APPLICATION SITE REPORT

FOR PPC APPLICATION

Envirosol Environmental Management Facility Brownhills

11/02/2008

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Summary

This document represents the Site Report for Envirosol Environmental Management Facility Brownhills submitted as part of an application to the Environment Agency for a permit to operate an installation under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000.

Records of the site and surrounding areas have been reviewed in order to describe the condition of the site and, in particular, to identify any substance in, on or under the land that may constitute a pollution risk to the land. Pollution prevention measures have been identified and an assessment of pollution potential to land has been undertaken.

1.0 Introduction

This site report has been prepared by:
S A Simmonds
70, Walsall Wood Rd
Aldridge
Walsall WS 9 8QT
on behalf of Envirosol Ltd to support an application for a Permit required under the Pollution Prevention Control Regulations 2000 for a new hazardous waste treatment facility at

1.1. Site Location

The installation is located at Envirosol, Collier Close, Brownhills, Walsall WS8 7EU. The centre of the site is at National Grid Reference SK035052 The site covers an area of 0.49 Ha and can be seen in Figures 1 & 2 of Appendix A1.

The site comprises part of a large industrial premises formerly occupied by a foundry, with a separate small part of the premises occupied by a manufacturer of biodiesel from waste vegetable oils.

The site is situated on the northern side of Collier Close, an industrial area situated at the southern end of the Coppice Side Industrial estate. The site is surrounded to the immediate north, east and south by other industrial uses including metal work, engineering, plant hire and skip hire/waste transfer station. To the west the site is bounded by part of Brownhills Common and the Slough Site of Importance for Nature Conservation (SINC) comprising a former railway embankment with a greenway along the top and well vegetated embankments. Details of this are contained in Appendix C6.

The Wyrley & Essington canal runs approximately 40 metres to the south and south west of the site, beyond the neighbouring industrial units. Further afield, beyond the industrial units to the north, at approximately 400 metres distance, lies Brownhills Common and to the east at approximately 200 metres distance is a completed and capped landfill. The nearest domestic occupancy is approximately 300m to the south of the site along Pelsall Rd.

1.2. Details of Installation

The following description of the operations to be conducted under the permit is as shown in Part B of the permit application form

D9 – this consists of the crushing or shredding of waste drums using purpose built crushing and shredding equipment.
D13 – this consists of the bulking of same type wastes, following compatibility checking, into larger containers for subsequent storage on site prior to removal to final disposal, or for removal directly from site for disposal elsewhere.
D15 – this consists of the storage of hazardous wastes within the specified bunded storage bays or containers within the site as shown on the site layout drawing CHEM/SAS/10 in Appendix A3

The site is a new facility.

2.0 Objectives

The objectives of this report are:

To satisfy the requirements of the PPC Regulations at time of permitting by:

- Identifying the environmental setting and land pollution history of the site;
- Identifying activities that will be conducted at the installation that may lead to land pollution;
- Identifying and assess the preventative measures that are in place to protect the land; and
- Assessing whether there is:

    1. little likelihood that land pollution or leaks to land will occur during the future life of the installation;

    or there is:

    2. a reasonable possibility that there is potential for current or future land pollution of the land from the installation.

3.0 Site Setting and Sources of Desk Study Information

3.1. Introduction

The following sections detail the sources of desk study information searched in order to describe the condition of the installation and, in particular, to determine the potential for substances to be present in, on or under the land associated with present and past uses of the site and its surrounding areas.

3.2 Environmental Consents, Licences, Authorisations, Permits and Designations for the Site and Surrounding Area

The Landmark Information Group was requested to provide records of any Discharge Consents, Waste Management Licences, Abstraction Licences, IPC Authorisations, PPC Permits and Land Drainage Consents for the site and within 1000 metres of the site boundary.

Severn Trent Water was requested to provide details of any Trade Effluent Consents for the site.

English Nature and Walsall MBC were requested to provide details of any Nature Conservation Designations for the site and within 10 kilometres of the site boundary. The locations of Designated Sites within the vicinity of the site are shown in Figure1 in Appendix A5.

Their responses are contained in Appendix C1.

3.3 Geological, Hydrogeological and Hydrological Data

Geological and hydrogeological information for the site was obtained from the following sources and is reproduced in Appendix C2, and a geological map is included as Figure 1 of Appendix A2.

BGS Sheet 154 Lichfield 1 to 50000 Scale map
BGS Sheet SK00NW 1 to 10000 Scale map
Environment Agency Groundwater Vulnerability Map Sheet 22 South Staffs & East Shrops
Environment Agency Source Protection Zone Map
BGS Borehole Archive Data for a 1 km radius around the centre of the site.
Hydrological data was obtained from the Environment Agency for the water courses within 250m of the installation. This is reproduced in Appendix C3

3.4 Site Operational Records, Emergency Response Records and Records of any Land Pollution Incidents in the Vicinity of the Site

There are no Site Operational Records, nor Emergency Response Records as the site is not yet operational

The Environment Agency, *via* Landmark Information Group was approached to provide records of any land pollution incidents associated with the site and within 1000 metres of the site boundary, the response to which is also included within Appendix C4.

Site operational layout plans, including the location and nature of underground services and pipelines are shown in Appendix A3.

The location of product storage areas are shown in Appendix A6.

Site foul and surface water drainage plans are included in Appendix A4.

3.5 Existing Site Investigation and Assessment Reports

There has been no previous relevant site investigation or assessment undertaken at this site.

3.6 Other Information

The following additional sources of information have been queried and the results are shown in Appendix C6.

The Multi-Agency Geographic Information for the Countryside
Historical OS Maps

4.0 Site Reconnaissance

4.1. Introduction

The site reconnaissance was undertaken on 17th December by Martin Dale and Stephen Simmonds on the area shown on Figure 1 of Appendix B1.

The purpose of the reconnaissance was to inspect the site and surrounding area for indicators of potential land pollution. Site infrastructure was visually inspected to assess its competence and potential to cause or have caused releases to land.

The following site features were inspected and as a result any indicators of potential areas of land pollution are shown in Appendix B1.

- Concrete surface within the installation
- Wyrely & Essington Canal
- Adjacent SINC
- Unnamed pond close by

Photographs of features are included in Appendix B2.

4.2 Storage Tanks and Associated Pipe Work

There are no storage tanks or pipework on the installation

4.3 Hardstanding and Bunds

The land below the installation is completely covered by an impervious concrete pavement, and is fully roofed.
Integrity testing, other than visual inspection, has not taken place. There is no obvious cracking or damage.
Bunding of areas is to take place as shown on drawing CHEM/SAS/10 in Appendix A3

4.4 Vegetation

There is no vegetation cover within the boundary of the installation, nor its wider site.
The western edge of the site borders on a SINC, “Brownhills and the Slough”. Visual inspection showed no evidence of stress in the vegetation

4.5 Surface Water Features

There are no surface water features within the boundary of the site
The Wyrley and Essington Canal passes the site at a closest distance of 40m to the southwest. Inspection showed nothing untoward for the river quality stated.

4.6 Nature of the Storage and Handling of Materials

No materials are stored or handled at the site at present, but the proposed procedures and site improvements give no cause for concern.

4.7 Surface Water and Foul Drainage

Drainage of the site is illustrated in Appendix A4. It appeared to be working adequately, but no CCTV inspections had been undertaken.

It was noted that some manholes within the storage areas were not sealed, or colour-coded, but this is allowed for in the Working Plan

5.0 Assessment of Land Pollution Potential

NB. The previous chapters have dealt with the site as it is now – an empty building, as the installation is not yet constructed. The following chapters will deal with the proposed installation as it will be.

5.1. Polluting Substances and Relevant Activities

A list of all substances used, stored, manufactured (or waste by-products from the manufacturing process) is contained in Appendix D1. An assessment of their pollution potential has been made based upon their properties, toxicity and volume stored, used or manufactured. Those substances thus identified in Appendix D1 have been taken forward to 5.2 below.

5.2. Preventative Measures

The proposed pollution preventative measures (physical infrastructure and those relating to testing, inspection and maintenance) for each relevant activity associated with the potentially polluting substances have been identified and their extent and condition assessed. The results of this work are shown in Appendix D2.

Plans showing the location of these activities are shown in Appendix A6 and A7.

5.3. Assessment of the Likelihood of Land Pollution

Appendix D2 contains an assessment of the likelihood of land pollution from the installation.

For all relevant activities at the installation there is little likelihood that land pollution or leaks to the land will occur during the future life of the installation. It is the conclusion of this report that reference data for the site does not need to be collected.

6.0 Conceptual Site Model

6.1. Geology and Hydrogeology

The geological sequence beneath the site is as follows:

1 Made ground
2 Possibly some Glacial Till
3 Bedrock - Pennine Lower Coal Measures

This can be seen in cross-section form in Figure 1 and in plan form in Figures 2 to 6 in Appendix A2.

6.1.1 Made Ground

The area is currently being resurveyed. Work in progress shows the northern part of the site (area shown red on OS 1:2500 site map) to be underlain by Made Ground. A thickness of 3 m is estimated, comprising mainly of soft to firm, silty, sandy clay or stiff to very stiff clay. These deposits include common quartzite pebbles, with the presence of brick fragments, pottery and concrete indicating that the deposits are artificial. Colliery spoil is also likely to be common, associated with an area of old shafts.
The western flank of the site is underlain by Made Ground associated with a disused railway embankment. The thickness and nature of the deposits is not recorded, but is likely to comprise ballast (gravel), but with the possibility of timber and coal debris.
The southern part of the site (area shown blue on OS 1:2500 site map) is underlain by the former West Coppice opencast site. The site has been backfilled, though we have no record of the thickness or nature of the Infilled Ground deposits. From determination of the coals worked at the site it is inferred that the infilled excavation must have been at least 15 m deep

The soil leaching potential is assigned a worst case value of high (urban) as the soil has been removed or disturbed in this area. If overlain by low permeability Superficial Deposits (Till) this is likely to be thin and unlikely to provide any significant degree of protection against surface pollution.
Shallow groundwater is possible within 5 metres of the ground surface depending upon the composition of Artificial Deposits and/or bedrock.

6.1.2 Superficial Deposits

The published map shows the northern part of the site to be underlain directly by bedrock and the southern part to be underlain by glacial Till deposits. However, the published map of 1961 predates the opencast activity, with the associated excavation removing the Till deposits. Thin remnants of Till, probably comprising less than 1 m thickness of pebbly and gravelly clay, may be present in the vicinity of the railway embankment, along the western flank of the site.

The Till is not generally regarded as an aquifer although small, often discrete bodies of groundwater may be encountered if more sandy and gravelly horizons are present within the deposit. Some boreholes in the vicinity of the site have been recorded as remaining dry during drilling through Till but some recorded water strikes within sand

and gravel horizons in the Till, sometimes more than one strike being recorded in the same borehole.

6.1.3 Bedrock

The site is underlain by strata of the Pennine Lower Coal Measures of Langsettian (early Westphalian) age. The succession is dominated by medium- to dark-grey mudstone and siltstone, with subordinate pale grey sandstone, coal, seatearth fireclays and ironstones. The formation is about 100 m thick beneath the site. The regional dip of the succession is about 5°
towards the north-west.
The Yard (or New Mine) Coal is about 1.0 m thick and occurs at outcrop along the western part of the site, extending north – south along, and parallel to, the eastern part of the railway embankment. The Bass (or Five Foot) Coal is 1.8 to 2.5 m thick and occurs about 15 m beneath the Yard Coal. The Cinder (or Fireclay) Coal is 1.2 m thick and occurs about 27 m below the Yard Coal. It is the Bass and Cinder Coals that are believed to have been worked in the opencast site. Deeper seams, the Shallow Coal (2.0 m thick) and Deep Coal (0.9 to 2.1m thick) occur at depths of 33 m and 51 m below the Yard Coal, respectively.

Argillaceous strata predominate in the Coal Measures Group, acting as aquitards or aquicludes. They isolate the occasional thicker sandstone horizons that, under natural conditions, effectively act as separate aquifers. Coal Measures Group sandstones are generally fine grained, very well cemented, extremely hard and dense and in consequence possess little primary porosity or intergranular permeability. Groundwater storage and movement occurs predominantly within and through fractures in the sandstones; thus, the amount of water encountered in any excavation, including boreholes, is dependent on the number, size and degree of interconnection of fractures encountered in a productive horizon. Water may rise above the level at which it is first struck.

Sandstone outcrop areas are often small, limiting the amount of recharge that can infiltrate to individual sandstone units. Extensive faulting has frequently split previously continuous sandstone horizons into disconnected isolated fault-bounded blocks, to which little or no direct recharge can occur, as is the case beneath this site. Where undermining of coal has occurred, the natural hydrogeological conditions of the Coal Measures Group will have been disrupted by the creation of open shafts, roadways and galleries, as well as collapsed disused workings and by producing subsidence-induced fractures. These features may have created hydraulic continuity between layers that were previously isolated and, in some places, between aquifer horizons and flooded disused workings.

BGS holds very little information regarding the likely depth to water in the Coal Measures Group at this site. Shallow groundwater may be present in sandstones of the Coal Measures Group where located at or near the surface and small quantities of water may be encountered in the upper weathered zone of the finer grained horizons (e.g. siltstones) of the Coal Measures Group. BGS holds no water quality data from the Coal Measures Group strata in this area. However the natural quality of shallow groundwater in the Coal Measures Group is typically reasonably good but hard and dominated by calcium and bicarbonate ions. In contrast, water from deep mines may be poor with a total hardness in excess of 1000 mg/l (as $CaCO_3$), sulphate in excess

of 500 mg/l, chloride ion concentration in excess of 500 mg/l and iron concentrations may exceed 30 mg/l.

Mining activities tend to lower water tables compared with natural conditions, particularly where the shafts are actively dewatered by pumping. Once mine dewatering ceases, and water levels naturally rebound, the quality of groundwater in the Coal Measures Group may be worse than before. This is because the oxidation state of minerals in the rocks may have changed in the time that the strata were dewatered, increasing their solubility in water, often resulting in poor quality groundwater when the former workings flood.

The Pennine Lower Coal Measures beneath the site are classified as a Minor Aquifer on the Environment Agency's Groundwater Vulnerability map, Sheet 22, South Staffordshire and East Shropshire. The soil leaching potential is assigned a worst case value of high (urban) as the soil has been removed or disturbed in this area. If overlain by low permeability Superficial Deposits (Till) this is likely to be thin and unlikely to provide any significant degree of
protection against surface pollution.

6.1.3 Additional Geological Considerations

No geological faults are shown beneath the site.
The site is located on an outcrop of productive Coal Measures strata, and may therefore have been affected by past underground mining. Past mining activities that were not documented may have occurred; these may include the construction of shafts and adits or, in the case of ancient shallow mining, the extraction of coal by means of bell-pits and pillar and stall workings. Any of these activities can give rise to voids at shallow or intermediate depths.
Settlement into such voids has the potential to cause fracturing, general settlement or the formation of crown-holes in the ground above.
The site is shown to have been worked for coal, both from opencast and shallow mining. Old shafts are noted on the published map occurring in the northern part of the area. The locations of individual shafts are not provided on this geological map or available topographical maps. A shaft is recorded at [40354 30539] and a mine adit at [40355 30538], both probably accessing the Bass Coal, occurring about 50 m to the east of the site. As described above, the southern part of the site has been worked from the ground surface via opencast workings.

6.2. Surface Water Features

The surface water features in the vicinity of the site are shown on Figure 2 of Appendix A5 and are as follows:

The Wyrley and Essington Canal (closest approach 40m) River Quality B/C
An unnamed pond approximately 50 West of the site.

Surface water drainage for the site is shown in Appendix A4.

Groundwater beneath the site is not in hydraulic continuity with The Wyrley and Essington Canal. It is assumed that the canal is lined with clay, and therefore is not in continuity with the ground water.

6.3. Results of Previous Investigations/Assessments

There have been no previous Investigations/Assessments

6.4. Other Receptors

A SSSI, Clayhanger Site Ref: 15WP4, lies within 500m of the installation. It is a wetland site. It is considered that the proposed pollution prevention measures outlined in this report preclude any damage to this SSSI.

6.5. Land Pollution History

Details of any land and/or groundwater pollution events as identified through desk study research are contained in Appendix C4. None are associated with the past activities of the site.

6.6. Site Zoning

The site has been divided into a series of zones based upon the site setting and the possible (and actual) location of potentially polluting substances. These zones are shown in Appendix A7. Pollutant sources within each zone are shown as in Appendix A6. Table 2 below has been split up on the basis of these Zones.

Zone 1: Storage of wastes, in original containers, segregated according to mutual reactivity, and bulking to larger containers
Zone 2: Offloading, handling, identification of incoming wastes, and internal transport to Zone 1
Zone 3: Crushing and shredding of nominally empty containers
Zone 4: Welfare, laboratory and office facilities.

6.7. Summary Conceptual Site Model (CSM)

6.7.1. Introduction

The findings of the desk study and site reconnaissance (detailed above) have been used to develop the conceptual site model (CSM) for the site. Uncertainties in the CSM are identified and their significance discussed.

6.7.2. Graphical Representation of the CSM

Graphical representations of the CSM have been produced and are shown in Appendix E2.

6.7.3. Uncertainties in the CSM

In developing the conceptual model for the site the following assumptions have been made:

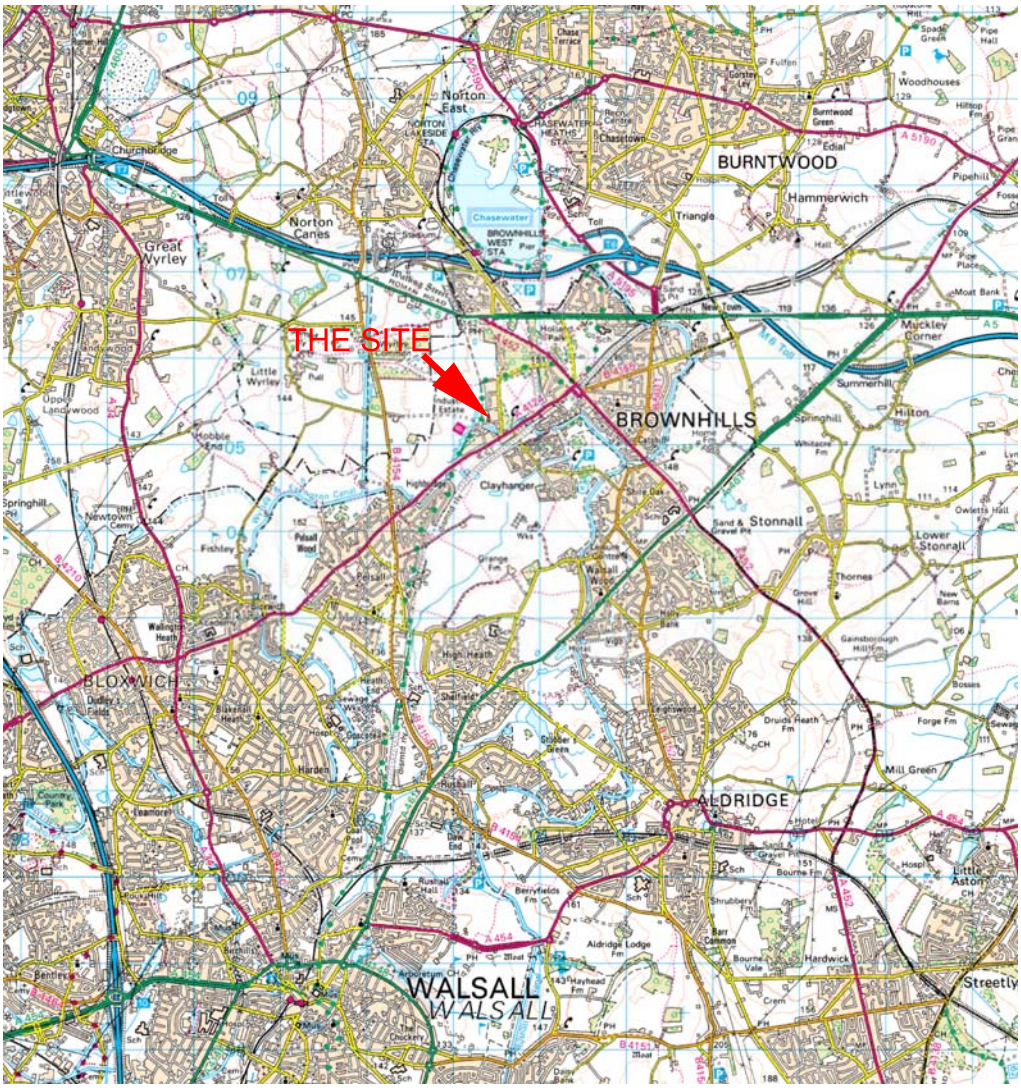
- Hydrogeological conditions beneath the site (assuming depth to water table, permeability of strata etc).
- Using values for environmental parameters from literature sources rather than determining site-specific values.

Due to the multi-layered passive pollution prevention measures proposed, the significance of these assumptions is not great

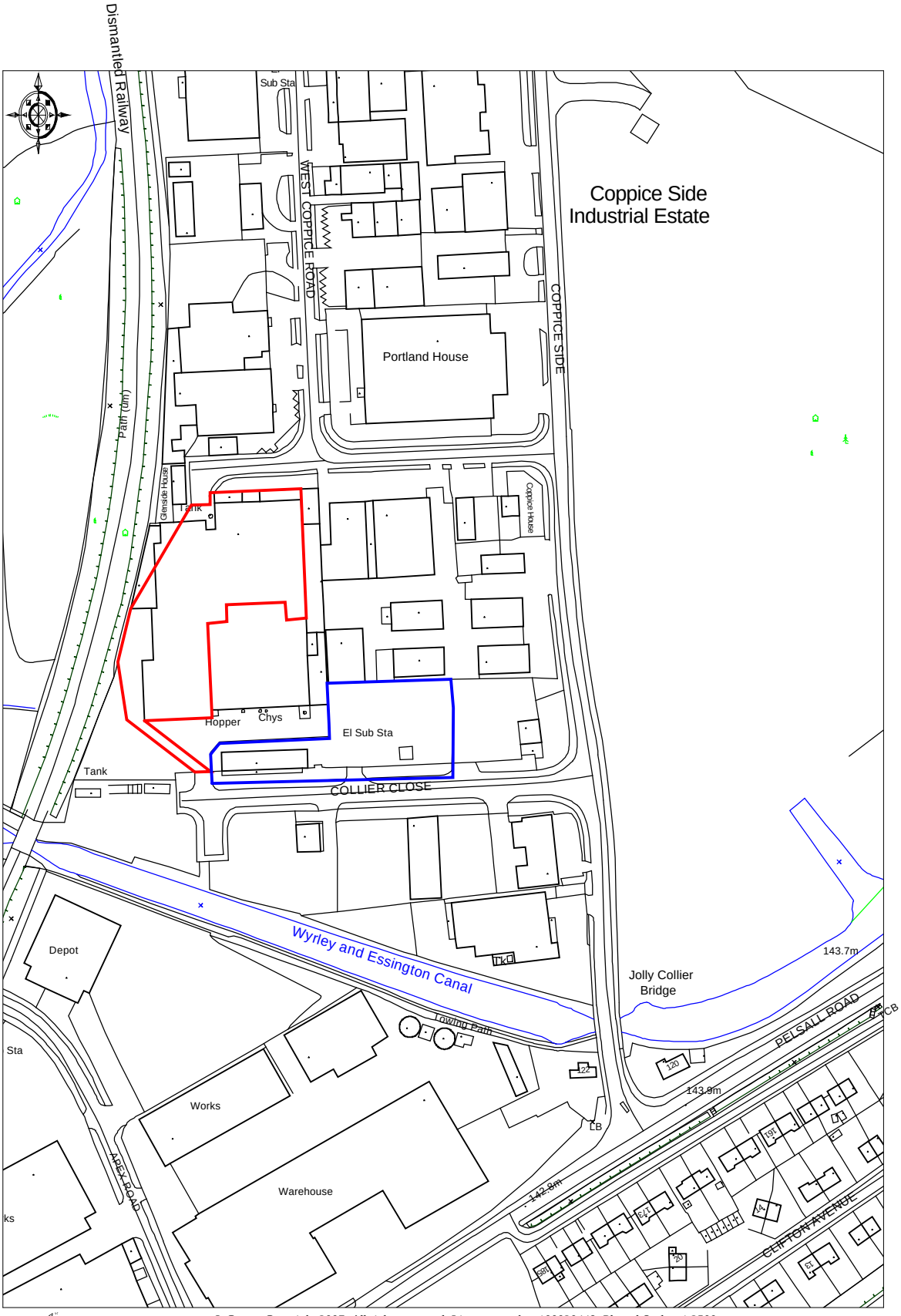
Appendix A - Figures and Maps

A1 Site Location Plans
A2 Geological Maps and Cross Sections
A3 Site Layout Plans
A4 Site Drainage Plans
A5 Plans Showing the Location of Sensitive Receptors
A6 Plans Showing the Location of Contaminant Sources
A7 Plans Showing Zones

A1 Site Location Plans


THE SITE
BURNTWOOD
BROWNHILLS
ALDRIDGE
WALSALL
WALSALL
BLOXWICH
Norton East
Norton Canes
Great Wyrley
Little Wyrley
Clayhanger
Stonnall
Lower Stonnall
Hammerwich
Chasewater
Mill Green
Streetly

CHEMTECH WASTE MANAGEMENT LTD
SITE LOCATION PLAN
DWG NO SAS/CHEM/O1



A2 Geological Maps and Cross Sections

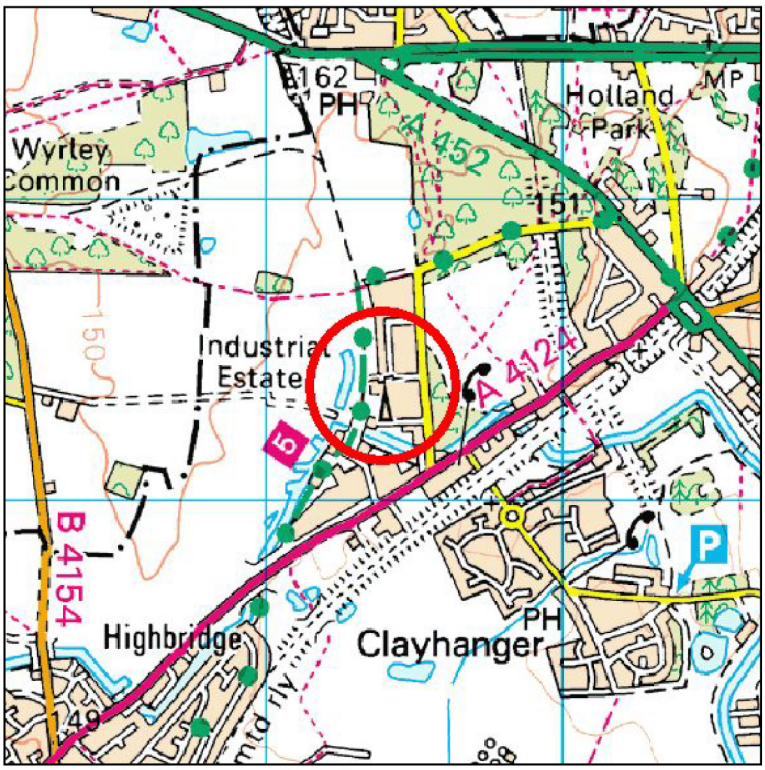
Section 1: Location and extent of report area

Site Address:
J B Patterns Ltd.,
Collier Close,
Brownhills,
Walsall,
WS8 7EU

Area centred at: *403530 305230 (grid reference obtained from Ordnance Survey AddressPoint)*

Radius of site area: *250 metres*

This report is based on the above location details. However, where the client has submitted a site plan, it is used for the assessment in Sections 2, 3 and 4.



Scale: 1:25000 (1cm = 250m)

SITE LOCATION

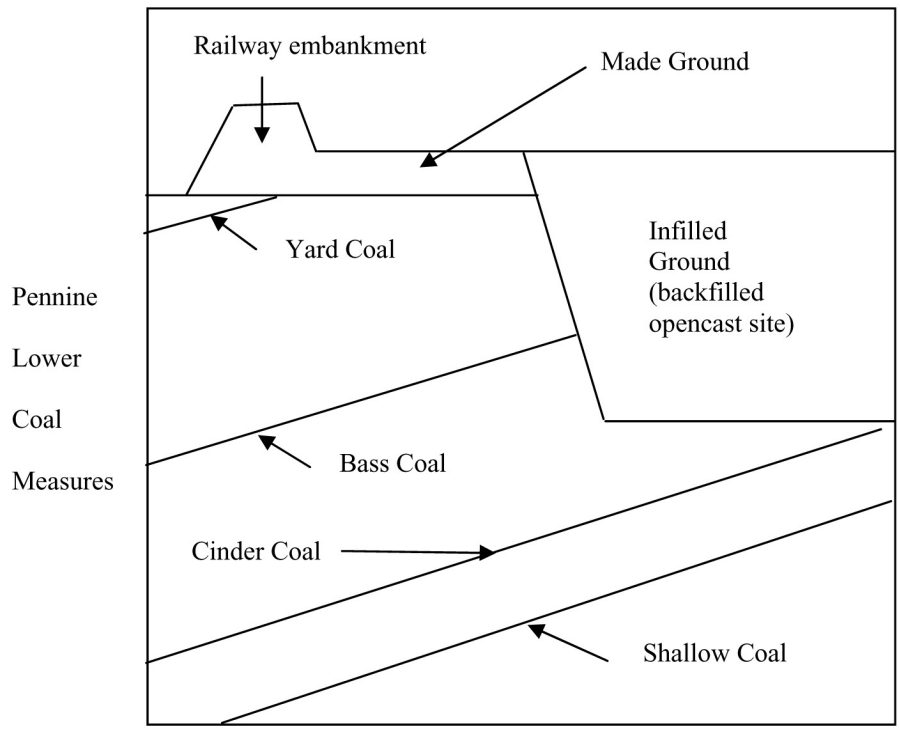
Figure 1

Section 4: Schematic Geological Cross-Section of the Site

Not to scale

grid ref of NW side of site
[40330 30540]

grid ref of SE side of site
[40350 30530]



This sketch represents an interpretation of the geometrical relationships of the main rock units described in the text. Not to scale.

Geological maps

The first four maps show separately the four main layers of geology that may be present in an area –

artificial (man-made) deposits,

landslip deposits,

superficial deposits and

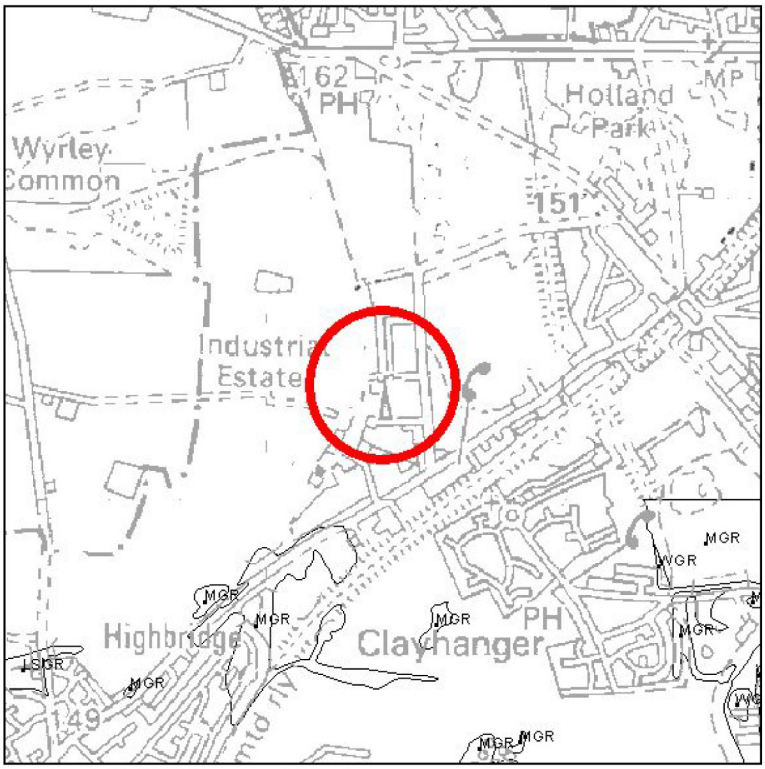
bedrock.

The fifth '**combined geology**' map shows all four rock layers superimposed on the same map, to show the rocks that occur at the surface just beneath the soil.

Figure 2

Artificial deposits

These include deposits moved and disturbed by man.



Scale: 1:25000 (1cm = 250m)

SITE LOCATION

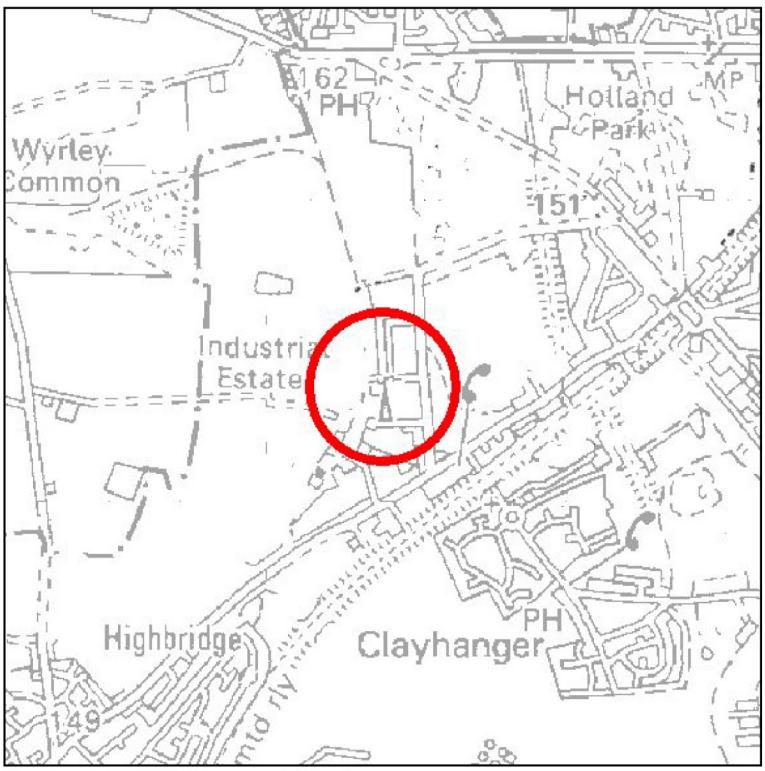
Key to Artificial deposits:

Map colour	Computer Code	Rock name	Rock type
☐	LSGR	LANDSCAPED GROUND (UNDIVIDED)	UNKNOWN LITHOLOGY
☐	MGR	MADE GROUND (UNDIVIDED)	MADE GROUND (COMPOSITION UNSPECIFIED)
☐	WGR	WORKED GROUND (UNDIVIDED)	VOID

Figure 3

Landslip deposits

These include natural deposits formed by sliding and mass-movement of soils and rocks on hill slopes (an alternative term for Landslip deposits is 'Mass Movement Deposits').



Scale: 1:25000 (1cm = 250m)

SITE LOCATION

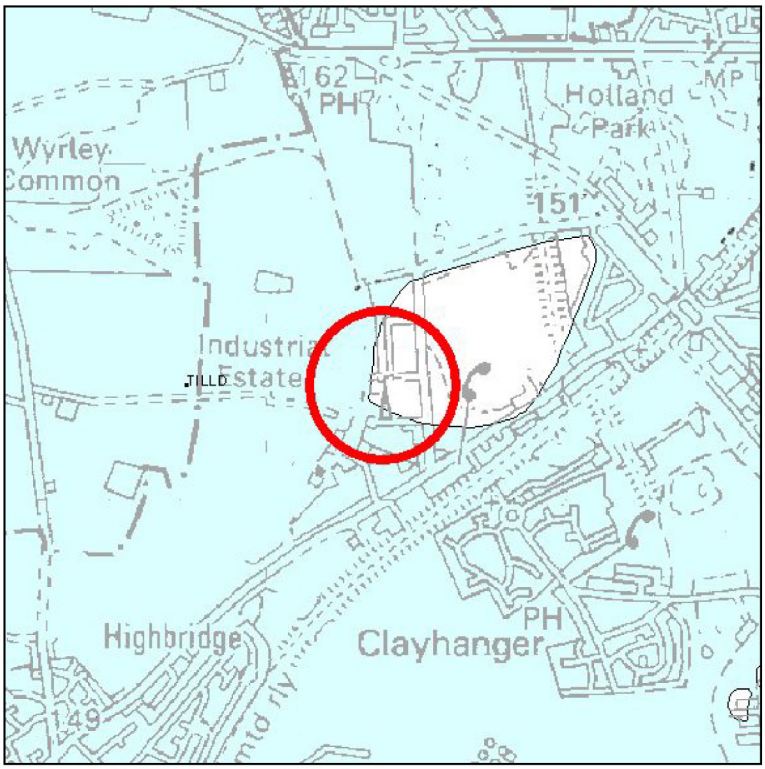
Key to Landslip deposits:

No deposits are mapped in the search area

Figure 4

Superficial deposits

These include fairly recent geological deposits, such as river sands and gravels, or glacial deposits, which lie on the bedrock in many areas (an alternative term for Superficial deposits is 'Drift Deposits').



Scale: 1:25000 (1cm = 250m)

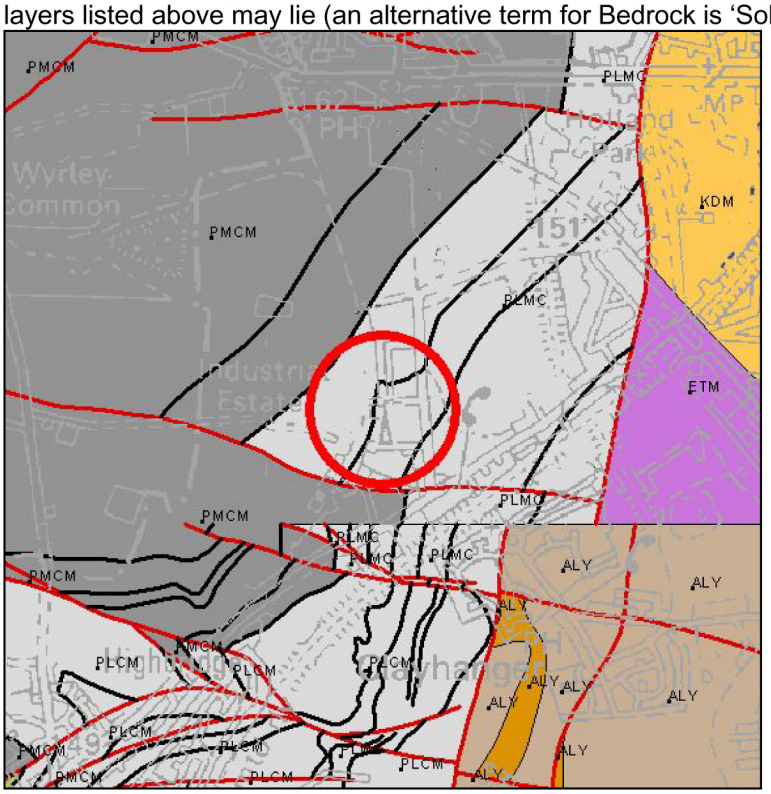
SITE LOCATION

Key to Superficial deposits:

Map colour	Computer Code	Rock name	Rock type
	TILLD	TILL, DEVENSIAN	DIAMICTON

Figure 5 **Bedrock**

Bedrock forms the ground underlying the whole of an area, upon which the other geological layers listed above may lie (an alternative term for Bedrock is 'Solid Geology')



Scale: 1:25000 (1cm = 250m)

SITE LOCATION

Fault

Coal, ironstone or other mineral vein

Note: Faults and Coals, ironstone & mineral veins are shown for illustration and to aid interpretation of the map. Not all such features are shown and their absence on the map face does not necessarily mean that none are present.

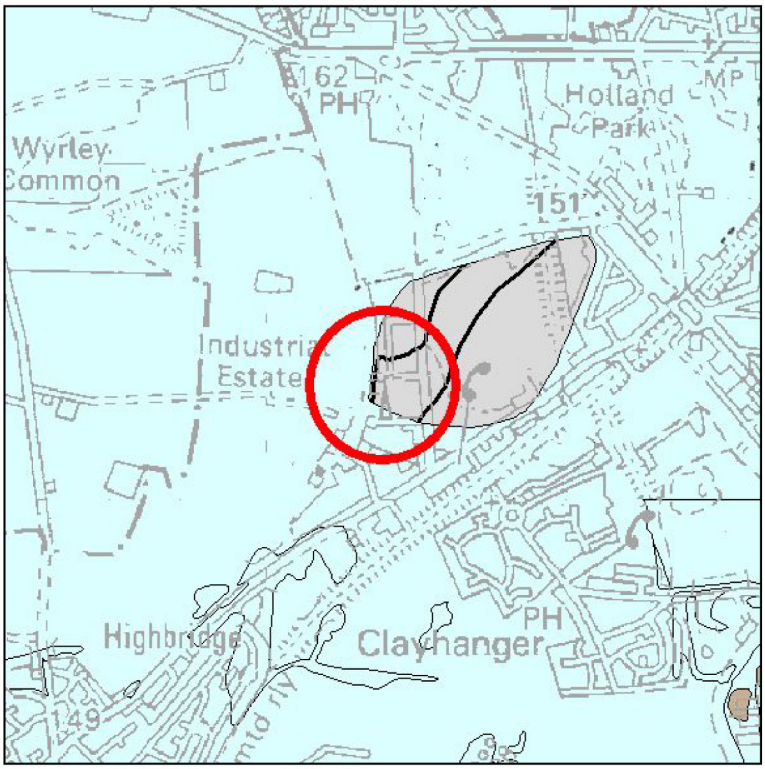
Key to Bedrock geology:

Map colour	Computer Code	Rock name	Rock type
	KDM	KIDDERMINSTER FORMATION	SANDSTONE AND CONGLOMERATE, INTERBEDDED
	ALY	ALVELEY MEMBER	MUDSTONE AND SANDSTONE
	ALY	ALVELEY MEMBER	SANDSTONE
	ETM	ETRURIA FORMATION	MUDSTONE, SANDSTONE AND CONGLOMERATE
	PMCM	PENNINE MIDDLE COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
	PMCM	PENNINE MIDDLE COAL MEASURES FORMATION	SANDSTONE
	PLCM	PENNINE LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
	PLMC	PENNINE LOWER COAL MEASURES FORMATION AND PENNINE MIDDLE COAL MEASURES FORMATION (UNDIFFERENTIATED)	MUDSTONE, SILTSTONE AND SANDSTONE

Figure 6

Combined 'Surface Geology' Map

This map shows all four rock layers overlaid from the previous maps.



Scale: 1:25000 (1cm = 250m)

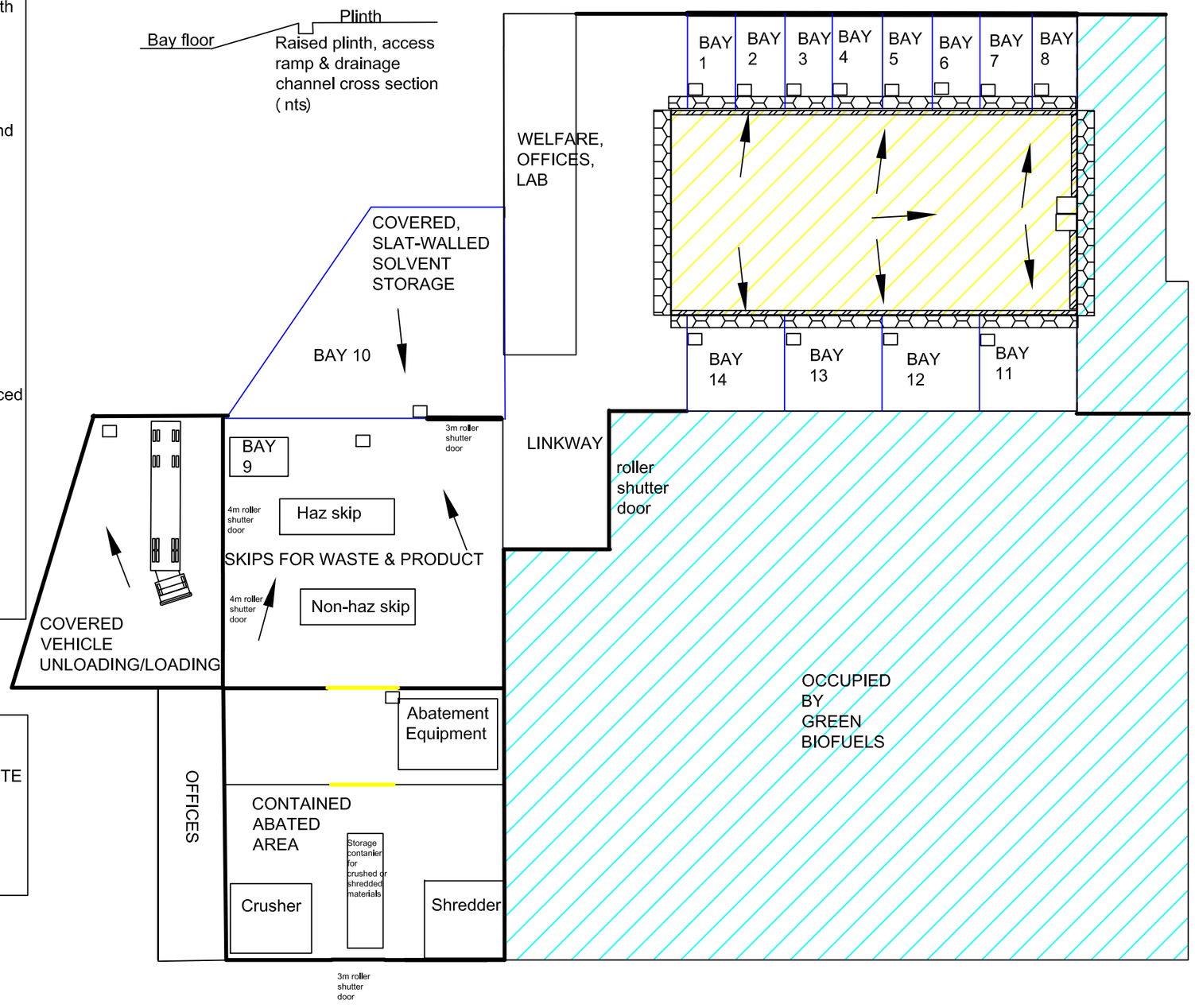
SITE LOCATION

Please see the Keys to the Artificial, Landslip, Superficial and Bedrock geology maps.

A3 Site Layout Plans

KEY

- 300mm raised concrete plinth with ramped access to storage bays providing 25% bund capacity
- 2m bay wall with 300mm integral bund
- Min 150mm high bund
- Min 300mm high bund
- Area excluded from site operations
- 100L drainage sump
- 1000L drainage sump
- Falls in concrete
- Min 200mm depth steel reinforced concrete (all waste handling, storage and operational areas)
- Access ramp for plinth
- Drainage Gully along access ramp
- Fast acting Roller Shutter door



DRAWING NO. CHEM/SAS/10

ENVIROSOL LTD BROWNHILLS SITE LAYOUT

SCALE: 1 : 400 @ A3

DATE: February 2008

1m
10m

A4 Site Drainage Plans

KEY

300mm raised concrete plinth with ramped access to storage bays providing 25% bund capacity

2m bay wall with 300mm integral bund

Min 150mm high bund

Min 300mm high bund

Area excluded from site operations

100L drainage sump

1000L drainage sump

Falls in concrete

Min 200mm depth steel reinforced concrete (all waste handling, storage and operational areas)

Access ramp for plinth

Drainage Gully along access ramp

Foul Water System

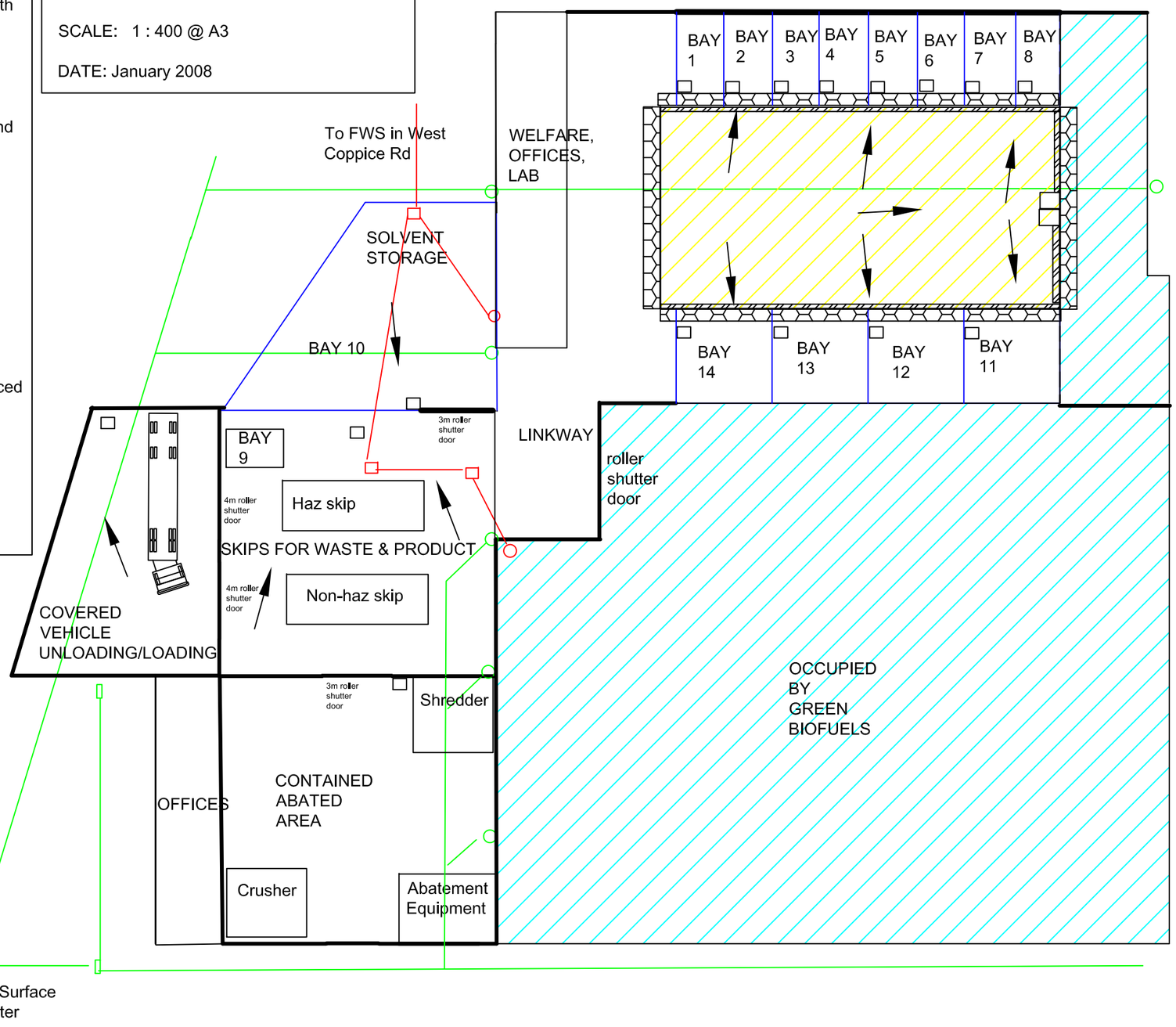
Surface Water System

DRAWING NO. CHEM/SAS/11

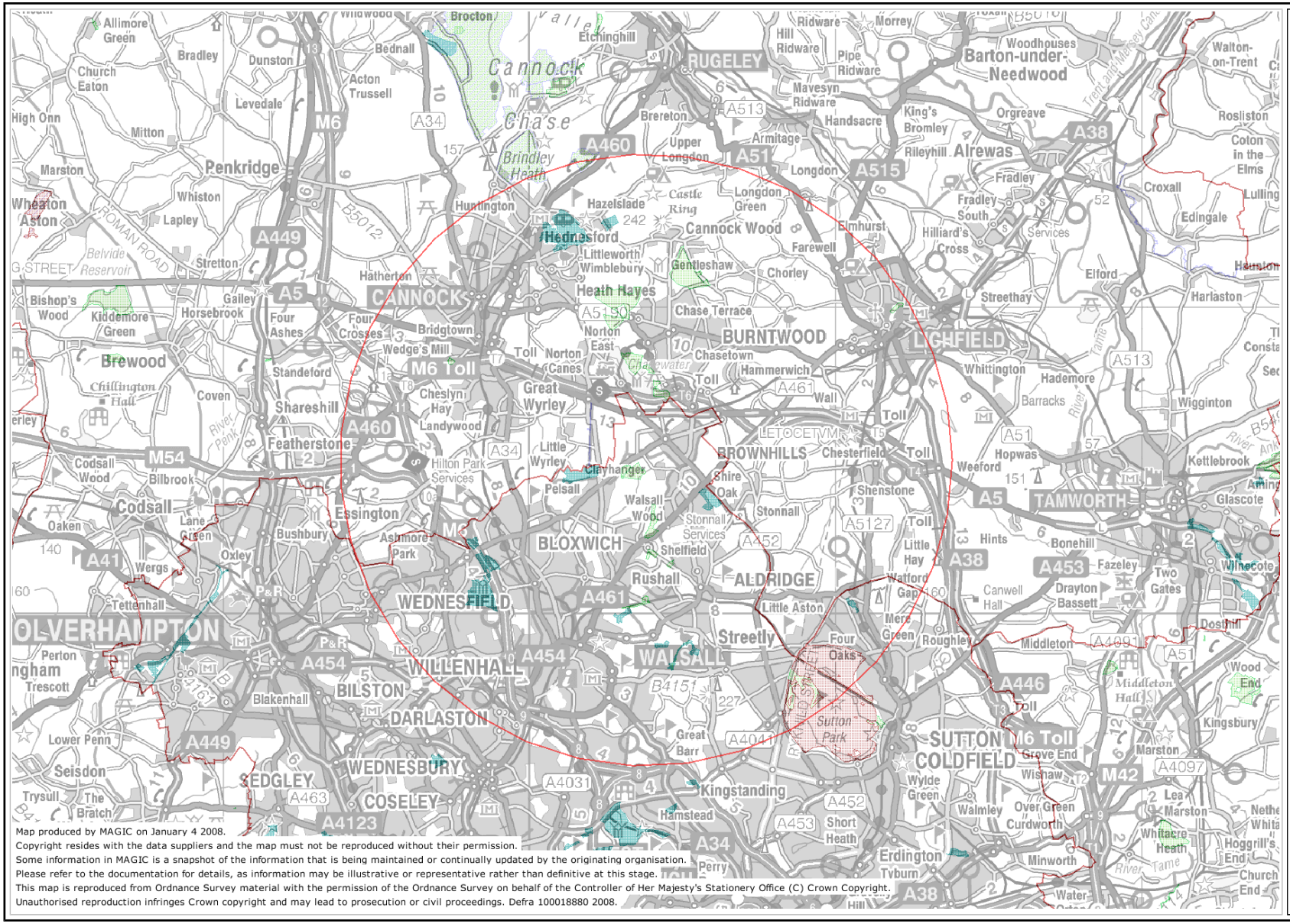
ENVIROSOL LTD SITE DRAINAGE

SCALE: 1 : 400 @ A3

DATE: January 2008



A5 Plans Showing the Location of Sensitive Receptors

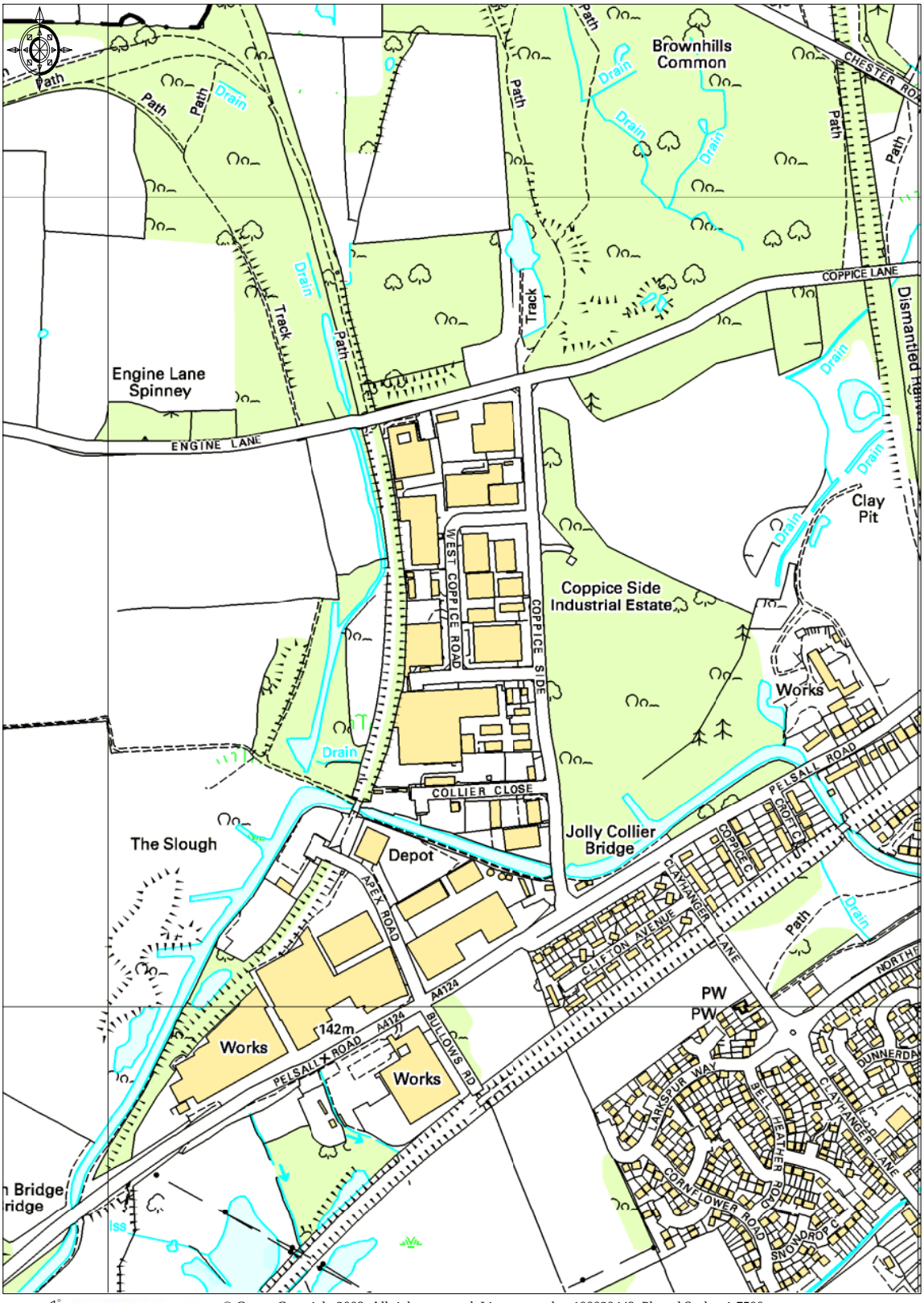


MAGIC

chemtech

- Counties and Unitary Authorities (GB)
- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Special Protection Areas (England)
- Special Areas of Conservation (England)
- Sites of Special Scientific Interest (England)
- Environmentally Sensitive Areas (England)
- National Parks (England)

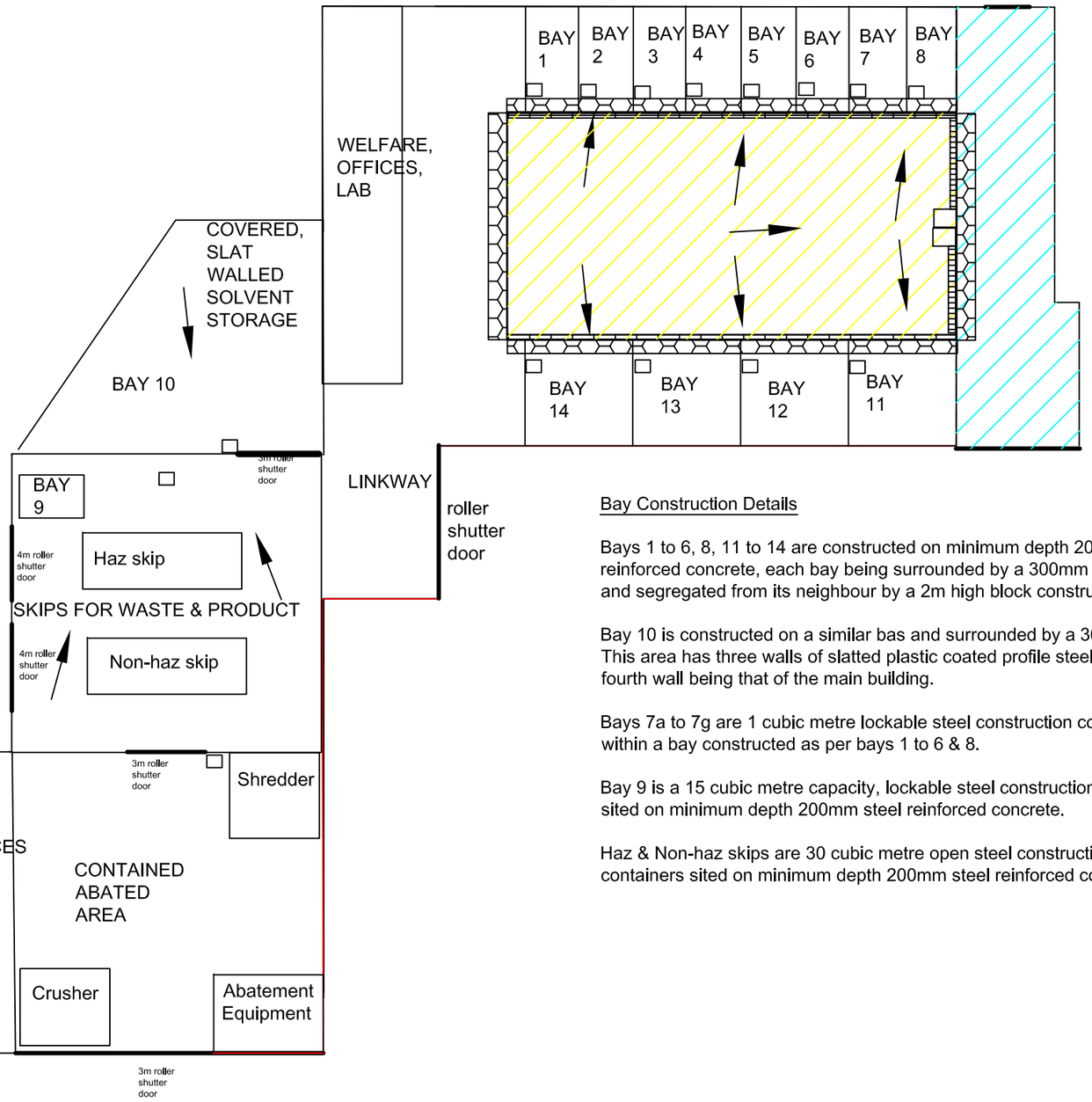
Figure 2



SURFACE WATER FEATURES

A6 Plans Showing the Location of Contaminant Sources

Bay Layout Scheme			
Bay/container	Waste types	Capacity	Haz Codes
1	Cyanides, sulphides, ammonia, pesticides, herbicides, caustics	216 x 200 kg	H4/5/6/8/12/14
2	Halogenated solvents, resins	216 x 200 kg	H7
3	Oil/water, neutral, high flashpoint liquids	216 x 200 kg	H4/5/6
4	Oil/water, neutral, high flashpoint liquids	216 x 200 kg	H4/5/6
5	Neutral, high flashpoint solid, white goods	216 x 200 kg	H4/5/6
6	Acids	216 x 200 kg	H8
7a	PCBs, listed carcinogens	250kg	H7
7b	Highly odorous, lachrymatory	250kg	H6
7c	Explosive	250kg	H1
7d	Moisture reactive	250kg	H8/12
7e	Pyrophoric	250kg	H3A
7f	Alkali metals	250kg	H3A
7g	Strong reducers	250kg	H2/6
8	Oxidising acids, strong oxidisers	216 x 200 kg	H2/6
9	Asbestos	15 tonnes	H7
10	Solvents Fpt < 55C	360 x 200kg	H3 A&B
11	Reception, inspection & validation	No storage	All
12	Reception, inspection & validation	No storage	All
13	Reception, inspection & validation	No storage	All
14	Bulking	No storage	All
haz skip	Compatible mixed haz waste for recovery or disposal	20 tonnes	H4/5/6
non-haz skip	Compatible mixed non-haz waste for recovery or disposal	20 tonnes	N/A



DRAWING NO. SAS/CHEM/12

Location of Contaminat Sources

SCALE: 1 : 400 @ A3

DATE: December 2007

1m
10m

Bay Construction Details

Bays 1 to 6, 8, 11 to 14 are constructed on minimum depth 200mm steel reinforced concrete, each bay being surrounded by a 300mm concrete bund and segregated from its neighbour by a 2m high block construction wall.

Bay 10 is constructed on a similar bas and surrounded by a 300mm bund. This area has three walls of slatted plastic coated profile steel sheet with the fourth wall being that of the main building.

Bays 7a to 7g are 1 cubic metre lockable steel construction containers sited within a bay constructed as per bays 1 to 6 & 8.

Bay 9 is a 15 cubic metre capacity, lockable steel construction skip container sited on minimum depth 200mm steel reinforced concrete.

Haz & Non-haz skips are 30 cubic metre open steel construction skip containers sited on minimum depth 200mm steel reinforced concrete.

A7 Plans Showing Zones

KEY

ZONE 4

ZONE 1

ZONE 1

ZONE 1

WELFARE,
OFFICES,
LAB

3m roller
shutter
door

roller
shutter
door

4m roller
shutter
door

ZONE 2

4m roller
shutter
door

3m roller
shutter
door

OFFICES

ZONE 3

3m roller
shutter
door

DRAWING NO. CHEM/SAS/11

ZONES

SCALE: 1 : 400 @ A3

DATE: December 2007

1m

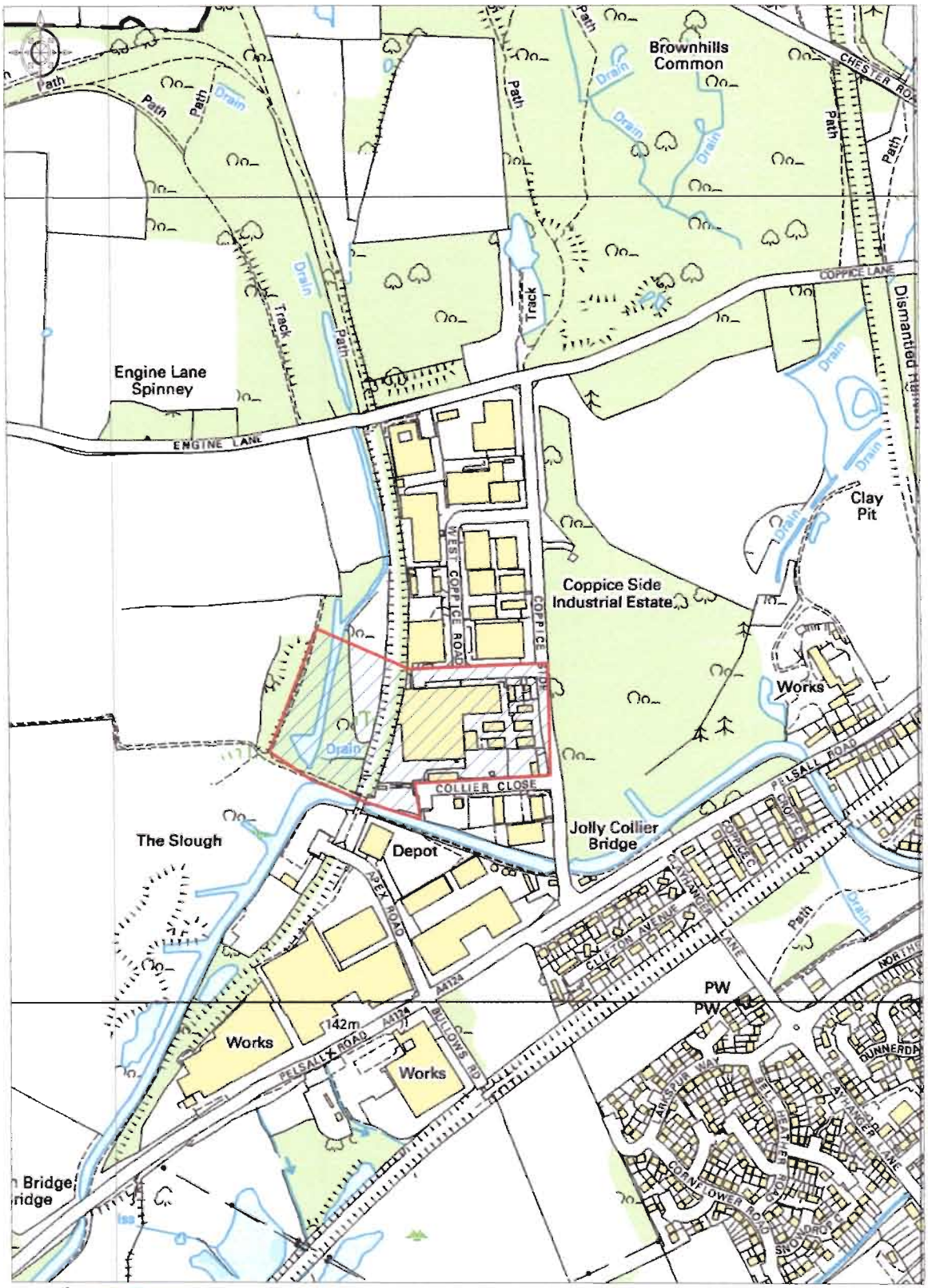
10m

Appendix B - Site Reconnaissance

B1 Figures
B2 Photographs
B3 Relevant Test Certificates

B1 Figures

Figure 1



RECONNAISSANCE AREA

B2 Photographs

Existing site

Unloading and solvent storage area

Adjacent SINC

Vegetation close to site

Site Access

Wyrley & Essington Canal

Unnamed Pond

SINC

B3 Relevant Test Certificates

There are no relevant Test certificates

Appendix C - Desk Study Information

C1 Environmental Consents, Licences, Authorisations and Permits for Site and Surrounding Area
C2 Geological and Hydrogeological Data
C3 Hydrological Data
C4 Site Operational Records, Records of any Land Pollution on Site
C5 Existing Site Investigation, Assessment and Remediation Records
C6 Other Information

C1 Environmental Consents, Licences, Authorisations and Permits for Site and Surrounding Area

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**Discharge Consents** Operator: Potclays Limited Property Type: Undefined Or Other Location: Swan Works Pelsall Road, Brownhills, Walsall, West Midlands Authority: Environment Agency, Midlands Region Catchment Area: Upper Trent Catchment Reference: T/08/01422/T Permit Version: 1 Effective Date: 1st October 1965 Issued Date: 1st October 1965 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage (Contam Surface Water, Not Tips) Discharge Environment: Freshwater Stream/River Receiving Water: Trib Of Ford Brook **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A14SW (E)	362	1	403800 305300
2	**Discharge Consents** Operator: Severn Trent Water Limited Property Type: Undefined Or Other Location: Coppice Side, Industrial Estate Sws, Tame Division Authority: Environment Agency, Midlands Region Catchment Area: Upper Trent Catchment Reference: T/08/12861/O Permit Version: 1 Effective Date: 20th August 1986 Issued Date: 20th August 1986 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: High Ridge Brook **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A8NW (S)	374	1	403260 304910
3	**Discharge Consents** Operator: Binks Bullows Limited Property Type: Undefined Or Other Location: Pelsall Road, Brownhills, Walsall, West Midlands, Ws8 7hw Authority: Environment Agency, Midlands Region Catchment Area: Upper Trent Catchment Reference: T/08/07471/T Permit Version: 1 Effective Date: 12th December 1977 Issued Date: 12th December 1977 Revocation Date: 11th February 2000 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Trib Of Ford Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A8NW (S)	477	1	403300 304800
4	**Discharge Consents** Operator: Severn Trent Water Limited Property Type: Not Given Location: Red House Industrial Estate, Surface Water Sewer Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: T/08/21973/W/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 13th November 1992 Revocation Date: Not Supplied Discharge Type: Trade And Other Matter Discharge - Trade And Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Anchor Brook **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A14SE (E)	671	1	404090 305120

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: Severn Trent Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Lichfield Road, Brownhills Authority: Environment Agency, Midlands Region Catchment Area: Upper Trent Catchment Reference: T/08/30090/O Permit Version: 1 Effective Date: 22nd September 1995 Issued Date: 22nd September 1995 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: Ford Brook **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	908	1	404280 304940
6	**Discharge Consents** Operator: Severn Trent Water Limited Property Type: Undefined Or Other Location: Bridge Street Pumping Station, Clayhanger, Brownhills Authority: Environment Agency, Midlands Region Catchment Area: Upper Trent Catchment Reference: T/08/30320/O Permit Version: 1 Effective Date: 18th March 1996 Issued Date: 18th March 1996 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Ford Brook (Trib River Tame) **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	909	1	404240 304850
6	**Discharge Consents** Operator: Severn Trent Water Limited Property Type: Not Given Location: Bridge Street Sewage Ps, Clayhanger, BROWNHILLS Authority: Environment Agency, Midlands Region Catchment Area: Not Given Reference: T/08/22264/O/1 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 1st March 1993 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge Environment: Freshwater Stream/River Receiving Water: Ford Brook(Trib.R.Tame) **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	909	1	404240 304850
7	**Integrated Pollution Prevention And Control** Name: Uk Biofuels (Midlands) Ltd Location: Brownhills Bio Diesel Plant, Collier Close, Coppice Side Business Park, Brownhills, Walsall, WS8 7EU Authority: Environment Agency, Midlands Region Permit Reference: Bx2604ib Original Permit Ref: Bx2604ib Effective Date: Not Supplied **Status: Application Validation (Application received by the Authority but is not yet authorised)** Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: Y	A13SW (S)	13	1	403382 305263

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Integrated Pollution Prevention And Control** Name: Green Biodiesel Ltd Location: Brownhills Bio Diesel Plant, Collier Close, Coppice Side Business Park,Brownhills,, WALSALL, WS8 7EU Authority: Environment Agency, Midlands Region Permit Reference: Yp3936sk Original Permit Ref: Yp3936sk Effective Date: 23rd December 2005 **Status: Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: Y	A13SE (SE)	23	1	403458 305267
9	**Integrated Pollution Prevention And Control** Name: Green Biodiesel Ltd Location: Brownhills Bio Diesel Plant, Collier Close, Coppice Side Business Park, Brownhills, Walsall, WS8 7EU Authority: Environment Agency, Midlands Region Permit Reference: ZP3935MB Original Permit Ref: Zp3935mb Effective Date: 20th November 2006 **Status: Effective** Application Type: Transfer App. Sub Type: Whole without Fit and Proper Person Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 4.1 A(1) (A) (II) Activity Description: Organic Chemicals; Oxygen Containing Compounds Eg Alcohols Primary Activity: Y	A13NE (NE)	125	1	403533 305479
10	**Local Authority Integrated Pollution Prevention And Control** Name: Wagon Automotive - Uk Region Location: Pelsall Road, Brownhills, WALSALL, WS8 7HP Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: 99 Dated: Not Supplied Process Type: Other Activities Description: Coatings of metal and plastic **Status: Permit Issued** Positional Accuracy: Located by supplier to within 10m	A13SW (S)	226	2	403320 305050
11	**Local Authority Pollution Prevention and Controls** Name: Calder Industries Ltd Location: Collier Close, BROWNHILLS, West Midlands, WS8 Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	0	2	403366 305308
11	**Local Authority Pollution Prevention and Controls** Name: Calder Industries Ltd Location: Colliers Close, Brownhills, WALSALL, West Midlands, WS8 7HD Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG2/4 Iron, steel and non-ferrous metal foundry processes **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A13SW (SW)	0	2	403370 305308
11	**Local Authority Pollution Prevention and Controls** Name: Pioneer Concrete Ltd Location: Collier Close, Brownhills, WALSALL, West Midlands, WS2 Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement **Status: Application Refused Or Cancelled** Positional Accuracy: Manually positioned to the address or location	A13SW (S)	16	2	403366 305260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Local Authority Pollution Prevention and Controls** Name: Brownhills Galvanising Ltd Location: Collier Close, Copice Industrial Estate, WALSALL, West Midlands, WS8 7EX Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: 38 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG2/2 Hot dip galvanising processes **Status: Application Refused Or Cancelled** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	32	2	403467 305265
13	**Local Authority Pollution Prevention and Controls** Name: Thomas Lowe Joinery Location: Coppice Side Industrial Estate, Engine Lane, Brownhills, WALSALL, WS8 7ES Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: 191 Dated: 17th January 2003 Process Type: Local Authority Pollution Prevention and Control Description: PG6/2 Manufacture of timber and wood-based products **Status: Authorised** Positional Accuracy: Manually positioned within the geographical locality	A13NE (N)	120	2	403427 305516
14	**Local Authority Pollution Prevention and Controls** Name: Stephen F Butler Co Ltd Location: Coppice Side Industrial Estate, Brownhills, WALSALL, WS8 7HD Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: 62 Dated: 9th February 1994 Process Type: Local Authority Air Pollution Control Description: PG2/6 Aluminium and aluminium alloy processes **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	164	2	403525 305537
15	**Local Authority Pollution Prevention and Controls** Name: Wagon Automotive Location: Pelsall Road, BROWNHILLS, West Midlands, WS8 7HP Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: 99 Dated: 22nd December 1993 Process Type: Local Authority Air Pollution Control Description: PG6/23 Coating of metal and plastic **Status: Transferred to LAIPPC** Positional Accuracy: Automatically positioned to the address	A13SW (S)	223	2	403322 305053
15	**Local Authority Pollution Prevention and Controls** Name: Edward Rose Ltd Location: Pelsall Road, BROWNHILLS, West Midlands, WS8 7HP Authority: Walsall Metropolitan Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/31 Powder coating processes (including sheradizing) **Status: Application Refused Or Cancelled** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (S)	224	2	403322 305052

C2 Geological and Hydrogeological Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**Water Abstractions** Operator: British Waterways Board Licence Number: 03/28/03/0005 Permit Version: 100 Location: Potclays Ltd, Brownhills - Birmingham Canal Authority: Environment Agency, Midlands Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Potclays Ltd, Pelsall Rd, Brownhills - B'Ham Canal Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 16th August 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	362	1	403800 305300
29	**Water Abstractions** Operator: British Waterways Board Licence Number: 03/28/08/0271 Permit Version: 1 Location: Becks Bridge - Wyrley And Essington Canal Authority: Environment Agency, Midlands Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Potclays Limited Near Becks Bridge, Brownhills, Staffordshire Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st December 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	372	1	403810 305320
	Groundwater Vulnerability Geological Classification: Minor Aquifer (Variably permeable) - These can be fractured or potentially fractured rocks, which do not have a high primary permeability, or other formations of variable permeability including unconsolidated deposits. Although not producing large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 22 South Staffordshire & East Shropshire Scale: 1:100,000	A13NW (W)	0	1	403196 305394
	Drift Deposits Drift Deposit: Low permeability drift deposits occuring at the surface and overlying Major and Minor Aquifers are head, clay-with-flints, brickearth, peat, river terrace deposits and marine and estuarine alluvium Map Sheet: Sheet 22 South Staffordshire & East Shropshire Scale: 1:100,000	A13SW (S)	0	1	403375 305291

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
36	**BGS Recorded Mineral Sites** Site Name: Birch Coppice Location: Brownhills, Walsall, West Midlands Source: British Geological Survey, National Geoscience Information Service Reference: 4539 Type: Opencast **Status: Ceased** Operator: Potters Coal & Clay Co Ltd Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation And Pennine Middle Coal Measures Formation (Undifferentiated) Commodity: Fireclay Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	324	3	403700 305590
37	**BGS Recorded Mineral Sites** Site Name: Coppice Colliery No 5 Pit Location: Brownhills Common, Brownhills, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20784 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18SE (N)	589	3	403520 305980
38	**BGS Recorded Mineral Sites** Site Name: Coppice Colliery No 2 Pit Location: Brownhills Common, Brownhills, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20781 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NE (N)	773	3	403670 306135
39	**BGS Recorded Mineral Sites** Site Name: Mart Pit Location: Wyrley Common, Cannock, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20778 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NW (N)	828	3	403120 306190
40	**BGS Recorded Mineral Sites** Site Name: Coppice Colliery No 4 Pit Location: Brownhills Common, Brownhills, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20783 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NW (N)	830	3	403350 306225
41	**BGS Recorded Mineral Sites** Site Name: Coppice Colliery No 1 Pit Location: Brownhills Common, Brownhills, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20780 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A18NE (N)	862	3	403620 306240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**BGS Recorded Mineral Sites** Site Name: Ryders Mere Location: Lichfield Road, Aldridge, West Midlands Source: British Geological Survey, National Geoscience Information Service Reference: 5816 Type: Opencast **Status: Ceased** Operator: Parkhill Reclamation Ltd Operator Location: Parkhill House, 133 High Street, Newport, Shropshire, Tf10 7bh Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Coal - Opencast Positional Accuracy: Unknown	A8SW (S)	920	3	403150 304375
43	**BGS Recorded Mineral Sites** Site Name: Coppice Colliery No 3 Pit Location: Brownhills Common, Brownhills, Staffordshire Source: British Geological Survey, National Geoscience Information Service Reference: 20782 Type: Underground **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Coal Measures Group Commodity: Coal - Deep Positional Accuracy: Located by supplier to within 10m	A23SE (N)	974	3	403390 306370
	BGS 1:625,000 Solid Geology Description: Lower Westphalian (mainly Productive Coal Measures)	A14SW (E)	0	3	403962 305224
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A25NE (NE)	0	4	405000 307000
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A25SE (NE)	0	-	405000 306500
	Potential for Collapsible Ground Stability Hazards No Hazard				
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A8NW (S)	0	3	403275 304900
	Potential for Ground Dissolution Stability Hazards No Hazard				
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	3	403392 305000
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	3	403375 305325
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	0	3	403375 305325
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A20SW (NE)	0	3	404725 305975
	Radon Potential - Radon Affected Areas Affected Area: Not Supplied Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	3	403392 305000
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	0	3	403392 305000
	Shallow Mining Hazards Risk: Low-Moderate Source: British Geological Survey, National Geoscience Information Service	A12SE (W)	0	3	402853 305143

Section 2: Geological Factors for the site

This table lists some of the principal geological factors that may affect a site, and is based on interpretation of data available to BGS at the time of compilation; additional information may be available in BGS files. The information is designed to act as a checklist and should not be used in place of a detailed site investigation.

Factor	May be significant within site area (Y/N)?	Comments
Shrink-Swell Clay Hazard	N	Potential for hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Landslide Hazard	N	Potential for hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Ground Dissolution Hazard	N	Potential for hazard to be active either zero or insignificant.
Compressible Ground Hazard	N	Potential for hazard to be active either zero or insignificant.
Collapsible Ground Hazard	N	Potential for hazard to be active either zero or insignificant.
Running Sand Hazard	N	Potential for hazard is not significant and is at a level such as to cause problems only in exceptional circumstances.
Shallow mining	Y	Shallow mining may be present in the area.
Aquifer vulnerability		Pennine Lower Coal Measures classified as Minor Aquifer on the Environment Agency's Groundwater Vulnerability map, Sheet 22, South Staffordshire and East Shropshire. The soil leaching potential is assigned a worst case value of high (urban) as the soil has been removed or disturbed in this area. If overlain by low permeability Superficial Deposits (Till) this is likely to be thin and unlikely to provide any significant degree of protection against surface pollution.
Shallow groundwater	Y	Possible within 5 metres of the ground surface depending upon the composition of Artificial Deposits and/or bedrock.
Artificial ground	Y	Areas of Made Ground and Infilled Ground
Natural land gas	Y	Potential gas hazard from bedrock and coal mining; unlikely to encounter gas from peat
Level of Radon Protective Measures	N	NO RADON PROTECTIVE MEASURES ARE REQUIRED FOR THE REPORT AREA.

Section 3: Description of the Geology & Hydrogeology for the site

Topography and surface drainage:
The site elevation is about 145 metres above Ordnance Datum (OD) on fairly flat-lying ground. The Wyrley and Essington Canal occurs about 40 m to the south of the south-western part of the site and a disused canal occurs about 100 m to the west of the western part of the site.

Artificial Ground:
The area is currently being resurveyed. Work in progress shows the northern part of the site (area shown red on OS 1:2500 site map) to be underlain by Made Ground. A thickness of 3 m is estimated, comprising mainly of soft to firm, silty, sandy clay or stiff to very stiff clay. These deposits include common quartzite pebbles, with the presence of brick fragments, pottery and concrete indicating that the deposits are artificial. Colliery spoil is also likely to be common, associated with an area of old shafts.

The western flank of the site is underlain by Made Ground associated with a disused railway embankment. The thickness and nature of the deposits is not recorded, but is likely to comprise ballast (gravel), but with the possibility of timber and coal debris.

The southern part of the site (area shown blue on OS 1:2500 site map) is underlain by the former West Coppice opencast site. The site has been backfilled, though we have no record of the thickness or nature of the Infilled Ground deposits. From determination of the coals worked at the site it is inferred that the infilled excavation must have been at least 15 m deep.

Superficial Deposits:
The published map shows the northern part of the site to be underlain directly by bedrock and the southern part to be underlain by glacial Till deposits. However, the published map of 1961 predates the opencast activity, with the associated excavation removing the Till deposits. Thin remnants of Till, probably comprising less than 1 m thickness of pebbly and gravelly clay, may be present in the vicinity of the railway embankment, along the western flank of the site.

Rockhead Depth:
The depth to rockhead (bedrock) is not known with any degree of certainty, but it is estimated to be around 3 m beneath the northern part of the site and possibly in excess of 15 m beneath the southern part.

Bedrock Geology:
The site is underlain by strata of the Pennine Lower Coal Measures of Langsettian (early Westphalian) age. The succession is dominated by medium- to dark-grey mudstone and siltstone, with subordinate pale grey sandstone, coal, seatearth fireclays and ironstones. The formation is about 100 m thick beneath the site. The regional dip of the succession is about 5° towards the north-west.

The Yard (or New Mine) Coal is about 1.0 m thick and occurs at outcrop along the western part of the site, extending north – south along, and parallel to, the eastern part of the railway embankment. The Bass (or Five Foot) Coal is 1.8 to 2.5 m thick and occurs about 15 m beneath the Yard Coal. The Cinder (or Fireclay) Coal is 1.2 m thick and occurs about 27 m below the Yard Coal. It is the Bass and Cinder Coals that are believed to have been worked in the opencast site. Deeper seams, the Shallow Coal (2.0 m thick) and Deep Coal (0.9 to 2.1 m thick) occur at depths of 33 m and 51 m below the Yard Coal, respectively.

Additional Geological Considerations:

No geological faults are shown beneath the site.

The site is located on an outcrop of productive Coal Measures strata, and may therefore have been affected by past underground mining. Past mining activities that were not documented may have occurred; these may include the construction of shafts and adits or, in the case of ancient shallow mining, the extraction of coal by means of bell-pits and pillar and stall workings. Any of these activities can give rise to voids at shallow or intermediate depths. Settlement into such voids has the potential to cause fracturing, general settlement or the formation of crown-holes in the ground above.

The site is shown to have been worked for coal, both from opencast and shallow mining. Old shafts are noted on the published map occurring in the northern part of the area. The locations of individual shafts are not provided on this geological map or available topographical maps. A shaft is recorded at [40354 30539] and a mine adit at [40355 30538], both probably accessing the Bass Coal, occurring about 50 m to the east of the site. As described above, the southern part of the site has been worked from the ground surface via opencast workings.

For further information regarding underground and opencast coal mining, the location of mine entries (shafts and adits), and matters relating to subsidence or other ground movement induced by coal mining, please contact the Coal Authority, Mining Reports, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG; telephone 0845 762 6848.

Hydrogeology and groundwater vulnerability:

Any Made Ground at the site, including Infilled Ground in the old opencast workings in the south of the site, may contain groundwater depending upon its composition. Any water contained within Made Ground is likely to reflect the composition of the host material and may therefore be contaminated. This potential contamination may be carried down into underlying bedrock deposits.

The Till is not generally regarded as an aquifer although small, often discrete bodies of groundwater may be encountered if more sandy and gravelly horizons are present within the deposit. Some boreholes in the vicinity of the site have been recorded as remaining dry during drilling through Till but some recorded water strikes within sand and gravel horizons in the Till, sometimes more than one strike being recorded in the same borehole.

Argillaceous strata predominate in the Coal Measures Group, acting as aquitards or aquicludes. They isolate the occasional thicker sandstone horizons that, under natural conditions, effectively act as separate aquifers. Coal Measures Group sandstones are generally fine grained, very well cemented, extremely hard and dense and in consequence possess little primary porosity or intergranular permeability. Groundwater storage and movement occurs predominantly within and through fractures in the sandstones; thus, the amount of water encountered in any excavation, including boreholes, is dependent on the number, size and degree of interconnection of fractures encountered in a productive horizon. Water may rise above the level at which it is first struck.

Sandstone outcrop areas are often small, limiting the amount of recharge that can infiltrate to individual sandstone units. Extensive faulting has frequently split previously continuous sandstone horizons into disconnected isolated fault-bounded blocks, to which little or no direct recharge can occur, as is the case beneath this site. Where undermining of coal has occurred, the natural hydrogeological conditions of the Coal Measures Group will have been disrupted by the creation of open shafts, roadways and galleries, as well as collapsed disused workings and by producing subsidence-induced fractures. These features may have created hydraulic continuity between layers that were previously isolated and, in some places, between aquifer horizons and flooded disused workings.

BGS holds very little information regarding the likely depth to water in the Coal Measures Group at this site. Shallow groundwater may be present in sandstones of the Coal Measures Group where located at or near the surface and small quantities of water may be encountered in the upper weathered zone of the finer grained horizons (e.g. siltstones) of the Coal Measures Group. BGS holds no water quality data from the Coal Measures Group strata in this area. However the natural quality of shallow groundwater in the Coal Measures Group is typically reasonably good but hard and dominated by calcium and bicarbonate ions. In contrast, water from deep mines may be poor with a total hardness in excess of 1000 mg/l (as $CaCO_3$), sulphate in excess of 500 mg/l, chloride ion concentration in excess of 500 mg/l and iron concentrations may exceed 30 mg/l. The Environment Agency, Midlands Region, may hold some water quality information for the area.

Mining activities tend to lower water tables compared with natural conditions, particularly where the shafts are actively dewatered by pumping. Once mine dewatering ceases, and water levels naturally rebound, the quality of groundwater in the Coal Measures Group may be worse than before. This is because the oxidation state of minerals in the rocks may have changed in the time that the strata were dewatered, increasing their solubility in water, often resulting in poor quality groundwater when the former workings flood.

Methane may be associated with the coal or hydrocarbons in the rocks; consequently any excavations should be carried out with care and if a borehole is constructed, wellhead works should be constructed above ground level and be well ventilated. Carbon monoxide may also be encountered whilst drilling the Coal Measures Group, a problem that has resulted in fatal accidents and poisonings in recent years. Current Health and Safety Executive (HSE) guidance on appropriate methods for drilling these strata should be sought before drilling operations commence.

The Pennine Lower Coal Measures beneath the site are classified as a Minor Aquifer on the Environment Agency's Groundwater Vulnerability map, Sheet 22, South Staffordshire and East Shropshire. The soil leaching potential is assigned a worst case value of high (urban) as the soil has been removed or disturbed in this area. If overlain by low permeability Superficial Deposits (Till) this is likely to be thin and unlikely to provide any significant degree of protection against surface pollution.

Individual sites will always require more detailed assessments to determine the specific impact on groundwater resources. The maps only represent conditions at the surface and where the soil and/or underlying formations have been disturbed or removed, the vulnerability class may have been changed and site specific data will be required.

Borehole records
(A blank Length field indicates the borehole is confidential or no depth has been recorded digitally.)
Total number of records: 4

The 'Office' column shows the office at which the records are held and from where copies can be obtained (see contact details later in the report). KW=Keyworth, MH & MW=Murchison House, WL=Wallingford, EX=Exeter

Regno	Grid_reference	Name	Length	Office	SIR
SK00NW129	SK 03275 05450	OLD SHAFT NORTON CANES	9.14	KW	
SK00NW131	SK 03390 05600	FAIRVIEW COTTAGE COPPICES SIDE NO.1	23.77	KW	
SK00NW337	SK 03550 05190	RYDER HAYES OCCS CANNOCK BH2B	10.00	KW	11613
SK00NW512	SK 03520 05380	UNIT 10 COPPICE SIDE INDUSTRIAL ESTATE A		KW	32438

There are no records for Water Well Records in the selected area

There are no records for Boreholes with water level readings in the selected area

There are no records for Locations with aquifer properties in the selected area

Site investigation reports
Total number of records: 24

Number	Office	Title
3298	KW	BIRMINGHAM NORTHERN RELIEF ROAD
4078	KW	BIRMINGHAM NORTHERN RELIEF ROAD
10588	KW	BURNTWOD TRIANGLE SEWRAGE SCHEME
11518	KW	BROWNHILLS
11613	KW	RYDER HAYES OPEN CAST COAL SITE CANNOCK
12088	KW	CHASE TERRACE CANNOCK 132KV OVERHEAD LINE TOWERS PCD / PYD 1 TO 22
12661	KW	BETTYS LANE NORTON CANES BIRMINGHAM
13777	KW	ANGLESEY CULVERT, WYRLEY AND ESSINGTON CANAL
14814	KW	WILKIN ROAD, BROWNHILLS
19255	KW	SUTHERLAND SITE
26474	KW	PROPOSED CHASE TERRACE SUBSTATION
27784	KW	LICHFIELD ROAD BROWNHILLS
29867	KW	KING STREET CHASETOWN
29875	KW	IRONSTONE ROAD CHASE TERRACE
30121	KW	PELSALL ROAD / WALLACE ROAD WALSALL
30491	KW	CHASE TERRACE SWITCHING STATION
32398	KW	ROBINS ROAD PUMPING STATION CHASETOWN
32427	KW	JAY CEE ENGINEERING COPPICE SIDE BROWNHILLS
32437	KW	CASTLE STREET/CASTLE CLOSE BROWNHILLS
32438	KW	UNIT 10 COPPICE SIDE INDUSTRIAL ESTATE BROWNHILLS
34649	KW	COPPICE SIDE INDUSTRIAL ESTATE BROWNHILLS
35753	KW	BLEAK HOUSE OCCS
36553	KW	FORMER OGLEY HAY SCHOOL BROWNHILLS
42866	KW	CHASEWATER KART RACING CLUB BROWNHILLS

National Grid geological maps (1:10,000 and 1:10,560 scale)
Total number of records: 1

Map	Type	Survey	Published	Revision
SK00NW	C	1911	1961	1955

County Series geological maps (1:10,560 scale)
Total number of records: 10

Map	Type	Published
Staffordshire57SE	C	
Staffordshire57SE	C	1922
Staffordshire57SE		1922
Staffordshire57SE	CD	1922
Staffordshire57NE	C	
Staffordshire57SE	CS	1922
Staffordshire57NE	C	1957
Staffordshire57NE		1957
Staffordshire57NE	C	1922
Staffordshire57NE		1922

New Series medium scale geological maps (1:50,000 and 1:63360 scale)
Total number of records: 2

Sheet	Title	Type	Survey	Published	Revision
154	Lichfield	D	1913	1922	
154	Lichfield	S	1913	1926	

Old Series one inch geological maps (1:63360 scale)
Total number of records: 1

Sheet	Title	Type	Survey	Published	Revision
62NW	Cannock Chase	S		1852	1859

There are no records for Hydrogeological maps (various scales) in the selected area

Geological Memoirs
Total number of records: 1

Title	Date
Lichfield	1919

There are no records for Technical reports in the selected area

There are no records for Waste sites in the selected area

Mining plans
Total number of records: 28

Record Type	Plan No.	Title
KP	1034	CHARLES SEAM COPPY HALL AND LEIGHSWOOD NO3 COLLIERIES
KP	1035	BOTTOM ROBINS SEAM
KP	1036	WRYLEY YARD SEAM
KP	1038	BOTTOM ROBINS SEAM
KP	1040	FIVE FEET SEAM
KP	1041	BROOCH SEAM
KP	1043	YARD SEAM
KP	1044	EIGHT FEET SEAM (WRYLEY BOTTOM)
KP	1045	BASS SEAM
KP	1046	BASS SEAM
KP	1047	SHALLOW SEAM
KP	1048	DEEP SEAM
KP	12654	EAST STAFFORDSHIRE PROSPECT WORKING TIME MAP BOTTOM ROBINS
KP	12655	EAST STAFFORDSHIRE PROSPECT WORKING TIME MAP BOTTOM ROBINS
KP	12659	EAST STAFFORDSHIRE PROSPECT SEISMIC LINES & BOREHOLES LOCATIONS
KP	12667	EAST STAFFORDSHIRE PROSPECT SURFACE PLAN
KP	12668	EAST STAFFORDSHIRE PROSPECT CORRECTION TIMES FOR 200FT DATUM BOREHOLES & OLD WORKINGS
KP	12669	EAST STAFFORDSHIRE PROSPECT TIME CONTOURS BOTTOM ROBINS SEAM
KP	14098	LEA HALL COLLIERY (PROSPECT EAST STAFFS AND ADJACENT AREAS
KP	14099	LEA HALL (PROSPECT) EAST STAFFS AND ADJECENT REAS PLAN 2000
KP	14149	LEA HALL COLLIERY (PROSPECT)
KP	14202	LEA HALL COLLIERY EAST STAFFS PROSPECT
KP	18191	WESTPHALIAN A & B OF THE COALFIELDS OF ENGLAND & WALES (INCLUDING CANONBIE)
KP	3802	LOCATIONS OF ACCESSIBLE EXPOSURES OF WENLOCK LIMESTONE
KP	3806	GEOLOGICAL PLAN
KP	6943	MINE SHAFTS LOCATIONS
KP	8073	MINE SHAFTS LOCATIONS
KP	8350	LOCATIONS OF COLLIERIES AND BOREHOLES. NORTH MIDLANDS AND LINCOLNSHIRE PITS.

C3 Hydrological Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nearest Surface Water Feature	A13SW (W)	32	-	403311 305302
	River Quality Name: Wyrley & Essington GQA Grade: River Quality C Reach: Walsall Canal To Jn. Anglesey Branch Estimated Distance (km): 12.8 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13SW (S)	208	1	403355 305063
24	**River Quality Biology Sampling Points** Name: Daw End Branch Reach: Wyrley And Essington Canal To Longwood Bridge Estimated Distance: 8.10 Positional Accuracy: Located by supplier to within 100m Year: 1990 GQA Grade: Not Supplied Year: 1995 GQA Grade: Not Supplied Year: 2000 GQA Grade: Not Supplied Year: 2002 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2003 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2004 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2005 GQA Grade: River Quality Biology GQA Grade B - Good Year: 2006 GQA Grade: River Quality Biology GQA Grade B - Good	A13SW (SW)	159	1	403200 305200

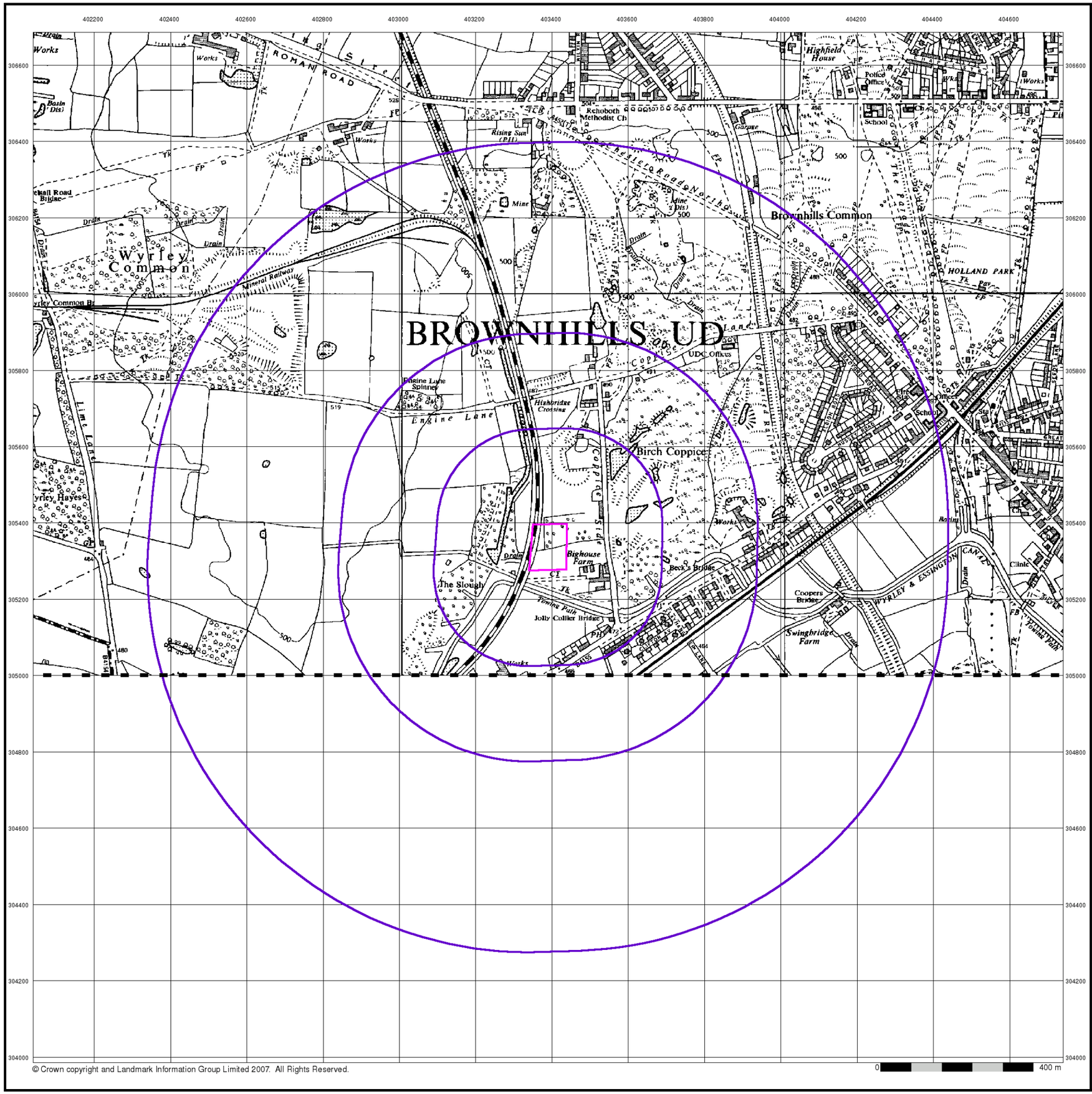
C4 Site Operational Records, Records of any Land Pollution on Site

No Operational Records - Site not yet in operation

C5 Existing Site Investigation, Assessment and Remediation Records

None of the above exist

C6 Other Information



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A Landmark service

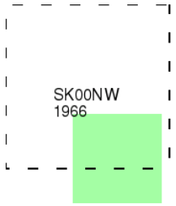
Ordnance Survey Plan

Published 1966

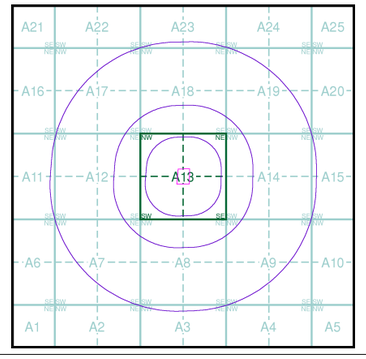
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



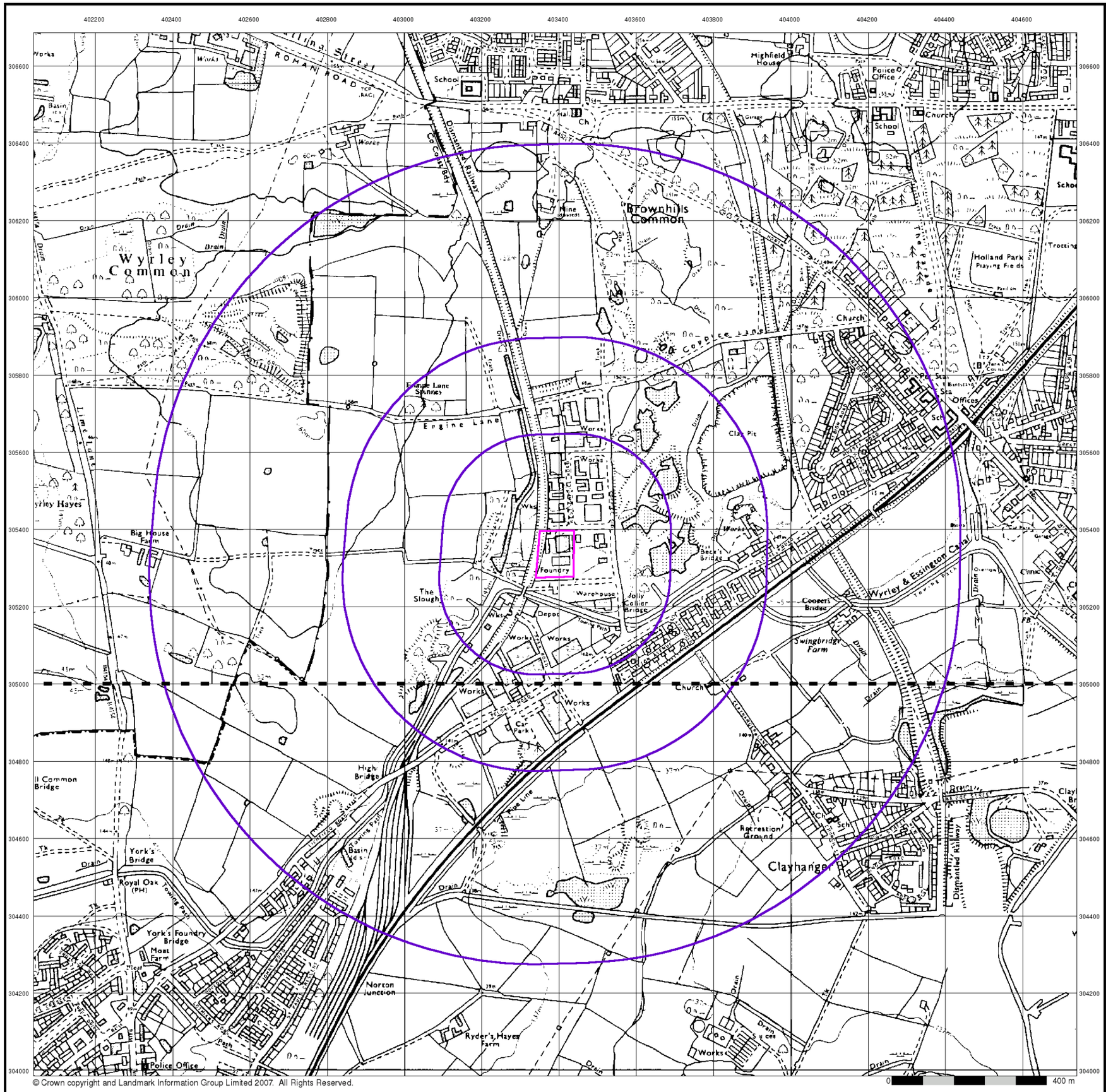
Order Details

Order Number:	23671866_1_1
Customer Ref:	envirosol
National Grid Reference:	403390, 305330
Slice:	A
Site Area (Ha):	1.13
Search Buffer (m):	1000

Site Details

J B Patterns Ltd, Collier Close, Brownhills, WALSALL, WS8 7EU

LANDMARK Information Group
Tel: 0870 850 6670
Fax: 0870 850 6671
Web: www.envirocheck.co.uk



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Ordnance Survey Plan

Published 1973 - 1975

Source map scale - 1:10,000

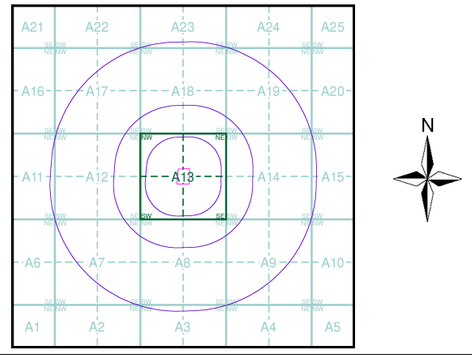
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SK00NW
1975

SK00SW
1973

Historical Map - Slice A



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LANDMARK Information Group
Tel: 0870 850 6670
Fax: 0870 850 6671
Web: www.envirocheck.co.uk

Appendix D - Data Assessment

D1 Potentially Polluting Substances
D2 Assessment of Land Pollution Potential

D1 Potentially Polluting Substances

Bay/Container	Waste Types	Capacity	Haz Codes
1	Cyanides, sulphides, ammonia, pesticides, herbicides, caustics	216 x 200 kg	H4/5/6/8/12/14
2	Halogenated solvents, resins	216 x 200 kg	H7
3	Oil/water, neutral, high flashpoint liquids	216 x 200 kg	H4/5/6
4	Oil/water, neutral, high flashpoint liquids	216 x 200 kg	H4/5/6
5	Neutral, high flashpoint solid, white goods	216 x 200 kg	H4/5/6
6	Acids	216 x 200 kg	H8
7a	PCB's, listed carcinogens	250kg	H7
7b	Highly odorous, lachrymatory	250kg	H6
7c	Explosive	250kg	H1
7d	Moisture reactive	250kg	H8/12
7e	Pyrophoric	250kg	H3A
7f	Alkali metals	250kg	H3A
7g	Strong reducers	250kg	H2/6
8	Oxidising acids, strong oxidisers	216 x 200 kg	H2/6
9	Asbestos	15 tonnes	H7
10	Solvents Fpt < 55C	360 x 200kg	H3 A&B
11	Reception, inspection & validation	No storage	All
12	Reception, inspection & validation	No storage	All
13	Reception, inspection & validation	No storage	All
14	Bulking	No storage	All
Haz Skip	Compatible mixed haz waste for recovery or disposal	20 tonnes	H4/5/6
Non-haz skip	Compatible mixed non-haz waste for recovery or disposal	20 tonnes	N/A

D2 Assessment of Land Pollution Potential

Table D2A	Assessment	of the Likelihood	of Land Pollution													
Site Operation or Site Zone	**Substance**	**Relevant Activity**	**Potential for Pollution from the relevant activity**	**1. Records of pollution**	**2. Existence of pollution prevention measures**	**Nature of Primary Containment**	**Testing and Inspection of Primary Containment**	**Nature of Secondary Containment**	**Testing and Inspection of Secondary Containment**	**Nature of Tertiary Containment**	**Testing and Inspection of Tertiary Containment**	**3. Adequacy of pollution prevention measures Yes/No**	**4. Are the proposed Integrity testing of pollution prevention measures Adequate Yes/No**	**5. Is there an adequate documented management system to demonstrate operator management and competence with the relevant activity?**	**Little Likelihood of pollution ?**	**Reasonable Possibility of Pollution ?**
A) Drummed waste delivered for storage, includes reloading for onward transmission. Zone 2	All substances listed	1. Delivery by road vehicle to installation	Spillage from road vehicle on installation roads entering road drainage	No evidence/records of spills or leaks	Yes	Drums, IBCs	Quality and Environmental Operating Procedures	Road drainage concrete falls to collection channels and interceptor	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	To foul sewer and STW	N/A	**Yes**	**Yes**	**Yes**	✔	-
		2. Delivery vehicle offloading	Spillage would require drum to be dropped and rupture	No evidence/records of spills or leaks	Yes	Drums, IBCs	Quality and Environmental Operating Procedures	Vehicles park when filling offloading on Impermeable pavement with kerbs. (bunds)	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	**Yes**	**Yes**	**Yes**	✔	-
B) Storage Zone 1	All substances listed	3. Storage	Failure of containment leading to spillage to land	No evidence/records of spills or leaks	Yes	Drums, IBCs	Quality and Environmental Operating Procedures	Bunding as described in Appendix A6	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	**Yes**	**Yes**	**Yes**	✔	-
C) Crushing/ shredding of drums Zone 3	All substances listed	4. Movement of containers to and from crushing area	Spillage would require drum to be dropped and rupture	No evidence/records of spills or leaks	Yes	Drums, IBCs	Quality and Environmental Operating Procedures	Bunding as described in Appendix A6	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	**Yes**	**Yes**	**Yes**	✔	-
		5. Crushing machine operation	Possible rupture of residue containment	No evidence/records of spills or leaks	Yes	Part of machinery	Quality and Environmental Operating Procedures	Bunding as described in Appendix A6	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	**Yes**	**Yes**	**Yes**	✔	-
D) Bulking of mat	All substances listed	6. Movement of containers to and from bulking area (Bay 14)	Spillage would require drum to be dropped and rupture	No evidence/records of spills or leaks	Yes	Drums, IBCs	Quality and Environmental Operating Procedures	Bunding as described in Appendix A6	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	**Yes**	**Yes**	**Yes**	✔	-
		7. Manual decanting container to container	Inaccurate pouring leads to spillage on bay floor	No evidence/records of spills or leaks	Yes	Bunding as described in Appendix A6	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Collection sump larger than largest container within bund area	Site Protection and Monitoring Plan. Quality and Environmental Operating Procedures	Spillage Procedure	N/A	**Yes**	**Yes**	**Yes**	✔	-

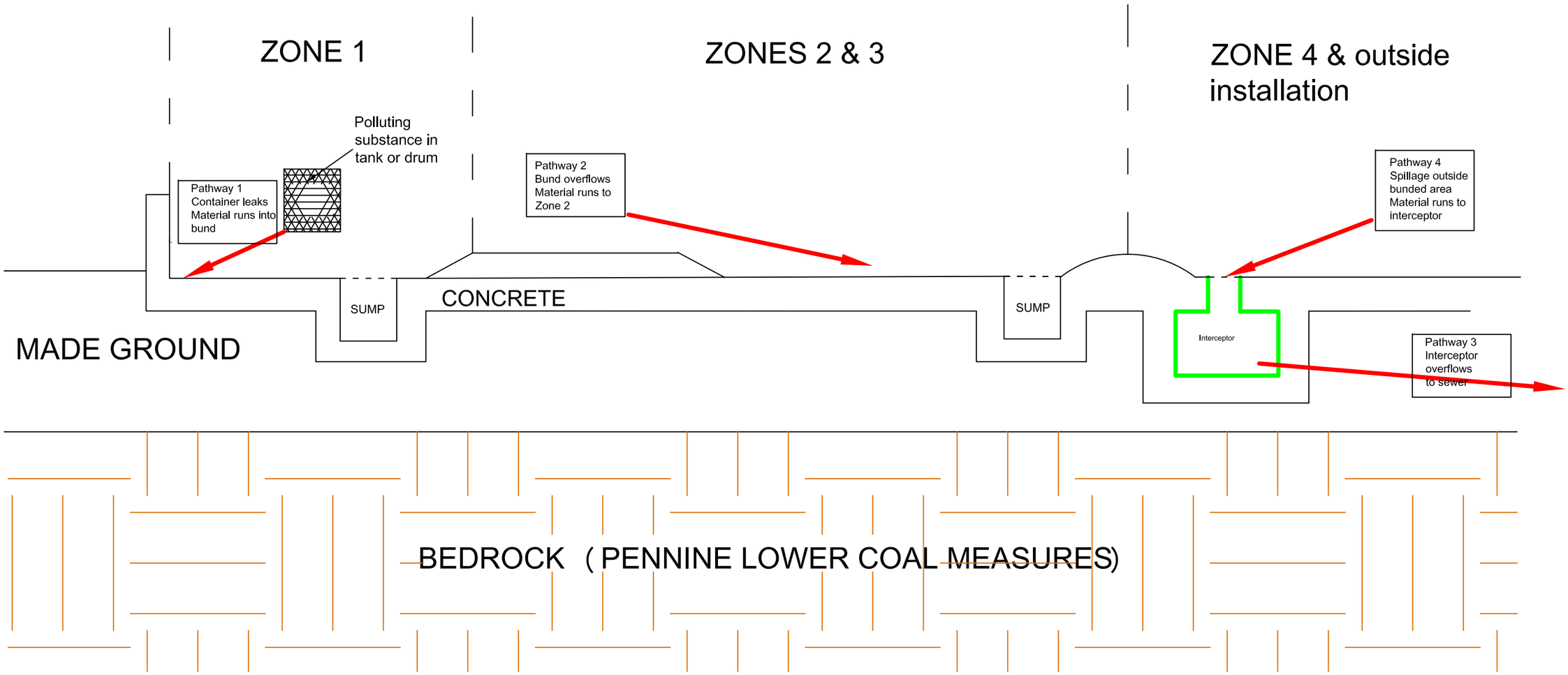
Appendix E - Conceptual Site Model

E1 Tabular
E2 Graphical

E1 Tabular Conceptual Site Model

There is no Tabular Conceptual Site Model

E2 Graphical Conceptual Site Model


ZONE 1
ZONES 2 & 3
ZONE 4 & outside installation
Polluting substance in tank or drum
Pathway 1
Container leaks
Material runs into bund
Pathway 2
Bund overflows
Material runs to Zone 2
Pathway 4
Spillage outside bunded area
Material runs to interceptor
SUMP
CONCRETE
SUMP
MADE GROUND
Interceptor
Pathway 3
Interceptor overflows to sewer
BEDROCK (PENNINE LOWER COAL MEASURES)