



RHONDDA CYNON TAF

Contaminated Land Inspection Strategy

January 2004

Foreword by the Leader



Contaminated Land Inspection Strategy

In Rhondda Cynon Taf we are proud to inherit a landscape rich in industrial history. Our communities and our identity are forever linked to our industrial heritage. Contamination is an unwelcome part of this legacy and represents a significant challenge to the Council as we strive to regenerate our communities.

While the Contaminated Land Regulations are technically and legally complex I am clear that our most precious asset is our people. Our primary concern will always be therefore with the health of our communities.

Wherever contamination affects a community we shall ensure that people are consulted at the earliest possible stage and that communities are fully engaged in the remediation process.

A handwritten signature in black ink that reads "P. Jarman". The signature is written in a cursive, flowing style.

County Borough Councillor Pauline Jarman,
Leader of Rhondda Cynon Taf County Borough Council.

Contaminated Land Inspection Strategy

Executive Summary

Contaminated land can affect health, blight areas and preclude redevelopment. The reclamation of derelict and often contaminated industrial sites can therefore be a crucial factor in the regeneration of communities. Rhondda Cynon Taf has had a history of industrial exploitation, which has left a legacy of over 2500 such sites. Many of them are in prime locations and are ripe for redevelopment. The new contaminated land regime compliments the Planning and Development Control process and provides a mechanism to release some of the most contaminated sites for beneficial use. Its risk-based approach will ensure that these sites are cleaned up sufficiently to enable them to be safely used for their new purpose. It therefore supports regeneration (the over-arching corporate priority set out in Our Community Plan) whilst at the same time, safeguarding the health of our community, which is another key corporate objective.

Fully involving communities that may be affected by contaminated land is a top priority and is part of our Community Leadership role. To this end, our goals and objectives for community involvement are:

- **Earning trust and credibility through open, transparent and respectful communications**
- Helping community members understand what the process involves
- Promoting collaboration between the Council and communities and other agencies
- Providing opportunities for communities to become involved
- Managing and co-ordinating health communication activities with appropriate communities
- Informing and updating communities about the Council's work
- Assisting communities in understanding the possible health impacts of exposure to hazardous substances

This approach has been successfully used by the Agency for Toxic Substances and Disease Registry (ATSDR), an independent federal agency in the United States of America.

The Council's Contaminated Land Inspection Strategy has been designed to achieve the following set of priorities with respect to potentially *contaminated land*:

1. To protect human health and well being
2. To encourage the redevelopment of damaged land/ reuse of brownfield land
3. To encourage voluntary *remediation*
4. To communicate and work effectively with other organisations to protect other *receptors*
5. To engage with local communities (e.g. through the newly formed Area Regeneration Partnerships) to find out what their priorities are
6. To ensure compliance with and enforcement of the legislation and statutory guidance

In 1997 a Contaminated Land Officer was appointed to identify all the land in Rhondda Cynon Taf that has had a previous use that might lead to it being contaminated. The task has been virtually completed with only a few square kilometres of rural land left to scrutinise. To date over 2500 sites have been identified and plotted on a computerised mapping system together with information on the contaminants that are likely to be present. These sites will be prioritised, based on the risk that they could pose, for further investigation based on the proximity of *receptors* to the land in question and our knowledge of the sites. These more detailed investigations will be undertaken to establish whether the sites actually meet the new statutory definition of *contaminated land*. A preliminary assessment indicates that only a handful of sites in Rhondda Cynon Taf will meet the statutory definition of *contaminated land*.

Sites that are determined to be *contaminated land* will, at the appropriate time, be logged on a Public Register, which will be maintained by the Contaminated Land Officer and will be available for viewing at the appropriate Council offices.

The legislation specifies a list of categories of contaminated land, which must be classified as *Special Sites*. Local Authorities must hand these over to the Environment Agency, which is the enforcing authority for *Special Sites*. It is likely that a high proportion of the *contaminated land* sites in Rhondda Cynon Taf will be classified as *Special Sites*. In these cases the Environment Agency will take the lead role in the investigation, although the Council will retain responsibility for deciding whether to determine the sites "*contaminated land*" and will continue to champion our communities as part of our Community Leadership role.

The Council has already developed a good working relationship with the Environment Agency through involvement with a potential *Special Site* and has assisted in the process of its investigation; the first step towards its eventual *remediation*. It is anticipated that *Special Sites* already known to the Council will

be passed to the Environment Agency within the early stages of the inspection process; all others will be forwarded as and when identified.

As the *enforcing authority* for the remaining *contaminated land* sites, the Council will be required to secure their *remediation*. Contaminated land for which the Council has responsibility or liability will be subject to the same processes as all other land covered by Part IIA.

Depending on the final number of *contaminated land* sites identified, it may be necessary to undertake a further prioritisation with Members to ensure that the most urgent sites are remediated first. It is recognised that some areas of *contaminated land* may require immediate attention. These sites will be dealt with as soon as they are discovered to ensure that sensitive receptors are not compromised by delay arising from our administrative procedures.

The Council will liaise fully with all other relevant bodies (particularly the Environment Agency) to ensure that decisions on *contaminated land*, which affect the health of our community, are made in the light of the fullest information and the best advice.

The law covering these duties is contained in Part II of the Environmental Protection Act 1990 and was amended by The Environment Act 1995 to include provisions requiring Local Authorities to identify "*contaminated land*" within their boundaries and to keep a register of all such sites. The amendment also requires Local Authorities to secure the remediation of these sites. These requirements are now set out in Part IIA of the Environmental Protection Act 1990. They came into force in Wales in July 2001 through the Contaminated Land (Wales) Regulations 2001.

This new Contaminated Land regime was supported by comprehensive statutory guidance issued by the National Assembly for Wales in November 2001. The guidance requires Local Authorities to prepare a strategy detailing how they will take a rational, ordered and efficient approach to this inspection process. This document is Rhondda Cynon Taf County Borough Council's Contaminated Land Inspection Strategy. It has been written in accordance with the technical advice issued by the National Assembly for Wales.

The draft strategy was distributed to interested parties for consultation with a request that responses were made by 4th September 2003. This final document addresses all the responses received as a result of this consultation process. Rhondda Cynon Taf County Borough Council gratefully acknowledges the constructive contributions made by respondents.

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Chapter 1 Introduction

Part IIA of the Environmental Protection Act 1990 (Part IIA) - introduced by section 57 of the Environment Act 1995 - provides a new regulatory regime for the identification and remediation of *contaminated land*. In addition to the requirements contained in the primary legislation, operation of the regime is subject to secondary legislation - Regulations, and Statutory Guidance.

The National Assembly for Wales has been responsible for the publication of the Welsh Regulations and Statutory Guidance. The Contaminated Land (Wales) Regulations came into force in June 2001 with the Statutory Guidance (Remediation of Contaminated Land) following in November 2001.

1.1 Council Policy

This Strategy has been prepared within the broad context of Rhondda Cynon Taf County Borough Council's corporate aims and objectives as set out in the Community Plan (April 2000) and with the principles of Best Value and the Improvement Programme for Wales in mind.

1.1.2 Best Value

To secure Best Value in the delivery of public services, the Council is required to carry out our responsibilities with reference to clear and over-arching corporate priorities for future development. The Council recognises that there is unlikely to be sufficient resources available to do all that we would like. Difficult choices will need to be made to establish priorities for action, based on research and consultation about what will provide the greatest value for local people.

Consultation has led to the development of the Community Plan where the shared vision for the future development of The Valleys is set out, enabling resources to be directed towards tackling the problems faced.

Five main themes for improving the quality of life in Rhondda Cynon Taf were identified with long-term and short-term goals set for each:

- Regeneration
- Learning
- Our Health
- Our Caring Society
- Our Shared Identity

This programme has been extended by the draft Community Plan for 2003 2013 to focus on the following outcomes:

- Regeneration
- Our health and well being

- Learning
- Our safety
- Our living space

1.1.3 The Corporate Mission

The corporate mission for the Council is *"Breathing new life into the heartland of South Wales through rebuilding strong, self-reliant communities, able to play a full role in a modern Wales and to compete confidently in the European economy."*

The over-arching goal of the Corporate Strategy is economic renewal and prosperity. *"By enhancing and protecting the unique character of our landscape, through creating a healthier and more sustainable environment we will regenerate and improve the quality of our environmental inheritance for the future. An infrastructure supporting harmonious economic renewal and social development will also be created."*

Two of the underlying themes of the Community Plan have a direct impact on the development of the Contaminated Land Inspection Strategy (the Strategy). These are:

- A need for the Council to "put its own house in order" before seeking to make wider improvements and,
- We can do better by putting our limited resources into those areas that will have the greatest benefit for local people.

The risk-based approach of the contaminated land regime is entirely consistent with this philosophy.

1.1.4 Mission Statement of the Public Health and Protection Division

The Mission Statement of the Public Health and Protection Division is:

"To protect personal and social well being through ensuring a safe living and working environment. To encourage health and well being through the creation of leisure opportunities"

The remediation of contaminated land clearly supports this mission. The production and implementation of this Strategy is therefore a critical part of the Division's Business Plan, which will be delivered by the Environment Project.

1.1.5 Service Objectives

The success of this mission will be achieved through service objectives, many of which have had a direct impact upon the way in which the contaminated land inspection strategy has been designed. For example:

- To work closely with internal and external partners to contribute to meeting the Authorities corporate goals
- To contribute towards redressing inequalities in health and community safety by targeting services to those with the greatest need
- To adopt the principles of Best Value throughout the Division
- To undertake enforcement activities in accordance with the principles of the Enforcement Concordat
- To work to restore the environmental damage caused by our industrial legacy and to facilitate the regeneration of the local economy and communities
- To work towards maintaining and improving the existing healthy air quality in the County Borough

1.2 Regulatory Context - The Contaminated Land (Wales) Regulations 2001.

Regulatory controls now exist over potentially polluting processes that should prevent new contaminated land sites being created. Part IIA is intended to deal with the legacy of *contaminated land* that we have inherited from past growth and development. Certain aspects of Part IIA are set out in the Welsh Statutory Guidance issued by the Welsh Assembly Government. Together with the Contaminated Land (Wales) Regulations they make important provisions to help give full effect to the regime providing a basis for enforcing authorities to apply the regime fairly.

Under Part IIA, the Council is required to undertake the inspection of land in its area in order to identify *contaminated land*. A strategic approach is required to identify land that merits a more detailed individual inspection. This document outlines the rational, ordered and efficient approach that the Council intends to take.

1.2.1 The Role of the Local Authority

Under Part IIA the Council must inspect its area from time to time to

- identify *contaminated land*; and
- decide whether any of this land should be designated as a *Special Site*.

The Council is the *enforcing authority* for all *contaminated land* unless it meets the definition of a "*Special Site*" in which case the Environment Agency is the *enforcing authority*.

1.2.2 The Role of the Environment Agency

The Environment Agency will,

- Act as the *enforcing authority* for areas of *contaminated land* which are designated as *Special Sites* as defined by Regulations 2, 3 and Schedule 1 of the Contaminated Land (Regulations) Wales 2001.
- They will also provide site-specific advice to local authorities when requested, especially in the respect of *pollution to controlled waters*.
- Periodically they will prepare the State of Contaminated Land Report to assess the effectiveness of the new regime.

1.2.3 The Role of the Food Standards Agency

The Food Standards Agency are available to advise on the food safety implications for consumers where food crops are grown or food animals are reared in areas affected by contamination. This includes food produced in domestic gardens and allotments and food collected from the wild as well as commercially produced food.

1.2.4 Defining Contaminated Land

The Council has the sole responsibility for determining whether any land in Rhondda Cynon Taf is *contaminated land*.

Contaminated land is defined by Section 78A(2) of Part IIA as any land which appears by 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
- b) there is a *significant possibility* of such *harm* being caused, or
- c) *pollution of controlled waters* is being, or
- d) *pollution of controlled waters* is *likely* to be caused.

In determining whether any land appears to meet this definition, The Council must follow the guidance issued by the Welsh Assembly Government in Chapter 2, Part C of the Statutory Guidance (Remediation of Contaminated Land).

1.2.5 Risk Assessment

The "*Contaminated Land Regime*" has introduced a risk-based approach to dealing with contaminated land. The two steps in identifying *contaminated land* reflect this approach. Firstly the Council must satisfy itself that

- a "*pollutant linkage*" exists on the land and secondly that this,
- is resulting in *significant harm* , or the *significant possibility of significant harm* , or is resulting in the pollution, or likely to result in the *pollution of Controlled Waters*.

A *pollutant linkage* requires three elements, a "*contaminant*"; a "*pathway*"; and a "*receptor*".

- A *contaminant* is a substance that is in on or under the land and which has the potential to cause *harm* or to cause *pollution of controlled waters*.

- A *pathway* is one or more routes or means, by or through which, a *receptor* is being exposed to, or affected by a *contaminant*, or could be exposed or affected.
- A *receptor* is a living organism, a group of living organisms, an ecological system or a piece of property as specified by Table A of the Welsh Statutory Guidance (see Appendix 1), that are being, or could be harmed by a *contaminant*, or *controlled waters* which are being or could be polluted by a *contaminant*.

The Council can only have regard for *receptors* that are likely to be present given the current use of the land or other land which might be affected. Current use may also be taken to include uses for which current planning permission exists.

The Council is only able to consider *harm* as being *significant* if it affects a *receptor* in Table A (See Appendix 1) and is within the description of *harm* specified for that type of *receptor* in Table A.

When deciding whether the *possibility of significant harm* being caused is *significant*, the Council should take into account,

- the nature and degree of the *harm* ;
- the susceptibility of the *receptor* to which the *harm* might be caused; and
- the time-scale within which the *harm* might occur.

Any possibility of *significant harm* meeting the conditions set out in Table B of the Welsh Statutory Guidance (see Appendix 2), should be regarded as a *significant possibility* by the Council.

1.2.6 Pollution of *Controlled Waters*

The definition of *contaminated land* requires the presence of a *significant pollutant linkage* from the affected land to relevant *receptors*. *Controlled waters* are such a *receptor*, and *pollution* (or the likely pollution) of *controlled waters* is a reason for land being determined as *contaminated land*. The *pollution of controlled waters* is defined by Section 78A(9) as: the entry of any poisonous, noxious or polluting matter or any solid waste matter into the waters. Part IIA requires the entry of these substances to be likely or continuing. In their document 'Technical Advice to Third Parties on the Pollution of Controlled Waters for Part IIA of the Environmental Protection Act 1990', the Environment Agency recommends that in the first instance the significance of water pollution may be established by comparing water quality standards contained within. In deciding whether pollution of *Controlled Waters* is significant the Council will therefore have regard to all water quality standards that are relevant to the specific site and make a judgement against the most stringent of those relevant standards. Welsh Statutory Guidance also requires the Council to consult with the Environment Agency when making such a determination.

1.2.7 Remediation

Once land has been determined as contaminated land the *enforcing authority*; that is the Environment Agency in the case of *Special Sites* and the Local Authority in every other case, will be required to:

- Ascertain who is/are the *appropriate person/persons* to bear the cost of any *remediation* required.
- Effect the *remediation* of the land through the voluntary actions of the *appropriate persons* or through the serving of a *remediation notice* (specifying what is to be achieved by the *remediation*) where this is unsuccessful.
- Apportion the cost of the required *remediation* between the *appropriate persons*.
- Bear the cost of *remediation* where *orphan linkages* have been identified.
- Maintain a public register.

1.3 Development of the Strategy

1.3.1 Requirements of a Strategic Approach

The Council is required to take a strategic approach to its inspection duty. Chapter 2, Part C of the Welsh Statutory Guidance states that this should:

- 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;
- seek to ensure that resources are concentrated on investigating areas where the Local 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.

1.3.2 Overall Approach

The Environment Project of the Public Health and Protection Division within the Community Services Group has been assigned the responsibility of preparing and implementing the Strategy. In 1997 the full-time post of Contaminated Land Officer was created to specifically fulfil the Council's statutory obligations. Whilst the regime has taken some time to come into force in Wales, the requirements that it would place on the Council were anticipated and a great deal of essential preparatory work was carried out in advance.

The Contaminated Land Officer, overseen by the Environment Project Manager, has prepared the draft Strategy for consultation. As part of the internal consultation process, the draft Strategy was available to view on the Local Authority's website, and was also presented to Members at Cabinet. In accordance with the Statutory Guidance, external consultation was undertaken with comment being invited on the draft document from formal and informal consultees.

Once the consultation period is over, the Council will formally adopt the final version of the Strategy and publish. Once published a copy will be sent to the Environment Agency via their Area Contaminated Land Officer.

1.3.3 Internal Team Responsibility

The departmental structure is set out in Chapter 5.

The Contaminated Land Officer was responsible for drafting the Strategy, with the Environment Project Manager ensuring that time scales were met and that the Strategy reflected broader policies of the Council.

The Contaminated Land Officer will also:

- implement the Strategy following its adoption and publication,
- provide information to developers and the Council's Planning Department where potentially *contaminated land* is being considered for redevelopment and/or is the subject of a planning application,
- review and appraise site investigations and proposed *remediation* schemes,
- answer requests for information from the public or other interested bodies,
- receive and deal with complaints of contaminated land, and
- act as an initial point of contact for *contaminated land* issues.

1.3.4 Internal Liaison

The process of developing and implementing the Strategy will require liaison with other departments. Due to the far-reaching implications of *contaminated land* it is expected that at some time most departments within the Council will have cause to obtain or exchange information on the subject. This will occur to varying degrees but it is anticipated that the majority of contact will be with the following:

- Development Control
- Forward Planning
- Land Reclamation
- Property Services
- Countryside
- Legal and Democratic Services
- Development and Regeneration (Area Regeneration Partnerships, Development Planning and Business Support)

A list of contact names, addresses and telephone numbers has been supplied in Appendix 3.

1.3.5 Statutory Consultation

Welsh Statutory Guidance (2.11 Part C, Chapter 2) requires the Council to consult with the Environment Agency and other appropriate public bodies (e.g. CADW, Countryside Council of Wales, Welsh Development Agency, and Food Standards Agency). It is also recognised that consultation with these organisations will be important at several stages in the Part IIA process:

- in the process of determining whether particular areas of land are *contaminated* on the basis of *significant pollutant linkages* affecting *receptors* for which they have particular expertise,
- in providing information on the location of recognised *receptors*,
- conferring any information to the Council on existing land contamination already known to them and,
- in considering what *remediation* is required at specific sites in their remit.

Formal contact has therefore been made and contact details are contained in Appendix 4.

1.3.6 Consultation with Others

It is the intention of the Council to consult on a wider scale with members of the public, businesses and other interested parties. Following the preparation of the draft Strategy, the Local Authority's Press Officer will be invited to issue a press statement. This will inform all interested parties of the document's availability at key public buildings and on the Local Authority's website (www.rhondda-cynon-taff.gov.uk). Comment on the draft Strategy will be invited prior to its adoption and publication. All comments should be addressed to the Contaminated Land Officer (see Contact details in Appendix 3) and received on or before 4th September 2003 in order for them to be considered prior to the preparation of the final document.

1.4 Objectives of the Strategy Document

The effective implementation of the *Contaminated Land Regime* in Wales is central to the economic regeneration and environmental improvement of the region. Each Local Authority must play its part in this national programme. To that end Rhondda Cynon Taf County Borough Council aims to:

- meet the statutory requirement to produce a Strategy for its area;
- demonstrate how it meets the requirement for a strategic approach to its inspection duties as outlined in Chapter 1, Part C, paragraph 2.9 of the Welsh Statutory Guidance;
- inform all stakeholders of its intentions in the execution of its statutory duties under Part IIA, and
- provide information to the Environment Agency for its report *on contaminated land*.
- Continue to develop a proactive and risk based approach

Chapter 2 Characteristics of Rhondda Cynon Taf

2.1 Rhondda Cynon Taf County Borough Council

Local Government Reorganisation formed Rhondda Cynon Taf County Borough Council on 1st April 1996. Covering a total area of approximately 44,000 hectares the Council incorporates the former Cynon Valley Borough Council, Taff Ely Borough Council and Rhondda Borough Council and a substantial part of Mid Glamorgan County Council.

2.2 Geographical Location

The Council is situated in South Wales to the north-west of Cardiff with the M4 running close to its southern boundary. In the north it borders with the Brecon Beacons National Park. Figure 1 shows the Council's geographical relationship with its neighbouring authorities.

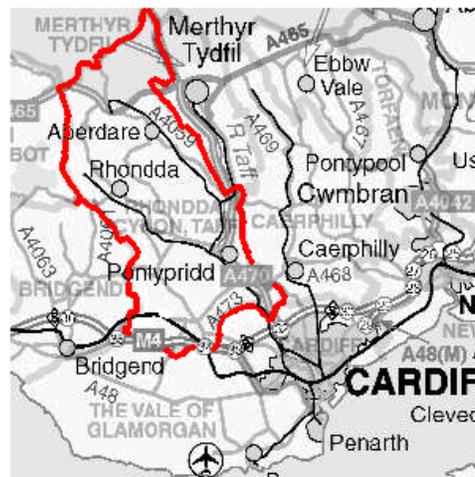


Figure 1, Rhondda Cynon Taf Location Map

2.3 Background Information

The Council's name is taken from the valleys of three rivers, which together with the rivers Ely and Clun dominate the area in both geographical and demographical terms. The topography of the area is influenced greatly by its geology and this is discussed in more detail in section 2.4. Situated within the South Wales Coalfield the topography is that of an undulating plateau, its strong escarpment broken by deeply incised valleys. The rivers cutting through the escarpment follow courses that bear little relationship to the geological outcrops but were important for the development of the coalfield since coal was worked wherever it outcropped.

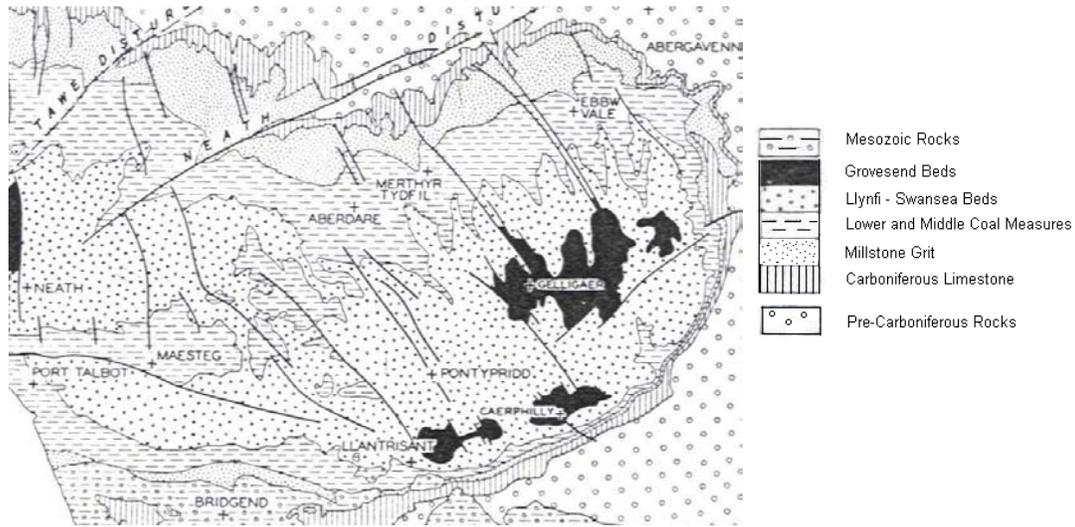
Until the mid 17th century the Welsh Valleys were unspoilt rural areas and it was not until the discovery and exploitation of steam coal reserves on a commercial scale in 1860's that intensive development began. Rapid urbanisation began in the late 18th and early 19th centuries and gave rise to settlements along the valley floors within the coalfield. Space was limited in the valleys and the coal mining communities that developed were built up and heavily congested. Much of the current housing stock consists of the terraced properties constructed at that time. Extensive mining of the coal resources in the area has also produced spoil heaps that spill over fields and mountain slopes. Since they often support little vegetation and are associated with instability and contamination they present their own challenges when returning this land to beneficial use.

Today's total population of around 232,000 is still concentrated in these small towns and villages close to the rivers, industry and employment. In contrast, the upland areas supported little development and are almost entirely given over to farming, especially sheep farming, since the Pennant Sandstones found here weather to form poor thin acidic soils.

2.4 Broad Geological Characteristics

The geology of the South Wales area is summarised in Figure 2. This map shows the area to be dominated by Upper Palaeozoic rocks, that is the Devonian and the Carboniferous Series. These rocks have been subjected to the effects of subsequent plate tectonic movements (i.e. movements of the earth's crust) resulting in their structural deformation. An important consequence of this was the formation of the basin of the South Wales Coalfield. The basin is sharply delineated by the differential erosion of hard and soft rocks. Grits and conglomerates of the Upper Old Red Sandstone (ORS) are tough and resistant and they form the summits in the north of the Borough. Within this escarpment are the parallel ridges formed by the Carboniferous Limestone and Millstone Grit. These dip down below the lower lying softer shales of the Lower and Middle Coal Measures. These measures in turn dip below the thick Pennant Sandstone, which are resistant to erosion and form a strong escarpment.

Figure 2. The Geology of the South Wales Coalfield



2.4.1 The Upper Old Red Sandstone

The older rocks of the Devonian Series can be seen towards the edge of the basin; these belong to and consist mainly of the Quartz Conglomerate Group. These are red and brown sandstones, quartzites and coarse conglomerates as seen in the south of the borough around Miskin.

2.4.2 The Carboniferous Limestones

The Lower Carboniferous (Dinantian) rocks consisting of shales and limestones are seen again outcropping at the edges of the coalfield. The limestones have been extensively quarried throughout the area initially as a local building material and for lime and then for iron and steel production and the aggregate industry. Mineralization with Iron (and Lead to a lesser degree) has occurred within the limestone. Iron ores (mainly in the form of Haematite) have been worked around Miskin/Pontyclun and Llanharry. Small-scale extraction of these ores occurred in the 1800s as opencast cropworkings and then as underground mine working. Limestone in the region between Pontyclun and Risca in Gwent has also been exploited.

Near surface solution features can lead to problems with ground stability especially where percolating surface water washes out softer overlying deposits.

2.4.3 Millstone Grit

The Upper Carboniferous is represented by Millstone Grit (Namurian) and the Coal Measures (Westphalian).

Millstone Grit is a varied and variable group of sandstones and shales. It often exhibits cyclical sedimentation starting with a thin coal seam of no economic importance then marine shales followed by sandy shales and siltstones moving to coarser grained grits and quartz conglomerates. The coarser rocks such as

quartzite form hard bands strongly resistant to weathering and give rise to escarpments surrounding the coalfield.

2.4.4 The Coal Measures

In South Wales these were deposited cyclically and are similar to the Millstone Grit series. The main difference is that the former contains few and unworkable coal seams and the Coal Measures contain few marine bands. The recurrent coal seams were formed as thick beds of waterlogged peaty humus in swamps and marshes supporting luxuriant vegetation, through which rivers meandered. The sequence starts with a coal seam formed at or very near water level as a thick dense peat followed by a fine-grained shale or impure limestone of marine conditions moving to sandstones and grits of non-marine nature. The end of the cycle is marked by fine-grained muds deposited in shallow-water, which have been converted to seatearths with rootlet beds by the growth of forests on top of them and then the development of the next coal seam above. This sequence is not always complete and the components are of variable thickness.

The Westphalian is divided into the Lower and Middle Coal Measures and the Upper Coal Measures (Pennant Measures). The coal seams account for less than 2% of the Coal Measures yet they are economically the most important. The coals can be divided into three main types that grade into each other.

- Bituminous Coals, these are soft and friable with a high proportion of volatile matter (20 to 40%). They are good for house, gas, and cooking coals whose carbon contents range from 84- 91%.
- Anthracite, this is a hard stone coal with a metallic lustre yielding a low proportion of volatile matter (3 to 8%) and low hydrogen content. It burns at high temperatures without yellow flame or smoke, and is unsuitable for manufacture of coke.
- Steam Coals their composition and characteristics are intermediate between bituminous coals and anthracite.

In South Wales, the coals lower in the sequence at any one locality tend to be more anthracitic with anthracites being rare in the Upper Coal Measures. Also, any one coal seam tends to become more anthracitic as it is followed towards the north, northwest and west. It can be seen therefore that bituminous coals are mainly found in the south and east outcrops, the steam coals in the central part between the Taff and the Neath (particularly in the Rhondda) valleys, and anthracites along the north crop.

Iron ore is found associated with the Coal Measures. At one time the ore formed the principal source of industrial iron in South Wales, but none is now worked. Ironstone was extracted in the Cynon Valley with coal being used as a fuel for the smelting process. As other more economically viable sources of Iron were found, coal production eventually took over and became the main extractive material.

The rocks of the Upper Palaeozoic have been subjected to earth movements resulting in folding and fracturing; the development of structural features governing the outcrop of the rocks and consequently the location of mines and their workforce, the mining communities.

2.4.5 Triassic

These rocks are limited in the County Borough. They were deposited in the south along the escarpment of the Palaeozoic rocks and are better developed in the Vale of Glamorgan. Inland from the Vale of Glamorgan the Trias oversteps the Lower and Middle Coal Measures almost onto the Upper Coal Measures near to Llantrisant. It is formed from the weathering of these older rocks and belongs to the Mercia Mudstone Group.

2.4.6 Recent Deposits.

Approximately 10,000 years ago the area underwent a period of glaciation. Glaciers forming in the upland areas modified the topography to that seen today through erosion and transported material down through channels already existent in the topography, for example the river valleys. This resulted in the deposition of boulder clay, sand and gravel over significant tracts of land. Sand, gravel and alluvium continue to be deposited in the river valleys with hill peat forming on higher ground.

2.5 Hydrogeological Characteristics

Groundwater is utilised throughout the Welsh region ranging from small private abstractions to major industrial and potable supplies. Rocks can be divided into aquifers, which allow the movement of water through them and provide a source of groundwater, and non-aquifers (aquicludes), which do not. Groundwater is an important resource and needs to be protected from pollution and contamination. It is therefore necessary to have an understanding of the Geology of the area and an appreciation of the classification of rock types in terms of aquifers and non-aquifers. Overlying soils may afford some protection to groundwater, Groundwater Vulnerability maps produced by the British Geological Survey assist in the general *risk assessment* process.

2.5.1 Major Aquifers

- The Lower Carboniferous Limestone is the only major aquifer of the area. It should be noted that Schedule 1, point 2 of the Welsh Statutory Guidance requires that sites causing contamination of groundwater within this strata should be investigated as a *Special Site*. Although limestones have poor intergranular permeability, movement of water occurs through the well-developed fractures and fissures within the rock. Cavities have developed in the limestone due to preferential solution (karst); some of these extend to the surface (swallow holes) and allow rapid recharge of the groundwater from surface water. Due to factors relating to the development of the fissure system this aquifer is very vulnerable to point source pollution events. Springs

often emerge at its boundary with other less permeable rocks, and are used together with wells and boreholes as a source of private drinking water.

2.5.2 Minor Aquifers

- The Old Red Sandstone is a minor aquifer. The sandstones are generally hard with groundwater movement occurring through fissures. Vertical flow is limited by the presence of clays (marls) within the sequence that leads to springs forming.
- Millstone Grit exhibits cycles of deposition from coals, shale, sandstones, to seatearths. Water movement in the well-cemented sandstones is through fissures. Springs occur within the Millstone Grit at junctions between the sandstones and underlying less permeable shales. Where Millstone Grit overlies Carboniferous Limestone it can act as a source for its groundwater recharge.
- Carboniferous Coal Measures are also minor aquifers and are used for water resource purposes. Movement is through the system of fissures and the network of mining features. Permeable sandstone horizons also facilitate water movement whilst shales tend to impede it.
- Lower and Middle Coal Measures consist mainly of shales with minor sandstones and coal seams.
- Upper Coal Measures (Pennant) have hard dense sandstone horizons that contain large amounts of groundwater due to their well developed jointing and fissure system, separated by shales, mudstones and seatearths with much lower permeability.
- Recent Sands and Gravels including glacial, fluvio-glacial, plateau gravels and river terrace deposits are usually superficial and variable in nature. Due to their unconsolidated nature they have high intergranular permeability and can be important for supplying local requirements. Silt and clay is also found within these deposits and these act as non-aquifers preventing the flow of groundwater. The waters contained within are often in hydraulic continuity with surface waters and their proximity to the surface make them very vulnerable to pollution.

2.5.3 Non-Aquifers (Aquicludes)

Non-aquifers are generally considered to be formations with negligible permeability and supporting few, if any, abstractions. Such rocks would be Shales, clays, marls and siltstones. They may also be present as horizons within the above groups of rocks and will act as barriers (aquicludes) to the movement of groundwater.

2.6 History of Economic Development

The raw materials for the industrialisation of the area were the iron, coal, limestone deposits and a plentiful water supply. Development occurred close to these resources and so a link is seen with the geology of the area.

2.6.1 Iron

It was in the latter half of the 18th century that the proximity of iron ore, coal, limestone and a plentiful water supply was exploited by ironmasters. Hirwaun and Aberdare saw the development of ironworks processing the ironstone clay bands within the coal measures. The pig iron produced required transporting from the valleys to the coastal ports and this stimulated the development of the canal system. Eventually railways took over as the main mode of transport from the heavily congested canals. This coincided with a reduction in the amount of iron and an increase in the amount of coal being exported from the valleys.

The height of the South Wales iron production was in 1857, thereafter the industry declined. By the 1860's, iron production had tailed-off as the demand for steel increased. The limited resources of some of the ironworks prevented their conversion to steel production and led to their eventual closure. Hirwaun closed in 1859 and other local ironworks soon followed. The near-surface and shallow local ironstone reserves were depleted and it was uneconomical to exploit the deeper reserves. Cheaper European ores having higher iron content were more suited to the new production methods and were used in preference. Local ore extraction and iron production ceased but fortunately for the local workforce the importance of the coal reserves was realised and coal production increased as demand from the domestic, industrial and transport sector increased.

Iron ore of a different type was extracted at the Llanharry site in the form of Haematite and limonite and continued to supply steel works in Cardiff.

2.6.2 Coal

Coal as a source of power and as a raw material for other industries was a major factor in the economic development of the region. Initially coal was worked in patches where it lay close to the surface for the process of Iron production (in the north). Mining techniques improved and the deeper steam coals situated in the centre of the coalfield were exploited. The demand for these grew worldwide and huge quantities were moved by rail from the Valleys to the docks. The output of coal from South Wales quadrupled between 1860 and 1900 whilst the total UK output less than trebled showing the importance of the mining effort here.

In the latter half of the 19th century industrial communities quickly developed around the newly opened levels and pits such as Maerdy, Ferndale, Tylorstown, Treherbert, Treorchy and Tonypany of the Rhondda. This is the largest and best-known mining community and saw an increase in population from less than 1000 in 1851 to 152,000 in 1911. Coal was mined in all of the valleys, and although perhaps not as large, the mining communities in the Cynon and Taff valleys also resulted in the creation of many villages and towns.

Whilst in the Valleys coal mining resulted in deforestation, pollution of rivers and a huge increase in the population, Cardiff became the largest coal exporting port

in the world. The demand for coal was so great that additional docks were also built at Barry, Penarth, Swansea, Port Talbot and Newport.

2.6.3 Coke works and Coal Gasification Plants

The destructive distillation of coal to produce coke, water-soluble components (ammoniacal liquor) and tars, occurred at coke works throughout the area and still continues to the present day at Cwm Coke Works. Coke was used as a fuel for the steam engines of the railways and the ironwork furnaces; often it was produced close to the pits where the coal was extracted. Coal Gasification plants used for the production of town gas are found within the County Borough. These sites are commonly associated with ground and groundwater contamination. British Gas and their successors have implemented a rolling programme for their investigation and *remediation*. It should be noted that local authorities also acquired some gas works sites for redevelopment.

2.6.4 Brick Making

Clay is closely associated with coal. Some of the local clays had the properties of fire clays and were used to make refractory bricks suitable for use in furnaces and flues. In addition they were used for colliery walling and house building. In 1854 it was noted that there were five brick manufacturers between Pontypridd and Dinas. Brickworks also occurred as appendages to collieries in other areas.

2.6.5 Special Areas

Following the closure of coalmines at various stages and high unemployment especially in the 1930's, efforts were made to attract new businesses and provide the redundant workforce with employment close to their homes. Under the Special Areas Act of 1934 the South Wales Coalfield was made a Special Area and came under the control of a District Commissioner who undertook the task of improving social and economic conditions. The Treforest Industrial Estate developed in 1936 was the first of its kind in Wales and was equipped to meet the needs of modern industrial developments. Factory buildings were also constructed and were occupied for example by zip and clothing manufacturers.

2.6.6 Development Areas

Under the Distribution of Industries Act 1945, certain areas (mostly incorporating the Special Areas) were scheduled as Development Areas with their industrial development passing to the Board of Trade. This was responsible for the construction of factories throughout the area attracting light industry involved in the manufacture of goods ranging from springs, toys, and kitchen utensils to paper, rubber, paint, clothes and furniture.

2.6.7 Current Industrial Activity

A wide range of businesses currently operate in the Borough, there are six premises operating Part A prescribed processes which are authorised under Part 1 of the Environmental Protection Act 1990. Integrated Pollution Control (*IPC*)

covers emissions to air, land and water and is administered by the Environment Agency. These are:

- Purolite International Ltd - the manufacture of ion exchange resins
- Maxibrite - the manufacture of bitumen bound anthracite (and petroleum coke blends) briquettes for domestic use
- Coal Products Ltd - Cwm Coking Works producing blast furnace or foundry coke (now closed and under remediation)
- GEAES - cadmium electroplating and electrostripping of aircraft engine components
- A B Connectors Ltd - cadmium plating of aluminium and brass components
- British Gas plc., Transco Storage Services liquefaction and subsequent storage of natural gas.

There are two installation permitted under Integrated Pollution Prevention and Control (IPPC) and subject to Environment Agency control, namely:

- Western Board - Paper manufacture
- Clariant UK Ltd - five different authorised processes for the production of chemicals utilised by the pharmaceutical industry

Over time more installation will come under Integrated Pollution Prevention and Control rather than Integrated Pollution Control.

There are a further 74 Part B prescribed processes subject to Local Air Pollution Control (LAPC) by the Environment Project of the Local Authority's department of Public Health and Protection. These consist of the following process types:

- 9 Waste Oil Burners, 4 Concrete Batching, 4 Coating, 2 Concrete Products, 2 Limestone Quarries (1 including a coating plant), 1 Gritstone Quarry including Coated Stone, 1 Aluminium Diecasting, 1 Non-ferrous Foundry, 3 Vehicle Refinishing, 3 Wood Products, 1 Wood Combustion, 2 Cremation, 31 Petrol Vapour Recovery Systems (petrol filling stations), 1 Lime Manufacture, 1 Rubber Products, 1 Coal Handling, 2 Coating Manufacture, 1 Coated Roadstone and 5 Mobile Plant.

2.7 Protected Locations

Part of the Brecon Beacons National Park lies within the County Borough. This was established under the National Parks and Access to Countryside Act 1949. There are 16 Sites of Special Scientific Interest (SSSI) and one Candidate Special Area of Conservation within the Local Authority, which have been identified within the Statutory Guidance as *receptors*. At a local level 197 Sites of Important Nature Conservation have been identified which include wetlands, quarries, woods, marshes, woodlands, lakes and local nature reserves.2.8

2.8 Key Property Types

The area contains 34 Scheduled Ancient Monuments, which include a Roman Camp, round barrows, round cairns, ring cairns, earthworks, a ventilation furnace and iron tram-road bridge. There are 293 listed monuments and 16 conservation areas.

2.9 Key Water Resource/Protection Issues

Welsh Water currently supplies water to properties with the area. However, 232 properties are known to utilise private water supplies. The Public Health and Protection Department is currently revising their inspection of such supplies to ensure that they comply with bacteriological and chemical standards set for drinking water in the Water Supply (Water Quality) Regulations 1989. The exact source of water for all of these supplies is not currently known but it is recognised that in order to protect the user, it will be important to obtain this information whenever possible in the future.

Other water protection issues in the area include two source protection zones completely within the county namely Penderyn and Cwmparc and one (the Schwyll source at Pencoed) that occupies it in part. These are shown in Figure 3

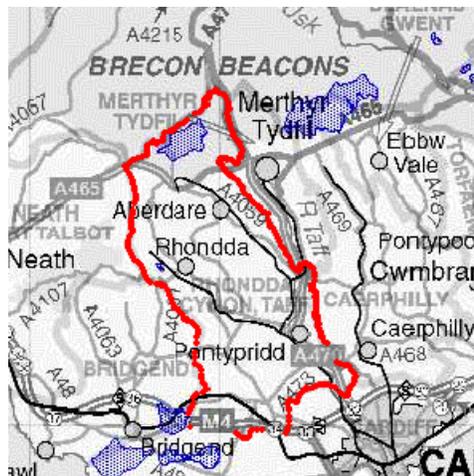


Figure 3, Source Protection Zones, hatching denotes the total catchment area, (from www.environment-agency.gov.uk, What's in my Backyard).

Groundwater vulnerability maps for the area show that there is one major aquifer, as detailed in Schedule 1 of the Welsh Statutory Guidance. This is the Lower Carboniferous Limestone and land potentially resulting in the contamination of water contained within this aquifer would require investigation as a potential *Special Site*.

There are numerous streams and several rivers flowing through the area, all are recognised *receptors* under Part IIA. The Rhondda Fawr and Rhondda Fach rivers in the Rhondda Valleys coalesce at Porth before continuing on to Pontypridd where they join the River Taff. Upstream of their confluence, at

Abercynon the River Taff is joined by the River Cynon as it leaves the Cynon Valley. Upon leaving Pontypridd the River Taff flows down the Taff Vale past Treforest Industrial Estate and Taffs Well before moving into Cardiff. In the south of the Borough there are two rivers. The River Ely flows down past Tonyerfail to Talbot Green, where the River Clun joins it, and then continues through Pontyclun. Like the River Taff it discharges into Cardiff Bay.

Several reservoirs are found within the Borough. Cantref and Llwyn-on are the larger and are found in the north along the Taff Fawr within the Brecon Beacons National Park. These are owned by Welsh Water and utilised for drinking water supplies. There are other smaller reservoirs including Penderyn, Nant-Moel, Clydach Lluest wen and Perthcelyn.

2.10 Remediation to Date

Following the Aberfan disaster in 1966, the Government set up a special unit at the Welsh Office to lead, encourage and co-ordinate a programme of reclamation to clear away derelict, unsightly or neglected land and restore it to productive and beneficial use. The functions of the Welsh Office were subsequently made the responsibility of the Welsh Development Agency. Councils identified areas that were so damaged by past industrial and other activity that they were incapable of beneficial use without treatment, and applications were then be made to the Welsh Development Agency for improvement grants under the Welsh Development Agency Act 1975. Where schemes were envisaged to increase the open market value of the land upon completion, the Welsh Development Agency required the councils to hold the freehold interest. This led to the Council's acquisition of sites requiring *remediation* and their involvement in its *remediation* through the Land Reclamation Team.

Welsh Development Agency grants do not cover natural dereliction or works that are covered by enforceable restoration conditions or statutory requirements (including *remediation notices*). Work has been undertaken at former colliery sites and areas of associated spoil. The treatment of the latter has often been reprofiling or removal, and occasionally, when economically viable, reworking to remove the coal fraction. In recent years the reclamation of Coed Ely Colliery and Coking Works has been undertaken. This project to contain waste arising from the former coke works within a specially engineered encapsulation cell is now nearing completion and will see the land being returned to beneficial use.

Other sites' *remediation* has been secured through the planning process. Developers of land known to have past associations with potentially contaminating uses have been required by conditions attached to their planning permission to undertake site investigations. This geographical information system (*GIS*) developed by the Public Health and Protection Division has proved invaluable at the consultation stage in identifying such areas of land. Investigations are carried out prior to development and seek to characterise the

exact nature of any potential *pollutant linkages* and ensure that they are addressed through appropriate *remediation*. It is envisaged that the majority of potentially contaminated land sites will continue to be dealt with in this manner and result in their return to beneficial use.

Other recent remediation projects include a former gasworks site. This was carried out on the behalf of Lattice Properties and saw the clean up land shown to be adversely impacting on groundwater quality.

2.11 Known Information on Contamination

There are two sites currently known by the Council that would probably meet the statutory definition of *contaminated land* * A considerable amount of information is available on these since they have been the subjects of several site investigations. The contaminated land issues associated with these sites will be dealt with through the redevelopment process in one instance and as a *Special Site* under Part IIA for the other.

* Although there are approximately 2,500 potentially contaminated sites known to the Council it is envisaged that only a small percentage of these will actually meet the statutory definition of *contaminated land*. *Contaminated land* is defined 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, on or under the land, that *significant harm* is being caused or there is significant possibility of such harm being caused; or pollution of *controlled waters* is being, or is likely to be caused.'

Chapter 3 The Council Strategy: Overall Aims

Chapter 1, section 1.1 outlines the Council's vision and corporate Mission Statement and shows how the Mission Statement and Service Objectives of the Public Health and Protection Division support the achievement of those overarching goals.

Chapter 1, section 1.4. sets out the statutory aims of the Strategy. This chapter sets out the specific aims of the Council when dealing with contaminated land issues. The Council aims to:

1. To protect human health and well being
2. To encourage the redevelopment of damaged land/ reuse of brownfield land
3. To encourage voluntary *remediation*
4. To communicate and work effectively with other organisations to protect other *receptors*
5. To engage with local communities (e.g. through the newly formed Area Regeneration Partnerships) to find out what their priorities are
6. To ensure compliance with and enforcement of the legislation and statutory guidance

The strategy has been designed in consultation with all parties within the Authority with any interest in land that has had a previous industrial use. They have been consulted on this draft strategy and, in particular, asked to comment on the way in which it impacts on other strategic initiatives or work programmes. Every effort will be made to integrate the contaminated land inspection strategy with other corporate strategies.

Contaminated land issues are often complex and dealing with potentially contaminated sites is difficult especially as information is often limited or unavailable. Decisions may have to be made before full details are available and it is anticipated that the decision making process will be aided by having regard for the Council's priorities.

3.1 The Aims of the Strategy

Protecting the health and well being of the community is a high priority for the Council. The ultimate aim of the Strategy will therefore be to identify all those areas posing a risk to human health and to remove those risks.

The Council also recognises that *receptors* other than humans are covered by Part IIA, in particular *Controlled Waters*, and it aims to identify risks posed to these through the general inspection process.

The newly formed Area Regeneration Partnerships have been specifically invited to comment on the draft strategy so that the views of the community are given proper consideration and weight in the prioritisation process.

3.2 Objectives and Milestones

In order to achieve the stated aims the Council has set the following general objectives for the Strategy

1. To complete the historical map search of the County Borough and the preliminary inspection of records currently available to enable the identification of all potential sources of contamination.
2. To gain awareness of the occurrence and nature of all *receptors* through liaison with other departments and organisations.
3. To prioritise sites for further more detailed inspection thus ensuring that the most urgent are dealt with first.
4. To carry out more detailed inspections in order of priority.
5. To establish an order of priority for securing the voluntary *remediation* of land determined as contaminated.
6. In order to liase and work effectively with other organisations the Contaminated Land Officer will establish and maintain contact with the *appropriate persons* at an early stage.

Chapter 4 Local Authority Priority Actions and Timescale.

The overall aim of this chapter is to describe the specific approach that the Council has taken to date in fulfilling its statutory obligations to prepare the Strategy. It also continues with proposals for future actions, i.e. the inspection of its area to identify *contaminated land*.

4.1 Priority Actions

4.1.1 Appointment of Contaminated Land Officer

After identifying its future obligations under the proposed *Contaminated Land Regime* the Council recruited a new Contaminated Land Officer who was to prepare and implement the Council's Contaminated Land Inspection Strategy.

4.1.2 Purchase of a Geographical Information System (GIS), August 1997

The Council has chosen GGP as the corporate geographical information system. This has been used to compile a computer-based record of potentially contaminated areas of land identified from the historical map search and study of available records.

4.1.3 Desktop Study commenced August 1997.

Whilst awaiting the implementation of the new *Contaminated Land Regime* the Contaminated Land Officer began a desktop study of the County Borough. The Department of the Environment's report 'Pilot Survey of Potentially Contaminated Land in Cheshire - A Methodology for Identifying Potentially Contaminated Land Sites' (July 1990) was consulted to establish an approach to this work. Concentrating on land uses with a known potential to introduce contamination into sites, Ordnance Survey (OS) Maps from the 1800's onwards were scrutinised to identify such sites. All quarries and areas of infilling have been included on the database along with sites marked as 'works'. It is appreciated that this method may result in false positive results and may miss sites since land uses may have occurred without ever being recorded on a map. Public consultation may help to identify such gaps in the database. A search of the following collated documents was also undertaken at this stage:

- The Survey of Contaminated Land in Wales, Welsh Office 1988
- Environment Agency Draft List of Landfill Sites in Rhondda Cynon Taf, 1997
- Taff Ely Landfill Site Survey, 1990
- Cynon Valley Borough Council Derelict Land and Land Reclamation Report, 1985
- Taff Ely Borough Council, Register of Land which may be Contaminated, Edwards and Rice Ltd, March 1992

This work concentrated on the most populated areas of the Borough first and has resulted in over 2500 potentially contaminated land sites being recorded on

GGP. It is now intended to complete the search by looking at the remaining more rural areas. The GGP system has also been used to record the locations of other *receptors*. These can be overlain to assist in the identification of land that has both potential sources of contamination and *receptors*.

4.1.4 Preparation of the Draft Strategy, July 2001 - May 2002

The draft Strategy was prepared in line with the technical advice issued by the DETR to guide local authorities in this task.

4.1.5 Consultation Period, July and August 2003

A two-month consultation period commencing July 2003 will allow statutory and non-statutory consultees to comment on the draft Strategy.

4.1.6 Preparation of the Final Strategy, September 2003

All information and comments generated through consultation will be given due consideration as the draft Strategy is modified and finalised.

4.1.7 Adoption of the Strategy, September 2003

The final version of the Strategy will be presented to Cabinet and adopted by the Council.

4.1.8 Publication of the Strategy, September 2003

The adopted Strategy will be published and submitted to the Environment Agency via their Area Contaminated Land Officer. Copies will be made available for the public and other interested parties to view at local libraries and by prior appointment at the offices of the Public Health and Protection Department and on the Council's website (www.rhonda-cynon-taff.gov.uk).

4.1.9 Dealing with Urgent Sites, May 2000 - ongoing

Work is currently being undertaken by the Environment Agency in conjunction with the Council to investigate and characterise a potential *Special Site* using monies made available by the Welsh Assembly Government. This work commenced prior to the introduction of the regime in Wales. Any other urgent sites that come to our attention during the general inspection process will be dealt with as a priority over the general inspection schedule.

4.1.10 Completing the Desktop Study, September 2003 - March 2004

The initial desktop study has identified some 2,500 sites as containing potential sources of contamination and therefore requiring a more detailed inspection in order to establish whether significant *pollutant linkages* exist.

From overlays developed in our GGP system it can already be seen that there is a strong correlation between the location of potentially contaminating past land uses and potential *receptors* such as humans and *controlled waters*. This relationship has been discussed in Chapter 2. The majority of potential sources for contamination have already been identified although some of the more rural areas have yet to be studied.

To facilitate the following stage (i.e. prioritising sites for detailed inspection), it may be necessary to undertake further work to characterise those sites that have been recorded as '*works*' or '*factories*' on the past land uses record (GGP).

4.1.11 Prioritisation, March 2004 – June 2004.

The Council is required to ensure that the most seriously contaminated sites are identified and dealt with first. With 2,500 potentially contaminated sites already identified as requiring more in depth inspections, there will be a need to prioritise the sites. Once the desktop study is completed the Council will develop and implement a prioritisation scheme. It is recognised that the different types of land use considered in the desktop study do not have an equal potential to generate harmful contaminants. Furthermore, they will not have an equal potential to result in *significant harm* or the pollution of *controlled waters*. Appendix 5 showing a risk-based classification of land illustrates these differences. The prioritisation will therefore take this into account and also consider the proximity of potential *receptors*. More importance will be placed on humans since the Council has set the protection of human health as one of its main aims. Detailed investigations of sites will therefore commence with those sites where human health is potentially most at risk from contamination arising from those industrial activities assessed as having the greatest potential to generate levels of contamination resulting in significant risk. A proprietary *risk assessment* package may be used at this stage to prioritise the inspection of these sites to establish whether a significant *pollutant linkage* exists.

4.1.12 Detailed Inspection of Sites – July 2004 - July 2007

Sites will be inspected to obtain sufficient information to decide if the land appears to be contaminated and whether that land should be designated as a *Special Site*. According to the Statutory Guidance issued by the National Assembly for Wales this inspection may take the form of

- The collation and assessment of documentary information
- Assessment of information from other bodies
- A visit to the particular area for the purpose of visual inspection and in some cases limited sampling or,
- Intrusive investigation of the land.

4.1.13 Local Authority Owned Land, July 2004 - 2007

As the main regulatory authority for the regime in Rhondda Cynon Taf, the Council recognises that it is important to adopt a responsible and transparent approach towards dealing with publicly owned *contaminated land*. The Property Services Department maintains records of land owned by the Council. This land has a variety of uses e.g. schools, leisure, industrial estates, allotments, housing and civic buildings. Land in a derelict or known contaminated state may also have been acquired in the past by the Council with a view to reclaiming it and returning it to the beneficial use of the community.

It is possible that the Council may have leased *contaminated land* or been responsible for the potential contamination but are no longer the occupants or landowner. The Cabinet will be advised as soon as possible of any *contaminated land* where the Council is liable for all or part of the cost of *remediation*. All land will be treated in exactly the same manner under Part IIA irrespective of the fact that the Council may be an *appropriate person* and therefore liable for some or all of the costs of *remediation*.

4.1.14 Unitary Development Plan Land

The Local Planning Authority is required to prepare and publish a Unitary Development Plan (UDP). This will set out what areas of land may be used for specified types of development. The Council is expecting to complete its UDP by 2006. There will be a substantial period of public consultation sometime after 2004 and officers from within the Council, including the Contaminated Land Officer, will have an opportunity for technical input .

The intended use of land and the likelihood of its development are critical factors in the contaminated land inspection prioritisation process. The UDP is therefore of critical importance, not least because the UDP is central to the overarching corporate objective of community regeneration. Investigation of land earmarked for development in the UDP is therefore a top priority.

4.1.15 Controlled Waters, Protected Areas of the Environment and Buildings July 2004-2007

The general process of investigation will bring to light threats to Controlled Waters, protected areas and protected buildings. Overlays marking the positions of these have been incorporated into the GGP system and this will highlight their proximity to areas of potentially *contaminated land*. It is recognised that these *receptors* are important, but the Council's priority is to protect human health. Therefore, unless evidence suggests that urgent action is required, these sites will be investigated in accordance with the general inspection procedure.

4.1.16 Final Prioritisation, August 2007

The Council is required to address the most urgent sites first. This will mainly be done once the inspection process is complete and the sites requiring *remediation* have been identified. The sites will then be prioritised in order to achieve the *remediation* of the most urgent sites first. Should a site be identified as causing an intolerable risk, then it will be addressed immediately and not left until all areas have been evaluated. A propriety *risk assessment* package evaluating the *pollutant linkages* identified may be used at this stage to aid decision-making. Any guidance issued by DEFRA and/or the Environment Agency will be kept in mind when selecting such a package.

Chapter 5 Procedures

5.1 Internal Arrangements

Contaminated Land falls within the remit of The Environmental Project under the Director of Public Health and Protection. This Division lies within the Community Services Group.

The lead officer for Part IIA of the Environmental Protection Act is the Contaminated Land Officer who reports to Environment Project Manager. The Contaminated Land Officer has been responsible for the initial preparation of the Draft Strategy and will implement it on a day-to-day basis. This includes the inspections necessary for the identification of *contaminated land*.

5.2 Local Authority Land Interests

It is possible that the Council itself may be identified as an *appropriate person* by virtue of its current or former ownership or occupation. As previously stated, it is the intention to treat all land in exactly the same open and transparent manner irrespective of who the *appropriate persons* are.

5.3 Information Collection

Many different sources of information will be consulted in the process of identifying potential *sources* of contamination and potential *receptors*. Figure 3 details some of the potential sources that have been consulted to date. This initial list may be expanded on as other sources of information are identified. The GGP system will be used to correlate information of potential sources with *receptors* and help to identify potential *pathways*.

Figure 3. Sources of Information

Source of Information	Information	Use
Historical Ordnance Survey Maps	Paper copies of Ordnance Survey Maps held by the Public Health and Protection Department and at local libraries, 1870's onwards.	To identify potential sources of contamination
Geological Survey Maps	Paper copies of solid and drift maps, scale 1:50,000, held by this department.	To identify potential sources, <i>pathways</i> and <i>receptors</i>
Hydrogeological Maps	Groundwater Vulnerability Maps produced by the National Rivers Authority	To identify potential <i>receptors</i> and <i>pathways</i>

Groundwater Source Protection Zones (SPZ)	Areas of groundwater that receive special protection by the Environment Agency as identified on their website. www.environment-agency.gov.uk for use on the <i>GIS</i> .	To identify potential <i>receptors</i> (controlled waters) and <i>pathways</i>
Environmental Health Records	The Council maintains records of complaints and investigations	To assist in the identification of <i>contaminated land</i> . To identify potential sources.
Planning Records	The Local Planning Authority holds records of permission granted for development in the area, including ground conditions surveys	To identify potential sources and <i>receptors</i> . To consider whether <i>remediation</i> carried out is appropriate.
Local Plans	These reflect future land use	To identify potential <i>receptors</i> and sources
UDP	Once this has been compiled it will provide an up-to-date record of future proposed land use	To identify potential <i>receptors</i> and sources
Aerial Photographs	Aerial photograph coverage of the Borough is available from 1945 onwards, photographs held at the National Assembly for Wales.	To assist in the investigation of particular sites
Private Water Supplies	A GGP overlay has been set up to record all private water supplies known to the Council	To identify potential <i>pathways</i> and <i>receptors</i>
Part A <i>IPC</i> and IPPC Process Authorisations	Details of authorisations required for polluting industrial processes available from the Environment Agency website and	To identify potential sources
Part B <i>IPC</i> Process Authorisations	A record of polluting industrial processes under Council control is maintained within the Industrial section and has been incorporated into the GGP system	To identify potential sources
Waste Management Licenses	The EA's public register of sites licensed for waste management activities	To identify potential sources
Ancient Monuments Listed Buildings	The Council maintains a GGP overlay of these sites with information supplied by Cadw	To identify potential <i>receptors</i>
SSSI and other protected sites	The Council maintains a GGP overlay of these sites with information supplied by CCW	To identify potential <i>receptors</i>

Public Rights of Way	The Council maintains an overlay on the GGP system	To identify potential <i>receptors</i> when considering certain areas of land
Derelict Land	Plans of derelict land destined for reclamation are prepared by the Council	To identify potential <i>receptors</i> and sources

5.4 Complaints and Voluntary Information

The publication of this Strategy will be publicised and it will be available in libraries and on the Council's web site. Members of the public, community groups and departments within the Council will be encouraged to contact officers in the Environment Project to make complaints about land which is affecting them or their property, provide voluntary information or bring certain land to the Council's attention.

5.4.1 Complaints

Complaints about contaminated land will be handled in the same way as complaints about other Environmental Health issues. Complainants may expect:

- their complaint to be recorded and logged on Flare; the Public Health and Protection Division's computerised complaint handling system,
- to be contacted by the Contaminated Land Officer or an Environmental Health Officer within 7 days to discuss their complaint
- to be kept informed as the investigation progresses and to be informed of the final outcome.

Whilst it is the project's aim to resolve complaints quickly and efficiently, it must be appreciated that the new regime places certain obligations on the Council, of a largely procedural nature, that will slow this process down:

- Investigation will have to demonstrate a *viable pollutant linkage* before land can be determined as contaminated.
- A minimum period of three months must elapse between that determination being made and a *remediation notice* being served (except where urgent *remediation* is required).
- The Council must make every reasonable effort to identify the original polluter or a *Class A person*.

5.4.2 Voluntary Information

Information supplied by a person or organisation relating to contaminated land that is not directly affecting either their own health, the health of their family or, their property will not be regarded as a complaint. The information may be recorded and acted upon at the discretion of the project manager. Such information could be a valuable resource.

5.4.3 Confidentiality

All complainants will be asked to supply their names and addresses. Their identity will remain confidential and would only be revealed if required by a Court of Law.

5.4.4 Anonymous Information

As a matter of policy the Public Health and Protection Division does not normally undertake an investigation based on anonymously supplied information. However, this will not apply where the information suggests that there may be a significant risk to public health.

5.5 Information Evaluation and Risk Assessment

The Council is required to carry out a scientific and technical assessment of the risks arising from *pollutant linkages* according to relevant, appropriate, authoritative and scientifically based guidance on such risk assessments. Statutory guidance states that in order to simplify such *risk assessment*, authoritative and scientifically based guideline values may be used. Therefore information on substances in, on or under the ground will be risk assessed against current government guideline values to determine whether or not *harm* is significant, or there is significant possibility of *significant harm* arising from contaminants observed. As scientific research expands our understanding of contamination it may be necessary to revisit sites and reassess our original findings.

5.5.1 The Contaminated Land Exposure Assessment Model (CLEA)

CLEA, launched recently by the Department for the Environment, Food and Rural Affairs (DEFRA) and the Environment Agency, assesses the chronic risks posed to human health by land contamination. The Environment Agency has a rolling programme looking at 55 contaminants but so far UK Soil Guideline Values (SGVs) have only been derived for Arsenic, Cadmium, Chromium, inorganic Mercury, Nickel, Selenium and Lead. The publication of SGVs for phenols and Benzo(a)pyrene have been delayed and work on other polycyclic aromatic hydrocarbons will follow. The model considers ten *pathways* for exposure and derives guideline values for three land uses: residential (with and without plant uptake), allotments, and commercial/industrial. It is anticipated that SGVs for public open spaces will be undertaken. SGVs are intended to inform judgements about the need for intervention to prevent unacceptable risks. Observed soil concentrations will be compared to SGVs where it is considered that the assumptions underlying the derivation of the guideline values are relevant to the circumstances. The CLEA package consists of the main reports CL7-10, the CLEA 2002 software and the Soil Guide Values for individual substances.

5.5.2 Interdepartmental Committee on the Redevelopment of Contaminated Land (ICRCL) Guidelines

ICRCL 59/83 (2nd Edition, July 1987) - Guidance on the Assessment and Redevelopment of Contaminated Land, provides the most widely used set of trigger and action levels for a limited range of commonly occurring contaminants derived for different land uses. However, these trigger levels were withdrawn by DEFRA in December 2002 because they unsuitable for assessing the “significant possibility of significant harm to human health” required by the new contaminated land regime under Part IIA of the Environmental Protection Act 1990. They are replaced by the CLEA package (discussed in 5.5.1), which is compatible with Part IIA. Where CLEA SGVs currently do not exist, the Council may consider using ICRCL trigger levels to inform the decision making process where appropriate.

5.5.3 Other Guideline Values

Where a contaminant has been identified for which neither of the above set of guideline values has been developed; other appropriate generic guideline values will be utilised to carry out a risk-based evaluation of information. A number of authoritative guideline values and *risk assessment* models are available from other countries. The Council is aware that assumptions will have been made in deriving these, for example organic material; which can affect the behaviour of certain contaminants, will have been accounted for in calculations at levels typically encountered in the country of their derivation. The Council will have to be satisfied that these are appropriate to the *pollutant linkage* in question. Similarly, models can be used to obtain site specific *risk assessment*. Default values will have been incorporated into the model and it will have to be satisfied that these are also appropriate for the *pollutant linkage* in question.

In certain circumstances it may be appropriate to use Occupational Exposure Limits (OELs) from the Health and Safety Executive.

5.5.4 Risk Assessment for Controlled Waters

Advice will be sought from the Environment Agency on risk assessments where *controlled waters* form part of *pollutant linkage*. It is anticipated that the *risk assessment* will be carried out in accordance with Environment Agency guidance as laid out in their document 'Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the Environmental Protection Act 1990'.

5.5.5 Risk Assessment for Ecological Systems

Assessment criteria for risks to ecological systems are currently less well-developed than for human health and *controlled waters*. Statutory guidance requires that the Council should adopt an approach consistent with that of the Countryside Council for Wales in making any such determinations. Their advice will therefore be sought on *risk assessments* where ecological systems are concerned.

5.5.6 Conceptual Site Model

All information obtained on a particular site will be used to develop a conceptual site model. The model will identify

- All *receptors*
- All *pathways* by which they could be exposed
- All contaminants associated with the former uses of the site or thought likely to be present.

It provides a representation in summary form of the nature of the contamination problem and demonstrates the risk assessor's understanding of the problem. Conceptual models can be expressed in tabular, matrix or pictorial forms and aid communication within teams and other with stakeholders.

5.6 Interaction with Other Regulatory Regimes

Other regulatory regimes may be used to address certain issues of land contamination. Overlaps with planning, building and development control, water pollution control and Integrated Pollution Prevention and Control (IPPC) are considered here. Where one or more of these other regimes apply, regulatory action under Part IIA may not be appropriate.

5.6.1 Planning and Development Control

Central Government has emphasised the need to make full and effective use of land within existing urban areas, including bringing derelict, unused or wasteland into use through conversion and redevelopment. The Welsh Assembly Government has issued a draft Technical Advice Note 'Development on Contaminated Land' which states that the planning system should guide development to lessen the risk from hazards associated with *contaminated land*.

Local Planning Authorities (LPA) are responsible for regulating development and land use in the public interest. When considering development proposals there is an obligation to ensure that all material planning considerations, which can include the actual or possible presence of contamination, are satisfactorily addressed. The LPA is required to consult with certain statutory consultees under the Town and Country Planning Act (General Permitted Development Order) 1990, over certain types of development and for development in specific areas. Where previous land use information suggests that there is a potential for contamination to be present, conditions may be attached to the planning consent requiring the developer to undertake an investigation of the land to help identify the risks posed to the development and design appropriate *remediation*. *Remediation* would then be dealt with under the Planning Controls and not Part IIA. As statutory consultees where contamination is suspected, the Public Health and Protection Division provides advice on technical matters relating to *contaminated land* and the discharge of planning conditions.

Remediation actions may also require planning permission. Where *remediation* is carried out under a remediation statement the onus is on the person carrying out the works to obtain all necessary permission. If works are being carried out under

a *remediation notice* specified by the Council, it must be practicable. For example it should satisfy development control criteria.

When considering past development on potentially *contaminated land* it will be important to consider the appropriateness for the present land use of any previous *remediation* that may have been carried out. The same will be true of derelict land reclamation.

5.6.2 Building Control

Building Regulations ensure the health and safety of people in and around buildings by providing functional requirements for building design and construction. Builders and developers are required to obtain building control approval, which requires an independent check made through Council building control functions or the National House Building Council (NHBC).

Contamination is covered by Requirement C2 of the Building Regulations (1991), which states that precautions should be taken to avoid danger to health and safety caused by substances found on or in the ground to be covered by the building. Contamination is also relevant to Requirement A concerning the structural integrity of buildings.

5.6.3 Integrated Pollution Prevention and Control (IPPC)

Under new legislation to regulate pollution arising from the most polluting industrial processes, site operators are required to undertake a site condition survey prior to receiving a license to operate. Any new prescribed processes or existing prescribed processes subject to substantial change will operate under this legislation, whilst existing ones will be incorporated in stages over the next 5 years. Should a site condition survey identify areas of land that may be designated as *contaminated land* under Part IIA, then the submission of that survey may trigger regulatory action under Part IIA. However, Part IIA will not apply where the Environment Agency can take action under IPPC to remedy the effects of a breach of a process authorisation.

5.6.4 Water Pollution Legislation

The Water Resources Act 1991 gives the Environment Agency powers to deal with *harm* to *Controlled Waters* being caused by *contaminated land*. Whilst Part IIA does not revoke these powers, it has been indicated that such problems should now be dealt with under the new *Contaminated Land Regime*. The Council will therefore:

- Consult with the Environment Agency before designating any land as contaminated as a result of risk to *Controlled Waters* and will consider any comments made with respect to *remediation*
- If the Environment Agency identifies a risk to *Controlled Waters* from *contaminated land*, the Council will be notified to enable designation of the land and remedial action will be taken under Part IIA.

Controlled waters are defined by Section 104 of the Water Resources Act 1991 as:

- Inland freshwaters, waters of any lake or pond (including reservoirs) or of so much of any relevant river or watercourse (including underground rivers or watercourse and artificial rivers or watercourse) as is above the freshwater limit, and ground waters, that is to say, any waters contained in underground strata.
- Reference to waters in the above also includes the bottom, channel or bed of any lake, pond or river that is for the time being dry.
- Ground waters for the purposes of Part IIA are considered by the Environment Agency to consist only of water within the saturated zone. Therefore only water at or below the water table, (including water that serves wells and boreholes) can be considered as *receptor* rather than soil/pore water within the unsaturated zone.

5.6.5 Waste Management Licensing

If any *significant harm* or pollution of *Controlled Waters* arises on a site because of a breach of a Waste Management License or results from activities specifically authorized by the license, then Part IIA does not apply.

Chapter 6 General Liaison and Communication

Many aspects of work under Part IIA require effective communication and liaison with other individuals and organisations to facilitate the exchange of information. It is the intention of the Council to take an approach that fully involves communities that may be affected by contaminated land and is seen as an important part of our Community Leadership role. To this end, our goals and objectives for community involvement are:

- Earning trust and credibility through open and respectful communications
- Helping community members understand what the process involves
- Promoting collaboration between the Council and communities and other agencies
- Providing opportunities for communities to become involved
- Managing and co-ordinating health communication activities with appropriate communities
- Informing and updating communities about the Council's work
- Assisting communities in understanding the possible health impacts of exposure to hazardous substances

This approach has been successfully used by the Agency for Toxic Substances and Disease Registry (ATSDR) an independent federal agency in the United States of America.

6.1 Other Statutory Bodies

Contacts have already been established with organisations acting as statutory consultees on the Strategy. Some of these organisations will also be able to provide information relevant to the determination of *contaminated land*. Local Authorities are required to adopt an approach consistent with other statutory bodies in making such a determination; for example where ecological systems are involved the Countryside Council for Wales would be consulted. Formal contact has therefore been established with the above and details are provided in Appendix 4.

6.2 Non-statutory Consultees

In addressing *contaminated land* issues the involvement of local business, the public and the wider community may be appropriate. These make up a group known as non-statutory consultees for consultation on the draft Strategy and will not be approached individually to comment on the draft Strategy. It is anticipated that a press release prepared for local papers publicising the draft's availability at libraries and on the Council's website will raise awareness of *contaminated land* and encourage wider involvement.

6.3 Communicating with Owners, Occupiers and Other Interested Parties

The Contaminated Land Officer will act as the main point of contact within the Council for contaminated land issues. The Contaminated Land Officer will be responsible for establishing and maintaining contact with polluters, owners, occupiers and relevant parties prior to the formal determination of a piece of land as *contaminated*. It is the intention of Central Government that wherever possible, land contamination should be dealt with on a voluntary basis through consultation, rather than by serving a *remediation notice*. Incentives for voluntary *remediation* exist in the form of exemption from the landfill tax (introduced by the Finance Act 1996) for the *remediation* of *contaminated land*. However this applies only where a *remediation notice* has not been served under Section 78E. The Council will therefore seek to secure voluntary *remediation* before taking enforcement actions.

6.4 Notifying others of Determinations.

Notification is the formal process by which the Local Authorities inform certain parties that a particular area of land is *contaminated land* within the meaning of Part IIA. The formal notification marks the start of the three-month requisite consultation period between the Council and *appropriate persons* on what *remediation* will be appropriate and on liabilities for the cost.

The Council will undertake the following actions:

- Acting on the best available information at the time, identify interested persons, i.e. the owner of the land; the apparent occupier(s) of all or part of the land; the persons who appear to be the *appropriate persons*.
- Inform interested parties including the Environment Agency in writing of their intention to make a determination. The letter will inform them of the capacity in which they are being informed of the Council's intent.
- Notify the interested persons and the Environment Agency that the land has been determined as *contaminated* in writing. The letter will identify the capacity in which they are being notified. All *appropriate persons* will be provided with a summary of the basis for making the determination and why they are considered to be appropriate persons. The Council will write to all *appropriate persons* with information on the tests for exclusion from, and apportionment of liabilities for the *remediation* of the site. The letter will also inform the recipient of the Council's preference to securing *remediation* through voluntary actions rather than through the serving *remediation notices*.
- If requested, dispatch a copy of any additional information that may assist in consultation or in securing voluntary *remediation*.
- When appropriate, inform interested parties that the *contaminated land* may become a *Special Site*.
- Write to the owner and/or occupier of neighbouring property and/or the complainant notifying them of the determination.

- Notify (as soon as possible) any other person identified as an *appropriate person*.

6.5 Formal Designation of Special Sites

If the Council considers that an area of *contaminated land* might need to be designated as a *Special Site*, it will consult with the Environment Agency and seek their advice. If the Council decides, having regard to any advice received, that the land should be designated as a *Special Site* it will notify the owner and/or occupier, any *appropriate person* and the Environment Agency. The Environment Agency has 21 days to object to the Council. If objections are not received the Council notifies the relevant persons and the designation takes effect. If the Environment Agency objects the Council will refer the decision to the National Assembly for Wales and inform the relevant persons. Once a site has been designated as a *Special Site* the Council must enter the details in its Contaminated Land Register and the Environment Agency becomes the *enforcing authority*.

6.6 Service of Remediation Notices

The *enforcing authority* has a duty to require the *remediation* of land designated as *contaminated land*. They must reasonably endeavour to consult with the *appropriate persons*, the owner and/or occupier of the site concerning what is to be done by way of *remediation*. If, after a period of three months has elapsed from the serving of notices determining the land as *contaminated land*, the *enforcing authority* considers a *remediation notice* will be the most appropriate way of securing *remediation*, the *enforcing authority* must serve a *remediation notice*. Before serving a notice, the *enforcing authority* must make reasonable attempts to consult with the owner, occupiers or others who may join in any granting of rights of entry. The notice must be served on all *appropriate persons* and must state what is to be done by way of *remediation* and the period in which this is to be completed. The person(s) on whom the notice is served must be advised of their right to appeal. A copy must be provided to the owner and/or occupier of the *contaminated land* and the Environment Agency. Where the Council is the *enforcing authority*, the Contaminated Land Officer will inform the owners and occupiers of neighbouring land. This process is set out in a flow chart in Appendix 8.

6.7 Urgent Remediation

Urgent *remediation* may be required where the Council considers the condition of the land is such that there is an imminent danger of serious *harm* or serious pollution to *Controlled Waters* being caused. Under these circumstances the Council does not have to observe the requisite consultation period with the *appropriate persons*, owners and/or occupiers and may serve a notice immediately. Where the Council identifies an urgent need for *remediation*, but is unable to establish who the *appropriate persons* are, the Council may carry out the *remediation* in default and recover reasonable costs at a later date.

6.8 Powers of Entry

Under Section 108(6) of the Environment Act 1995, Local Authorities have been granted powers of entry to carry out investigation. At least seven days notice must be given to the owner and/or occupier of proposed entry onto any premises, unless there is immediate risk to human health or the environment.

6.9 Enforcement Action

The Public Health and Protection Division has adopted an Enforcement Policy founded on the principles set out in the Enforcement Concordat. It aims to ensure that consistent, fair and transparent practices are used when taking enforcement action. This policy will be applied to the enforcement of Part IIA.

Should it be necessary for the Council to undertake works in default then it will always seek to recover the cost in full along with additional costs for officer time incurred.

6.10 Risk Communication

Contaminated land issues are often complex and since the UK has adopted a risk-based approach it will be necessary for the *enforcing authority* to communicate the *risk assessment* and management involved to all stakeholders. SNIFFER (Scotland and Northern Ireland Forum for Environmental Research) has prepared a document " Communicating Understanding of Contaminated Land Risks, " which provides a basic step-by-step guide to risk communication and relationship building with stakeholders. This highlights the need to enter into early dialogue with all the stakeholders identified, to invest time and effort into ongoing communication, and to assess the effectiveness of the approach in achieving the desired results.

The Council will aim to be open, accessible, listening and responsive in all aspects of its communication with a view to providing a shared understanding of the *risk assessment* and risk management processes involved. Ultimately any decision on whether a particular risk is acceptable or not, is both personal and

subjective; credible regulation will recognise this and take into account the views, priorities and expectations of those parties affected, as well as those responsible for the situation (SNIFFER 1999). It should be stressed that Local Authorities can only address unacceptable and significant risks as set out in the Statutory Guidance. Enforcing authorities can only require that *remediation* eliminates these risks. It is envisaged that the public may not always have their expectations met by the remedial powers conferred by Part IIA. The Council will seek to engage with the communities around contaminated land sites and establish communication mechanisms prior to the determination of the former Brofiscin Quarry as contaminated land. These measures included the establishment of a residents liaison group; regular newsletters and a mobile exhibition set up on the village green. This ensured that the community was fully informed about the progress and results of the investigation as soon as possible and given the opportunity to question the regulators about the impact of the determination and the risks associated with site before and after remediation. The Council will aim to be open, honest and objective about the risks but not to cause unnecessary alarm or to generate publicity, which might lead to blight.

Chapter 7 Inspection

Potentially contaminated land sites identified on the basis of there being a potential source of contamination in proximity to *receptors* will undergo a prioritisation process. This will provide an order of action for the more detailed site inspections.

7.1 Arrangements for Carrying Out Detailed Inspections

Detailed inspections are required to ensure that the Council has the information it needs to decide whether a particular area of land appears to be *contaminated land* and if so, whether it could be a *Special Site*. Part C points 2.18-2.25 of the Welsh Statutory Guidance cover the inspection of particular areas of land and prescribe the form that the detailed inspections may take. The Council will therefore undertake an assessment of all available documentary information to determine whether there is a reasonable possibility that *pollutant linkages* exist. Former workers and local residents may also be able to provide valuable information.

7.1.1 Detailed Inspections

The Council will only consider further inspection where initial studies have shown that there is a reasonable possibility that a *pollutant linkage* exists. These inspections will take the form of

- A visual inspection of an area, and in some cases limited sampling; or
- Intrusive investigation of the land (exploratory excavations).

7.1.2 Potential Special Sites

Before undertaking any further inspections the Council will consider whether the information from the desktop study has indicated that the site may be a *Special Site*. If this is the case the advice of the Environment Agency will be sought. The Environment Agency will then be afforded the opportunity of an early involvement with the site, and invited to carry out the inspection on the Council's behalf.

7.1.3 Statutory Powers of Entry

Section 108 of the Environment Act 1995 gives a Local Authority the power to authorise persons to enter premises to carry out inspections. This can include collecting samples and carrying out any related work needed by the Local Authority to determine whether the land is *contaminated*. The Council will observe those constraints placed on the use of these powers by the Welsh Statutory Guidance.

7.1.4 Visual Inspections

Often referred to as site reconnaissance, visual inspections allow the Council to check that the documentary information matches reality and allows additional information to be obtained. It may not be necessary to physically enter the site for this purpose. “CLR2, Guidance on Preliminary Site Inspection of Contaminated Land, DoE 1994” containing technical advice on visual inspection will be consulted along with any other appropriate references identified.

7.1.5 Intrusive Investigations

In accordance with Welsh Statutory Guidance the Local Authority will only undertake intrusive investigations using its statutory powers of entry where it is satisfied that on the basis of the information already obtained that

- There is a reasonable possibility of a *pollutant linkage*; and
- it is likely that both the *contaminant* and *receptor* are actually present.

7.1.6 Site Specific Liaison

The Local Authority will liaise with relevant statutory bodies and other *appropriate persons* such as the landowner prior to carrying out intrusive investigations. This will allow them to make available to the Council any detailed information that they may have to assist in the determination. Where a person offers to provide this information within a reasonable time limit and does so, the Council will not undertake an intrusive investigation.

7.1.7 Procurement of External Services

It may become necessary to procure the services of external contractors and consultants to assist the Council in its inspection process. The Council's policy on procurement will be observed in these instances.

Since the *remediation of contaminated land* is usually very costly, the decision to determine land as *contaminated land* is likely to be scrutinised and contested in Court. Inspections and reports must therefore be of high quality. Due care will be exercised when securing external services and DoE guidance (A Quality Approach for Contaminated Land Consultancy, CLR12, 1997) will be considered.

7.1.8 Frequency of Inspections

Part IIA of the Environmental Protection Act 1990 requires Local Authorities to inspect their areas from time to time. The frequency is not prescribed. After the first round of inspections have been completed, the Council will consider how best to meet this requirement in light of the findings to date.

Chapter 8 Review Mechanisms

This Strategy outlines the general approach that will be taken in inspecting the County Borough for contamination. This chapter describes triggers for undertaking inspections outside of this general approach, triggers for reviewing inspection decisions and a mechanism for reviewing the Strategy itself to ensure that it remains effective and up-to-date.

8.1 Triggers for Undertaking Inspections

It may be necessary to carry out inspections outside the general inspection framework under certain circumstances, which may include:

- Localised health effects being identified which appear to relate to a particular piece of land
- Unforeseen events, e.g. if a chemical spill has occurred
- Supporting voluntary *remediation*
- Introduction of new *receptors*, e.g. if housing is to be built on a potentially contaminated site
- Responding to information from other statutory bodies, owners, occupiers, or other interested parties.

It should be emphasised that for the Strategy to progress effectively, non-routine inspections should not be allowed to significantly interfere with the general inspection framework.

8.2 Triggers for Reviewing Inspection Decisions

There may be instances when the decisions of previous inspections require reviewing. These may include:

- Significant changes in legislation
- Establishment of significant case law or other precedent
- Significant reviews of toxicological data used for risk assessments
- Verifiable reports of unusual or abnormal site conditions
- Responding to information from other statutory bodies, owners or occupiers, or other interested parties.
- Localised health effects apparently relating to a particular area of land
- Unplanned changes in the land use.

8.3 Review of Strategy

It is important to assess the effectiveness of the Strategy through the review process. This will ensure that the requirements of Part IIA are being met and that there is efficient use of resources.

The final Strategy will be adopted and published by the end of September 2003. It is then intended to review the progress made in September 2004, one full year after the Strategy's implementation.

Should this first review lead to significant changes in the Strategy being made, a date for a subsequent review will then be set. It is anticipated that this will occur after a reasonable period of time has elapsed to enable a balanced assessment of the changes to be made, e.g. 6-12 months.

If the Strategy is found to be progressing satisfactorily, the next review will be in 2007 when the first inspection of the area is completed and the sites have been prioritised for *remediation*.

Chapter 9 Information Management

The *Contaminated Land Regime* will result in Local Authorities handling and storing significant amounts of information and data in connection with sites undergoing inspection and *remediation*.

9.1 The Public Register

Local Authorities are required by the legislation to maintain a public register of certain information relating to the *remediation* of *contaminated land*. This specifies that the following information is to be included on the register:

- *Remediation Notices*
- Appeals against *Remediation Notices* and the decisions on such appeals
- Remediation declarations, remediation statements, notification of claimed *remediation*
- Appeals against charging notices
- Designation of *Special Sites*
- Convictions
- Guidance issued by the Environment Agency to it under subsection 1 of Section 78V

The Register acts as a permanent record of all regulatory action taken in relation to the *remediation* of *contaminated land*. It should be noted that where land has been determined as *contaminated land* it would not appear on the Public Register until regulatory action is undertaken.

In Rhondda Cynon Taf, the register will be maintained by the Contaminated Land Officer who will ensure that all information is recorded as a matter of priority enabling the register to be as up-to-date as possible. The register will be paper-based for the foreseeable future and held by the Public Health and Protection Division at its offices, Ty Elai, Dinas Isaf East, Williamstown, Tonypany, CF40 1NY. Members of the public may view the register free of charge during normal office hours. Facilities to make copies will be available subject to the Council's current rate of charges.

9.2 Information Excluded from the Register

Before information is included on the Public Register Local Authorities must consider whether it should be excluded on the grounds of commercial confidentiality or national security. Where information is excluded on such grounds the Council will make a statement on the register indicating the existence of such information.

The Public Register will not include details of land identified as potentially contaminated, or include research documents used to investigate potentially

contaminated land. These will be stored separately and used by the Council to respond to requests for information about specific sites as an additional local land charges enquiry. Enquiries should be directed through the Council's Local Land Charges department and should include the site's address, grid reference and plan showing the site. A fee will be levied by the Local Land Charges Department for the provision of this information. The fee will be set in accordance with the fees and charges in force at the time the enquiry is made.

9.3 Provision of Information to the Environment Agency

The Council will, upon the receipt of a written request from the Environment Agency, supply them with information required for their annual report for the Secretary of State on the state of contaminated land in England and Wales. The report will include:

- A summary of local authority Inspection Strategies including progress made towards the strategy and its effectiveness
- The amount of *contaminated land* and the nature of its contamination
- Measures taken to remediate land

Local Authorities are also required to inform the Environment Agency whenever a site is determined as *contaminated land*, and whenever a *remediation notice*, statement or declaration is issued or agreed. The Council will adopt the standard forms provided by the Environment Agency for these purposes to fulfil its statutory obligations.

Appendices

Appendix 1 Table A - Welsh Statutory Guidance

Table of Categories of Significant Harm

	Type of Receptor	Description of harm to that type of receptor that is to be 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 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: <ul style="list-style-type: none"> . 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 . 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) ; . any candidate Special Area of Conservation, potential Special 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. 	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 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 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 the Countryside Council for Wales 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: <ul style="list-style-type: none"> . crops, including timber; . produce grown domestically, or on allotments, for consumption; . livestock; . other owned or domesticated animals; 	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, disease or serious physical damage. For other property in this category , a substantial loss in its value resulting from death, disease or other serious physical damage.

	<p>wild animals which are the subject of shooting or fishing rights.</p>	<p>The Council 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 20~6 diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution of loss. In this Chapter, this description of significant harm is referred to as an "animal or crop effect".</p>
4	<p>Property in the form of buildings.</p> <p>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.</p>	<p>Structural failure, substantial damage or substantial interference with any right of occupation.</p> <p>For this purpose, the Council 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.</p> <p>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.</p> <p>In this Chapter, this description of significant harm is referred to as a "building effect".</p>

Appendix 2 Table B - Welsh Statutory Guidance

Table of Significant Possibility of Significant Harm

	Descriptions Of Significant Harm (As Defined In Table A)	Conditions For There Being A Significant Possibility Of Significant Harm
1	<p>Human health effects arising from</p> <ul style="list-style-type: none"> . the intake of a contaminant, or . other direct bodily contact with a contaminant. 	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> . which a human receptor in that linkage might take in, or . to which such 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. <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> . 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 relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and . the duration of intake or exposure resulting from the pollutant linkage in question. <p>The question whether an intake or exposure is unacceptable is independent of the number of people who might experience or be affected by that intake or exposure.</p> <p>Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathogenic, endocrine-disrupting and other similar properties.</p>
2	<p>All other human health effects (particularly by way of explosion or fire).</p>	<p>If the probability, or frequency, of occurrence of significant harm of that description is unacceptable, assessed on the basis of relevant information concerning:</p> <ul style="list-style-type: none"> . that type of pollutant linkage, or . that type of significant harm arising from other causes. <p>Such an assessment should take into account the levels of risk, which have been judged unacceptable in other similar contexts.</p>
3	<p>All ecological system effects.</p>	<p>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 or pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
4	<p>All animal and crop effects.</p>	<p>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.</p>
5	<p>All building effects</p>	<p>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.</p>

Appendix 3 Contact Details for Internal Liaison

Community Services Group

Environment Project
Public Health and Protection Division
Ty Elai,
Dinas Isaf East,
Williamstown,
Tonypany,
CF40 1NY

Telephone No: 01443 425386

Contact: Sarah Illsley
(Contaminated Land
Officer)

Environmental Services Division

Development Control
Sardis House
Sardis Road
Pontypridd

Telephone No: 01443 494700

Contact: John Cunnane

Land Reclamation Team
Llwyncaston
Library Road
Pontypridd

Telephone No: 01443 400563

Contact: John Hurst
(Group Leader)

Countryside Services
The Grange
Tyfica Road
Pontypridd

Telephone No: 01443 484400

Contact Richard Wistow
(Ecologist)

Chief Executives Division

Forward Planning Team
Valleys Innovation Centre
Navigation Park
Abercynon

Telephone No: 01443 665700

Contact: The Director of Development and Regeneration or the
Development Planning Manager

Property Services Division

Property Information
Valleys Innovation Centre
Navigation Park
Abercynon

Telephone No: 01443 665700

Contact: Ron Jones
(Group Leader)

Legal and Democratic Services Division

Legal Services
Municipal Buildings
Llewellyn Street
Pontypridd

Telephone No: 01443 424300

Contact: John Davies

Appendix 4 Contact Details for Statutory Consultees

Environment Agency (Wales)

Cambria House

29 Newport Road

Cardiff

CF24 0TP

Telephone No: 029 20770088

Contact:

(Area Contaminated Land
Officer)

CADW - Welsh Historic Monuments

Cathays Park

Cathays

Cardiff

CF10 3NQ

Telephone No: 029 20500200

Contact: Mr L Burr

Countryside Council for Wales (CCW)

Unit 4

Castleton Court

Fortran Road

St Mellons Business Park

St Mellons

Cardiff

Telephone No: 029 20772400

Contact: Miss Gill Barter
(Snr Conservation Officer)

Food Standards Agency (Wales)

1st Floor

Southgate House

Wood Street

Cardiff

Telephone No: 029 20678999

Contact: Mr K. Blake

National Public Health Service

Consultant in Communicable Disease Control

Temple of Peace and Health

Cathays Park

Cardiff

Telephone No: 02920 402498

Contact: Dr. Mark Temple

Welsh Assembly Government

Environment Project 3

Cathays Park

Cathays

Cardiff

CF10 3NQ

Telephone No. 029 20500200

Contact: Ms J. Osmond

Welsh Development Agency (South Division)
QED Centre
Treforest Industrial Estate
Treforest
Cardiff

Telephone No: 01443 845507

Contact: Mr Steven Smith
Senior Land Reclamation
Manager

Appendix 5 Risk-Based Classification of Land Uses

Taken from 'Desk reference Guide to potentially Contaminative Land Uses' Paul Syms, the following table shows a perceived hierarchy of the likelihood of finding contamination on site. The perceived risk category is intended to indicate the likelihood of contaminative substances being present at concentrations which would result in *significant harm* being caused or may result in the pollution of *Controlled Waters*. The index of perceived risk is intended to represent the potential for contaminative substances to be present, at concentrations which will require remedial action to be undertaken if the site is to be redeveloped (1=certainty).

Hazard Rank	Land Use Classification	Index of Perceived Risk	Perceived Risk Category
1	Asbestos Manufacture and use	High	1.00
2	Organic and inorganic chemical production	High	0.93
3	Radioactive materials processing/disposal	High	0.88
4	Gasworks, coke works, coal carbonisation	High	0.85
5	Waste disposal sites, hazardous waste, incinerators, sanitary depots, drum and tank cleaning and solvent recovery	High	0.85
6	Oil refining, petrochemical production and storage	High	0.84
7	Manufacture of pesticides	High	0.83
8	Pharmaceutical industries, including cosmetics and toiletries	High	0.82
9	Fine chemicals, dyestuffs and pigments manufacture	High	0.82
10	Paint, varnishes and ink manufacture	High	0.79
11	Animal slaughter and by-products including soap, candle and bone works; detergent manufacture	High	0.78
12	Tanning and leather works	High	0.77
13	Metal smelting and refining, furnaces forges, electroplating, galvanising and anodising	High	0.74
14	Explosives industry including fireworks	High	0.73
15	Iron and steel works	High	0.72
16	Scrap yards	High	0.68
17	Engineering; heavy and general	Medium	0.66
18	Rubber products and processing	Medium	0.65
19	Tar/bitumen, linoleum, vinyl & asphalt works	Medium	0.65
20	Concrete, ceramics, cement and plaster works	Medium	0.65
21	Mining and extractive industries	Medium	0.65
22	Electricity generating (excluding nuclear power stations)	Medium	0.64
23	Film and photographic processing	Medium	0.63
24	Manufacture of disinfectants	Medium	0.62
25	Paper and printing works (not high street)	Medium	0.60
26	Glass manufacture	Medium	0.58
27	Fertiliser manufacture	Medium	0.58
28	Timber treatment	Medium	0.58

29	Sewage treatment works	Medium	0.54
30	Petrol stations and vehicle repair	Medium	0.53
31	Transport depots, local authority yards and depots, road haulage and refuelling	Medium	0.53
32	Railway land including yards and tracks	Medium	0.53
33	Electrical/ electronics manufacture	Medium	0.48
34	Textiles manufacture and dyeing	Medium	0.48
35	Laundries and dry-cleaning (not high street)	Medium	0.48
36	Plastic products, building material, fibre glass manufacture	Medium	0.48
37	Dockyards and wharves	Low	0.48
38	Food processing, brewing and distilling	Low	0.45
39	Airports and similar	Low	0.45

Appendix 6 -Glossary

Appropriate Person - any person defined by Section 78F of the Environmental Protection Act 1990, who is appropriate to bear the responsibility of effecting the remediation required by the enforcing authority.

Contaminant - a contaminant is a substance which is in, on or under the land and which has the potential to cause harm or to cause pollution to controlled waters.

Class A Person - are those regarded as an appropriate person because they caused or knowingly permitted the substance in question (the pollutant) to be in, on or under the land.

Contaminated Land - is defined by Section 78A of the Environmental Protection Act 1990 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, on or under the land, that significant harm is being caused or there is a significant possibility of such harm being caused; or pollution of controlled waters is being, or is likely to be caused."

Contaminated Land Regime - refers to the interaction of Part IIA of the Environmental Protection Act 1990, Statutory Guidance and Regulations issued and is a means by which historical contamination may be dealt with to ensure land is suitable for use.

Controlled Waters - has the same meaning as Part III of the Water Resources Act 1991

Enforcing Authority - means, in relation to Special Sites the Environment Agency and in relation to all other contaminated land the Local Authority in whose area the land is situated.

GIS - Geographical Information System is a computer-based application capable of generating maps and linking records to specific areas of land.

Harm - defined by Section 78A 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".

IPC - Integrated Pollution Control. Legislation introduced by Part I of the Environmental Protection Act 1990 covering the control of emissions to air, land and water from the most polluting industrial processes.

Liability Group – a group consisting of *appropriate persons* who have been identified by the *enforcing authority* as being liable for the cost of remediation relating to a *significant pollutant linkage*

Orphan Linkage – is defined as a *significant pollutant linkage* for which there are no members of the *liability group*. This may occur where: (a) the *pollution linkage* relates solely to the pollution of *controlled waters* (and not to *significant harm*) and no *Class A person* can be found; (b) no *Class A* or *Class B persons* can be found; or (c) those who would be otherwise liable are exempted by one of the statutory provisions.

Orphan site - where the *enforcing authority* can not find *Class A persons* or *Class B persons* in respect of all of the *significant pollutant linkages* for the site, there will be no *liability group* to bear the cost of *remediation*.

Pathway - is one or more routes or means by, through, which a receptor is being exposed to, or affected by, a contaminant, or could be so exposed or affected.

Pollutant Linkage - means the relationship between a contaminant a pathway and a receptor.

Receptor - a living organism, a group of living organisms, an ecological system, or a piece of property which is in the categories listed by Table A of the Welsh Statutory Guidance (see Appendix 1, Page 57 of this strategy).

Remediation - is defined in Section 78A of the Environmental Protection Act 1990 as,

1. "the doing of anything for the purpose of assessing the condition of the contaminated land in question; any controlled waters affected by that land: or any land adjoining or adjacent to that land
2. the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose of a) preventing or minimising, or remedying or mitigating the effects of, any significant harm, or pollution of controlled waters, by reason of which the contaminated land is such land; or,
3. The making of subsequent inspections from time to time for the purpose of keeping under review the condition of the lands or waters."

Remediation Notice - has the meaning given by Section 78E of the Environmental Protection Act 1990 and is a notice served on appropriate persons by the enforcing authority specifying what the persons are to do by way of remediation and the periods within which he is required to do each of the things specified.

Risk Assessment - the definition of contaminated land is based upon the principles of risk assessment. Risk is defined as the probability, or frequency, of occurrence or a defined hazard (for example, exposure to a property of a substance with the potential to cause harm) and; the magnitude (including the seriousness) of the consequences.

Significant Harm - Welsh Statutory Guidance requires that the local authority should regard as significant only harm which is both; to a receptor of a type listed in Table A of the Guidance (see Appendix 1 on Page 57 of this Strategy) and within the description of harm specified for that type of receptor in that table.

Special Site - The Contaminated Land (Wales) Regulations 2001, Regulations 2 and 3 and Schedule 1 identify those sites requiring determination as Special Sites.

Appendix 7 References

Legislation

Environment Act 1995

Environmental Protection Act 1990, Part IIA, s.78A - s.78YC.

Contaminated Land (Wales) Regulations 2001- National Assembly for Wales

Remediation of Contaminated Land - National Assembly for Wales guidance to enforcing authorities under Part IIA of the Environmental Protection Act 1990.

Guidance

Assessment of the Risks to Human Health from Land Contamination; an Overview of the Development of Soil Guideline Values and Related Research CLR 7- Department of the Environment, Food and Rural Affairs and the Environment Agency

Contaminants in Soil; Collation of Toxicological Data and Intake Values for Humans CLR9 - Department of the Environment, Food and Rural Affairs and the Environment Agency

Contaminated Land Inspection Strategies, Technical Advice for Local Authorities - Department of the Environment, Transport and the Regions and the Environment Agency.

Contaminated Land Part IIA, Local Authority Guide to the Application of Part IIA of the Environmental Protection Act 1990 - Environment Agency 2001.

Environment Agency Technical Advice to Third Parties on the Pollution of Controlled Waters for Part IIA of the Environmental Protection Act 1990 - Environment Agency.

Guidance on the Assessment and Redevelopment of Contaminated Land, ICRCL 59/83: Second Edition July 1987 - Inter-departmental Committee on the Redevelopment of Contaminated Land.

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Potential Contaminants for the Assessment of Land (Contaminated Land Report (CLR) 8) - Department of the Environment, Food and Rural Affairs and the Environment Agency

Welsh Local Authority Guide to the Application of Part IIA of the Environmental Protection Act 1990, WLGA 2002.

Development Plans

The Mid Glamorgan Local Plan for Limestone Quarrying as affecting Rhondda Cynon Taf, adopted 1997.

The Mid Glamorgan (Rhondda Cynon Taf County Borough) Replacement Structure Plan, adopted 1999.

Rhondda Local Plan (Including Waste Policies), adopted 1998.

Taff Ely Local Plan (Including Waste Policies), adopted 2003.

Cynon Valley Local Plan (Including Waste Policies), as proposed to be modified.

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Communicating Understanding of Contaminated Land Risk, SNIFFER 1999

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Derelict Land and Land Reclamation in the Borough of Cynon Valley 1980-1985.

Desk Reference Guide to Potentially Contaminative Land Uses, Paul Syms, Sheffield Hallam University, published by ISVA in association with The Royal Institute of Chartered Surveyors and the Chartered Institute of Environmental Health. ISBN 0 9029 1303 4.

Development of Contaminated Land - Professional Guidance, Institute of Environmental Health Officers, Aspinwall and Co. Ltd.

Environmental Protection Act 1990 Part IIA: Contaminated Land.
Consultation on Draft Statutory Guidance on Contaminated Land, National Assembly for Wales.

Guidance for the Safe Development of Housing on Land Affected by Contamination, Environment Agency and NHBC R&D publication 66, 2000

Industrial Britain, South Wales, Graham Humphrys, David and Charles: Newton Abbot 1972.

Industrial South Wales 1750-1914, Essays in Welsh Economic History, Edited by W.E. Minchinton, Frank Cass and Co. Ltd, 1969.

Industry Before the Industrial Revolution, William Rees, Cardiff University Press, 1969.

Pilot Survey of Potentially Contaminated Land in Cheshire - A Methodology for Identifying Potentially Contaminated Land Sites, Department of the Environment July 1990.

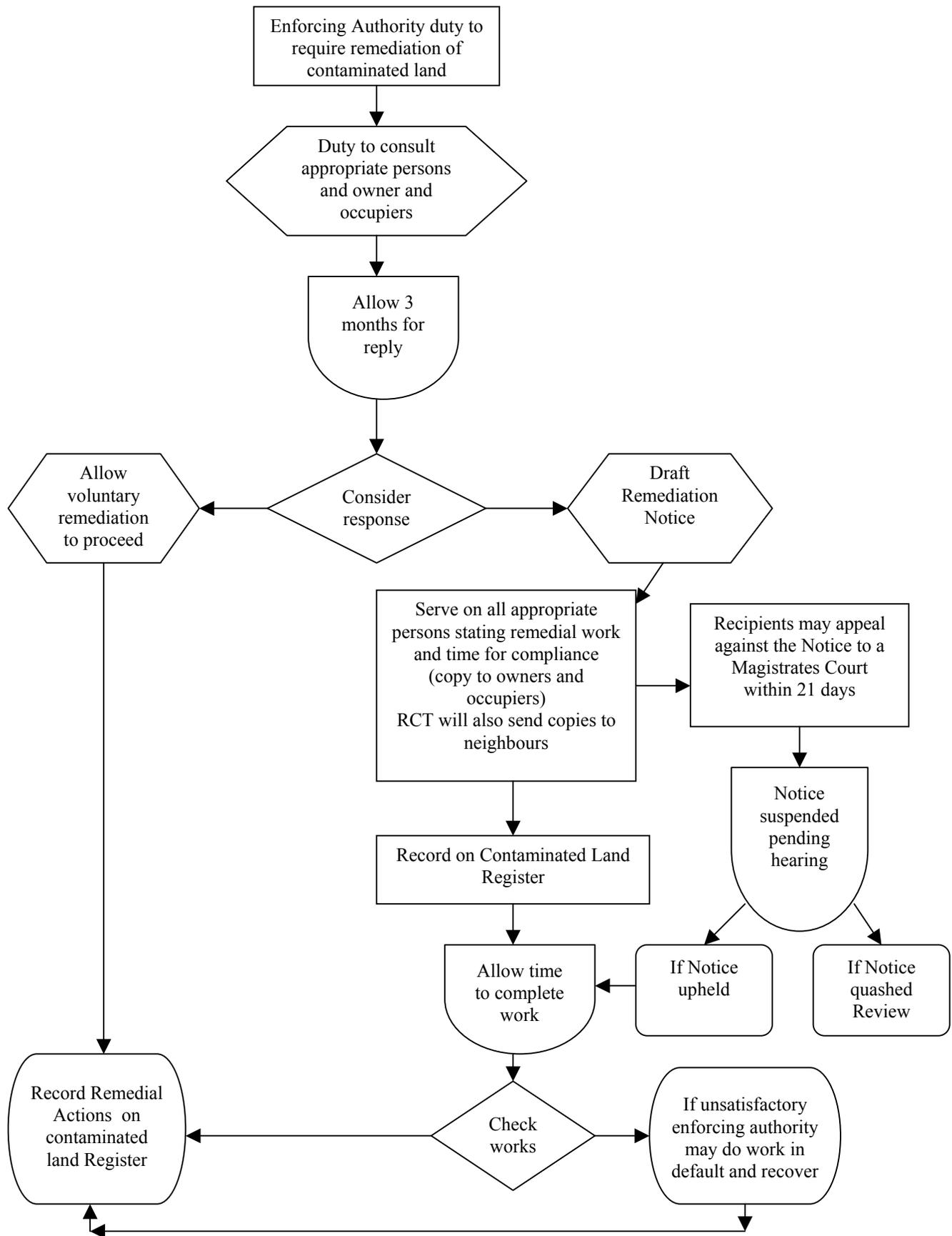
Planning Policy Wales, 2002

Rhondda Cynon Taf Performance Plan 2001 - 2002

The Rhondda Valleys, E.D.Lewis, University College Cardiff Press, 1963.

The WDA Manual on the Remediation of Contaminated Land, WDA 1993.

Appendix 8 Simplified Procedure for Service of Remediation Notices



Appendix 9 List of Consultees

Statutory Consultees

Environment Agency (Wales)
CADW - Welsh Historic Monuments
Countryside Council for Wales (CCW)
Welsh Development Agency
Food Standards Agency

Health Advisors

National Public Health Service
Local Health Board

Neighbouring Authorities

Brecon Beacons National Park
Bridgend CBC
Caerphilly CBC
Cardiff CBC
Merthyr CBC
Neath Port Talbot CBC
Vale of Glamorgan CBC

Local Members of Parliament and Assembly Members

Ann Clwyd MP
Dr Kim Howells MP
Chris Bryant MP
Huw Irranca-Davies MP
Jane Davidson AM
Christine Chapman AM
Leighton Andrews AM

Elected Members of Rhondda Cynon Taf County Borough Council

Brian Arnold	Geraint R Davies	Jonathan Huish	Aurfron Roberts
Richard J Ashton	Jim Davies	Shah Imtiaz	Karen Roberts
Paul Baccara	Pauline Jarman	Paul James	Russell Roberts
Graeme Beard	Emlyn Jenkins	Idris Jones	David J Rogers
Stephen Belzak	Raymond Davies	Jill M Jones	Graham Stacey
Terry Benney	John David	Katrina Jones	Victor C Thomas
Robert Bevan	A.L. Davies, MBE	Lorraine Jones	Roger Turner
Michael Brittain	Annette Davies	Layton Jones	Elizabeth A Walters
Gordon Bunn	Gerwyn Evans	Lionel Langford	Jane S Ward
Judith Burford	Kathleen Evans	Lisa Lewis	Dennis R Watkins
Yvonne Caple	Bryan Fitzgerald	Philip Lewis	Maureen Webber
Bernard P Channon	Michael Forey	Christina Leyshon	Islwyn Wilkins
Anthony Christopher	Robert G Fox	Robert B McDonald	D Ifor Williams
John Codd	Bernard J Gooch	Syd Morgan	Julie Williams
Henry J Cox	Stuart Gregory	Rita Moses	Julie A Williams
John Daniel	Eudine Hanagan	Gordon R Norman	Vyvyan T Williams
Annette Davies	Edward L Hancock	Neil O'Farrell	Clayton Willis
Cennard Davies	Adrian E Hobson	Gregory M Powell	Rebecca L Winter
Eurwen Davies	Charles Hughes	Michael J Powell	

Community Councils in Rhondda Cynon Taf

Gilfach Goch Community Council
Hirwaun Community Council
Llanharan Community Council
Llanharry Community Council
Llantrisant Town Council
Llantwit Fardre Community Council
Pontyclun Community Council
Pontypridd Town Council
Rhigos Community Council
Taffs Well Community Council
Tonyrefail Community Council
Ynysbwl, Coedycwm Community Council

Rhondda Cynon Taf County Borough Council Officers

The Group Director of Environmental Services
The Director of Development and Regeneration
The Building and Development Control Co-ordinator
The Head of Estates Management
Land Reclamation and Engineering Manager
The Divisional Director of Legal Services
Co-ordinators of Area Regeneration Partnerships

Other Interested Community Groups

Nantygwyddon Liaison Group (including RANT)
Brofiscin Liaison Group
Friends of the Earth

The draft Strategy was also posted on the Council's web site for access by any interested party.