		0.70m	Sample		
Dark brown, clayey sandy FILL with large brick and building rubble.		1.0					@1.4m bgl Very strong hydrocarbon odour
Damp, sandy gravel FILL with medium to large fragments of clinker, brick and general backfil.		1.5		1.80m	Sample *		@1.9m bgl Pool of dark brown liquid forming at based of trial pit
		2.0					
		2.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME13

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0					
Dark brown sandy clay FILL with frequent small fragments of brick, clinker and slate.		0.5		0.30m	Sample *		
		1.0		1.2m	Sample *		@ 1.2m bgl Very strong hydrocarbon odour
Dark brown/grey sandy gravel FILL with occasional small brick and clinker fragments and frequent medium to large slate fragments. Slight hydrocarbon odour.		1.5					
		2.0		2.2m	Sample *		@ 2.4m bgl Pool of dark brown liquid forming at based of trial pit
Dark brown/black gravel FILL. Strong hydrocarbon odour.		2.5					
		3.0					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

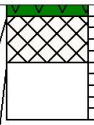
TRIAL PIT No. TPME14

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass and vegetation		0.0		0.20m	Sample *		
Dark brown sandy clay FILL with frequent small fragments of brick, ash and clinker.		0.5					@ 0.5m bgl Concrete handstanding
		1.0					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME14b

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass and vegetation		0.0					
Dark brown sandy clay FILL with frequent small fragments of brick, ash and clinker.		0.5					
		1.0					
		1.5		1.3m	Sample *		
Brown sandy gravel FILL with frequent small to large fragments of brick, clinker, tile and slag		2.0		1.8m	Sample *		@ 1.7m bgl Strong hydrocarbon odour
		2.5					
Brown sandy gravel FILL with frequent small to large fragments of brick, clinker, tile and slag. Strong hydrocarbon odour.		3.0		2.8m	Sample *		
		3.5					
Black sandy gravel FILL with large fragments of brick and slag. Very strong hydrocarbon odour.		4.0					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME15

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0		0.20m	Sample *		
Dark brown sandy clay topsoil FILL with frequent small fragments of brick and clinker.		0.5					
Large cobbles of brick and concrete fragments with brown silty matrix.		1.0		1.65m	Sample		
Brown sandy gravel FILL with medium to large brick and small fragments of clinker and ceramic tiles.		1.5		2.0m	Sample *		@ 2.0m bgl Liquid soaked sacks
Small pit containing liquid soaked ression-bags. Sweet yet bitter smell.		2.0					
		2.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME16

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0		0.2m	Sample *		
Medium brown sandy clay FILL with occasional fragments of glass, clinker and brick.		0.5					
		1.0					
Dark brown/black silty clay FILL with large cobbles of brick.		1.5		1.8m	Sample *		
		2.0					
Black, very fine sand FILL with occasional gravels. Slight sweet odour.		2.5					@ 2.9m bgl Large fragments of metal encountered
		3.0		3.2m	Sample *		
		3.5					
		4.0					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME17

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass		0.0					
Reddy-brown sandy FILL with occasional large brick fragments and small clinker and glass fragments.		0.5		0.3m	Sample *		
Brown clayey sandy FILL with frequent medium to large fragments of bricks and small fragments of clinker, glass and tile.		1.0 1.5		1.6m	Sample *		@ 1.0m bgl Western side of pit encountered concrete step
Medium to larges cobbles of brick, concrete and building crush in a dark brown to black clayey sand FILL matrix with small fragments of clinker, glass and tile.		2.0 2.5		1.9m	Sample		

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

TRIAL PIT No. TPME18

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass and vegetation		0.0		0.2m	Sample *		
Brown silty clay topsoil FILL with frequent small to medium fragments of brick, flints, clinker and slag.		0.5					
		1.0					
Dark brown to black gravel sand FILL with occasional small to medium fragments of brick, clinker and medium fragments of slag.		1.5		1.8m	Sample *		
		2.0					
Black angular gravel FILL of medium brick, flints, coal and slag.		2.5		3.0m	Sample		
		3.0					
		3.5					

Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

TRIAL PIT LOG

MAYER environmental

MAYER REF: 71740

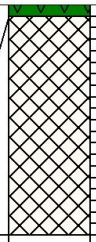
TRIAL PIT No. TPME19

CLIENT: European Metal Recycling Ltd

DATE: 16th June 2010

LOCATION: Union Road, Oldbury

EXCAVATOR: 8 tonne

DESCRIPTION OF STRATA	LEGEND	DEPTH (m)	O.D. LEVEL	SAMPLES REF	SAMPLES REMARKS	GROUND WATER	REMARKS
Grass and vegetation		0.0		0.2m	Sample *		
Brown silty clay FILL with frequent small fragments of clinker, glass and brick with rare cobbles of concrete.		0.5 1.0 1.5					
		2.0		1.8m	Sample		@ 2.0m bgl Concrete obstruction
		2.5					

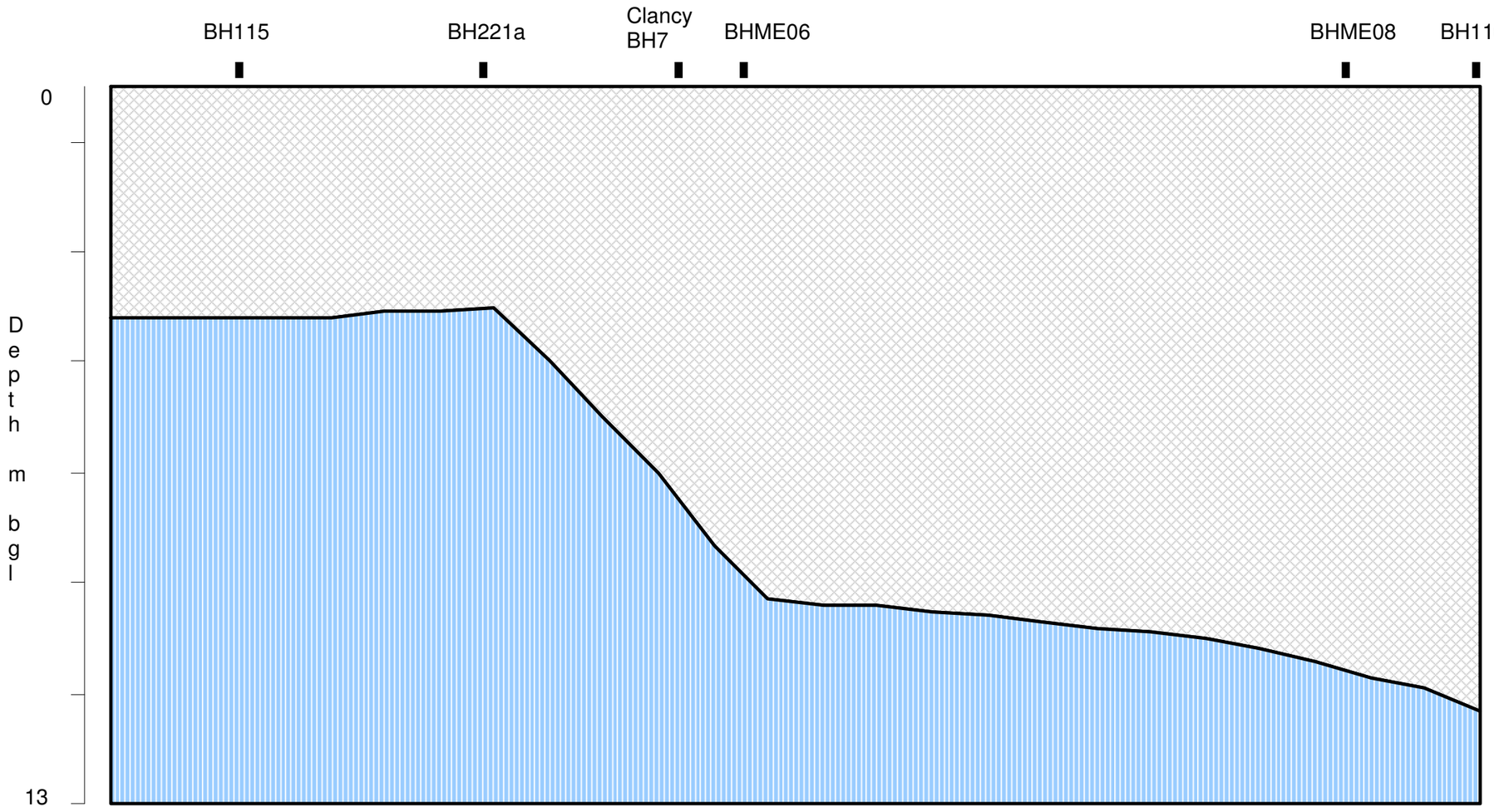
Ground Surface Level Approximate, Not Surveyed

* Sample submitted for analysis

Appendix 4

Cross-Sections of Ground Conditions

Cross-Section A



Client: -

European Metal Recycling Ltd

Job Title: -

Union Road, Oldbury

Date: -

October 2010

Title: -

Cross-Section

Key: -

Fill Materials

Natural Materials

Job Reference:-

71740

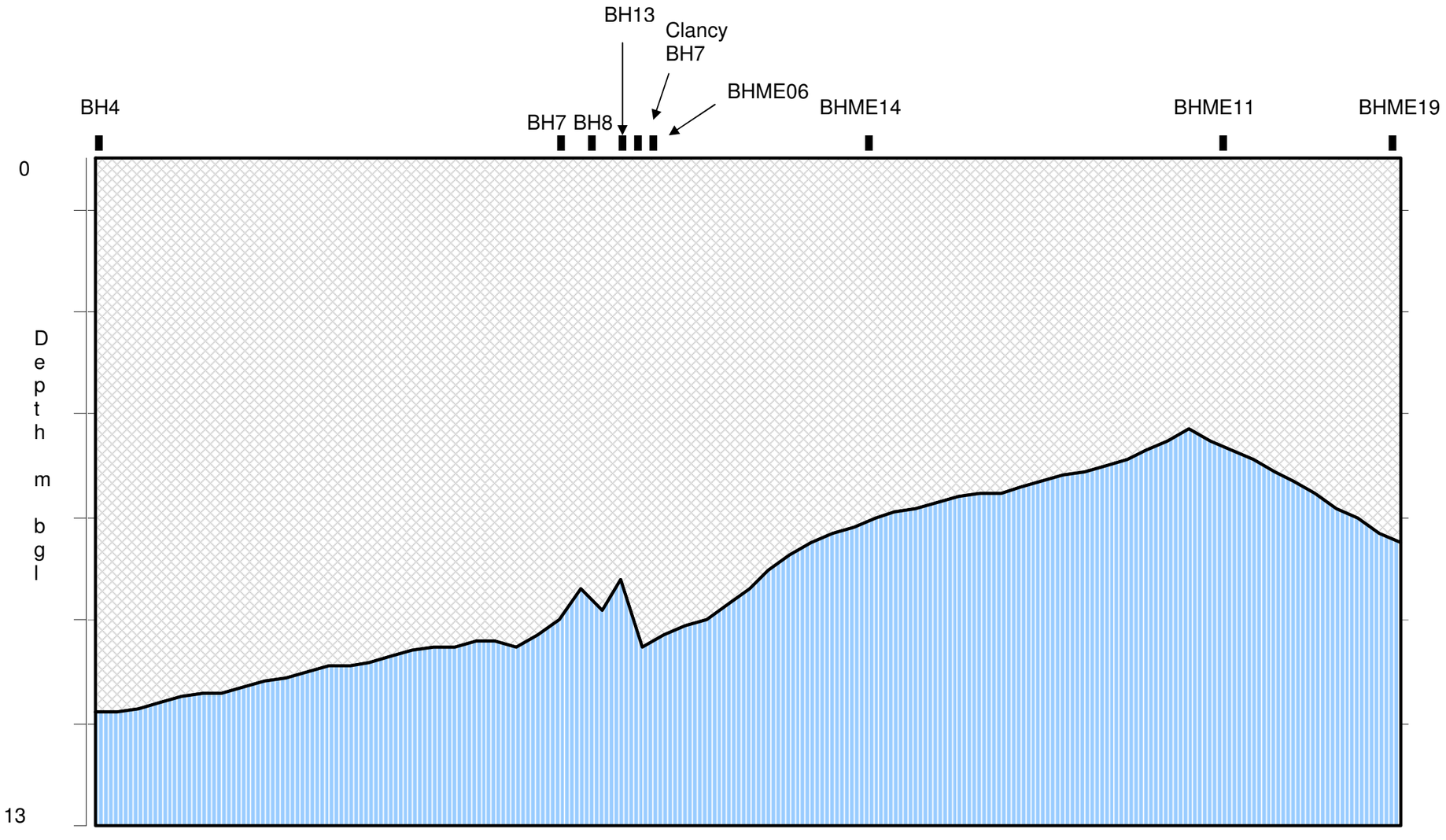
NOT TO SCALE

All locations approx.

MAYER environmental

Mayer Environmental Ltd.
Transport Avenue
Middlesex
TW8 9HA
TEL: 020 8847 3637
FAX: 020 8847 3638

Cross-Section B



Client: -	
European Metal Recycling Ltd	
Job Title: -	
Union Road, Oldbury	
Date: -	
October 2010	
Title: -	
Cross-Section	
Key: -	
Fill Materials	
Natural Materials	
Job Reference:-	
71740	
NOT TO SCALE All locations approx.	

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TW8 9HA
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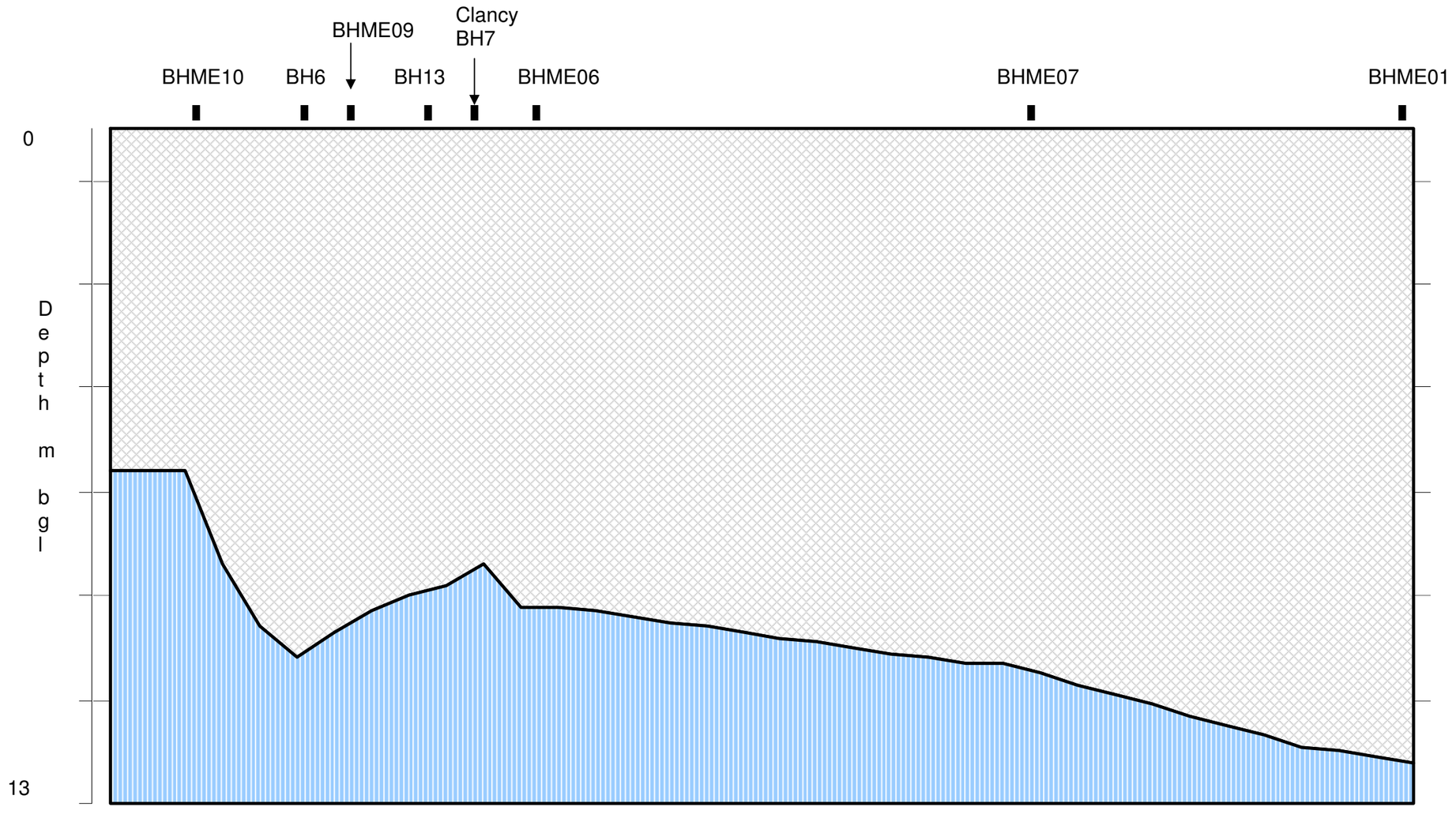
FAX: 020 8847 3638

Cross-Section C



Client: -	
European Metal Recycling Ltd	
Job Title: -	
Union Road, Oldbury	
Date: -	
October 2010	
Title: -	
Cross-Section	
Key: -	
Fill Materials	
Natural Materials	
Job Reference:-	
71740	
NOT TO SCALE All locations approx.	

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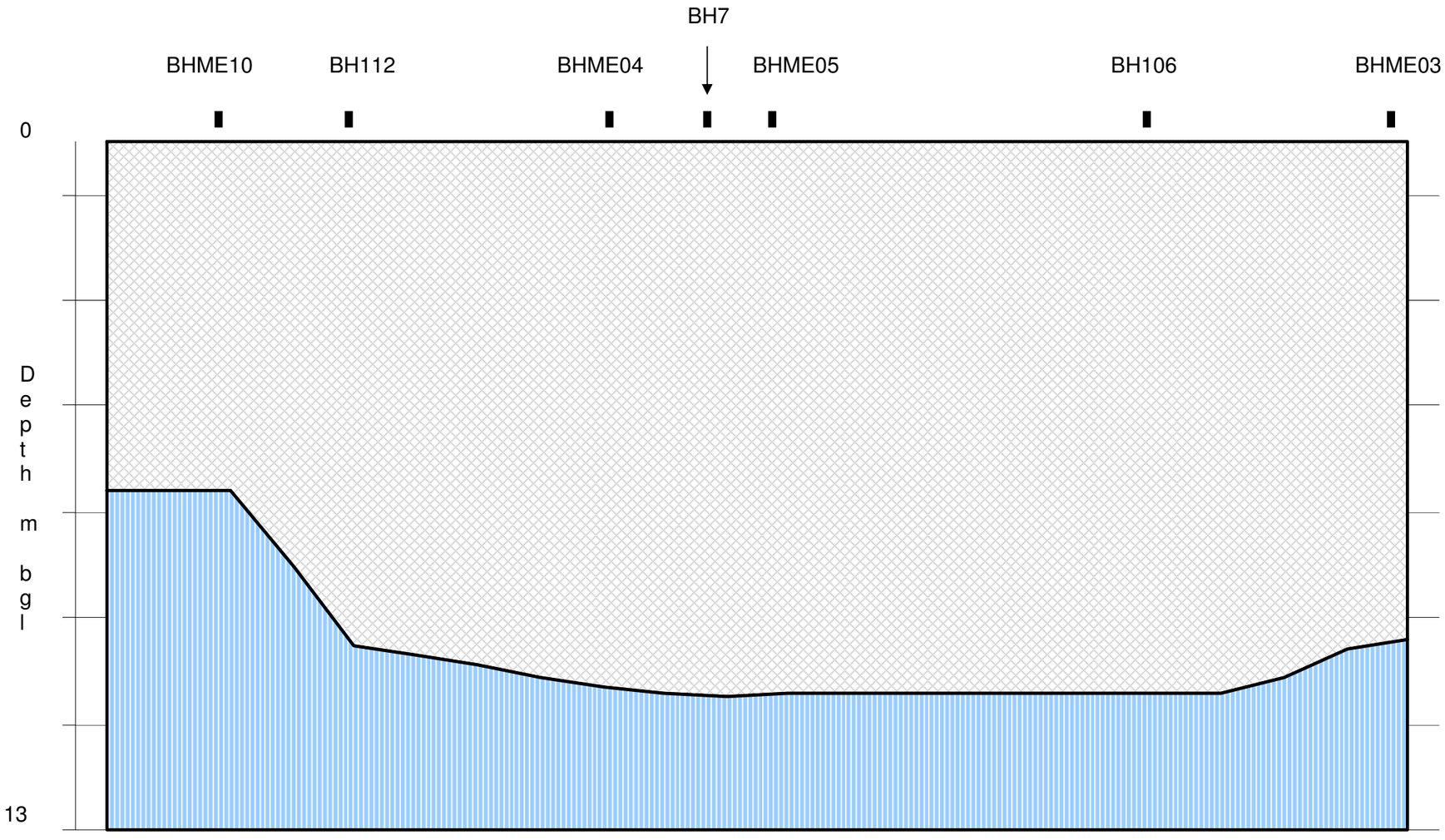
Cross-Section D



Client: -

European Metal Recycling Ltd

Job Title: -

Union Road, Oldbury

Date: -

October 2010

Title: -

Cross-Section

Key: -

Fill Materials

Natural Materials

Job Reference:-

71740

NOT TO SCALE

All locations approx.

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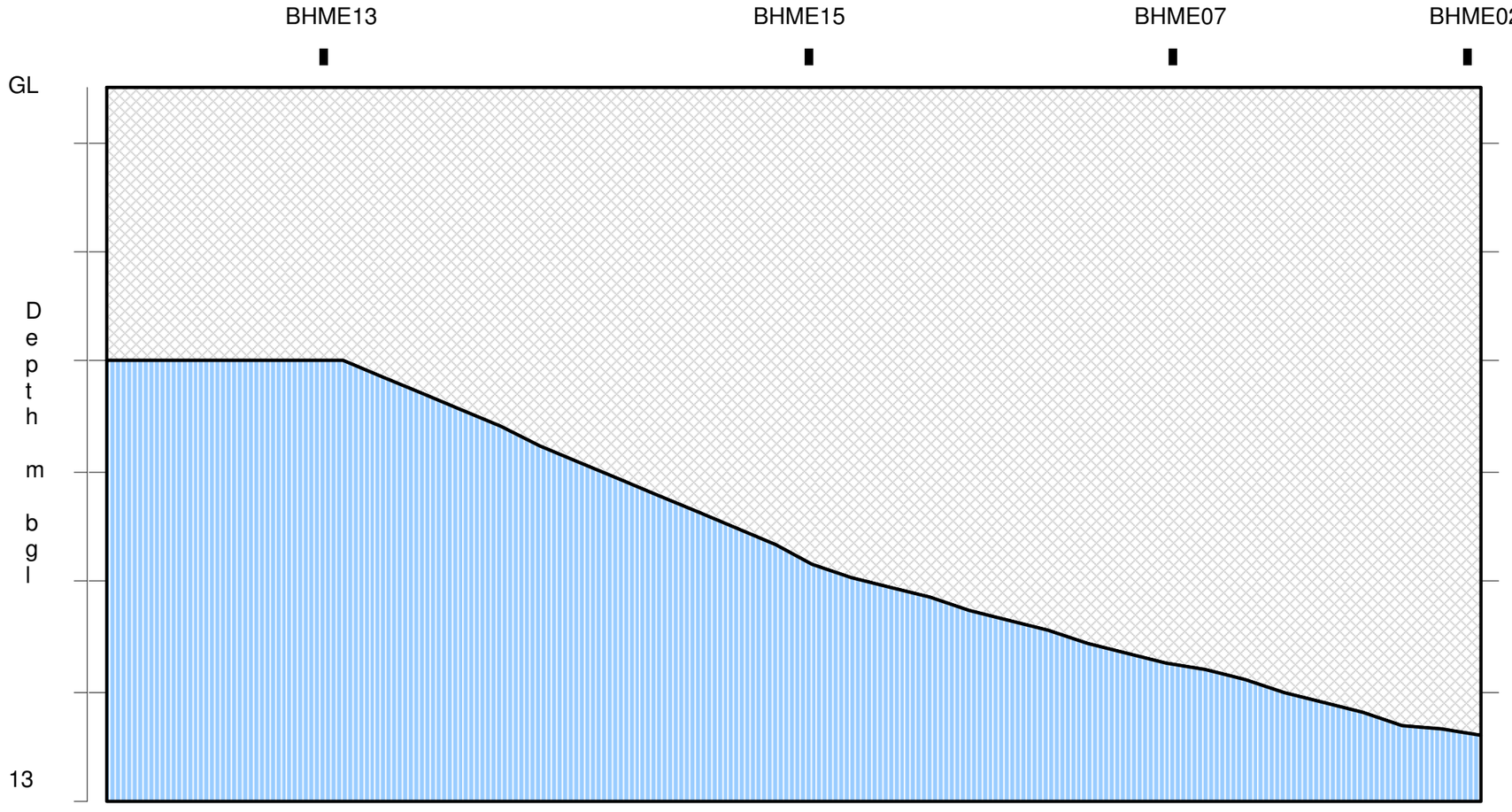
Cross-Section E



Client: -

European Metal Recycling Ltd

Job Title: -

Union Road, Oldbury

Date: -

October 2010

Title: -

Cross-Section

Key: -

Fill Materials

Natural Materials

Job Reference:-

71740

NOT TO SCALE

All locations approx.

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Appendix 5

Groundwater Monitoring Data

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - MEL Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	23-Jun-10 BHME01	19-Jul-10 BHME01	23-Aug-10 BHME01	23-Jun-10 BHME02	19-Jul-10 BHME02	23-Aug-10 BHME02	23-Jun-10 BHME03
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	Dry	11.11	11.43	9.5	9.5	9.75	Dry
Thickness of Freephase Product	cm		-	-		-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	Sheen & Strong odour noted	Sheen & Strong odour noted	-	-	Insufficient water to sample	-
Sample Taken	-		-	N	Y	Y	Y	Y	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	-	None - No recharge	None - No recharge	5	2	-	-
Method of Purging	-		-	-	-	-	Pump	Bailed	-	-

	Date of Field Test			19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10
Determinand	Units	Method	LOD	BHME03	BHME03	BHME04	BHME04	BHME04	BHME05	BHME05
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	Dry	Dry	7.58	7.63	- *	9.06	9.17
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	Slight odour & sheen	Odour & sheen	Odour & sheen	Slight sheen	Sheen & odour
Sample Taken	-		-	N	N	Y	Y	Y	Y	Y
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	7	11	10	0.5	None - No recharge
Method of Purging	-		-	-	-	Pump	Pump	Pump	Bailed	-

LOD limit of detection
* Monitoring well appeared to be bent - could not get dip meter down but managed to purge using piping and pump

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - MEL Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	23-Aug-10 BHME05	23-Jun-10 BHME06	19-Jul-10 BHME06	23-Aug-10 BHME06	23-Jun-10 BHME07	19-Jul-10 BHME07	23-Aug-10 BHME07
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	9.17	Dry	7.94	8	8.71	8.98	8.89
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	-	-	-	-	-
Sample Taken	-		-	N	N	N	N	Y	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	-	-	0.5	-	-
Method of Purging	-		-	-	-	-	-	Bailed	-	-

	Date of Field Test			23-Jun-10	19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10	23-Aug-10	23-Jun-10
Determinand	Units	Method	LOD	BHME08	BHME08	BHME08	BHME09	BHME09	BHME09	BHME10
Depth to Freephase Product	m		0.1	-	-	-	-	-	7.77	-
Depth to Groundwater	m		0.1	9.38	Dry	9.13	6.58	6.7	7.82	Dry
Thickness of Freephase Product	cm		-	-	-	-	-	-	5	-
Other evidence of hydrocarbon contamination/Comments	-		-	Slight odour, no sheen	-	-	Oil staining on bailer	Oil staining on bailer	Thick brown oil - minimal water	-
Sample Taken	-		-	Y	N	N	Y	Y	Y	N
Quantity of Groundwater Purged Before Sampling	litres		-	None - No recharge	-	-	1	4	Only took sample of free product as no	-
Method of Purging	-		-	-	-	-	Bailed	Bailed	Bailed	-

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - MEL Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	19-Jul-10 BHME10	23-Aug-10 BHME10	23-Jun-10 BHME11	19-Jul-10 BHME11	23-Aug-10 BHME11	23-Jun-10 BHME12	19-Jul-10 BHME12
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	Dry	Dry	5.3	5.3	3.57	7.35	7.37
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	-	-	-	-	-
Sample Taken	-		-	N	N	Y	N	N	Y	N
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	0.3	-	-	0.3	-
Method of Purging	-		-	-	-	Bailed	-	-	Bailed	-

	Date of Field Test			23-Aug-10	23-Jun-10	19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10	23-Aug-10
Determinand	Units	Method	LOD	BHME12	BHME13	BHME13	BHME13	BHME14	BHME14	BHME14
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	7.53	3.63	Dry	Dry	Dry	Dry	Dry
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	No odour or sheen	-	Blocked?	Blocked?	-	-	-
Sample Taken	-		-	Y	Y	N	N	N	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	None - No recharge	5	-	-	-	-	-
Method of Purging	-		-	-	Pump	-	-	-	-	-

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - MEL Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	23-Jun-10 BHME15	19-Jul-10 BHME15	23-Aug-10 BHME15	23-Jun-10 BHME16	19-Jul-10 BHME16	23-Aug-10 BHME16	23-Jun-10 BHME17
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	6.82	6.8	6.81	Dry	Dry	Dry	Dry
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	-	-	-	-	-
Sample Taken	-		-	Y	N	N	N	N	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	0.5 - slow recharge	-	-	-	-	-	-
Method of Purging	-		-	Bailed	-	-	-	-	-	-

	Date of Field Test			19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10	23-Aug-10	23-Jun-10	19-Jul-10
Determinand	Units	Method	LOD	BHME17	BHME17	BHME18	BHME18	BHME18	BHME19	BHME19
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	Dry	Dry	3.76	3.94	3.75	3.59	3.67
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	-	-	No odour or sheen	-	No odour or sheen
Sample Taken	-		-	N	N	Y	Y	Y	Y	Y
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	5	11	12	12	15
Method of Purging	-		-	-	-	Bailed	Pump	Pump	Pump	Pump

LOD limit of detection

Client	EMR	Client Ref	71740										
Job Name	Union Road, Oldbury	Mayer Ref	71740										
Job Details	Site Investigation - MEL Boreholes	Suite	Groundwater Monitoring										
		Date of Field Test			23-Aug-10								
Determinand		Units		LOD	BHME19								
Depth to Freephase Product		m		0.1	-								
Depth to Groundwater		m		0.1	3.69								
Thickness of Freephase Product		cm		-	-								
Other evidence of hydrocarbon contamination/Comments		-		-	-								
Sample Taken		-		-	N								
Quantity of Groundwater Purged Before Sampling		litres		-	-								
Method of Purging		-		-	-								
		Date of Field Test											
Determinand		Units	Method	LOD									
Depth to Freephase Product		m		0.1									
Depth to Groundwater		m		0.1									
Thickness of Freephase Product		cm		-									
Other evidence of hydrocarbon contamination/Comments		-		-									
Sample Taken		-		-									
Quantity of Groundwater Purged Before Sampling		litres		-									
Method of Purging		-		-									

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - Mirror Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	19-Jul-10 BHME04		19-Jul-10 BH7		23-Aug-10 BHME04		23-Aug-10 BH7		19-Jul-10 BHME10		19-Jul-10 BH24		23-Aug-10 BHME10	
Depth to Freephase Product	m		0.1	-		-		-		-		-		-		-	
Depth to Groundwater	m		0.1	7.63		7.76		-	*	7.67		Dry		9.8		Dry	
Thickness of Freephase Product	cm		-	-		-		-		-		-		-		-	
Other evidence of hydrocarbon contamination/Comments	-		-	Odour & sheen		Slight sheen		Odour & sheen		Odour & sheen		-		-		-	
Sample Taken	-		-	Y		Y		Y		Y		N		N		N	
Quantity of Groundwater Purged Before Sampling	litres		-	11		10		10		10		-		-		-	
Method of Purging	-		-	Pump		Pump		Pump		Pump		-		-		-	

	Date of Field Test			23-Aug-10		19-Jul-10		19-Jul-10		23-Aug-10		23-Aug-10					
Determinand	Units	Method	LOD	BH24		BHME18		BH104		BHME18		BH104					
Depth to Freephase Product	m		0.1	-		-		-		-		-					
Depth to Groundwater	m		0.1	9.72		3.94		3.82		3.75		3.84					
Thickness of Freephase Product	cm		-	-		-		-		-		-					
Other evidence of hydrocarbon contamination/Comments	-		-	-		-		-		No odour or sheen		No odour or sheen					
Sample Taken	-		-	N		Y		Y		Y		Y					
Quantity of Groundwater Purged Before Sampling	litres		-	-		11		11		12		12					
Method of Purging	-		-	-		Pump		Pump		Pump		Pump					

LOD limit of detection
* Monitoring well appeared to be bent - could not get dip meter down but managed to purge using piping and pump

MAYER environmental

Client	EMR	Client Ref	71740										
Job Name	Union Road, Oldbury	Mayer Ref	71740										
Job Details	Site Investigation - Previous Boreholes	Suite	Groundwater Monitoring										
		Date of Field Test		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10	
Determinand		Units	LOD	BH6		BH7		BH8		BH10		BH11		BH13		BH15	
Depth to Freephase Product		m	0.1	-		-		8.05		-		-		-		-	
Depth to Groundwater		m	0.1	-		7.96		8.06		8.25		7.4		6.97		Dry	
Thickness of Freephase Product		cm	-	-		-		0.1		-		-		-		-	
Other evidence of hydrocarbon contamination/Comments		-	-	Destroyed during trial pitting		-		-		-		-		-		-	
Sample Taken		-	-	-		N		N		N		N		N		N	
Quantity of Groundwater Purged Before Sampling		litres	-	-		-		-		-		-		-		-	
Method of Purging		-	-	-		-		-		-		-		-		-	

	Date of Field Test		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10		15-Jun-10	
Determinand	Units	Method	LOD	BH22		BH24		BH25		BH101		BH105		BH106		BH107	
Depth to Freephase Product	m		0.1	-		-		-		-		-		9.32		9.2	
Depth to Groundwater	m		0.1	2.02		9.06		-		Dry		Dry		9.34		9.29	
Thickness of Freephase Product	cm		-	-		-		-		-		-		2		9	
Other evidence of hydrocarbon contamination/Comments	-		-	-		-		Blocked		-		-		-		-	
Sample Taken	-		-	N		N		N		N		N		N		N	
Quantity of Groundwater Purged Before Sampling	litres		-	-		-		-		-		-		-		-	
Method of Purging	-		-	-		-		-		-		-		-		-	

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - Previous Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	15-Jun-10 BH109	15-Jun-10 BH110	15-Jun-10 BH112	15-Jun-10 BH113	15-Jun-10 BH122	15-Jun-10 BH123	15-Jun-10 BH124
Depth to Freephase Product	m		0.1	9.36	10.01	-	8.05	-	-	-
Depth to Groundwater	m		0.1	9.41	10.37	7.93	8.06	-	Dry	6.45
Thickness of Freephase Product	cm		-	5	36	-	0.1	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	-	-	Odour noted from borehole	Blocked	Overgrown	-	-
Sample Taken	-		-	N	N	N	N	N	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	-	-	-	-	-
Method of Purging	-		-	-	-	-	-	-	-	-

	Date of Field Test			15-Jun-10	15-Jun-10	15-Jun-10	15-Jun-10	15-Jun-10	15-Jun-10	15-Jun-10
Determinand	Units	Method	LOD	BH125	BH201	BH202	BH204	BH206	BH207	BH208
Depth to Freephase Product	m		0.1	-	-	-	-	-	-	-
Depth to Groundwater	m		0.1	-	5.59	2.02	9.83	9.45	9.15	11.13
Thickness of Freephase Product	cm		-	-	-	-	-	-	-	-
Other evidence of hydrocarbon contamination/Comments	-		-	Blocked	-	Blocked	-	-	-	-
Sample Taken	-		-	N	N	N	N	N	N	N
Quantity of Groundwater Purged Before Sampling	litres		-	-	-	-	-	-	-	-
Method of Purging	-		-	-	-	-	-	-	-	-

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Site Investigation - Previous Boreholes	Suite	Groundwater Monitoring
		Date of Field Test	

Determinand	Units		LOD	15-Jun-10 BH210		15-Jun-10 BH211		15-Jun-10 BH214		15-Jun-10 BH217a		15-Jun-10 BH218a		15-Jun-10 BH219		15-Jun-10 BH220	
Depth to Freephase Product	m		0.1	-		10.83		9.74		-		-		9.66		-	
Depth to Groundwater	m		0.1	10.46		10.86		9.76		Dry		8.84		9.68		Dry	
Thickness of Freephase Product	cm		-	-		3		2		-		-		3		-	
Other evidence of hydrocarbon contamination/Comments	-		-	-		-		-		-		-		-		-	
Sample Taken	-		-	N		N		N		N		N		N		N	
Quantity of Groundwater Purged Before Sampling	litres		-	-		-		-		-		-		-		-	
Method of Purging	-		-	-		-		-		-		-		-		-	

	Date of Field Test			15-Jun-10		23-Aug-10		23-Aug-10		23-Aug-10		23-Aug-10		23-Aug-10		23-Aug-10	
Determinand	Units	Method	LOD	BH221a		BH7		BH104		BH106		BH107		BH221a		BH115	
Depth to Freephase Product	m		0.1	6.7		-		-		-		9.24		7.3		2.15	
Depth to Groundwater	m		0.1	-		7.67		3.84		Dry		9.35		7.34		2.36	
Thickness of Freephase Product	cm		-	60		-		-		-		11		4		21	
Other evidence of hydrocarbon contamination/Comments	-		-	No GW found only free product		Odour & sheen		No odour or sheen		-		Thick brown oil on top of water		Thick brown oil on top of water		Thick brown oil on top of water	
Sample Taken	-		-	N		Y		Y		N		N		N		N	
Quantity of Groundwater Purged Before Sampling	litres		-	-		10		12		-		-		-		-	
Method of Purging	-		-	-		Pump		Pump		-		-		-		-	

LOD limit of detection

MAYER environmental

Client	EMR	Client Ref	71740												
Job Name	Union Road, Oldbury	Mayer Ref	71740												
Job Details	Site Investigation - Selected Groundwater Depths Corrected for AOD	Suite	Groundwater Monitoring												
		Date of Field Test		23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10	
Determinand		Units		LOD	BHME01		BHME01		BHME01		BHME02		BHME02		BHME02		BHME04	
Depth to Freephase Product		m		0.1	-		-		-		-		-		-		-	
Depth to Groundwater		m		0.1	Dry		11.11		11.43		9.5		9.5		9.75		7.58	
Thickness of Freephase Product		cm		-	-		-		-		-		-		-		-	
Depth to Groundwater Corrected for AOD		m AOD		0.1	-		128.52		128.26		129.73		129.73		129.48		131.25	
		Date of Field Test			19-Jul-10		23-Aug-10		23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10		19-Jul-10	
Determinand		Units	Method	LOD	BHME04		BHME04		BHME05		BHME05		BHME05		BHME07		BHME07	
Depth to Freephase Product		m		0.1	-		-		-		-		-		-		-	
Depth to Groundwater		m		0.1	7.63		-	*	9.06		9.17		9.17		8.71		8.98	
Thickness of Freephase Product		cm		-	-		-		-		-		-		-		-	
Depth to Groundwater Corrected for AOD		m AOD		0.1	131.20		-		129.71		129.60		129.60		129.88		129.61	

LOD limit of detection
* Monitoring well appeared to be bent - could not get dip meter down but managed to purge using piping and pump

MAYER environmental

Client	EMR	Client Ref	71740										
Job Name	Union Road, Oldbury	Mayer Ref	71740										
Job Details	Site Investigation - Selected Groundwater Depths Corrected for AOD	Suite	Groundwater Monitoring										
		Date of Field Test			23-Aug-10		23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10		19-Jul-10		23-Aug-10	
Determinand		Units		LOD	BHME07		BHME08		BHME08		BHME08		BHME09		BHME09		BHME09	
Depth to Freephase Product		m		0.1	-		-		-		-		-		-		7.77	
Depth to Groundwater		m		0.1	8.89		9.38		Dry		9.13		6.58		6.7		7.82	
Thickness of Freephase Product		cm		-	-		-		-		-		-		-		5	
Depth to Groundwater Corrected for AOD		m AOD		0.1	129.7		129.50		-		129.75		132.10		131.98		130.00	
		Date of Field Test			19-Jul-10		23-Aug-10											
Determinand		Units	Method	LOD	BH7		BH7											
Depth to Freephase Product		m		0.1	-		-											
Depth to Groundwater		m		0.1	7.76		7.67											
Thickness of Freephase Product		cm		-	-		-											
Depth to Groundwater Corrected for AOD		m AOD		0.1	130.98		131.07											

LOD limit of detection
* Monitoring well appeared to be bent - could not get dip meter down but managed to purge using piping and pump

Appendix 6

Gas Monitoring Data

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10		19-Jul-10		23-Aug-10		23-Jun-10	
Determinand	Units	Method	LOD	BHME01		BHME01		BHME01		BHME02		BHME02		BHME02		BHME03	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		0.1		0.1		<0.1		0		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	<0.1		<0.1		<0.1		2.3		2.7		<0.1		0.1	
Oxygen (O_2)	%	ANALOX	0.1	19.9		19.5		19.3		3.2		1.7		19.3		19.4	
Atmospheric Pressure	mb	ANALOX	1	1005		1004		981		1005		1004		988		1005	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	0.6		5.3		0.5		0.6		2.7		0.5		2.3	
Flow Rate	l/h	ANALOX	0.01	<0.01		<0.01		<0.01		n/a		n/a		n/a		<0.1	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10	
Determinand	Units	Method	LOD	BHME03		BHME03		BHME04		BHME04		BHME04		BHME05		BHME05	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		0		<0.1		<0.1		0		<0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	<0.1		0.2		<0.1		<0.1		<0.1		0.1		<0.1	
Oxygen (O_2)	%	ANALOX	0.1	19.4		19.0		19.1		19.1		19.3		19.7		19.4	
Atmospheric Pressure	mb	ANALOX	1	1004		988		1005		1004		988		1005		1004	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	2.1		0.3		2.2		1.9		9.1		2.1		2.2	
Flow Rate	l/h	ANALOX	0.01	n/a		n/a		<0.01		n/a		n/a		n/a		n/a	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10	
Determinand	Units	Method	LOD	BHME05		BHME06		BHME06		BHME06		BHME07		BHME07		BHME07	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		<0.1		0.1		0.1		0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	<0.1		<0.1		0.5		<0.1		1.2		1.9		<0.1	
Oxygen (O_2)	%	ANALOX	0.1	19.4		19.7		18.3		19.5		12.8		9.3		19.5	
Atmospheric Pressure	mb	ANALOX	1	988		1005		1002		989		1005		1003		989	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	0.3		3.4		0.3		9.5		3.3		1.4		2.5	
Flow Rate	l/h	ANALOX	0.01	n/a		<0.01		<0.01		<0.01		n/a		<0.01		<0.01	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10	
Determinand	Units	Method	LOD	BHME08		BHME08		BHME08		BHME09		BHME09		BHME09		BHME10	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		0.1		<0.1		<0.1		0.4		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	<0.1		<0.1		<0.1		<0.1		<0.1		4.0		12.1	
Oxygen (O_2)	%	ANALOX	0.1	19.9		19.0		19.4		19.7		19.5		11.2		4.6	
Atmospheric Pressure	mb	ANALOX	1	1005		1004		988		1005		1004		989		1005	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	1.7		2.2		0.2		6.9		36.6		45.9		4.6	
Flow Rate	l/h	ANALOX	0.01	<0.01		n/a		n/a		n/a		n/a		n/a		<0.1	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10	
Determinand	Units	Method	LOD	BHME10		BHME10		BHME11		BHME11		BHME11		BHME12		BHME12	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	4.8		2.9		6.8		2.3		0.1		11.3		10.8	
Oxygen (O_2)	%	ANALOX	0.1	14.6		15.5		7.9		15.6		19.6		4.1		4.2	
Atmospheric Pressure	mb	ANALOX	1	1004		989		1005		1002		989		1005		1	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	1.7		2.7		2.0		0.6		1.4		1.4		4.6	
Flow Rate	l/h	ANALOX	0.01	n/a		n/a		<0.01		n/a		n/a		n/a		n/a	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10	
Determinand	Units	Method	LOD	BHME12		BHME13		BHME13		BHME13		BHME14		BHME14		BHME14	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	17.0		7.4		5.4		8.7		8.4		1.9		0.1	
Oxygen (O_2)	%	ANALOX	0.1	0.8		11.3		14.3		10.7		8.7		16.7		19.3	
Atmospheric Pressure	mb	ANALOX	1	989		1005		1003		989		1005		1005		989	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	1.2		3.0		1.3		1.5		1.6		0.7		4.9	
Flow Rate	l/h	ANALOX	0.01	n/a		<0.01		n/a		n/a		<0.01		n/a		n/a	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10	
Determinand	Units	Method	LOD	BHME15		BHME15		BHME15		BHME16		BHME16		BHME16		BHME17	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		<0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	11.7		16.2		8.4		3.3		3.9		<0.1		2.5	
Oxygen (O_2)	%	ANALOX	0.1	5.4		0.5		8.7		15.9		14.5		19.4		17.3	
Atmospheric Pressure	mb	ANALOX	1	1005		1003		989		1005		1004		988		1005	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	2.3		1.6		0.3		9.2		1.8		3.4		7.8	
Flow Rate	l/h	ANALOX	0.01	<0.01		n/a		n/a		<0.01		n/a		n/a		<0.01	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test				19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10		24-Aug-10		23-Jun-10		19-Jul-10	
Determinand	Units	Method	LOD	BHME17		BHME17		BHME18		BHME18		BHME18		BHME19		BHME19	
Infra Red Gas Analyser:																	
Methane (CH_4)	%	ANALOX	0.1	<0.1		0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	<0.1		0.1		3.4		<0.1		<01		<0.1		8.7	
Oxygen (O_2)	%	ANALOX	0.1	19.0		19.1		15.6		19.1		19.4		19.8		11.4	
Atmospheric Pressure	mb	ANALOX	1	1004		988		1005		1002		989		1005		1002	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	2.2		15.0		1.7		0.8		1.1		2.0		0.7	
Flow Rate	l/h	ANALOX	0.01	n/a		n/a		<0.01		<0.01		<0.01		<0.01		n/a	

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

MAYER environmental

Client	EMR Ltd	Client Ref	
Job Name	Union Road, Oldbury	Mayer Ref	71740
Job Details	Gas monitoring results	Suite	Field Gas
Date	8th September 2010		

Date of Field Test	24-Aug-10

Determinand	Units	Method	LOD	BHME19	
Infra Red Gas Analyser:					
Methane (CH_4)	%	ANALOX	0.1	<0.1	
Carbon Dioxide (CO_2)	%	ANALOX	0.1	0.2	
Oxygen (O_2)	%	ANALOX	0.1	19.2	
Atmospheric Pressure	mb	ANALOX	1	989	
Volatile Organic Compounds (11.7eV lamp)	ppm	PID	0.1	1.3	
Flow Rate	l/h	ANALOX	0.01	n/a	

Steady

Weather Observations: June : Warm, slight breeze, sunny July : Dry, sunny, hot, slight breeze August: Overcast, damp

LOD limit of detection
Steady Gas measurement after 5 minutes when settled
Steady* Gas Measurement after 10 minutes when settled
n/a Flow reading not recorded as gas valve not in place due to theft

Appendix 7

Sample Log

MAYER environmental

OLDBURY SITE INVESTIGATION - 71740
SAMPLE LOG - Trial Pits & Boreholes

BH/TP	Depth	Type	Date	Bag	Jar	Bottle	Vial	ME2	TPHCWG	Asbestos	SVOCs/VOCs	PCBs	Waters - TPHCWG	WQ1	Free Product ID
BHME01															
FILL	0.5	soil	14/06/2010	1	1			1	1	1	1				
FILL	1	soil	14/06/2010	1											
FILL	2	soil	14/06/2010	1											
FILL	3	soil	14/06/2010	1											
FILL	4	soil	14/06/2010	1											
FILL	5	soil	14/06/2010	1	1										
FILL - cly pkts with some green staining	6	soil	14/06/2010	1				1							
FILL	7	soil	14/06/2010	1											
FILL	8	soil	14/06/2010	1											
FILL	9	soil	14/06/2010	1											
FILL	10	soil	14/06/2010	1											
FILL - strong HC odour GW	11.2	soil	14/06/2010	1	1				1		1				
Groundwater - dk grey, strong HC odour & sheen		water	20/07/2010			1	1						1		
Groundwater - dk brown, HC sheen & strong odour		water	23/08/2010			1	1						1		
BHME02															
FILL - clinker	0.5	soil	14/06/2010	1											
FILL	1	soil	14/06/2010	1	1			1	1	1					
FILL	2	soil	14/06/2010	1											
FILL - clinker	3	soil	14/06/2010	1											
FILL - clinker	4	soil	14/06/2010	1											
FILL - slag	5	soil	14/06/2010	1											
FILL	6	soil	14/06/2010	1	1										
FILL	7	soil	14/06/2010	1											
FILL - slag	8	soil	14/06/2010	1											
FILL - slag	9	soil	14/06/2010	1	1										
FILL - slag	10	soil	14/06/2010	1											
FILL - slag	11	soil	14/06/2010	1											
CLAY	11.8	soil	15/06/2010	1	1			1	1						
Groundwater - v dark brown, no odour or sheen		water	24/06/2010			2	1						1	1	
Groundwater - dk grey, no odour or sheen		water	20/07/2010												
BHME03															
FILL - occ slag	0.5	soil	15/06/2010	1	1			1	1	1		1			
FILL - occ slag	1	soil	15/06/2010	1											
FILL - occ slag	2	soil	15/06/2010	1											
FILL - slag, clinker	3	soil	15/06/2010	1											
Ashy FILL - slag	4	soil	15/06/2010	1	1			1							
Ashy FILL - slag	5	soil	15/06/2010	1											
Ashy FILL - slag	6	soil	15/06/2010	1											
Ashy FILL - slag	7	soil	15/06/2010	1											
Ashy FILL - slag	8	soil	15/06/2010	1											
Ashy FILL - slag	9	soil	15/06/2010	1											
CLAY	9.3	soil	15/06/2010	1	1										
BHME04															
Ashy FILL - slag, clinker	0.5	soil	15/06/2010	1	1			1		1					
Ashy FILL - slag, clinker	1	soil	15/06/2010	1											
Ashy FILL - slag, clinker	2	soil	15/06/2010	1											
Ashy FILL - slag, clinker	3	soil	15/06/2010	1											
Ashy FILL - slag, clinker	4	soil	15/06/2010	1											
Ashy FILL - slag, clinker	5	soil	15/06/2010	1											
Ashy FILL - slag, clinker	6	soil	15/06/2010	1											
Ashy FILL - slag, clinker	7	soil	15/06/2010	1											
Ashy FILL - slag, clinker	8	soil	15/06/2010	1											
Ashy FILL - slag, clinker - diesel odour & sheen GW	9	soil	15/06/2010	1	1				1						
CLAY	10.2	soil	15/06/2010	1	1				1		1				
Groundwater - v dark grey, slight HC odour & sheen		water	24/06/2010			2	1						1	1	
Groundwater - dark grey, HC sheen & odour		water	20/07/2010			2	1						1	1	
Groundwater - dk grey, HC sheen or odour		water	23/08/2010			2	1						1	1	
BHME05															
FILL - slight HC odour	0.5	soil	15/06/2010	1	1			1	1						
Chalky FILL	1	soil	15/06/2010	1											
Chalky FILL	2	soil	15/06/2010	1											
FILL - clinker, slight HC odour	3	soil	15/06/2010	1	1										
FILL - slag, clinker	4	soil	15/06/2010	1	1										
FILL - slag, clinker	5	soil	15/06/2010	1											
FILL - slag, clinker	6	soil	15/06/2010	1											
FILL, ash, slag	7	soil	15/06/2010	1											
Ashy FILL - slag	8	soil	15/06/2010	1											
Ashy FILL - slag	9	soil	15/06/2010	1				1							
Ashy FILL - slight HC odour	10	soil	15/06/2010	1	1				1						
CLAY	10.4	soil	15/06/2010	1	1				1						
Groundwater - rich dark brown, slight HC sheen		water	24/06/2010			1							1		
Groundwater - dark grey, slight HC sheen & odour		water	20/07/2010			1							1		
BHME06															
FILL - occ slag	0.5	soil	15/06/2010	1	1			1	1			1			
Ashy FILL - ash, clinker	1	soil	15/06/2010	1											
Ashy FILL - ash, clinker	2	soil	15/06/2010	1											
Ashy FILL - ash, clinker	3	soil	15/06/2010	1	1										
Ashy FILL - ash, clinker	4	soil	15/06/2010	1	1			1	1	1					
Ashy FILL - ash, clinker	5	soil	15/06/2010	1											
Ashy FILL - ash, clinker	6	soil	15/06/2010	1											

MAYER environmental

OLDBURY SITE INVESTIGATION - 71740
SAMPLE LOG - Trial Pits & Boreholes

BH/TP	Depth	Type	Date	Bag	Jar	Bottle	Vial	ME2	TPHCWG	Asbestos	SVOCs/VOCs	PCBs	Waters - TPHCWG	WQ1	Free Product ID
Ashy FILL - ash, clinker	7	soil	15/06/2010	1											
Ashy FILL - ash, clinker	8	soil	15/06/2010	1											
Ashy FILL - ash, clinker	9	soil	15/06/2010	1											
CLAY	9.4	soil	15/06/2010	1	1										
BHME07															
FILL - occ ash, clinker	0.5	soil	15/06/2010	1	1				1						
FILL - occ ash, clinker	1	soil	15/06/2010	1				1							
FILL - occ ash, clinker	2	soil	15/06/2010	1											
FILL	3	soil	15/06/2010	1											
FILL	4	soil	15/06/2010	1											
FILL	5	soil	15/06/2010	1											
FILL	6	soil	15/06/2010	1											
FILL	7	soil	15/06/2010	1											
FILL - slight HC odour	8	soil	15/06/2010	1	1			1	1						
FILL - slight HC odour	9	soil	15/06/2010	1											
FILL	10	soil	15/06/2010	1											
CLAY	10.4	soil	15/06/2010	1	1				1						
Groundwater - rich dark brown		water	24/06/2010			1	1						1		
BHME08															
Ashy FILL	0.5	soil	16/06/2010	1	1			1							
Ashy FILL	1	soil	16/06/2010	1											
Ashy FILL	2	soil	16/06/2010	1						1					
Ashy FILL	3	soil	16/06/2010	1											
Ashy FILL - occ slag	4	soil	16/06/2010	1											
Ashy FILL - occ slag	5	soil	16/06/2010	1											
Ashy FILL - occ slag	6	soil	16/06/2010	1											
Ashy FILL - occ slag - slight sweet odour	7	soil	16/06/2010	1	1			1	1		1				
Ashy FILL - occ slag - slight sweet odour	8	soil	16/06/2010	1											
Ashy FILL - crushed slag, sweet odour	9	soil	16/06/2010	1	1				1		1				
Ashy FILL - crushed slag, sweet odour GW	10	soil	16/06/2010	1											
CLAY	10.4	soil	16/06/2010	1	1										
Groundwater - rich dark brown, slight HC odour		water	24/06/2010			1	1						1		
BHME09															
FILL	0.5	soil	16/06/2010	1				1							
FILL	1	soil	16/06/2010	1	1										
FILL - ash,clinker, strong HC odour	2	soil	16/06/2010	1	1			1	1		1				
Ashy FILL - slag, slight HC odour	3	soil	16/06/2010	1	1										
Ashy FILL - clinker, slag, slight HC odour	4	soil	16/06/2010	1	1										
Ashy FILL - HC odour	5	soil	16/06/2010	1	1				1						
Ashy FILL - HC odour	6	soil	16/06/2010	1											
Ashy FILL - HC odour	7	soil	16/06/2010	1											
Ashy FILL - HC odour GW	8	soil	16/06/2010	1	1				1						
CLAY	9.6	soil	16/06/2010	1	1				1		1				
Groundwater - light brown, oil globules on surface		water	24/06/2010			1	1						1		
Groundwater - dark grey, oil globules on surface		water	20/07/2010			2	1						1		
No groundwater - thick brown oil		oil	23/08/2010				1								1
BHME10															
FILL	0.5	soil	16/06/2010	1	1										
FILL	1	soil	16/06/2010	1				1	1	1					
FILL - clinker	2	soil	16/06/2010	1											
FILL - clinker	3	soil	16/06/2010	1	1			1							
Brick crush FILL	4	soil	16/06/2010	1											
Brick crush FILL	5	soil	16/06/2010	1											
Brick crush FILL	6	soil	16/06/2010	1											
CLAY	6.6	soil	16/06/2010	1	1										
BHME11															
FILL - occ clinker	0.5	soil	16/06/2010	1	1			1	1						
FILL - occ clinker	1	soil	16/06/2010	1											
FILL - occ clinker	2	soil	16/06/2010	1											
FILL - occ clinker	3	soil	16/06/2010	1											
FILL	3.5	soil	16/06/2010	1	1			1	1						
FILL	5	soil	16/06/2010	1											
CLAY	5.5	soil	16/06/2010	1	1										
Groundwater - dk brown		water	24/06/2010			1							1		
BHME12															
FILL	0.5	soil	16/06/2010	1											
FILL	1	soil	16/06/2010	1	1			1	1	1	1				
FILL - clinker	2	soil	16/06/2010	1											
FILL - clinker	3	soil	16/06/2010	1											
FILL - clinker	4	soil	16/06/2010	1											
FILL - clinker, ash	5	soil	16/06/2010	1	1				1						
FILL - clinker, ash	6	soil	16/06/2010	1				1							
FILL - clinker, ash	7	soil	16/06/2010	1											
CLAY	7.75	soil	16/06/2010	1	1										
Groundwater - dark brown		water	24/06/2010			1	1						1		
Groundwater - very dark grey, no odour or sheen		water	20/07/2010			2	1						1		
Groundwater - dk grey/brown, no odour or sheen		water	23/08/2010			1	1								
BHME13															
Ashy FILL - clinker, slag	0.5	soil	15/06/2010	1	1			1							
Ashy FILL - clinker, slag	1	soil	15/06/2010	1											
Ashy FILL - clinker, slag	2	soil	15/06/2010	1											

MAYER environmental

OLDBURY SITE INVESTIGATION - 71740
SAMPLE LOG - Trial Pits & Boreholes

BH/TP	Depth	Type	Date	Bag	Jar	Bottle	Vial	ME2	TPHCWG	Asbestos	SVOCs/VOCs	PCBs	Waters - TPHCWG	WQ1	Free Product ID
FILL - occ clinker - GW	3	soil	15/06/2010	1	1				1						
Clay FILL	4	soil	15/06/2010	1											
Clay FILL - canal basin?	5	soil	15/06/2010	1	1			1	1						
Groundwater - dk grey		water	24/06/2010			2	1						1	1	
BHME14															
FILL - slag	1	soil	15/06/2010	1	1			1		1					
FILL - slag	2	soil	15/06/2010	1											
FILL - slag	3	soil	15/06/2010	1											
FILL - slag	4	soil	15/06/2010	1	1										
FILL - slag	5	soil	15/06/2010	1											
Red crush FILL - ash, clinker	6	soil	15/06/2010	1											
Red crush FILL - ash, clinker	7	soil	15/06/2010	1											
FILL - slag & blue glassy slag	7.5	soil	15/06/2010	1	1			1	1		1				
BHME15															
FILL	0.5	soil	15/06/2010	1											
FILL	1	soil	15/06/2010	1				1	1						
FILL	2	soil	15/06/2010	1											
FILL - slag, clinker	3	soil	15/06/2010	1											
FILL - slag, clinker	4	soil	15/06/2010	1											
Ashy FILL - slag	5	soil	15/06/2010	1											
Brick crush FILL	6	soil	15/06/2010	1											
Ashy FILL - slag - wet	7	soil	15/06/2010	1				1							
CLAY	7.7	soil	15/06/2010	1											
Groundwater - dk brown		soil	24/06/2010			1	1						1		
BHME16															
FILL - occ slag	0.5	soil	14/06/2010	1	1										
FILL - occ slag	1	soil	14/06/2010	1				1							
FILL - clinker, slag	2	soil	14/06/2010	1											
FILL - occ slag	3	soil	14/06/2010	1	1				1						
Ashy FILL - slag, clinker	4	soil	14/06/2010	1				1							
brick crush and ashy FILL - slag	5	soil	14/06/2010	1	1										
brick crush and ashy FILL - slag	6	soil	14/06/2010	1											
brick crush and ashy FILL - slag	7	soil	14/06/2010	1											
brick crush and ashy FILL - slag	8	soil	14/06/2010	1											
brick crush and ashy FILL - slag	9	soil	14/06/2010	1											
BHME17															
Ashy FILL - slag , clinker	0.5	soil	14/06/2010	1	1			1	1						
Ashy FILL - slag , clinker	1	soil	14/06/2010	1											
Ashy FILL - slag , clinker	2	soil	14/06/2010	1											
Ashy FILL - slag , clinker	3	soil	14/06/2010	1				1							
Ashy FILL - slag , clinker	4	soil	14/06/2010	1	1										
Ashy FILL - slag , clinker	5	soil	14/06/2010	1											
FILL - ash	6	soil	14/06/2010	1											
Slag crush FILL	7	soil	14/06/2010	1											
BHME18															
Ashy FILL	0.5	soil	16/06/2010	1	1										
Ashy FILL	1	soil	16/06/2010	1				1							
Ashy FILL	2	soil	16/06/2010	1											
Ashy FILL	3	soil	16/06/2010	1											
Ashy FILL - GW	4	soil	16/06/2010	1	1				1						
Ashy FILL	5	soil	16/06/2010	1											
Ashy FILL	6	soil	16/06/2010	1											
CLAY	6.5	soil	16/06/2010	1	1			1							
Groundwater - v dk grey		water	24/06/2010			2	1						1	1	
Groundwater - dk grey, no odour or sheen		water	20/07/2010			2	1						1	1	
Groundwater - orange/brown, no odour or sheen		water	23/08/2010			2	1						1	1	
BHME19															
Ashy FILL - clinker	0.5	soil	16/06/2010	1	1			1	1		1				
Ashy FILL - clinker	1	soil	16/06/2010	1											
Ashy FILL - clinker	2	soil	16/06/2010	1											
Ashy FILL - clinker HC odour	3	soil	16/06/2010	1	1				1						
Ashy FILL - slag - wet	5-7m	soil	16/06/2010	1	1				1						
CLAY	7.5	soil	16/06/2010	1											
Groundwater - dk grey		water	24/06/2010			2	1						1	1	
Groundwater - v dk grey/black with HC odour &sheen		water	20/07/2010			2	1						1	1	
BH7 - dk grey, slight HC odour & sheen		water	20/07/2010			2	1						1	1	
BH104 - lt brown, no odour or sheen		water	20/07/2010			2	1						1	1	
BH7 - dk grey, HC odour & sheen		water	23/08/2010			2	1						1	1	
BH104 - light orange/brown, no odour or sheen		water	23/08/2010			2	1						1	1	
TPME01															
FILL	0.55	soil	15/06/2010	1				1				1			
FILL	1.60	soil	15/06/2010	1	1				1						
FILL	2.40	soil	15/06/2010	1											
FILL	3.10	soil	15/06/2010	1	1										
TPME02															
FILL - clinker	0.65	soil	15/06/2010	1	1			1	1						
FILL - clinker	1.0	soil	15/06/2010	1	1										
FILL - fibrous materials	2.6	soil	15/06/2010	1	1			1		1					
TPME03															
FILL - clinker, slag	0.55	soil	15/06/2010	1	1			1			1	1			
FILL - clinker, slag	1.1	soil	15/06/2010	1	1										

MAYER environmental

OLDBURY SITE INVESTIGATION - 71740
SAMPLE LOG - Trial Pits & Boreholes

BH/TP	Depth	Type	Date	Bag	Jar	Bottle	Vial	ME2	TPHCWG	Asbestos	SVOCs/VOCs	PCBs	Waters - TPHCWG	WQ1	Free Product ID
FILL	2.7	soil	15/06/2010	1	1										
TPME04															
FILL	0.3	soil	15/06/2010	1	1			1	1						
FILL - clinker	1.1	soil	15/06/2010	1	1										
FILL	1.8	soil	15/06/2010	1				1							
FILL - slag, clinker	3.1	soil	15/06/2010	1	1										
FILL - slag, clinker poss asbestos	3.2	soil	15/06/2010	1						1					
TPME05															
FILL - clinker, slag	0.4	soil	15/06/2010	1	1			1	1			1			
FILL - clinker, slag	0.95	soil	15/06/2010	1	1										
FILL - clinker, slag	2.9	soil	15/06/2010	1	1										
TPME06															
FILL - clinker	0.5	soil	15/06/2010	1	1			1	1						
FILL - clinker	1.1	soil	15/06/2010	1	1										
FILL - clinker	2.2	soil	15/06/2010	1											
FILL - clinker	3.2	soil	15/06/2010	1	1										
TPME07															
FILL - clinker, slag	0.45	soil	15/06/2010	1				1							
FILL - slag, light blue fibre	1.2	soil	15/06/2010	1				1	1	1					
FILL - slag, light blue fibre	2.5	soil	15/06/2010	1											
FILL - HC odour	3.1	soil	15/06/2010	1	1				1						
TPME08															
FILL - clinker	0.5	soil	15/06/2010	1	1			1	1			1			
FILL - clinker	1.1	soil	15/06/2010	1	1										
FILL - clinker	1.9	soil	15/06/2010	1	1										
FILL - clinker - HC odour	2.8	soil	15/06/2010	1	1										
FILL - clinker - HC odour	3.2	soil	15/06/2010	1	1				1						
TPME09															
FILL	0.3	soil	15/06/2010	1	1			1	1						
FILL - clinker, slag slight HC odour	0.8	soil	15/06/2010	1	1										
FILL - clinker, slag strong HC odour	1.7	soil	15/06/2010	1	1				1	1					
FILL - clinker, slag	2.8	soil	15/06/2010	1	1										
FILL - slag	3.5	soil	15/06/2010	1	1										
TPME10															
FILL - clinker, slag	0.2	soil	16/06/2010	1	1			1	1						
FILL - clinker, slag	1.1	soil	16/06/2010	1	1					1					
FILL	2.7	soil	16/06/2010	1	1										
TPME11															
FILL - clinker, ash	0.6	soil	16/06/2010	1	1										
FILL - clinker, ash	0.9	soil	16/06/2010	1	1			1	1		1				
FILL - slag	3.1	soil	16/06/2010	1	1										
TPME12															
FILL - clinker	0.2	soil	16/06/2010	1	1			1							
FILL	0.7	soil	16/06/2010	1	1										
FILL - clinker, strong HC odour and pool of fuel at base	1.8	soil	16/06/2010	1	1				1						
TPME13															
FILL - clinker	0.3	soil	16/06/2010	1	1			1		1		1			
FILL - clinker - slight HC odour - fuel at base	1.2	soil	16/06/2010	1	1				1						
FILL	2.2	soil	16/06/2010	1	1				1						
TPME14															
FILL	0.2	soil	16/06/2010	1				1							
FILL - clinker, slag 14b	1.3	soil	16/06/2010	1	1					1					
FILL - clinker, slag strong HC odour 14b	1.8	soil	17/06/2010	1	1				1						
FILL - slag, v strong HC odour 14b	2.8	soil	18/06/2010	1	1				1						
TPME15															
FILL - clinker	0.2	soil	16/06/2010	1	1			1	1	1		1			
FILL - clinker	1.7	soil	16/06/2010	1	1										
Hessian sacks - sweet sickly odour	2.0	soil	17/06/2010		1				1		1				
TPME16															
FILL - clinker	0.2	soil	16/06/2010	1	1			1	1						
FILL	1.8	soil	16/06/2010	1	1					1					
FILL - slight sweet odour	3.2	soil	17/06/2010	1	1			1	1		1				
TPME17															
FILL - clinker	0.3	soil	16/06/2010	1	1			1	1			1			
FILL - clinker	1.6	soil	16/06/2010	1	1					1					
FILL - clinker	1.9	soil	17/06/2010	1	1										
TPME18															
FILL - clinker, slag	0.2	soil	16/06/2010	1	1			1	1		1				
FILL - clinker, slag	1.8	soil	16/06/2010	1	1					1					
FILL - coal, slag	3.0	soil	17/06/2010	1	1										
TPME19															
FILL	0.2	soil	16/06/2010	1				1		1		1			
FILL	1.8	soil	16/06/2010	1											

TOTALS:								**59**	**60**	**21**	**15**	**10**	**26**	**14**	**1**

Appendix 8

Analytical Data - Soils

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 328646
Fax : 01376 552923

Report Number: 203807-1

Date of Report: 30-Jun-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/00071740.006
Customer Purchase Order: 13131
Customer Site Reference: Oldbury
Date Job Received at SAL: 22-Jun-2010
Date Analysis Started: 23-Jun-2010
Date Analysis Completed: 30-Jun-2010

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME

Report checked and authorised by :
Miss Claire Brown
Project Manager

Issued by :
Miss Claire Brown
Project Manager

Index to symbols used in 203807-1

Value	Description
A40	Assisted dried < 40C
AR	As Received
13	Results have been blank corrected.
3	LOD Raised Due to Elevated Blank
64	Analysis was performed by an alternative technique
9	LOD raised due to dilution of sample
W	Analysis was performed at another SAL laboratory
S	Analysis was subcontracted
M	Analysis is MCERTS accredited
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Where an asbestos of none detected is reported, this is obtained from analysis of a representative sub sample.
Reported results on as received samples are corrected to a 105 degree centigrade dry weight basis except TPH c5-c10 aromatic/ aliphatic
Sample -085 showed peaks of free fatty acid compounds as detected in the GC-MS analysis. This is consistent with the presence of animal/vegetable oils in that sample. Due to this the samples has not been moisture corrected to a 105 degree centigrade dry weight basis
Electrical Conductivity performed on a 2:1 water:soil extract
Retained on 2mm is removed before analysis
Sub contracted analysis performed by SAL Manchester & REC Asbestos South East Ltd

Method Index

Value	Description
T7	Probe
T6	ICP/OES
T2	Grav
T207	GC/MS(MCERTS)
T206	GC/FID (MCERTS)
T245	ICP/OES(Aqua Regia Extraction)
T277	Grav (1 Dec) (40 C)
T16	GC/MS
T8	GC/FID
T27	PLM
T376	Ign 450C/Grav
T162	Grav (1 Dec) (105 C)
T1	GC/MS (HR)
T209	GC/MS(Head Space)(MCERTS)
T54	GC/MS (Headspace)
T4	Colorimetry
T257	ICP/OES (SIM) (Aqua Regia Extraction)
T242	2:1 Extraction/ICP/OES (TRL 447 T1)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Asbestos	T27	A40			SU	001,004,006,008,016,022,030,034,040,058,062,066,071,073,077,081,084,087,090,092-093
Moisture	T277	AR	0.1	%	N	001-021,023-061,063-072,074-080,082-086,088-089,091,093
Moisture @ 105 C	T162	AR	0.1	%	N	001-021,023-061,063-072,074-080,082-086,088-089,091,093
Retained on 2mm	T2	A40	0.1	%	N	001-021,023-061,063-072,074-080,082-086,088-089,091,093
Arsenic	T257	A40	2	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Arsenic	T257	A40	2	mg/kg	N	011
Arsenic	T257	A40	2	mg/kg	U	015,030,041,055
Boron (water-soluble)	T6	A40	1	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Cadmium	T257	A40	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Cadmium	T257	A40	0.1	mg/kg	N	011
Cadmium	T257	A40	0.1	mg/kg	U	015,030,041,055
Chromium	T257	A40	0.5	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Chromium	T257	A40	0.5	mg/kg	N	011
Chromium	T257	A40	0.5	mg/kg	U	015,030,041,055
Copper	T257	A40	2	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Copper	T257	A40	2	mg/kg	N	011
Copper	T257	A40	2	mg/kg	U	015,030,041,055
Lead	T257	A40	2	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Lead	T257	A40	2	mg/kg	N	011
Lead	T257	A40	2	mg/kg	U	015,030,041,055
Mercury	T245	A40	1.0	mg/kg	U	001-002,004-008,012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Mercury	T245	A40	1.0	mg/kg	N	011
Nickel	T257	A40	0.5	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Nickel	T257	A40	0.5	mg/kg	N	011
Nickel	T257	A40	0.5	mg/kg	U	015,030,041,055
Selenium	T257	A40	3	mg/kg	U	001-002,004-008,012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Selenium	T257	A40	3	mg/kg	N	011
Zinc	T257	A40	2	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Zinc	T257	A40	2	mg/kg	N	011
Zinc	T257	A40	2	mg/kg	U	015,030,041,055
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Electrical Conductivity	T7	A40	10	µS/cm	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
LOI @450C	T376	A40	0.1	%	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
LOI @450C	T376	A40	0.1	%	N	011
LOI @450C	T376	A40	0.1	%	U	015,030,041,055
pH	T7	A40			M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
pH	T7	A40			N	011
pH	T7	A40			U	015,030,041,055
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	N	011
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	U	015,030,041,055
Sulphide	T4	A40	10	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
S (Total)	T6	A40	0.01	%	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
S (Total)	T6	A40	0.01	%	N	011
S (Total)	T6	A40	0.01	%	U	015,030,041,055
Toluene extractable matter	T2	A40	500	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Cyanide(Total)	T4	AR	1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Cyanide(Total)	T4	AR	1	mg/kg	N	011
Cyanide(Total)	T4	AR	1	mg/kg	U	015,030,041,055
Phenols(Mono)	T4	AR	0.5	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Phenols(Mono)	T4	AR	0.5	mg/kg	N	011
Phenols(Mono)	T4	AR	0.5	mg/kg	U	015,030,041,055
Naphthalene	T16	AR	0.1	mg/kg	U	001-002,004-008,012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Naphthalene	T16	AR	0.1	mg/kg	N	011
Acenaphthylene	T16	AR	0.1	mg/kg	U	001-002,004-008,012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Acenaphthylene	T16	AR	0.1	mg/kg	N	011
Acenaphthene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Acenaphthene	T16	AR	0.1	mg/kg	N	011
Acenaphthene	T16	AR	0.1	mg/kg	U	015,030,041,055

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Fluorene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Fluorene	T16	AR	0.1	mg/kg	N	011
Fluorene	T16	AR	0.1	mg/kg	U	015,030,041,055
Phenanthrene	T16	AR	0.1	mg/kg	U	001-002,004-008,012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Phenanthrene	T16	AR	0.1	mg/kg	N	011
Anthracene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Anthracene	T16	AR	0.1	mg/kg	N	011
Anthracene	T16	AR	0.1	mg/kg	U	015,030,041,055
Fluoranthene	T16	AR	0.1	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Pyrene	T16	AR	0.1	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	N	011
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	U	015,030,041,055
Chrysene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Chrysene	T16	AR	0.1	mg/kg	N	011
Chrysene	T16	AR	0.1	mg/kg	U	015,030,041,055
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	N	011
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	U	015,030,041,055
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	N	011
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	U	015,030,041,055
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	N	011
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	U	015,030,041,055
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	N	011
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	U	015,030,041,055
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	M	001-002,004-008,012,016,018-019,021,023,025-026,031-034,036-037,039-040,042-044,046-049,051-052,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	N	011
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	U	015,030,041,055
PAH(total)	T16	AR	0.1	mg/kg	N	001-002,004-008,011-012,015-016,018-019,021,023,025-026,030-034,036-037,039-044,046-049,051-052,055,057-061,063-066,068,070,072,074-075,077,080,084,086,088-089,091,093
PCB BZ#101	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#101	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#118	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#118	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#138	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#138	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#153	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#153	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#180	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#180	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#28	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#28	T1	AR	0.05	µg/kg	WU	015,055
PCB BZ#52	T1	AR	0.05	µg/kg	WM	006,059,063,068,077,084,089,093
PCB BZ#52	T1	AR	0.05	µg/kg	WU	015,055
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	U	041
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	N	085
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	U	041
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	N	085
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	U	041

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	N	085
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	U	041
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	N	085
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
2,4-Dimethylphenol	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
2,4-Dinitrophenol	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
2,4-Dinitrotoluene	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
2,4-Dinitrotoluene	T207	AR	0.1	mg/kg	N	085
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	U	041
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	N	085
2-Chloronaphthalene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2-Chloronaphthalene	T207	AR	0.1	mg/kg	U	041
2-Chloronaphthalene	T207	AR	0.1	mg/kg	N	085
2-Chlorophenol	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2-Chlorophenol	T207	AR	0.1	mg/kg	U	041
2-Chlorophenol	T207	AR	0.1	mg/kg	N	085
2-methyl phenol	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
2-methyl phenol	T207	AR	0.1	mg/kg	N	085
2-Methylnaphthalene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2-Methylnaphthalene	T207	AR	0.1	mg/kg	U	041
2-Methylnaphthalene	T207	AR	0.1	mg/kg	N	085
2-Nitroaniline	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2-Nitroaniline	T207	AR	0.1	mg/kg	U	041
2-Nitroaniline	T207	AR	0.1	mg/kg	N	085
2-Nitrophenol	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
3-Nitroaniline	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
3-Nitroaniline	T207	AR	0.1	mg/kg	N	085
3/4-Methylphenol	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
3/4-Methylphenol	T207	AR	0.1	mg/kg	U	041
3/4-Methylphenol	T207	AR	0.1	mg/kg	N	085
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	U	041
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	N	085
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	U	041
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	N	085
4-Chloroaniline	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
4-Chloroaniline	T207	AR	0.1	mg/kg	N	085
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	U	041
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	N	085
4-Nitroaniline	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
4-Nitroaniline	T207	AR	0.1	mg/kg	N	085
4-Nitrophenol	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Acenaphthene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Acenaphthene	T207	AR	0.1	mg/kg	U	041
Acenaphthene	T207	AR	0.1	mg/kg	N	085
Acenaphthylene	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Acenaphthylene	T207	AR	0.1	mg/kg	N	085
Anthracene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Anthracene	T207	AR	0.1	mg/kg	U	041
Anthracene	T207	AR	0.1	mg/kg	N	085
Azobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Azobenzene	T207	AR	0.1	mg/kg	U	041
Azobenzene	T207	AR	0.1	mg/kg	N	085
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	U	041
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	N	085
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	U	041
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	N	085
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	U	041
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	N	085
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	U	041

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	N	085
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	U	041
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	N	085
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	U	041
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	N	085
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	U	041
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	N	085
Bis (2-ethylhexyl)phthalate	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Butyl benzylphthalate	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Carbazole	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Carbazole	T207	AR	0.1	mg/kg	N	085
Chrysene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Chrysene	T207	AR	0.1	mg/kg	U	041
Chrysene	T207	AR	0.1	mg/kg	N	085
Di-n-butylphthalate	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Di-n-butylphthalate	T207	AR	0.1	mg/kg	N	085
Di-n-octylphthalate	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Di-n-octylphthalate	T207	AR	0.1	mg/kg	U	041
Di-n-octylphthalate	T207	AR	0.1	mg/kg	N	085
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	U	041
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	N	085
Dibenzofuran	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Dibenzofuran	T207	AR	0.1	mg/kg	U	041
Dibenzofuran	T207	AR	0.1	mg/kg	N	085
Diethyl phthalate	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Diethyl phthalate	T207	AR	0.1	mg/kg	U	041
Diethyl phthalate	T207	AR	0.1	mg/kg	N	085
Dimethyl phthalate	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Dimethyl phthalate	T207	AR	0.1	mg/kg	U	041
Dimethyl phthalate	T207	AR	0.1	mg/kg	N	085
Fluoranthene	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Fluorene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Fluorene	T207	AR	0.1	mg/kg	U	041
Fluorene	T207	AR	0.1	mg/kg	N	085
Hexachlorobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Hexachlorobenzene	T207	AR	0.1	mg/kg	U	041
Hexachlorobenzene	T207	AR	0.1	mg/kg	N	085
Hexachlorobutadiene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Hexachlorobutadiene	T207	AR	0.1	mg/kg	U	041
Hexachlorobutadiene	T207	AR	0.1	mg/kg	N	085
Hexachlorocyclopentadiene	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Hexachloroethane	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Hexachloroethane	T207	AR	0.1	mg/kg	U	041
Hexachloroethane	T207	AR	0.1	mg/kg	N	085
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	U	041
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	N	085
Isophorone	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Isophorone	T207	AR	0.1	mg/kg	U	041
Isophorone	T207	AR	0.1	mg/kg	N	085
Naphthalene	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Naphthalene	T207	AR	0.1	mg/kg	N	085
Nitrobenzene	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Nitrobenzene	T207	AR	0.1	mg/kg	U	041
Nitrobenzene	T207	AR	0.1	mg/kg	N	085
Pentachlorophenol	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Phenanthrene	T207	AR	0.1	mg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Phenanthrene	T207	AR	0.1	mg/kg	N	085
Phenol	T207	AR	0.1	mg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Phenol	T207	AR	0.1	mg/kg	U	041
Phenol	T207	AR	0.1	mg/kg	N	085
Pyrene	T207	AR	0.1	mg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Benzene	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
Benzene	T209	AR	10	µg/kg	N	011,085

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzene	T209	AR	10	µg/kg	U	015,030,041,050
EthylBenzene	T209	AR	10	µg/kg	N	011,085
EthylBenzene	T209	AR	10	µg/kg	U	015,030,041,050
M/P Xylene	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
M/P Xylene	T209	AR	10	µg/kg	N	011,085
M/P Xylene	T209	AR	10	µg/kg	U	015,030,041,050
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	N	011,085
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	U	015,030,041,050
O Xylene	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
O Xylene	T209	AR	10	µg/kg	N	011,085
O Xylene	T209	AR	10	µg/kg	U	015,030,041,050
Toluene	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
Toluene	T209	AR	10	µg/kg	N	011,085
Toluene	T209	AR	10	µg/kg	U	015,030,041,050
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	N	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	WN	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	WN	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	WM	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	WN	011,085
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	WU	015,030,041,050
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	WN	001,003-006,009-011,013-017,019-020,023-024,026-030,032-035,038-039,041-042,045,047,050,052-054,056-057,060,063-064,066-072,074,076,078-079,082-086,088-089,091
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	WM	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	WN	011,085
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	WU	015,030,041,050
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	WM	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	WN	011,085
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	WU	015,030,041,050
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	WM	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	WN	011,085
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	WU	015,030,041,050
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	WM	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	WN	011,085
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	WU	015,030,041,050
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg	N	085
1,1,1-Trichloroethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,1,1-Trichloroethane	T54	AR	5	µg/kg	U	041
1,1,1-Trichloroethane	T54	AR	5	µg/kg	N	085
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg	N	085
1,1,2-Trichloroethane	T54	AR	5	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,1,2-Trichloroethane	T54	AR	5	µg/kg	N	085

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
1,1-Dichloroethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,1-Dichloroethane	T54	AR	5	µg/kg	U	041
1,1-Dichloroethane	T54	AR	5	µg/kg	N	085
1,1-Dichloroethylene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,1-Dichloroethylene	T54	AR	5	µg/kg	U	041
1,1-Dichloroethylene	T54	AR	5	µg/kg	N	085
1,1-Dichloropropene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,1-Dichloropropene	T54	AR	5	µg/kg	U	041
1,1-Dichloropropene	T54	AR	5	µg/kg	N	085
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg	U	041
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg	N	085
1,2,3-Trichloropropane	T54	AR	5	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,2,3-Trichloropropane	T54	AR	5	µg/kg	N	085
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg	U	041
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg	N	085
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg	U	041
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg	N	085
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg	N	085
1,2-dibromoethane	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,2-dibromoethane	T209	AR	50	µg/kg	N	085
1,2-Dichlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2-Dichlorobenzene	T54	AR	5	µg/kg	U	041
1,2-Dichlorobenzene	T54	AR	5	µg/kg	N	085
1,2-Dichloroethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2-Dichloroethane	T54	AR	5	µg/kg	U	041
1,2-Dichloroethane	T54	AR	5	µg/kg	N	085
1,2-Dichloropropane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,2-Dichloropropane	T54	AR	5	µg/kg	U	041
1,2-Dichloropropane	T54	AR	5	µg/kg	N	085
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg	U	041
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg	N	085
1,3-Dichlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,3-Dichlorobenzene	T54	AR	5	µg/kg	U	041
1,3-Dichlorobenzene	T54	AR	5	µg/kg	N	085
1,3-Dichloropropane	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
1,3-Dichloropropane	T209	AR	50	µg/kg	N	085
1,4-Dichlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
1,4-Dichlorobenzene	T54	AR	5	µg/kg	U	041
1,4-Dichlorobenzene	T54	AR	5	µg/kg	N	085
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg	U	041
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg	N	085
2,2-Dichloropropane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2,2-Dichloropropane	T54	AR	5	µg/kg	U	041
2,2-Dichloropropane	T54	AR	5	µg/kg	N	085
2-Chlorotoluene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
2-Chlorotoluene	T54	AR	5	µg/kg	U	041
2-Chlorotoluene	T54	AR	5	µg/kg	N	085
4-Chlorotoluene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
4-Chlorotoluene	T54	AR	5	µg/kg	U	041
4-Chlorotoluene	T54	AR	5	µg/kg	N	085
Bromobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bromobenzene	T54	AR	5	µg/kg	U	041
Bromobenzene	T54	AR	5	µg/kg	N	085
Bromochloromethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bromochloromethane	T54	AR	5	µg/kg	U	041
Bromochloromethane	T54	AR	5	µg/kg	N	085
Bromodichloromethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Bromodichloromethane	T54	AR	5	µg/kg	U	041
Bromodichloromethane	T54	AR	5	µg/kg	N	085
Bromoform	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Bromoform	T209	AR	50	µg/kg	N	085
Bromomethane	T54	AR	5	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Bromomethane	T54	AR	5	µg/kg	N	085
Carbon tetrachloride	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Carbon tetrachloride	T54	AR	5	µg/kg	U	041
Carbon tetrachloride	T54	AR	5	µg/kg	N	085
Chlorobenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Chlorobenzene	T54	AR	5	µg/kg	U	041
Chlorobenzene	T54	AR	5	µg/kg	N	085
Chlorodibromomethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Chlorodibromomethane	T54	AR	5	µg/kg	U	041
Chlorodibromomethane	T54	AR	5	µg/kg	N	085
Chloroethane	T209	AR	50	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Chloroethane	T209	AR	50	µg/kg	N	085
Chloroform	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Chloroform	T54	AR	5	µg/kg	U	041
Chloroform	T54	AR	5	µg/kg	N	085
Chloromethane	T209	AR	50	µg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg	U	041
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg	N	085
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg	U	041
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg	N	085
Dibromomethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Dibromomethane	T54	AR	5	µg/kg	U	041
Dibromomethane	T54	AR	5	µg/kg	N	085
Dichlorodifluoromethane	T209	AR	50	µg/kg	N	001,003,010,023-024,026,028,034,041,052,059,067,074,085,088,091
EthylBenzene	T209	AR	10	µg/kg	M	001,003-006,009-010,013-014,016-017,019-020,023-024,026-029,032-035,038-039,042,045,047,052-054,056-057,059-060,063-064,066-072,074,076,078-079,082-084,086,088-089,091
Hexachlorobutadiene	T209	AR	10	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
Hexachlorobutadiene	T209	AR	10	µg/kg	N	085
Isopropyl benzene	T54	AR	50	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Isopropyl benzene	T54	AR	50	µg/kg	U	041
Isopropyl benzene	T54	AR	50	µg/kg	N	085
m/p ethyl toluene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
m/p ethyl toluene	T54	AR	5	µg/kg	U	041
m/p ethyl toluene	T54	AR	5	µg/kg	N	085
n-Butylbenzene	T54	AR	10	µg/kg	U	001,003,010,023-024,026,028,034,041,052,059,067,074,088,091
n-Butylbenzene	T54	AR	10	µg/kg	N	085
n-Propylbenzene	T54	AR	50	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
n-Propylbenzene	T54	AR	50	µg/kg	U	041
n-Propylbenzene	T54	AR	50	µg/kg	N	085
p-Isopropyltoluene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
p-Isopropyltoluene	T54	AR	5	µg/kg	U	041
p-Isopropyltoluene	T54	AR	5	µg/kg	N	085
S-Butylbenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
S-Butylbenzene	T54	AR	5	µg/kg	U	041
S-Butylbenzene	T54	AR	5	µg/kg	N	085
Styrene	T54	AR	50	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Styrene	T54	AR	50	µg/kg	U	041
Styrene	T54	AR	50	µg/kg	N	085
T-Butylbenzene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
T-Butylbenzene	T54	AR	5	µg/kg	U	041
T-Butylbenzene	T54	AR	5	µg/kg	N	085
Tertiary amyl methyl ether	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Tertiary amyl methyl ether	T54	AR	5	µg/kg	U	041
Tertiary amyl methyl ether	T54	AR	5	µg/kg	N	085
Tetrachloroethylene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Tetrachloroethylene	T54	AR	5	µg/kg	U	041
Tetrachloroethylene	T54	AR	5	µg/kg	N	085
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg	U	041
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg	N	085
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg	U	041
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg	N	085
Trichloroethylene	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Trichloroethylene	T54	AR	5	µg/kg	U	041
Trichloroethylene	T54	AR	5	µg/kg	N	085
Trichlorofluoromethane	T54	AR	5	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Trichlorofluoromethane	T54	AR	5	µg/kg	U	041
Trichlorofluoromethane	T54	AR	5	µg/kg	N	085

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Vinyl chloride	T54	AR	10	µg/kg	M	001,003,010,023-024,026,028,034,052,059,067,074,088,091
Vinyl chloride	T54	AR	10	µg/kg	U	041
Vinyl chloride	T54	AR	10	µg/kg	N	085

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				SAL Reference	**203807 001**	**203807 002**	**203807 004**	**203807 005**	**203807 006**	**203807 007**
				Customer Sample Reference	**BHME01 @ 0.5m**	**BHME01 @ 6.0m**	**BHME02 @ 1.0m**	**BHME02 @ 11.8m**	**BHME03 @ 0.5m**	**BHME03 @ 4.0m**
				Type	**Clay**	**Sand**	**Topsoil**	**Clay**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**39**	**92**	**26**	**13**	**12**	**35**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	**1**	**1**	<1	<1	<1
Cadmium	T257	A40	0.1	mg/kg	**2.3**	**2.7**	**3.1**	**0.1**	**1.8**	**2.6**
Chromium	T257	A40	0.5	mg/kg	**35**	**25**	**93**	**22**	**27**	**29**
Copper	T257	A40	2	mg/kg	**270**	**190**	**430**	**31**	**270**	**830**
Lead	T257	A40	2	mg/kg	**270**	**390**	**280**	**21**	**86**	**100**
Mercury	T245	A40	1.0	mg/kg	<1.0	**1.4**	**1.1**	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**61**	**40**	**94**	**13**	**32**	**57**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**1100**	**1000**	**720**	**67**	**500**	**850**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**690**	**2100**	**1900**	**620**	**400**	**390**
LOI @450C	T376	A40	0.1	%	**4.2**	**8.5**	**4.4**	**2.8**	**5.0**	**7.4**
pH	T7	A40			**8.2**	**8.1**	**8.0**	**7.2**	**8.2**	**7.9**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.28**	**1.5**	**1.4**	**0.25**	**0.12**	**0.11**
Sulphide	T4	A40	10	mg/kg	<10	**180**	<10	**15**	<10	**15**
S (Total)	T6	A40	0.01	%	**0.10**	**2.2**	**0.23**	**0.03**	**0.04**	**0.06**
Toluene extractable matter	T2	A40	500	mg/kg	**810**	**4000**	**1300**	<500	**820**	<500
Cyanide(Total)	T4	AR	1	mg/kg	**2**	**7**	<1	<1	<1	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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				SAL Reference	**203807 008**	**203807 011**	**203807 012**	**203807 015**	**203807 016**	**203807 018**
				Customer Sample Reference	**BHME04 @ 0.5m**	**BHME05 @ 0.5m**	**BHME05 @ 9.0m**	**BHME06 @ 0.5m**	**BHME06 @ 4.0m**	**BHME07 @ 1.0m**
				Type	**Sand**	**Other**	**Sand**	**Fill**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**120**	**27**	**32**	**77**	**76**	**39**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	<1	<1	<1	**1**	**1**
Cadmium	T257	A40	0.1	mg/kg	**4.6**	**6.8**	**10**	**5.2**	**7.6**	**2.5**
Chromium	T257	A40	0.5	mg/kg	**38**	**13**	**14**	**110**	**34**	**42**
Copper	T257	A40	2	mg/kg	**690**	**470**	**1100**	**2200**	**1400**	**470**
Lead	T257	A40	2	mg/kg	**570**	**190**	**360**	**740**	**510**	**240**
Mercury	T245	A40	1.0	mg/kg	**2.6**	**1.6**	**2.0**	**1.3**	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**130**	**33**	**51**	**960**	**110**	**63**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**1200**	**780**	**1800**	**1500**	**2100**	**870**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**390**	**1200**	**2100**	**1200**	**2100**	**1600**
LOI @450C	T376	A40	0.1	%	**15**	**16**	**15**	**4.0**	**13**	**7.8**
pH	T7	A40			**7.9**	**11.5**	**12.0**	**11.2**	**8.1**	**8.2**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.12**	**0.06**	**0.03**	**0.49**	**1.6**	**1.1**
Sulphide	T4	A40	10	mg/kg	**20**	**29**	**22**	**18**	<10	<10
S (Total)	T6	A40	0.01	%	**0.11**	**0.17**	**0.22**	**0.38**	**0.35**	**0.31**
Toluene extractable matter	T2	A40	500	mg/kg	**1800**	**560**	**1500**	**12000**	**1300**	**960**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1	<1	<1	**2**
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	**2.0**	**2.9**	**6.1**	<0.5	<0.5

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				SAL Reference	**203807 019**	**203807 021**	**203807 023**	**203807 025**	**203807 026**	**203807 030**
				Customer Sample Reference	**BHME07 @ 8.0m**	**BHME08 @ 0.5m**	**BHME08 @ 7.0m**	**BHME09 @ 0.5m**	**BHME09 @ 2.0m**	**BHME10 @ 1.0m**
				Type	**Sand**	**Sand**	**Topsoil**	**Clay**	**Clay**	**Fill**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**5**	**13**	**12**	**30**	**23**	**38**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	**1**	**1**	**1**	**1**	<1
Cadmium	T257	A40	0.1	mg/kg	**0.3**	**1.0**	**0.7**	**1.1**	**1.2**	**4.4**
Chromium	T257	A40	0.5	mg/kg	**11**	**27**	**17**	**44**	**26**	**21**
Copper	T257	A40	2	mg/kg	**39**	**140**	**530**	**170**	**260**	**1400**
Lead	T257	A40	2	mg/kg	**21**	**200**	**54**	**89**	**160**	**790**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**12**	**34**	**27**	**51**	**44**	**38**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**75**	**420**	**240**	**200**	**230**	**1300**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**430**	**430**	**400**	**550**	**490**	**1400**
LOI @450C	T376	A40	0.1	%	**4.5**	**5.1**	**4.0**	**6.4**	**12**	**4.9**
pH	T7	A40			**8.6**	**8.2**	**8.1**	**7.9**	**7.1**	**11.7**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.12**	**0.16**	**0.12**	**0.25**	**0.18**	**0.05**
Sulphide	T4	A40	10	mg/kg	<10	**44**	**24**	**19**	<10	<10
S (Total)	T6	A40	0.01	%	**0.05**	**0.10**	**0.05**	**0.08**	**0.12**	**0.14**
Toluene extractable matter	T2	A40	500	mg/kg	**500**	**2900**	**1800**	**880**	<500	**510**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	**1.5**	<0.5	<0.5	<0.5	<0.5	<0.5

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				SAL Reference	**203807 031**	**203807 032**	**203807 033**	**203807 034**	**203807 036**	**203807 037**
				Customer Sample Reference	**BHME10 @ 3.0m**	**BHME11 @ 0.5m**	**BHME11 @ 3.5m**	**BHME12 @ 1.0m**	**BHME12 @ 6.0m**	**BHME13 @ 0.5m**
				Type	**Sand**	**Clay**	**Clay**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**13**	**15**	**12**	**22**	**33**	**83**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	<1	<1	<1	**1**	<1
Cadmium	T257	A40	0.1	mg/kg	**0.9**	**0.9**	**0.8**	**0.9**	**15**	**4.4**
Chromium	T257	A40	0.5	mg/kg	**20**	**38**	**24**	**72**	**25**	**81**
Copper	T257	A40	2	mg/kg	**120**	**180**	**940**	**130**	**480**	**410**
Lead	T257	A40	2	mg/kg	**500**	**240**	**74**	**190**	**1100**	**5600**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	<1.0	**2.3**	**2.2**	**1.8**
Nickel	T257	A40	0.5	mg/kg	**37**	**41**	**22**	**310**	**62**	**82**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**220**	**380**	**540**	**280**	**3000**	**1800**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**370**	**170**	**590**	**460**	**410**	**630**
LOI @450C	T376	A40	0.1	%	**4.1**	**2.3**	**6.0**	**7.2**	**9.6**	**17**
pH	T7	A40			**9.4**	**8.5**	**7.9**	**9.6**	**8.4**	**10.1**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.11**	**0.08**	**0.18**	**0.17**	**0.13**	**0.24**
Sulphide	T4	A40	10	mg/kg	<10	<10	**12**	**81**	**30**	**19**
S (Total)	T6	A40	0.01	%	**0.05**	**0.03**	**0.04**	**0.08**	**0.09**	**0.22**
Toluene extractable matter	T2	A40	500	mg/kg	<500	**620**	<500	**1400**	**760**	**3200**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1	<1	**3**	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	**0.8**	**1.6**	<0.5	**5.1**	**0.7**

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				SAL Reference	**203807 039**	**203807 040**	**203807 041**	**203807 042**	**203807 043**	**203807 044**
				Customer Sample Reference	**BHME13 @ 5.0m**	**BHME14 @ 1.0m**	**BHME14 @ 7.5m**	**BHME15 @ 1.0m**	**BHME15 @ 7.0m**	**BHME16 @ 1.0m**
				Type	**Clay**	**Sand**	**Fill**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**17**	**6**	**13**	**9**	**57**	**11**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	**1**	**1**	<1	**2**	<1
Cadmium	T257	A40	0.1	mg/kg	**0.7**	**0.1**	**0.6**	**0.3**	**2.5**	**0.3**
Chromium	T257	A40	0.5	mg/kg	**18**	**11**	**33**	**23**	**21**	**20**
Copper	T257	A40	2	mg/kg	**77**	**16**	**33**	**130**	**96**	**91**
Lead	T257	A40	2	mg/kg	**100**	**26**	**34**	**65**	**130**	**46**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**26**	**23**	**29**	**24**	**34**	**21**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**180**	**59**	**130**	**160**	**480**	**130**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**460**	**410**	**280**	**630**	**750**	**480**
LOI @450C	T376	A40	0.1	%	**11**	**3.4**	**2.2**	**3.7**	**13**	**6.1**
pH	T7	A40			**8.5**	**8.2**	**8.5**	**10.8**	**8.4**	**8.1**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.21**	**0.17**	**0.08**	**0.15**	**0.34**	**0.16**
Sulphide	T4	A40	10	mg/kg	**55**	<10	**2500**	<10	<10	<10
S (Total)	T6	A40	0.01	%	**0.16**	**0.02**	**0.22**	**0.05**	**0.11**	**0.06**
Toluene extractable matter	T2	A40	500	mg/kg	<500	<500	**550**	**500**	<500	**760**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	<1	<1	<1	**13**
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	<0.5	**0.7**	**1.5**	<0.5	<0.5

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				SAL Reference	**203807 046**	**203807 047**	**203807 048**	**203807 049**	**203807 051**	**203807 052**
				Customer Sample Reference	**BHME16 @ 4.0m**	**BHME17 @ 0.5m**	**BHME17 @ 3.0m**	**BHME18 @ 1.0m**	**BHME18 @ 6.5m**	**BHME19 @ 0.5m**
				Type	**Sand**	**Topsoil**	**Topsoil**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**14**	**25**	**15**	**35**	**3**	**57**
Boron (water-soluble)	T6	A40	1	mg/kg	<1	**1**	**1**	**1**	<1	<1
Cadmium	T257	A40	0.1	mg/kg	**1.5**	**1.8**	**2.3**	**2.8**	<0.1	**7.7**
Chromium	T257	A40	0.5	mg/kg	**19**	**41**	**16**	**44**	**14**	**190**
Copper	T257	A40	2	mg/kg	**310**	**1200**	**10000**	**310**	**27**	**1400**
Lead	T257	A40	2	mg/kg	**45**	**300**	**670**	**280**	**9**	**600**
Mercury	T245	A40	1.0	mg/kg	**1.0**	<1.0	<1.0	<1.0	<1.0	**1.8**
Nickel	T257	A40	0.5	mg/kg	**25**	**65**	**250**	**60**	**16**	**210**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**640**	**980**	**950**	**700**	**97**	**2000**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**340**	**240**	**370**	**740**	**550**	**770**
LOI @450C	T376	A40	0.1	%	**6.2**	**5.3**	**2.8**	**17**	**2.8**	**13**
pH	T7	A40			**8.0**	**8.3**	**8.3**	**8.6**	**6.7**	**11.0**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.09**	**0.05**	**0.11**	**0.29**	**0.26**	**0.15**
Sulphide	T4	A40	10	mg/kg	<10	<10	<10	**110**	**210**	<10
S (Total)	T6	A40	0.01	%	**0.04**	**0.05**	**0.04**	**0.13**	**0.09**	**0.17**
Toluene extractable matter	T2	A40	500	mg/kg	<500	**2800**	**1600**	**1000**	<500	**730**
Cyanide(Total)	T4	AR	1	mg/kg	**4**	**3**	<1	**1**	<1	**8**
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	**0.9**	**0.5**	<0.5	<0.5	<0.5

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				SAL Reference	**203807 055**	**203807 057**	**203807 058**	**203807 059**	**203807 060**	**203807 061**
				Customer Sample Reference	**TPME01 @ 0.55m**	**TPME02 @ 0.65m**	**TPME02 @ 2.6m**	**TPME03 @ 0.55m**	**TPME04 @ 0.3m**	**TPME04 @ 1.8m**
				Type	**Fill**	**Sand**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**20**	**21**	**84**	**26**	**31**	**7**
Boron (water-soluble)	T6	A40	1	mg/kg	<1	<1	**1**	**1**	<1	**1**
Cadmium	T257	A40	0.1	mg/kg	**2.2**	**2.1**	**7.9**	**2.1**	**2.2**	**0.4**
Chromium	T257	A40	0.5	mg/kg	**280**	**100**	**60**	**77**	**36**	**7.4**
Copper	T257	A40	2	mg/kg	**370**	**200**	**1200**	**280**	**430**	**18**
Lead	T257	A40	2	mg/kg	**230**	**400**	**3000**	**470**	**330**	**25**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	**4.3**	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**250**	**74**	**110**	**75**	**70**	**14**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**660**	**770**	**5200**	**720**	**940**	**43**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**360**	**240**	**660**	**470**	**170**	**150**
LOI @450C	T376	A40	0.1	%	**7.0**	**7.9**	**17**	**8.9**	**5.5**	**1.1**
pH	T7	A40			**9.6**	**8.8**	**8.9**	**8.5**	**8.5**	**8.6**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.11**	**0.06**	**0.36**	**0.18**	**0.03**	**0.15**
Sulphide	T4	A40	10	mg/kg	<10	<10	**300**	<10	<10	<10
S (Total)	T6	A40	0.01	%	**0.05**	**0.04**	**0.25**	**0.07**	**0.06**	**0.01**
Toluene extractable matter	T2	A40	500	mg/kg	**660**	**1100**	**4700**	**2900**	**2500**	<500
Cyanide(Total)	T4	AR	1	mg/kg	**34**	<1	**27**	<1	**2**	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	<0.5	**0.7**	<0.5	<0.5	<0.5

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				SAL Reference	**203807 063**	**203807 064**	**203807 065**	**203807 066**	**203807 068**	**203807 070**
				Customer Sample Reference	**TPME05 @ 0.4m**	**TPME06 @ 0.5m**	**TPME07 @ 0.45m**	**TPME07 @ 1.2m**	**TPME08 @ 0.5m**	**TPME09 @ 0.3m**
				Type	**Sand**	**Clay**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**22**	**7**	**12**	**18**	**26**	**16**
Boron (water-soluble)	T6	A40	1	mg/kg	**1**	<1	<1	**1**	<1	**1**
Cadmium	T257	A40	0.1	mg/kg	**1.9**	<0.1	**1.4**	**3.6**	**2.0**	**1.3**
Chromium	T257	A40	0.5	mg/kg	**220**	**18**	**39**	**26**	**37**	**66**
Copper	T257	A40	2	mg/kg	**490**	**22**	**130**	**130**	**420**	**72**
Lead	T257	A40	2	mg/kg	**220**	**18**	**150**	**230**	**200**	**99**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**1400**	**37**	**39**	**33**	**180**	**47**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**590**	**52**	**1100**	**4700**	**740**	**350**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**310**	**530**	**310**	**290**	**180**	**390**
LOI @450C	T376	A40	0.1	%	**7.0**	**1.8**	**5.5**	**15**	**4.3**	**6.0**
pH	T7	A40			**8.5**	**8.3**	**9.3**	**8.2**	**8.4**	**9.0**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.10**	**0.27**	**0.07**	**0.06**	**0.03**	**0.17**
Sulphide	T4	A40	10	mg/kg	**28**	<10	<10	<10	<10	**50**
S (Total)	T6	A40	0.01	%	**0.08**	**0.27**	**0.03**	**0.06**	**0.03**	**0.07**
Toluene extractable matter	T2	A40	500	mg/kg	**11000**	<500	**1100**	**510**	**580**	**3500**
Cyanide(Total)	T4	AR	1	mg/kg	<1	<1	**7**	<1	**2**	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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				SAL Reference	**203807 072**	**203807 074**	**203807 075**	**203807 077**	**203807 080**	**203807 084**
				Customer Sample Reference	**TPME10 @ 0.2m**	**TPME11 @ 0.9m**	**TPME12 @ 0.2m**	**TPME13 @ 0.3m**	**TPME14 @ 0.2m**	**TPME15 @ 0.2m**
				Type	**Topsoil**	**Sand**	**Topsoil**	**Sand**	**Sand**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Arsenic	T257	A40	2	mg/kg	**26**	**67**	**48**	**36**	**77**	**36**
Boron (water-soluble)	T6	A40	1	mg/kg	<1	<1	<1	**1**	**1**	<1
Cadmium	T257	A40	0.1	mg/kg	**1.8**	**3.6**	**2.7**	**1.4**	**4.6**	**1.6**
Chromium	T257	A40	0.5	mg/kg	**31**	**47**	**53**	**30**	**42**	**31**
Copper	T257	A40	2	mg/kg	**290**	**350**	**720**	**290**	**1100**	**250**
Lead	T257	A40	2	mg/kg	**190**	**2300**	**570**	**200**	**660**	**300**
Mercury	T245	A40	1.0	mg/kg	<1.0	**1.6**	<1.0	<1.0	<1.0	<1.0
Nickel	T257	A40	0.5	mg/kg	**42**	**99**	**190**	**60**	**120**	**42**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**660**	**1900**	**1400**	**520**	**1800**	**600**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**220**	**280**	**310**	**290**	**350**	**280**
LOI @450C	T376	A40	0.1	%	**6.5**	**18**	**11**	**32**	**9.8**	**6.4**
pH	T7	A40			**8.3**	**8.4**	**8.5**	**8.0**	**8.4**	**8.4**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.04**	**0.08**	**0.09**	**0.06**	**0.10**	**0.07**
Sulphide	T4	A40	10	mg/kg	**29**	**110**	<10	<10	<10	**33**
S (Total)	T6	A40	0.01	%	**0.07**	**0.20**	**0.09**	**0.12**	**0.13**	**0.09**
Toluene extractable matter	T2	A40	500	mg/kg	**1400**	**1100**	**4200**	**2100**	**3800**	**910**
Cyanide(Total)	T4	AR	1	mg/kg	**6**	**5**	<1	<1	<1	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	<0.5	<0.5	**0.7**	**0.7**	**0.7**	<0.5

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				SAL Reference	**203807 086**	**203807 088**	**203807 089**	**203807 091**	**203807 093**
				Customer Sample Reference	**TPME16 @ 0.2m**	**TPME16 @ 3.2m**	**TPME17 @ 0.3m**	**TPME18 @ 0.2m**	**TPME19 @ 0.2m**
				Type	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Arsenic	T257	A40	2	mg/kg	**29**	**6**	**11**	**44**	**10**
Boron (water-soluble)	T6	A40	1	mg/kg	<1	**1**	<1	<1	<1
Cadmium	T257	A40	0.1	mg/kg	**4.0**	**0.2**	**1.7**	**2.5**	**0.7**
Chromium	T257	A40	0.5	mg/kg	**27**	**7.6**	**24**	**33**	**18**
Copper	T257	A40	2	mg/kg	**950**	**23**	**300**	**580**	**620**
Lead	T257	A40	2	mg/kg	**330**	**20**	**220**	**250**	**110**
Mercury	T245	A40	1.0	mg/kg	<1.0	<1.0	<1.0	**1.7**	<1.0
Nickel	T257	A40	0.5	mg/kg	**51**	**9.1**	**47**	**60**	**33**
Selenium	T257	A40	3	mg/kg	<3	<3	<3	<3	<3
Zinc	T257	A40	2	mg/kg	**1000**	**110**	**640**	**1100**	**370**
Chromium VI if Total Chromium > 25 mg/kg	T257	A40	1	mg/kg	(64) <1	(64) <1	(64) <1	(64) <1	(64) <1
Electrical Conductivity	T7	A40	10	µS/cm	**180**	**180**	**150**	**190**	**120**
LOI @450C	T376	A40	0.1	%	**6.4**	**4.6**	**4.1**	**8.2**	**3.6**
pH	T7	A40			**8.3**	**7.7**	**8.4**	**8.0**	**8.0**
(Water Soluble) SO4 expressed as SO4	T242	A40	0.01	g/l	**0.02**	**0.04**	**0.04**	**0.02**	**0.01**
Sulphide	T4	A40	10	mg/kg	<10	<10	<10	<10	<10
S (Total)	T6	A40	0.01	%	**0.05**	**0.02**	**0.03**	**0.06**	**0.02**
Toluene extractable matter	T2	A40	500	mg/kg	**1300**	<500	**1200**	**1700**	**520**
Cyanide(Total)	T4	AR	1	mg/kg	**3**	<1	<1	**4**	<1
Phenols(Mono)	T4	AR	0.5	mg/kg	**0.5**	<0.5	<0.5	**0.9**	<0.5

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 001	203807 002	203807 004	203807 005	203807 006	203807 007
					Customer Sample Reference	BHME01 @ 0.5m	BHME01 @ 6.0m	BHME02 @ 1.0m	BHME02 @ 11.8m	BHME03 @ 0.5m	BHME03 @ 4.0m
					Type	Clay	Sand	Topsoil	Clay	Sand	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Naphthalene	T16	AR	0.1	mg/kg	**0.6**	**0.2**	**0.5**	<0.1	**0.5**	**0.6**
Acenaphthylene	T16	AR	0.1	mg/kg	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	**0.3**	<0.1	**0.1**	<0.1	<0.1	<0.1
Fluorene	T16	AR	0.1	mg/kg	**0.2**	<0.1	**0.1**	<0.1	<0.1	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	**2.3**	**0.5**	**1.3**	<0.1	**1.0**	**0.5**
Anthracene	T16	AR	0.1	mg/kg	**0.6**	**0.2**	**0.3**	<0.1	**0.3**	<0.1
Fluoranthene	T16	AR	0.1	mg/kg	**4.1**	**1.3**	**2.4**	<0.1	**3.1**	**0.5**
Pyrene	T16	AR	0.1	mg/kg	**3.7**	**1.3**	**2.3**	<0.1	**3.2**	**0.5**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**1.9**	**0.6**	**1.1**	<0.1	**1.4**	**0.2**
Chrysene	T16	AR	0.1	mg/kg	**2.1**	**0.7**	**1.4**	<0.1	**1.4**	**0.3**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**3.6**	**1.1**	**2.2**	<0.1	**2.5**	**0.5**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**1.8**	**0.5**	**1.1**	<0.1	**1.3**	**0.2**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**1.1**	**0.3**	**0.6**	<0.1	**0.6**	**0.1**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	**0.4**	<0.1	**0.2**	<0.1	**0.2**	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**1.3**	**0.3**	**0.6**	<0.1	**0.7**	**0.1**
PAH(total)	T16	AR	0.1	mg/kg	**24**	**7.0**	**14**	<0.1	**16**	**3.5**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 008	203807 011	203807 012	203807 015	203807 016	203807 018
					Customer Sample Reference	BHME04 @ 0.5m	BHME05 @ 0.5m	BHME05 @ 9.0m	BHME06 @ 0.5m	BHME06 @ 4.0m	BHME07 @ 1.0m
					Type	Sand	Other	Sand	Fill	Topsoil	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Naphthalene	T16	AR	0.1	mg/kg	**1.1**	**2.5**	**20**	<0.1	**0.3**	**1.4**
Acenaphthylene	T16	AR	0.1	mg/kg	**1.0**	**0.2**	**5.2**	<0.1	**0.2**	**0.1**
Acenaphthene	T16	AR	0.1	mg/kg	**3.7**	**0.2**	**8.3**	**0.5**	**0.7**	**3.0**
Fluorene	T16	AR	0.1	mg/kg	**4.6**	**0.3**	**6.2**	**0.3**	**0.5**	**1.8**
Phenanthrene	T16	AR	0.1	mg/kg	**12**	**3.6**	**130**	**2.6**	**5.5**	**7.2**
Anthracene	T16	AR	0.1	mg/kg	**6.7**	**0.9**	**37**	**1.5**	**2.1**	**4.0**
Fluoranthene	T16	AR	0.1	mg/kg	**11**	**5.8**	**170**	**3.1**	**6.4**	**8.1**
Pyrene	T16	AR	0.1	mg/kg	**10**	**5.3**	**160**	**3.0**	**5.9**	**7.6**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**8.5**	**3.3**	**110**	**2.2**	**3.4**	**8.5**
Chrysene	T16	AR	0.1	mg/kg	**7.5**	**3.3**	**110**	**2.1**	**3.6**	**7.7**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**13**	**5.7**	**190**	**3.4**	**4.5**	**15**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**7.1**	**3.0**	**93**	**1.8**	**2.0**	**8.7**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**3.6**	**1.9**	**51**	**0.9**	**1.1**	**5.7**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	**1.2**	**0.5**	**17**	**0.3**	**0.4**	**2.3**
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**3.4**	**2.0**	**52**	**0.8**	**1.1**	**4.8**
PAH(total)	T16	AR	0.1	mg/kg	**94**	**39**	**1200**	**23**	**38**	**86**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 019	203807 021	203807 023	203807 025	203807 026	203807 030
					Customer Sample Reference	BHME07 @ 8.0m	BHME08 @ 0.5m	BHME08 @ 7.0m	BHME09 @ 0.5m	BHME09 @ 2.0m	BHME10 @ 1.0m
					Type	Sand	Sand	Topsoil	Clay	Clay	Fill
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Naphthalene	T16	AR	0.1	mg/kg	**4.1**	**0.4**	**0.1**	**1.1**	**2.9**	**0.1**
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	**1.3**	**0.3**	<0.1	<0.1	<0.1	<0.1
Fluorene	T16	AR	0.1	mg/kg	**1.1**	**0.2**	<0.1	<0.1	**0.3**	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	**4.2**	**1.8**	**0.3**	**0.2**	**0.7**	**0.4**
Anthracene	T16	AR	0.1	mg/kg	**1.4**	**0.5**	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T16	AR	0.1	mg/kg	**4.0**	**2.9**	**0.6**	<0.1	**0.1**	**1.2**
Pyrene	T16	AR	0.1	mg/kg	**3.3**	**3.1**	**0.7**	<0.1	**0.1**	**1.1**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**0.8**	**1.4**	**0.3**	<0.1	<0.1	**0.6**
Chrysene	T16	AR	0.1	mg/kg	**0.9**	**1.5**	**0.3**	<0.1	**0.1**	**0.7**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**0.6**	**1.7**	**0.3**	<0.1	**0.1**	**1.2**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**0.2**	**0.8**	**0.1**	<0.1	<0.1	**0.6**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.4**	<0.1	<0.1	<0.1	**0.3**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	<0.1	**0.4**	<0.1	<0.1	<0.1	**0.4**
PAH(total)	T16	AR	0.1	mg/kg	**22**	**16**	**2.7**	**1.3**	**4.3**	**6.6**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 031	203807 032	203807 033	203807 034	203807 036	203807 037
					Customer Sample Reference	BHME10 @ 3.0m	BHME11 @ 0.5m	BHME11 @ 3.5m	BHME12 @ 1.0m	BHME12 @ 6.0m	BHME13 @ 0.5m
					Type	Sand	Clay	Clay	Sand	Sand	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Naphthalene	T16	AR	0.1	mg/kg	<0.1	**0.2**	**0.4**	**0.6**	**1.0**	**1.3**
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	**0.2**	**0.3**	**0.3**
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.2**	<0.1	**0.2**
Fluorene	T16	AR	0.1	mg/kg	<0.1	**0.1**	<0.1	**0.3**	**0.1**	**0.1**
Phenanthrene	T16	AR	0.1	mg/kg	<0.1	**1.6**	**0.1**	**4.1**	**2.0**	**2.5**
Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.4**	<0.1	**1.4**	**0.5**	**0.8**
Fluoranthene	T16	AR	0.1	mg/kg	<0.1	**3.0**	**0.2**	**5.9**	**4.0**	**4.5**
Pyrene	T16	AR	0.1	mg/kg	<0.1	**2.6**	**0.1**	**5.2**	**3.7**	**4.6**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	<0.1	**1.2**	<0.1	**4.2**	**1.8**	**2.7**
Chrysene	T16	AR	0.1	mg/kg	<0.1	**1.3**	<0.1	**4.4**	**2.2**	**3.0**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	<0.1	**1.8**	<0.1	**5.6**	**3.0**	**3.3**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.9**	<0.1	**2.5**	**1.5**	**1.6**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.4**	<0.1	**1.2**	**0.8**	**1.0**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.5**	**0.3**	**0.3**
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	<0.1	**0.5**	<0.1	**1.3**	**1.0**	**1.1**
PAH(total)	T16	AR	0.1	mg/kg	<0.1	**14**	**0.8**	**38**	**22**	**27**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

				SAL Reference	**203807 039**	**203807 040**	**203807 041**	**203807 042**	**203807 043**	**203807 044**
				Customer Sample Reference	**BHME13 @ 5.0m**	**BHME14 @ 1.0m**	**BHME14 @ 7.5m**	**BHME15 @ 1.0m**	**BHME15 @ 7.0m**	**BHME16 @ 1.0m**
				Type	**Clay**	**Sand**	**Fill**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T16	AR	0.1	mg/kg	**0.6**	**0.5**	<0.1	**0.1**	<0.1	**1.4**
Acenaphthylene	T16	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	<0.1	<0.1	**0.2**
Acenaphthene	T16	AR	0.1	mg/kg	**0.3**	<0.1	<0.1	<0.1	<0.1	**0.2**
Fluorene	T16	AR	0.1	mg/kg	**0.5**	<0.1	<0.1	<0.1	<0.1	**0.1**
Phenanthrene	T16	AR	0.1	mg/kg	**3.0**	**0.1**	<0.1	**0.2**	<0.1	**1.3**
Anthracene	T16	AR	0.1	mg/kg	**1.6**	<0.1	<0.1	<0.1	<0.1	**0.5**
Fluoranthene	T16	AR	0.1	mg/kg	**3.7**	**0.1**	<0.1	**0.3**	**0.1**	**2.5**
Pyrene	T16	AR	0.1	mg/kg	**3.5**	<0.1	<0.1	**0.3**	**0.1**	**2.3**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**3.2**	<0.1	<0.1	**0.1**	<0.1	**1.1**
Chrysene	T16	AR	0.1	mg/kg	**3.2**	<0.1	<0.1	**0.2**	<0.1	**1.2**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**3.6**	<0.1	<0.1	**0.1**	<0.1	**1.9**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**1.9**	<0.1	<0.1	<0.1	<0.1	**1.0**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**1.2**	<0.1	<0.1	<0.1	<0.1	**0.5**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**1.5**	<0.1	<0.1	<0.1	<0.1	**0.6**
PAH(total)	T16	AR	0.1	mg/kg	**28**	**0.7**	<0.1	**1.3**	**0.2**	**15**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

				SAL Reference	**203807 046**	**203807 047**	**203807 048**	**203807 049**	**203807 051**	**203807 052**
				Customer Sample Reference	**BHME16 @ 4.0m**	**BHME17 @ 0.5m**	**BHME17 @ 3.0m**	**BHME18 @ 1.0m**	**BHME18 @ 6.5m**	**BHME19 @ 0.5m**
				Type	**Sand**	**Topsoil**	**Topsoil**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T16	AR	0.1	mg/kg	**0.4**	**0.6**	**0.2**	**0.2**	<0.1	**0.1**
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	**0.5**	**0.1**	**0.2**	<0.1	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	**1.0**	**0.1**	<0.1	<0.1	**0.1**
Fluorene	T16	AR	0.1	mg/kg	<0.1	**0.5**	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	**0.4**	**9.0**	**1.3**	**1.0**	<0.1	**0.9**
Anthracene	T16	AR	0.1	mg/kg	**0.1**	**2.8**	**0.5**	**0.3**	<0.1	**0.3**
Fluoranthene	T16	AR	0.1	mg/kg	**0.9**	**22**	**5.2**	**2.0**	<0.1	**1.5**
Pyrene	T16	AR	0.1	mg/kg	**0.8**	**27**	**5.8**	**2.0**	<0.1	**1.2**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**0.4**	**12**	**2.1**	**0.9**	<0.1	**0.9**
Chrysene	T16	AR	0.1	mg/kg	**0.5**	**13**	**2.4**	**1.0**	<0.1	**1.0**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**0.7**	**15**	**3.1**	**1.2**	<0.1	**1.5**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**0.3**	**7.9**	**1.5**	**0.6**	<0.1	**0.7**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**0.2**	**3.6**	**0.6**	**0.3**	<0.1	**0.4**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.3**	<0.1	<0.1	<0.1	**0.2**
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**0.2**	**3.7**	**0.6**	**0.4**	<0.1	**0.5**
PAH(total)	T16	AR	0.1	mg/kg	**4.9**	**120**	**24**	**10**	<0.1	**9.3**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

				SAL Reference	**203807 055**	**203807 057**	**203807 058**	**203807 059**	**203807 060**	**203807 061**
				Customer Sample Reference	**TPME01 @ 0.55m**	**TPME02 @ 0.65m**	**TPME02 @ 2.6m**	**TPME03 @ 0.55m**	**TPME04 @ 0.3m**	**TPME04 @ 1.8m**
				Type	**Fill**	**Sand**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T16	AR	0.1	mg/kg	<0.1	<0.1	**0.7**	**0.2**	<0.1	**0.5**
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	<0.1	**0.6**	**0.1**	<0.1	**0.3**
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	<0.1	**0.3**	<0.1	<0.1	**1.1**
Fluorene	T16	AR	0.1	mg/kg	<0.1	<0.1	**0.4**	<0.1	<0.1	**0.4**
Phenanthrene	T16	AR	0.1	mg/kg	<0.1	**0.6**	**6.5**	**1.2**	<0.1	**9.3**
Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.2**	**1.4**	**0.4**	<0.1	**2.8**
Fluoranthene	T16	AR	0.1	mg/kg	**0.2**	**1.8**	**10**	**2.7**	**0.2**	**18**
Pyrene	T16	AR	0.1	mg/kg	**0.2**	**1.8**	**8.7**	**3.0**	**0.2**	**22**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.9**	**3.4**	**1.2**	<0.1	**8.8**
Chrysene	T16	AR	0.1	mg/kg	**0.1**	**1.1**	**4.4**	**1.6**	**0.1**	**9.8**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**0.2**	**1.6**	**6.2**	**2.3**	**0.1**	**12**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.8**	**3.2**	**1.1**	<0.1	**7.2**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.5**	**1.6**	**0.6**	<0.1	**2.8**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	**0.1**	**0.4**	**0.1**	<0.1	**1.0**
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	<0.1	**0.5**	**2.1**	**0.7**	<0.1	**3.1**
PAH(total)	T16	AR	0.1	mg/kg	**0.7**	**9.9**	**50**	**15**	**0.6**	**99**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

				SAL Reference	**203807 063**	**203807 064**	**203807 065**	**203807 066**	**203807 068**	**203807 070**
				Customer Sample Reference	**TPME05 @ 0.4m**	**TPME06 @ 0.5m**	**TPME07 @ 0.45m**	**TPME07 @ 1.2m**	**TPME08 @ 0.5m**	**TPME09 @ 0.3m**
				Type	**Sand**	**Clay**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T16	AR	0.1	mg/kg	**0.3**	<0.1	<0.1	**0.1**	**0.4**	**0.2**
Acenaphthylene	T16	AR	0.1	mg/kg	**0.3**	<0.1	**0.2**	<0.1	**2.2**	**1.1**
Acenaphthene	T16	AR	0.1	mg/kg	**0.3**	<0.1	**0.3**	<0.1	**0.5**	**0.6**
Fluorene	T16	AR	0.1	mg/kg	**0.3**	<0.1	**0.3**	<0.1	**0.2**	**0.5**
Phenanthrene	T16	AR	0.1	mg/kg	**3.8**	<0.1	**4.8**	**0.8**	**5.0**	**6.7**
Anthracene	T16	AR	0.1	mg/kg	**1.6**	<0.1	**2.2**	**0.2**	**4.1**	**5.4**
Fluoranthene	T16	AR	0.1	mg/kg	**13**	<0.1	**5.0**	**2.2**	**5.5**	**39**
Pyrene	T16	AR	0.1	mg/kg	**13**	<0.1	**7.2**	**2.0**	**8.6**	**37**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**6.4**	<0.1	**2.5**	**1.0**	**3.2**	**27**
Chrysene	T16	AR	0.1	mg/kg	**6.7**	<0.1	**2.7**	**1.2**	**3.2**	**34**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**13**	<0.1	**3.1**	**1.7**	**2.7**	**57**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**6.6**	<0.1	**1.9**	**0.8**	**1.5**	**27**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**3.0**	<0.1	**0.8**	**0.4**	**0.9**	**19**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	**0.7**	<0.1	**0.2**	**0.1**	**0.2**	**6.0**
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**2.9**	<0.1	**0.8**	**0.4**	**1.7**	**20**
PAH(total)	T16	AR	0.1	mg/kg	**72**	<0.1	**32**	**11**	**40**	**280**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 072	203807 074	203807 075	203807 077	203807 080	203807 084
					Customer Sample Reference	TPME10 @ 0.2m	TPME11 @ 0.9m	TPME12 @ 0.2m	TPME13 @ 0.3m	TPME14 @ 0.2m	TPME15 @ 0.2m
					Type	Topsoil	Sand	Topsoil	Sand	Sand	Topsoil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Naphthalene	T16	AR	0.1	mg/kg	**0.2**	**0.1**	**0.3**	**0.4**	**0.3**	**0.2**
Acenaphthylene	T16	AR	0.1	mg/kg	**0.5**	**0.4**	**0.4**	**0.3**	**0.2**	**0.2**
Acenaphthene	T16	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	**0.5**	<0.1	**0.4**
Fluorene	T16	AR	0.1	mg/kg	**0.1**	<0.1	<0.1	**0.3**	<0.1	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	**1.6**	**1.3**	**1.0**	**4.7**	**0.7**	**2.3**
Anthracene	T16	AR	0.1	mg/kg	**0.7**	**0.5**	**0.4**	**1.1**	**0.2**	**0.5**
Fluoranthene	T16	AR	0.1	mg/kg	**3.7**	**4.1**	**2.4**	**13**	**1.7**	**2.9**
Pyrene	T16	AR	0.1	mg/kg	**3.5**	**3.5**	**2.3**	**11**	**1.8**	**2.5**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	**1.7**	**1.8**	**1.2**	**4.5**	**1.0**	**1.5**
Chrysene	T16	AR	0.1	mg/kg	**2.2**	**2.1**	**1.3**	**4.9**	**1.1**	**1.5**
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**3.5**	**2.8**	**1.8**	**4.8**	**2.3**	**2.4**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	**1.5**	**1.2**	**0.8**	**1.9**	**1.1**	**1.2**
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	**1.1**	**0.8**	**0.6**	**1.0**	**0.9**	**0.7**
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	**0.3**	**0.2**	<0.1	**0.3**	**0.3**	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	**1.5**	**1.0**	**0.7**	**1.0**	**1.4**	**0.9**
PAH(total)	T16	AR	0.1	mg/kg	**22**	**20**	**13**	**50**	**13**	**17**

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Soil Analysed as Soil
Total and Speciated USEPA16 PAH (SE) (MCERTS)

					SAL Reference	203807 086	203807 088	203807 089	203807 091	203807 093
					Customer Sample Reference	TPME16 @ 0.2m	TPME16 @ 3.2m	TPME17 @ 0.3m	TPME18 @ 0.2m	TPME19 @ 0.2m
					Type	Topsoil	Topsoil	Topsoil	Topsoil	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Naphthalene	T16	AR	0.1	mg/kg	<0.1	**11**	**0.5**	**0.6**	<0.1
Acenaphthylene	T16	AR	0.1	mg/kg	<0.1	**0.4**	**0.2**	**0.5**	<0.1
Acenaphthene	T16	AR	0.1	mg/kg	<0.1	**0.3**	**0.9**	**0.4**	<0.1
Fluorene	T16	AR	0.1	mg/kg	<0.1	**0.8**	**0.5**	**0.4**	<0.1
Phenanthrene	T16	AR	0.1	mg/kg	<0.1	**7.7**	**4.3**	**6.3**	<0.1
Anthracene	T16	AR	0.1	mg/kg	<0.1	**1.4**	**1.6**	**1.5**	<0.1
Fluoranthene	T16	AR	0.1	mg/kg	**0.1**	**4.3**	**6.8**	**12**	**0.2**
Pyrene	T16	AR	0.1	mg/kg	**0.1**	**3.9**	**6.0**	**10**	**0.1**
Benzo(a)Anthracene	T16	AR	0.1	mg/kg	<0.1	**1.9**	**3.1**	**5.4**	<0.1
Chrysene	T16	AR	0.1	mg/kg	<0.1	**2.0**	**2.8**	**5.9**	<0.1
Benzo(b/k)Fluoranthene	T16	AR	0.1	mg/kg	**0.1**	**2.4**	**5.2**	**8.6**	**0.1**
Benzo(a)Pyrene	T16	AR	0.1	mg/kg	<0.1	**1.1**	**2.9**	**4.7**	<0.1
Indeno(123-cd)Pyrene	T16	AR	0.1	mg/kg	<0.1	**0.2**	**1.8**	**2.4**	<0.1
Dibenzo(ah)Anthracene	T16	AR	0.1	mg/kg	<0.1	<0.1	**0.1**	**0.7**	<0.1
Benzo(ghi)Perylene	T16	AR	0.1	mg/kg	<0.1	**0.7**	**2.1**	**2.9**	<0.1
PAH(total)	T16	AR	0.1	mg/kg	**0.3**	**38**	**39**	**62**	**0.4**

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Soil Analysed as Soil
Total Petroleum Hydrocarbons CWG

					SAL Reference	203807 001	203807 003	203807 004	203807 005	203807 006	203807 009
					Customer Sample Reference	BHME01 @ 0.5m	BHME01 @ 11.2m	BHME02 @ 1.0m	BHME02 @ 11.8m	BHME03 @ 0.5m	BHME04 @ 9.0m
					Type	Clay	Sand	Topsoil	Clay	Sand	Clay
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	**(13) 18000**
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**2000**
M/P Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**11000**
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**4000**
O Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**400**
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	**670**
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**9.30**
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**17.8**
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**35.4**
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**0.671**
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**0.314**	<0.100	<0.100	<0.100	**28.7**
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**52.4**
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	**5**	<1	<1	<1	**74**
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	**3**
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	<2	**88**	<2	<2	**8**	**270**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	<1	**8**	<1	<1	<1	**43**
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**5**	**110**	**4**	<1	**12**	**260**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**10**	**29**	**3**	<1	**2**	**50**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**13**	**91**	**23**	<4	**8**	**78**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**34**	**52**	**20**	**3**	**7**	**13**

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Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
Total Petroleum Hydrocarbons CWG

					SAL Reference	203807 010	203807 011	203807 013	203807 014	203807 015	203807 016
					Customer Sample Reference	BHME04 @ 10.2m	BHME05 @ 0.5m	BHME05 @ 10.0m	BHME05 @ 10.4m	BHME06 @ 0.5m	BHME06 @ 4.0m
					Type	Clay	Other	Sand	Clay	Fill	Topsoil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	**(13) 11**	**(13) 110**	**(13) 130**	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	**57**	**99**	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg	<10	**230**	**510**	<10	<10	**11**
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	**25**	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	**71**	**180**	<10	<10	<10
Toluene	T209	AR	10	µg/kg	(3) <30	**99**	**200**	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	**0.107**	**0.126**	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**1.20**	**4.11**	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	**0.203**	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**0.931**	**4.27**	<0.100	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	**2.69**	**2.15**	<0.100	<0.100	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	**47**	**30**	<1	(9) <10	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	<1	<1	<1	(9) <10	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	<2	**100**	**130**	<2	**75**	<2
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	<1	**2**	**6**	<1	**26**	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**2**	**95**	**150**	<1	**380**	**4**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	<1	**11**	**37**	<1	**430**	**1**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	<4	**46**	**55**	<4	**670**	**6**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	<1	**46**	**63**	**2**	**1000**	**6**

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					SAL Reference	203807 017	203807 019	203807 020	203807 023	203807 024	203807 026
					Customer Sample Reference	BHME07 @ 0.5m	BHME07 @ 8.0m	BHME07 @ 10.4m	BHME08 @ 7.0m	BHME08 @ 9.0m	BHME09 @ 2.0m
					Type	Sand	Sand	Clay	Topsoil	Sand	Clay
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	**(13) 11**	(13) <10	(13) <10	(13) <10	**(13) 53**
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**520**
M/P Xylene	T209	AR	10	µg/kg	<10	**16**	<10	<10	<10	**270**
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	**27**
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	**32**
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**0.266**	<0.100	<0.100	<0.100	**0.906**
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**0.147**	<0.100	<0.100	<0.100	**2.04**
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	**5.69**
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	**2**	<1	<1	<1	**120**
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	**7**
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	<2	**13**	<2	<2	**30**	**210**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	<1	**3**	<1	<1	<1	**22**
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**4**	**14**	<1	<1	**130**	**170**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**7**	**9**	<1	<1	**16**	**27**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**18**	**36**	<4	<4	**83**	**44**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**27**	**14**	<1	<1	**23**	**10**

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					SAL Reference	203807 027	203807 028	203807 029	203807 030	203807 032	203807 033
					Customer Sample Reference	BHME09 @ 5.0m	BHME09 @ 8.0m	BHME09 @ 9.6m	BHME10 @ 1.0m	BHME11 @ 0.5m	BHME11 @ 3.5m
					Type	Sand	Clay	Clay	Fill	Clay	Clay
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	**(13) 610**	**(13) 640**	(13) <10	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	**1200**	**950**	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg	**1900**	**2300**	<10	**13**	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	**14**	**16**	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	**110**	**84**	<10	<10	<10	<10
Toluene	T209	AR	10	µg/kg	**63**	**52**	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	**0.421**	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	**0.641**	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	**1.31**	**7.32**	**0.128**	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	**0.606**	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	**12.5**	**20.0**	**0.465**	**0.155**	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	**57.3**	**142**	**0.164**	<0.100	<0.100	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	**220**	**56**	<1	**2**	<1	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	**8**	**6**	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	**330**	**96**	**4**	<2	<2	<2
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	**19**	**22**	**3**	<1	<1	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**220**	**71**	**3**	**4**	**4**	**6**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**22**	**29**	**5**	**3**	**5**	**1**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**42**	**16**	<4	**8**	**31**	**23**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**6**	**9**	**3**	**12**	**28**	**11**

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					SAL Reference	203807 034	203807 035	203807 038	203807 039	203807 041	203807 042
					Customer Sample Reference	BHME12 @ 1.0m	BHME12 @ 5.0m	BHME13 @ 3.0m	BHME13 @ 5.0m	BHME14 @ 7.5m	BHME15 @ 1.0m
					Type	Sand	Sand	Clay	Clay	Fill	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	**(13) 62**	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	**20**	<10	<10
M/P Xylene	T209	AR	10	µg/kg	<10	<10	<10	**46**	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	<10	<10	**13**	<10	<10
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	**33**	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	**0.245**	<0.100	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	<1	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	<2	<2	<2	<2	<2	**3**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	**2**	<1	<1	**1**	<1	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**15**	**9**	<1	**5**	<1	**6**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**12**	**9**	<1	**7**	<1	<1
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**83**	**55**	<4	**5**	<4	**32**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**50**	**48**	**5**	**16**	<1	**8**

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					SAL Reference	203807 045	203807 047	203807 050	203807 052	203807 053	203807 054
					Customer Sample Reference	BHME16 @ 5.0m	BHME17 @ 0.5m	BHME18 @ 4.0m	BHME19 @ 0.5m	BHME19 @ 3.0m	BHME19 @ 5.0 - 7.0m
					Type	Sand	Topsoil	Fill	Sand	Topsoil	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg	<10	**13**	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	**3.98**	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	**12.8**	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	(9) <10	<1	<1	**130**	**1**
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	(9) <10	<1	<1	(9) <10	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	<2	(9) <10	**4**	**3**	**730**	**8**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	<1	(9) <10	<1	<1	**39**	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	<1	**59**	**20**	**18**	**800**	**11**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	<1	**80**	**5**	**4**	**99**	**3**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	<4	**93**	**19**	**34**	**320**	**6**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	<1	**380**	**11**	**20**	**100**	**6**

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Soil Analysed as Soil
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					SAL Reference	203807 056	203807 057	203807 060	203807 063	203807 064	203807 066
					Customer Sample Reference	TPME01 @ 1.6m	TPME02 @ 0.65m	TPME04 @ 0.3m	TPME05 @ 0.4m	TPME06 @ 0.5m	TPME07 @ 1.2m
					Type	Sand	Sand	Topsoil	Sand	Clay	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	**4**	<2	(9) <10	(9) <10	<2	<2
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	<1	<1	(9) <10	(9) <10	<1	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**12**	**8**	**91**	**21**	**1**	**3**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**3**	**2**	**140**	**10**	<1	**7**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**17**	**15**	**120**	**190**	**32**	**22**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**12**	**9**	**610**	**120**	**4**	**32**

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Soil Analysed as Soil
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					SAL Reference	203807 067	203807 068	203807 069	203807 070	203807 071	203807 072
					Customer Sample Reference	TPME07 @ 3.1m	TPME08 @ 0.5m	TPME08 @ 3.2m	TPME09 @ 0.3m	TPME09 @ 1.7m	TPME10 @ 0.2m
					Type	Sand	Topsoil	Sand	Sand	Sand	Topsoil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg	**20**	<10	**14**	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	<10	<10	<10
O Xylene	T209	AR	10	µg/kg	**29**	<10	**15**	<10	<10	<10
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg	**0.126**	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg	**0.165**	<0.100	**0.681**	<0.100	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg	**1.84**	<0.100	**0.847**	<0.100	<0.100	<0.100
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg	**1100**	<1	**45**	(9) <10	<1	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg	**170**	<1	**2**	(9) <10	<1	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg	**14000**	<2	**990**	(9) <10	<2	<2
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg	**6400**	**1**	**200**	(9) <10	<1	<1
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg	**6800**	**4**	**2100**	**14**	**7**	**6**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg	**14000**	**11**	**630**	**110**	**7**	**6**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg	**2100**	**12**	**990**	**110**	**55**	**20**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg	**7100**	**39**	**380**	**480**	**37**	**27**

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Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
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					SAL Reference	203807 074	203807 076	203807 078	203807 079	203807 082	203807 083
					Customer Sample Reference	TPME11 @ 0.9m	TPME12 @ 1.8m	TPME13 @ 1.2m	TPME13 @ 2.2m	TPME14B @ 1.8m	TPME14B @ 2.8m
					Type	Sand	Sand	Sand	Sand	Sand	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg		(13) <10	(13) <10	(13) <10	**(13) 12**	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg		<10	<10	**10**	**18**	<10	<10
O Xylene	T209	AR	10	µg/kg		<10	<10	**12**	<10	<10	<10
Toluene	T209	AR	10	µg/kg		(3) <30	(3) <30	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg		<0.100	**9.78**	**0.785**	**3.71**	**0.122**	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg		<0.100	**31.1**	**17.9**	**44.4**	**0.604**	**5.45**
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100	**9.34**
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg		<1	**520**	**190**	**460**	**57**	**300**
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg		<1	(9) <10	**2**	**11**	<1	**2**
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg		**2**	**2300**	**850**	**2300**	**320**	**810**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg		<1	**79**	**78**	**210**	**26**	**36**
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg		**7**	**2400**	**770**	**2200**	**310**	**470**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg		**10**	**260**	**170**	**400**	**60**	**48**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg		**40**	**820**	**270**	**780**	**85**	**120**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg		**42**	**230**	**100**	**220**	**35**	**17**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
Total Petroleum Hydrocarbons CWG

					SAL Reference	203807 084	203807 085	203807 086	203807 088	203807 089	203807 091
					Customer Sample Reference	TPME15 @ 0.2m	TPME15 @ 2.0m	TPME16 @ 0.2m	TPME16 @ 3.2m	TPME17 @ 0.3m	TPME18 @ 0.2m
					Type	Topsoil	Other	Topsoil	Topsoil	Topsoil	Topsoil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**							
Benzene	T209	AR	10	µg/kg		(13) <10	**(13) 380**	(13) <10	(13) <10	(13) <10	(13) <10
EthylBenzene	T209	AR	10	µg/kg		<10	**1900**	<10	<10	<10	<10
M/P Xylene	T209	AR	10	µg/kg		<10	**6400**	<10	<10	<10	**15**
Methyl tert-Butyl Ether	T209	AR	10	µg/kg		<10	**16**	**21**	<10	<10	<10
O Xylene	T209	AR	10	µg/kg		<10	**3900**	<10	<10	<10	<10
Toluene	T209	AR	10	µg/kg		(3) <30	**440**	(3) <30	(3) <30	(3) <30	(3) <30
TPH (C5-C6 aliphatic)	T209	AR	0.100	mg/kg		<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
TPH (C6-C7 aromatic)	T209	AR	0.100	mg/kg		<0.100	**0.377**	<0.100	<0.100	<0.100	<0.100
TPH (C6-C8 aliphatic)	T209	AR	0.100	mg/kg		<0.100	**14.0**	<0.100	<0.100	<0.100	<0.100
TPH (C7-C8 aromatic)	T209	AR	0.100	mg/kg		<0.100	**0.440**	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aliphatic)	T209	AR	0.100	mg/kg		<0.100	**339**	<0.100	<0.100	<0.100	<0.100
TPH (C8-C10 aromatic)	T209	AR	0.100	mg/kg		<0.100	**138**	<0.100	<0.100	<0.100	**0.125**
TPH (C10-C12 aliphatic)	T8	AR	1	mg/kg		<1	**4700**	<1	<1	<1	<1
TPH (C10-C12 aromatic)	T8	AR	1	mg/kg		<1	**700**	<1	<1	<1	<1
TPH (C12-C16 aliphatic)	T206	AR	2	mg/kg		<2	**1900**	<2	**5**	<2	**11**
TPH (C12-C16 aromatic)	T206	AR	1	mg/kg		<1	**740**	<1	<1	<1	**9**
TPH (C16-C21 aliphatic)	T206	AR	1	mg/kg		**4**	**1300**	**3**	**4**	**11**	**44**
TPH (C16-C21 aromatic)	T206	AR	1	mg/kg		**6**	**2000**	**7**	**2**	**4**	**81**
TPH (C21-C35 aliphatic)	T206	AR	4	mg/kg		**14**	**1900**	**12**	**12**	**32**	**65**
TPH (C21-C35 aromatic)	T206	AR	1	mg/kg		**21**	**5300**	**26**	**7**	**19**	**140**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
PCB EC7

				SAL Reference	**203807 006**	**203807 015**	**203807 055**	**203807 059**	**203807 063**
				Customer Sample Reference	**BHME03 @ 0.5m**	**BHME06 @ 0.5m**	**TPME01 @ 0.55m**	**TPME03 @ 0.55m**	**TPME05 @ 0.4m**
				Type	**Sand**	**Fill**	**Fill**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
PCB BZ#101	T1	AR	0.05	µg/kg	**0.08**	(9) <0.50	<0.05	**0.19**	(9) <0.50
PCB BZ#118	T1	AR	0.05	µg/kg	**0.06**	(9) <0.50	<0.05	**0.14**	(9) <0.50
PCB BZ#138	T1	AR	0.05	µg/kg	**0.15**	(9) <0.50	<0.05	**0.21**	(9) <0.50
PCB BZ#153	T1	AR	0.05	µg/kg	**0.09**	(9) <0.50	<0.05	**0.20**	(9) <0.50
PCB BZ#180	T1	AR	0.05	µg/kg	**0.15**	(9) <0.50	**0.06**	**0.14**	(9) <0.50
PCB BZ#28	T1	AR	0.05	µg/kg	<0.05	(9) <0.50	<0.05	**0.11**	(9) <0.50
PCB BZ#52	T1	AR	0.05	µg/kg	<0.05	(9) <0.50	<0.05	**0.17**	(9) <0.50

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
PCB EC7

				SAL Reference	**203807 068**	**203807 077**	**203807 084**	**203807 089**	**203807 093**
				Customer Sample Reference	**TPME08 @ 0.5m**	**TPME13 @ 0.3m**	**TPME15 @ 0.2m**	**TPME17 @ 0.3m**	**TPME19 @ 0.2m**
				Type	**Topsoil**	**Sand**	**Topsoil**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
PCB BZ#101	T1	AR	0.05	µg/kg	**0.07**	<0.05	**0.71**	(9) <0.50	**5.5**
PCB BZ#118	T1	AR	0.05	µg/kg	<0.05	<0.05	**0.88**	(9) <0.50	**4.2**
PCB BZ#138	T1	AR	0.05	µg/kg	**0.16**	<0.05	**1.5**	(9) <0.50	**5.3**
PCB BZ#153	T1	AR	0.05	µg/kg	**0.10**	<0.05	**0.96**	(9) <0.50	**4.0**
PCB BZ#180	T1	AR	0.05	µg/kg	**0.13**	<0.05	**0.52**	**1.2**	**1.7**
PCB BZ#28	T1	AR	0.05	µg/kg	<0.05	<0.05	**0.08**	(9) <0.50	**0.15**
PCB BZ#52	T1	AR	0.05	µg/kg	<0.05	<0.05	**0.18**	(9) <0.50	**1.4**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil

Semi-Volatile Organic Compounds (USEPA 625) (SE)

				SAL Reference	**203807 001**	**203807 003**	**203807 010**	**203807 023**	**203807 024**	**203807 026**
				Customer Sample Reference	**BHME01 @ 0.5m**	**BHME01 @ 11.2m**	**BHME04 @ 10.2m**	**BHME08 @ 7.0m**	**BHME08 @ 9.0m**	**BHME09 @ 2.0m**
				Type	**Clay**	**Sand**	**Clay**	**Topsoil**	**Sand**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	**0.1**	<0.1	**4.5**
2-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	AR	0.1	mg/kg	**0.3**	**0.1**	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	T207	AR	0.1	mg/kg	**0.3**	<0.1	<0.1	<0.1	<0.1	<0.1
Anthracene	T207	AR	0.1	mg/kg	**0.6**	**0.1**	<0.1	<0.1	<0.1	<0.1
Azobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	**0.3**	<0.1	<0.1
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	**1.8**	**0.2**	<0.1	**0.1**	<0.1	<0.1
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	**3.6**	**0.3**	<0.1	**0.3**	<0.1	**0.1**
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	**1.3**	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	T207	AR	0.1	mg/kg	**2.1**	**0.2**	<0.1	**0.3**	<0.1	**0.1**
Di-n-butylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	**0.4**	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	T207	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	<0.1	<0.1	**0.1**
Diethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	AR	0.1	mg/kg	**4.1**	**0.6**	<0.1	**0.6**	<0.1	**0.1**
Fluorene	T207	AR	0.1	mg/kg	**0.2**	<0.1	<0.1	<0.1	<0.1	**0.3**
Hexachlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	**1.1**	<0.1	<0.1	<0.1	<0.1	<0.1
Isophorone	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	T207	AR	0.1	mg/kg	**0.6**	<0.1	<0.1	**0.1**	<0.1	**2.9**
Nitrobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	AR	0.1	mg/kg	**2.3**	**0.2**	<0.1	**0.3**	<0.1	**0.7**
Phenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pyrene	T207	AR	0.1	mg/kg	**3.7**	**0.5**	<0.1	**0.7**	<0.1	**0.1**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil

Semi-Volatile Organic Compounds (USEPA 625) (SE)

				SAL Reference	**203807 028**	**203807 034**	**203807 041**	**203807 052**	**203807 059**	**203807 067**
				Customer Sample Reference	**BHME09 @ 8.0m**	**BHME12 @ 1.0m**	**BHME14 @ 7.5m**	**BHME19 @ 0.5m**	**TPME03 @ 0.55m**	**TPME07 @ 3.1m**
				Type	**Clay**	**Sand**	**Fill**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	**2.3**
2,4-Dinitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	**0.4**
2-Methylnaphthalene	T207	AR	0.1	mg/kg	**2.7**	**0.8**	<0.1	**0.1**	<0.1	**120**
2-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	**1.0**
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	**0.1**	<0.1	**240**
Acenaphthylene	T207	AR	0.1	mg/kg	<0.1	**0.2**	<0.1	<0.1	**0.1**	**440**
Anthracene	T207	AR	0.1	mg/kg	**0.1**	**1.4**	<0.1	**0.3**	**0.4**	**270**
Azobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	<0.1	**4.2**	<0.1	**0.9**	**1.2**	**260**
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	<0.1	**2.5**	<0.1	**0.7**	**1.1**	**110**
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	<0.1	**5.6**	<0.1	**1.5**	**2.3**	**220**
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	<0.1	**1.3**	<0.1	**0.5**	**0.7**	**56**
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	AR	0.1	mg/kg	<0.1	**0.6**	<0.1	**0.1**	<0.1	**1.3**
Chrysene	T207	AR	0.1	mg/kg	<0.1	**4.4**	<0.1	**1.0**	**1.6**	**220**
Di-n-butylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	<0.1	**0.5**	<0.1	**0.2**	**0.1**	**23**
Dibenzofuran	T207	AR	0.1	mg/kg	**0.1**	**0.3**	<0.1	<0.1	<0.1	**140**
Diethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	AR	0.1	mg/kg	**0.1**	**5.9**	<0.1	**1.5**	**2.7**	**480**
Fluorene	T207	AR	0.1	mg/kg	**0.5**	**0.3**	<0.1	<0.1	<0.1	**580**
Hexachlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	<0.1	**1.2**	<0.1	**0.4**	**0.6**	**57**
Isophorone	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	T207	AR	0.1	mg/kg	**1.8**	**0.6**	<0.1	**0.1**	**0.2**	**490**
Nitrobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	AR	0.1	mg/kg	**0.6**	**4.1**	<0.1	**0.9**	**1.2**	**1400**
Phenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	**0.3**
Pyrene	T207	AR	0.1	mg/kg	**0.3**	**5.2**	<0.1	**1.2**	**3.0**	**540**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil

Semi-Volatile Organic Compounds (USEPA 625) (SE)

				SAL Reference	**203807 074**	**203807 085**	**203807 088**	**203807 091**
				Customer Sample Reference	**TPME11 @ 0.9m**	**TPME15 @ 2.0m**	**TPME16 @ 3.2m**	**TPME18 @ 0.2m**
				Type	**Sand**	**Other**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**				
1,2,4-Trichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	T16	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Chlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-methyl phenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	T207	AR	0.1	mg/kg	<0.1	**2.6**	**13**	<0.1
2-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
3/4-Methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Bromophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Chlorophenyl phenylether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Acenaphthene	T207	AR	0.1	mg/kg	<0.1	<0.1	**0.3**	**0.4**
Acenaphthylene	T207	AR	0.1	mg/kg	**0.4**	**0.2**	**0.4**	**0.5**
Anthracene	T207	AR	0.1	mg/kg	**0.5**	**0.1**	**1.4**	**1.5**
Azobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Benzo(a)Anthracene	T207	AR	0.1	mg/kg	**1.8**	**0.2**	**1.9**	**5.4**
Benzo(a)Pyrene	T207	AR	0.1	mg/kg	**1.2**	**0.3**	**1.1**	**4.7**
Benzo(b/k)Fluoranthene	T207	AR	0.1	mg/kg	**2.8**	**0.4**	**2.4**	**8.6**
Benzo(ghi)Perylene	T207	AR	0.1	mg/kg	**1.0**	**3.0**	**0.7**	**2.9**
Bis (2-chloroethoxy) methane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroethyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Bis (2-ethylhexyl)phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Butyl benzylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Carbazole	T207	AR	0.1	mg/kg	<0.1	**0.2**	**0.4**	**0.4**
Chrysene	T207	AR	0.1	mg/kg	**2.2**	**0.2**	**2.0**	**5.9**
Di-n-butylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Di-n-octylphthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Dibenzo(ah)Anthracene	T207	AR	0.1	mg/kg	**0.2**	**0.2**	<0.1	**0.7**
Dibenzofuran	T207	AR	0.1	mg/kg	<0.1	<0.1	**1.9**	<0.1
Diethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Fluoranthene	T207	AR	0.1	mg/kg	**4.1**	**0.3**	**4.3**	**12**
Fluorene	T207	AR	0.1	mg/kg	<0.1	<0.1	**0.8**	**0.4**
Hexachlorobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Indeno(123-cd)Pyrene	T207	AR	0.1	mg/kg	**0.8**	**1.6**	**0.2**	**2.4**
Isophorone	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Naphthalene	T207	AR	0.1	mg/kg	**0.1**	**2.4**	**11**	**0.6**
Nitrobenzene	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	T207	AR	0.1	mg/kg	<0.1	<0.1	<0.1	<0.1
Phenanthrene	T207	AR	0.1	mg/kg	**1.3**	**0.5**	**7.7**	**6.3**
Phenol	T207	AR	0.1	mg/kg	<0.1	**3.0**	<0.1	<0.1
Pyrene	T207	AR	0.1	mg/kg	**3.5**	**0.2**	**3.9**	**10**

SAL Reference: 203807
Project Site: Oldbury
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Soil Analysed as Soil
Miscellaneous

				SAL Reference	**203807 001**	**203807 004**	**203807 006**	**203807 008**	**203807 016**	**203807 022**
				Customer Sample Reference	**BHME01 @ 0.5m**	**BHME02 @ 1.0m**	**BHME03 @ 0.5m**	**BHME04 @ 0.5m**	**BHME06 @ 4.0m**	**BHME08 @ 2.0m**
				Type	**Clay**	**Topsoil**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Asbestos	T27	A40			Chrysotile Detected -	Chrysotile Detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -

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Project Site: Oldbury
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Soil Analysed as Soil
Miscellaneous

				SAL Reference	**203807 030**	**203807 034**	**203807 040**	**203807 058**	**203807 062**	**203807 066**
				Customer Sample Reference	**BHME10 @ 1.0m**	**BHME12 @ 1.0m**	**BHME14 @ 1.0m**	**TPME02 @ 2.6m**	**TPME04 @ 3.2m**	**TPME07 @ 1.2m**
				Type	**Fill**	**Sand**	**Sand**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Asbestos	T27	A40			Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Chrysotile Detected -

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Soil Analysed as Soil
Miscellaneous

				SAL Reference	**203807 071**	**203807 073**	**203807 077**	**203807 081**	**203807 084**	**203807 087**
				Customer Sample Reference	**TPME09 @ 1.7m**	**TPME10 @ 1.1m**	**TPME13 @ 0.3m**	**TPME14B @ 1.3m**	**TPME15 @ 0.2m**	**TPME16 @ 1.8m**
				Type	**Sand**	**Sand**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
Asbestos	T27	A40			Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -	Asbestos not detected -

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Project Site: Oldbury
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Soil Analysed as Soil
Miscellaneous

				SAL Reference	**203807 090**	**203807 092**	**203807 093**
				Customer Sample Reference	**TPME17 @ 1.9m**	**TPME18 @ 1.8m**	**TPME19 @ 0.2m**
				Type	**Topsoil**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**			
Asbestos	T27	A40			Asbestos not detected -	Asbestos not detected -	Asbestos not detected -

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

					SAL Reference	203807 001	203807 003	203807 010	203807 023	203807 024
					Customer Sample Reference	BHME01 @ 0.5m	BHME01 @ 11.2m	BHME04 @ 10.2m	BHME08 @ 7.0m	BHME08 @ 9.0m
					Type	Clay	Sand	Clay	Topsoil	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,1,1-Trichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,1,2-Trichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,3-Trichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg		<50	<50	<50	<50	<50
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg		<10	<10	<10	<10	<10
1,2-dibromoethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,2-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2-Dichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2-Dichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,3-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,3-Dichloropropane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,4-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
2,2-Dichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
2-Chlorotoluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
4-Chlorotoluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Benzene	T209	AR	10	µg/kg		(13) <10	(13) <10	**(13) 11**	(13) <10	(13) <10
Bromobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromochloromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromodichloromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromoform	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Bromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Carbon tetrachloride	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chlorodibromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Chloroform	T54	AR	5	µg/kg		<30	<30	<30	<30	<30
Chloromethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Dibromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Dichlorodifluoromethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
EthylBenzene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
Hexachlorobutadiene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
Isopropyl benzene	T54	AR	50	µg/kg		<50	<50	<50	<50	<50
m/p ethyl toluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
M/P Xylene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
n-Butylbenzene	T54	AR	10	µg/kg		<10	<10	<10	<10	<10
n-Propylbenzene	T54	AR	50	µg/kg		<50	<50	<50	<50	<50
O Xylene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
p-Isopropyltoluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
S-Butylbenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Styrene	T54	AR	50	µg/kg		<50	<50	<50	<50	<50
T-Butylbenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Tertiary amyl methyl ether	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Tetrachloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Toluene	T209	AR	10	µg/kg		(3) <30	(3) <30	(3) <30	(3) <30	(3) <30
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

	SAL Reference	203807 001	203807 003	203807 010	203807 023	203807 024
	Customer Sample Reference	BHME01 @ 0.5m	BHME01 @ 11.2m	BHME04 @ 10.2m	BHME08 @ 7.0m	BHME08 @ 9.0m
	Type	Clay	Sand	Clay	Topsoil	Sand
Determinand	Method / Test Sample / LOD / Units					
Vinyl chloride	T54 / AR / 10 / µg/kg	<10	<10	<10	<10	<10

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

					SAL Reference	203807 026	203807 028	203807 034	203807 041	203807 052
					Customer Sample Reference	BHME09 @ 2.0m	BHME09 @ 8.0m	BHME12 @ 1.0m	BHME14 @ 7.5m	BHME19 @ 0.5m
					Type	Clay	Clay	Sand	Fill	Sand
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,1,1-Trichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,1,2-Trichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,1-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,3-Trichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg		**1600**	**26000**	<50	<50	<50
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg		<10	<10	<10	<10	<10
1,2-dibromoethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,2-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2-Dichloroethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,2-Dichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg		**640**	**4000**	<5	<5	<5
1,3-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
1,3-Dichloropropane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
1,4-Dichlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg		**450**	**7400**	<5	<5	<5
2,2-Dichloropropane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
2-Chlorotoluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
4-Chlorotoluene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Benzene	T209	AR	10	µg/kg		(13) **53**	(13) **640**	(13) <10	(13) <10	(13) <10
Bromobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromochloromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromodichloromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Bromoform	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Bromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Carbon tetrachloride	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chlorobenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chlorodibromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Chloroethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Chloroform	T54	AR	5	µg/kg		<30	<30	<30	<30	<30
Chloromethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Dibromomethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Dichlorodifluoromethane	T209	AR	50	µg/kg		<50	<50	<50	<50	<50
EthylBenzene	T209	AR	10	µg/kg		**520**	**950**	<10	<10	<10
Hexachlorobutadiene	T209	AR	10	µg/kg		<10	<10	<10	<10	<10
Isopropyl benzene	T54	AR	50	µg/kg		**80**	**610**	<50	<50	<50
m/p ethyl toluene	T54	AR	5	µg/kg		**340**	**3810**	<5	<5	<5
M/P Xylene	T209	AR	10	µg/kg		**270**	**2300**	<10	<10	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg		<10	**16**	<10	<10	<10
n-Butylbenzene	T54	AR	10	µg/kg		**820**	**85000**	<10	<10	<10
n-Propylbenzene	T54	AR	50	µg/kg		**290**	**2700**	<50	<50	<50
O Xylene	T209	AR	10	µg/kg		**27**	**84**	<10	<10	<10
p-Isopropyltoluene	T54	AR	5	µg/kg		**39**	<5	<5	<5	<5
S-Butylbenzene	T54	AR	5	µg/kg		**120**	**1600**	<5	<5	<5
Styrene	T54	AR	50	µg/kg		<50	<50	<50	<50	<50
T-Butylbenzene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Tertiary amyl methyl ether	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Tetrachloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Toluene	T209	AR	10	µg/kg		**32**	**52**	(3) <30	(3) <30	(3) <30
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trichloroethylene	T54	AR	5	µg/kg		<5	<5	<5	<5	<5
Trichlorofluoromethane	T54	AR	5	µg/kg		<5	<5	<5	<5	<5

SAL Reference: 203807
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Soil Analysed as Soil
VOC (SE)

	SAL Reference	203807 026	203807 028	203807 034	203807 041	203807 052
	Customer Sample Reference	BHME09 @ 2.0m	BHME09 @ 8.0m	BHME12 @ 1.0m	BHME14 @ 7.5m	BHME19 @ 0.5m
	Type	Clay	Clay	Sand	Fill	Sand
Determinand	Method / Test Sample / LOD / Units					
Vinyl chloride	T54 / AR / 10 / µg/kg	<10	<10	<10	<10	<10

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

					SAL Reference	203807 059	203807 067	203807 074	203807 085	203807 088
					Customer Sample Reference	TPME03 @ 0.55m	TPME07 @ 3.1m	TPME11 @ 0.9m	TPME15 @ 2.0m	TPME16 @ 3.2m
					Type	Sand	Sand	Sand	Other	Topsoil
Determinand	**Method**	**Test Sample**	**LOD**	**Units**						
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
1,1,1-Trichloroethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
1,1,2-Trichloroethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,1-Dichloroethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,1-Dichloroethylene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,1-Dichloropropene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg	<50	**540**	<50	**41000**	<50
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg	<10	<10	<10	<10	<10
1,2-dibromoethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
1,2-Dichlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2-Dichloroethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,2-Dichloropropane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg	<5	**130**	<5	**13000**	<5
1,3-Dichlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
1,3-Dichloropropane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
1,4-Dichlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg	<5	**32**	<5	**9000**	<5
2,2-Dichloropropane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
2-Chlorotoluene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
4-Chlorotoluene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Benzene	T209	AR	10	µg/kg	(13) <10	(13) <10	(13) <10	**(13) 380**	(13) <10
Bromobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Bromochloromethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Bromodichloromethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Bromoform	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
Bromomethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Carbon tetrachloride	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Chlorobenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Chlorodibromomethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Chloroethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
Chloroform	T54	AR	5	µg/kg	<30	<30	<30	<30	<30
Chloromethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Dibromomethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Dichlorodifluoromethane	T209	AR	50	µg/kg	<50	<50	<50	<50	<50
EthylBenzene	T209	AR	10	µg/kg	<10	<10	<10	**1900**	<10
Hexachlorobutadiene	T209	AR	10	µg/kg	<10	<10	<10	<10	<10
Isopropyl benzene	T54	AR	50	µg/kg	<50	<50	<50	**480**	<50
m/p ethyl toluene	T54	AR	5	µg/kg	<5	<5	<5	**15830**	<5
M/P Xylene	T209	AR	10	µg/kg	<10	**20**	<10	**6400**	<10
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10	<10	<10	**16**	<10
n-Butylbenzene	T54	AR	10	µg/kg	<10	**250**	<10	**20000**	<10
n-Propylbenzene	T54	AR	50	µg/kg	<50	<50	<50	**3000**	<50
O Xylene	T209	AR	10	µg/kg	<10	**29**	<10	**3900**	<10
p-Isopropyltoluene	T54	AR	5	µg/kg	<5	<5	<5	**2100**	<5
S-Butylbenzene	T54	AR	5	µg/kg	<5	<5	<5	**2800**	<5
Styrene	T54	AR	50	µg/kg	<50	<50	<50	<50	<50
T-Butylbenzene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Tertiary amyl methyl ether	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Tetrachloroethylene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Toluene	T209	AR	10	µg/kg	(3) <30	(3) <30	(3) <30	**440**	(3) <30
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Trichloroethylene	T54	AR	5	µg/kg	<5	<5	<5	<5	<5
Trichlorofluoromethane	T54	AR	5	µg/kg	<5	<5	<5	<5	<5

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

				SAL Reference	**203807 059**	**203807 067**	**203807 074**	**203807 085**	**203807 088**
				Customer Sample Reference	**TPME03 @ 0.55m**	**TPME07 @ 3.1m**	**TPME11 @ 0.9m**	**TPME15 @ 2.0m**	**TPME16 @ 3.2m**
				Type	**Sand**	**Sand**	**Sand**	**Other**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Vinyl chloride	T54	AR	10	µg/kg	<10	<10	<10	<10	<10

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
VOC (SE)

SAL Reference	**203807 091**
Customer Sample Reference	**TPME18 @ 0.2m**
Type	**Topsoil**

Determinand	Method	Test Sample	LOD	Units	
1,1,1,2-Tetrachloroethane	T209	AR	50	µg/kg	<50
1,1,1-Trichloroethane	T54	AR	5	µg/kg	<5
1,1,2,2-Tetrachloroethane	T209	AR	50	µg/kg	<50
1,1,2-Trichloroethane	T54	AR	5	µg/kg	<5
1,1-Dichloroethane	T54	AR	5	µg/kg	<5
1,1-Dichloroethylene	T54	AR	5	µg/kg	<5
1,1-Dichloropropene	T54	AR	5	µg/kg	<5
1,2,3-Trichlorobenzene	T54	AR	5	µg/kg	<5
1,2,3-Trichloropropane	T54	AR	5	µg/kg	<5
1,2,4-Trichlorobenzene	T54	AR	5	µg/kg	<5
1,2,4-Trimethylbenzene	T54	AR	50	µg/kg	<50
1,2-Dibromo-3-Chloropropane	T54	AR	10	µg/kg	<10
1,2-dibromoethane	T209	AR	50	µg/kg	<50
1,2-Dichlorobenzene	T54	AR	5	µg/kg	<5
1,2-Dichloroethane	T54	AR	5	µg/kg	<5
1,2-Dichloropropane	T54	AR	5	µg/kg	<5
1,3,5-Trimethylbenzene	T54	AR	5	µg/kg	**22**
1,3-Dichlorobenzene	T54	AR	5	µg/kg	<5
1,3-Dichloropropane	T209	AR	50	µg/kg	<50
1,4-Dichlorobenzene	T54	AR	5	µg/kg	<5
Ethyl-2-Methylbenzene	T54	AR	5	µg/kg	**20**
2,2-Dichloropropane	T54	AR	5	µg/kg	<5
2-Chlorotoluene	T54	AR	5	µg/kg	<5
4-Chlorotoluene	T54	AR	5	µg/kg	<5
Benzene	T209	AR	10	µg/kg	(13) <10
Bromobenzene	T54	AR	5	µg/kg	<5
Bromochloromethane	T54	AR	5	µg/kg	<5
Bromodichloromethane	T54	AR	5	µg/kg	<5
Bromoform	T209	AR	50	µg/kg	<50
Bromomethane	T54	AR	5	µg/kg	<5
Carbon tetrachloride	T54	AR	5	µg/kg	<5
Chlorobenzene	T54	AR	5	µg/kg	<5
Chlorodibromomethane	T54	AR	5	µg/kg	<5
Chloroethane	T209	AR	50	µg/kg	<50
Chloroform	T54	AR	5	µg/kg	<30
Chloromethane	T209	AR	50	µg/kg	<50
Cis-1,2-Dichloroethylene	T54	AR	5	µg/kg	<5
Cis-1,3-Dichloropropene	T54	AR	5	µg/kg	<5
Dibromomethane	T54	AR	5	µg/kg	<5
Dichlorodifluoromethane	T209	AR	50	µg/kg	<50
EthylBenzene	T209	AR	10	µg/kg	<10
Hexachlorobutadiene	T209	AR	10	µg/kg	<10
Isopropyl benzene	T54	AR	50	µg/kg	<50
m/p ethyl toluene	T54	AR	5	µg/kg	<5
M/P Xylene	T209	AR	10	µg/kg	**15**
Methyl tert-Butyl Ether	T209	AR	10	µg/kg	<10
n-Butylbenzene	T54	AR	10	µg/kg	**23**
n-Propylbenzene	T54	AR	50	µg/kg	<50
O Xylene	T209	AR	10	µg/kg	<10
p-Isopropyltoluene	T54	AR	5	µg/kg	<5
S-Butylbenzene	T54	AR	5	µg/kg	<5
Styrene	T54	AR	50	µg/kg	<50
T-Butylbenzene	T54	AR	5	µg/kg	<5
Tertiary amyl methyl ether	T54	AR	5	µg/kg	<5
Tetrachloroethylene	T54	AR	5	µg/kg	<5
Toluene	T209	AR	10	µg/kg	(3) <30
Trans-1,2-Dichloroethene	T54	AR	5	µg/kg	<5
Trans-1,3-Dichloropropene	T54	AR	5	µg/kg	<5
Trichloroethylene	T54	AR	5	µg/kg	<5
Trichlorofluoromethane	T54	AR	5	µg/kg	<5

SAL Reference: 203807
Project Site: Oldbury
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Soil Analysed as Soil
VOC (SE)

SAL Reference	**203807 091**
Customer Sample Reference	**TPME18 @ 0.2m**
Type	**Topsoil**

Determinand	Method	Test Sample	LOD	Units	
Vinyl chloride	T54	AR	10	µg/kg	<10

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 001**	**203807 002**	**203807 003**	**203807 004**	**203807 005**
				Customer Sample Reference	**BHME01 @ 0.5m**	**BHME01 @ 6.0m**	**BHME01 @ 11.2m**	**BHME02 @ 1.0m**	**BHME02 @ 11.8m**
				Type	**Clay**	**Sand**	**Sand**	**Topsoil**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**9.7**	**15**	Not Required -	**11**	**18**
Moisture @ 105 C	T162	AR	0.1	%	**15**	**20**	**24**	**15**	**18**
Retained on 2mm	T2	A40	0.1	%	**25.5**	**15.7**	**7.5**	**8.1**	<0.1

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 006**	**203807 007**	**203807 008**	**203807 009**	**203807 010**
				Customer Sample Reference	**BHME03 @ 0.5m**	**BHME03 @ 4.0m**	**BHME04 @ 0.5m**	**BHME04 @ 9.0m**	**BHME04 @ 10.2m**
				Type	**Sand**	**Sand**	**Sand**	**Clay**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**6.3**	**12**	**14**	Not Required -	Not Required -
Moisture @ 105 C	T162	AR	0.1	%	**9.2**	**13**	**17**	**15**	**17**
Retained on 2mm	T2	A40	0.1	%	**2.9**	**9.6**	**3.4**	**14.3**	**25.5**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 011**	**203807 012**	**203807 013**	**203807 014**	**203807 015**
				Customer Sample Reference	**BHME05 @ 0.5m**	**BHME05 @ 9.0m**	**BHME05 @ 10.0m**	**BHME05 @ 10.4m**	**BHME06 @ 0.5m**
				Type	**Other**	**Sand**	**Sand**	**Clay**	**Fill**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**17**	**20**	Not Required -	Not Required -	**1.1**
Moisture @ 105 C	T162	AR	0.1	%	**30**	**29**	**30**	**20**	**3.1**
Retained on 2mm	T2	A40	0.1	%	**2.3**	**5.9**	**39.0**	**65.8**	<0.1

SAL Reference: 203807
Project Site: Oldbury
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Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 016**	**203807 017**	**203807 018**	**203807 019**	**203807 020**
				Customer Sample Reference	**BHME06 @ 4.0m**	**BHME07 @ 0.5m**	**BHME07 @ 1.0m**	**BHME07 @ 8.0m**	**BHME07 @ 10.4m**
				Type	**Topsoil**	**Sand**	**Sand**	**Sand**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**11**	Not Required -	**13**	**13**	Not Required -
Moisture @ 105 C	T162	AR	0.1	%	**12**	**20**	**15**	**15**	**12**
Retained on 2mm	T2	A40	0.1	%	**19.5**	**22.8**	**3.5**	**3.3**	**24.0**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 021**	**203807 023**	**203807 024**	**203807 025**	**203807 026**
				Customer Sample Reference	**BHME08 @ 0.5m**	**BHME08 @ 7.0m**	**BHME08 @ 9.0m**	**BHME09 @ 0.5m**	**BHME09 @ 2.0m**
				Type	**Sand**	**Topsoil**	**Sand**	**Clay**	**Clay**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**6.9**	**8.7**	Not Required -	**12**	**16**
Moisture @ 105 C	T162	AR	0.1	%	**7.9**	**13**	**15**	**11**	**23**
Retained on 2mm	T2	A40	0.1	%	<0.1	**10.1**	**21.9**	**5.7**	**9.2**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 027**	**203807 028**	**203807 029**	**203807 030**	**203807 031**
				Customer Sample Reference	**BHME09 @ 5.0m**	**BHME09 @ 8.0m**	**BHME09 @ 9.6m**	**BHME10 @ 1.0m**	**BHME10 @ 3.0m**
				Type	**Sand**	**Clay**	**Clay**	**Fill**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	Not Required -	Not Required -	Not Required -	**5.9**	**15**
Moisture @ 105 C	T162	AR	0.1	%	**20**	**16**	**18**	**6.8**	**17**
Retained on 2mm	T2	A40	0.1	%	**14.3**	**30.7**	**44.7**	**1.2**	**11.4**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 032**	**203807 033**	**203807 034**	**203807 035**	**203807 036**
				Customer Sample Reference	**BHME11 @ 0.5m**	**BHME11 @ 3.5m**	**BHME12 @ 1.0m**	**BHME12 @ 5.0m**	**BHME12 @ 6.0m**
				Type	**Clay**	**Clay**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**6.0**	**11**	**2.9**	Not Required -	**7.0**
Moisture @ 105 C	T162	AR	0.1	%	**7.8**	**11**	**4.9**	**11**	**7.2**
Retained on 2mm	T2	A40	0.1	%	**3.3**	<0.1	**2.7**	**23.0**	**3.4**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 037**	**203807 038**	**203807 039**	**203807 040**	**203807 041**
				Customer Sample Reference	**BHME13 @ 0.5m**	**BHME13 @ 3.0m**	**BHME13 @ 5.0m**	**BHME14 @ 1.0m**	**BHME14 @ 7.5m**
				Type	**Sand**	**Clay**	**Clay**	**Sand**	**Fill**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**9.3**	Not Required -	**22**	**4.9**	**5.2**
Moisture @ 105 C	T162	AR	0.1	%	**12**	**24**	**23**	**6.2**	**6.3**
Retained on 2mm	T2	A40	0.1	%	**12.1**	**24.0**	<0.1	**1.1**	**4.9**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 042**	**203807 043**	**203807 044**	**203807 045**	**203807 046**
				Customer Sample Reference	**BHME15 @ 1.0m**	**BHME15 @ 7.0m**	**BHME16 @ 1.0m**	**BHME16 @ 5.0m**	**BHME16 @ 4.0m**
				Type	**Sand**	**Sand**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**5.6**	**22**	**7.7**	Not Required -	**9.9**
Moisture @ 105 C	T162	AR	0.1	%	**5.6**	**26**	**7.9**	**12**	**11**
Retained on 2mm	T2	A40	0.1	%	**2.7**	**2.4**	**11.2**	**14.0**	**4.6**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 047**	**203807 048**	**203807 049**	**203807 050**	**203807 051**
				Customer Sample Reference	**BHME17 @ 0.5m**	**BHME17 @ 3.0m**	**BHME18 @ 1.0m**	**BHME18 @ 4.0m**	**BHME18 @ 6.5m**
				Type	**Topsoil**	**Topsoil**	**Sand**	**Fill**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**8.4**	**4.6**	**10**	Not Required -	**4.8**
Moisture @ 105 C	T162	AR	0.1	%	**9.2**	**5.8**	**11**	**4.6**	**10**
Retained on 2mm	T2	A40	0.1	%	**7.6**	**2.9**	**12.6**	**10.2**	**2.8**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 052**	**203807 053**	**203807 054**	**203807 055**	**203807 056**
				Customer Sample Reference	**BHME19 @ 0.5m**	**BHME19 @ 3.0m**	**BHME19 @ 5.0 - 7.0m**	**TPME01 @ 0.55m**	**TPME01 @ 1.6m**
				Type	**Sand**	**Topsoil**	**Sand**	**Fill**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**4.6**	Not Required -	Not Required -	**10**	Not Required -
Moisture @ 105 C	T162	AR	0.1	%	**12**	**7.8**	**21**	**12**	**16**
Retained on 2mm	T2	A40	0.1	%	**10.3**	**19.4**	**21.1**	**6.9**	**19.3**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 057**	**203807 058**	**203807 059**	**203807 060**	**203807 061**
				Customer Sample Reference	**TPME02 @ 0.65m**	**TPME02 @ 2.6m**	**TPME03 @ 0.55m**	**TPME04 @ 0.3m**	**TPME04 @ 1.8m**
				Type	**Sand**	**Sand**	**Sand**	**Topsoil**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**7.2**	**19**	**7.3**	**8.8**	**6.0**
Moisture @ 105 C	T162	AR	0.1	%	**11**	**23**	**11**	**9.6**	**6.3**
Retained on 2mm	T2	A40	0.1	%	**5.7**	**8.3**	**5.2**	**8.2**	**5.2**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 063**	**203807 064**	**203807 065**	**203807 066**	**203807 067**
				Customer Sample Reference	**TPME05 @ 0.4m**	**TPME06 @ 0.5m**	**TPME07 @ 0.45m**	**TPME07 @ 1.2m**	**TPME07 @ 3.1m**
				Type	**Sand**	**Clay**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**7.6**	**5.4**	**6.3**	**12**	Not Required **-**
Moisture @ 105 C	T162	AR	0.1	%	**9.2**	**6.3**	**9.1**	**20**	**9.7**
Retained on 2mm	T2	A40	0.1	%	**13.2**	**9.1**	**1.9**	**7.1**	**64.3**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 068**	**203807 069**	**203807 070**	**203807 071**	**203807 072**
				Customer Sample Reference	**TPME08 @ 0.5m**	**TPME08 @ 3.2m**	**TPME09 @ 0.3m**	**TPME09 @ 1.7m**	**TPME10 @ 0.2m**
				Type	**Topsoil**	**Sand**	**Sand**	**Sand**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**5.7**	Not Required **-**	**13**	Not Required **-**	**12**
Moisture @ 105 C	T162	AR	0.1	%	**9.5**	**7.3**	**15**	**16**	**13**
Retained on 2mm	T2	A40	0.1	%	**9.5**	**40.2**	**5.3**	**12.9**	**4.3**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 074**	**203807 075**	**203807 076**	**203807 077**	**203807 078**
				Customer Sample Reference	**TPME11 @ 0.9m**	**TPME12 @ 0.2m**	**TPME12 @ 1.8m**	**TPME13 @ 0.3m**	**TPME13 @ 1.2m**
				Type	**Sand**	**Topsoil**	**Sand**	**Sand**	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	**16**	**11**	Not Required **-**	**15**	Not Required **-**
Moisture @ 105 C	T162	AR	0.1	%	**17**	**13**	**25**	**22**	**18**
Retained on 2mm	T2	A40	0.1	%	**7.4**	**6.7**	**49.6**	**4.5**	**63.2**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 079**	**203807 080**	**203807 082**	**203807 083**	**203807 084**
				Customer Sample Reference	**TPME13 @ 2.2m**	**TPME14 @ 0.2m**	**TPME14B @ 1.8m**	**TPME14B @ 2.8m**	**TPME15 @ 0.2m**
				Type	**Sand**	**Sand**	**Sand**	**Sand**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	Not Required -	**11**	Not Required -	Not Required -	**11**
Moisture @ 105 C	T162	AR	0.1	%	**23**	**15**	**18**	**20**	**13**
Retained on 2mm	T2	A40	0.1	%	**60.9**	**6.0**	**49.5**	**42.9**	**11.8**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 085**	**203807 086**	**203807 088**	**203807 089**	**203807 091**
				Customer Sample Reference	**TPME15 @ 2.0m**	**TPME16 @ 0.2m**	**TPME16 @ 3.2m**	**TPME17 @ 0.3m**	**TPME18 @ 0.2m**
				Type	**Other**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Moisture	T277	AR	0.1	%	Not Required -	**14**	**4.2**	**7.3**	**13**
Moisture @ 105 C	T162	AR	0.1	%	**84**	**15**	**9.2**	**6.9**	**14**
Retained on 2mm	T2	A40	0.1	%	<0.1	**7.6**	**2.2**	**2.8**	**2.7**

SAL Reference: 203807
Project Site: Oldbury
Customer Reference: 1/00071740.006

Soil Analysed as Soil
MCERTS Preparation

				SAL Reference	**203807 093**
				Customer Sample Reference	**TPME19 @ 0.2m**
				Type	**Sand**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Moisture	T277	AR	0.1	%	**6.0**
Moisture @ 105 C	T162	AR	0.1	%	**7.3**
Retained on 2mm	T2	A40	0.1	%	**9.0**

Enverity
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TEST CERTIFICATE

Determination of Falling Head Permeability

Client:	Mayer Environmental Ltd	Certificate Number:	PL2908-1/1/726a
Client Address:	Transport Avenue		
	Brentford	Client Reference Number:	Not Given
	Middlesex	Date Sampled:	Unknown
Postcode:	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	06.09.2010
		Sampling Certificate No.:	N/A
Site Name:	Oldbury	Certificate of Sampling:	N/A
Site Address:		Sampled By:	Client

Specimen Details

Lab Reference:	PL2908-1/1	Sample Ref:	**BHME04**
Location:	**Not Given**	Depth (m):	Not Given
Type Of Sample:	Bulk	Test Method:	K.Head Vol.2 pt 10.7
Sample Description:	Firm dark grey black sandy gravelly SILT/CLAY with some silt/clay lumps (abundant unknown waste products present)	Laboratory Temp (^{o}C):	20
		Method of Preparation :	2.5kg rammer
		Variations From Standard:	None

1.Material was re-compacted at the 'as received' moisture content using a 2.5kg rammer
2.Sample is assumed to be fully saturated when a state of steady flow is achieved
3.Permeability is determined when sample achieved a state of steady flow
4.Test was repeated to confirm result
5.Permeability value extrapolated from partial results

Test Results:

Initial Height (mm):	**130.0**
Final Height (mm):	**132.0**
Initial Diameter (mm):	**100.0**
Initial Bulk Density (Mg/m^3):	**1.75**
Final Bulk Density (Mg/m^3):	**1.78**
Initial Moisture Content (%):	**19.6**
Final Moisture Content (%):	**26.0**
Initial Dry Density (Mg/m^3)	**1.46**
Final Dry Density (Mg/m^3)	**1.42**

Porosity %	
Particle density (Mg/m^3)	**2.25**
Total (initial)	**34.9**
Total (final)	**37.1**
Capillary (initial)	**28.7**
Capillary (final)	**36.8**
Air filled (initial)	**6.2**
Air filled (final)	**0.2**
Permeability (m/s):	**3.23 x 10^{-9}**

Approved Signatory: [x] Matt Hartnup - Laboratory Manager
[ ] G.Meadows - Team Leader

Signed:

For and on behalf of Enverity Ltd

Date reported: 10/09/2010

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TEST CERTIFICATE

Determination of Falling Head Permeability

Client:	Mayer Environmental Ltd	Certificate Number:	PL2908-1/2/726a
Client Address:	Transport Avenue		
	Brentford	Client Reference Number:	Not Given
	Middlesex	Date Sampled:	Unknown
Postcode:	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	06.09.2010
		Sampling Certificate No.:	N/A
Site Name:	Oldbury	Certificate of Sampling:	N/A
Site Address:		Sampled By:	Client

Specimen Details

Lab Reference:	PL2908-1/2	Sample Ref:	**BHME18**
Location:	**Not Given**	Depth (m):	Not Given
Type Of Sample:	Bulk	Test Method:	K.Head Vol.2 pt 10.7
Sample		Laboratory Temp (^{o}C):	20
Description:	Dark grey black silty SAND & GRAVEL	Method of Preparation :	2.5kg rammer
	(Unknown waste product present)	Variations From Standard:	None

1.Material was re-compacted at the 'as received' moisture content using a 2.5kg rammer
2.Sample is assumed to be fully saturated when a state of steady flow is achieved
3.Permeability is determined when sample achieved a state of steady flow
4.Test was repeated to confirm result
5.Insufficient sampe to fill mould - porous spacers used.

Test Results:

Initial Height (mm):	**68.0**
Final Height (mm):	**72.0**
Initial Diameter (mm):	**100.0**
Initial Bulk Density (Mg/m^3):	**1.76**
Final Bulk Density (Mg/m^3):	**1.88**
Initial Moisture Content (%):	**6.4**
Final Moisture Content (%):	**20.6**
Initial Dry Density (Mg/m^3)	**1.66**
Final Dry Density (Mg/m^3)	**1.56**

Porosity %	
Particle density (Mg/m^3)	**2.54**
Total (initial)	**34.8**
Total (final)	**38.7**
Capillary (initial)	**10.6**
Capillary (final)	**32.0**
Air filled (initial)	**24.2**
Air filled (final)	**6.7**
Permeability (m/s):	**1.33 x 10^{-6}**
Permeability (mm/hour):	**5**

Approved Signatory: [x] Matt Hartnup - Laboratory Manager
[ ] G.Meadows - Team Leader

Signed:

For and on behalf of Enverity Ltd

Date reported: 10/09/2010

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TEST CERTIFICATE

Determination of Falling Head Permeability

Client:	Mayer Environmental Ltd	Certificate Number:	PL2908-1/3/726a
Client Address:	Transport Avenue		
	Brentford	Client Reference Number:	Not Given
	Middlesex	Date Sampled:	Unknown
Postcode:	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	03.09.2010
		Sampling Certificate No.:	N/A
Site Name:	Oldbury	Certificate of Sampling:	N/A
Site Address:		Sampled By:	Client

Specimen Details

Lab Reference:	PL2908-1/3	Sample Ref:	**Clay Composite**
Location:	**Not Given**	Depth (m):	Not Given
Type Of Sample:	Bulk	Test Method:	K.Head Vol.2 pt 10.7
Sample Description:	Very Stiff red-brown light brown CLAY	Laboratory Temp (^{o}C):	20
		Method of Preparation :	2.5kg rammer
		Variations From Standard:	None

1.Material was re-compacted at the 'as received' moisture content using a 2.5kg rammer
2.Sample is assumed to be fully saturated when a state of steady flow is achieved
3.Permeability is determined when sample achieved a state of steady flow
4.Result extrapolated from partial results

Test Results:

Initial Height (mm):	**78.0**
Final Height (mm):	**81.0**
Initial Diameter (mm):	**105.0**
Initial Bulk Density (Mg/m^3):	**1.87**
Final Bulk Density (Mg/m^3):	**1.94**
Initial Moisture Content (%):	**21.3**
Final Moisture Content (%):	**29.7**
Initial Dry Density (Mg/m^3)	**1.54**
Final Dry Density (Mg/m^3)	**1.49**

Porosity %	
Particle density (Mg/m^3)	**2.74**
Total (initial)	**43.6**
Total (final)	**45.5**
Capillary (initial)	**32.9**
Capillary (final)	**44.3**
Air filled (initial)	**10.8**
Air filled (final)	**1.2**
Permeability (m/s):	**7.29 x 10^{-10}**

Approved Signatory: [x] Matt Hartnup - Laboratory Manager
[ ] G.Meadows - Team Leader

Signed:

For and on behalf of Enverity Ltd

Date reported: 08/09/2010

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TEST CERTIFICATE

Determination of Particle Size Distribution

Tested in Accordance with BS 1377-2: 1990: Clause 9.2 & 9.4
Sieved Grading and Sedimentation by Pipette

Client:	Mayer Enviromental Ltd	Certificate Number:	PL2908-1/3/710-2
Client Address:	Transport Avenue	Client Reference:	1.00071740.006
	Brentford	Lab Job Number:	PL2908-1
	Middlesex	Date Sampled:	Unknown
	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	03.09.2010
		Certificate of Sampling:	N/A
Site Name:	Oldbury	Sampling Certificate No.:	N/A
Site Address:		Sampled By:	Client

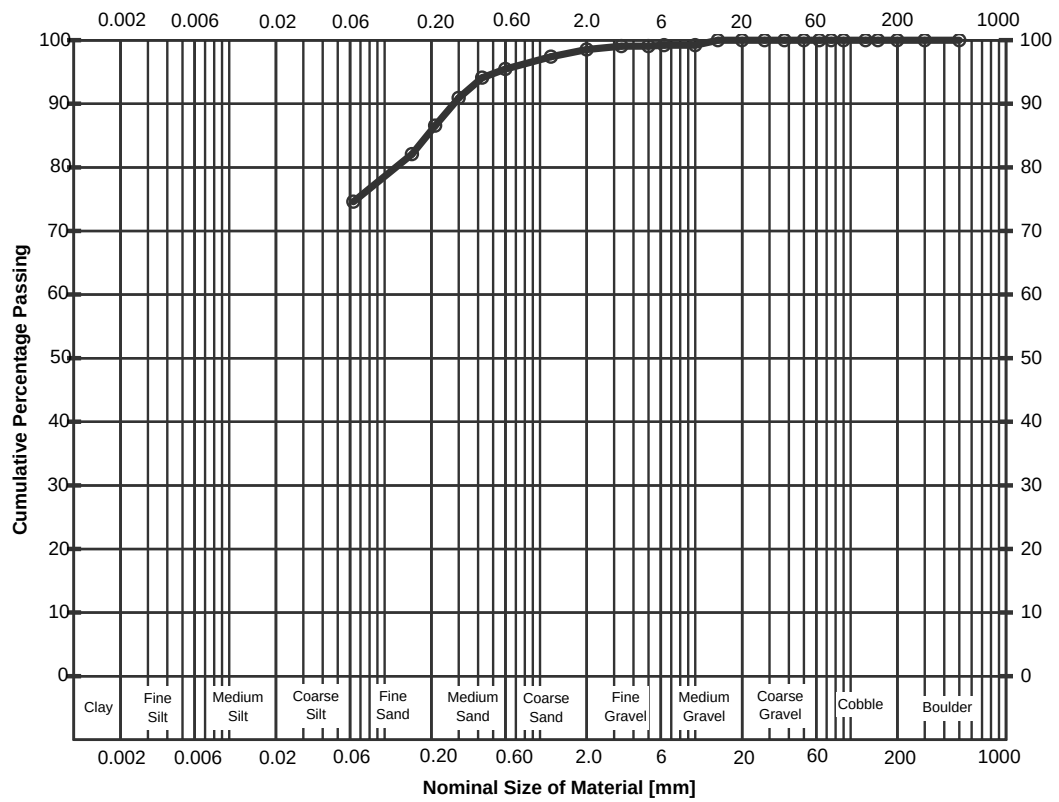
TEST RESULTS

Laboratory Reference: PL2908-1/3
Client Reference: CLAY COMPOSITE (BULK)
Pre-treatment for organic material:

Sample Description: Very Stiff red-brown light brown CLAY

Material Specification: Not Required
Location: Not Given
Source:

Depth: not given
Supplier:



Sieve Analysis

Sieve mm	%Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	100
10	99
6.3	99
5.0	99
3.35	99
2.00	99
1.18	97
0.600	95
0.425	94
0.300	91
0.212	87
0.150	82
0.063	75
0.020	
0.006	
0.002	

Comments: Data relevant to material below 63 microns is outside the current scope of UKAS accreditation

Approved Signatory: [X] M. Hartnup - Laboratory Manager
[ ] G. Meadows - Team Leader

Signed:

for and on behalf of Enverity Ltd

Date Reported: 10.09.2010 Page 1 of 1
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TEST CERTIFICATE

Determination of Particle Size Distribution

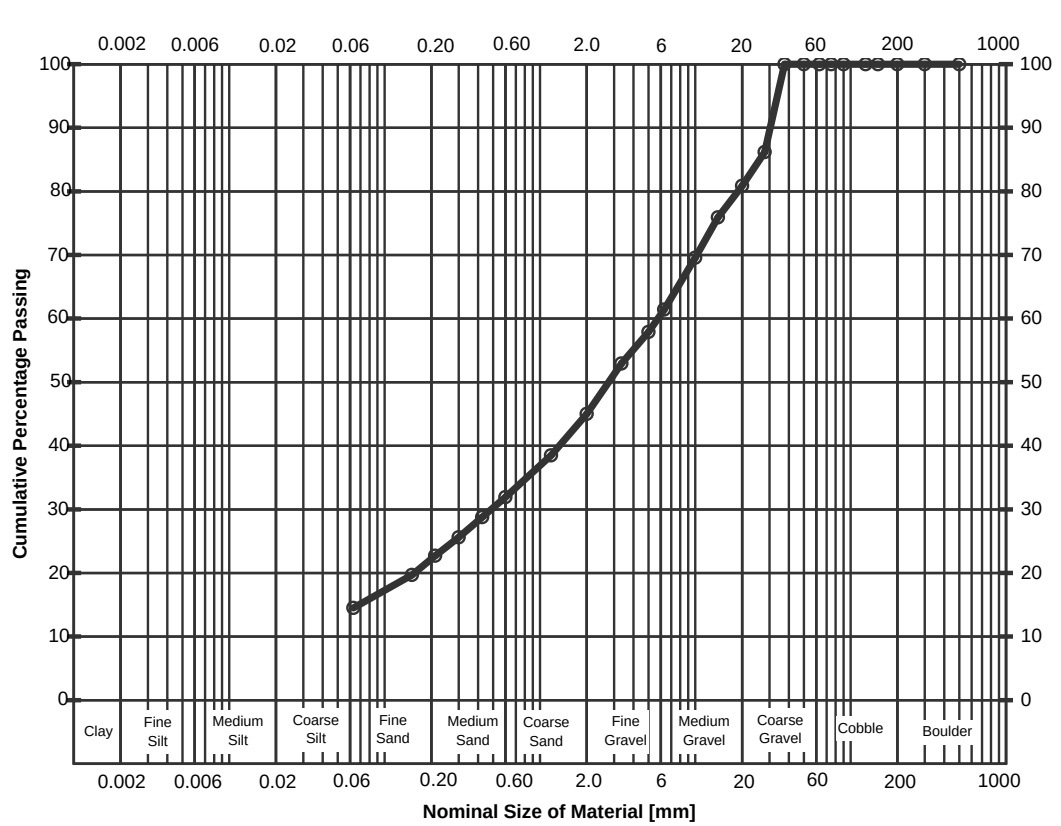
Tested in Accordance with BS 1377-2: 1990: Clause 9.2 & 9.4
Sieved Grading and Sedimentation by Pipette

Client:	Mayer Enviromental Ltd	Certificate Number:	PL2908-1/2/710-2
Client Address:	Transport Avenue	Client Reference:	1.00071740.006
	Brentford	Lab Job Number:	PL2908-1
	Middlesex	Date Sampled:	Unknown
	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	03.09.2010
		Certificate of Sampling:	N/A
Site Name:	Oldbury	Sampling Certificate No.:	N/A
Site Address:		Sampled By:	Client

TEST RESULTS **Laboratory Reference:** PL2908-1/2 **Pre-treatment for**
Client Reference: BHME18 (BULK) **organic material:**

Sample Description: Dark grey grey silty SAND & GRAVEL (unknown waste product present)

Material Specification: Not Required **Depth Top:** 4.00m
Location: Not Given **Depth Base:** 6.00m
Source: **Supplier:**



Sieve Analysis

Sieve mm	%Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	86
20	81
14	76
10	70
6.3	61
5.0	58
3.35	53
2.00	45
1.18	39
0.600	32
0.425	29
0.300	26
0.212	23
0.150	20
0.063	15
0.020	
0.006	
0.002	

Comments: Data relevant to material below 63 microns is outside the current scope of UKAS accreditation

Approved Signatory: [X] M. Hartnup - Laboratory Manager
[ ] G. Meadows - Team Leader

Signed:

for and on behalf of Enverity Ltd

Date Reported: 10.09.2010 Page 1 of 1
Form Number: EN/C/709-2 Version 28

Registered in England & Wales
Registration Number: 6930692
Reg Office: Diasma, Willie Snaith Rd
Newmarket, Suffolk, CB8 7SQ

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2304

Enverity

Newark Road Peterborough
t: 01733 555525 f: 01733 315280

e: peterborough@enverity.co.uk

TEST CERTIFICATE

Determination of Particle Size Distribution

Tested in Accordance with BS 1377-2: 1990: Clause 9.2 & 9.4
Sieved Grading and Sedimentation by Pipette

Client:	Mayer Enviromental Ltd	Certificate Number:	PL2908-1/1/710-2
Client Address:	Transport Avenue	Client Reference:	1.00071740.006
	Brentford	Lab Job Number:	PL2908-1
	Middlesex	Date Sampled:	Unknown
	TW8 9HA	Date Received:	31.08.2010
Contact:	Rebecca Beddard	Date Tested:	03.09.2010
		Certificate of Sampling:	N/A
Site Name:	Oldbury	Sampling Certificate No.:	N/A
Site Address:		Sampled By:	Client

TEST RESULTS **Laboratory Reference:** PL2908-1/1 **Pre-treatment for organic material:**

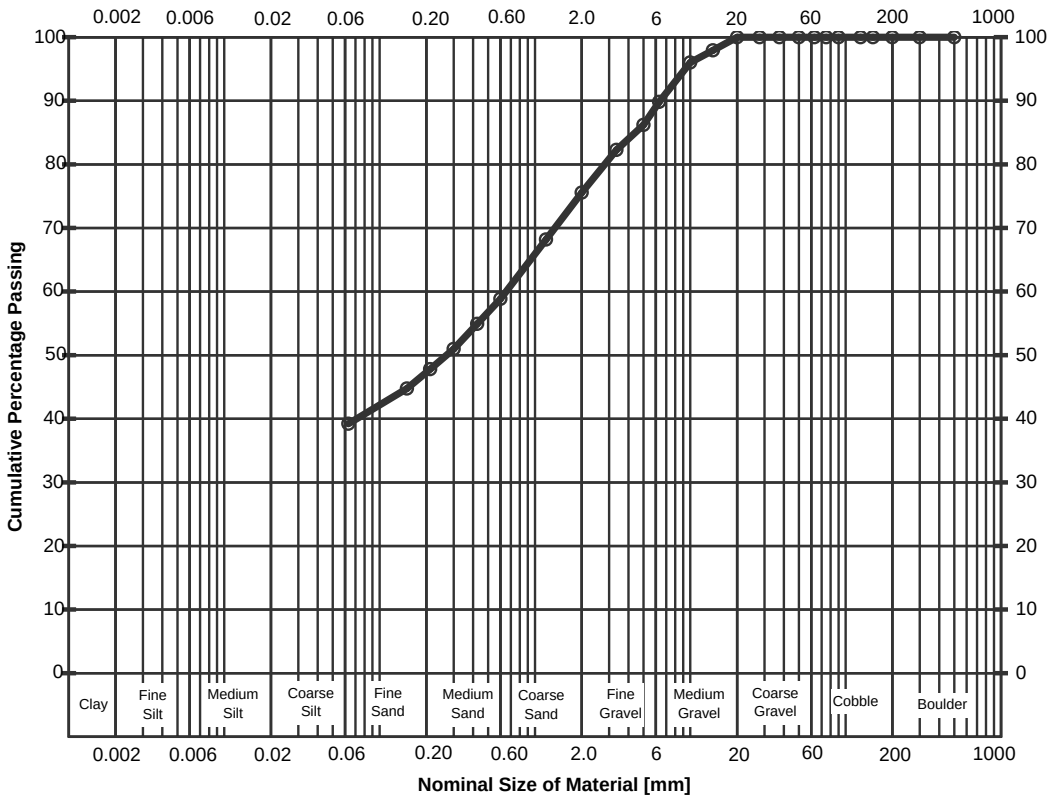
Client Reference: BHME04 (BULK)

Sample Description: Firm black sandy gravelly SILT/CLAY with some silt/clay lumps (Unknown waste product present)

Material Specification: Not Required **Depth Top:** 6.00m

Location: Not Given **Depth Base:** 9.00m

Source: **Supplier:**



Sieve Analysis

Sieve mm	%Passing
125	100
90	100
75	100
63	100
50	100
37.5	100
28	100
20	100
14	98
10	96
6.3	90
5.0	86
3.35	82
2.00	76
1.18	68
0.600	59
0.425	55
0.300	51
0.212	48
0.150	45
0.063	39
0.020	
0.006	
0.002	

Comments: Data relevant to material below 63 microns is outside the current scope of UKAS accreditation

Approved Signatory: [X] M. Hartnup - Laboratory Manager
[ ] G. Meadows - Team Leader

Signed:

for and on behalf of Enverity Ltd

Date Reported: 10.09.2010 Page 1 of 1

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Newmarket, Suffolk, CB8 7SQ

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Appendix 9

Analytical Data - Groundwater

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 328646
Fax : 01376 552923

Report Number: 204436-1

Date of Report: 02-Jul-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/00071740.006
Customer Purchase Order: 13137
Customer Site Reference: Oldbury - Groundwater
Date Job Received at SAL: 28-Jun-2010
Date Analysis Started: 28-Jun-2010
Date Analysis Completed: 02-Jul-2010

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

Report checked and authorised by :
Miss Claire Brown
Project Manager

Issued by :
Miss Claire Brown
Project Manager

Index to symbols used in 204436-1

Value	Description
AR	As Received
F	Filtered
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T54	GC/MS (Headspace)
T222	Colorimetric (Ammonium Molybdate)
T154	ICP/OES(Sim)(PreconcB)
T221	Colorimetry (CE)
T220	Colorimetry (SD)
T7	Probe
T218	IC (D)
T219	GC/FID (SE)
T20	AAS (CV)
T22	Titration

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzene	T54	AR	1	µg/l	U	001-012
EthylBenzene	T54	AR	1	µg/l	U	001-012
M/P Xylene	T54	AR	1	µg/l	U	001-012
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-012
O Xylene	T54	AR	1	µg/l	U	001-012
Toluene	T54	AR	1	µg/l	U	001-012
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	N	001-012
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	N	001-012
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	N	001-012
Arsenic	T154	F	0.002	mg/l	U	001-002,009,011-012
Boron	T154	F	0.05	mg/l	N	001-002,009,011-012
Cadmium	T154	F	0.001	mg/l	U	001-002,009,011-012
Chromium	T154	F	0.002	mg/l	U	001-002,009,011-012
Copper	T154	F	0.01	mg/l	U	001-002,009,011-012
Iron	T154	F	0.05	mg/l	U	001-002,009,011-012
Lead	T154	F	0.002	mg/l	U	001-002,009,011-012
Manganese	T154	F	0.01	mg/l	U	001-002,009,011-012
Mercury	T20	F	0.0002	mg/l	N	001-002,009,011-012
Nickel	T154	F	0.002	mg/l	U	001-002,009,011-012
Selenium	T154	F	0.005	mg/l	U	001-002,009,011-012
Zinc	T154	F	0.005	mg/l	U	001-002,009,011-012
Alkalinity expressed as CaCO3	T22	F	20	mg/l	U	001-002,009,011-012
Ammoniacal nitrogen	T7	F	0.05	mg/l	U	001-002,009,011-012
Chemical Oxygen Demand	T221	F	20	mg/l	N	001-002,009,011-012
Chloride	T218	F	0.1	mg/l	U	001-002,009,011-012
Cyanide(Total)	T220	F	0.01	mg/l	U	001-002,009,011-012
Electrical Conductivity	T7	F	1	µS/cm	U	001-002,009,011-012
Nitrate	T218	F	0.2	mg/l	U	001-002,009,011-012
pH	T7	F			U	001-002,009,011-012

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Phenols(Mono)	T221	F	0.005	mg/l	U	001-002,009,011-012
Phosphate	T218	F	0.5	mg/l	N	001-002,009,011-012
Sulphate ion	T218	F	0.1	mg/l	U	001-002,009,011-012
Sulphide	T222	F	0.1	mg/l	N	001-002,009,011-012

SAL Reference: 204436
Project Site: Oldbury - Groundwater
Customer Reference: 1/00071740.006

Water Analysed as Water
TPH (CWG) with MTBE & BTEX SE

	SAL Reference	204436 001	204436 002	204436 003	204436 004	204436 005	204436 006
	Customer Sample Reference	BHME02	BHME04	BHME05	BHME07	BHME08	BHME09
Determinand	**Method** / **Test Sample** / **LOD** / **Units**						
Benzene	T54 AR 1 µg/l	(13) <1	(13) **4200**	(13) **1**	(13) <1	(13) <1	(13) **2**
EthylBenzene	T54 AR 1 µg/l	<1	**170**	<1	<1	<1	<1
M/P Xylene	T54 AR 1 µg/l	<1	**820**	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54 AR 1 µg/l	<1	**2400**	**80**	<1	<1	**2**
O Xylene	T54 AR 1 µg/l	<1	**16**	**4**	<1	<1	<1
Toluene	T54 AR 1 µg/l	<1	**30**	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54 AR 0.020 mg/l	<0.020	**2.3**	<0.020	<0.020	<0.020	<0.020
TPH (C6-C7 aromatic)	T54 AR 0.020 mg/l	<0.020	**4.2**	<0.020	<0.020	<0.020	<0.020
TPH (C6-C8 aliphatic)	T54 AR 0.020 mg/l	<0.020	**12**	**0.22**	<0.020	**0.17**	**0.13**
TPH (C7-C8 aromatic)	T54 AR 0.020 mg/l	<0.020	**0.030**	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aliphatic)	T54 AR 0.020 mg/l	<0.020	**16**	**3.3**	<0.020	**1.3**	**0.34**
TPH (C8-C10 aromatic)	T54 AR 0.020 mg/l	<0.020	**5.3**	<0.020	<0.020	**0.028**	**0.058**
TPH (C10-C12 aliphatic)	T219 AR 0.01 mg/l	<0.01	**1.4**	(IS) -	**0.12**	**0.03**	**0.10**
TPH (C10-C12 aromatic)	T219 AR 0.01 mg/l	<0.01	**0.27**	(IS) -	**0.04**	<0.01	<0.01
TPH (C12-C16 aliphatic)	T219 AR 0.01 mg/l	<0.01	**7.6**	(IS) -	**0.59**	**0.15**	**0.46**
TPH (C12-C16 aromatic)	T219 AR 0.01 mg/l	<0.01	**1.9**	(IS) -	**0.12**	**0.04**	**0.07**
TPH (C16-C21 aliphatic)	T219 AR 0.01 mg/l	<0.01	**10**	(IS) -	**0.79**	**0.18**	**0.51**
TPH (C16-C21 aromatic)	T219 AR 0.01 mg/l	<0.01	**2.6**	(IS) -	**0.17**	**0.04**	**0.12**
TPH (C21-C35 aliphatic)	T219 AR 0.01 mg/l	<0.01	**2.9**	(IS) -	**0.23**	**0.05**	**0.12**
TPH (C21-C35 aromatic)	T219 AR 0.01 mg/l	<0.01	**0.60**	(IS) -	**0.02**	<0.01	**0.04**

SAL Reference: 204436
Project Site: Oldbury - Groundwater
Customer Reference: 1/00071740.006

Water Analysed as Water
TPH (CWG) with MTBE & BTEX SE

	SAL Reference	204436 007	204436 008	204436 009	204436 010	204436 011	204436 012
	Customer Sample Reference	BHME11	BHME12	BHME13	BHME15	BHME18	BHME19
Determinand	**Method** / **Test Sample** / **LOD** / **Units**						
Benzene	T54 AR 1 µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
EthylBenzene	T54 AR 1 µg/l	<1	<1	<1	<1	<1	<1
M/P Xylene	T54 AR 1 µg/l	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54 AR 1 µg/l	<1	<1	<1	<1	<1	<1
O Xylene	T54 AR 1 µg/l	<1	<1	<1	<1	<1	<1
Toluene	T54 AR 1 µg/l	<1	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C6-C7 aromatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C6-C8 aliphatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C7-C8 aromatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aliphatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aromatic)	T54 AR 0.020 mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C10-C12 aliphatic)	T219 AR 0.01 mg/l	<0.01	**3.9**	**0.51**	<0.01	<0.01	<0.01
TPH (C10-C12 aromatic)	T219 AR 0.01 mg/l	<0.01	**0.08**	**0.09**	<0.01	<0.01	<0.01
TPH (C12-C16 aliphatic)	T219 AR 0.01 mg/l	**0.04**	**16**	**1.3**	**0.03**	<0.01	<0.01
TPH (C12-C16 aromatic)	T219 AR 0.01 mg/l	**0.02**	**1.6**	**0.68**	<0.01	<0.01	<0.01
TPH (C16-C21 aliphatic)	T219 AR 0.01 mg/l	**0.08**	**22**	**1.1**	**0.05**	<0.01	<0.01
TPH (C16-C21 aromatic)	T219 AR 0.01 mg/l	**0.02**	**4.7**	**0.85**	<0.01	<0.01	<0.01
TPH (C21-C35 aliphatic)	T219 AR 0.01 mg/l	**0.03**	**5.2**	**0.15**	<0.01	<0.01	<0.01
TPH (C21-C35 aromatic)	T219 AR 0.01 mg/l	<0.01	**1.6**	**0.10**	<0.01	<0.01	<0.01

SAL Reference: 204436
Project Site: Oldbury - Groundwater
Customer Reference: 1/00071740.006

Water Analysed as Water
WQ1 Water Suite

	SAL Reference	204436 001	204436 002	204436 009	204436 011	204436 012
	Customer Sample Reference	BHME02	BHME04	BHME13	BHME18	BHME19
Determinand	**Method**	**Test Sample**	**LOD**	**Units**		
Arsenic	T154	F	0.002	mg/l	**0.005**	**0.006**	**0.005**	**0.002**	**0.002**
Boron	T154	F	0.05	mg/l	**0.92**	**0.48**	**0.73**	**0.49**	**0.46**
Cadmium	T154	F	0.001	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	T154	F	0.002	mg/l	<0.002	<0.002	<0.002	<0.002	<0.002
Copper	T154	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
Iron	T154	F	0.05	mg/l	**5.0**	**9.8**	**0.23**	**0.14**	**0.10**
Lead	T154	F	0.002	mg/l	<0.002	**0.002**	<0.002	<0.002	**0.002**
Manganese	T154	F	0.01	mg/l	**6.3**	**2.1**	**2.1**	**6.9**	**4.7**
Mercury	T20	F	0.0002	mg/l	**0.0003**	**0.0003**	**0.0003**	**0.0003**	**0.0003**
Nickel	T154	F	0.002	mg/l	**0.004**	**0.010**	**0.003**	**0.002**	**0.011**
Selenium	T154	F	0.005	mg/l	<0.005	<0.005	<0.005	**0.005**	<0.005
Zinc	T154	F	0.005	mg/l	**0.011**	**0.012**	**0.007**	<0.005	**0.15**
Alkalinity expressed as CaCO3	T22	F	20	mg/l	**560**	**520**	**380**	**420**	**330**
Ammoniacal nitrogen	T7	F	0.05	mg/l	**2.9**	**0.92**	**0.55**	<0.05	**0.08**
Chemical Oxygen Demand	T221	F	20	mg/l	**23**	**49**	<20	<20	<20
Chloride	T218	F	0.1	mg/l	**26**	**51**	**43**	**16**	**37**
Cyanide(Total)	T220	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity	T7	F	1	µS/cm	**2000**	**1100**	**1200**	**1100**	**1100**
Nitrate	T218	F	0.2	mg/l	(9) <2.0	(9) <2.0	(9) <2.0	(9) <2.0	(9) <2.0
pH	T7	F			**7.4**	**7.2**	**7.8**	**7.7**	**7.3**
Phenols(Mono)	T221	F	0.005	mg/l	<0.005	**0.45**	<0.005	<0.005	<0.005
Phosphate	T218	F	0.5	mg/l	(9) <5.0	(9) <5.0	(9) <5.0	(9) <5.0	(9) <5.0
Sulphate ion	T218	F	0.1	mg/l	**720**	**32**	**230**	**240**	**270**
Sulphide	T222	F	0.1	mg/l	<0.1	<0.1	<0.1	<0.1	<0.1

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 328646
Fax : 01376 552923

Report Number: 207031-1 Supplement A

Date of Report: 12-Oct-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/000717450.006
Customer Purchase Order: 013185
Customer Site Reference: Oldbury
Date Job Received at SAL: 22-Jul-2010
Date Analysis Started: 22-Jul-2010
Date Analysis Completed: 30-Jul-2010

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

Report checked and authorised by :
Mr David Smith
Laboratory Manager

Issued by :
Miss Claire Brown
Project Manager

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/000717450.006

Water Analysed as Water
WQ1 Water Suite

	SAL Reference	207031 003	207031 007	207031 009	207031 010
	Customer Sample Reference	BHME04	BHME18	BH7	BH104

Determinand	Method	Test Sample	LOD	Units				
Arsenic	T154	F	0.002	mg/l	**0.004**	**0.004**	**0.013**	**0.011**
Boron	T154	F	0.05	mg/l	**0.65**	**0.52**	**0.41**	**0.56**
Cadmium	T154	F	0.001	mg/l	<0.001	<0.001	<0.001	<0.001
Chromium	T154	F	0.002	mg/l	**0.003**	**0.004**	**0.004**	**0.003**
Copper	T154	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01
Iron	T154	F	0.05	mg/l	**4.7**	**1.8**	**3.6**	**0.25**
Lead	T154	F	0.002	mg/l	**0.002**	**0.003**	**0.002**	<0.002
Manganese	T154	F	0.01	mg/l	**1.9**	**8.6**	**4.5**	**3.6**
Mercury	T20	F	0.0002	mg/l	**0.0002**	<0.0002	**0.0002**	**0.0002**
Nickel	T154	F	0.002	mg/l	**0.011**	**0.004**	**0.004**	<0.002
Selenium	T154	F	0.005	mg/l	<0.005	**0.006**	<0.005	<0.005
Zinc	T154	F	0.005	mg/l	**0.019**	**0.014**	**0.018**	**0.008**
Alkalinity expressed as CaCO3	T22	F	20	mg/l	**630**	**420**	**610**	**400**
Ammoniacal nitrogen	T7	F	0.05	mg/l	**1.5**	**0.09**	**2.7**	**1.2**
Chemical Oxygen Demand	T221	F	20	mg/l	**49**	**86**	**66**	<20
Chloride	T218	F	0.1	mg/l	**61**	**20**	**79**	**43**
Cyanide(Total)	T220	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity	T7	F	1	µS/cm	**1200**	**1200**	**1500**	**1300**
Nitrate	T218	F	0.2	mg/l	(9) <2.0	(9) <2.0	(9) <2.0	(9) <2.0
pH	T7	F			**7.7**	**8.3**	**7.7**	**8.2**
Phenols(Mono)	T221	F	0.005	mg/l	**0.043**	<0.005	<0.005	<0.005
Phosphate	T218	F	0.5	mg/l	(9) <5.0	(9) <5.0	(9) <5.0	(9) <5.0
Sulphate ion	T218	F	0.1	mg/l	**25**	**290**	**210**	**360**
Sulphide	T222	F	0.1	mg/l	<0.1	<0.1	<0.1	<0.1

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/000717450.006

Water Analysed as Water
TPH (CWG) with MTBE & BTEX SE

	SAL Reference	207031 001	207031 002	207031 003	207031 004	207031 005
	Customer Sample Reference	BHME01	BHME02	BHME04	BHME05	BHME09

Determinand	Method	Test Sample	LOD	Units					
Benzene	T54	AR	1	µg/l	(13) <1	(IS) -	(19,13) **3300**	(IS) -	(13) **10**
EthylBenzene	T54	AR	1	µg/l	<1	(IS) -	(19) **170**	(IS) -	<1
M/P Xylene	T54	AR	1	µg/l	<1	(IS) -	(19) **1300**	(IS) -	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	(IS) -	**1400**	(IS) -	**5**
O Xylene	T54	AR	1	µg/l	<1	(IS) -	(19) **21**	(IS) -	<1
Toluene	T54	AR	1	µg/l	<1	(IS) -	(19) **30**	(IS) -	<1
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	<0.020	(IS) -	(19) **2.4**	(IS) -	**0.22**
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	<0.020	(IS) -	(19) **3.3**	(IS) -	<0.020
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	<0.020	(IS) -	(19) **13**	(IS) -	**2.5**
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	<0.020	(IS) -	(19) **0.030**	(IS) -	<0.020
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	**0.066**	(IS) -	(19) **16**	(IS) -	**6.0**
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	<0.020	(IS) -	(19) **5.4**	(IS) -	**0.20**
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	**0.94**	**1.9**	**4.0**	**0.24**	**0.91**
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	**0.22**	**0.32**	**0.94**	**0.05**	**0.24**
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	**13**	**16**	**20**	**9.9**	**1.9**
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	**11**	**5.7**	**8.1**	**3.4**	**1.4**
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	**12**	**17**	**23**	**14**	**1.5**
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	**18**	**5.4**	**11**	**7.7**	**1.7**
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	**6.1**	**4.9**	**5.1**	**4.6**	**0.18**
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	**8.3**	**1.2**	**3.0**	**2.2**	**0.58**

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/0007174450.006

Water Analysed as Water
TPH (CWG) with MTBE & BTEX SE

				SAL Reference	**207031 006**	**207031 007**	**207031 008**	**207031 009**	**207031 010**
				Customer Sample Reference	**BHME12**	**BHME18**	**BHME19**	**BH7**	**BH104**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**					
Benzene	T54	AR	1	µg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	<1	<1	**1500**	<1
O Xylene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	**0.40**	<0.020
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	**0.086**	<0.020
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	**0.10**	**0.12**	<0.01	**0.08**	<0.01
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	<0.01	**0.02**	<0.01	**0.02**	<0.01
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	**0.54**	**0.48**	**0.02**	**0.38**	<0.01
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	**0.17**	**0.18**	<0.01	**0.18**	<0.01
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	**0.50**	**0.48**	**0.05**	**0.50**	<0.01
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	**0.19**	**0.21**	<0.01	**0.24**	<0.01
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	**0.17**	**0.22**	**0.02**	**0.20**	<0.01
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	<0.01	**0.02**	<0.01	**0.03**	**0.29**

Index to symbols used in 207031-1 Supplement A

Value	Description
F	Filtered
AR	As Received
19	Due to high levels the analysis was conducted on a diluted sample
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T54	GC/MS (Headspace)
T219	GC/FID (SE)
T20	AAS (CV)
T221	Colorimetry (CE)
T22	Titration
T154	ICP/OES(Sim)(PreconcB)
T218	IC (D)
T220	Colorimetry (SD)
T7	Probe
T222	Colorimetric (Ammonium Molybdate)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T154	F	0.002	mg/l	U	003,007,009-010
Boron	T154	F	0.05	mg/l	N	003,007,009-010
Cadmium	T154	F	0.001	mg/l	U	003,007,009-010
Chromium	T154	F	0.002	mg/l	U	003,007,009-010
Copper	T154	F	0.01	mg/l	U	003,007,009-010
Iron	T154	F	0.05	mg/l	U	003,007,009-010

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Lead	T154	F	0.002	mg/l	U	003,007,009-010
Manganese	T154	F	0.01	mg/l	U	003,007,009-010
Mercury	T20	F	0.0002	mg/l	N	003,007,009-010
Nickel	T154	F	0.002	mg/l	U	003,007,009-010
Selenium	T154	F	0.005	mg/l	U	003,007,009-010
Zinc	T154	F	0.005	mg/l	U	003,007,009-010
Alkalinity expressed as CaCO3	T22	F	20	mg/l	U	003,007,009-010
Ammoniacal nitrogen	T7	F	0.05	mg/l	U	003,007,009-010
Chemical Oxygen Demand	T221	F	20	mg/l	N	003,007,009-010
Chloride	T218	F	0.1	mg/l	U	003,007,009-010
Cyanide(Total)	T220	F	0.01	mg/l	U	003,007,009-010
Electrical Conductivity	T7	F	1	µS/cm	U	003,007,009-010
Nitrate	T218	F	0.2	mg/l	U	003,007,009-010
pH	T7	F			U	003,007,009-010
Phenols(Mono)	T221	F	0.005	mg/l	U	003,007,009-010
Phosphate	T218	F	0.5	mg/l	N	003,007,009-010
Sulphate ion	T218	F	0.1	mg/l	U	003,007,009-010
Sulphide	T222	F	0.1	mg/l	N	003,007,009-010
Benzene	T54	AR	1	µg/l	U	001-010
EthylBenzene	T54	AR	1	µg/l	U	001-010
M/P Xylene	T54	AR	1	µg/l	U	001-010
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-010
O Xylene	T54	AR	1	µg/l	U	001-010
Toluene	T54	AR	1	µg/l	U	001-010
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	N	001-010
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	N	001-010
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	N	001-010

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Scientific Analysis Laboratories

Certificate of Analysis

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Report Number: 210774-1

Date of Report: 08-Sep-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/00071740.006
Customer Purchase Order: 013255
Customer Site Reference: Oldbury Groundwater August 2010
Date Job Received at SAL: 26-Aug-2010
Date Analysis Started: 31-Aug-2010
Date Analysis Completed: 08-Sep-2010

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

Report checked and authorised by :
Miss Claire Brown
Project Manager

Issued by :
Miss Claire Brown
Project Manager

SAL Reference: 210774
Project Site: Oldbury Groundwater August 2010
Customer Reference: 1/00071740.006

Water Analysed as Water
WQ1 Water Suite

	SAL Reference	210774 002	210774 005	210774 006	210774 007
	Customer Sample Reference	BHME04	BHME18	BH7	BH104

Determinand	Method	Test Sample	LOD	Units				
Arsenic	T154	F	0.002	mg/l	<0.002	<0.002	**0.004**	**0.005**
Boron	T154	F	0.05	mg/l	**0.54**	**0.56**	**0.27**	**0.52**
Cadmium	T154	F	0.001	mg/l	<0.001	<0.001	<0.001	<0.001
Chromium	T154	F	0.002	mg/l	<0.002	**0.005**	**0.005**	**0.004**
Copper	T154	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01
Iron	T154	F	0.05	mg/l	**3.5**	**0.19**	**0.16**	**0.06**
Lead	T154	F	0.002	mg/l	<0.002	**0.003**	<0.002	<0.002
Manganese	T154	F	0.01	mg/l	**2.1**	**6.3**	**5.5**	**4.3**
Mercury	T20	F	0.0002	mg/l	**0.0002**	<0.0002	<0.0002	**0.0002**
Nickel	T154	F	0.002	mg/l	**0.010**	**0.007**	**0.007**	**0.003**
Selenium	T154	F	0.005	mg/l	<0.005	<0.005	<0.005	<0.005
Zinc	T154	F	0.005	mg/l	**0.008**	**0.017**	**0.011**	**0.008**
Alkalinity expressed as CaCO3	T22	F	20	mg/l	**550**	**400**	**200**	**350**
Ammoniacal nitrogen	T7	F	0.05	mg/l	**1.2**	**0.09**	**2.6**	**0.77**
Chemical Oxygen Demand	T221	F	20	mg/l	**60**	**20**	**46**	<20
Chloride	T218	F	0.1	mg/l	**69**	**24**	**120**	**34**
Cyanide(Total)	T220	F	0.01	mg/l	<0.01	<0.01	<0.01	<0.01
Electrical Conductivity	T7	F	1	µS/cm	**1200**	**1100**	**1800**	**1400**
Nitrate	T218	F	0.2	mg/l	(9) <2.0	(9) <2.0	(9) <2.0	(9) <2.0
pH	T7	F			**7.4**	**7.6**	**7.3**	**7.8**
Phenols(Mono)	T221	F	0.005	mg/l	**0.035**	<0.005	<0.005	<0.005
Phosphate	T218	F	0.5	mg/l	(9) <5.0	(9) <5.0	(9) <5.0	(9) <5.0
Sulphate ion	T218	F	0.1	mg/l	**5.1**	**240**	**510**	**320**
Sulphide	T222	F	0.1	mg/l	<0.1	<0.1	<0.1	<0.1

SAL Reference: 210774
Project Site: Oldbury Groundwater August 2010
Customer Reference: 1/00071740.006

Water Analysed as Water
TPH (CWG) with MTBE & BTEX SE

	SAL Reference	210774 001	210774 002	210774 004	210774 005	210774 006	210774 007
	Customer Sample Reference	BHME01	BHME04	BHME12	BHME18	BH7	BH104

Determinand	Method	Test Sample	LOD	Units						
Benzene	T54	AR	1	µg/l	(13) <1	(13) **2100**	(13) <1	(13) <1	(13) <1	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1	**930**	<1	<1	<1	<1
M/P Xylene	T54	AR	1	µg/l	<1	**820**	<1	<1	<1	<1
Methyl tert-Butyl Ether	T54	AR	1	µg/l	<1	**1800**	<1	<1	**770**	<1
O Xylene	T54	AR	1	µg/l	<1	**10**	<1	<1	<1	<1
Toluene	T54	AR	1	µg/l	<1	**13**	<1	<1	<1	<1
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	<0.020	**4.0**	<0.020	<0.020	**0.15**	<0.020
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	<0.020	**2.1**	<0.020	<0.020	<0.020	<0.020
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	<0.020	**29**	<0.020	<0.020	**0.15**	<0.020
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	<0.020	**13**	<0.020	<0.020	<0.020	<0.020
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	<0.020	**4.3**	<0.020	<0.020	<0.020	<0.020
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	**3.0**	**4.4**	(IS) -	<0.01	**0.25**	<0.01
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	**0.02**	**0.15**	(IS) -	<0.01	<0.01	<0.01
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	**54**	**26**	(IS) -	<0.01	**3.6**	<0.01
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	**1.2**	**1.8**	(IS) -	<0.01	**0.03**	<0.01
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	**56**	**23**	(IS) -	<0.01	**3.7**	<0.01
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	**1.8**	**2.5**	(IS) -	<0.01	**0.08**	<0.01
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	**27**	**6.2**	(IS) -	<0.01	**0.75**	<0.01
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	**0.75**	**0.32**	(IS) -	<0.01	**0.04**	<0.01

SAL Reference: 210774
Project Site: Oldbury Groundwater August 2010
Customer Reference: 1/00071740.006

Water Analysed as Water
Miscellaneous

SAL Reference	**210774 003**
Customer Sample Reference	**BHME09**

Determinand	Method	Test Sample	LOD	Units	
TPH (C10-C40)	T219	AR	20	µg/l	Unrecognisable Pattern -

Index to symbols used in 210774-1

Value	Description
AR	As Received
F	Filtered
9	LOD raised due to dilution of sample
13	Results have been blank corrected.
IS	Insufficient Sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Notes

Sample 3 - TPH ID - Unrecognisable Pattern but within diesel range but not characteristic of diesel.

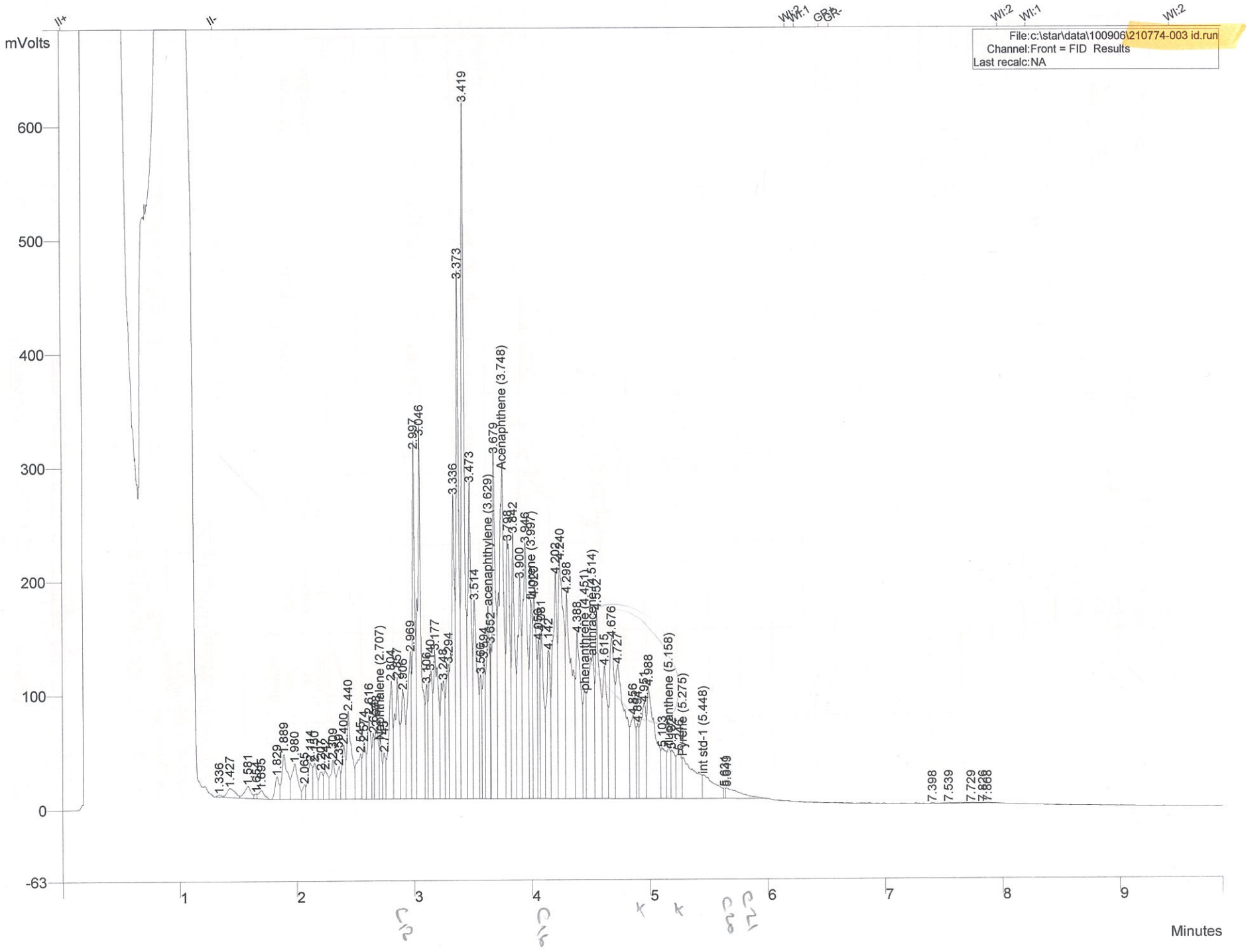
Method Index

Value	Description
T218	IC (D)
T222	Colorimetric (Ammonium Molybdate)
T219	GC/FID (SE)
T221	Colorimetry (CE)
T54	GC/MS (Headspace)
T154	ICP/OES(Sim)(PreconcB)
T220	Colorimetry (SD)
T7	Probe
T22	Titration
T20	AAS (CV)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TPH (C10-C40)	T219	AR	20	µg/l	N	003
Benzene	T54	AR	1	µg/l	U	001-002,004-007
EthylBenzene	T54	AR	1	µg/l	U	001-002,004-007
M/P Xylene	T54	AR	1	µg/l	U	001-002,004-007
Methyl tert-Butyl Ether	T54	AR	1	µg/l	U	001-002,004-007
O Xylene	T54	AR	1	µg/l	U	001-002,004-007
Toluene	T54	AR	1	µg/l	U	001-002,004-007
TPH (C5-C6 aliphatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C6-C7 aromatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C6-C8 aliphatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C7-C8 aromatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C8-C10 aliphatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C8-C10 aromatic)	T54	AR	0.020	mg/l	N	001-002,004-007
TPH (C10-C12 aliphatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C10-C12 aromatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C12-C16 aliphatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C12-C16 aromatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C16-C21 aliphatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C16-C21 aromatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C21-C35 aliphatic)	T219	AR	0.01	mg/l	N	001-002,004-007
TPH (C21-C35 aromatic)	T219	AR	0.01	mg/l	N	001-002,004-007

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T154	F	0.002	mg/l	U	002,005-007
Boron	T154	F	0.05	mg/l	N	002,005-007
Cadmium	T154	F	0.001	mg/l	U	002,005-007
Chromium	T154	F	0.002	mg/l	U	002,005-007
Copper	T154	F	0.01	mg/l	U	002,005-007
Iron	T154	F	0.05	mg/l	U	002,005-007
Lead	T154	F	0.002	mg/l	U	002,005-007
Manganese	T154	F	0.01	mg/l	U	002,005-007
Mercury	T20	F	0.0002	mg/l	N	002,005-007
Nickel	T154	F	0.002	mg/l	U	002,005-007
Selenium	T154	F	0.005	mg/l	U	002,005-007
Zinc	T154	F	0.005	mg/l	U	002,005-007
Alkalinity expressed as CaCO3	T22	F	20	mg/l	U	002,005-007
Ammoniacal nitrogen	T7	F	0.05	mg/l	U	002,005-007
Chemical Oxygen Demand	T221	F	20	mg/l	N	002,005-007
Chloride	T218	F	0.1	mg/l	U	002,005-007
Cyanide(Total)	T220	F	0.01	mg/l	U	002,005-007
Electrical Conductivity	T7	F	1	µS/cm	U	002,005-007
Nitrate	T218	F	0.2	mg/l	U	002,005-007
pH	T7	F			U	002,005-007
Phenols(Mono)	T221	F	0.005	mg/l	U	002,005-007
Phosphate	T218	F	0.5	mg/l	N	002,005-007
Sulphate ion	T218	F	0.1	mg/l	U	002,005-007
Sulphide	T222	F	0.1	mg/l	N	002,005-007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II-
WI:2
WI:1
GR+
GR-
WI:2
WI:1
WI:2
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Channel:Front = FID Results
Last recalc:NA
mVolts
600
500
400
300
200
100
0
-63
1
2
3
4
5
6
7
8
9
Minutes
3.419
3.373
3.336
3.473
3.514
3.679
Acenaphthene (3.748)
acenaphthylene (3.629)
2.997
3.046
2.969
3.177
3.294
3.106
3.248
2.440
2.400
1.889
1.980
1.829
1.427
1.336
2.707
4.240
4.298
4.202
4.142
4.388
4.451
4.514
4.676
4.727
4.615
4.856
4.988
5.103
5.158
5.275
Pyrene (5.275)
int std-1 (5.448)
7.398
7.539
7.729
7.886

Appendix 10

Analytical Data - Discharge

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 328646
Fax : 01376 552923

Report Number: 207031-1 Supplement B

Date of Report: 12-Oct-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/000717450.006
Customer Purchase Order: 013185
Customer Site Reference: Oldbury
Date Job Received at SAL: 22-Jul-2010
Date Analysis Started: 22-Jul-2010
Date Analysis Completed: 30-Jul-2010

The results reported relate to samples received in the laboratory
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation
This report should not be reproduced except in full without the written approval of the laboratory
Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

Report checked and authorised by :
Mr David Smith
Laboratory Manager

Issued by :
Miss Claire Brown
Project Manager

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/000717450.006

Water Analysed as Water
WQ1 Water Suite

				SAL Reference	**207031 011**
				Customer Sample Reference	**Discharge**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Arsenic	T154	F	0.002	mg/l	<0.002
Boron	T154	F	0.05	mg/l	**1.5**
Cadmium	T154	F	0.001	mg/l	<0.001
Chromium	T154	F	0.002	mg/l	**0.12**
Copper	T154	F	0.01	mg/l	<0.01
Iron	T154	F	0.05	mg/l	**0.75**
Lead	T154	F	0.002	mg/l	<0.002
Manganese	T154	F	0.01	mg/l	**2.3**
Mercury	T20	F	0.0002	mg/l	**0.0002**
Nickel	T154	F	0.002	mg/l	**0.14**
Selenium	T154	F	0.005	mg/l	<0.005
Zinc	T154	F	0.005	mg/l	**0.036**
Alkalinity expressed as CaCO3	T22	F	20	mg/l	**600**
Ammoniacal nitrogen	T7	F	0.05	mg/l	**1.1**
Chemical Oxygen Demand	T221	F	20	mg/l	**51**
Chloride	T218	F	0.1	mg/l	**43**
Cyanide(Total)	T220	F	0.01	mg/l	<0.01
Electrical Conductivity	T7	F	1	µS/cm	**1600**
Nitrate	T218	F	0.2	mg/l	(9) <2.0
pH	T7	F			**7.7**
Phenols(Mono)	T221	F	0.005	mg/l	<0.005
Phosphate	T218	F	0.5	mg/l	(9) <5.0
Sulphate ion	T218	F	0.1	mg/l	**380**
Sulphide	T222	F	0.1	mg/l	<0.1

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/000717450.006

Water Analysed as Water
BTEX

				SAL Reference	**207031 011**
				Customer Sample Reference	**Discharge**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Benzene	T54	AR	1	µg/l	(13) <1
EthylBenzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1
Toluene	T54	AR	1	µg/l	<1

SAL Reference: 207031
Project Site: Oldbury
Customer Reference: 1/000717450.006

Water Analysed as Water
Miscellaneous

				SAL Reference	**207031 011**
				Customer Sample Reference	**Discharge**
Determinand	**Method**	**Test Sample**	**LOD**	**Units**	
Suspended Solids (Total)	T2	AR	10	mg/l	**46**
TPH (C10-C40)	T219	AR	0.020	mg/l	**0.51**

Index to symbols used in 207031-1 Supplement B

Value	Description
AR	As Received
F	Filtered
9	LOD raised due to dilution of sample
13	Results have been blank corrected.
19	Due to high levels the analysis was conducted on a diluted sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T7	Probe
T20	AAS (CV)
T221	Colorimetry (CE)
T220	Colorimetry (SD)
T22	Titration
T154	ICP/OES(Sim)(PreconcB)
T222	Colorimetric (Ammonium Molybdate)
T2	Grav
T219	GC/FID (SE)
T218	IC (D)
T54	GC/MS (Headspace)

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Arsenic	T154	F	0.002	mg/l	U	011
Boron	T154	F	0.05	mg/l	N	011
Cadmium	T154	F	0.001	mg/l	U	011
Chromium	T154	F	0.002	mg/l	U	011
Copper	T154	F	0.01	mg/l	U	011
Iron	T154	F	0.05	mg/l	U	011
Lead	T154	F	0.002	mg/l	U	011
Manganese	T154	F	0.01	mg/l	U	011
Mercury	T20	F	0.0002	mg/l	N	011
Nickel	T154	F	0.002	mg/l	U	011
Selenium	T154	F	0.005	mg/l	U	011
Zinc	T154	F	0.005	mg/l	U	011
Alkalinity expressed as CaCO3	T22	F	20	mg/l	U	011
Ammoniacal nitrogen	T7	F	0.05	mg/l	U	011
Chemical Oxygen Demand	T221	F	20	mg/l	N	011
Chloride	T218	F	0.1	mg/l	U	011
Cyanide(Total)	T220	F	0.01	mg/l	U	011
Electrical Conductivity	T7	F	1	µS/cm	U	011
Nitrate	T218	F	0.2	mg/l	U	011
pH	T7	F			U	011
Phenols(Mono)	T221	F	0.005	mg/l	U	011
Phosphate	T218	F	0.5	mg/l	N	011
Sulphate ion	T218	F	0.1	mg/l	U	011
Sulphide	T222	F	0.1	mg/l	N	011
Benzene	T54	AR	1	µg/l	U	011
EthylBenzene	T54	AR	1	µg/l	U	011
M/P Xylene	T54	AR	1	µg/l	U	011
O Xylene	T54	AR	1	µg/l	U	011
Toluene	T54	AR	1	µg/l	U	011
Suspended Solids (Total)	T2	AR	10	mg/l	N	011
TPH (C10-C40)	T219	AR	0.020	mg/l	U	011

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Scientific Analysis Laboratories

Certificate of Analysis

3 Crittall Drive
Springwood Industrial Estate
Braintree
Essex
CM7 2RT
Tel : 01376 328646
Fax : 01376 552923

Report Number: 210688-1

Date of Report: 06-Sep-2010

Customer: Mayer Environmental Limited
Transport Avenue
Brentford
Middlesex
TW8 9HA

Customer Contact: Ms Rebecca Beddard

Customer Job Reference: 1/00071740.006
Customer Purchase Order: 13256
Customer Site Reference: Oldbury
Date Job Received at SAL: 26-Aug-2010
Date Analysis Started: 27-Aug-2010
Date Analysis Completed: 06-Sep-2010

The results reported relate to samples received in the laboratory
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Tests covered by this certificate were conducted in accordance with SAL SOPs

UKAS TESTING
1650

Report checked and authorised by :
Tom Barber
Project Manager

Issued by :
Tom Barber
Project Manager

SAL Reference: 210688
Project Site: Oldbury
Customer Reference: 1/00071740.006

Water Analysed as Water
BTEX

SAL Reference	**210688 001**
Customer Sample Reference	**Discharge**

Determinand	Method	Test Sample	LOD	Units	
Benzene	T54	AR	1	µg/l	(13) <1
Toluene	T54	AR	1	µg/l	<1
EthylBenzene	T54	AR	1	µg/l	<1
M/P Xylene	T54	AR	1	µg/l	<1
O Xylene	T54	AR	1	µg/l	<1

SAL Reference: 210688
Project Site: Oldbury
Customer Reference: 1/00071740.006

Water Analysed as Water
WQ1 Water Suite

SAL Reference	**210688 001**
Customer Sample Reference	**Discharge**

Determinand	Method	Test Sample	LOD	Units	
Arsenic	T154	AR	0.002	mg/l	**0.005**
Boron	T154	AR	0.05	mg/l	**1.1**
Cadmium	T154	AR	0.001	mg/l	<0.001
Chloride	T218	AR	0.1	mg/l	**50**
Chromium	T154	AR	0.002	mg/l	**0.005**
Copper	T154	AR	0.01	mg/l	<0.01
Iron	T154	AR	0.05	mg/l	**19**
Lead	T154	AR	0.002	mg/l	**0.003**
Mercury	T20	AR	0.0002	mg/l	<0.0002
Nickel	T154	AR	0.002	mg/l	**0.011**
Selenium	T154	AR	0.005	mg/l	<0.005
Zinc	T154	AR	0.005	mg/l	**0.17**
Alkalinity expressed as CaCO3	T22	AR	20	mg/l	**630**
Ammoniacal nitrogen	T7	AR	0.05	mg/l	**0.95**
Chemical Oxygen Demand	T221	AR	20	mg/l	**37**
Electrical Conductivity	T7	AR	1	µS/cm	**1700**
Manganese	T154	AR	0.01	mg/l	**3.1**
Nitrate	T218	AR	0.2	mg/l	(9) <2.0
pH	T7	AR			**7.1**
Phosphate	T218	AR	0.5	mg/l	(9) <5.0
Sulphate ion	T218	AR	0.1	mg/l	**370**
Sulphide	T222	AR	0.1	mg/l	<0.1
Cyanide(Total)	T220	AR	0.01	mg/l	<0.01
Phenols(Mono)	T221	AR	0.005	mg/l	<0.005
Suspended Solids (Total)	T2	AR	10	mg/l	**44**
TPH (C10-C40)	T219	AR	20	µg/l	**430**

Index to symbols used in 210688-1

Value	Description
AR	As Received
F	Filtered
13	Results have been blank corrected.
9	LOD raised due to dilution of sample
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

Method Index

Value	Description
T20	AAS (CV)
T2	Grav
T220	Colorimetry (SD)
T22	Titration
T154	ICP/OES(Sim)(PreconcB)
T222	Colorimetric (Ammonium Molybdate)
T219	GC/FID (SE)
T54	GC/MS (Headspace)
T218	IC (D)
T221	Colorimetry (CE)
T7	Probe

Accreditation Summary

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Benzene	T54	AR	1	µg/l	U	001
Toluene	T54	AR	1	µg/l	U	001
EthylBenzene	T54	AR	1	µg/l	U	001
M/P Xylene	T54	AR	1	µg/l	U	001
O Xylene	T54	AR	1	µg/l	U	001
Arsenic	T154	AR	0.002	mg/l	U	001
Boron	T154	AR	0.05	mg/l	N	001
Cadmium	T154	AR	0.001	mg/l	U	001
Chloride	T218	AR	0.1	mg/l	U	001
Chromium	T154	AR	0.002	mg/l	U	001
Copper	T154	AR	0.01	mg/l	U	001
Iron	T154	AR	0.05	mg/l	U	001
Lead	T154	AR	0.002	mg/l	U	001
Mercury	T20	AR	0.0002	mg/l	N	001
Nickel	T154	AR	0.002	mg/l	U	001
Selenium	T154	AR	0.005	mg/l	U	001
Zinc	T154	AR	0.005	mg/l	U	001
Alkalinity expressed as CaCO3	T22	AR	20	mg/l	U	001
Ammoniacal nitrogen	T7	AR	0.05	mg/l	U	001
Chemical Oxygen Demand	T221	AR	20	mg/l	N	001
Electrical Conductivity	T7	AR	1	µS/cm	U	001
Manganese	T154	AR	0.01	mg/l	U	001
Nitrate	T218	AR	0.2	mg/l	U	001
pH	T7	AR			U	001
Phosphate	T218	AR	0.5	mg/l	N	001
Sulphate ion	T218	AR	0.1	mg/l	U	001
Sulphide	T222	AR	0.1	mg/l	N	001
Cyanide(Total)	T220	AR	0.01	mg/l	U	001
Phenols(Mono)	T221	AR	0.005	mg/l	U	001
Suspended Solids (Total)	T2	AR	10	mg/l	N	001
TPH (C10-C40)	T219	AR	20	µg/l	U	001

Appendix 11

Mine Shaft Report

2-4 Hawthorn Park, Holdenby Road
Spratton, Northampton, NN6 8LD

Tel: 01604 842888 Fax: 01604 842666

E-mail: Northampton@hydrock.com
www.hydrock.com

Investigation of Mineshafts at the EMR Site, Union Road, Oldbury

Final Report

Prepared by

Richard Brown

for

Mayer Environmental

Hydrock Ref: R/10202/001

August 2010

DOCUMENT CONTROL SHEET

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Client: MAYER ENVIRONMENTAL

Project: EMR SITE, UNION ROAD, OLDBURY

Title: INVESTIGATION OF MINESHAFTS

Status: FINAL

Date: AUGUST 2010

Document Production Record

Issue Number:	**1**	**Name**	**Signature**
Prepared		Mr. R. Brown	
Checked		Mr. C. Vincett	
Approved		Mr. A. Bell	

Document Revision Record

Issue number	**Date**	**Revision Details**
1	August 2010	Original issue.

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above named Client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

CONTENTS

APPENDICES

EXECUTIVE SUMMARY AND CONCEPTUAL SITE MODEL

SITE INFORMATION & SETTING	**Client**	Mayer Environmental.
	Site	EMR Site, Union Road, Oldbury.
	Site Location	Union Road, Oldbury, West Midlands, B69 3EU at approximate National Grid co-ordinates 398250E,290850N.
	Current Land Use & Description	The total development site is in the order of 14 ha in area. Access to the site was via the gate at the northwestern end of Union Road. The site is derelict and is understood to have been used as a fuel depot. At the time of visiting the surface cover was characterised by hardstanding and areas of open land which were generally overgrown with trees, shrubs, grass and weeds. It was necessary to clear the area of the suspected mineshafts of vegetation prior to undertaking the investigation. The ground surface in the vicinity of the suspected mineshafts was open over most of the area with hardstanding (concrete) present in a strip along the eastern side.
	Development	Hydrock are not party to details of development proposals for the site, however they are understood to comprise redevelopment for an industrial end use.
	Geology	The geology of the site consists of: • **Made Ground** (recent) - mainly colliery spoil, domestic refuse and embankments; and • **Etruria Formation** (Carboniferous) - red, purple and green mottled mudstones with lenticular bands of "espley" grits. The Middle Coal Measures underlie the Etruria Formation at unproven depth and include numerous economic seams.
	Mining Stability	A mining stability report was obtained from the Coal Authority. The main points are: • the site is within the likely zone of influence from workings in 3 seams of coal at 160m to 240m depth, last worked 1878; • any ground movements arising from these workings should by now have ceased; • the property is not in the zone of influence of any current workings or proposed future workings; • reserves of coal exist in the area which could be worked in the future; • there are three recorded mineshafts on site or within 20m of the boundary; and • there is no record of treatment of the mineshafts.
	Mineshafts	The Coal Authority hold records of three mineshafts at the site, reference 398290-001, 398290-002 and 398290-003 and provided approximate National Grid co-ordinates for the suspected locations.
	Coal Authority Permit	The investigation was undertaken with permission from the Coal Authority under permit reference 5373, issued 12th July 2010.
GROUND INVESTIGATION	**Scope of Site Works**	The site works consisted of probing for the suspected mineshafts using rotary open hole drilling techniques. Compressed air was used as the flushing medium. The works were undertaken between 19th and 21st July 2010. A total of 46 holes were sunk to a maximum depth of 18.00m below existing ground level (begl). The works can be summarised for each shaft as follows: • **Shaft Ref. 398290-001** – a total of 17 holes were sunk to a maximum depth of 15.00m begl in the investigation of this mineshaft; • **Shaft Ref. 398290-002** - a total of 9 holes were sunk to a maximum depth of 18.00m begl in the investigation of this mineshaft; and • **Shaft Ref. 398290-003** - a total of 20 holes were sunk to a maximum depth of 15.00m begl in the investigation of this mineshaft. Monitoring of gases was undertaken during fieldworks and the findings are tabulated in this report.

	Findings of the Ground Investigation	The investigation has proven the existence of the 3 recorded shafts at locations broadly congruent with Coal Authority records. A drawing showing the proven locations is appended to this report, and data relating to each shaft is tabulated in Section 3.0 of this report. Based on the findings of this investigation, The true positions of the conjectured shaft centres are: • **398290-001** - 398303.51E, 290931.67N; • **398290-002** - 398296.52E, 290924.60N; and • **398290-003 -** 398288.83E, 290920.41N.
RECOMMENDATIONS	**Development Risks**	Abandoned mineshafts pose a potential constraint to the redevelopment of the site. It will be necessary to plug the shafts where there is a risk of contaminant migration to the underlying aquifer (Secondary A). Where mineshafts pose a stability hazard to redevelopment it will be necessary to undertake stabilisation works.
	Treatment Design	Treatment should be designed upon consideration of all the environmental and stability issues arising from the presence of the mineshafts and in discussion with the appropriate regulatory organisations (Coal Authority, Building Control and Environment Agency). The scope of works will be dependent on the proposed development layout, any proposals for ground improvement and foundation design, if proposed structures are to be sited within the vicinity of the shafts. It is recommended that the works are designed and supervised by a suitably experienced geotechnical engineer or mining engineer and a validation report is prepared upon completion for submission to regulatory bodies. Any stabilisation works undertaken will require permission to be obtained from the Coal Authority (which will incur a fee) and design of any capping will require their approval prior to construction. There will also be a requirement for monitoring of gases during the treatment works.
	Infilling / Consolidation	It is recommended that any open shafts are infilled, and grouting of filled shafts is undertaken to consolidate loose/voided infilling materials. It is suggested that grouting of infilled shafts should be undertaken to the base of the shaft or to 50m depth, whichever is less. Probing of shafts reference 398290-002 and 398290-003 suggests these shafts are very loosely filled. Currently, it is not known if shaft reference 398290-001 has been infilled as the mouth of the shaft appears to be covered by an impenetrable obstruction. Treatment of this shaft will require penetration of the obstruction to be allowed for in the treatment methodology. On the assumption that the obstruction can be penetrated by drilling, infilling and consolidation of the shafts by grouting could be achieved from surface. Alternatively, deep excavation would be necessary to expose and remove the cover, however this would have the advantage that infilling (if necessary) could be undertaken with coarse stone delivered by conveyor or chute. Grouting of the near surface fill could then be undertaken to provide an impermeable plug. The scope of works should be agreed with the Coal Authority and Building Control at Sandwell MBC. Approval should be sought from the Environment Agency to ascertain that the measures proposed are adequate to satisfy their concerns regarding contaminant migration.
	Capping	Requirements for capping will be dependent on the development proposals. It may be possible to omit capping from proposed treatment where shafts lie outside the area of buildings, roads or car parking/yard areas. Where avoidable, building over former mineshafts is not recommended. Design of capping should be agreed with the Coal Authority and Building Control prior to undertaking treatment and construction of capping. Design of capping should be prepared by a qualified structural engineer. Due to the depth of overburden present at the site, it would not be possible to form the capping at rockhead without significant excavation, including measures to ensure stability of excavations and control of groundwater. However, constructing capping at surface presents significant practical difficulties and it would be necessary to consider measures such as grouting the overburden within the vicinity of the shafts, construction of contiguous piled walls, diaphragm walls etc, depending on development proposals and any proposed loading. The relative merit and costs of each option would need to be carefully considered, however it is cautioned that any of the above options are likely to entail

		significant costs.
	Further Works	Further works in respect of the abandoned mineshafts should be planned in conjunction with the wider development proposals at the site. Works should include: • finalisation of development layouts, building locations and proposed loading (if shafts located beneath proposed buildings); • design of treatment scheme and capping (if capping necessary); • appointment of Contractor to undertake works; • regulatory approval and obtain Coal Authority permit; • implementation and supervision of works; and • validation of works.

This Executive Summary forms part of Hydrock Consultants Limited report number R/10202/001 (Issue 1) and should not be used as a separate document.

1.0 INTRODUCTION

1.1 Terms of Reference

In May 2010, Hydrock Consultants Limited (Hydrock) was commissioned by Mayer Environmental to investigate 3 suspected mineshafts at the EMR site in Union Road, Oldbury, West Midlands.

Hydrock are not party to details of development proposals for the site, however they are understood to comprise redevelopment for an industrial end use.

A site location plan (Drawing 10202/D001) is presented in Appendix A.

1.2 Objectives

The objective of the investigation is to verify the presence and location of 3 mineshafts identified on Coal Authority records, to ascertain as much information as possible about the nature and condition of the shafts within the scope of works defined (reference correspondence E6157.001) and to make recommendations for development based on the findings.

1.3 Scope

The scope of work for this commission comprises:

- rotary drilling to probe the location of suspected shafts;
- surveying of rotary drillholes upon completion of the works; and
- reporting of the findings with recommendations for development.

The report presented herein relates specifically to the investigation of 3 mineshafts and is intended to supplement recommendations made by the Client for redevelopment of the site. Further comment or recommendations on other aspects of the development are outside the scope of this commission.

2.0 BACKGROUND INFORMATION

2.1 Site Referencing

The site is referenced in Table 2.1.

Table 2.1: Site Referencing Information

Item	Brief Description
Site name	EMR Site, Union Road, Oldbury.
Site address and location	Union Road, Oldbury, West Midlands, B69 3EU.
Grid reference of centroid of site	398250E, 290850N.

A site location plan is provided in Appendix A (Drawing 10202/D002).

2.2 Site Description

The total development site is in the order of 14 ha in area. The recorded mineshaft positions are located in the north of the site, the approximate locations are shown in the Coal Authority report in Appendix B and the locations proven following investigation are shown on the Ground Investigation Plan in Appendix D.

Access to the site was via the gate at the northwestern end of Union Road.

The site is derelict and is understood to have been used as a fuel depot. At the time of visiting the surface cover was characterised by hardstanding and areas of open land which were generally overgrown with trees, shrubs, grass and weeds.

Derelict structures and redundant infrastructure were present on the site including railway sidings, tanks, lagoons, buildings, sewerage and overhead lighting, however these were not of significance to the mineshaft investigation.

Upon arrival the area of suspected shafts was overgrown with shrubs and semi-mature trees necessitating clearance prior to commencing the investigation. The ground was open over most of the area with hardstanding (concrete) present in a strip along the eastern side. Fieldwork was undertaken in July and at the time of visiting open ground was firm underfoot.

2.3 Geology

The general geology of the site area is shown on the 1:10,000 geological map of Dudley and Wednesbury (SO99SE) and is summarised in Table 2.2.

Table 2.2: Geology

Age	Stratigraphic Name	Description and Characteristics
Recent	Made Ground	Mainly colliery spoil, domestic refuse and embankments.
Carboniferous (Westphalian C)	Etruria Formation	Red, purple and green mottled mudstones with lenticular bands of "espley" grits.
Carboniferous (Westphalian C/B)	Middle Coal Measures	Grey mudstone, siltstone and pale grey sandstone interbedded; coal seams common mudstone with marine fossils; (marine bands) present in in upper and lower halves of sequence.

2.4 Coal Authority Report

2.4.1 Mining Stability

A mining stability report for the site was obtained and is included in Appendix B. The main points are summarised as follows:

- the site is within the likely zone of influence from workings in 3 seams of coal at 160m to 240m depth, last worked 1878;
- any ground movements arising from these workings should by now have ceased;
- the property is not in the zone of influence of any current workings or proposed future workings;
- reserves of coal exist in the area which could be worked in the future;
- there are three recorded mineshafts on site or within 20m of the boundary;
- there is no record of treatment of the mineshafts;
- there are no historic opencast sites within 200m of the site;
- there are no present or proposals for future opencast sites within 800m of the site;
- there have been no damage notices, claims in relation to the site; and
- there is no record of mine gas emission requiring action by the Coal Authority.

2.4.2 Mineshafts

The Coal Authority record three mineshafts at the site, reference 398290-001, 398290-002 and 398290-003. The approximate locations are given on the drawing included with the Coal Authority report in Appendix B.

The Coal Authority have provided the National Grid co-ordinates of the suspected mineshaft locations from their records. The co-ordinates are given in Table 2.3 below.

Table 2.3: Mineshaft Co-ordinates from Coal Authority Records

Mineshaft Reference	Easting	Northing
398290-001	398298	290931
398290-002	398293	290924
398290-003	398285	290918

2.5 Coal Authority Permit

The investigation was undertaken with permission from the Coal Authority under permit reference 5373, issued 12th July 2010. A copy of the permit is included in Appendix C.

As a condition of issue of the permit it will be required to submit written report detailing the works undertaken to the Coal Authority.

3.0 SITE WORKS

3.1 Summary

Investigation of the 3 suspected mineshafts was undertaken between 19th July and 21st July 2010. Probing was undertaken on 1.50m spacing from the recorded position of the shaft and continued as directed by the Site Engineer until the shaft was encountered.

Works were undertaken with the drilling rig positioned on a stable, rigid safety platform to mitigate the risk posed by collapse of a shaft under investigation.

The site works undertaken for this investigation are summarised in Table 3.1.

Table 3.1: Summary of Site Works

Mineshaft	Method	No.	Max. Depth (m)	Hole Diameter (mm)	Plant	Flushing Medium
398290-001	Rotary Open Hole	17	15.00	130	Casagrande C6, 6 tonne compressor	Air
398290-002		9	18.00	130		
398290-003		20	15.00	130		

Drillhole locations were surveyed using GPS with an accuracy of +/- 10mm. Locations are shown on the Ground Investigation Plan in Appendix D. Exploratory logs are presented in Appendix E.

The main findings are summarised in Table 3.2 below.

Table 3.2: Summary of Findings of Mineshaft Investigation

Mineshaft	Minimum Diameter (m)	Maximum diameter (m)	Lining	Capping	Conjectured Easting at Centre	Conjectured Northing at Centre	Current Ground Level (m AOD)
398290-001	1.61	3.27	Proven below 7.00m begl, assumed brick	Impenetrable, possible steel at 6.90m begl	398303.51	290931.67	139.0
398290-002	2.91		Brick, proven at 6.00m begl	None	398296.52	290924.60	138.7
398290-003	1.74	4.49	Unknown	None	398288.83	290920.41	138.8

The location of drillholes and the proven mineshafts are indicated on the Ground Investigation Plan in Appendix D.

3.2 Mineshaft 398290-001

It is believed that mineshaft 398290-001 has been proven at locations BH108, BH111, BH114 and BH115 at 6.90m begl and that the mouth has been covered, possibly with a steel plate or similar material that was impenetrable to the equipment used.

Probing of location 398290-001 proved an impenetrable obstruction in four drillholes, (BH108, BH111, BH114 and BH115) at a depth of 6.90m below existing ground level (begl). A drillhole (BH116) was inclined at 15˚ from the vertical towards the obstruction and positioned 1.85m from drillhole BH115. This encountered very loose ground or a void following penetration of a thin band of hard material (suspected shaft lining).

All other probe drillholes in respect of this shaft encountered overburden (Made Ground) to a depth of 10.50m begl, residual Etruria Formation (firm clay) to a depth of 12.00m begl and intact rock to a depth of 15.00m begl.

3.3 Mineshaft 398290-002

It is believed that mineshaft 398290-002 has been proven at location BH207, the mouth is open and the shaft lined to 6.00m begl. The location of drillholes and the proven mineshaft are indicated on the Ground Investigation Plan in Appendix D.

Probing of location 398290-002 proved very loose fill in drillhole BH207 below 6.00m begl, accompanied by a loss or air return. Adjacent drillholes BH208 and BH209 encountered brick at 6.00m begl, prior to continuation in bedrock. At location BH206, soft drilling was encountered between 14.00m begl and 18.00m begl which is believed to have been due to penetration of the mineshaft lining by the drillstring.

During drilling of BH207, a small quantity of the shaft infill was returned to surface with the flushing medium. Visual and olfactory evidence of petroleum hydrocarbon contamination was noted within the material.

All other probe drillholes in respect of this shaft encountered overburden (Made Ground) to a depth of between 10.00m begl and 10.20m begl, residual Etruria Formation (soft and firm clay) to depths of between 11.00m begl and 11.40m begl and intact rock to 15.00m begl.

3.4 Mineshaft 398290-003

Probing of location 398290-003 proved very loose fill in drillholes BH316, BH317 and BH319 from 3.00m begl to 15.00m begl, accompanied by a loss of air return. It is believed that these locations correspond to the mineshaft.

All other drillholes in respect of this shaft encountered overburden (Made Ground) to a depth of between 10.40m begl and 10.80m begl, residual Etruria Formation (soft and firm clay) to a depth of between 10.50m begl and 12.00m begl and intact rock to 15.00m begl.

3.5 Gas Monitoring

Gas concentrations were measured during drilling operations in drillholes which encountered the shafts. The results are summarised in Table 3.3.

Table3.3: Gas Concentrations in Drillholes Penetrating Mineshafts

Mineshaft Reference	Drillhole	CH_4 (%)	CO_2 (%)	O_2 (%)	H_2S (ppm)	CO (ppm)	Atmospheric Pressure (mb)	Relative Pressure
398290-001	BH116	0.0	0.8	19.4	0	0	988	+0.44
398290-002	BH207	0.6	1.4	19.8	0	0	992	+0.20
398290-003	BH317	0.3	0.6	18.6	0	0	992	+0.12

4.0 RECOMMENDATIONS

4.1 Proposed Development

Hydrock are not party to details of development proposals for the site, however they are understood to comprise redevelopment for an industrial end use.

4.2 Development Risks

Three abandoned mineshafts have been located on the site at positions broadly coincident with Coal Authority records of abandoned mineshafts and their presence poses a potential constraint to the redevelopment. The location of drillholes and the proven mineshafts are indicated on the Ground Investigation Plan in Appendix D. Upon discussion with the Client and with reference to current practice, two specific concerns have been raised over the presence of the mineshafts:

- they are a potential pathway for the downward migration of near surface contaminants; and
- they pose a stability hazard to proposals for redevelopment of the site.

It will be necessary to plug the shafts where there is a risk of contaminant migration to the underlying aquifer (Secondary A).

Where mineshafts pose a stability hazard to redevelopment it will be necessary to undertake stabilisation works. Nominally, a stability hazard is recorded by the Coal Authority where mineshafts lie within the footprint of a structure or within 20m of the boundary, however more detailed assessment of the likely zone of influence of a mineshaft can be made where there is uncertainty as to whether a stability hazard exists.

4.3 Treatment Design

A detailed coverage of the treatment of abandoned mineworkings can be found in CIRIA Publication SP32, “Construction Over Abandoned Mineworkings”, (Healey and Head, 1984), however recommendations for treatment are outlined in the sections below.

Treatment should be designed upon consideration of all the environmental and stability issues arising from the presence of the mineshafts and in discussion with the appropriate regulatory organisations (Coal Authority, Building Control and Environment Agency). The scope of works will be dependent on the proposed development layout, any proposals for ground improvement and foundation design, if proposed structures are to be sited within the vicinity of the shafts.

It must be noted that where mineshafts are within influencing distance of proposed buildings, roads or infrastructure, relocation is the development option favoured by the Coal Authority, even where stabilisation works have been undertaken and validated.

It is recommended that the works are designed and supervised by a suitably experienced geotechnical engineer or mining engineer and a validation report is prepared upon completion for submission to regulatory bodies.

Any stabilisation works undertaken will require permission to be obtained from the Coal Authority (which will incur a fee) and design of any capping will require their approval prior to construction. There will also be a requirement for monitoring of gases during the treatment works.

The works will need to incorporate safety measures to mitigate against collapse of mineshafts. This could include measures such as supporting drilling rigs on safety platforms, harnessing of personnel to immovable surface objects, etc.

Should the ground surface be susceptible to deterioration in periods of inclement weather, consideration should be given to provision of a working platform at the treatment area. Advice of the design of working platforms can be found in BRE Document 470, “Working platforms for tracked plant: good practice guide to the design, installation, maintenance and repair of ground-supported working platforms”.

4.4 Infilling / Consolidation

To address the long term stability concerns and prevent the potential migration of contaminants down the mineshafts, it is recommended that any open shafts are infilled, and grouting of filled shafts is undertaken to consolidate loose/voided infilling materials. These measures should provide continuing support to the mineshaft and an impermeable plug preventing migration of contaminants.

It is suggested that grouting of infilled shafts should be undertaken to the base of the shaft or to 50m depth, whichever is less.

Probing of shafts reference 398290-002 and 398290-003 suggests these shafts are very loosely filled.

Currently, it is not known if shaft reference 398290-001 has been filled as the mouth of the shaft appears to be covered by an impenetrable obstruction, suspected to be a steel plate. Treatment of this shaft will require penetration of the obstruction to be allowed for in the treatment methodology. On the assumption that the obstruction can be penetrated by drilling, infilling and consolidation of the shafts by grouting could be achieved from surface.

Alternatively, deep excavation (to around 7.0m begl) would be necessary to expose and remove the cover, however this would have the advantage that infilling (if necessary) could

be undertaken with coarse stone delivered by conveyor or chute. Grouting of the near surface fill could then be undertaken to provide an impermeable plug. Another potential advantage of excavating the shaft locations is that any capping (if required from the perspective of stability of proposed structures) could be constructed at rockhead, which has been proven around 10.5m begl to 12.0m begl.

It is cautioned that staging may be encountered below which a filled shaft may remain open, and it is recommended that the treatment methodology makes allowance for filling voids encountered below staging, for example injection of pea gravel.

The scope of works should be agreed with the Coal Authority and Building Control at Sandwell MBC.

Approval should be sought from the Environment Agency to ascertain that the measures proposed are adequate to satisfy their concerns regarding contaminant migration and it's potential effect on groundwater quality.

4.5 Capping

Requirements for capping will be dependent of the development proposals, with siting of buildings relative to shafts being of particular importance. It may be possible to omit capping from proposed treatment where shafts lie outside the area of buildings, roads or car parking/yard areas, however filling and consolidation of shafts would still be necessary. Where avoidable, building over former mineshafts is not recommended.

Design of capping should be agreed with the Coal Authority and Building Control prior to undertaking treatment and construction of capping.

Capping is normally undertaken by constructing a reinforced concrete slab over the mouth of the shaft. Typical capping design is illustrated in the CIRIA document, "Construction Over Abandoned Mineworkings". Designs should be prepared by a qualified structural engineer.

Due to the depth of overburden present at the site (currently in the order of 11.0m), it would not be possible to form the capping at rockhead without significant excavation, including measures to ensure stability of excavations and control of groundwater. However, constructing capping at surface presents significant practical difficulties due to the need for a solid base in which to found the cap. This could be formed by grouting the overburden within the vicinity of the shafts, construction of contiguous piled walls, diaphragm walls etc, depending on development proposals and any proposed loading. The relative merit of each option would need to be carefully considered, however it is cautioned that any of the above options are likely to entail excessive costs.

Any requirements for providing measures to prevent accumulation of gases beneath capping, for example inclusion of breather pipes, must also take the potential contaminant transport

pathway into account. However, assuming grouting has been undertaken to 50m or over the full depth of the shaft, gas accumulation beneath the cap is not considered likely.

4.6 Further Works

Further works in respect of the abandoned mineshafts should be planned in conjunction with the wider development proposals at the site. Works should include:

- finalisation of development layouts, building locations and proposed loading (if shafts located beneath proposed buildings);
- design of treatment scheme and capping (if capping necessary);
- appointment of Contractor to undertake works;
- regulatory approval and obtain Coal Authority permit;
- implementation and supervision of works; and
- validation of works.

5.0 REFERENCES

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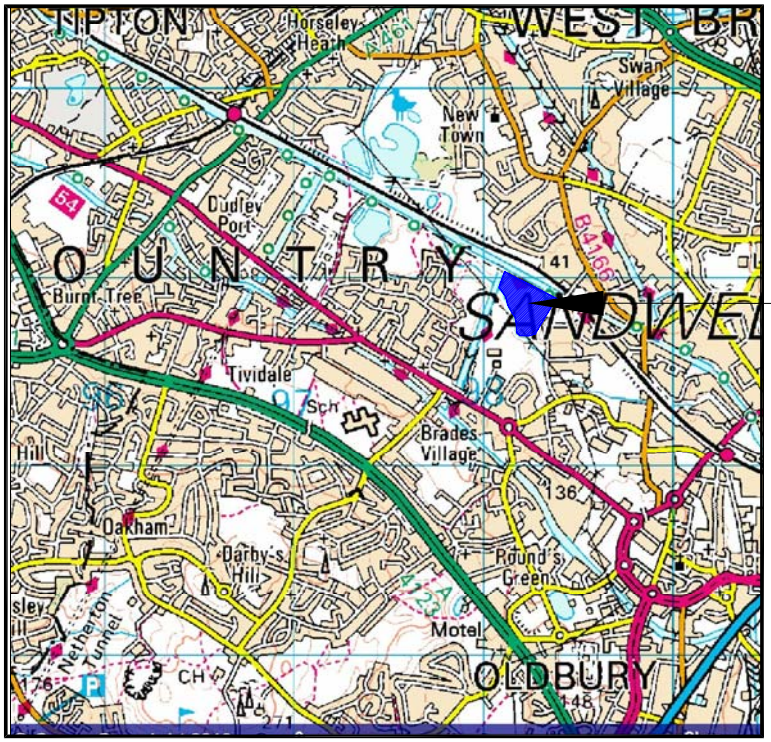
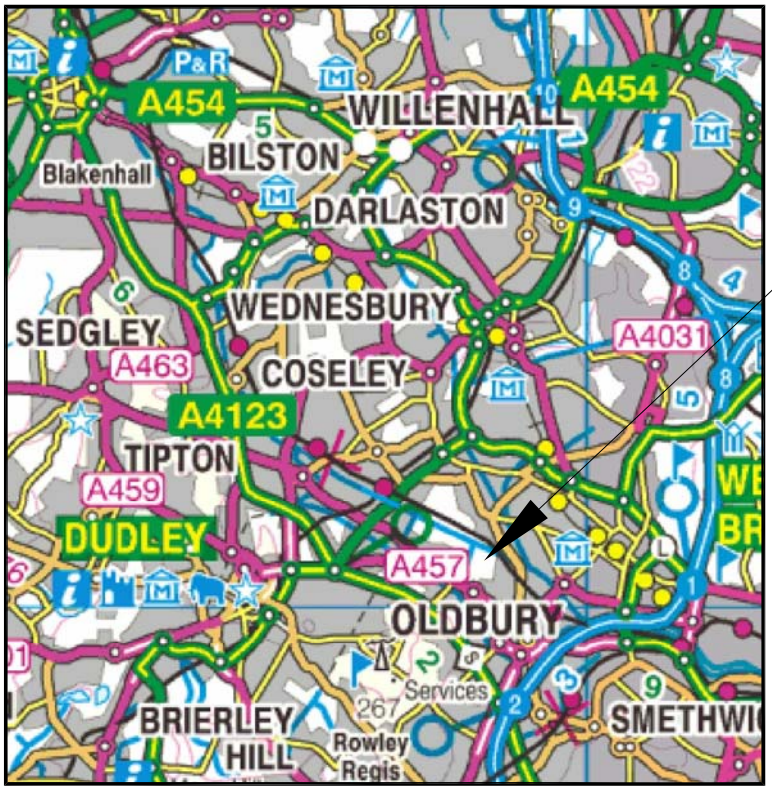
Appendix A

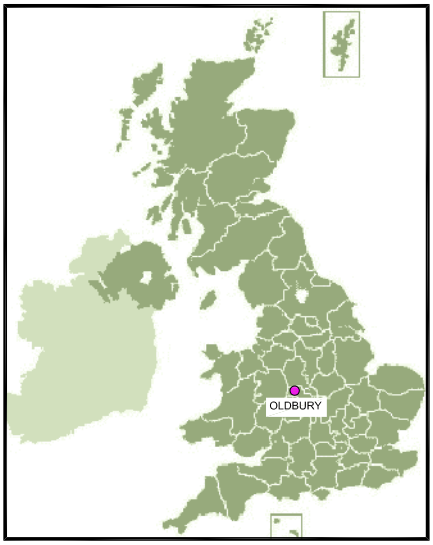
SITE LOCATION PLAN



EMR SITE



THE SITE



Rev	Date	Description	By	Ckd

Project: EMR SITE, UNION ROAD, OLDBURY

Title: Site Location Plan

Client: MAYER ENVIRONMENTAL

Drawing Status: INFORMATION

Job No.: C10202

Drawn	Checked	Scale at A4	Date	Issue Date
RB	AB	N.T.S.	15/08/10	15/08/10

Drawing No.: 10202/D001

Revision: -

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or visit www.hydrock.com

Appendix B

COAL AUTHORITY REPORT

The Coal Authority
Mining Reports Office

For Internal Use Only

Run on 29/06/2010 at 15:35:21
CON001 Report

THE COAL AUTHORITY,
DX 716176 MANSFIELD 5

Person dealing with this matter:	**Keith Pennington**
Our reference:	**00028340-10**
Your reference:	5373
Electronic Ref:	
RRUID:	007.00028178490001
Date of your enquiry:	**29 June 2010**
Date we received your enquiry:	**29 June 2010**
Date of issue:	

This report is for the property described in the address below and the attached plan.

Coal and Brine Report

Site At, Union Road, Oldbury, West Midlands

This report is based on and limited to the records held by, the Coal Authority, and the Cheshire Brine Subsidence Compensation Board's records, at the time we answer the search.

Coal mining	Yes
Brine Compensation District	No

Information from the Coal Authority

Underground Coal Mining

Past

The property is in the likely zone of influence from workings in 3 seams of coal at 160m to 240m depth, and last worked in 1878.

Any ground movement from these coal workings should have stopped by now.

Present

The property is not in the likely zone of influence of any present underground coal workings.

Future

The property is not in an area for which the Coal Authority is determining whether to grant a licence to remove coal using underground methods.

The property is not in an area for which a licence has been granted to remove coal using underground methods.

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The property is not in an area that is likely to be affected at the surface from any planned future workings.

However reserves of coal exist in the local area which could be worked at some time in the future.

No notice of the risk of the land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine entries

Within, or within 20 metres of, the boundary of the property there are 3 mine entries, the approximate positions of which are shown on the attached plan.

There is no record of what steps, if any, have been taken to treat the mine entries.

Coal-mining geology

The Authority is not aware of any evidence of damage arising due to geological faults or other lines of weakness that have been affected by coal mining.

Opencast Coal Mining

Past

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

Present

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

Future

The property is not within 800 metres of the boundary of an opencast site for which the Coal Authority is determining whether to grant a licence to remove coal by opencast methods.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

Coal-mining subsidence

The Coal Authority has not received a damage notice or claim for the property since 1 January 1984. There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

Mine gas

There is no record of a mine gas emission requiring action by the Coal Authority within the boundary of the property.

Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Authority, under its Emergency Surface Hazard Call Out procedures.

Withdrawal of Support

The property is not in an area for which a notice of entitlement to withdraw support has been published.

The property is not in an area for which a notice has been given under section 41 of the Coal Industry Act 1994, revoking the entitlement to withdraw support.

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Working Facilities Orders

The property is not in an area for which an Order has been made under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

Payments to Owners of Former Copyhold Land

The property is not in an area for which a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Comments on Coal Authority information

In view of the mining circumstances a prudent developer would seek appropriate technical advice before any works are undertaken.

Therefore if development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply good engineering practice developed for mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or mines of coal without the permission of the Coal Authority. Developers should be aware that the investigation of coal seams/ former mines of coal may have the potential to generate and/or displace underground gases and these risks both under and adjacent to the development should be fully considered in developing any proposals. The need for effective measures to prevent gases entering into public properties either during investigation or after development also needs to be assessed and properly addressed. This is necessary due to the public safety implications of any development in these circumstances.

The attached plan shows the approximate location of the disused mine entry/entries referred to in this report. For reasons of clarity, mine entry symbols may not be drawn to the same scale as the plan. Property owners have the benefit of statutory protection (under the Coal Mining Subsidence act 1991*). This contains provision for the making good, to the reasonable satisfaction of the owner, of physical damage from disused coal mine workings including disused coal mine entries. A leaflet setting out the rights and the obligations of either the Coal Authority or other responsible persons under the 1991 Act can be obtained by telephoning 0845 762 6848 or online at www.coal.gov.uk/services/subsidence.
If you wish to discuss the relevance of any of the information contained in this report you should seek the advice of a qualified mining engineer or surveyor. If you or your adviser wish to examine the source plans from which the information has been taken these are normally available at our Mansfield office, free of charge, by prior appointment, telephone 01623 637233. Should you or your adviser wish to carry out any physical investigations that may enter, disturb or interfere with any disused mine entry the prior permission of the owner must be sought. For coal mine entries the owner will normally be the Coal Authority.
The Coal Authority, regardless of responsibility and in conjunction with other public bodies, provide an emergency call out facility in coalfield areas to assess the public safety implications of mining features (including disused mine entries). Our emergency telephone number at all times is 01623 646333.

*Note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

Information from the Cheshire Brine Subsidence Compensation Board

The property lies outside the Cheshire Brine Compensation District.

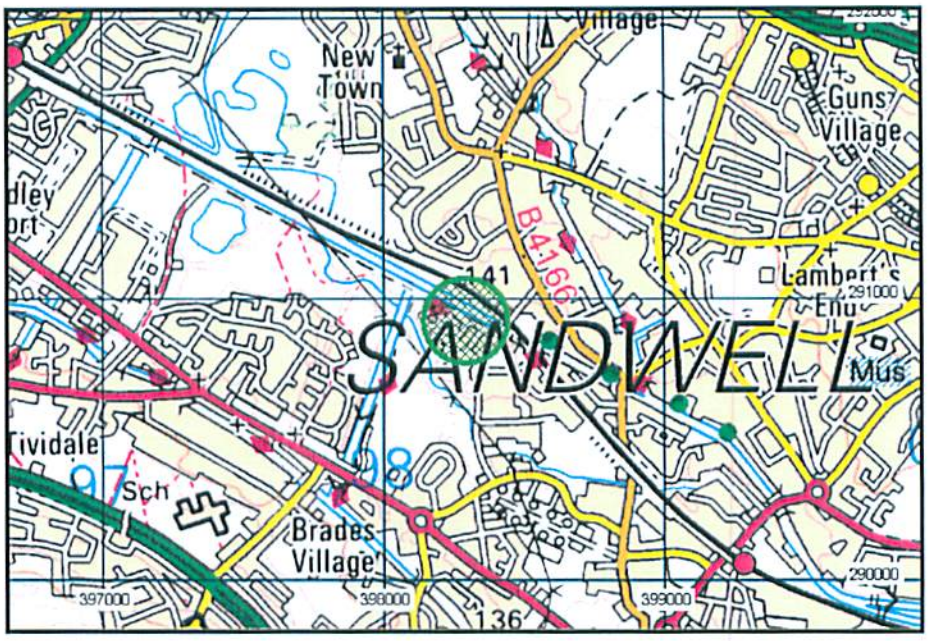
Additional remarks

This report is prepared in accordance with the Law Society's Guidance Notes 2006, the User Guide 2006 and the Coal Authority and Cheshire Brine Board's Terms and Conditions 2006. The report is compliant with Home Information Pack requirements.

The Coal Authority owns the copyright in this report. The information we have used to write this report is protected by our database right. All rights are reserved and unauthorised use is prohibited. If we provide a report for you, this does not mean that copyright and any other rights will pass to you. However, you can use the report for your own purposes.

Location map

Approximate
position
of property



Enquiry boundary

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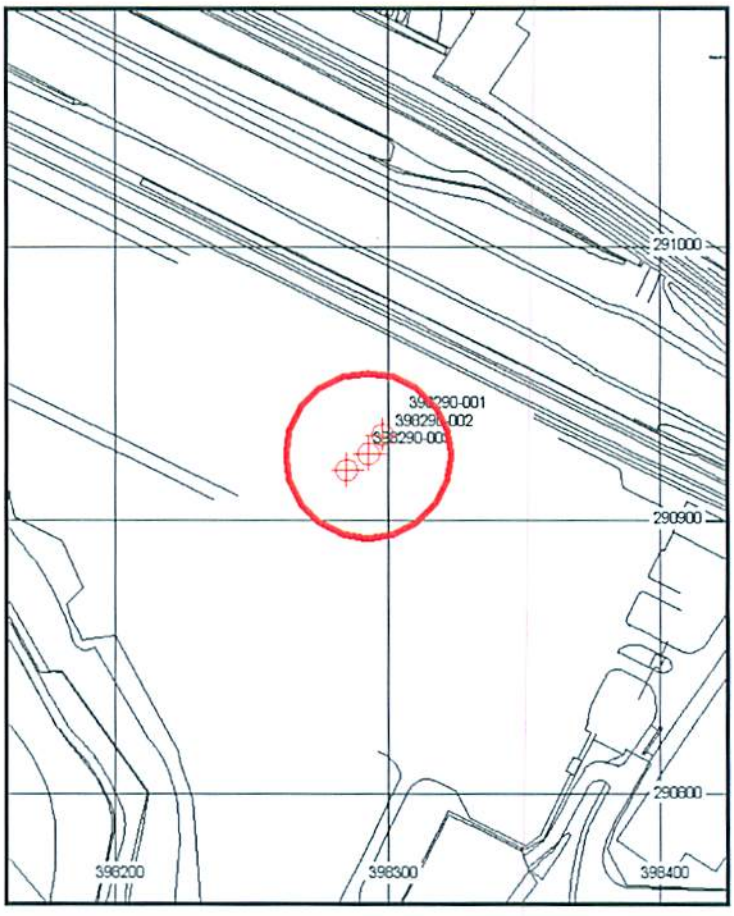

Key

Approximate position of enquiry boundary shown

Disused Adit or Mineshaft

Mapping sourced from Ordnance Survey

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Appendix C

COAL AUTHORITY PERMIT

THE COAL AUTHORITY

Permit Reference Number 5373

Permission to Enter or Disturb Coal Authority Mining Interests

Name and Address of Applicant:

Richard Brown
Hydrock Consultants
3 Hawthorn Park
Holdenby Road
Spratton
Northampton
NN6 8LD

Site Location:

Union Road
Oldbury
West Midlands

This certificate hereby grants the above named Applicant permission to carry out *Investigation of 3 Mineshafts* within the Authority's mining interests at the identified site location for the period of 12 months from the effective date shown below. The granting of this Permission does not constitute advice given by the Authority in relation to the proposed operations. It is the Applicant's responsibility to obtain appropriate health, safety, environmental, technical and legal advice.

Signed: ..... Effective Date: ..... 12 July 2010.....

For and on behalf of The Director of Environment, Mining and Property at the Coal Authority

Nominated Representative: Mr Terry Williams, Mining Property Manager;
The Coal Authority, Licensing & Permits Office, 200 Lichfield Lane, Mansfield, Notts, NG18 4RG
Tel: 01623 637266; e-mail *terrywilliams@coal.gov.uk*

THE COAL AUTHORITY

Terms and Conditions for Entering or Disturbing Coal Authority Mining Interests

Before permission can be given to enter or disturb Coal Authority mining interests, each applicant must agree with the following terms and conditions in support of their application and return a signed copy to the Coal Authority along with the original application and supporting documentation.

1) The Applicant will take all steps, including the erection and maintenance of fences and warning notices, necessary to prevent any person from accidentally entering, falling into, or interfering with any mine entry, mine working, mining collapse, excavation or borehole during the works and as a consequence of the work.

2) The Applicant will ensure that nothing is deposited, falls or flows into any mine entry, mine working, mining collapse, excavation or borehole which by itself, or in combination with anything else which may be or which might reasonably be expected to be, in or adjacent to any such mine entry, mine working, mining collapse, excavation or borehole, could block or weaken any underground excavations within or beyond the Site, or could cause or aggravate pollution of underground water, or could cause any nuisance or harm to persons or property on the surface or underground, including any mining operations.

3) The Applicant will ensure that appropriate equipment is available on the Site and that procedures are adopted to detect the emission of any flammable or noxious gas from any part of the Site, and will take appropriate action to protect members of the public and workmen. Furthermore, the Applicant will take all appropriate measures to prevent mine gasses migrating into neighbouring properties as a result of the works and where it is necessary to ensure public safety extend his gas monitoring regime to include offsite properties

4) The Applicant will notify the Authority's Surface Hazards Office, using the **24 hour Emergency Call Out Service** on **01623-646333**, immediately there is evidence of spontaneous combustion of coal, uncontrolled emissions of mine gas or water or other hazard directly or indirectly caused by or related to the above mentioned activities both during and following completion of works. Furthermore, the Applicant will seek proper advice and take all necessary steps for the purpose of controlling, extinguishing and making safe any of the above mentioned hazards.

5) The Applicant will comply with all reasonable directions given by the Authority which the Authority in its absolute discretion believes is necessary to safeguard coal, mine workings, mine entries, the environment or public safety.

6) The Applicant will provide to the Authority and it's representatives all necessary facilities at all reasonable times to inspect the Site, and ensure that all permissions, consents and private or other rights are adequate to entitle the Authority or those authorised by it to gain access to the Site for any purpose connected with the carrying out of its statutory duties, powers and obligations. The Applicant will notify the Authority's Licensing & Permits Office at least **48 hours** prior to starting intrusive work on the Site and supply contact details of a nominated Site supervisor.

7) Should it be found necessary to significantly change the method of treatment, design or specification of the works from that contained in the application to the Authority, the prior permission of the Authority must be obtained before proceeding (such permission not to be unreasonably withheld).

8) The Applicant will take account of the possibility of unrecorded mine workings and unrecorded disused mine entries within the site.

9) The Applicant should be conversant with all current applicable legislation and will adopt appropriate practices and procedures for working and drilling in hazardous conditions associated with mine workings and mine entries and seek advice as necessary from suitably qualified persons. The Applicant should ensure that contractors are competent and have the necessary experience to enter mine workings.

10) Immediately on completion of each borehole it shall be temporarily plugged or sealed pending permanent sealing. Permanent sealing must be effected with a suitable cementatious based material. Such permanent sealing to be throughout the borehole to full depth, and to take place as soon as practicable, having regard to the proposals for site stabilisation.

11) A written report summarising the works carried out must be submitted to the Authority's nominated representative *within* **3 months** of the completion of operations. The report must include details of all excavations, gas and water encountered, treatment and stabilisation work carried out (including engineering drawings) and grout takes. Included in the report must be a plan to a reasonable scale, showing salient surface features and correlated to Ordnance Survey national grid, showing all boreholes and excavations, and the positions of mine entries and voids proved by the works.

12) The Applicant shall, for a period of 12 years from the date of commencement of the works, indemnify the Authority against liability for claims, losses or damages, including those made under the Coal Mining Subsidence Act 1991 and claims by the Applicant, whether arising as a result of any failure by the Applicant or the Applicant's contractors, to comply with the requirements of this permission, or as a result of any act, failure, inadequacy, omission, negligence or default by the Applicant or the Applicant's contractors in designing or carrying out the work.

13) All costs incurred in compliance with this permission shall be borne by the Applicant.

14) For the avoidance of doubt, this permission does not confer upon the Applicant nor anyone acting on his behalf any right whatsoever to explore for coal, win and work coal, or to explore for coal mine or coal-bed methane. Where it is necessary to dig and carry away coal as part of the development, separate prior written permission must be sought from the Authority.

15) The Applicant will be responsible for obtaining any necessary permission under Town and Country Planning and any other relevant legislation, and for notifying statutory undertakers and other relevant bodies of his intentions, and for establishing and protecting the positions of any services on the Site.

16) The Applicant will obtain all necessary consents from surface and mineral owners, to obtain access to, and occupy the Site, and to carry out operations in any mine or mineral not vested in the Authority.

17) If at any time the Authority considers the Applicant to be in breach of any of the obligations or conditions of this document, the Authority may terminate this permission, with immediate effect, by oral or written notice at which time all activities interfering with the Authority's interest must cease.

18) Where in the Authority's opinion, the proximity of any mine entry to a proposed new development is likely to increase its liabilities, the Applicant agrees to take a formal conveyance of the mine entries. All such mine entries shall be fully stabilised by the Applicant prior to the conveyance. The conveyance will be on the Authority's standard terms and conditions for a nominal sum. The purchaser will also be required to make a single payment of £200 (regardless of the number of mine entries being conveyed), towards the Authority's legal and other costs.

I agree to the terms and conditions set out by the Coal Authority in relation to:

Site Location: UNION ROAD, OLDBURY

Signed: RB Date: 25/06/10

(Please print clearly)

E-mail: RICHARDBROWN@HYDROCK.COM

Name: RICHARD BROWN Telephone: 01604 542588

Position: GEOTECHNICAL CONSULTANT

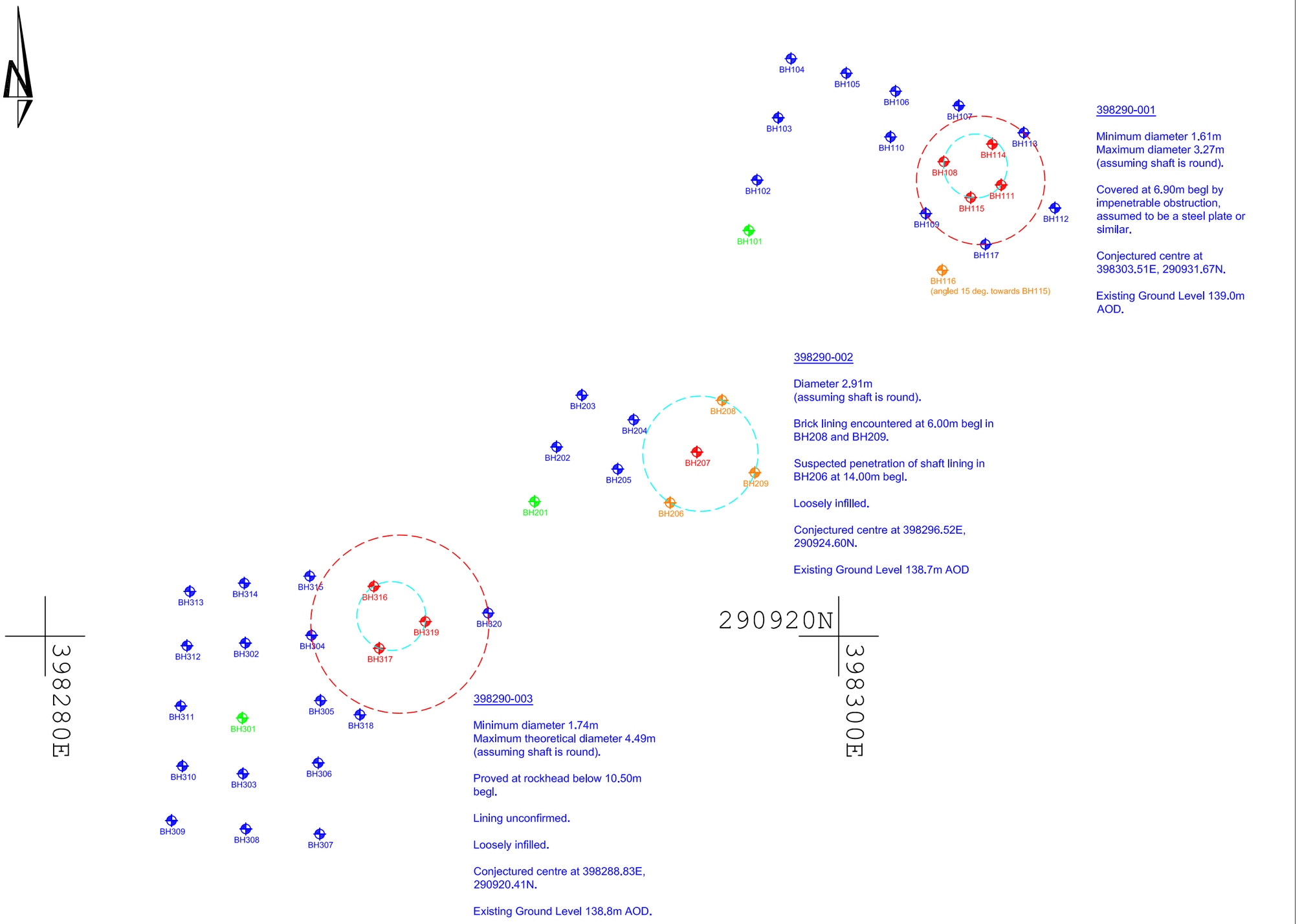
For and on behalf of: HYDROCK CONSULTANTS LTD

Please return this completed terms and conditions agreement to:

The Coal Authority, Licensing & Permits Office, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG or e-mail it to permissions@coal.gov.uk

Appendix D

GROUND INVESTIGATION PLAN



398290-001

Minimum diameter 1.61m
Maximum diameter 3.27m
(assuming shaft is round).

Covered at 6.90m begl by impenetrable obstruction, assumed to be a steel plate or similar.

Conjectured centre at 398303.51E, 290931.67N.

Existing Ground Level 139.0m AOD.

398290-002

Diameter 2.91m
(assuming shaft is round).

Brick lining encountered at 6.00m begl in BH208 and BH209.

Suspected penetration of shaft lining in BH206 at 14.00m begl.

Loosely infilled.

Conjectured centre at 398296.52E, 290924.60N.

Existing Ground Level 138.7m AOD

398290-003

Minimum diameter 1.74m
Maximum theoretical diameter 4.49m
(assuming shaft is round).

Proved at rockhead below 10.50m begl.

Lining unconfirmed.

Loosely infilled.

Conjectured centre at 398288.83E, 290920.41N.

Existing Ground Level 138.8m AOD.

Notes:

1. .

LEGEND

- BH001 — Initial Drillhole (Coal Authority recorded location)
- BH001 — Drillhole Encountering Rockhead
- BH001 — Drillhole Encountering Shaft / Obstruction
- BH001 — Drillhole Encountering Suspected Shaft Lining
- Minimum Proven Shaft Diameter (Assuming Shaft Plan is Round).
- Theoretical Maximum Shaft Diameter (Assuming Shaft Plan is Round).

Rev	Date	Description	Ckd	By

Hydrock
Unit 3, Hawthorn Park
Holdenby Road
Spratton
Northampton NN6 8LD
TEL: 01604 842 888
FAX: 01604 842 666
E-Mail: northampton@hydrock.com
or visit www.hydrock.com

Client
MAYER ENVIRONMENTAL

Project
EMR SITE, UNION ROAD, OLDBURY

Title
Ground Investigation Plan

Drawing Status
INFORMATION

Job No.
C10202

Drawn	Checked	Scale at A3	Date	Issue Date
RB	AB	1:100	16/08/10	16/08/10

Drawing No.
10202/D002

Revision
-

Appendix E

EXPLORATORY LOGS

DAILY RETURN
(Drilling)

SHEET 1 of 3.

DCE

Drilling Contracting & Environmental Limited

Date MON 19th JULY Working Day No. 1

Contract Name UNION RD, OLDBURY

Contract No. 5646

Dayworks Were Executed Today —

Daywork No.

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
		MOBILISATION TO SITE					
	1NO	CASAGRANDE C6 DRILLING RIG					
				C/W DRILL STRING.			
	1NO	600 COMPRESSOR					
	50MTR STEEL CASING						
	1NO	SHAFT PLATFORM					
	1½TON BAGGED O.P.C/BENTONITE						

				CREW	PLANT
			SHEET TOTAL	A. HORSFIELD	
			PREVIOUS SHEET TOTAL	K HORSFIELD	
			CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfall Date 19/7/10

Signed by CLIENT [signature] Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 2 of 3. PROBING SHAFT POSITION 3

Drilling Contracting & Environmental Limited

Date MON 19TH July Working Day No. 1

Contract Name UNION RD., OLDBURY

Contract No. 5646

Dayworks Were Executed Today —

Daywork No. —

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
	SHAFT PLATFORM POSITIONED OVER BH NOS 301, 302, 303.						
BH301	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH302	15-00	-	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT CLAY (WET)
					12-00	15-00	SANDSTONE/MUDSTONE
BH303	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT CLAY (WET)
					12-00	15-00	SANDSTONE/MUDSTONE
	SHAFT PLATFORM REMOVED TO ENABLE PROBING OF						
	SHAFT POSITION IN A SQUARE SPIRAL GRID						
	WITH BOREHOLE CENTRES AT 1-5m.						
3	45.0	—	SHEET TOTAL				
—	—	—	PREVIOUS SHEET TOTAL				
3	45.0	-	CUMULATIVE TOTAL				

CREW: A. HORSFIELD, K. HORSFIELD

PLANT: CATAGRANDE C6, 1000 COMP

Signed by D.C.E. K Horsfield Date 19/7/10

Signed by CLIENT R Brown Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 3 of 3. PROBING SHAFT POSITION 3

Date Mon 19th July Working Day No. 1

Contract Name UNION RD, OAKLEY

Contract No. 5646

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH304	15.00	–	5 1/8	V	000	10-80	OVERBURDEN
					10-80	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH305	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH306	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH307	15.00	–	5 1/8	V	000	10-20	OVERBURDEN
					10-20	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH308	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH309	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE

6	90.0	–	SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT CASAGRANDE C6 600 COMP.
3	45.0	–	PREVIOUS SHEET TOTAL		
9	135.0	–	CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield. Date 19/7/10

Signed by CLIENT R [illegible] Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 1 of 4

PROBING SHAFT POSITION 3.

Date TUES 20TH JULY Working Day No. 2

Contract Name UNION RD., OLDBURY

Contract No. S646

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH310	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH311	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH312	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH313	15-00	—	5 1/8	V	000	10-40	OVERBURDEN
					10-40	11-60	FIRM CLAY
					11-60	15-00	SANDSTONE/MUDSTONE
BH314	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE
BH315	15-00	—	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT CLAY (WET)
					12-00	15-00	SANDSTONE/MUDSTONE.

6	90-0	—	SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT CASAGRANDE C6 600 Comp.
9	135-0	—	PREVIOUS SHEET TOTAL		
15	225-0	—	CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield Date 20/7/10

Signed by CLIENT R B Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 2 of 4

PROBING SHAFT POSITION 3

Drilling Contracting & Environmental Limited

Date TUES 20TH JULY 10 Working Day No. 2

Contract Name UNION RD OLDBURY

Contract No. 5644

Dayworks Were Executed Today —

Daywork No. —

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH316	15.00	–	5 1/8	√	000	3.00	OVERBURDEN.
					3.00	15.00	VERY LOOSE FILL (N.A.R)
							(POSS SHAFT)
BH317	15.00	–	5 1/8	√	000	3.00	OVERBURDEN
					3.00	15.00	VERY LOOSE FILL (N.A.R)
							(POSS SHAFT)
BH318	15.00	–	5 1/8	√	000	10.50	OVERBURDEN
					10.50	12.00	FIRM CLAY
					12.00	15.00	SANDSTONE/MUDSTONE
BH319	15.00	–	5 1/8	√	000	3.00	OVERBURDEN
					3.00	15.00	VERY LOOSE FILL (N.A.R)
							(POSS SHAFT)
BH320	15.00	–	5 1/8	√	000	10.50	OVERBURDEN
					10.50	12.00	FIRM CLAY
					12.00	15.00	SANDSTONE/MUDSTONE
	THIS CONCLUDES PROBING FOR SHAFT POSITION 3						
	HOLE BOREHOLES BACKFILLED WITH CEMENT BENTONITE CAP.						
	SKETCH INDICATES BOREHOLE POSITIONS PLUS POSSIBLE SHAFT LOCATION.						

5	75.0	–	SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT CASAGRANDE C6 600 COMP.
15	225.0	–	PREVIOUS SHEET TOTAL		
20	300.0	–	CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield Date 20/7/10

Signed by CLIENT R Brown Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 3 of 4

DCE

PROBING SHAFT POSITION 2

Drilling Contracting & Environmental Limited

Date TUES 20TH JULY 10 Working Day No. 2

Contract Name UNION RD, OLDBURY

Contract No. 5696

Dayworks Were Executed Today —

Daywork No. —

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH201	15.00	—	5 1/8	V	000	10.20	OVERBURDEN.
					10.20	11.00	FIRM CLAY.
					11.00	15.00	SANDSTONE/MUDSTONE
BH202	15.00	—	5 1/8	V	000	10.00	OVERBURDEN
					10.00	11.00	FIRM CLAY
					11.00	15.00	SANDSTONE/MUDSTONE
BH203	15.00	—	5 1/8	V	000	10.00	OVERBURDEN
					10.00	11.20	SOFT CLAY (WET)
					11.20	15.00	SANDSTONE/MUDSTONE
BH204	15.00	—	5 1/8	V	000	10.00	OVERBURDEN
					10.00	11.30	FIRM CLAY
					11.30	15.00	SANDSTONE/MUDSTONE
BH205	15.00	—	5 1/8	V	000	10.00	OVERBURDEN
					10.00	11.30	FIRM CLAY
					11.30	15.00	SANDSTONE/MUDSTONE
BH206	18.00	—	5 1/8	V	000	10.00	OVERBURDEN
					10.00	11.40	FIRM CLAY
					11.40	14.00	SANDSTONE/MUDSTONE
					14.00	18.00	SOFT (POSSIBLEY KICKED OFF INTO STH)

6	93.0	—	SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT CASAGRANDE C6 600 Comp.
20	300.0	—	PREVIOUS SHEET TOTAL		
26	393.0	—	CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield Date 20/7/10

Signed by CLIENT RB Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 4 of 4.

PROBING SHAFT POSITION 2

Date TUES 20TH July 10 Working Day No. 2.

Contract Name UNION RD. OLDBURY

Contract No. S644

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH207	15-00	-	5'/8	V	000	6-00	OVERBURDEN
					6-00	15-00	VERY LOOSE FILL (N.A.K)
							(POSS SHAFT)
BH208	15-00	-	5'/8	V	000	6-00	OVERBURDEN
					6-00	10-50	RED BRICK ARISINGS
					10-50	15-00	SANDSTONE/MUDSTONE
							(POSSIBLY EDGE OF SHAFT)
BH209	15-00	-	5'/8	V	000	6-00	OVERBURDEN
					6-00	10-50	RED BRICK ARISINGS
					10-50	15-00	SANDSTONE/MUDSTONE
							(POSSIBLY EDGE OF SHAFT)
		THIS CONCLUDES PROBING FOR SHAFT POSITION (2)					
		ALL HOLES BACKFILLED WITH ARISINGS WITH CEMENT					
		BENTONITE CAP. SKETCH INDICATES BOREHOLE POSITIONS					
		PLUS POSSIBLE SHAFT LOCATION.					

3	45·0	—	SHEET TOTAL	CREW: A. HORSFIELD, K. HORSFIELD	PLANT: CASAGRANDE C6, 600 Comp'
26	393·0	—	PREVIOUS SHEET TOTAL		
29	438·0	—	CUMULATIVE TOTAL		

Signed by D.C.E. ..... Date .....

Signed by CLIENT R B Date 21/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 1 of 4

SHAFT PROBING POSITION 1

Drilling Contracting & Environmental Limited

Date WEDS 21ST July '10 Working Day No. 3

Contract Name CLONRO, OLDBURY

Contract No. S0446

Dayworks Were Executed Today —

Daywork No. —

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
		SHAFT PLATFORM			POSITIONED OVER BH NO 101, 102, 103.		
BH101	15.00	-	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
BH102	15.00	-	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
BH103	15.00	-	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
		SHAFT PLATFORM REMOVED TO ENABLE PROBING					
		OF SHAFT POSITION IN A SQUARE SPIRAL GRID					
		WITH BOREHOLE CENTRES AT 1.5m.					

3	45.0	-	SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT GRAIGKANDE C6 600 Comp.
29	438.0	-	PREVIOUS SHEET TOTAL		
32	483.0	-	CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield. Date 21/7/10

Signed by CLIENT R Date 22/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 2 of 4

DCE

SHAFT PROBING POSITION 1

Date Weds 21st July 10' Working Day No. 3

Contract Name Union Rd, Oldbury

Contract No. 5646

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH104	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	FIRM CLAY
					12-00	15-00	SANDSTONE/MUDSTONE (F.A.L)
BH105	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT WET CLAY
					12-00	15-00	SANDSTONE/MUDSTONE (HOLE WET)
BH106	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT WET CLAY
					12-00	15-00	SANDSTONE/MUDSTONE (HOLE WET)
BH107	15.00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT WET CLAY
					12-00	15-00	SANDSTONE/MUDSTONE (HOLE WET)
BH108	7-00	–	5 1/8	V	000	6-90	OVERBURDEN
					6-90	7-00	OBSTRUCTION (PROB STEEL PLATE)
BH109	15-00	–	5 1/8	V	000	10-50	OVERBURDEN
					10-50	12-00	SOFT WET CLAY
					12-00	15-00	SANDSTONE/MUDSTONE (HOLE WET)

6	82.0		SHEET TOTAL	CREW A. Horsfield K. Horsfield	PLANT CASAGRANDE C6 600 Comp.
32	483.0		PREVIOUS SHEET TOTAL		
38	565.0		CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield Date 21/7/10

Signed by CLIENT R B Date 22/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 3 of 4

DCE SHAFT PROBING POSITION 1

Date WEDS 21ST JULY Working Day No. 3

Contract Name UPTON RD., OLDBURY

Contract No. S6446

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH110	15.00	—	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
BH111	7.00	—	5 1/8	V	000	6.90	OVERBURDEN
					6.90	7.00	OBSTRUCTION (POSS STEEL PLATE)
BH112	15.00	—	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
BH113	15.00	—	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
BH114	7.00	—	5 1/8	V	000	6.90	OVERBURDEN
					6.90	7.00	OBSTRUCTION (POSS STEEL PLATE)
BH115	7.00	—	5 1/8	V	000	6.90	OVERBURDEN
					6.90	7.00	OBSTRUCTION (POSS STEEL PLATE)
BH116	9.00	—	5 1/8	15°	000	7.20	OVERBURDEN
					7.20	9.00	SOFT N.A.R (POSSIBLY PUNCH THROUGH SIDE 1.85M AWAY LAST HOLE SHAFT)

7	75.0		SHEET TOTAL	CREW A. HORSFIELD K. HORSFIELD	PLANT CASAGRANDE C6 600 Comp.
38	565.0		PREVIOUS SHEET TOTAL		
45	640.		CUMULATIVE TOTAL		

Signed by D.C.E. K Horsfield Date 21/7/10

Signed by CLIENT RVR Date 22/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

DAILY RETURN
(Drilling)

SHEET 4 of 4

DCE

SHAFT PROBING POSITION 1

Date DEDS 21st July 2010 Working Day No. 3

Contract Name UNION RD. OMAGH

Contract No. S646

Dayworks Were Executed Today —

Daywork No. —

Drilling Contracting & Environmental Limited

Hole No.	Depth	Casing	Dia	Angle	From	To	Description
BH117	15.00	-	5 1/8	V	000	10.50	OVERBURDEN
					10.50	12.00	SOFT WET CLAY
					12.00	15.00	SANDSTONE/MUDSTONE (HOLE WET)
		THIS CONCLUDES PROBING FOR SHAFT POSITION (1)					
		ALL BOREHOLES BACKFILLED WITH ARISINGS WITH CEMENT					
		BENTONITE CAP					
		SKETCH INDICATES BOREHOLE POSITIONS PLUS POSSIBLE					
		SHAFT LOCATIONS.					

1	15.00		**SHEET TOTAL**	**CREW** A. HORSFIELD K. HORSFIELD	**PLANT** CASAGRANDE C6 600 COMP.
45	640		**PREVIOUS SHEET TOTAL**		
46	655.0		**CUMULATIVE TOTAL**		

Signed by D.C.E. K Horsfield Date 21/7/10

Signed by CLIENT R Date 22/07/10

CLIENT COPY - WHITE
Q.S. COPY - YELLOW
SITE COPY - PINK

NO CLAIM CAN BE ACCEPTED UNLESS REPORTED IN WRITING WITHIN 14 DAYS OF THIS RETURN

Appendix 12

SGV/GAC Summary

Soil Guideline Values (SGVs)[1]

Chemical	Residential (mg/kg)	Allotments (mg/kg)	Commercial (mg/kg)
Cadmium	10	1.8	230
Inorganic Arsenic	32	43	640
Inorganic Mercury[2]	170	80	3,600
Elemental Mercury	1	26	26
Methylmercury	11	8	410
Nickel	130	230	1,800
Phenol	420	280	3,200
Selenium	350	120	13,000
Benzene	0.33	0.07	95
Toluene	610	120	4,400
Ethylbenzene	350	90	2,800
o-xylene[3]	250	160	2,600
m-xylene[3]	240	180	3,500
p-xylene[3]	230	160	3,200
Dioxins, Furans & Dioxin like PCBs[4]	8	8	240

[1] *Based on 6% Soil Organic Matter (SOM)*
[2] *The SGV for inorganic mercury can normally be compared to total mercury as the equilibrium concentration of elemental and methyl mercury is likely to be low. However, consideration should be given to determine if elemental or methyl mercury are likely to be present.*
[3] *If the source is suspected to be a fresh spill then the total xylene concentration can be compared to the m-xylene SGV. If composition of the source is unknown or weathered the most conservative value should be used.*
[4] *Comparison with the SGVs is only valid if the relative concentration of the individual congeners is consistent with the assumed generic profile which reflects inputs from general diffuse pollution rather than a relatively recent or specific point source. Where site specific profile is not similar to the generic profile a more detailed risk assessment may be required.*

The SGVs have been produced by the EA and DEFRA and can be used as Tier 1 Screening Values to assess if a site may cause 'significant potential of significant harm (SPOSH)'. The exceedance of a value does not necessarily indicate SPOSH. The values are based on generic land use scenarios and therefore it should be noted that if the actual site specific end use differs greatly from the generic scenario these values may not be relevant. Information on the framework the values are based on can be found in the EA Science Reports and the contaminant specific Toxicological data and Supplementary Information reports referenced at the end of this report.

Generic Assessment Criteria (GACs) – Inorganics[1]

Chemical	Residential (mg/kg)	Allotments (mg/kg)	Commercial (mg/kg)
Boron	291	45	192,000
Chromium III[2]	3,000	34,600	30,400
Chromium VI[2]	4.3	2.1	35
Copper	2,330	524	71,700
Vanadium	75	18	3,160
Zinc	3,750	618	665,000

[1] Based on 6% Soil Organic Matter (SOM)
[2] GACs have been derived for Chromium using toxicity data for both trivalent chromium (CrIII) and the more toxic hexavalent chromium (CrVI).

The GACs are used as Tier 1 Screening Values to assess if a site may cause 'significant potential of significant harm (SPOSH)'. The exceedance of a value does not necessarily indicate SPOSH. The values are based on generic land use scenarios and therefore it should be noted that if the actual site specific end use differs greatly from the generic scenario these values may not be relevant.

The GACs have been generated using the CLEA (V. 1.04) software and best practice as set out in the new reports 'Human Health Toxicological Assessment of Contaminants' (revised version of CLR9) and 'Updated Technical Background to the CLEA Model' (updated version of CLR10) released by the EA and DEFRA.

MAYER environmental

Generic Assessment Criteria (GACs) – Petroleum Hydrocarbons[1]

Chemical	1% SOM[2] (mg/kg)	2.5% SOM[2] (mg/kg)	6% SOM[2] (mg/kg)
Residential			
Aliphatic EC5-6	30	55	110
Aliphatic EC>6-8	73	160	370
Aliphatic EC>8-10	19	46	110
Aliphatic EC>10-12	93	230	540
Aliphatic EC>12-16	740	1,700	3,000
Aliphatic EC>16-35	45,000	64,000	76,000
Aliphatic EC>35-44	45,000	64,000	76,000
Aromatic EC 5-7 (benzene)	65	130	280
Aromatic EC >7-8 (toluene)	120	270	611
Aromatic EC >8-10	27	65	151
Aromatic EC >10-12	69	160	346
Aromatic EC >12-16	140	310	593
Aromatic EC >16-21	250	480	770
Aromatic EC >21-35	890	1,100	1,230
Aromatic EC >35-44	890	1,100	1,230
Aliphatic & Aromatic EC >44-70	1,200	1,300	1,300
Allotments			
Aliphatic EC5-6	740	1,700	3,900
Aliphatic EC>6-8	2,300	5,600	13,000
Aliphatic EC>8-10	320	770	1,700
Aliphatic EC>10-12	2.200	4,400	7,300
Aliphatic EC>12-16	11,000	13,000	13,000
Aliphatic EC>16-35	260,000	270,000	270,000
Aliphatic EC>35-44	260,000	270,000	270,000
Aromatic EC 5-7 (benzene)	13	27	57
Aromatic EC >7-8 (toluene)	22	51	120
Aromatic EC >8-10	8.6	21	51
Aromatic EC >10-12	13	31	74
Aromatic EC >12-16	23	57	130
Aromatic EC >16-21	46	110	260
Aromatic EC >21-35	370	820	1,600
Aromatic EC >35-44	370	820	1,600
Aliphatic & Aromatic EC >44-70	1,200	2,100	3,000
Commercial			
Aliphatic EC5-6	3,400	6,200	13000
Aliphatic EC>6-8	8,300	18,000	42,000
Aliphatic EC>8-10	2,100	5,100	12,000
Aliphatic EC>10-12	10,000	24,000	49,000
Aliphatic EC>12-16	61,000	83,000	91,000
Aliphatic EC>16-35	1,600,000	1,800,000	1,800,000
Aliphatic EC>35-44	1,600,000	1,800,000	1,800,000
Aromatic EC 5-7 (benzene)	28,000	49,000	90,000
Aromatic EC >7-8 (toluene)	59,000	110000	190,000
Aromatic EC >8-10	3,700	8,600	18,000
Aromatic EC >10-12	17,000	29,000	34,500
Aromatic EC >12-16	36,000	37,000	37,800
Aromatic EC >16-21	28,000	28,000	28,000
Aromatic EC >21-35	28,000	28,000	28,000
Aromatic EC >35-44	28,000	28,000	28,000
Aliphatic & Aromatic EC >44-70	28,000	28,000	28,000

[1] *GACs assume that free phase contamination is not present*
[2] *Soil Organic Matter (SOM)*

The GACs are used as Tier 1 Screening Values to assess if a site may cause 'significant potential of significant harm (SPOSH)'. The exceedance of a value does not necessarily indicate SPOSH. The values are based on generic land use scenarios and therefore it should be noted that if the actual site specific end use differs greatly from the generic scenario these values may not be relevant.

The GACs have been generated using the CLEA (V. 1.04) software and best practice as set out in the new reports 'Human Health Toxicological Assessment of Contaminants' (revised version of CLR9) and 'Updated Technical Background to the CLEA Model' (updated version of CLR10) released by the EA and DEFRA.

MAYER environmental

Generic Assessment Criteria (GACs) – Polyaromatic Hydrocarbons (PAHs)

Chemical	1% SOM[1] (mg/kg)	2.5% SOM[1] (mg/kg)	6% SOM[1] (mg/kg)
Residential			
Acenaphthene	210	480	1,000
Acenaphthlyene	170	400	850
Anthracene	2,300	4,900	9,200
Benzo(a)anthracene	3.1	4.7	5.9
Benzo(a)pyrene	0.83	0.94	1
Benzo(b)fluoranthene	5.6	6.5	7
Benzo(ghi)perylene	44	46	47
Benzo(k)fluoranthene	8.5	9.6	10
Chrysene	6.0	8	9.3
Dibenzo(ah)anthracene	0.76	0.86	0.9
Fluoranthene	260	460	670
Fluorene	160	380	780
Indeno(123-cd)pyrene	3.2	3.9	4.2
Naphthalene	1.5	3.7	8.7
Phenanthrene	92	200	380
Pyrene	560	1,000	1,600
Allotments			
Acenaphthene	34	85	200
Acenaphthlyene	28	69	160
Anthracene	380	950	2,200
Benzo(a)anthracene	2.5	5.5	10
Benzo(a)pyrene	0.6	1.2	2.1
Benzo(b)fluoranthene	3.5	7.4	13
Benzo(ghi)perylene	70	120	160
Benzo(k)fluoranthene	6.8	14	23
Chrysene	2.6	5.8	12
Dibenzo(ah)anthracene	0.76	1.5	2.3
Fluoranthene	52	130	290
Fluorene	27	67	160
Indeno(123-cd)pyrene	1.8	3.8	7.1
Naphthalene	4.1	9.9	23
Phenanthrene	16	38	90
Pyrene	110	270	620
Commercial			
Acenaphthene	850,000	98,000	100,000
Acenaphthlyene	84,000	97,000	100,000
Anthracene	530,000	540,000	540,000
Benzo(a)anthracene	90	95	97
Benzo(a)pyrene	14	14	14
Benzo(b)fluoranthene	100	100	100
Benzo(ghi)perylene	650	660	660
Benzo(k)fluoranthene	140	140	140
Chrysene	140	140	140
Dibenzo(ah)anthracene	13	13	13
Fluoranthene	23,000	23,000	23,000
Fluorene	64,000	69,000	71,000
Indeno(123-cd)pyrene	60	61	62
Naphthalene	200	480	1,100
Phenanthrene	22,000	22,000	23,000
Pyrene	54,000	54,000	54,000

[1] *Soil Organic Matter (SOM)*

The GACs are used as Tier 1 Screening Values to assess if a site may cause 'significant potential of significant harm (SPOSH)'. The exceedance of a value does not necessarily indicate SPOSH. The values are based on generic land use scenarios and therefore it should be noted that if the actual site specific end use differs greatly from the generic scenario these values may not be relevant.

The GACs have been generated using the CLEA (V. 1.04) software and best practice as set out in the new reports 'Human Health Toxicological Assessment of Contaminants' (revised version of CLR9) and 'Updated Technical Background to the CLEA Model' (updated version of CLR10) released by the EA and DEFRA.

Other Generic Assessment Critera Values Used

Chemical	Residential (mg/kg)	Allotments (mg/kg)	Commercial (mg/kg)
Lead	450	450	750

No GAC has been generated for lead as the toxicity data used to generate the SGV is based on blood lead levels which is not directly applicable to the new CLEA software. Therefore as no relevant toxicological data is currently available for this parameter and until such time as a new SGV is published under the new framework the old SGV value will continue to be used as an assessment tool.

References

Final SC050021/SR7 Compilation of Data for Priority Organic Pollutants for the Derivation of Soil Guideline Values
Final SC050021/SR3 Updated Technical Background to the CLEA Model
Final SC050021/SR2 Human Health Toxicological Assessment of Contaminants in Soil
Final SC050021/SR4 CLEA Software (Version 1.05) Handbook
SC050021/ SGV Introduction
SC050021/ Inorganic Arsenic SGV
SC050021/ Mercury SGV
SC050021/ Selenium SGV
SCO50021/ Nickel SGV
SC050021/ Benzene SGV
SC050021/ Toluene SGV
SC050021/ Ethylbenzene SGV
SC050021/ Xylene SGV
SC050021/ Phenol SGV
SC050021/Cadmium SGV
SC050021/ Dioxins SGV
SC050021/TOX1 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Inorganic Arsenic
SC050021/TOX3 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Cadmium
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Mercury
SC050021/TOX8 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Nickel
SC050021/TOX9 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Phenol
SC050021/TOX12 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Dioxins, Furans and Dioxin-like PCBs
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Selenium
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Benzene
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Toluene
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Ethylbenzene
SC050021 Contaminants in Soil: Updated collation of toxicological data and intake values for humans. Xylene
SC050021 Supplementary information for the derivation of SGVs for Arsenic
SC050021 Supplementary information for the derivation of SGVs for Mercury
SC050021 Supplementary information for the derivation of SGVs for Nickel
SC050021 Supplementary information for the derivation of SGVs for Selenium
SC050021 Supplementary information for the derivation of SGVs for Benzene
SC050021 Supplementary information for the derivation of SGVs for Toluene
SC050021 Supplementary information for the derivation of SGVs for Ethylbenzene
SC050021 Supplementary information for the derivation of SGVs for Xylene
SC050021 Supplementary information for the derivation of SGVs for Cadmium
SC050021 Supplementary information for the derivation of SGVs for Phenol
SC050021 Supplementary information for the derivation of SGVs for Dioxins, Furans and Dioxin-like PCBs

The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment 2nd Edition, 2009.