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BLAENAU GWENT COUNTY BOROUGH COUNCIL
CONTAMINATED LAND STRATEGY

EXECUTIVE SUMMARY

This strategy has been produced as a result of the introduction of Section 57 of the Environment Act 1995 on the 1st July 2001. This act, introduced as Part IIA of the Environmental Protection Act 1990 requires local authorities to take the lead in inspecting their districts for contaminated land. To ensure this is done in a systematic manner Part IIA requires that local authorities publish a strategy detailing how their areas will be inspected for contaminated land.

This document fulfils the local authorities requirement to produce an inspection strategy. It puts the issue of contaminated land within the context of corporate priorities of Blaenau Gwent County Borough Council and ensures that those areas of land which present the greatest risk are dealt with first.

The primary legislation has introduced the concept of the "suitable for use" approach to the remediation of contaminated land. This Strategy recognises this principle and as a result all areas of land will be assessed on their present level of contamination, their current use and the risk that is presented by the interaction of these two factors.

Part IIA defines contaminated land as:

"Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, an or under the land, that:

a) Significant harm is being caused or there is a significant possibility of such harm being caused, or

b) Pollution of controlled waters is being, or is likely to be caused."

In order for land to be defined as contaminated there must be a 'significant pollutant linkage' established. This linkage consists of 3 parts:

- a source of contamination in, on or under land and which has the potential to cause significant harm or pollution to controlled waters;

- a pathway, the route by which the source is or is likely to cause significant harm to the receptor

- a receptor, such as people, livestock, property or controlled waters, that could be affected if exposed to the contaminant.

Once this significant pollutant linkage is established the local authority will be responsible for ensuring that a suitable level of remediation is completed on the land concerned. In areas of land defined as special sites the contaminated land would be passed to the Environment Agency for their enforcement.

Blaenau Gwent County Borough Council has a long history of heavy industry, including coal and mineral extraction and iron and steel manufacture. These industries were spread throughout the borough and as a result there is likely to be a widespread dispersion of the contaminants associated with this sector of manufacturing industry.

In addition the more recent use of landfill sites within short distances of urban conurbations and the expansion of chemical and solvent based industries in the area has meant the potential for contamination exists throughout the authority. The existence of these potentially contaminated sites is exacerbated by the widespread

Chapter 1

CONTAMINATED LAND

1.0 INTRODUCTION

This document is intended to fulfil the requirements of Part IIA of the Environmental

The main objective of the Part IIA regime is to provide an improved system for the identification and remediation of land, where contamination is causing unacceptable risks to human health or the wider environment.

The significance for the development of a strategy is to address the complex considerations involved in contaminated land issues. There are needs for optimising land use, protecting the environment and human health, conserving heritage, and taking regard of historically contaminating occurrences. The components of the strategy include access to important historical information, a comprehensive knowledge of current land use practices, and proper regard of the potential receptors.

In developing a plan of action to attend the new contaminated land responsibilities under the Environmental Protection Act 1990 Part IIA, the authority will promote sustainable development and approach the remediation of contaminated land according to the statements and objectives here detailed. The strategy embodies the concepts of; risk assessment, determination of pollutant linkages (source – pathway – receptor) and the delivery of a structured approach to the identification, monitoring and remediation of land contamination, for the benefit of the community and our environment. The sustainability of land use practices and the promotion of 'brown land development' are key underlying principles.

Once the instruments of the strategy are in place there will be a policy of consultation and review together with the relevant government agencies and those who are served by the strategy. It is intended that the associated services provided to the community will be delivered efficiently, effectively and economically. Land will be assessed, for example, on a 'fit for use' basis with containment and innovative treatment forming important components of action within integrated remediation schemes to protect receptors.

The strategy identifies the resources required to deliver these services and subsequent review will determine how these will be best procured and integrated within the responsibilities of the Environmental Health Section.

1.1 THE REGULATORY ROLE

The primary regulatory role under Part IIA lies with local authorities. This reflects on Blaenau Gwent County Borough Council's existing function under the statutory nuisance regime and also complements the role of the Council as a planning authority.

In outline the role of the Council under Part IIA is as follows:

- Prepare and publish a strategy for inspecting their area for contaminated land by October 2002.

- Implement the inspection strategy.

- To inspect the County Borough of Blaenau Gwent to identify potentially contaminated land;

- To undertake urgent remediation action where there is imminent danger of serious harm.

- To determine if specific sites are contaminated;

- To act as enforcing authority for all contaminated land which is not designated as a “special site” (for which the Environment Agency is the enforcing authority).

- Identify and notify the appropriate persons involved with the land including the Environment Agency.

- Ensure that the appropriate remediation takes place.

- Manintain a public register of regulatory action.

The Environment Agency will be responsible for providing information on the progress of the contaminated land regime through the production of the ‘State of Contaminated Land’ report. It will also act as a consultee for the local authority’s inspection strategies and will provide information provide specific advice in relation to the pollution of controlled waters, and inspect land on behalf of the local authority, which if it were to be determined as contaminated land is anticipated to be designated as a special site.

1.2 INTERACTIONS WITH OTHER REGIMES

Existing planning legislation and pollution control will interact with the Part IIA strategy.

- Planning Regime – Land contamination is a material planning consideration and the implications of contamination are considered in planning applications and Unitary Development Plan designation;

- Integrated Pollution Control - Integrated Pollution Prevention & Control Scheme (IPPC), applies to certain industrial processes and is enforced by the Environment Agency and local authorities;

- Waste Management Licensing – the disposal and processing of waste;

- Pollution of Controlled Waters – (not arising from land) – where a pollutant is discharged directly into controlled waters and does not originate from land, the Water Resources Act 1991 will apply.

1.3 THE DEFINITION OF CONTAMINATED LAND

Contaminated land is defined under Part IIA as:

“Land which appears to the local authority to be in such a condition, by reasons of substances in, on or under the land, that:

Gwent County Borough must be inspected for contaminated land, it may be that only a few sites will fall into the definition of contaminated.

1.5 IDENTIFYING CONTAMINATED LAND

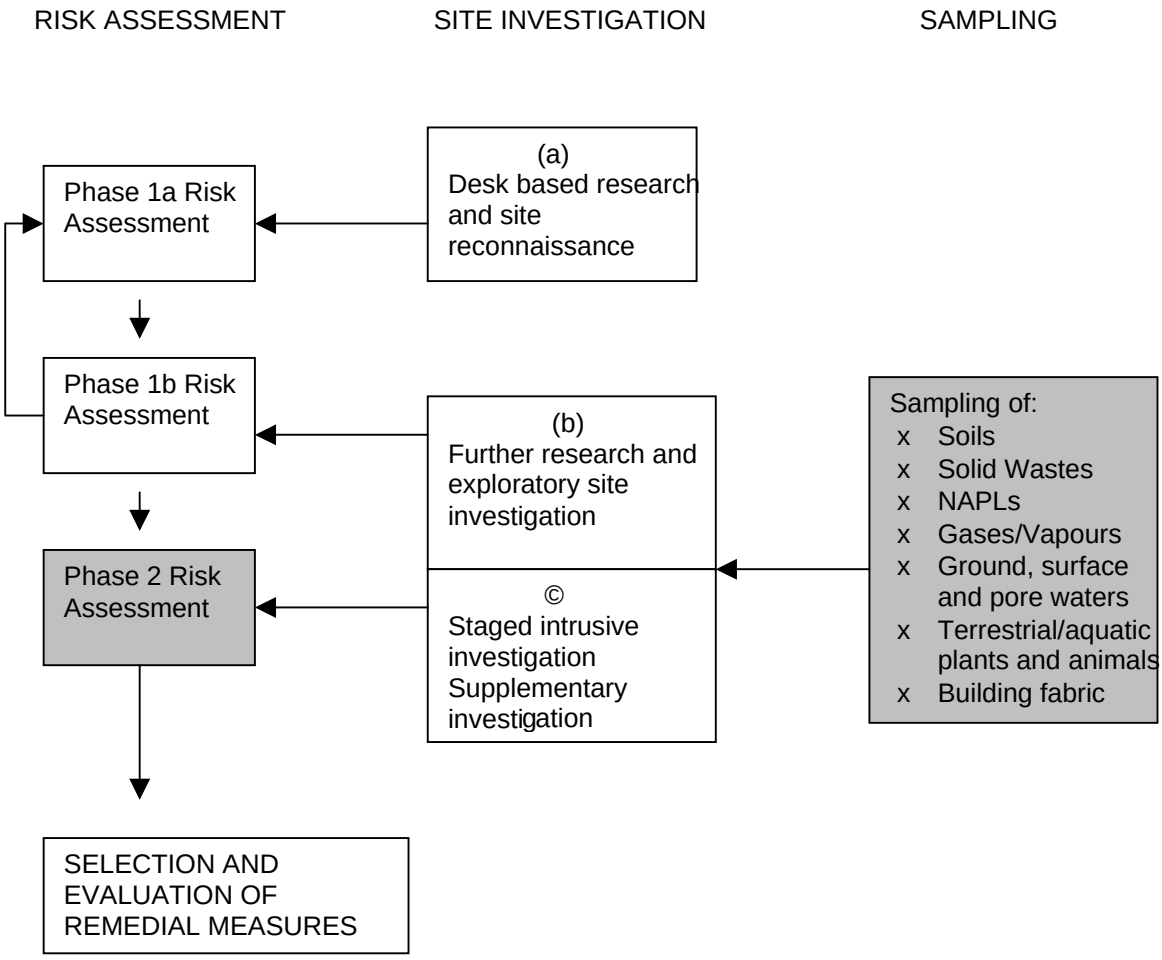
The definition of contaminated land is based upon the principles of risk assessment. Risk assessment is undertaken by initially establishing the form and concentration existing for any discovered substances on the identified area of land.

The data is then assessed against published nationally accepted guidelines and standards, and finally determining if harm to a receptor is likely, or has occurred, through the establishment of a pathway. Risk is defined as a combination of

- The probability or frequency of occurrence of a defined hazard (for example, exposure to a substance with the potential to cause harm), and
- The magnitude (including the seriousness) of the consequences. The relationship between risk assessment, site characterisation and sampling procedure is summarised in figure 2.

FIG.2 Relationship between Risk Assessment, Site Characterisation and Sampling

Further explanation and context for this diagram can be found in the section on 'methods of inspection' on page 32.



HAZARDS RESULTING FROM CONTAMINATED LAND

Land contamination can create hazards when pollutants in, on or under land reach a target or receptor, through one or more of the pathways listed in Table 1. Table 2 illustrates the 'harms' to receptors that can be associated with contaminated land. These tables together with the list of contaminants in Table 3 illustrate the materials and factors that have to be examined for connectivity, i.e. the establishment and consideration of 'pollutant linkages'.

TABLE 1 – POLLUTANT PATHWAYS

PATHWAYS	
x	(Vapour or gas) air pathway to the receptor;
x	by leachate or erosion (e.g. to surface waters, to drainage, or to deeper aquifers);
x	by direct uptake (e.g. to the food chain, or other parts of the ecosystem);
x	by direct ingestion, contact or inhalation (e.g. by humans, animals or other organisms);
x	by other contact (e.g. contact with building materials).

TABLE 2 CATEGORIES OF SIGNIFICANT HARM

	Type of Receptor	Description of Harm to Receptor
1	Human Beings	Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. For these purposes, disease is taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments.. Mental dysfunction is included only insofar as is is attributable to the effects of a pollutant on the body of the person concerned. In this Chapter, this description of significant harm is referred to as a "human health effect"
2	Any ecological system, or living organism forming part of such a system, within a location which is: - an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981 - any land declared a national nature reserve under section 35 of that Act; - any area designated as a marine nature reserve under section 36 of that Act; - an area of special protection for birds, established under section 3 of that Act - any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) regulations 1994 (ie Special Areas of Conservation and Special Protection Areas); - any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection; - any habitat or site afforded policy protection under paragraph 13 of Planning Policy Guidance Note 9 (PPG9) on nature conservation (ie candidate Special Areas of Conservation, potential Special Protection Areas and listed Ramsar sites); or - any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949.	For any protected location: - harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or - harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species of that location. In addition, in the case of a protected location which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favourable conservation statues of natural habitats at that location or species typically found there. In determining what constitutes such harm, the local authority should have regard to the advice of English Nature and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994. In this chapter, this description of significant harm is referred to as an "ecological system effect".
3	Property in the form of: - crops, including timber; - produce grown domestically, or on allotments, for consumption; - livestock; - other owned or domesticated animals; - wild animals which are the subject of shooting or fishing rights.	For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death or serious physical damage. For other property in this

1.6 A STRATEGIC APPROACH TO INSPECTION

Local authorities have been guided by the National Assembly in their approach to their implementation of the contaminated land regime. Technical advice suggest the inspection procedure shall be.

- Rational, ordered and efficient.
- Be proportionate to the seriousness of any actual or potential risk.

Chapter 2

GENERAL POLICY OF THE LOCAL AUTHORITY

document to take into account objections to the draft document and any changes in legislation.

2.2.2 BUILDING CONTROL

The Building Regulations 1991 require that contaminated land issues are taken into account early during the construction phase. Unlike Part IIA controls however, the Building Regulations 1991 only considers the effects of contamination where it comes into direct contact with the building materials themselves as opposed to the whole development site. It is anticipated that data gathering and collation of information as part of the Strategy will inform Building Control Officers and assist them in the determination of the appropriate safeguards and standards required to protect buildings and services.

2.2.3 INTEGRATED POLLUTION CONTROL AND INTEGRATED POLLUTION PREVENTION AND CONTROL

The Environmental Protection Act 1990, Part I has the legislative tool to control polluting processes to all media. With the advent of the new IPPC legislation that came into force in 1999, the Government has introduced additional controls which require that new and existing process operators must be responsible for the conditions of the land both during and following the close of the process. The framework for the site assessment will in principle be based on the identification and consideration of a contamination source, pathway and receptor. In this respect, the information collected through IPPC applications will add to the database of information concerning the condition of land within th

Chapter 3

CHARACTERISTICS OF BLAENAU GWENT COUNTY BOROUGH COUNCIL

3.0 INTRODUCTION

Blaenau Gwent County Borough Council became a unitary authority in 1996 as a result of the combination of the district and county council functions. It covers approximately 10900 hectares of a land locked location, in the South Wales Valleys 30 miles north of Cardiff. Its population is currently in the following major conurbations.

Ebbw Vale	23931
Tredegar	15608
Brynmawr	5450
Nantyglo/Blaina	9577
Abertillery	17688

3.1 HISTORY

Blaenau Gwent history over the last 200 years is steeped in the industrial heritage of iron and steel production and the deep mining of coal.

In Ebbw Vale iron making began on the site of the Corus plant as early as 1790 and the development and expansion of the site continued to supply the needs of a growing British Empire. Tredegar also grew around the iron trade, and much of the housing which was built within the authority was used to house the thousands of immigrant workers who came to find work here.

Along with the expansion of this heavy industry came improvements in transportation with the construction of road and rail links. The use of tram roads expanded to supply the ports of Cardiff and Newport with the resources which were produced here.

Many major collieries were also sunk in Blaenau Gwent with these mines becoming the main source of employment for towns such as Tredegar, Nantyglo and Abertillery as the production of iron declined.

Over the last 25 years the decline of heavy industry within Blaenau Gwent has been progressive, culminating in the closure in July 2002 of the steel works at Ebbw Vale.

These employment opportunities have been replaced by modern industries in the manufacturing sector. Major industrial estates have been established at Tarfarnaubach at Tredegar, Rassau, Ebbw Vale, Rising Sun at Blaina, Roseheyworth and Cwmtillery in Abertillery. These have helped to establish employment in less polluting industries while the local authority works towards providing the greater skill levels which its citizens will need to compete in the technology and service sectors which will be the major employment areas of the future.

3.2 GEOLOGY AND HYDROGEOLOGY

SUMARY OF THE GEOLOGY OF THE COUNTY BOROUGH OF BLAENAU GWENT

The geology of the area can be broken down into five distinct horizons:

1. The Dinantian Series
2. The Namurian Millstone Grit Series
3. The Lower Coal Measures
4. The Middle Coal Measures
5. The Upper Coal Measures

Each can be described briefly giving typical lithologies and structure.

1. The Dinantian Series

These rocks entail a sequence of interbedded dominant limestones and dolomites and thin laminar calcareous shales. They occur as a thin outcrop at the northern rim of the County Borough and have been a source of commercially extractable minerals for industrial use. Almost all the rocks were deposited in a shallow water environment and have been both diagenetically and tectonically altered.

In this area the Dinantian (Carboniferous Limestone) sequence can be further divided into

a) Lower Limestone Shale
b) Oolite Group
c) Llanelli Formation
d) Dowlais Limestone

2. The Namurian Millstone Grit Series

This sequence can be further divided into three groups:

(a) Basal Grit
(b) Shale group
(c) Farewell rock

The three groups comprise a succession of fluvial, deltaic and shallow marine environment rocks deposited on a basinal margin and on average is some 35-40m thick. They comprise of coarse grits and basal conglomerates into laminated mudrocks and culminate in the coarse-grained sucrosic sandstones and orthoquartzites that mark the interface of the Lower Coal Measures.

3. The Westphalian A Lower Coal Measures

The sequence the Marine bands. Within this zone include economically important metallurgical coals and ironstone facies. The more pronounced coals, all of which

Middle and Lower Coal Measures. In addition large portions of the aquifer have been dewatered due to pumping associated with mining, this has resulted in a lowering of water levels, when pumping eases water levels can rise significantly. The Pennant Sandstones are very hard and dense, as a result they have a low porosity of around 2%. Where there is calcite and silica cementation as a result of folding and faulting, the porosity is lower. The permeability of the sandstones is as a result of natural joints and fissures and tension zones caused by mining.

The Middle and Lower Coal Measures have very low porosities. A significant amount of rainfall infiltrates the Upper Coal Measures (up to 250mm/annum) to become groundwater. For the Lower and Middle Coal Measures this figure becomes 150mm/annum. Only 5% of this water is pumped out, the remainder contributes to the baseflow of the rivers which cross the coalfield valleys. These baseflows emerge as springs in the valleys. Yields from the Coal Measures are variable, the highest yields are obtained from the valley sides, where the Upper Coal Measures are more than 60m thick. Yields of 5 l/s are considered good and 10 l/s is rare. Yields from the Middle and Lower Coal Measures rarely exceed 1 l/s. The chemistry of the groundwater also varies. It may have low total dissolved solids or it may be highly mineralised. Nonetheless South Wales is the only area of Britain where water from Coal Measures is of sufficiently high quality to be of a potentially potable supply. The water from the Upper Coal Measures is better than from the Middle and Lower Coal Measures. Water pumped depth is of poor quality with low pH, high dissolved solids and a possibility of sulphuric acid.

In the Millstone Grit, which is found around the periphery of the Coalfield, water moves through secondary discontinuities and therefore exhibits a higher permeability. Yields from boreholes appear to be in the range of 10-12 l/s, particularly those associated with faults. This sequence is rarely used as an aquifer, although it does recharge the Carboniferous Limestone aquifer. Water quality is normally good, relatively soft with total dissolved solids of less than 200mg/l.

Of the limestone groupings listed above, the Lower Limestone Shale is a dark grey mudstone interbedded with bioclastic limestone in its lower sections. It is locally represented by the Cwmyniscoy Mudstone, some 35m thick and and just impinging on the northern boundary of the county borough. This is overlain to the south by the Oolitic Group, a sequence of grey oolitic limestone with thinly bedded dolomitic limestone and outcropping locally as the Abercriban Oolite between the Nant Trefil and Duke's Table. It is about 25m thick in the locality. The Llanelli Formation, a thin (about 10m) band of sandstone and oolitic limestone is separated by unconformities from this and the overlying main limestone unit, the Dowlais Limestone. The Dowlais Limestone is a thick sequence (some 90m) of well-bedded, grey, bioclastic limestone with thin shale interbeds cut by the Sirhowy fault, running parallel to the valley.

The main permeability of the Dowlais Limestone is probably due to a combination of solution features and partial dolomitisation of the upper layers which has given them a brecciated nature. There are 2 main springs arising from this horizon which feed the Shon Sheffrey Reservoir that is drawn upon for public water supply. The Environment Agency Wales has drawn a Source Protection Zone around the catchment to this supply. Soils are thin in the area, with recharge also occurring

through sinkholes, and the average effective precipitation is 748mm/a. It is estimated that the spring discharge is in the range 7,000 – 10,000M1/a.

The till which lines the Coalfield valleys is generally less than 15m thick. Its main hydrogeological significance is that it limits and controls recharge within the underlying formations.

Alluvium floors most of the river valleys and peat is present in the north of Blaenau Gwent Yields are less than 5 1/s from the river alluvium but peat provides a local source of river baseflow.

3.3.1 SOIL CLASSIFICATION

Soil classification for Blaenau Gwent indicates that the borough is covered with predominantly coarse textured, shallow soils which readily transmit non-adsorbed pollutants and liquid discharges, but which have some ability to attenuate pollutants because of their clay or organic matter contents. Soil classification in urban areas and areas where mineral extraction is current or has occurred is more difficult to determine with precision. A worst-case vulnerability classification of high permeability is assumed for these areas that assumes that they will readily transmit liquid discharges because they are either shallow or susceptible to rapid flow directly to rock, gravel or groundwater. Throughout the borough, low permeability drift deposits occur at the surface comprising of mostly alluvium and peat

Table 4

3.5.1 WASTE MANAGEMENT FACILITIES

The following Table 5 outlines the current waste management facilities licensed by the Environment Agency to operate within Blaenau Gwent.

Table 5

Facility	Type	Status
Jukes,Landfill Hafod Y Dafal,Farm, Aberbeeg, Blaenau Gwent NP3 2ER	A6-Landfill taking other wastes	Non Operational
Cwm Civic Amenity Site,Beechwood House,Cwm,Ebbw Vale,Blaenau Gwent NP3 6PZ	A11-H,C&I Waste Transfer Station	Operational
New Vale Civic Amenity Site, Waun-Y-Pound Industrial Estate, Cwm, Ebbw Vale,Blaenau Gwent, NP3 6PZ	A11-H,C&I Waste Transfer Station	Operational
Bourneville Civic Amenity Site,Abertillary, Blaenau Gwent,NP3 3DN	A11-H,C&I Waste Transfer Station	Operational
Waunllwyd Landfill Site,Cemetry Road, Waunllwyd,Ebbw Vale,Blaenau Gwent, NP23 4TN	A1-Co-Disposal Landfill Site	Operational
J V Johns,Plots 4,5,Hall Street Industrial Estate,Victoria ,Ebbw Vale,Blaenau Gwent, NP3 6UF	A9-Special Waste Transfer Station	Non Operational Surrended
Llanhilleth Industrial Estate, Abertillary,NP3 6UF	A11-H,C&I Waste Transfer Station	Operational
Cwm Treatment Plant,Cemetery Road,Waunllwyd, Ebbw Vale, Blaenau Gwent NP3 6PZ	A16-Physical Treatment Plant	Operational
Thomas Waste Management,Plot4-5-6 Hall Street ,Victoria ,Ebbw Vale, Blaenau Gwent, NP23 6AT	A9-Special Waste Transfer Station	Operational
Family Pet Crematorium Unit 1 Blaenant Industrial Estate,Blaenavon Road ,Brynmawr, Blaenau Gwent,NP23 4BX	A18-Incinerator	Non Operational Surrended

H=Household
C=Commercial
I=Industrial

3.5.2 REGISTER OF CLOSED LANDFILL SITES IN BLAENAU GWENT

The following Table 6 identifies the sites which the local authority are aware that

There are also 7 Scheduled Ancient Monuments within the borough. The Gwent-Glamorgan Archaeological Trust also holds records on over 600 sites within the borough. These sites will also be recognised as a sensitive receptor where appropriate within the Strategy.

3.5.5 MINERAL EXTRACTION

There is currently 1 active hard rock quarry in the County Borough , North of Tredegar at Trefil.

3.5.6 KNOWN INFORMATION ON CONTAMINATION

The authority has recently historical map information from Landmark, a subsidiary of the Ordinance Survey. This information, which stretches back almost 150 hundred years, provides historical data on the previous land uses of the whole of Blaenau Gwent. It enables the identification of potentially contaminated sites based on known polluting activities.

By overlaying these historical maps on current O.S. maps an image can be produced, which shows areas of the Borough where there is potential for the contaminant, pathway, receptor link to exist. This exercise has been carried out to identify all those potential contaminated sites, and, as part of the continuation of the Phase 1 investigation the identification of incompatible previous and existing use will continue.

3.5.7 ACTION ALREADY TAKEN TO DEAL WITH CONTAMINATED LAND

There are several sites within the County Borough which have a history of contaminative usage that have since been remediated to a standard that makes them suitable for their current use. These sites include the former British Coal Workshops at Tredegar and the Dunlop Semtex site at Brynmawr.

Whilst close liaison between developer, consultants and local authority officers will have ensured that remediation of these sites means they no longer present a risk, as part of this strategy a review of all the remediation work completed at these sites will be carried out.

3.5.8 REDEVELOPMENT HISTORY

The local authority, has always strived to redevelop brownfield sites through the use of planning conditions and appropriate assessment to identifying possible contamination. This has been assisted by close cooperation and funding from the Welsh Development Agency. The controls on the redevelopment of these sites has always involved close cooperation with the Development Control Section and this working relationship will be strengthened with the implementation of the Part IIA regime.

Chapter 4

As well as this ongoing inspection, where a potential site becomes highlighted for immediate attention, records will be checked as a matter of course for potential Authority ownership. The Authority will not assess its own land any differently than other land within the Borough.

4.1.2 EVIDENCE OF ACTUAL HARM OR WATER POLLUTION COLLATED AND REVIEWED

Actual harm will be determined with reference to Tables A and B, shown in appendices A and B taken from the DETR Circular 02/2000 Annex 3, Chapter A, Part 3. These tables detail categories of significant harm and also what constitutes significant possibility of significant harm.

The Authority will as part of its inspection process assess each potential site for water pollution with reference to source protection zones and groundwater vulnerability issues. The Authority intends to liaise closely with the Environment Agency on this matter. If the Authority is made aware of harm or water pollution issues, it will have regard to procedures set out in Section 5.0 to the definitions of significant harm as shown as Appendices A and B.

4.1.3 RECEPTORS IDENTIFIED FROM TABLE A (FROM THE DETR GUIDANCE)

Once all potentially contaminated sites have been identified the receptors shown below will be identified to determine possible links between the two. This work will be completed by April 2003.

a) Residential development with garden
b) Allotments
c) Residential development without gardens
d) Schools or nurseries
e) Agricultural land
f) Land in amenity use e.g. Parks/Playgrounds
g) Commercial or Industrial
h) Protected Habitats
i) Heritage Sites
x In addition there are also surface water and groundwater features.

4.1.4 ASSESSMENT OF RISK IDENTIFIED RECEPTORS

The risk to receptors will be assessed with a risk prioritisation model which will be run within the 18 months of the strategy implementation.

This will prioritise the level of risk in relation to the type of receptor. The Authority

required some form of remediation. There have also been the Dutch Intervention Values (DIV) available, however the use of these values may not necessarily be applicable for conditions within the Borough. New contaminant guideline levels have been published through the “Contaminated Land Exposure Assessment (CLEA) Risk Assessment Model for Human Health”. These guideline levels will form the basis of the risk assessments carried out.

Chapter 5

PROCEDURES

5.0 INTRODUCTION

The inspection of land for contamination is likely to generate large quantities of site specific data. In order to ensure this data is managed in an appropriate manner this chapter sets out the procedures for its use.

5.1 INTERNAL ARRANGEMENTS FOR THE INSPECTION AND IDENTIFICATION OF CONTAMINATED LAND

5.1.1 DEPARTMENTAL CONTROL

The Director of Environment and Development has ultimate responsibility for ensuring the implementation of the legislative requirements relating to contaminated land. The Team Leader (Pollution and General Services) of the Environmental Health Section, will have the day-to-day responsibility for the implementation of the strategy under the direction of the Divisional Manager Environmental Health and Trading Standards. The authority to serve notices will be delegated to the Divisional Manager and all information which is relevant to investigation of contaminated land will be forwarded to the Executive and Scrutiny Committee when appropriate.

All inspections will be carried out in accordance with the latest technical guidance and best practice documentation. The relevant publications have been listed in Appendix C.

5.1.2 PLANNING AND BUILDING CONTROL

Documentation relating to previous and current land use within the planning and building control sections. Previous site use will be an important tool in determining potentially contaminated sites and this information will be assessed in conjunction with the Landmark Historical map information..

5.1.3 LEGAL SERVICES

Drafting and service of remediation notices etc will be done in conjunction with the authorities legal services section. The Estates Section of the Chief Executive Department will be consulted in relation to land ownership and the demarcation of land boundaries.

5.1.4 COUNCIL OWNED LAND

The Council is responsible for a major land holding in the County Borough. The Council has been responsible for potentially contaminated uses such as landfill operations. Therefore, the Council will be the 'appropriate person' by virtue of either having caused the contamination or being the landowner. All will be dealt with

in such a way as to encourage confidence in the regime and show consistency in enforcement and Council land will be identified and dealt with in the course of activities associated with the implementation of Part IIA. When such land is identified the responsibility for remediation action will rest with either the individual Department whose actions caused the contamination or that Department which owns the land. The regulatory duties of the Council will be kept clearly separate from the responsibilities that may arise as landowner or polluter. The Council supports and will encourage the voluntary remediation of land, including that for which the Council may find itself responsible.

5.1.5 THE PUBLIC REGISTER

The Council is required by the Part IIA regulations to maintain a Contaminated Land Register that is accessible to the general public. The Public Register will be held at the Department of Environment & Development offices at Enterprises House, Rassau Industrial Estate, Rassau, Ebbw Vale. It will be in a paper file format and will be accessible by appointment to members of the public during hours Monday to Friday, excluding public holidays.

The information to be recorded on the contaminated land register is clearly stated in the regulations and will include:

- Remediation notices;
- Details of site reports relating to remediation notices obtained by the Council;
- Remediation declaration, remediation statements and notifications of claimed remediation;
- Designation of “special sites”
- Appeals lodged against remediation and charging notices;
- Convictions.

Whilst the register must be accessible to the general public, it is considered that because of the likelihood of its versatile use it should be a controlled document. As such the photocopying, reproducing (other than handwritten notes) and publishing of extracts of the register will not be allowed without permission of the Council.

5.2 INSPECTION PROCEDURES

5.2.1 SITE PRIORITISATION

The authority will determine an organised approach to the identification of contaminated land, and will be prioritised on the following basis. This prioritisation will form the basis for more detailed investigation. The timetable for the inspection programme is given in Section 4.

CRITERIA FOR SELECTING AREAS AND INDIVIDUAL SITES

Sites that are contaminated will be classified in one of four categories:

PRIORITY CATEGORY 1

Site probably or certainly not suitable for current use and environmental setting. Contaminants probably, or certainly, present and likely to have an unacceptable impact on key targets (receptors). Urgent remediation action needed as land has been determined as contaminated in the context of Part IIA of the Environmental Protection Act (1990).

PRIORITY CATEGORY 2

Site may not be suitable for current use and environmental setting. Contaminants probably, or certainly, present and likely to have an unacceptable impact on key targets. Urgent investigative action needed in the short term to determine whether land is contaminated in the context of Part IIA of the Environmental Protection Act (1990).

PRIORITY CATEGORY 3

Site considered as suitable for current use and environmental setting. Contaminants may be present but unlikely to have an unacceptable impact on key targets. Action not required whilst the site remains in present use and/or otherwise undisturbed. Monitoring activities may be put in place.

PRIORITY CATEGORY 4

Site considered as suitable for current use and environmental setting. Contaminants may be present but they are very unlikely to have an unacceptable impact on key targets. Action not required whilst the site remains in present use and/or otherwise undisturbed ..

These categories and the methodology behind the prioritising of sites are based on: The Department of the Environment Contaminated Land Research Report CLR6 (1995) ‘Prioritisation and Categorisation Procedure for Sites which may be Contaminated’.

The prioritisation of sites is based on the assessment of hazards and their potential effects on receptors. By utilising Ordnance Survey maps the previous usage of a site

Authority shall use local knowledge, local contacts and through reference to directories and other sources of information, such as

- Uk Land Registry (www.landregistrydirect.gov.uk

Prior to making a formal determination of Contaminated Land under Part IIA the Authority intends to request advice from the various consultees regarding the appropriateness of other statutory powers for dealing with identified circumstances.

As previously noted, in determining wh

Objective
Comprehensive

And it:

Explicitly considered uncertainties
Provides a rational basis for consulting on proposals with the stakeholders.

Site investigations will need to address the following:

1. The identification of the sources of contamination
   - x location of contaminant
   - x nature of contaminant
   - x concentration of contaminant

2. The identification of the pathways
   - x site topography
   - x soil/rock permeability
   - x joint/bedding systems
   - x man-made pathways (shafts, culverts, pipes, backfill etc.)
   - x surface drainage channels

3. The location of sensitive receptors
   - x depth to groundwater
   - x proximity of surface water continuity with waterways
   - x location of any extraction points
   - x location of any SSSI's
   - x other receptors

The authority's phasing of site investigation will consists of the following steps:

(a) A desktop study for the collation and assessment of available information,

(b) A site visit to the particular area for the purposes of visual inspection and, in some cases, limited sampling (for example of surface deposits),

(c) A main intrusive investigation of the land (for example by exploratory excavations (trial pits or the sinking of boreholes).

(a) DESKTOP STUDY

The purpose of the desktop study is to pull together all available historical, geological, hydrological and other relevant information relating to the site and the surrounding area. The main purpose of the desktop is to determine:

- The use for which the site may have been subjected in the past which in turn provides and indication of the types of contaminants which may be present,
- The hazards associated with the contaminants and the precautions that should be taken during any site visit or investigation to minimise health and safety risks for the investigators,
- The potential locations of any contaminant hot spots (high concentrations) such as storage, transfer or disposal sites,
- The location of any known spillages or leakages
- Factors affecting the possible movement of contaminants such as soil type, structure, hydraulic conductivity, depth to groundwater, site gradients and paths of least resistance (pipelines, sewers, cables etc.)
- Factors that might influence or limit the position of sampling points for obtaining soil, water or gas samples, e.g. the location of obstructions such as hard surfaces, buildings, services or underground structures,
- Environmentally sensitive receptors in the vicinity such as residential homes, buildings with basements, surface water

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x

phase

- Surface water
- Atmosphere above the ground surface
- Any fluids in culverts or drains
- Any contaminated structures

The sampling will aim to

- Confirm suspected sources of contamination
- Identify unknown sources of contamination
- Determine types and concentrations of contaminants
- Determines the lateral and vertical spread of contaminants
- Provide sufficient data to determine suitable remedial measures if necessary.

The major items to consider when determining the sampling regime will be:

- Analytical requirements – e.g. criteria

The location of sample points should also take into account those factors likely to influence the distribution (or migration) of contamination across the site. These include any history of spills, site gradient, geology and hydrogeology (soil structure, permeability and direction of groundwater movement) and the location of any foundations, subsurface pipelines, cables, conduits or voids.

The location of sampling points can be determined by a variety of methods although two major approaches will be ucTJ 0.DC 0 Tc 0 Tw -13.61f3DC 0 Tc 0 Tw -5 TD [(Thmsbctte.T

5.2.8 HEALTH AND SAFETY PROCEDURES

The varied health and safety procedures appertaining to contaminants will be reviewed and implemented for each site as and when human contact with a contaminant is anticipated such as during intrusive investigation. Protection from hazardous substances will be based on:

- hazard avoidance
- hazard control and
- personal protection from the hazard.

Prior to any site visit it will be necessary to review information derived from the desktop study in order to assess any health and safety issues that may affect any council officer and others attending.

This assessment will be based on known information at the time of any on-site contaminants or land/water hazards resulting from past land use and associated potential contaminants.

Special consideration will be given where gas might be present and with other hazards such as time shafts, wells, underground constructions and unsafe buildings.

The Environment Agency rather than the Local Authority becomes the enforcing authority for land designated as having 'special site' status. Where there is evidence to suggest that controlled waters are being polluted by contaminated land the Environment Agency will work alongside the Local Authority in consultation with the Local Authority. Certain groups of contaminants and the presence of aquifers and ground water source protection zones, are highlighted in the regulations for the consideration of special site status.

5.3 POWERS OF ENTRY

Entry onto land will be required in order to establish if contamination which presents a risk exists. If this land is owned by the local authority, then in agreement with estates section and other departments formal permission will not be needed to enter. However, if that land is under private ownership then powers of entry under section 108 of the Environment Act 1995 may be used. In order to gain the right of entry the authority must be satisfied that:-

- there is a reasonable possibility that a pollutant linkage exists on the land.

Where the land is occupied by residential property, or where heavy plant or machinery is to be brought on site, then seven days written notice must be given. Where no consent from the land owner is given then a warrant from a Magistrate can be sought.

Chapter 6

INFORMATION MANAGEMENT

6.0 INFORMATION SOURCES

A wide variety of information sources will be considered during the determination process including:

- OS and other historical maps and plans;
- Geological and environmental information and plans;
- Information provided by statutory consultees;
- Council records;
- Industry Profiles published by DEFRA.

The designation of contaminated land will be based on best available evidence.

6.1 INFORMATION COLLECTION AND EVALUATION

INFORMATION COLLECTION

As outlined above there are many different sources of information that are relevant and useful in investigating the potential sources, pathways and receptors. Table 8 outlines the data sources that will be utilized and its use.

INFORMATION ON HARM

The information on actual harm, or pollution of controlled waters, will be sourced from files within the Environmental Health Section, Legal and Planning Sections of the authority, historical land use data, and data provided by the Environmental Agency together with water service providers. The categories of ‘harm’ to receptors include:

- Harm to human (users and occupiers of land, people living near the land through exposure to substances such as asbestos, toxic chemicals, carcinogenic material.
- Harm to the environment which may have implications for ecosystems.
- Harm to water quality (surface and ground water), particularly when considering controlled water.
- Direct physical harm to animals and humans through hazards such as explosive or asphyxiating gases from landfill and/or hidden toxic waste.
- Harm to structures, for example the chemical decomposition of building materials (water born or air born contaminants), fires and explosions from waste material in landfill.

Table 8 Shows Information held withinthe Authority to date that will be used in Compiling in the Idertification and Assessment of Contaminated Land.

Data Source	Comments	Use
OS Historio5p-Maps ata S		

Location of
LNRs, SINCs
and SLA Sites

6.1.4 INFORMATION AND COMPLAINTS

A complaint regarding contaminated land will be dealt with in the same manner as those received by the authority's Environmental Health Section for other matters considered as a 'statutory nuisance'.

Complainants can expect:

- their complaint to be logged and recorded,
- to be contacted by an officer regarding their complaint within five working days of receipt, and
- to be kept informed of progress towards resolution of the problem.

In the context of contaminated land a complainant, who may be the 'appropriate person', has the right to appeal to a magistrate court against a remediation notice issued by a local authority within twenty-one days.

Every effort will be made to resolve complaints quickly and efficiently. The legislative framework does, however, present a number of obstacles to the speedy resolution of problems:

- the need for proof of a pollutant linkage
- the need to consult with stakeholders
- the designated process of issuing remediation notices
- the requirement to make every effort to locate the original polluter (or 'Class A' person)

6.1.5 DEALING WITH ANONYMOUSLY- PROVIDED INFORMATION AND ANECDOTAL EVIDENCE

The council does not normally undertake investigation based on anonymously supplied information. In exceptional circumstances, an investigation following receipt of such information may be undertaken. All information received will be dealt with in a manner that allows for determining credence without jeopardising a person's rights, or the spirit of a legitimate request for confidentiality. There may be some instances where confidentiality cannot be guaranteed due to the requirements of regulations under the Environmental Protection Act. The authority will use its best endeavours to respond to reported contamination incidents in a manner that ensures protection of the environment and human health following an appropriate seeking and assessment of facts in a robust scientific manner.

6.1.6 VOLUNTARY PROVISION OF INFORMATION

All information received by the Council will be acknowledged and included in the decision-making process, however anonymously supplied information and anecdotal evidence will be dealt with caution. Land that is identified as potentially contaminated by information received will be evaluated and included in the programme of investigations. However, the Council will not be obliged to keep the organisation/persons informed regarding the progress of any actions associated with the information.

6.2 COUNCIL PROVISION OF INFORMATION

Where dealing with the general public in written or verbal form it is the policy of the Council to be open and transparent. The availability of information will comply with the Environmental Information Regulations 1992. Where a written response is required to a contaminated land enquiry, the Council will levy a reasonable charge proportional to the time taken to complete a response and any administration charges appropriate. Expedited enquiries and additional copies may incur additional fees.

6.3 INFORMATION AND DATA STORAGE

The successful management of information generated as a result of the implementation of this strategy is crucial, as this data will form the basis of any decision made on declaring a site as contaminated. Government guidance on good practice for the storage and holding of this data is contained in the DEFRA document has been used the basis for the information management system to be utilised by this authority.

6.3.1 DATA STORAGE METHODS

Current information on contaminated land is limited to the Landmark database, which is a computer based system identifying previous land usage within the authority. As the inspection of specific sites progresses however, much more information will be generated through surveys and sampling investigations. This information will be used in the risk based assessments carried out for each site. The Environmental Health Section currently use two formats to store information paper and the Geographical Information System (GIS). Both storage systems will be used during the inspection process, as there are weaknesses and strengths in each (see below).

Use or Benefit	Paper System	GIS System
Accessibility	*	***
Presentation of information	*	***
Cross referencing data sets	*	***
Sharing information with other agencies or departments	*	***
Controlling quality	***	*
Managing security	***	*
Distribution of data	*	***
Storage of detailed information	***	*
Ease of use	*	***

(Key: *satisfactory, ***excellent)

The quality control and security of the information collected and stored will be carried out in accordance with the councils procedures and the requirement of the Data Protection Act 1998.

6.4 GENERAL LIAISON AND CO MUNICATION STRATEGIES

6.4.3 LIAISON WITH OTHER LOCAL AUTHORITIES

The South East Wales Liaison Group for contaminated land has been established representing all the local authorities within this area. Its purpose is to disseminate information, share ideas on best practice and to liaise and discuss specific issues which effect adjoining authorities. The group currently meet on an 2 monthly basis. Urgent issues are dealt with between the authority contacts by telephone or e-mail as they arise.

6.4.4 LIAISON WITH STATUTORY BODIES

At the local level the Environment Agency has nominated 'Area Contacts' within their Contaminated Land team who will be the first point of contact for the Authority. The Authority also falls within the Wales region the contact details of which are given below:

Regional Office
Environment Agency Wales
Abacus House

community of the Authority’s intentions and to allow them to comment on the

7.3 REVIEW OF THE INSPECTION STRATEGY

The Authority will review the inspection strategy to ensure that it represents an efficient use of resources and is effective in meeting the requirements of the legislation.

The inspection strategy will be reviewed on a six-monthly basis for the first full year of operation. If this is found to be working satisfactorily following the first year of operation i.e. following the two reviews, then the inspection strategy will then be reviewed on a yearly basis.

The purpose of the reviews is to assess the ongoing progress and any work being carried out at the time. The reviews will also examine the priorities laid out – in case any investigations have brought land to attention needing greater priority. The Authority recognises that reviews may be required in light of new information including:

- Significant changes in legislation
- Establishment of significant case law or other precedent
- Revision of guideline values for exposure assessment

If any of the above points required immediate action a review meeting will be arranged to discuss that particular point before the next scheduled review. Arranging these meetings will be the responsibility of the strategy co-ordinator and to whom issues requiring urgent attention must be addressed.

7.4 AUDIT OF INSPECTION PROCEDURES

The validity of purchased data and recorded knowledge used in the initial survey and data collation processing will be validated by site inspections undertaken by a qualified officer of the council. The development of an audit procedure to establish the accuracy of data and reports held by the authority will be undertaken once the programme of further work, resource application and general strategy implementation has occurred post October 2002

APPENDIX A

		the basis of relevant information concerning: x That type of pollutant linkage, or x That type of significant harm arising from other causes.
3	All ecological system effects	If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage,

Appendix C

Reference documents

- Part IIA,Environmental Protection Act 1990
- DETR. Contaminated Land Inspection Strategies: Technical Advice For Local Authorities 2001.
- The National Assembly for Wales. Remediation of Contaminated Land 2001.
- The NationalAssembly for Wales. Environmental Protection, Wales. The Contaminated Land (Wales) Regulations 2001.
- The Environment Act 1995
- The Environmental Information Regulations 1992
- Planning Guidance (Wales) May 1996
- The Environment Agency, LGA. DEFRA, CIEH, Local Authority Guide to the Application of Part IIA of the Environmental Protection Act 1990
- WDA. The Remediation of Contaminated Land 1993
- SNIFFER. Report SR (97) 11F. Communicating Understanding of Contaminated Land Risks. 1999
- DoE. CLR Report No. 6: Prioritisation and categorization procedure for sites, which may be contaminated. 1995
- DoE. CLR Report No: 5: Information systems for land contamination. 1994
- Construction Industry Research & Information Association (CIRIA) 078-Building on derelict land. 2001.
- DoE. Industry Profiles
- BGCBC. 1996-2011 Unitary Development Plan.
- Environment Agency. Policy and Practi
  BGroundwtedr Vulnerabilty G1:100,002Mayp Seris

APPENDIX D
GLOSSARY OF TERMS

Brownfield Site	Land that is or was occupied by a permanent structure and associated fixed surface infrastructure.
Contaminant	A substance which is in, on or under the land and which has the potential to cause harm or to cause pollution of controlled waters.
Contaminated land	Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that a) Significant harm is being caused or there is a significant possibility of such harm being caused, or b) Pollution of controlled waters is being, or is likely to be caused.
Controlled Waters	Defined within s104 of Water Resources Act 1991 it includes territorial, coastal, inland fresh waters and groundwater.
Current Use	Any use which is currently being made, or is likely to be made, of the land and which is consistent with any existing planning permission, including a) any temporary use permitted under the TCPA legislation b) including future uses or developments which do not require a new or amended grant of planning permission. c) Any likely informal recreational use of the land with or without the owners consent. d) In relation to agricultural land, the current use should not be taken to extend beyond the growing or rearing of crops or animals, which are habitually grown or reared on the land.
Derelict land	Land where former structures are no longer in use and are in a general state of ruin or disrepair
Greenfield site	Undeveloped land in its original or natural state
Harm	Harm tot he health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property.
Pathway	One or more routes or means by which a receptor is a) is being exposed to, or affected by, a contaminant, or b) could be so exposed or affected
Pollutant	A contaminant which forms part of a pollutant linkage
Pollutant linkage	The relationship between a contaminant, a pathway and a receptor
Pollutant of controlled waters	The entry into controlled waters if any poisonous, noxious or polluting matter or any solid waste matter.
Possibly significant of harm	A measure of the probability, or frequency of the occurrence of circumstances, which would lead to significant, harm being caused.
Receptor	Either; a) a living organism, a group of living organisms, an ecological system or a place of property which

	i) is in category listed in Table A (see Appendix A) as a type of receptor, and ii) is being, or could be, harmed by a contaminant or b) controlled waters that are being, or could be, polluted by a contaminant.
Risk	The combination of: a) the probability or frequency of occurrence of a defined hazard and b) the magnitude or seriousness of the consequences
Significant Harm	Means any harm which is determined to be significant in accordance with harm defined in Table A (see Appendix A)
Significant Pollutant linkage	A Pollutant linkage that forms the basis for a determined that a piece of land is contaminated land.
Significant possibility of significant harm	A possibility of significant harm being caused which is determined to be significant in accordance with the statutory guidance (see Appendix B)
Substance	Any natural or artificial substance, whether in solid, liquid, gaseous or vapour form.

APPENDIX E
REVIEW OF CONTAMI NATED LAND STRATEGY

REVIEW OF CONTAMINATED LAND STRATEGY 2003

This report has resulted from the annual review of the authorities contaminated land strategy. This review has now been completed for 2003 and as a result of information on the potential number of contaminated sites within the Borough changes have been made to the inspection timetable of the strategy.

The 2002 timetable for the implementation of the strategy is set out below:-

- Complete the examination of historical data and enter all information onto the GGP and land mark historical mapping system by January 2003.

- To carry out preliminary site visits and differentiate between private land authority owned sites by April 2003.

- Identifying all the sensitive receptors listed within Table A of the statutory guidance in association with the categories of potentially contaminated sites by April 2003.

- Undertake risk assessments to place potentially contaminated into priority categories for detailed inspection by April 2004. This will include local authority owned land.

These timescales will be subject to an annual review.

The medium and low risk sites, totalling 1556 sites are currently undergoing further risk assessment to prioritise them for detailed investigation.

This risk assessment utilises a computer software to assess the source – pathway – receptor link for each site and assigns each si

REVIEW OF CONTAMINATED LAND STRATEGY 2004

This report has resulted from the annual review of the authorities contaminated land strategy. This review has now been completed for 2004 and has identified areas that need to be altered and improved. This has lead to alterations being made to the inspection timetable due to the high number of potential contaminated sites within the borough, and also the availability of funding to carry out site investigation work.

The following amendments have been made to the inspection timetable-

- Undertake source-pathway-receptor risk assessments on all medium risk sites, which have been categorised as such on the basis of their previous or current land use. This work is to be completed by December 2005.

- Undertake source-pathway-receptor risk assessments on all low risk sites, which have been categorised as such on the basis of their previous or current land use. This work is to be completed by December 2006.

- Subject to available funding, carry out the necessary site investigation work on all category one sites by December 2010.

- Subject to available funding, carry out the necessary site investigation on all category 2 sites by December 2015.

REVIEW OF CONTAMINATED LAND STRATEGY 2005

This report has resulted from the annual review of the authorities contaminated land strategy. This review has now been completed for 2005 and has identified areas of progress in the inspection timetable, as the source-pathway-receptor risk assessments for all potential contaminated land sites have been completed. As a result