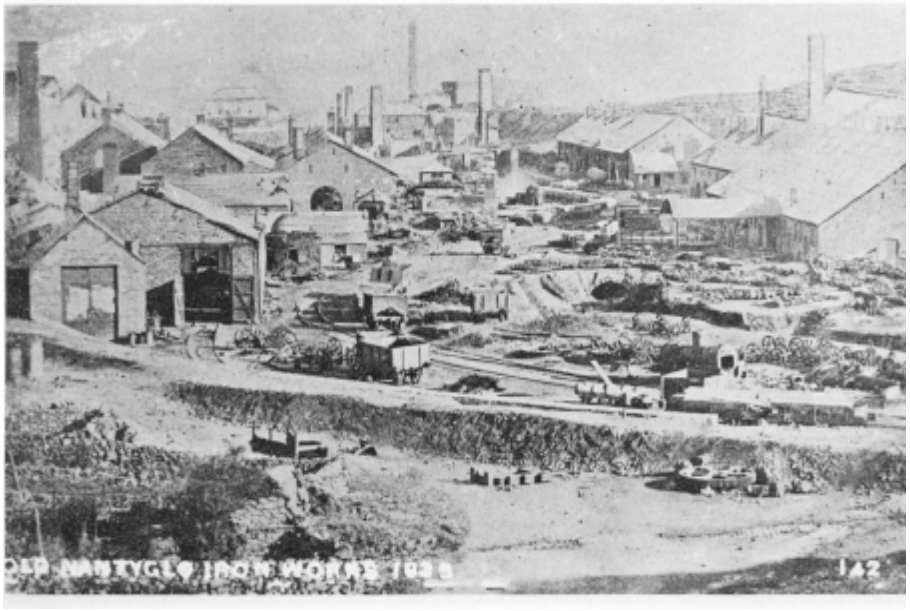
Cyngor Bwrdeisdref Sirol
Blaenau Gwent
County Borough Council



Environmental Health and Trading Standards Division
Contaminated Land Strategy

CONTENTS Page

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 all 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 dispersion of the population which means that all the current land use of the authority needs to be examined to determine if a significant pollutant linkage exists. Once these potentially contaminated sites have been identified prioritisation will take place on the basis of the level of risk they present.

This strategy outlines how land will be assessed, how information will be stored and what timescales will be involved in carrying out the inspections.

Chapter 1

CONTAMINATED LAND

1.0 INTRODUCTION

This document is intended to fulfil the requirements of Part IIA of the Environmental Protection Act (EPA) 1990 which came into force in Wales on 1st July 2001. This legislation introduces a new regime for the identification and remediation of contaminated land, improving the transparency by which such land is dealt with and ensuring that contaminated land is managed in a strategic manner. As part of this regime local authorities are required to a written strategy for the inspection of land within its area by the 1st October 2002.

All industrial societies including the UK have inherited a legacy of land contamination arising from industrial, mining and waste disposal activities. In certain circumstances the legacy can pose a serious threat to human health or the environment. It is in response to the growing awareness and understanding of this legacy of contaminated land that policy and legislation have been formulated to deal with contamination where it poses unacceptable risks to human health and the environment.

BACKGROUND TO THE REGIME

The new regime introduced by Part IIA has resulted from the approach taken in Section 143 of the Environmental Protection Act 1990 (EPA) where the concept of registers of contaminated land was introduced. However, the proposed introduction of Section 143 was met with concern because both developers and local authorities felt that the registers proposed under Section 143 would create planning and financial blight, deterring investment. The current regulations are the culmination of policy debate and the emphasis has changed from the principle of 'potentially polluting activities' to the concept of 'suitable for use' based on risk assessment.

OBJECTIVE OF THE REGIME

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 to 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 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:

(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".

Harm is defined in section 78(a) of the EPA (1990) as "harm to the health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property".

The statutory guidance provides clear guidance upon what harm is considered significant. In order to meet this definition, contaminated land must affect the receptors listed in the guidance, i.e. human beings, property, certain ecological systems and controlled waters. Examples of significant harm as given in the guidance, include death, disease and birth defects. A copy of the table from the guidance regarding significant harm is given in Appendix A.

The guidance describes the conditions required for there to be a 'significant possibility of significant harm'. Those are given in Appendix B. The following factors should also be considered when deciding whether the possibility of harm being caused is significant:

- The nature and degree of harm.
- The susceptibility of the receptors to which the harm might be caused, and
- The timescales within which the harm might occur.

1.4 THE CONCEPTS OF RISK ASSESSMENT & POLLUTANT LINKAGE

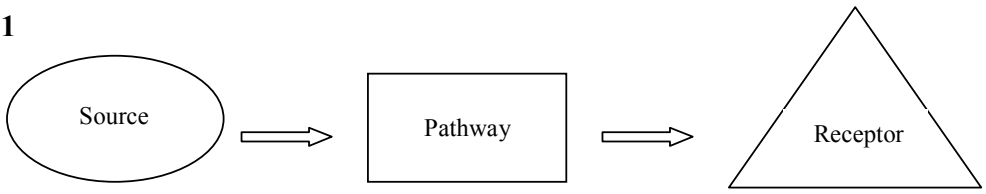
The new definition of contaminated land is based upon the concept of risk assessment. A risk assessment, which identifies the pollutant linkage must be undertaken before a site is designated as contaminated land. The pollutant linkage is represented in Figure 1 and consists of:

- a **source** of contamination in, on or under land 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 pr surface water, that could be affected if exposed to the contaminant.

Figure 1



It is considered that both proving the pollutant linkage and meeting the definition of significant harm will be difficult, thus it is likely that although all of the Blaenau

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

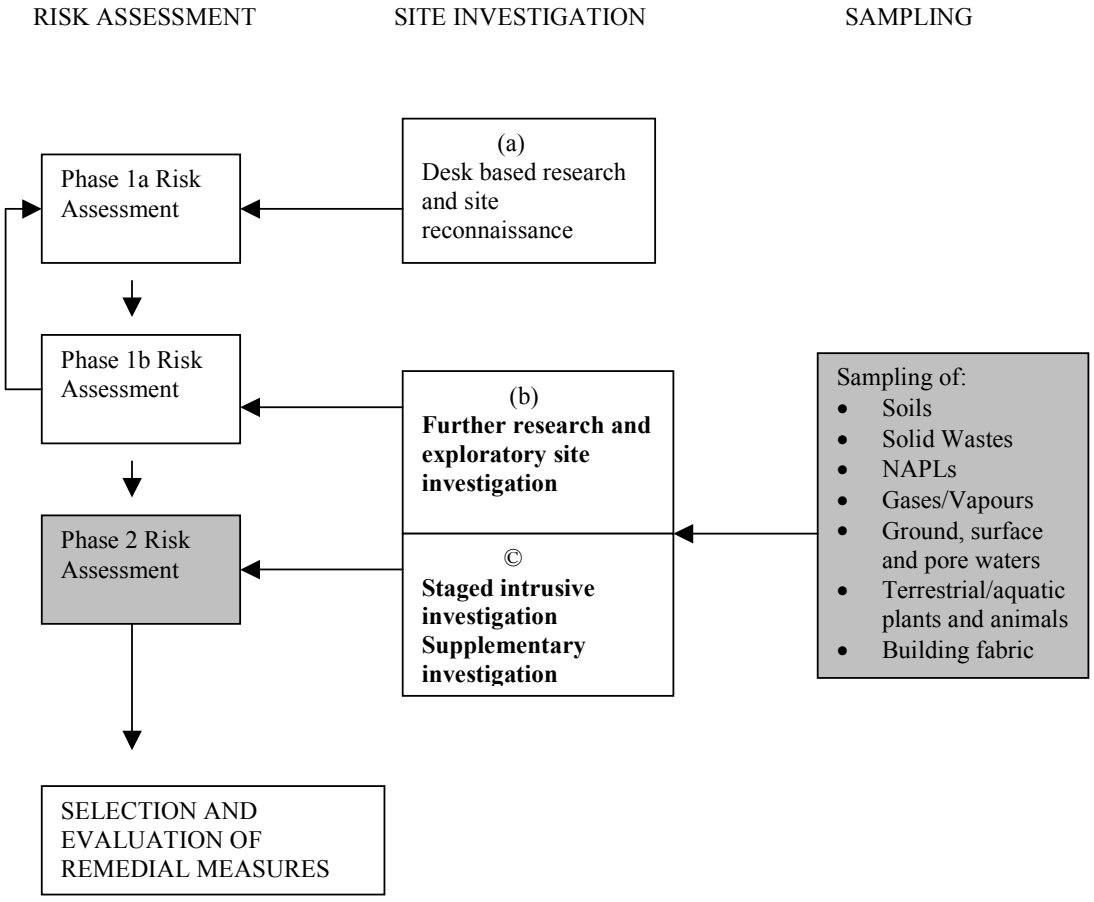
The definition of contaminated land is based upon the principles of risk assessment. Risk assessment is undertaken by initially establishing the form and concentration existing for any discovered substances on the identified area of land.

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 *'methods of inspection'* on page 32.



HAZARDS RESULTING FROM CONTAMINATED LAND

Land contamination can create hazards where pollutants in, on or under land reach a target or receptor, through any 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
• (Vapour or gas) air path to the receptor; • by leachate or erosion (e.g. to surface waters, to drainage, or to deeper aquifers); • by direct uptake (e.g. to the food chain , or other parts of the ecosystem); • by direct ingestion, contact or inhalation (e.g. by humans, animals or other organisms); • 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 category, a substantial loss in its value resulting from death, disease or other physical damage. The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. In this chapter, this description of significant harm is referred to as an "animal or crop effect"
4	Property in the form of buildings. For this purpose, "building" means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building.	**Structural failure, substantial damage or substantial interference with any right of occupation. For this purpose , the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.** **In this chapter this description of significant harm is referred to as "building effect"**

Table 3 List of Contaminant Types and Examples

1. **(Other)** – those not classified below
2. **Acids**
   Sulphuric, hydrchloric, nitric, hydrofluoric,
3. **Alcohols**
   toluol, xylol,
4. **Alkalis**
   caustic, soda,
5. **Amines**
   Analine,
6. **Aromatic Hydrocarbons**
   Benzene, ethylbenzene, phenol, toluene, xylene, cresol, catechin, resorein, hydroquinone,
7. **Asbestos**
   Actinolite, amostie (brown), anthophyllite, chrysolite (white), crocidolite (blue), tremolite,
8. **(Biological Agents)** – not designated as substances
9. **Chlorinated Hydrocarbons**
   1,2 dichloroethane, dichloromethane, tetrachloromethane, tetrachloroethane, thrichloromethane, vinyl chloride, monochlorobenzene, dichlorobenzol, trichlorobenzol, tetrachlorobenzol, pentachlorobenzene,
10. **Coal Tar**
    Coal tar (creosote),
11. **Coking Works Residues**
    Coal tar (creosote), phenols, cyanide (free/complex), sulphur (sulphide/sulphate),
12. **Combustible Materials**
    Timber, ash, coal residues,
13. **Contamination to be determined**
14. **Corrosive Substances**
    Acids (see specific list), alkalis (see specific list),
15. **Cyanide**
    Free, complex, thiocyanate,
16. **Degreasers**
    Trichloroethylene,
17. **Dyestuff Residues**
    Cadmium, benzidine,
18. **Farm Waste and Spillage**
    Slurry, fertilizers, pesticides, herbicides, petrochemical products
19. **Fillers and Extenders**
    Silica, titanium dioxide, talc,
20. **Gas Works Residues**
    Coal tar (creosote), phenols, cyanide (free/complex), sulphur (sulphide/sulphate),
21. **Hydrocarbons**
    Various fractions (oil refining),
22. **Impurity Metals**
    e.g. antimony and arsenic in metal processing,
23. **Metals**
    Barium, cadmium, chromium, cobalt, copper, trivalent chromium, lead, mercury, molybdenum, nickel, zinc,
24. **Metalloids (wood processing)**
    Arsenic, antimony, zinc,
25. **Mineral Oil, petrochemical**
26. **Miscellaneous**
    Tetrahydrofuran, pyridine, tetrahydrothiophene, cyclohexanone, styrene, phthalates,
27. **Octane Boosters, petrochemical**
    Lead, MTBE,
28. **Paints**
29. **Pesticides**
    Cyclodienes (organochlorines), carbamates, organophosphates, pyrethroids, herbicides, fumigants, inorganics
30. **Plastics**
31. **Plastic Residues**
    Barium, cadmium, lead
32. **Polycyclic Aromatic Hydricarbons**
    anthracene, benzopyrene, fluoroanthrene, naphtalene, phenanthrene, benzoanthracene, chrysene, benzofluoranthrene, benzoperylene, indenolpyrene,
33. **Reactive Monomers**
    isoprene, isobutylene,
34. **Salts**
    chlorides, sulphides,
35. **Toxic, Flammable and Explosive gases**
    acetylene, hydrogen cyanide, hydrogen sulphide, methane, butane, propane, LPG,
36. **Toxic Substances to be determined**
37. **Flammable Liquids and Solids**
    fuel oils, solvents,
38. **Unlicenced or Old and Abandoned Landfill**
    Various waste products and contaminants, products from decomposition

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 and regime. Technical advice suggest the inspection procedure shall be.

- Rational, ordered and efficient.
- Be proportionate to the seriousness of any actual or potential risk.
- Seek to ensure that the most pressing and serious problems are located first.
- Ensure that resources are concentrated on investigating those areas where the authority is most likely to identify contaminated land, and
- Ensure that the local authority efficiently identifies requirements for the detailed inspection of particular areas of land.

The local authority must have consideration of local circumstances and in particular they should consider:

- Any available evidence that significant harm or pollution of controlled waters is actually being caused,

- The extent to which any receptor from Table 2 or controlled waters is likely to be found in any of the different parts of the authorities area.

- The extent to which any of those receptors is likely to be exposed to a contaminant as a result of the use of the land or of the geological and hydro geological features of the area,

- The extent to which information on land contamination is already available,

- The history, scale and nature of industrial or other activities which may have contaminated the land in different parts of its area,

- The extent to which remedial action has already been taken by the authority or others to deal with the land contamination problems or is likely to be taken as part of an impending redevelopment, and,

- The extent to which other regulatory authorities are likely to be considering the possibility of harm being caused to particular receptors or the likelihood of any pollution of controlled waters being caused in particular parts of the local authority's area.

The development of a strategic approach to deal with contaminated land will mean the consultation with established public bodies including the Environment Agency the Welsh Development Agency, the Countryside Council for Wales, the Glamorgan and Gwent Archaeological Trust and Cadw. The views and ideas of the wider community will also be sought. Neighbouring local authorities must also be consulted and to this end, liaison groups have been established to ensure the appropriate dissemination of information and a uniform approach to enforcement.

Chapter 2

GENERAL POLICY OF THE LOCAL AUTHORITY

2.0 INTRODUCTION

The development of the contaminated land strategy has been formulated within the overall policies and aims of the Blaenau Gwent County Borough Council.

2.1 CORPORATE AIMS

Blaenau Gwent County Borough Councils Mission Statement is

"To provide services which enhance the quality of life of the people of Blaenau Gwent".

Within this context the key relevant priorities from the authorities community plan are:

- Equality of opportunity
- Opportunities for lifelong learning
- Opportunities to earn a living
- Access to effective, appropriate and integrated social and health care services
- A safe, healthy and fair environment for all residents
- A decent home for all residents of Blaenau Gwent
- Leisure opportunities for all residents.

2.2 EXISTING CONTROLS TO ADDRESS CONTAMINATED LAND

2.2.1 PLANNING POLICIES

Planning Policy Wales 2002 provides the basis for land contamination and development in Wales. The planning policies adopted by Blaenau Gwent County Borough Council and contained in the emerging Unitary Development Plan define the current controls imposed on developers where land is known or suspected to be contaminated. The aim of these policies is to ensure that the development of contaminated land is 'suitable for use' and that the physical constraints on the land are taken into account at all stages of the planning process. The present system often requires that the developer provide the Planning Authority with sufficient information on the proposed site to assess its contamination status and to ensure that remedial treatments are sufficient to protect end users and the environment. It will remain the policy of the Authority to control development and land use through the planning policies defined in the adopted Blaenau Gwent Local plan and emerging UDP. Part IIA of the Environmental Protection Act 1990 will however be closely related and interconnected. The collation of site-specific information within the development of the Strategy will aid the planning process, particularly with regard to derelict and Brownfield sites (see Appendix D for glossary of terms). Part IIA will also provide a mechanism for checking that remediation previously carried out during development has been to a sufficient standard and that sites are purpose changes to the core

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 is 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 have 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 closure 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 the borough. This legislation does provide that where a contaminant is already subject to IPPC control, it cannot also constitute contaminated land under Part IIA.

2.2.4 WASTE MANAGEMENT

The legislation that is used to control the waste management regime is contained in Part II of the Environmental Protection Act 1990. Waste management functions of the Authority include the disposal of municipal wastes, recycling initiatives, the provision of civic amenity sites and the strategic management of waste minimisation initiatives. A further duty of the Authority is the maintenance of closed landfill sites. Landfill gas and leachate are routinely monitored. Information and monitoring results from the existing programme will be vital to the data gathering exercise required for Part IIA. Where waste is subject to the waste management regime of the Environmental Protection Act 1990, it cannot also be determined as contaminated land. Where contaminants are removed from a site as part of a remediation operation under Part IIA, the removal of contaminated waste would be controlled under the waste management regime.

2.2.5 HEALTH AND SAFETY

Health and safety issues are controlled by both the Health and Safety Executive (HSE) and the Local Authority, as defined in regulations made under the Health and Safety at Work Act 1974. Remediation operations involving the ‘handling’ of contaminants, will require that the relevant safety standards and guidelines be

followed. Blaenau Gwent County Borough Council will liaise with the HSE to ensure that no duplication of safety controls occur during remediation work.

2.2.6 STATUTORY NUISANCE

Until the introduction of Part IIA legislation, the statutory provisions of Part III of the Environmental Protection Act 1990 were the traditional means of achieving remediation of any risk of pollution arising on premises. This legislation has now been amended to provide that no land in a 'contaminated state' can now be defined as a statutory nuisance. Both the implementation of the contaminated land inspection strategy and the investigation of statutory nuisance issues will be conducted by Environmental Health Officers of the Environment and Development Department so permitting the coordination of information gathering.

2.3 ENVIRONMENT AND DEVELOPMENT DEPARTMENT

Prior to the enactment of the Contaminated Land Regulations (Wales) 2001, the responsibility for the regulation of contaminated land within the county borough lay with the Environmental Health Section. Environmental Health Officers (EHOs) will be responsible for the development and implementation of the Part IIA Inspection Strategy. Additionally, EHOs will continue to carry out the investigation and enforcement regarding land in the borough where other contamination issues arise that do not fall within the contaminated land legislation. Officers of the Environmental Health Section of the Directorate are responsible for the monitoring of the Authority's closed landfill sites

2.4 AGENCIES AND COLLABORATIONS

2.4.1 WELSH DEVELOPMENT AGENCY

Many areas of derelict land have come about as a result of past industrial and other contaminative uses. Derelict land matters in Wales come mainly under the province of the Welsh Development Agency (WDA) Act 1975. The powers to deal with derelict land are contained in section 16 of the WDA Act 1975, as amended by the Derelict Land Act 1982. The reclamation of derelict land is considered essential to the successful regeneration of the Welsh economy and the improvement and protection of the Welsh environment. The WDA provides funded remediation packages, based on a set of strict criteria and complying with current legislation. The work of the WDA will therefore be closely linked to the Part IIA regime, a fact that has already been taken into account in the Adopted Local Plan, Policy E12 and emerging UDP policy EN25. These policies contain a list of sites identified for appropriate reclamation treatment. Many of the sites identified are former colliery or heavy industry sites that are within the development boundary of the authority. Subject to the availability of WDA funding, the council will seek to encourage reclamation schemes for land in its ownership.

2.4.2 DEVELOPMENT BRIEFS AND SUPPLEMENTARY PLANNING GUIDANCE

Both the adopted local plan and emerging UDP recognise the need to underpin policy by producing a Development Brief. This could include site specific supplementary planning guidance. The supplementary planning guidance will provide a clear framework for the future development controls of the site and will be subject to the usual consultation process and resolution of the Council.

It is clear that the reclamation policies contained in the UDP will be closely linked with Part IIA. However, it should be noted that the sites identified by the WDA for reclamation may be derelict and/or contaminated but not in accordance with the legal definition contained in the Part IIA legislation.

2.4.3 BLAENAU GWENT HEALTH ALLIANCE

Much of the current public health strategic direction emanates from 'Better Health, Better Wales' and the subsequent strategic framework document published by the National Assembly in October 1998. The recognition that environmental factors are a key influence on health will necessitate local authorities and health authorities working together both strategically and operationally. It is the intention that Part IIA will focus on the protection of sensitive receptors and the environment to enable and promote public health. The Blaenau Gwent Contaminated Land Strategy will work towards the identification and the ultimate remediation of contaminated land that will provide community improvements in line with those that will have to be included in any future Health, Social Care and well being Strategy.

2.4.4 EMERGENCY PLANNING

Blaenau Gwent is associated with the Gwent Authorities Emergency Planning Service, a network that provides support and advice to local authorities in dealing with emergency situations. The council has an Emergency Response Team in place, comprising of both operational staff and a management team to control and direct an emergency response to incidents. The authority can demonstrate a capacity to deal with events relating to problems of contamination.

2.4.5 CHEMICAL INCIDENT MANAGEMENT SUPPORT UNIT

The Chemical Incident Management Support Unit (CIMSU) advises Health Authorities and Local Authorities on the management of chemical releases to the environment. It developed from the expertise and resources of two existing centres, namely; The Therapeutics and Toxicology Centre, in medical and environmental toxicology,and the University of Wales College of Medicine in Public Health Medicine and epidemiology. Blaenau Gwent Environmental and Development Directorate are subscribers to the CIMSU service and have access to a wealth of information to support the identification of substances in the investigation of contaminated land.

2.4.6 COMMUNICATING RISKS

The council recognises that the contaminated land strategy and its potential outcome of designating land as 'contaminated' may give rise to concern to people from all parts of society; for example communities, individuals, landowners and conservation groups. It will be the policy of the council to manage and coordinate the communication of the risks relating to contaminated land to all stakeholders in a responsible manner. The council will follow the guidance given in the document 'Communicating understanding of contaminated land risks' (produced by the Scottish and Northern Ireland Forum for Environmental Research) and will draw on the expertise of the councils Public Relations Team. This is discussed in further detail in section 6.4.

2.4.7 CONSULTATION WITH OTHER ORGANISATIONS, THE LOCAL COMMUNITY

This document has been drawn up in consultation with neighbouring local authorities the Environment Agency and representatives of Local Community.

2.4.8 ENFORCEMENT POLICY

In the execution of its duties the Authority will undertake action with the desire for agreement by the parties involved, but it will issue notices declarations and statements without prejudice where necessary and appropriate. The enforcement policy that has been adopted by the Environmental Health Section complies with the principles of the "Enforcement Concordat". This is the code of practice drawn up by central and local government in consultation with consumer and business groups. It sets out a blue print for fair, practical and consistent enforcement.

The authority will assess each case of hardship in relation to private contaminated land on its merits. The ownership of private land will be determined and the financial status of any responsible person assessed in relation to that individuals ability to pay for any necessary remediation work. Where cases of hardship are discovered the authorities priority will be to deal with imminent or serious risks to receptors as the authorities resources allow.

Recovery of costs involved in completing remediation work will be carried out through all available channels including land charges and central government funding.

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 begun 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

have been worked within the County Borough, combined with the Upper and Lower Ironstone series and formed the basis of the areas industrial wealth.

Abundant fossiliferous material and structural/paleogeoghical evidence is present in this sequence making identification of the ancient sedimentary environment relatively accurate.

4. The Middle Coal Measures

These measures crop out in a narrow poorly exposed belt around the northern rim of the basin. They extend from the base of the Amman Marine band to the top of the Upper Cwmgorse Marine band. These deposits form the entire Westphalian B and part of the Westphalian C stage of the Carboniferous period.

The sequence comprises of carbonaceous capped deltaic cyclotherms and is dominated by argillaceous sediments although there is a distinct coarsening above the horizon of the four Feet seam. This is characterised by a coarse-grained sucrosic orthoquartzite known locally as the 'Elled' rock. Numerous indicators of shallow marine transgression are evident throughout the sequence and also some economically important ironstone bands, e.g. Black Pins Mine ground, Soap Vein Ironstones and the Upper and Lower Darren Pins.

5. The Upper Coal Measures or Pennant Series

This series is up to 650m thick and makes up some 50% of the Coal Measures outcrop. This is dominated by the Pennant Sandstone plateau that has suffered denudation and erosion to give the incised valley profile of the area.

These beds extend from the top of the Upper Cwmgorse marine band to the Grovesend beds and contain the important Mynyddislwyn seam that has been worked from opencast and small mines.

These beds display increasing coarseness in succession, however, the horizons of the Brithdir beds are underlain by weak argillaceous rocks known as the 'Deri Red beds' that have been the source of much shear on the oversteepened valley sides.

3.3 HYDROGEOLOGY

The majority of strata outcropping in Blaenau Gwent are classified as minor aquifers with variable permeability. However, the Carboniferous Limestone at the northern end of the county borough does form a major aquifer.

The Westphalian Coal Measures may be divided hydrogeologically into the Upper Coal Measures or Pennant Sandstones, consisting predominantly of sand and the Middle and Lower Coal Measures, where the dominant lithology is mudstone.

The Upper Coal Measures contain large amounts of groundwater. They form a multi-layered aquifer system with separate bodies of water in each sandstone horizon, separated by the interbedded mudstones. As a result of disturbances and subsidence by mining, hydraulic continuity exists between the sandstones and even between the

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 lower 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, here the Upper Coal Measures are more than 60m thick. Yields of 51/s are considered good and 101/s is rare. Yields from the Middle and Lower Coal Measures rarely exceed 1 1/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 softer 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 10-121/s, particularly those associated with faults. This sequence is not really 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 confines 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/sfrom 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

3.4 HYDROLOGY

Blaenau Gwent County Borough Council has three main rivers the Ebbw Fawr, Ebbw Fach and Sirhowy. The map below outlines water courses in the South Wales area.

The Ebbw Fawr starts with several small streams and tributaries north of the Carno Reservoir in the Brecon Beacons. The Ebbw itself is formed where the Ebbw Fawr and Ebbw Fach converges in Aberbeeg. This river flows south and converges with the Usk where it flows to Newport and discharges into the Severn Estuary. From its source to its confluence with the usk if travels 47km. Towns located along its banks include Brynmawr, Nantyglo, Abertillery and Ebbw Vale.

The Sirhowy has its beginnings west of Shon Sheffrys' Reservoir in Trefil. It travels 32.6km through Tredegar and down through the Sirhowy Valley before entering the Ebbw north of Risca in Caerphilly County Borough and has a catchment area of 76.1km^2.

There are currently 34 properties within Blaenau Gwent which are known to have their own private water supplies. The quality of this water is tested periodically by the authority to its fitness for human consumption. Most of these properties are isolated agricultural premises and are registered with the authority.

3.5 LAND USE CHARACTERISTICS

The changing nature of employment within the county borough from former colliery sites and large-scale heavy industry has in part been responsible for the current distribution of industrial land use today. Many of the former colliery sites have undergone reclaimation and are now sites of industrial and commercial development, such as Rising Sun and Cwmtillery. There are approximately 140 hectares of industrial land within the county borough that will be preserved for this kind of land use in the future, their location, size, and planning use have been outlined in Table 4 below.

Table 4

Location	Ward	Area (Ha)	Class		
			B1	B2	B8
Crown Business Park	Sirhowy	2.21	•	•	•
Crown Avenue(East)	Sirhowy	1.13	•		
Rassau Extension (East)	Rassau	8.13	•	•	•
Rhyd-y-Blew	Badminton	26.60	•	•	•
Waun y Pound	Ebbw Vale North	6.94	•	•	•
Letchworth Road	Ebbw Vale North	0.49	•	•	•
Marine Colliery	Cwm	3.84	•	•	•
Cwmcrachen Lower	Nantyglo	2.35	•	•	•
Extension to Cwmcrachen	Nantyglo	1.38	•	•	•
North Rising Sun	Nantyglo	6.83	•	•	•
Rising Sun Upper	Nantyglo&Blaina	4.61	•	•	•
Cwmtillary Valley	Cwmtillary	1.02	•	•	•
Adj.Blaen-y-Cwm School	Brynmawr	1.50	•		
Barleyfield Ind. Estate	Nantyglo	1.36	•	•	•
Tafarnaubach(West)	Sirhowy	1.05	•	•	•
Tafarnaubach (Central)	Sirhowy	0.68	•	•	•
Tafarnaubach (North)	Sirhowy	1.08	•	•	•
Tarfarnaubach (East)	Sirhowy	1.22	•	•	•
Tarfarnaubach (South)	Sirhowy	1.75	•	•	•
Crown Business Park	Sirhowy	2.58	•	•	•
Tredegar Business Park	Tredegar C&W	8.44	•		
Rassau	Rassau	11.55	•	•	•
Rassau (Platform H)	Rassau	6.08	•	•	•
Waun y pound	Ebbw Vale North	1.15	•	•	•
Garden Festival Wales	Ebbw Vale South	5.05	•	•	•
Roseheyworth (North)	Cwmtillary	2.70	•	•	•
Roseheyworth Business	Cwmtillary	1.82	•		
Glandwr	Llanhilleth	0.70	•	•	•
Cwmdraw South	Ebbw Vale	1.00	•	•	•
Rising Sun Lower	Blaina	1.09	•	•	•
Crown Business Park (A)	Sirhowy	1.50	•	•	•
Crown Business Park (C	Sirhowy	3.90	•	•	•
Steelworks Road (North)	Ebbw Vale	0.50	•	•	•
Garden Festival Wales (B)	Ebbw Vale	3.01	•	•	•
Roseheyworth Business	Abertillary	0.81	•		
Corus Site	Ebbw Vale South	15.0	•		
	Total	141.05			

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 where the local authority are aware that controlled waste has been deposited in the past. These sites are no longer receiving waste, but the authority continues to monitor a number of them to ensure they do not present a risk from the venting of methane or leachate.

Table 6

Site	Grid Ref	Type of Waste	Date Closed
Ebbw Vale, Collage Road	SO 163,106	Rubble	1970
Ebbw Vale, Hill Top	SO 164,105	Domestic	1979
Ebbw Vale, Waun-y-Pound	SO 155,105	Domestic/Slag	1960
Tredegar, Jesmond Dene Stadium	SO 134,087	Inert	1997
Tredegar, West Hill	SO 135,097	Domestic	1980/81
Trefil, Pentwyn Farm	SO 121,000	Inert	1995
Brynmawr, Aneurin Crescent	SO 189,126	Domestic	1980
Brynmawr, Blaenant Farm	SO 199,113	Inert	1993
Brynmawr, Dunlop Semtex	SO 186,113	Industrial	1980
Nantyglo, Porters Road	SO 192,108	Ashes	1960's
Nantyglo, Winchestown	SO 182,106	Domestic	1980
Abertillary, Coedcae Ddu	SO 225,050	Domestic	1980
Abertillary, Roseheyworth Road	SO 207,052	Rubble	1960's
Cwmtillary,	SO 218,057	Rubble	1980's
Cwmtillary Colliery	SO 217,062	Rubble	1970
Tredegar, Peachaven	SO 152,073	Ashes	1960'

3.5.3 PROTECTED AREAS

There are currently 3 sites of special scientific interest (SSSIs) in the county borough that are protected under the Wildlife and Countryside Act 1981 from certain potentially harmful operations. The main aim of SSSI's is to identify and give protection to areas that are considered to be of national importance and to ensure that habitats and geological features remain as large and diverse as possible.

There are 2 Local Nature Reserves (LNRs) and whilst there are currently no sites of Importance to Nature Conservation (SINCs) it is intended that there may be up to 30 by the summer 2003. Large portions of the Borough have been identified as Special Landscape Areas in the UDP with up to 8000 hectares being important to the overall landscape of the County Borough.

3.5.4 LISTED BUILDINGS AND STRUCTURES

There are currently 57 Listed Buildings in the County Borough, reflecting the mainly industrial heritage of the area through the 19th and early 20th centuries. Due to their historic value these buildings, whilst protected by within the Local Plan Policy, will also be considered within the Strategy where they are identified as a receptor.

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 pollutant, 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 assigned by close cooperation and funding from the Welsh Development Agency. The controls over 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

THE INSPECTION STRATEGY

4.0 AIMS

In order to ensure that Blaenau Gwent performs its duties in relation to contaminated land legislation, this strategy has been produced to ensure a rational ordered and efficient approach. The main aim of the strategy is to ensure that no current land use in Blaenau Gwent presents an unacceptable risk to human health or the environment, as a result of any contamination, which may exists on or in it.

In order to ensure this the strategy will aim to:

- Protect human health and the environment.
- Protect controlled waters and ecosystems
- Encourage regeneration and development.

4.1 OBJECTIVES AND MILESTONES

These aims shall be achieved by:

- Identifying all areas of potentially contaminated land within the borough to determine if it falls within the statutory definition of contaminated, and;
- If so contaminated to ensure its remediation to remove any unacceptable risks to harm health, the environment, controlled waters and protect buildings.

The Authority will set out its strategic approach in accordance with DETR Circular 02/2000 and National Assembly guidance.

4.1.1 ASSESSMENT OF LAND FOR WHICH THE AUTHORITY MAY BE THE 'APPROPRIATE PERSON'

There are areas within the Borough that the Authority may have regard for under Part IIA EPA 1990. Such land may be in the following categories:

a) Land with sensitive uses, e.g. schools, allotments
b) Problem sites owned or inherited that may have been linked to waste management or industrial usage
c) Land for which the Authority may no longer be the landowner, but may have been partly responsible for an historical activity that may have caused potential contamination.

The Authority recognises that the assessment of land for which the Authority may be the appropriate person is an important part of the development of the strategy, and is important for public confidence that Authority owned land investigation is clearly documented within the process. The Authority, within the inspection strategy, will examine internal records to establish areas of land for which the Authority may be responsible for currently and in the past. This has been allocated to run alongside the inspection works and will be an ongoing exercise.

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 and 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

- 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 within 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 has biased its risk prioritisation model towards the protection of human health.

In recent years the Interdepartmental Committee on Remediation of Contaminated Land (ICRCL) Guidance has provided trigger values for certain contaminants. These values are based on concentration levels for soils below which there is presumed insignificant risk to human health and other receptors, and above which there may be

required some form of remediation. There have also been the DutchIntervention 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.

4.1.5 INFORMATION ON POSSIBLE PRESENCE OF CONTAMINATION EVALUATED

Some potential sources of contamination have been highlighted from the historical mapping exercise. Using former industrial land-use classifications in the DETR Industry Profiles, prioritisation for areas for inspection will be established. Once these risk sources have been assigned the GIS system will be able to highlight where the potentially most harmful sources may be.

4.1.6 LIAISON AND INFORMATION EXCHANGE:

-Internally
Authority personnel will be kept informed of progress on the inspection strategy by six month review meetings, and also the internal progress meetings which are proposed to be on a two monthly basis for the initial stages of the implementation of the strategy. However information that arises on a day to day basis will be resolved via internal memos or through telephone conversations.

-With other Parties
External consultees will normally be contacted by telephone or letter. Liaison with the Environment Agency will have regard to the Memorandum of Understanding for Information Exchange.

4.1.7 JUSTIFICATION FOR INSPECTION OF PARTICULAR AREAS ESTABLISHED

The Authority aims to prioritise particular areas with regards to the risk assessment model which will have greatest regards for the protection of human health. Areas highlighted by the assessment as having the greatest risk score will be prioritised for further research.

4.1.8 ASSUMPTION AND INSPECTION PRIORITIES CHECKED AT APPROPRIATE INTERVALS

The risk assessment model will be recalculated on a six monthly basis to take into account any new information that the Authority has been provided with or acquired which may bring certain sites to light as needing more urgent attention. This will ensure that the Authority continues update the prioritisation of the sites requiring inspection on an ongoing basis

4.2 PRIORITIES AND TIMESCALES

The drafting, adoption and final publication of the inspection strategy for contaminated land needs to be completed by October 2002.

The following timetable outlines the target dates and the actions necessary in order to achieve the objectives of the strategy. Sites, which present an imminent or potentially serious risk to receptors, will be dealt with as a priority as resources allow. As any new information becomes available regarding contaminated sites the timescales will be reviewed as appropriate. The main actions are:

- Complete the examination of historical site 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 and 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.

- Carry out detailed investigations of sites that are probably or are certainly not suitable for the present use and environmental setting and action is needed in the short term (category 1 sites) by 2005.

- Carry out detailed investigations of sites that may or may not be suitable for the present use and environmental setting and action may be needed in the medium term (category 2 sites) by 2007.

- Undertake annual review of the inspection timescales commencing in October 2003.

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 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 usage 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 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 land 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 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 nature 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 Environmental 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

can be determined to establish the likely presence of contaminants. This can then be compared with the existing site use by using the authorities GIS system to establish the presence of sensitive receptors, for example buildings, surface water features, SSSIs and natural reserves. As new information becomes available the prioritisation assessment will be reviewed and sites re-classified.

Any situation where there is doubt concerning classifying the site in accordance with these categories will be treated on the basis of assumed 'worst case scenario'. If there is evidence brought to the attention of the authority that there exists an immediate and unacceptable risk on or near a site then action will be a top priority irrespective of any existing or prior classification.

5.2.2 ARRANGEMENTS FOR CARRYING OUT DETAILED INSPECTION

5.2.3 ENSURING COMPLIANCE

Following the data collection and assessment procedures running concurrently with the strategy development, a programme to attend to prioritised investigations will be implemented in the context of the guidelines and regulations. These paragraphs outline the requirements for documentation, collation of information, investigation, categorising and making assessments about pollutant linkages, in addition to stating when and when not to use the statutory powers of entry. Monitoring procedures and remediation schemes determined between the authority and appropriate persons will require administration and appropriate checking measures to be undertaken by the Environmental Health Section.

5.2.4 VOLUNTARY REMEDIATION

It is the Council's intention that, wherever practicable, remediation should proceed by agreement rather than by formal action. The remediation of land may be undertaken with retention of its current use, or alternatively such a policy may king in with the planning regime and create development opportunities and enhance the County Borough. Some organisations or persons may wish to deal with contamination affecting land for which they are responsible prior to such land being considered by the Council. The Council supports the voluntary remediation of land and in such instances will work closely with those involved to ensure that the land is dealt with in a manner that satisfies the requirements of Part IIA.

SITE SPECIFIC LIAISON

In undertaking detailed site specific inspection the authority will adopt an interactive approach of liaison and consultation with all the persons and agencies concerned.

5.2.5 CONSULTATION/LIAISON WITH SITE OWNER/OCCUPIER

It is the intention of the Authority to liaise with current site owners/occupiers at an early stage of the investigative process. In identifying the current owner/occupier the

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)
- Council Records
- Trade / Telephone Directories
- Local site visits

As part of initial contact with both owners and occupiers the Authority will define its role under the regulations, outline the process of assessment and request specific details of the site. In order to maintain consistency, quality and an auditable record of the assessment process, information will be requested using a standard questionnaire. The scope of such a questionnaire is defined in Figure 3. This will either be forwarded to the site owner/occupier or completed through telephone interview.

Figure 3 Scope of Questionnaire

- Current owner details
- Current occupier details
- Previous occupier details
- Site Name
- Site Address
- Site Area
- Current Use
- Details of chemicals/processes contained on site
- Previous known uses for the site
- Any previous site investigations
- Drainage and any current discharge licences
- Distance to surface water courses
- Presence of groundwater abstraction boreholes

The owner will also be asked to give in-principle agreement for an on-site walkover inspection, however, if necessary the Authority will exercise its statutory powers of entry (Section 108 (6) Environment Act) to complete any inspections required.

Liaison with the site owner/occupier will continue throughout the assessment processes in a sensitive and confidential manner.

5.2.6 CONSULTATION/LIAISON WITH STATUTORY AND OTHER BODIES

Consultation with other bodies is also an important aspect of making a determination as to whether land is classed as Contaminated Land. It is likely that the process of consultation will begin with initial contacts being established followed by a further discussion as the assessment process continues and more specific details regarding contamination are known. It will ensure consistency in the assessment approach and give the authority access to up-to-date site specific information as well as guidance on the technical and scientific aspects of the environmental systems under consideration.

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 whether the land is Contaminated Land the Authority will consider if the land is contaminated through:

- impacts on human health;
- impacts on an Ecological System;
- the pollution of controlled waters; and
- effects on the quality of land and or buildings.

In assessing these impacts the Authority will liaise with a number of agencies and bodies including:

- Environment Agency
- Countryside Council for Wales
- Blaenau Gwent County Borough Council – internal departments particularly Planning
- Food Standards Agency Wales
- CADW
- Health and Safety Executive

5.2.7 METHODS OF INSPECTION

Understanding and tackling contaminated land is essential a risk management activity. This involves the evaluation of the options taking into account the available resources in order to select the most appropriate means of dealing with, or reducing, risk.

In the context of contaminated land risk management involves:

- Hazard identification
- Hazard assessment
- Risk estimation
- Risk evaluation
- Risk control

The process will be achieved by the following phased activities.

- A site investigation activity aiming to identify hazard sources, pathways and receptors
- A risk assessment procedure that aims to qualify/quantify the risk of any particular receptor impacted by any particular hazard
- A risk reduction exercise that aims to reduce any risk to an acceptable level.

The principal advantages of risk management are that it is:

Structured

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
   - location of contaminant
   - nature of contaminant
   - concentration of contaminant

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

3. The location of sensitive receptors
   - depth to groundwater
   - proximity of surface water continuity with waterways
   - location of any extraction points
   - location of any SSSI's
   - 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 courses, extraction points, SSSI's etc.
- The sensitivity of groundwater resources beneath the site. This will include a consideration of the type of aquifer, the nature of the overlying soil, the depth of the unsaturated zone and positions of source protection zones,
- Any information available on previous demolition and site clearance procedures.

It is not unusual for sites to go through a series of different developments, each of which may have left imprints of contamination on the site. Consequently any examination of historical information will need to be comprehensive. The surface topography of a site may also change over time. Many sites have pits, lagoons, underground structures and railway cuttings that have been in-filled over the years. It is important to identify the location of these structures as the nature of the fill material may need to be determined.

Sources of Information for Desktop Study:

- Trade information from trade directories,
- Site plans to provide information on site layout and changes, location of pipelines, services, storage tanks etc.,
- Material Safety Data Sheets to provide information on the physical and chemical nature of products stored on-site and the health and safety and environmental hazards associated with them,
- Ordnance Survey maps of various scales (old 6"and 25") to provide information on historical land uses, possible surface changes, and information on surface water distribution,
- British Geological Survey geological and hydrogeological maps,
- Utility companies and site owners/operators to provide information on the layout of drain, sewers, water, gas and electricity mains,
- Photographs. Ground and aerial, old and new,
- Results from any previous site investigations, structural or contamination surveys,
- Long serving employees who may know of past spills, leakages or waste disposal practices, or any past complaints,

- Environment Agency for information on; past/current waste disposal operations (EHS), statutory nuisances on the site (EHS), past remediation (Planning and EHS)
- Industry profiles produced by the DEFRA which provide information on the processes and associated contaminants specific to particular industry types.

Following the initial collection of information, where potential contamination is suspected the desktop assessment of the information will take place to determine the priority of action for the site (see comments elsewhere on CLR6). In the event of a requirement for more substantive information this may lead to the next stage, phase (b) Site Visit. Otherwise it may be clear that the site cannot be classed as contaminated land in the context of the Environmental Protection Act (1990), Part IIA.

(b) SITE VISIT

A site visit to the area/site for a site walkover to obtain visual and other sensory indicators of the possible contamination on site, which may confirm the initial expectations, determined form the desk study. In addition, where appropriate on-site discussions with landowner, appropriate person and any statutory consultees.

Contamination may be present because of:

- Waste material brought to the site and deposited
- Waste materials generated by activities on or near the site and deposited
- Deposition/accumulation/spillage of materials used or produced by previous or current activities on or near the site. This may result from fall-out of emissions to air, runoff from stockpiles, or general spillage or leakage.

A wide range of indicators around or on the site may suggest the presence of past contaminative land uses or the presence of past contaminative land uses or the presence of actual contamination. These may be as shown in Table 7:

Table 7. Contamination indicators from site visit.
Key Indicator
1. Past industrial use indicated by street names, building names etc.
2. Past industrial use indicated by site debris
3. Existing infrastructure or building design (indicated historical use of site)
4. Odours and gases
5. Evidence of spillages
6. Evidence of fire
7. Evidence of fly tipping, litter build-up and made ground
8. Coloured or oily deposits on the soil surface, precipitated salts or crusts
9. Condition of water bodies or water courses; discolouration, deposits, tide marks, sheen
11. Marked differences in vegetation, soil type, topography etc. within the site or between the site and surrounding environs
12. Presence of bare or poorly vegetated patches of ground
13. Uncharacteristic plant assemblages for location, climate, soil type and ecological

phase
14. Lack of species diversity
15. Visible signs of plant stress or discolouration
16. Poor root and module development
17. Presence of indicator species, particularly plants and aquatic macroinvertibrates
18. Absence of wormcasts (unless soil is naturally acidic)
19. Poor soil structure
20. Dead animals

Output from Desktop Study and Site Walk-over:

The principal output from a desk study and site walk-over is a report generated from all the collated data, kept on a central database, that includes the following:

- Assessment:- all available information would be assessed to identify possible potential environmental issues and concerns (if any exist). The impact on the site and any subsequent liabilities (hazards and risks) of future owners or developers would be indicated. Likely contamination sources and possible contamination types would be detailed and the site given a definitive category (such as under recommended protocol of CLR6) for further action.

- Proposed future work; information gaps would be identified and further stages of investigation proposed. If it is considered that intrusive site investigation is required then a sampling regime and analytical suite would be discussed. An estimate of possible costs and time requirements for these investigations could also be provided.

The CLR6 categorising may lead to a further investigation stage such as **Intrusive sampling**, to aid in the determination of remediation activities. The preparation of a site diagram showing the salient points and illustrating the pollutant linkages (known as a 'conceptual model'), might be appropriate and be drawn up at this time.

The statutory guidance does indicate, however, that when sufficient information to determine the pollutant linkages is apparent from the initial investigations, proceeding with action toward remediation may not require intrusive investigate work. A final risk assessment utilising all of the available data occurs prior to determining the appropriate remediation.

(c) INTRUSIVE SAMPLING

Planning a sampling regime:

Any ground investigations must take into account the possible variations that might exist in the composition of any materials underlying a site, and infilled material and the presence of any buried foundations or other obstructions. A sampling regime might consider the possible sampling of:

- Soil
- Groundwater
- Soil atmosphere

- 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 for representativeness and quality Assurance
- Location of sampling points on the site, e.g. the depth and frequency of sampling location
- Sampling collection mechanism, materials and methodology
- Sample handling preservation, filtration, field control samples, labelling
- Field determinations – unstable species, additional sampling variable, pH, temperature, electrical conductivity, dissolved oxygen, hydrocarbons, soil gas surveys
- Sample storage – preservation of sample integrity, sample custody
- Sample transportation – transportation method, frequency
- Monitoring locations – design, construction and performance evaluation
- Investigations records – log books, bore hole and trail pit logs, photographs, video recordings
- Potential for geophysical surveys
- COSHH and Health and Safety considerations
- Environmental protection requirements
- Employment of an appropriate analytical laboratory with NAMAS and ISO09002 accreditations

Sampling will be carried out by either a suitably qualified council officer or a suitably experienced environmental consultant.

A properly formulated spatial sampling plan will be a key component in any site investigation. A poorly designed sampling plan may fail to provide adequate assurance that all contamination has been identified.

Extreme care will be taken to ensure that any sampling avoids the penetration of any low permeability horizons on the site that might be ‘containing’ any contamination. Penetration of these layers can create additional pathways through which contaminants can travel. These considerations might result in a depth constraint for any sampling regime (unless appropriate measure are employed to appropriately seal the low permeability layer after the investigation).

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 gradients, 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 used:

1. Sampling locations based on information derived from the desk study and walk over – this approach is normally used when good site plans and operational information is available. Sampling will be located where particular operations that might have given rise to contamination have been conducted. For example around fuel stores, raw material transfer points, waste handling and disposal operation areas.
2. Predetermined sample pattern – this approach can be used where there is little information known about the site and where there is a more or less equal probability of all parts of the site containing a contamination hot spot.

The approach used will often be site specific, and a mixture of approaches might be appropriate in some instances.

The number of sampling locations on a site will be largely dependent upon the size of the site. This will be influenced by knowledge of, and variations in, the materials underlying the site. Influencing factors are:

- Current guidelines on the recommended number of samples to be taken
- Area of site and extent of suspected contamination
- Number of sampling phases
- Anticipated nature and distribution of contamination
- Degree of confidence required
- Cost
- Future landuse
- Availability of suitable sampling equipment and ease of access to site
- Time scale and windows of opportunity.

A final risk assessment utilising all of the available data occurs prior to determining the appropriate remediation. Figure 1 shown earlier in this document shows a diagrammatic representation of the overall process of inspection and assessment. The principal reference document pertaining to site investigation recognised by the authority will be BS 10175:2001. Investigation of potentially contaminated sites. Code of practice.

In summary inspections will encompass desktop surveys using the GIS developed during the strategy, prioritised site inspections, non intrusive and intrusive sampling of potentially contaminated material as necessary. Analytical services will be outsourced as required in accordance with the policies of ‘best value – best practice’. Action will be determined and tracked on the Contaminated Land database and Register.

5.2.8 HEALTH AND SAFETY PROCEDURES

The varied health and safety procedures pertaining 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.

Relevant guidance on health and safety is provided within the HSE HS(G) 66 Protection of Workers and the General Public during the Development of Contaminated Land. HSE SIR 51, Remediation of contaminated land, occupational hygiene aspects on the safe selection and use of new soil clean up techniques, will be a relevant reference during remediation and monitoring visits.

Any intrusive sampling by either council officers or environmental consultants will be subject to current industry guidelines as to the collection of those samples and any occupational risk assessed in relation to the potential hazard from the expected contaminants.

5.2.9 POTENTIAL SPECIAL SITES

During the process of inspection and determination of a pollutant linkage the authority will be seeking guidance from the Environment Agency, particularly where there is a threat of harm, or actual harm to controlled waters. It will be a policy of the authority to refer all serious and extensive pollutant linkages to the Environment Agency for consultation and possible action by that agency. The Authority may request the Environment Agency to undertake the inspection of potential special sites on its behalf. Special site status is determined by whether the potentially contaminated site is described in the legislation (specifically with reference to Section 78C(8) (EPA 1990), Schedule 1 of the regulations and regulations 2 and 3). The regulations specify geological, hydrological, substance and receptor factors that change a site's status to a 'special site'. The authority responsible for administering actions under Part IIA of the Act for a 'special site' changes from the Local Authority to the Environment Agency.

The Environment Agency rather that 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 and 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 within the Authority to date that will be used in Compiling in the Identification and Assessment of Contaminated Land.

Data Source	Comments	Use
OS Historical Maps Data 1878-1880 Data 1901 Data 1920-21	Digital Maps covering the Borough purchased from Landmark Information Group Ltd	To identify potential sources, pathways and receptors.
Landfill site Locations and Records	Provided by the local office of the Environment Agency and also from information from past council employees	To identify potential sources
Gwent Archive Service	The Archive Service holds a wide range of literature and historical documents relating to the industrial history of the area. The catalogue of directories is an especially important source of information	To identify potential sources
Groundwater Vulnerability Maps	Available from the Stationary Office at 1:100,000 scale	To identify potential receptors (Controlled Waters)
Source Protection Zones (SPZs)	Digital data downloaded from the Environment Agencys website	To identify potential receptors (Controlled Waters)
OS Map (1:1250 scale)	Paper copies from the 1950s and 1970s are held within the Councils Planning offices	To identify potential sources, pathways and receptors
Radon Potential Maps	British Geological Survey supplied this information	To identify areas of natural contamination
Integrated Pollution Control (IPC)	The Authority holds details of authorised industrial processes within the Borough	To identify potential sources
Drainage Network	The Council holds digital maps of drainage network	To identify potential pathways
Flooding Information	Data obtained from the Environment Agency	To assess hydrological information
Locations of Sites of Special Scientific Interest (SSSIs)	Data obtained from Local Authority	To assess potential receptors

Location of LNRs, SINCs and SLA Sites	Data obtained from Local Authority	To assess potential receptors
Local Authority owned land	Details of land owned by the Local Authority is held within the Estates Department. Current land ownership is held on a GIS system and is maintained by the Estates Department. Historic ownership is held on paper based files within the department	To assess potential sources, receptors and ownership details
Location of scheduled monuments	Data obtained from Local Authority	To assess potential receptors
Council staff	Many council staff have a good local knowledge and are able to identify potential sources	To identify potential sources/pathways and receptors
Information on Local Mining	Information is held within the Authority on local mining areas	To identify potential sources and pathways

6.1.1 INFORMATION ON RECEPTORS

Receptors and potential receptors are acknowledged to be largely those indicated by the data from Countryside Council for Wales, the Environment Agency, and the population/settlement data collated within the authority's GIS applications.

6.1.2 INFORMATION ON THE POSSIBLE PRESENCE OF CONTAMINANTS

The possible presence of contaminants is being determined from datasets obtained from historic mapping sources, land use data from rating value information, and information from other local authority departments and the Environment Agency.

All of the data associated with these items is under review and collation in conjunction with the strategy. It seems that contaminated land pollutants in the district can be broadly classified as those that follow pathways in soil, water, geological strata and air with implications for human health and delicate ecosystems.

6.1.3 OTHER INFORMATION

The validity of inferences from the above mentioned data will be checked by a program of walk over site inspections with non-intrusive sampling and testing where appropriate. This will be formalised in the action plan. Further requirements made apparent, such as a need for intrusive investigation, will be formulated on an ongoing basis with appropriate sourcing of expertise.

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 handling 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 all 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 COMUNICATION STRATEGIES

This section highlights liaison within the Authority concerning the implementation of Part IIA EPA 1990 and also for contact outside the Authority with other Statutory bodies, owners, occupiers, other interested parties and also the wider community.

The complex nature of the issues surrounding Contaminated Land means that it can be difficult to convey explanation to the layperson. The Authority will try to recognise and overcome the critical barriers to effective risk communication as shown below

Familiarity	Increased concern over unfamiliar issues
Control	Increased concern can arise where the individual is unable to exert any control over events
Proximity in Space	Increase concern over nearby events
Proximity in Time	Increased concern over immediate consequences rather than long term effects
Scale	Increased concern can appear when one large incident appears much worse than several smaller incidents
Dread Factor	Increased concern can appear through lack of understanding and may lead to stress and make further explanation difficult

The Authority will treat any concerns raised by members of the public seriously and respectively, recognising the importance of the issue to the individual.

6.4.1 INTERNAL CONTACTS

Chapter 8 shows the internal contact point within the Authority, with primary responsibility designated to the Environmental Health Department. As the Environmental Health Department is the lead department responsible for implementation and enforcement of the regime they will deal with all enquiries from interested parties whether the enquiry be internal or external. All information relating to Contaminated Land will be held and dealt with within the Environmental Health Department. They will be responsible for maintaining the Contaminated Land Public Register, designating land as Contaminated Land and carrying out the inspection stage of the strategy implementation.

6.4.2 INTERNAL LIAISON

There has been a series of progress meetings within the Authority for relevant personnel to discuss issues arising concerning Contaminated Land and formatting a common approach for the Authority's strategy document. These meetings are proposed to be continued after the strategy is published, initially on a two monthly basis, to aid information exchange between the departments.

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 its 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
St. Mellons Business park
St. Mellons
Cardiff
CF3 0EY

The Agencys contact for Contaminated Land issues at the Environment Agencys St. Mellons Office.

Sarah Coe Tel. 02920 770088 Ext. 2313

The Environment Agency will be the primary contact for the Authority regarding issues relating to Contaminated Land. However liaison with other statutory bodies is also important for maintaining communications and keeping up to date on the most current information available. The Authority has identified statutory consultees as listed in Appendix

6.5 STRATEGY DOCUMENT

The strategy document (after consultation) will be amended and published in October 2002 and distributed to the persons identified on the list below

- Heads of Departments within the Authority
- Councillors
- Residents Groups
- Area Housing Officers
- Town Councils
- Adjacent Local Authorities
- Environment Agency and other Statutory Bodies

Copies will also be available at the Civic Centre reception and also the Borough libraries. This will be complemented by a press release to inform the wider

community of the Authority's intentions and to allow them to comment on the strategy document.

6.6 INSPECTION STAGE

During the inspection process the Authority may identify areas of land for which they deem to require further investigation. The Authority will co-operate with landowners to ensure that unnecessary concern is avoided and that people are made aware of the issues relating to Contaminated Land.

Once land is identified as requiring an inspection the Authority will endeavour to make contact with the landowner and/or occupier. Once these communications have been established liaison between the Authority and landowners will take place to explain why the particular site identified requires inspection and also to explain the requirements of the legislation. Wherever possible notice will be given to the landowner and/or occupier. However, in emergency cases, powers of entry may be exercised without notice if necessary. Wherever possible the landowners and or occupiers will be kept notified of the findings of any investigations that take place and will be consulted to achieve successful remediation of the site if required.

6.7 DESIGNATING LAND AS 'CONTAMINATED LAND'

The Authority is required to carry out a formal consultation process before a remediation notice is served (EPA 1990, s.78H(1)). The purpose of the consultation process is to identify any 'appropriate persons' and to establish what remediation schemes may be appropriate for the site.

It is an offence not to comply with a remediation notice with penalty fines imposed, there may also be further daily fines for every day before the enforcing Authority carries out any remediation.

If the Authority identifies a site as Contaminated Land the Authority will give notice of that fact to all concerned parties (EPA 1990, s. 78B(3)) and it is at this point that the land can be said to be designated as contaminated. The Authority will then serve a remediation notice on those responsible to undertake necessary work to cease the land to be contaminated (EPA 1990, s. 78E) and maintain details on official registers (EPA 1990, s. 78R).

6.8 CONTAMINATED LAND REGISTER

The information contained in this and its location is contained in Section 5.15

6.8.1 CONFIDENTIALITY OF INFORMATION

There are certain exclusions from the register of information that may affect National Security or issues of Commercial Confidentiality. These are detailed in sections 78(S) and 78(T) of the Part IIA EPA 1990.

6.8.2 THE STRATEGY DOCUMENT

The strategy document, once formally published as a bound document, will be available for viewing from the Department for Environment and Development. The department will also be open to receive applications for copies, subject to a reasonable charge.

Revisions to the strategy document will be issued as and when is necessary. The Council will publish amendments on a periodic basis, copies of which will be forwarded to consultees and other interested parties.

6.8.3 PROVISION OF INFORMATION TO THE ENVIRONMENT AGENCY

Both the Environment Agency Wales and the local authorisation will hold information regarding contamination issues that may be classed as essential or beneficial to the other parties in fulfilling their respective functions. The local authority and the Agency will use correspondence and exchange of information in accordance with the Memorandum of Understanding, Annex C, drawn up to provide a protocol for information exchange specifically related to contaminated land issues. The local authority will utilize the SOCL forms provided by the Environment Agency for the collation of information.

6.8.4 OTHER LA DEPARTMENTS

Other Authority departments will also have access to the register through the contaminated land officer and will be able to request information from the register in the usual manner.

Chapter 7

7.1 REVIEW MECHANISMS

Part IIA of the EPA 1990 requires that the local Authority inspect their areas from "time to time" for the purpose of identifying land that may fall within the statutory definition of Contaminated Land. The Authority is also required to include in its strategy arrangements and procedures for:

Reviewing and updating assumptions and information previously used to assess the need for detailed inspection of different areas, and managing new information.

Therefore the Authority needs to consider 2 main aspects:

a) Triggers for review of inspection decisions
b) Timetable for review of the inspection strategy

7.2 TRIGGERS FOR REVIEW OF INSPECTION DECISIONS

The following are triggers or events that may occur to present a more immediate issue, which may need addressing out-side of the normal inspection strategy timetable

- Proposed changes in the use of surrounding land
- Unplanned changes in the use of land (e.g. persistent, unauthorised use of the land by children)
- Unplanned events e.g. localised flooding/landslides, accidents/fires/spillages where the consequence cannot be addressed through other relevant environmental protection legislation
- Reports of localised health effects which appear to relate to a particular area of land
- Verifiable reports of unusual or abnormal site conditions received from business, members of the public or voluntary conditions
- Responding to information from other statutory bodies
- Responding to information from owners or occupiers of land, and other relevant interested parties.

These occurrences may trigger non-routine inspections to the general inspection framework and will run alongside the strategy timetable.

The strategy timetable may then be revised at the following review meeting in light of any urgent action required.

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 re-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 local 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

Chapter 8

OTHER SUPPORTING INFORMATION

8.1 BLAENAU GWENT COUNTY BOROUGH COUNCIL CONTACTS

The principal contact with respect to this strategy document and land contamination generally is the:

Environmental Health and Trading Standards
Enterprise House
Rassau Industrial Estate
Ebbw Vale
Blaenau Gwent
NP23 5SD

Contact Officer: Andrew Long (Team Leader Pollution and General Services)

Tel: 01495 355581
Fax: 01495 355245
E-mail:dave.cook@blaenau-gwent.gov.uk

APPENDIX A
TABLE A – CATEGORIES OF SIGNIFICANT HARM

	Type of Receptor	Desription of harm to that type of receptor that is to regarded as significant harm
1	Human Beings	Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. For these purposes, disease is to be 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 it is attributable to the effects of a pollutant on the body of the person concerned. 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 preserve 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 (i.e Special Areas of Conservation and Special Protection Areas); • Ant candidate Area of Special Conservation, potential Special	For any protected location: • Harm which results in a irreversible adverse change, or 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 at 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 favoured conservation status of natural habitats at that location or species typically found there. In determined what constitutes such

	Protection Area or listed Ramsar site, or; Any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949.	harm, the local authority should have regard to the advice of the Countryside Council for Wales and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994. This description of significant harm 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.	As occurring only when a substantial proportion of the animals or crops are dead or are otherwise no longer fit their intended purpose. Food should be regarded as being no longer it for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss. This description of significant harm is referred to as an "animal or crop effect".
4	**Property in the form of buildings** For this purpose, building means any structure or erection, and any part of a building including any part below ground level, but dose not include plant or machinery comprised in a building.	Structural failure, substantial damage or substantial interference with any right of occupation. For this purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended. Additionally, in the case of a scheduled ancient monument, substantial damage should be regarded as when the damage significantly impairs the historic, architectural, artistic or archaeological interest by reason of which the monument was scheduled.

APPENDIX B
TABLE B – SIGNIFICANT POSSIBILITY OF SIGNIFICANT HARM

	Description of significant Harm (As defined in Table A)	**Conditions for there being a significant possibility of significant harm**
1	**Human health effect** arising from • The intake of a contaminant, or • Other direct bodily contact with a contaminant.	If the amount of the pollutant in the pollutant linkage in question: • Which a human receptor in that linkage might take in, or • To which a human might otherwise be exposed, as a result of the pathway in that linkage, would represent an unacceptable intake or exposure, assessed on the basis of relevant information on the toxicological properties of that pollutant. Such an assessment should take into account: • The likely total intake of, or exposure, to the substance or substances, which form the pollutant, from all sources including that from the pollutant linkage in question. The question whether an intake or exposure is unacceptable is dependant of the number of people who might experience or be affected by that intake or exposure. Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathogenic, endorcrine distrupting and other similar properties.
2	All other human health effects (particularly by way of explosion or fire)	If the probability or frequency of occurrence of significant harm of that description is unacceptable, assessed on

		the basis of relevant information concerning: • That type of pollutant linkage, or • 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, particularly in relation to the ecotoxicological effects of the pollutant.
4	**All animal and crop 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, particularly in relation to the ecotoxicological effects of the pollutant.
5	**All building effects**	If significant harm of that description is more likely than not to result from the pollutant linkage in question during the expected economic life of the building (or in the case of a scheduled ancient monument, the foreseeable future,) 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 Practice for the Protection of Groundwater: Groundwater Vulnerability 1:100,000 Map Series
- HMSO. British Regional Geology South WALES 1970
- Countryside Council for Wales. Sites of Special Interest 1:100,000 Map series

APPENDIX D
GLOSSARY OF TERMS

Brownfield Site	Land that is or was occupied by a permanent structure 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 CONTAMINATED 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 site 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.

- Carry out detailed investigations of sites that are probably or are certainly not suitable for the present use and environmental setting and action is needed in the short term (category 1 sites) by 2005.

- Carry out detailed investigations of sites that may or may not be suitable for the present use and environmental setting and action may be needed in the medium term (category 2 sites) by 2007.

- Undertake annual review of the inspection timescales commencing in October 2003.

As a result of the 2003 strategy review the following alterations have been made.

The gathering of data on the previous historical land use of all land within Blaenau Gwent has shown that there are 1607 potentially contaminated sites within the Borough. This is a significant number of sites and is far greater than that envisaged when the strategy was first implemented in October 2002. As a result a different approach to the prioritisation and inspection of these sites has been formulated and incorporated in the reviewed strategy.

A basic risk assessment has been carried out on these sites to categorise them within a High, Medium or Low risk depending on what the previous historical usage of the site was and its potential to be contaminated. This risk assessment has not considered any pathway or receptor link.

As a result the sites breakdown into the following categories.

High Risk	-	51
Medium Risk	-	880
Low Risk	-	676

These high risk sites have been prioritised for inspection and are currently the subject of site surveys to determine if they are contaminated as defined by Part IIA of the Environmental Protection Act 1990. Their previous or current uses include gas works, landfill sites, petrol stations and military land.

As a result the inspection timetable has been amended as follows:-

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

Undertake detailed site investigations on all Category 1 sites that are probably or certainly not suitable for their present use and action may be needed in the short term by December 2005.

Undertake detailed site investigations on all Category 2 sites that may not be suitable for the present use and environmental setting and action may be needed in the medium term by December 2007.

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 site a score. This score then places the sites into one of five categories. The categories are defined as:-

Category 1 - From the information provided it would appear that the presence of contamination on site is very likely to be unacceptably high. The risk of harm to the identified receptors is very probable.
Action required: Prompt, high priority action is required.

Category 2 - From the information provided it would appear that the presence of contamination on site is likely. Receptors are likely to be at risk. The current use of the site, therefore, may not be suitable.
Action required: High to medium priority in the medium term., action regarding onsite investigations depending on the ranking score c.f. the range.

Category 3 - Whilst contamination may be present on the site, from the information provided it would appear that it is unlikely that the contaminants will have a significant effect on the identified receptors. This site has more inherent risks than a Category 4 site.
Action required: Medium to low priority, site inspection maybe warranted.

Category 4 - Whilst contamination may be present on the site, from the information examined it would appear that it is unlikely that the contaminants will have a significant effect on the identified receptors.
The current use of the site presents little concern and can continue pending new information.
Action required: This is a low priority site, periodic review.

Category 5 - These sites are of negligible risk. There is no evidence of 'significant harm' or the possibility of such occurring.
Action required: Usually no further work required.

Outcome of Review

This review has identified the need to amend the strategy timetable, as a result of the large number of potentially contaminated sites that have been identified within the Borough. An initial risk assessment has been carried out on all potentially contaminated sites to identify high, medium and low risk sites solely on their previous use. Detailed source – pathway – receptor risk assessments are being carried out in order to prioritise them for detailed inspection and this shall be completed by December 2005. Detailed site investigations on all Category 2 sites shall be completed by December 2007.

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 all necessary site investigation work on all category one sites by December 2010.
- Subject to available funding, carry out all 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 all the source-pathway-receptor risk assessments for all potential contaminated land sites have been completed. As a result no further amendments have to be made to the inspection timetable at this time.