



Development Department

**CONTAMINATED LAND:
AN INSPECTION STRATEGY FOR LEEDS**

**FOURTH ANNUAL REVIEW
AUTUMN 2005**

SUMMARY

The fourth Annual Review of Leeds City Council's Contaminated Land Inspection Strategy (CLIS) has been completed. The current status of the CLIS is summarised below including changes to procedures, timescales and targets.

Progress made during the fourth year of implementation has been limited largely due to insufficient resources. However, in September 2005, a Project Officer (Part IIA) was appointed to join the team and, as a result, it is anticipated that significant progress will now be made on the CLIS.

Identification of Priority Areas (Section 2.0)

- The order of the Priority areas for dataset development, prioritisation and detailed inspection continues to be as follows (in descending order of priority): 1a, 1, 2, 7, 3, 4, 5, 6, the rest of Leeds

Contaminated Land GIS & Database (Section 3.0)

- Development on the database for storing and managing data collated at the detailed inspection stage of the Part IIA process has continued although progress has been slow due to other work priorities

Development of key datasets (Section 4.0)

- Digitised potentially contaminative historical land use data for Areas 1 and 2 for the 1970s epoch have been obtained as a potential source dataset
- It is intended to set up a contract in this financial year to acquire digitised potentially contaminative historical land use for the 'rest of Leeds' for a potential source dataset
- Digitised historical plans at a scale of 1:2,500 or better have been acquired
- A dataset on private Early Year Centres (nurseries) will be developed as and when necessary as a human health receptor dataset
- The Potentially Contaminated Land database has continued to be developed through the digitisation of sites brought to our attention through, eg, the planning and redevelopment process and 'voluntary' remediation

Prioritisation of sites for inspection (Section 5.0)

- Given limited resources, all prioritisation work will focus on potential human receptors, which are considered to be the most sensitive receptor.
- The scoring system has been revised to take into account not only 'overlapping' sites where potential sources and receptors coincide, but also 'adjacent only' sites where a potential receptor lies adjacent only to a potential source.
- The preliminary prioritisation for Area 1a (Meanwood) has been completed taking into account the revised scoring system and the revised list of datasets

noted in Table AR4/3. Twenty-eight sites have been highlighted for Detailed Inspection. The preliminary prioritisation for Area 1 (City Centre, Holbeck, Beeston, Wortley & Armley) has commenced adopting the methodology used for Area 1a.

- When prioritisation of sites within a certain Priority Area has been completed, these sites will be combined with the list of sites available at that time so that **there is one overall 'rolling' prioritisation list**. The sites that represent the highest risks will be subject to detailed inspection first regardless of the area in which they are located
- Due to the extent of the railway land use, it is intended to address this source of contamination on a site-specific basis if necessary
- The definition of Contaminated Land has been amended by Government so only 'significant' and the 'significant possibility' of pollution of controlled waters requires addressing under the Contaminated Land regime as opposed to all pollution of controlled waters. Guidance on what is meant by 'significant' and 'significant possibility' is currently awaited from the ODPM. An approach for addressing potential groundwater and surface water contamination will continue to be considered, particularly in light of any forthcoming guidance on the revised definition of Contaminated Land
- A document on extending the Contaminated Land regime to cover radioactive contamination was published for consultation on 18 July 2005 and reviewed and responded to by the Contaminated Land team. Should new regulations and statutory guidance be enacted, it is likely that the prioritisation process will need to be revised to take into account identifying contaminated land where such land is causing a lasting exposure of radiation to any person or where there is a significant possibility of such exposure

Detailed inspection (Section 6.0)

- Detailed inspection has commenced for Area 1a. Following the preliminary prioritisation process, Area 1 sites are expected to be included in the detailed inspection process in February 2006.
- Consideration is being given to meeting the anticipated costs of intrusive investigation (associated with Detailed Inspection) through the Department's Revenue Budget and/or Leeds City Council's Capital Programme
- **To date, no sites in Leeds have been determined as Contaminated Land**

Dealing with Council Land (Section 7.0)

- The Council's land contamination issues continue to be addressed through various processes including EMAS, Asset Management, Land Transactions and LEDA

Urgent Sites (Section 8.0)

- To date, no sites in Leeds have been considered to be 'Urgent'

Work Programme (Section 9.0)

Proposed changes to timescales and procedures are as follows:

- ***The prioritisation process is now focussing on targeting the most sensitive end uses and the work programme is therefore primarily addressing human receptors at this stage***
- A work programme for addressing other less sensitive receptors will be considered at a later date
- ***Detailed Inspection of Area 1A has commenced. Following the preliminary prioritisation process, Area 1 sites are expected to be included in the detailed inspection process in February 2006.***
- The preliminary prioritisation process is now based solely on the revised scoring system and therefore the estimated time to undertake this work has been reduce from 6 months to 3 months
- Although difficult to estimate, based on the limited progress made in the past 12 months, the revised estimated completion date for detailed inspection is now the end of 2015. However, this is very much dependent on maintaining resources and on resources being made available for those sites where intrusive investigation data collected by the Council will be required.

1.0 INTRODUCTION

Under Part IIA of the Environmental Protection Act 1990, each local authority has a duty to keep its Contaminated Land Inspection Strategy (CLIS) under periodic review. Chapter 11 of Leeds City Council's Strategy document outlines how a review will be carried out after each year of the Strategy's implementation. This approach was considered to be the most efficient and effective way of making sure that the Strategy remains up-to-date and reflects current practice, but also that it is realistic and achievable. Annual reviews were deemed the best way of enabling timescales and targets to be revised appropriately.

This document comprises Leeds City Council's Fourth Annual Review of its CLIS; it is not intended to be a standalone document, but should be read in conjunction with the original CLIS document and the First (Autumn 2002), Second (Autumn 2003) and Third (Autumn 2004) Annual Reviews.

1.1 Who has undertaken the Review?

The Fourth Annual Review has been undertaken, and this document prepared, by the Contaminated Land Officer and others involved in the implementation of the CLIS within Leeds City Council's Development Department. A copy of this review has been submitted to the Environment Agency for their information.

1.2 Structure of the Review Document

The layout of this review follows a similar format to that of earlier reviews, which follow the listing of the principal features of the CLIS methodology as presented in Chapter 5 of the CLIS document. For each feature, the progress made in the fourth year of implementing the CLIS is discussed, including details of any proposed changes to procedures, timescales or targets.

1.3 Contaminated Land Team Structure

The Contaminated Land team is responsible for, amongst other things, carrying out the following work:

- reviewing and managing the implementation of the ***Contaminated Land Inspection Strategy***. Monitoring and reporting on progress to interested parties.
- providing specialist expertise, technical and scientific support on land contamination matters related to:
 - the ***planning process and enforcement***, in particular processing planning applications and providing input to planning frameworks
 - ***Part C of the Building Regs 2000***
 - ***IPPC applications***
 - ***project work***
- involvement in dealing with contaminated sites through the regulation of ***voluntary remediation***
- responding to ***environmental search enquiries***

- providing **internal training** on land contamination matters to officers in the planning and building services, and asset management
- developing **Council policies and guidance** in relation to land contamination

Prior to September 2005, the Contaminated Land team was made up of 4no. officers: Contaminated Land Officer; Remediation Officer; Scientific Officer; and Technical Officer

However, in September 2005, a Project Officer (Part IIA) was appointed to join the team.

As a 4-person team, progress had been slow with the CLIS work as this proactive work tends to take a lower priority than the reactive work described above. However, it is intended that the recently appointed Project Officer's time be dedicated to Part IIA work and, as a result, it is anticipated that significant progress will now be made on the CLIS.

1.4 Definitions & Terminology

Various terms and abbreviations used throughout this document may have a specific meaning within the context of the Part IIA Contaminated Land regime and/or they have already been defined within the Glossary and text of the original CLIS document. On this basis, definitions will not be repeated here.

1.5 Publication

This Review document can be viewed and/or downloaded free of charge from the Council's website at www.leeds.gov.uk/contaminatedland. Alternatively, a hard copy can be purchased for £10.00 from the Contaminated Land Officer at the Leonardo Building, 2 Rossington Street, Leeds LS2 8HD.

1.6 Enquiries

Any enquiries about this Review, earlier Annual Reviews or the CLIS document should be addressed to:

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Further information about the CLIS can also be found at www.leeds.gov.uk/contaminatedland. The CLIS and subsequent annual reviews can be viewed on this website and downloaded free of charge.

2.0 IDENTIFICATION OF PRIORITY AREAS

The Priority Areas are illustrated on Figure AR1 in the First Annual Review document dated Autumn 2002. The inspection order has not changed since the last Annual Review (Autumn 2004).

The current inspection order is summarised below:

Inspection Order	Priority Area	General area covered
1 st	1a	Meanwood
2 nd	1	City Centre, Holbeck, Beeston, Wortley & Armley
3 rd	2	Guiseley & Yeadon
4 th	7	Hunslet, Stourton & Cross Green
5 th	3	Morley, Gildersome, Middleton & East Ardsley
6 th	4	Horsforth, Pudsey & Calverley
7 th	5	Rothwell & Oulton
8 th	6	Garforth, Micklefield & Kippax
9 th	Rest of Leeds	Rest of Leeds not covered by Priority Areas 1a and 1 to 7

3.0 CONTAMINATED LAND GIS & DATABASE

The Contaminated Land GIS and associated attributes tables have continued to be developed as and when necessary.

The 'Potentially Contaminated Land' (PCL) database referenced in the earlier annual reviews continues to be used to store site-specific information supplementary to that held in the GIS attributes tables.

The database for storing and managing data collated at the detailed inspection stage of the Part IIA process has been further developed. Progress has been slow due to other work priorities. However, it is intended that this database will continue to be developed as necessary.

4.0 DEVELOPMENT OF KEY DATASETS

The GIS holds over 250 datasets providing a range of information relating to contaminant sources, pathways and receptors. It is intended that all the datasets will cover the whole of the Leeds District; indeed, this is already the case for the majority of the datasets. Table AR4/1 lists the datasets available; the new datasets from the fourth year of the implementation of the strategy are shown in bold.

An update on the development of new and existing datasets is provided below.

4.1 Contaminant Sources

Datasets acquired

- Datasets on historical land uses for Areas 1 and 2, 1970s epoch only
Digitised potentially contaminative historical land use data for Areas 1 and 2 for the 1970s epoch have now been obtained

- Digitised Historical Maps

Digitised historical maps at a scale of 1:2,500 or better have been acquired. This information will be used as part of the process of reviewing all available documentary data on sites undergoing detailed inspection (including 'urgent' sites – please refer to Section 8.0) and as a check against any available historical land use data.

- 'Potentially Contaminated Land' (PCL) Dataset

The PCL dataset is comprised predominantly of potentially contaminated sites that have been investigated and/or remediated through the planning and redevelopment process, through voluntary remediation or have been brought to the Council's attention through other means.

The PCL dataset has continued to be developed during the past year. New PCL sites have been added to the dataset including digitising the site boundary onto the GIS system and inputting site-specific details into the database.

Datasets to be acquired

- Datasets on historical land uses for the 'rest of Leeds'

It is intended to set up a contract this financial year 2005/06 for the provision of digitised potentially contaminative historical land use data for the 'rest of Leeds'. It is anticipated that work under this contract would begin in December 2005. The preliminary site prioritisation for the 'rest of Leeds' is now scheduled to commence in August 2007 and, subject to available resources, it is expected that this dataset will be available prior to this date.

4.2 Receptors

Datasets in the process of being acquired/developed

- Early Year Centres (nurseries) – private

A list of private nurseries within the Leeds District has been made available to the Contaminated Land team from the Learning and Leisure Department. Unfortunately, the GIS data has not been provided in a polygon (site boundary) format and generally the point source data locations are inaccurate. It is intended for this dataset to be digitised and included as a Human receptor within the prioritisation process. As the dataset still requires development, work will continue on this dataset as and when necessary.

4.3 Environment Agency Data

Since the Second Annual Review (Autumn 2003), no further information has been provided by the Environment Agency.

5.0 PRIORITISATION OF SITES FOR INSPECTION

The GIS-based software package, GroundView™, is a tool to prioritise sites that have been identified as potentially Contaminated Land. The adopted method begins by comparing the location of areas of potential contamination with areas where there are sensitive receptors. By overlaying these two types of data, a preliminary list of sites

that have two parts of a potential pollutant linkage is compiled in prioritised order. The principles and methodology behind GroundView™ are explained in Appendix F of the CLIS document.

An update on the progress regarding the prioritisation work is outlined below. For various reasons, it is still intended to focus on the human receptor. A list of datasets selected for use in the preliminary prioritisation work (focussing on human receptors) has been presented and discussed (Section 5.1). Of particular note, the scoring system has been revised in order to put into a prioritisation list not only 'overlapping' sites where potential sources and receptors coincide, but also 'adjacent only' sites where a potential receptor lies adjacent only to a potential source (Section 5.2). The concept of a rolling prioritisation list continues to be adopted (Section 5.3). Progress made to date with regard to Area 1a has been discussed (Section 5.4). Reference is made to the approach of dealing with railway land (as a potential contaminative source) and controlled waters (as a receptor) within Sections 5.5 and 5.6, respectively. It is likely that the Contaminated Land regime will be extended to include radioactivity and is discussed in more detail in Section 5.7.

5.1 Selection of datasets for preliminary prioritisation - Humans

The approach to prioritisation has not changed since the last Annual Review (Autumn 2004) and continues to target, as far as possible, the highest priority, most sensitive receptors, ie humans. The datasets for use within the prioritisation process are listed in Table AR4/2, providing various details and an appraisal (including limitations) on each dataset, and includes a new dataset on private Early Year Centres (nurseries). The receptor datasets have been chosen to reflect the most sensitive, and hence highest priority, category of human receptors. A buffer zone of 5m has been placed around the source datasets in order that Groundview can readily identify those sites where potential sources and receptors lie adjacent to each other.

At a later date, it is intended to assess potential sources of contamination in relation to the less sensitive receptors of controlled waters, ecology and property.

In some instances, datasets noted in Table AR4/1 have not been included in the prioritisation process as shown by datasets listed in Table AR4/2. Datasets may not have been included at the prioritisation stage, mainly because datasets have been superseded, are already covered by other datasets or are intended for review when Detailed Inspection is being undertaken on a site.

5.2 Revised scoring system

During the year, it was found that the scoring system needed to be revised to take into account 'adjacent only' risks that may exist from potential sources lying adjacent only to potential receptors. The potential sources as described under Section 4.2 of the First Annual Review (Autumn 2003) have been categorised and scored according to whether potential sources are considered to be a high, medium or low risk in terms of the potential for contamination to migrate to adjacent land. This information is presented in Table AR4/3. Please note that under the Category 'Agricultural Land', the subcategory has been amended from 'farms' to 'allotments' as this is a true reflection of the information that is captured for the Historic Land Use dataset. The revised scoring system is outlined in Table AR4/4.

5.3 'Rolling' prioritisation list

It is still intended for **one overall 'rolling' prioritisation list to be compiled for all areas** for which GroundView™ has been run and where datasets have been completed, as described in the Second Annual Review (Autumn 2003).

In terms of the inspection strategy, this still means that detailed inspection in an area will not necessarily be completed prior to moving onto the next area in the adopted priority order. Instead, the highest risk sites on the 'rolling' prioritisation list will always be addressed first. This change in procedure is reflected in the revised Work Programme which is discussed in further detail in Section 9.0.

5.4 Areas 1a and 1

Taking into account the revised scoring system outlined in Section 5.2 above, Area 1a has been re-run using the datasets listed in Table AR4/2 and a preliminary prioritisation list of 28 sites for which Detailed Inspection is required is now available.

Prioritisation work on Area 1 has now commenced in line with the revised scoring system.

The assessment of railway lines as a potential source will now be addressed in line with the revised scoring system. However, the assessment of controlled waters as a potential receptor will be addressed differently to the prioritisation process referred to above. Further details are available in Sections 5.5 and 5.6 below.

5.5 Potential Source - Railway line land use

The historical land use data highlights railway lines as a potential source of contamination. Due to the linear extent of this potential contamination source across the District, there is a considerable number of sites where railway lines and potential receptors overlap and, in the majority of cases, lie adjacent to each other. An explanation on the prioritisation methodology which will be adopted is given below and does not differ significantly from the current methodology.

Any former railway line that falls within the area of a previously identified site which has other potential sources will be dealt with as part of the site in question. However, those sites where a former railway line is the only potential source present will be dealt with on a site-specific basis:

- If the railway line land use *overlaps* a potential receptor, these sites will be highlighted and included on the preliminary prioritisation list.
- However, there are an extensive number of potential receptor sites (eg back gardens of residential properties) that are only located adjacent to current or past railway lines. It will be attempted to address these sites and add them to the prioritisation list at the time of carrying out the prioritisation process for each area. However, if there is a possibility that detailed inspection of sites could be delayed by the completion of the final list of sites for a given Priority Area, detailed inspection will commence on the known sites. The additional work associated with investigating the railway line land use that lies adjacent only to potential receptors will continue and be made available for detailed inspection when ready. It is expected that prioritisation of sites will be complete for a given Priority Area prior to commencing another Priority Area.

The above outstanding digitisation work applies to railway line land use only. Any other former or past railway land usage, for example former engine sheds, has been highlighted as part of the overall process and will be dealt with as normal.

5.6 Potential Receptor - Controlled Waters

Controlled waters include inland freshwaters (e.g, streams, lakes, reservoirs, ponds) and groundwaters (e.g. minor and major aquifers). Controlled waters therefore cover almost the entire district area of Leeds. As indicated in the Second Annual Review (Autumn 2003), to consider *all* controlled waters as a receptor, a dataset would cover the majority of the Leeds district area as *inter alia* minor and major aquifers underlie the majority of the district area. Running the prioritisation software would therefore highlight the majority of sites where potentially contaminative historical land uses are located as requiring further investigation. This process would produce an extensive list of sites.

It was noted in the Second Annual Review (Autumn 2003) that a more effective, time-efficient approach to investigating ***those sites for which there are no identified human health risks but where potential contamination of controlled waters is deemed likely*** would be considered.

Changes in legislation now need to be considered when thinking about how best to address controlled waters as a receptor within the Contaminated Land regime. On 1 October 2004, the first stage of commencement of section 86 of the Water Act 2003 was introduced changing the definition of Contaminated Land with regard to the pollution of controlled waters. For the purposes of Part IIA only, 'ground waters' now does **not** include waters above the saturation zone within the ground. This will ensure that the regime deals effectively with situations where contaminating substances have left the surface of land, are contained in underground strata, but have not yet fully entered the saturation zone.

In addition, section 86 of the Water Act 2003, once fully commenced, will amend the definition of 'Contaminated Land' which sets the scope of the Contaminated Land regime. The definition will be amended such that Part IIA will only apply where 'significant' pollution of controlled waters is being caused, or there is a 'significant possibility' of such pollution being caused. It is understood that this legislative change will avoid the designation of 'Contaminated Land' based on only very small amounts of matter entering controlled waters. Section 86 provides for statutory guidance to be issued by the Secretary of State for the determination of what is "significant" pollution in this context. The consultation on this guidance has not yet commenced.

A more detailed methodology for dealing with these sites will be considered further in subsequent annual reviews, in particular in light of further guidance on the definition of Contaminated Land.

Section 5.7 Radioactive Contamination

A document on extending the Contaminated Land regime to cover radioactive contamination was published for consultation on 18 July 2005. It is intended that the extended regime will provide a system to identify and remediate contaminated land where such land is causing a lasting exposure of radiation to any person or where there is a significant possibility of such exposure. The key proposed changes include a modification of the definition of Contaminated Land and the duty of a local authority to inspect its area to circumstances where there are reasonable grounds for believing

land to be radioactively contamination land. The Contaminated Land team reviewed this document and responded with comments to DEFRA. Should these Regulations and statutory guidance be enacted, it is likely that the prioritisation process will need to be revised to take into account this new legislation.

6.0 DETAILED INSPECTION

Detailed inspection has commenced in Area 1A (Meanwood). As part of this work, the Environment Agency has been consulted to request what information they have available. Site walkovers have been undertaken and Phase I desk studies are being prepared.

Preliminary prioritisation for Priority Area 1 (City Centre, Holbeck, Beeston, Wortley & Armley) has commenced to produce a list of sites for Detailed Inspection that will be rolled into the Area 1A list. ***Following the preliminary prioritisation process, Area 1 sites are expected to be included in the detailed inspection process in February 2006.***

As part of the Detailed Inspection process of the regime, intrusive site investigation involving soil/water sampling and gas monitoring will be required in some cases to assess potential contamination at a given site. Leeds City Council will need to pay any costs incurred in inspecting the land to determine whether it is Contaminated Land. Consideration is being given to meeting the anticipated costs of investigation through the Department's Revenue Budget and/or Leeds City Council's Capital Programme.

Leeds City Council continues to be involved with sites which are being investigated and remediated 'voluntarily' (i.e. outside of any regulatory regime) by their current landowners/occupiers. In addition, many sites are investigated and/or remediated at the redevelopment stage and the government has stressed the importance of this. Section 2.51, Annex 2 of Planning Policy Statement 23 (published 2004) states that:

'As a minimum, after carrying out the development and commencement of its use, the land should not be capable of being determined as Contaminated Land under Part IIA of the EPA 1990'.

Given that the Council now holds detailed records on these sites, it is anticipated that the process of detailed inspection will be more straightforward in future.

As detailed in Chapter 1 of the CLIS document, the ultimate purpose of the Inspection Strategy is to identify sites which meet the definition of Contaminated Land. ***To date, no Contaminated Land sites have been determined in Leeds.*** Please refer to Section 6.0 of the First Annual Review Autumn 2002 on the Council's approach to those sites so far that have been brought to the Council's attention where there is known to be potential for Part IIA 'pollution of controlled waters'.

7.0 DEALING WITH COUNCIL LAND

Please refer to Chapter 7 of the First Annual Review (Autumn 2002) with regard to the Council's key means through which it is addressing its own land contamination issues. There have been no significant changes from the earlier Annual Reviews with regard to the work undertaken in the past year for dealing with Council land.

8.0 URGENT SITES

Chapter 5 of the CLIS document highlights how 'urgent sites' will be prioritised for inspection as and when they are brought to the Council's attention. Such sites can be from any part of the district and are those which are considered to present an immediate risk of serious pollution or harm to human health. **To date, no sites have been considered to be 'Urgent'.**

9.0 WORK PROGRAMME

This section and Figure AR4/1 present a revised work programme timetable for the implementation of the Inspection Strategy. Predicted timescales are based largely on what outputs can be realistically achieved bearing in mind typical workload, financial constraints and resources.

As explained in the Third Annual Review (Autumn 2004), limited resources have again lead to delays in implementing the CLIS. However, an officer has recently been appointed as a Project Officer to deal solely with Part IIA work and it is anticipated that significant progress can now be made.

9.1 Revised Work Programme

Taking account of the limited progress made during the fourth year of implementation of the CLIS, **the Work Programme for the Strategy Implementation has again been revised** (see Figure AR4/1). Key points to note are as follows:

- (i) The prioritisation process continues to focus on targeting the most sensitive end uses and the work programme is therefore primarily addressing human receptors at this stage. A separate work programme will be considered for other less sensitive receptors within the district of Leeds, that is, controlled water, ecology and property.
- (ii) As the prioritisation process is now based solely on the revised scoring system (rather than having several stages of prioritisation), the estimated time to undertake this work has been reduced from 6 months to 3 months.
- (iii) It is difficult to estimate when detailed inspection for the whole of Leeds will be complete. This is primarily due to unknown workloads, eg, if a site is determined as Contaminated Land, there will be an increase in workload including preparing a record of determination for the site, identifying the appropriate person/s and securing its remediation. The completion date will also be dependent on maintaining the complement of staff and on resources being made available for those sites where intrusive investigation data collected by the Council will be required. Based on the limited progress made during the last 12 months, **it is not now expected that detailed inspection for the whole of the Leeds district will be complete by the end of 2014. The revised estimated completion date for inspection is now the end of 2015.**

- (iv) The table below summarises details from the revised programme which is shown on Figure AR4/1:

Area	Anticipated date by which preliminary site prioritisation is completed and Detailed Inspection commences (subject to 'rolling' prioritisation list)
1a	Nov 2005
1	Feb 2006
2	May 2006
7	Aug 2006
3	Nov 2006
4	Feb 2007
5	May 2007
6	Aug 2007
Rest of Leeds	Nov 2007

10.0 THE NEXT 12 MONTHS

As well as the continuing day-to-day implementation of the Strategy, there are a number of key outputs/acquisitions associated with Strategy implementation that it is hoped to achieve over the next twelve months. These are detailed below:

- (i) It is intended to let a contract for the provision of digitised potentially contaminative historical land use Area 0, the 'rest of Leeds' in this financial year, with work probably commencing in December 2005. The datasets are scheduled to be completed as soon as possible but by August 2007 at the latest, the date when detailed inspection is scheduled to commence for the 'rest of Leeds'
- (ii) As outlined in earlier Annual Reviews, it is evident that the most frequently encountered contaminated sites are former gas works, petrol stations and other sites where bulk storage of fuels has taken place. In order to acquire more information about these sites and, particularly, whether they have been investigated or remediated in the past, petrochemical companies and National Grid Ltd (formerly British Gas) will be contacted to see whether they are willing to provide such information about their land portfolios in the Leeds area. If acquired, such information will be held on the Contaminated Land GIS and database, and considered as part of site prioritisation and during detailed inspection.
- (iii) It is intended to set up a service level agreement with a laboratory from 1 January 2006. Invitations to quote for the work have been sent out to 5no. laboratories. The deadline date for submission of the quotations is 2 December 2005. On receipt of these quotations, a review of the information will be undertaken and a decision made regarding setting up a service level agreement.

- (iv) Although paper and/or electronic records are held detailing Council Land, this information is not yet available as a digitised GIS dataset. This dataset is still in the process of being developed and it is understood that it will be available when the Council's new GIS system is in place. Once available this dataset will prove useful for responding to enquiries regarding contamination on Council property, assisting in assessment of project work relating to Council land, but also during detailed inspection when identifying interested parties and 'appropriate persons'.

In line with the revised Work Programme, the next Annual Review of the Inspection Strategy will take place in July/August 2006. However, a complete review and revision of the Inspection Strategy report is being considered. This revision would supersede the current 2001 version of the Inspection Strategy and all Annual Reviews up to and including 2005. This information would also therefore include the Annual Review information for 2006.

Table AR4/1 - Current Datasets held on Contaminated Land GIS (Page 1 of 2)

Dataset	Description	Origin
Ground Features - Potential	Sources, Pathways and/or Receptors	
OS Landline	Current Ordnance Survey Landline Data	Ordnance Survey
Aerial Photos	Aerial photos of Leeds MD	LCC Planning Department
Boreholes	Boreholes in LMD	BGS
Contour Lines	10m Contour Lines on OS landline for LMD	LCC Planning Department
Environment Agency Offices	EA offices, labs etc in LMD	EA
Explosive sites ¹	HSE licensed sites storing explosive materials (LMD)	HSE
Historic Battlefields	Historic battlefields in LMD	LCC Planning Department
Historical plans	Historical plans at 1:10,000 or 1:10,560 from 1840s to date	SiteScope
Historical plans	Historical plans at 1:2,500 or better from 1840s to date	Landmark
LMD artificial geology	Disturbed, made & worked ground in Priority Area 1	BGS
LMD Coal Line	Outcropping coal lines in LMD	BGS
LMD drift geology	Drift Geology (Alluvium, Glacial, River & Till deposits) in LMD	BGS
LMD fault lines	Geological Fault Lines in LMD	BGS
LMD fossil horizons	Outcropping fossil horizons in LMD	BGS
LMD mass movement	Geological mass movements in LMD	BGS
LMD solid geology	Solid geology in LMD	BGS
Major Hazards	Sites posing potentially major hazard risk with associated consultation areas	LCC Planning Department
NLUD	National Land Use Database classifications in LMD	LCC Planning Department
Radon Areas	Areas of radon gas issues in LMD.	NRPB (Radon Map of England)
Park and Ride UDP	Park and Ride sites in LMD taken from validated UDP	LCC Planning Department
Special Landscape UDP	Areas of special landscapes in LMD taken from validated UDP	LCC Planning Department
Supertram Line UDP	Supertram lines in LMD taken from validated UDP	LCC Planning Department
Supertram Stations UDP	Supertram stations in LMD taken from validated UDP	LCC Planning Department
Supertram Limits of Deviation	Furthest extent of proposed supertram route	LCC Highways / Metro
Urban Green Corridor UDP	Areas of urban green corridor in LMD taken from validated UDP	LCC Planning Department
Potential Receptors		
Buildings and Property		
Grade 1 Listed Buildings UDP	Grade 1 listed buildings taken from validated UDP	LCC Planning Department
Scheduled Monuments	Class 1 scheduled monuments in LMD	LCC Planning Department
Controlled Waters		
Catchments	LMD river catchment areas	EA
Discharges	EA discharges to controlled water consents (LMD)	EA
Flood Plains	Flood plains of rivers in LMD	EA
Groundwater Vulnerability	Showing groundwater/aquifer vulnerability in LMD	BGS
River Centrelines	Centrelines of rivers in LMD (with some data for outside LMD)	EA
Water Abstractions	Licensed water abstractions in LMD	EA
Water Wells	Water wells in LMD	BGS
Water Quality - Biological	Biological General Quality Assessment water quality in water course in LMD	EA
Water Quality - Chemical	Chemical General Quality Assessment water quality in water course in LMD	EA
Ecological		
Ancient Woodland Leeds	Ancient woodland in LMD	English Nature
Conservation Areas UDP	Conservation areas in LMD taken from validated UDP	LCC Planning Department
Nature Areas UDP	Nature areas in LMD taken from validated UDP	LCC Planning Department
Nature Reserves UDP	Nature reserves in LMD taken from validated UDP	LCC Planning Department
SEGI UDP	SEGIs in LMD taken from validated UDP	LCC Planning Department
SSSI UDP	SSSIs in LMD taken from validated UDP	LCC Planning Department
Humans		
Areas 1- 7 Residential areas	Residential areas in Priority Areas 1 - 7	LCC Contaminated Land team
Allotments UDP	Allotments in LMD taken from validated UDP	LCC Planning Department
Historic Parks & Gardens	Historic parks & gardens in LMD	LCC Planning Department
Existing housing land UDP	Existing housing land in LMD taken from validated UDP	LCC Planning Department
Housing on open space	Designated housing land on open space in LMD taken from validated UDP	LCC Planning Department
Long term development UDP	Land for long term development in LMD taken from validated UDP	LCC Planning Department
New Housing UDP	Land for new housing development in LMD taken from validated UDP	LCC Planning Department
Water Related Leisure UDP	Water Related Leisure land in LMD taken from validated UDP	LCC Planning Department
Proposed Open Space UDP	Proposed open space in LMD taken from validated UDP	LCC Planning Department
Protected Playing Pitch UDP	Protected playing pitches in LMD taken from validated UDP	LCC Planning Department
Playgrounds	Playgrounds in LMD	LCC Leisure Services
New Schools UDP	New schools in LMD taken from validated UDP	LCC Planning Department
Early Years Centres (Nurseries)	Nurseries owned by the Council	LCC Graphics
Early Years Centres (Nurseries)	Nurseries owned privately	LCC Leisure Services
Primary Schools	Primary Schools owned by the Council	LCC Graphics
High Schools	High Schools owned by the Council	LCC Graphics
Further Education Colleges	Further Education Colleges owned by the Council	LCC Graphics
Special Schools	Special Schools owned by the Council	LCC Graphics
Community Buildings	Community Buildings owned by the Council	LCC Graphics
Sports Centres	Sports Centre owned by the Council	LCC Graphics
Private Water Supplies	Private Water Supply information from LCC Environmental Health team + digitised by Contaminated Land team	LCC Environmental Health and Contaminated Land team
LCC = Leeds City Council; BGS = British Geological Survey; EA = Environment Agency; HSE = Health & Safety Executive		
NRPB = National Radiological Protection Board; LMD = Leeds Metropolitan District		
The entries shown in bold represent those datasets which were acquired in the year preceeding this Annual Review		

Table AR4/1 (cont...)- Current Datasets held on Contaminated Land GIS (Page 2 of 2)

Dataset	Description	Origin
Potential Sources		
PCL Sites	PCL sites in LMD as defined in Contaminated Land Inspection Strategy	LCC Contaminated Land team
Area 1 Historic Land Use	Historic land use in Priority Area 1	BGS
Area 2 Historic Land Use	Historic land use in Priority Area 2	BGS
Areas 3 - 7 Historic Land Use	Historic land use in Priority Areas 3 - 7	LCC/WRc
Areas 1&2 Historic Land Use	Historic land use in Priority Areas 1&2 - 1970s epoch	LCC/WRc
Colliery Spoil Tips	Colliery spoil tips in LMD	Coal Authority
Mine Entries	Mine entries (shafts etc) in LMD	Coal Authority
Opencast Abandoned	Abandoned opencast sites in LMD	Coal Authority
Opencast Current	Current opencast sites in LMD	Coal Authority
Opencast Past	Past opencast sites in LMD	Coal Authority
Metal Recycling	Metal recyclers (scrapyards etc) in LMD	LCC Contaminated Land team
Petrol Stations	Petrol Stations in LMD	LCC Contaminated Land team
Sewage Treatment Works	Sewage treatment works in LMD	EA
Closed Sites	Closed landfill sites in LMD	LCC Planning Department
Landfill Sites	Landfill sites in LMD	EA
Licensed Waste Sites	Licensed waste management sites in LMD	EA
X-Sites	Former S143 Register data showing potentially contaminated sites in LMD	LCC Planning Department
Pollution Inventory	LMD Sites authorised under the Integrated Pollution Control Regime (IPC)	EA
LCC = Leeds City Council; BGS = British Geological Survey; EA = Environment Agency; HSE = Health & Safety Executive		
The entry shown in bold represents those datasets which were acquired in the year preceeding this Annual Review		

Table AR4/2 (Page 1 of 2) - Datasets used for site prioritisation

Site Prioritisation Data					
Dataset	Purpose	Limitations	Type	Origin	Date acquired
Potential Sources					
Historic Land Use					
Digitised land parcels depicting areas of previous potentially contaminating land use. Data taken from historic maps with sites identified for extraction to digital format according to land-use criteria set out in Appendix D of the Contaminated Land Inspection Strategy document. Consists of 5 separate datasets for each one of eight priority areas, each covering a different epoch (1890s, 1910s, 1930s, 1950s and 1970s/1980s)	To identify areas which may be contaminated due to previous land-uses	Data+C25 limited to five 'snapshots' in history so more detailed historical appraisal would be required at detailed inspection stage to identify any transient potentially contaminating land-uses that may have fallen between epochs. More detailed historical plans will be reviewed where necessary	Acquired	Data supplied by external company working to contract specifications set by LCC.	Various
Closed Landfill Sites					
Sites originally identified as closed landfill sites and monitored by the former West Yorkshire Waste Management joint authority body. Now monitored, where considered necessary, by LCC Environmental Health	To identify areas which may be contaminated due to former landfilling activities and areas which may be affected by landfill gas	Dataset considered complete although areas of infilled land may exist that LCC was possibly unaware of at time of putting together dataset	Received	Data taken from original monitoring reports written by West Yorkshire Waste Management. Dataset maintained by LCC Graphics	May-04
Non-active landfill sites					
Sites identified as being subject to waste management licences for landfilling. Some sites coincide with Closed Landfill Sites dataset, only those which don't are used in prioritisation dataset to avoid double counting	To identify areas which may be contaminated due to landfilling activities and areas which may be affected by landfill gas	Dataset considered complete	Received	Data from Environment Agency	May-03
Petrol Stations					
Sites identified as either current or former petrol filling stations	To identify areas which may be contaminated due to previous use as petrol filling stations	Dataset is considered incomplete. Petrol stations have been identified via entries in the Yellow Pages and only those which could be positively identified have been included.	Produced	Data identified and digitised by LCC Contaminated Land team	Jan-02
Metal Recycling sites					
Sites identified as either current or past metal recycling sites (scrapyards)	To identify areas which may be contaminated due to previous use as metal recycling sites	Dataset considered complete	Produced	Data identified by reference to Minerals Planning records of planning permissions for scrapyards and digitised by LCC Contaminated Land team	Jan-03
X-Sites					
Sites identified in the former s143 register as sites which may be contaminated. Compiled as required under the Environmental Protection Act 1990 when it was first introduced. The register was abandoned in its draft stage due to concerns over blight and land devaluation as s143 was repealed by the Environment Act 1995	To identify areas which may be contaminated due to previous or current land uses	Dataset considered complete	Received	Data supplied by LCC Graphics, digitised from plans in original s143 register document	Jul-01
Colliery Spoil Tips					
Sites identified as colliery spoil tips	To identify areas which may be contaminated due to presence of mine wastes	Dataset considered complete	Received	Data originated from Coal Authority and supplied by BGS	Jul-01
Past Opencast Sites					
Sites identified as former opencast coal extraction sites	To identify areas which may be contaminated due to presence of mine wastes and infill material	Dataset considered complete	Received	Data originated from Coal Authority and supplied by BGS	Jul-01
Abandoned Opencast Sites					
Sites identified as abandoned opencast coal extraction sites	To identify areas which may be contaminated due to presence of mine wastes and infill material	Dataset considered complete	Received	Data originated from Coal Authority and supplied by BGS	Jul-01

Notes:
Actions on limitations:- Limitations to some datasets have been identified. Additional datasets that might address these limitations are not readily available to LCC. Any further action is not considered practicable at this stage.

LCC = Leeds City Council
 UDP = Unitary Development Plan
 BGS = British Geological Survey

SOURCES - WHY EXCLUDED SEWAGE TREATMENT WORKS? MINE ENTRIES? CURRENT OPENCAST? POLLUTION INVENTORY? LICENSED WASTE SITES? IPC SITES? MINERALS EXTRACTION SITES? DERELICT LAND SURVEY? DISCHARGE

Table AR4/2 (Page 2 of 2) - Datasets used for site prioritisation

Potential Human Health Receptors					
Dataset	Purpose	Limitations	Type	Origin	Date acquired
Residential					
Residential areas	To identify areas of residential land use	Dataset considered complete (as far as practicable). Given time constraints, not possible to capture all residential in a systematic way, isolated instances of residential property may have been missed. Similarly, time limitations do not allow for drawing	Produced	Data identified and digitised by LCC Contaminated Land Team	Various
Early Years Centres					
Sites identified as early years centres (nurseries)	To identify sites which are nurseries and therefore represent a potentially sensitive receptor (young children)	Council owned only so any private nurseries are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Sites identified as early years centres (nurseries)	To identify sites which are nurseries and therefore represent a potentially sensitive receptor (young children)	Privately owned nurseries	Received - not in format required - dataset to be developed as necessary	Data taken from council buildings dataset supplied by LCC Leisure Services	Mar-05
Primary Schools					
Sites identified as primary schools	To identify sites which are primary schools and therefore represent a potentially sensitive receptor (young children)	Council owned only so any private schools are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
High Schools					
Sites identified as high schools	To identify sites which are high schools and therefore represent a potentially sensitive receptor (children and young adults)	Council owned only so any private schools are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Further Education Colleges					
Sites identified as further education colleges	To identify sites which are FE colleges and therefore represent a potentially sensitive receptor (young adults)	Council owned only so any private colleges are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Special Schools					
Sites identified as special schools	To identify sites which are special schools and therefore represent a potentially sensitive receptor (young children)	Council owned only so any private schools are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Community Buildings					
Sites identified as community buildings	To identify sites which are community buildings and therefore represent a potentially sensitive receptor (young children)	Council owned only so any private centres are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Sports Centres					
Sites identified as sports centres	To identify sites which are sports centres and therefore represent a potentially sensitive receptor (young children)	Council owned only so any private centres are not included	Received	Data taken from council buildings dataset supplied by LCC Graphics	Jul-04
Playgrounds					
Sites identified as playgrounds maintained by Leisure Services	To identify sites which are playgrounds and therefore represent a potentially sensitive receptor (young children)	Dataset considered complete	Produced	Original data from Leisure Services in form of addresses and NGR's. Digitised by LCC Contaminated Land Team	Jan-02
Historic Parks and Gardens					
Sites identified as council owned parks and gardens	To identify sites which are public open space and therefore represent a potentially sensitive receptor (children playing, dog walkers etc)	Dataset considered complete	Produced	Original data from collaborative study between LCC Leisure Services and Leeds Metropolitan University. Data held by LCC Conservation. Digitised	May-04
Protected Playing Pitches					
Sites identified in UDP as playing pitches	To identify sites which are sports fields and therefore represent a potentially sensitive receptor (children/adults playing sport)	Dataset considered complete but may not identify those pitches which don't have protection under UDP	Received	Data taken from UDP dataset supplied by LCC Graphics	May-02
Allotments					
Sites identified in UDP as allotments	To identify sites which are allotments and may therefore represent a sensitive receptor (human activity on-site and uptake of contaminants into plants)	Dataset considered complete for Council designated allotments but doesn't take into account private allotments	Received	Data taken from UDP dataset supplied by LCC Graphics	May-02
Private Water Supplies					
Locations of private (ie non-mains) water supplies	To identify locations of private water supplies which may represent a sensitive receptor (humans drinking contaminated water)	Dataset considered complete	Produced	Locations supplied by LCC Environmental Health and digitised by LCC Contaminated Land Team	Jan-04

Actions on limitations:- Limitations to some datasets have been identified. Additional datasets that might address these limitations are not readily available to LCC. Any further action is not considered practicable at this stage.

LCC = Leeds City Council
NGR = National Grid Reference
UDP = Unitary Development Plan

The entry shown in bold represents those datasets which were acquired in the year preceding this Annual Review

RECEPTORS - WHY EXCLUDED EXISTING HOUSING LAND UDP, HOUSING ON OPEN SPACE, LONG TERM DEVELOPMENT UDP, NEW HOUSING UDP, NEW SCHOOLS UDP

Table AR4/3 - SITE CLASSIFICATION & REVISED SCORING SCHEME inc ADJ ONLY SCORES

Priority Rating (1=lowest; 3 = highest) – defined according to DoE profiles and whether any risk from contamination migration can exist for each category of site

Category	Sub-categories to include	Class	On-Site Score	Adj only Score
Agricultural Land	➤ allotments	Low	156	1
Airports / airfields		Medium	4836	31
Animal & animal products processing works	➤ abattoirs ➤ animal rendering ➤ glue works ➤ fellmongers	Low	156	6
Asbestos Manufacture		Low/Medium	936	1
Chemical Works	➤ chemicals manufacture ➤ pharmaceuticals ➤ plastics ➤ explosives (not MoD) ➤ fertilisers ➤ pesticides ➤ cosmetics ➤ coatings ➤ soap works	High	121836	31
Engineering Works	➤ mechanical engineering ➤ vehicle manufacture ➤ shipbuilding ➤ manufacturing ➤ processing	Medium/High	24336	31
Extraction Industries & Mineral Processing	➤ Quarries ➤ mineral extraction ➤ coal mining (deep/open cast) ➤ collieries ➤ mineshafts ➤ cement works ➤ brick works ➤ gravel pits	Medium	4836	6
Food industry	➤ Food manufacture ➤ Processing ➤ Breweries ➤ Bakeries	Low	156	1

Category	Sub-categories to include	Class	On-Site Score	Adj only Score
Gas Works, Coke Works & Coal Carbonisation Works	<ul style="list-style-type: none"> ➤ charcoal manufacture ➤ gas lighting works ➤ gas purification ➤ gas holders (storage) ➤ gas distribution 	High	121836	31
Hospitals & Cemeteries	<ul style="list-style-type: none"> ➤ crematoria ➤ burial grounds ➤ clinics 	Low/Medium	936	1
Leather Works	<ul style="list-style-type: none"> ➤ tanneries 	Medium	4836	6
Metal Works	<ul style="list-style-type: none"> ➤ metal manufacturing ➤ refining ➤ finishing ➤ smelting ➤ blacksmiths 	High	121836	6
MOD Land	<ul style="list-style-type: none"> ➤ Barracks ➤ Stores ➤ rifle ranges ➤ explosives / munitions works ➤ training grounds ➤ airfields 	Medium/High	24336	6
Oil Refineries	<ul style="list-style-type: none"> ➤ processing of tar/bitumen ➤ manufacture of asphalt ➤ road coating manufacture 	High	121836	31
Other (miscellaneous)	<ul style="list-style-type: none"> ➤ glass manufacture ➤ laundries ➤ dry-cleaning ➤ unspecified works 	Medium	4836	1
Petrol Filling Stations & Bulk Storage of Oil/Petrol Products	<ul style="list-style-type: none"> ➤ oil distribution depots 	High	121836	31
Power Stations	<ul style="list-style-type: none"> ➤ electricity sub-stations 	Medium	4836	6
Pulp and Paper Works	<ul style="list-style-type: none"> ➤ manufacturing ➤ printing ➤ processing 	Medium	4836	6
Railway Land	<ul style="list-style-type: none"> ➤ sidings ➤ depots ➤ stations ➤ railway lines ➤ goods yards ➤ maintenance 	Medium/High	24336	6

Category	Sub-categories to include	Class	On-Site Score	Adj only Score
Road Vehicle Maintenance	<ul style="list-style-type: none"> ➤ garages ➤ transport & haulage depots ➤ dismantling ➤ repair and service 	Medium	4836	31
Sewage Treatment	<ul style="list-style-type: none"> ➤ Sewage treatment works ➤ sewage farms ➤ incinerators ➤ other wastewater / effluent treatment 	Low/Medium	936	6
Textile Industry	<ul style="list-style-type: none"> ➤ textile works ➤ mills ➤ dyeworks, ➤ carpet mills ➤ rope works 	Medium	4836	6
Timber Works	<ul style="list-style-type: none"> ➤ treatment works ➤ timber yards ➤ products manufacturing 	Medium/High	24336	6
Waste Management Sites	<ul style="list-style-type: none"> ➤ landfill sites ➤ transfer stations ➤ scrapyards ➤ waste processing ➤ waste treatment ➤ recycling & recovery ➤ household waste sites ➤ incinerators 	High	121836	31

Table AR4/4 - Revised Scoring System (Page 2 of 2)

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So, the actual scores for each type of receptor stay the same to get the separation but the final scores are more manageable numbers. Not sure though that it really matters either way. Might be better to keep the receptor score at 53 just to allow some flexibility in the scoring system if required when we get to the other receptor-types.	But- need to take into account the situation where we have 5-epoch medium/high with adjacent 5-epoch high, which, under the current scoring system would appear higher in the list than 1-epoch high risk, which is not what we want. So need to rejig scores again to sort this out and for other combinations moving down through the source types.	So, the key score is the highest adjacent type which is 5-epoch high risk which scores 155 (with receptor score of 1 instead of 53), Gaps between source-types need to be bigger than this.	When the time comes to prioritise using receptors other than human health (ie controlled waters, ecological receptors and buildings), will use the same scoring system to produce a ranked list for each receptor type and then apply a reducing factor to each receptor-type list to ensure that, for example, all sites with a controlled water receptor come below any human health receptor sites in the overall list.	So, for controlled water receptors, need to make sure that the highest possible score is less than 1 (the lowest possible score for a human health receptor site). Other than very exceptional scenarios, the highest possible scores for individual sites are in the 1×10^5 range. So to ensure that they all come in as less than 1 (below all possible human health receptor sites), need to apply a reducing factor of 1×10^{-6} .	The same process will be applied to ecological and property receptors, with the reducing factor adjusted accordingly (1×10^{-12} for ecological receptors and 1×10^{-18} for property receptors)																																																																																																																																																																																																																																																																																																																																																																																	
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score	High overlap	121836	5	609180	High overlap	121836	4	487344	High overlap	121836	3	365508	High overlap	121836	2	243672	High overlap	121836	1	121836	High/medium overlap	24336	5	121680	High/medium overlap	24336	4	97344	High/medium overlap	24336	3	73008	High/medium overlap	24336	2	48672	High/medium overlap	24336	1	24336	Medium overlap	4836	5	24180	Medium overlap	4836	4	19344	Medium overlap	4836	3	14508	Medium overlap	4836	2	9672	Medium overlap	4836	1	4836	Medium/low overlap	936	5	4680	Medium/low overlap	936	4	3744	Medium/low overlap	936	3	2808	Medium/low overlap	936	2	1872	Medium/low overlap	936	1	936	Low overlap	156	5	780	Low overlap	156	4	624	Low overlap	156	3	468	Low overlap	156	2	312	Low overlap	156	1	156	High adjacent	31	5	155	High adjacent	31	4	124	High adjacent	31	3	93	High adjacent	31	2	62	High adjacent	31	1	31	Medium adjacent	6	5	30	Medium adjacent	6	4	24	Medium adjacent	6	3	18	Medium adjacent	6	2	12	Medium adjacent	6	1	6	Low adjacent	1	5	5	Low adjacent	1	4	4	Low 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overlap	24336	5	121680	0.121680	High/medium overlap	24336	4	97344	0.097344	High/medium overlap	24336	3	73008	0.073008	High/medium overlap	24336	2	48672	0.048672	High/medium overlap	24336	1	24336	0.024336	Medium overlap	4836	5	24180	0.024180	Medium overlap	4836	4	19344	0.019344	Medium overlap	4836	3	14508	0.014508	Medium overlap	4836	2	9672	0.009672	Medium overlap	4836	1	4836	0.004836	Medium/low overlap	936	5	4680	0.004680	Medium/low overlap	936	4	3744	0.003744	Medium/low overlap	936	3	2808	0.002808	Medium/low overlap	936	2	1872	0.001872	Medium/low overlap	936	1	936	0.000936	Low overlap	156	5	780	0.000780	Low overlap	156	4	624	0.000624	Low overlap	156	3	468	0.000468	Low overlap	156	2	312	0.000312	Low overlap	156	1	156	0.000156	High adjacent	31	5	155	0.000155	High adjacent	31	4	124	0.000124	High adjacent	31	3	93	0.000093	High adjacent	31	2	62	0.000062	High adjacent	31	1	31	0.000031	Medium adjacent	6	5	30	0.000030	Medium adjacent	6	4	24	0.000024	Medium adjacent	6	3	18	0.000018	Medium adjacent	6	2	12	0.000012	Medium adjacent	6	1	6	0.000006	Low adjacent	1	5	5	0.000005	Low adjacent	1	4	4	0.000004	Low adjacent	1	3	3	0.000003	Low adjacent	1	2	2	0.000002	Low adjacent	1	1	1	0.000001		
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