

What happened 30 years ago in contaminated land?

1983 was the year BBC launched Breakfast TV, the race horse Shergar was kidnapped, the wearing of seatbelts in the front seats of cars became compulsory and £25 million worth of gold was stolen from a Brinks Mat warehouse in Heathrow. It was also the year MJCA was formed and although the environment was not a main agenda news item 30 years ago, environmental issues were starting to have an effect on how companies carried out their business activities.

It was in 1983 that the Inter-Departmental Committee on the Redevelopment of Contaminated Land (ICRCL) published the document 'Guidance on the Redevelopment of Contaminated Land' 1st Edition May 1983, ICRCL 59/80 which marks an important event regarding published guidance on the assessment of contaminated land prior to development and considerably more guidance documentation was to follow in its wake. Although the 1st Edition was published in 1983 it was the 2nd Edition Guidance Note 59/83 published in 1987 that was to become a key reference document used throughout the late 1980's and throughout the 1990's.

ICRCL was set up in 1976 to provide advice and guidance and to fund research into the risks associated with the redevelopment of contaminated land and the 1st Edition document published in 1983 built on earlier government guidance documents relating to contaminated land. The importance of Guidance Notes 59/80 and 59/83 is that it had been recognised that the development of contaminated land presented a number of challenges and the guidance document sets out a methodology for assessing contaminated land together with the publication of 'trigger' and 'intervention' values for a range of contaminants including

a suite of metals and those associated generally with gas works pollutants such as cyanide and phenol. The intention of publishing a range of guidelines was to standardise and simplify the approach to evaluating risks associated with the redevelopment of contaminated land.

Contaminants	Planned Uses	Trigger Concentrations (mg/kg air-dried soil)
Coal Tar (1)	Domestic gardens, amenity areas	200
	Public open space	500
	Industrial (no landscaping)	5,000
Phenols	Domestic gardens and all uses with mains water services	5
	All other uses	100
	Domestic gardens, amenity areas, open space	50
Free cyanide	Domestic gardens, amenity areas, open space	50
	Industrial (no landscaping)	500
Complex cyanides	Any uses where plants are to be grown	50
Thiocyanate	All uses	50
Sulphur	All uses	1,000
Sulphide	All uses	250

These guideline values originate from an earlier report entitled 'Problems arising from the redevelopment of gas works and similar sites' the first edition which was published in November 1981 and was subsequently taken forward by ICRCL and developed into Guidance Note 59/83. Possibly one of the earliest reports in which guideline values for soils were published was prepared by Greater London Council Department of Architecture and Civic Design. Development and Material Bulletin No98 (2nd series) August/September 1976 prepared by the Materials Information Group. The guideline values published in this document were for a range of metals, coal tar, phenol and cyanide reflecting the problems which had been encountered on gas works sites and some of the guideline values published were the same values as those which were used later in the ICRCL Guidance Note 59/83.

In 1979 The Greater London Council (GLC) also prepared a table of contamination criteria for classifying soils into one of five categories A-E; A being uncontaminated and E

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What happened 30 years ago in contaminated land?



“The ‘trigger’ guideline values which had first appeared in the document ICRCL 59/80 published in 1983 and which had their origins in even older guidance documents going back to 1976 were not withdrawn formally until December 2002...”

being unusually heavily contaminated. The GLC criteria are often referred to as ‘Kelly’s Table’ named after the principal author. The tables were derived on the basis of empirical evidence arising from the analyses of hundreds of soil samples from a range of sites across the Greater London Council area. The criteria were developed mainly to assist in the characterisation of contaminated soils for disposal purposes and whilst they were not specifically intended to be used as risk assessment criteria for assessing land that was to be redeveloped, they provided a useful indication of the severity or otherwise of contamination of the ground. The criteria did not take into account any consideration of the effects on the water environment. Kelly’s table included a broader suite of metals than were included in the ICRCL Guidance Note 59/83 and consequently were used by many practitioners in the sector during the 1980’s and throughout the 1990’s to assess contaminated land.

The ‘trigger’ guideline values which had first appeared in the document ICRCL 59/80 published in 1983 and which had their origins in even older guidance documents going back to 1976 were not withdrawn formally until December 2002 as they were considered to be incompatible with the risk

based approach set out in the Part 2A of the Environmental Protection Act 1990 which was established in 2000. With the development of more advanced risk assessment models and a greater understanding of exposure pathways, the behaviour of chemicals in the environment and the toxicology of contaminants together with access to data from many sources on the internet it is now possible to calculate guideline criteria for contaminated soils for just about any pollutant.

So why is it important that these older guidance documents remain accessible rather than being consigned to the bin, after all they are not used for current assessment of contaminated land? Their importance lies in their use for legal cases where it is necessary to understand what guidance was in place and when, and how it was applied. Senior MJCA personnel have provided expert opinion of evidence on a range of waste and contaminated land matters in arbitration and litigation cases. Our expertise in this practice area comes from senior MJCA personnel having a working and practical knowledge of the environmental legislation and often when the events being considered took place, together with our technical skills and being able to communicate key issues to a range of stakeholders.

The Taylor review

In January 2013 DCLG issued Lord Taylor’s [report](#) on the review into Government planning practice guidance identifying what should be axed, replaced or amended. This comprised a review of over 200 various guidance documents comprising statements, circulars, guides, leaflets, letters and reports. Lord Taylor is critical of the current planning guidance considering that it is no longer fit for purpose, the range of planning practice guidance is not an effective suite to support planning decisions, it is not in a form which can be managed effectively and is not kept updated by Government. This has resulted in contradictory and unmanageable material and the Taylor report recommended a reduction in the amount of planning guidance and that certain

documents should be withdrawn or updated to provide only essential, concise, coherent, accessible and relevant and up to date guidance information. The guidance should be clearly defined for example it should not be necessary to cross refer to several different documents in order to understand the objectives. It is also recommended that regulations and Statutory Instruments should be made clearer as it is considered that this would reduce the need for additional guidance to explain the statute and regulations.

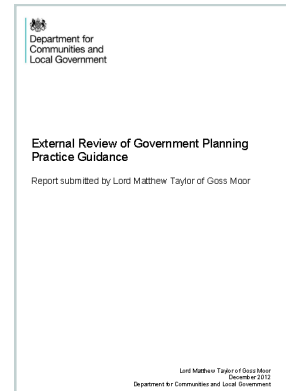
The report recommends that the guidance should be kept easily in a single place for example accessed through the DCLG website and must contain formal Government Planning Practice Guidance only and that should align with guidance issued currently

The Taylor review

by the Planning Inspectorate and structured around the text of the National Planning Policy Framework. Any relevant material should be incorporated into revised guidance and retained until it is replaced by up to date guidance and there must be a managed process for updating or cancelling documents over time with an annual review to ensure the guidance remains up to date, readily printable and is date stamped. The report recommends that the aim should be to have the majority of this work completed by July 2013.

With particular reference to environmental issues there is a recommendation to

provide guidance on managing the relationship between planning and environmental permitting and for land development issues it is recommended that guidance is updated on flooding, Environmental Impact Assessment, Sustainability Appraisal and biodiversity to ensure it is used effectively and proportionately. There is also a specific recommendation for the preparation of new guidance on environmental quality including land and water which should include guidance on the Water Framework Directive, and that the Government could set standards in order to ensure appropriate development.



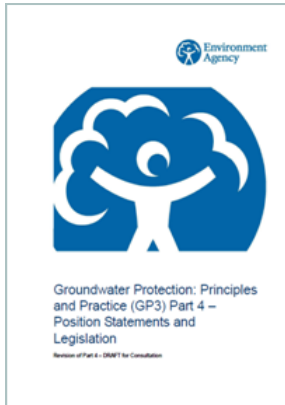
More or less guidance?

One of the recommendations in the report prepared by Lord Taylor of Goss Moor on the review of the Government planning practice guidance is for the preparation of new guidance on environmental quality including land and water (including guidance on the Water Framework Directive) and it is suggested that the Government could set standards in order to ensure appropriate development. However, it was less than one year ago that the National Planning Policy Framework (NPPF) was published with the aim of central Government to reduce the amount of planning guidance and which resulted in Planning Policy Statement 23 Planning and Pollution Control including Annex 2: Development on Land Affected by Contamination being withdrawn together with most other Planning Policy Statements. Whilst the publication of the NPPF may be viewed by some as a green light for development, the Regulatory Authorities and the communities which they serve will still wish to see the relevant checks and balances in place for the development of brownfield land, developers are still responsible for the safe development use of land and landowners will still need to assess their potential environmental liabilities and any development of land which is contaminated will need the appropriate investigations to demonstrate that the land should not be capable of being determined as Contaminated Land under Part 2A.

One issue associated with guidance on the investigation and assessment of contaminated land for development being withdrawn is that it could lead to a lack of consistency in the approach to decision making by developers and their technical advisors. The need to fill this gap in guidance appears to have been raised by Lord Taylor's review and some Local Authorities have already prepared updated supplementary planning guidance documents to provide technical advice on how to deal with planning applications where land contamination could be a material consideration. Whilst such guidance on land quality assessments are likely to follow a standard format including desk study, site investigation, risk assessments and where necessary remediation and the guidance can cite existing guidance documents such as Model Procedures for the Management of Contaminated Land CLR 11 or British Standards such as BS10175:2011 Code of Practice for the Investigation of Potentially Contaminated Sites it would clearly be preferable to have national guidance on this matter rather than documents prepared by an individual Local Authority. It is understood that the Chartered Institute of Environmental Health (CIEH) together with Royal Town Planning Institute (RTPI) are preparing guidance currently to address this matter.

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GP3



In November 2012 the Environment Agency (EA) published the revised document Groundwater Protection: Principles and Practice, referred to as GP3 which describes how the EA manage and protect groundwater. This followed a period of consultation with industry in 2011 regarding the proposed revisions to part 4 of GP3 which clarifies the EA position statements covering a broad range of activities for example land contamination, solid waste management and the discharge of liquid effluents into the ground, together with statements on specific activities such as mining pollution, cemetery developments and burial of animal carcasses. The EA considered that having reviewed the content of GP3 Parts 1, 2 and 3 some of the information is out dated and therefore the EA updated the content of the document to create a single navigable document which also resulted in the removal of nearly 100 pages of repetition covered in the previous documents. The revised GP3 has been published as a single controlled document which the EA suggest should be looked at on-line rather than printed or kept as a hard copy and which they will update periodically.

Part 3 of GP3 contains technical information which is of interest to practitioners involved in preparing risk assessments in support of Environmental Permit applications or selecting compliance points for use in land contamination risk assessment. The technical guidance in GP3 is intended to lead to greater consistency nationally when determining remedial goals to protect surface and groundwater resources and follows a similar format as set out in the Environmental Permitting Regulations 2010 (EPR 2010). The EA believe the new GP3 offers a more flexible, proportionate and risk based approach while still offering the same protection to groundwater.

EPR 2010 replaced various regulations associated with discharges of pollutants to controlled waters for example the Water Resources Act 1991 and the Groundwater Regulations 2009 and transpose other regulations such as the Groundwater Daughter Directive 2006. Most pollution incidents resulting in an impact on the quality of groundwater are likely to be dealt

with by the EA under the EPR 2010 where the incidents ‘...cause or knowingly permit a water discharge activity or groundwater activity...’. The term ‘groundwater activity’ includes both those activities that require a permit, and those activities that are unlawful, for instance causing pollution to groundwater, whether deliberate or accidental. The consequences of unforeseeable accidents or exceptional circumstances may not be determined by the EA to be a groundwater activity although this does not apply in circumstances where the release of pollutants is due to the poor design of facilities, negligence or poor operating practices, since such events are neither unforeseeable nor exceptional.

Key objectives for the prevention of pollution to groundwater include preventing the input of hazardous substances into groundwater and limiting the entry of non-hazardous pollutants. The Joint Agencies Groundwater Directive Advisory Group (JAGDAG) is seeking views on the proposed classification of twenty substances. These have been assessed in accordance with the Methodology for the determination of hazardous substances for the purposes of the Groundwater Daughter Directive (2006/118/EC), published in June 2012. Some of these substances, particularly the metals arsenic, selenium, lead and nickel are often recorded in samples of made ground found on industrial land and the classification of these substances as hazardous substances could have significant implications for the need for remediation works. Where hazardous substances or non-hazardous pollutants have already entered groundwater the guidance in GP3 is to minimise further entry and to take necessary and reasonable measures to limit pollution of groundwater which may include reducing the expansion of a contaminant plume. Where there is a passive release of pollutants from land contamination discharging to groundwater this does not need permitting under EPR 2010 unless there is an activity that disturbs the contamination and causes a new discharge of pollutants. The EA consider that voluntary remediation schemes and measures under planning and development control regimes, Anti-Pollution Works and Part 2A provide

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GP3

the necessary controls regarding passive discharges from land contamination.

Underpinning the EA approach as set out in GP3 with regard to the need for remediation of historical contamination and new contamination from spills and accidents is the concept of 'suitable for use' based on the principle of source-pathway-receptor linkage, the development of a conceptual site model and applying a tiered risk based assessment. To derive remedial targets for a risk based assessment for groundwater associated with land contamination it is necessary to select a compliance point. GP3 provides detailed technical guidance on selecting compliance points and the objectives for deriving remedial targets.

The compliance point may be the receptor or a point along the pathway nearer the contamination or in the source itself. In some cases the location of the compliance point is dictated by the presence of known receptors such as a groundwater abstraction borehole or a surface watercourse, in

others there may be no specifically identifiable receptor. In these situations for the purpose of resource protection a surrogate receptor such as a hypothetical abstraction borehole is selected at which point an environmental standard applicable to the receptor must be met. A suggested down-gradient default compliance distance from the contaminant source is set at 50m for hazardous substances already having an impact on groundwater quality. For non-hazardous pollutants already having an impact on groundwater quality which has strategic resource potential, a compliance distance of 50m from the contaminant source or between 50m and 250m where groundwater has a local resource potential is suggested.

This guidance should lead to greater consistency nationally when determining remedial goals to protect surface and groundwater resources.



Natural Resources Wales

Legislation relating to some aspect of contaminated land and groundwater in the UK has its origins within The Control of Pollution Act 1974 (CoPA), which sought to draw together the earlier separate legislative strands and to treat pollution and waste together as a unified concept. It applied to the whole of Great Britain with equivalent legislation in Northern Ireland and was brought into effect over several years by a series of regulations. As new environmental policies continued to be developed and new regulations were introduced there have been some differences in how the regulatory regimes have been applied in different nations of the UK, notably in Northern Ireland and Scotland and particularly following UK devolution which created a national Parliament in Scotland, a national Assembly in Wales and a national Assembly in Northern Ireland, this variation in how environmental legislation is regulated has become more apparent.

The changes will continue in Wales, from 1 April when the Environment Agency Wales, the Countryside Council for Wales and Forestry Commission Wales will become one body, Natural Resources Wales and the Environment Agency becomes an England-only body. Over time it is expected that there will be changes to how the Welsh Government review the regulatory system and implementation of certain aspects of the new EU Directives.

The variations across the UK in how environmental legislation is developed and regulated will need to be considered by companies operating in those nations and when providing advice on environmental matters to business.



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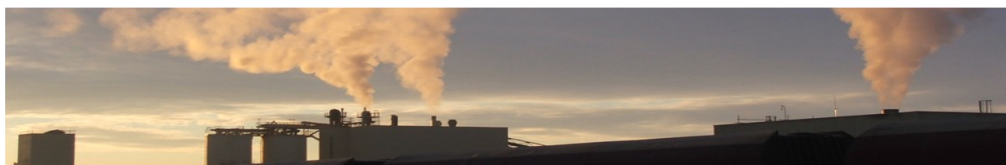
ABOUT MJCA

MJCA provides independent advice on environmental issues to the public and private sectors. Delivering our services to high technical standards and commercial awareness enables us to provide practical, cost effective advice and sustainable solutions. Further information regarding our services can be found on our website www.mjca.co.uk

CONTACT US

Please contact [Kevin Eaton](#) for more information on any of the issues raised in this newsletter, or on any other Contaminated Land issues.

Horizon scanning



So what's coming over the horizon in 2013? CIRIA are due to release a number of guidance publications later in the year which will assist practitioners advising on the development of contaminated land. One is a guidance document for the remediation and mitigation options for volatile organic compound (VOC) vapours. It covers topics such as pollutant linkages, exposure duration, health and safety issues, commercial objectives and cost benefit analysis. This document follows on from the VOC Handbook CIRIA C682 published in 2009. Another document which will be published by CIRIA this year whilst not directly associated with the remediation and mitigation options for VOC should provide complementary guid-

ance. The guidance document is entitled 'Good practice on verification of protection and testing of barriers for hazardous ground gases'. There is inconsistency in the standard of verification and testing of gas membranes in the sector and there is only limited guidance on best practice especially with respect to integrity testing of gas resistant membranes. This document should prove useful to developers, regulators and consultants. CIRIA are also preparing guidance on managing and understanding the risks of asbestos in soil and on brownfield sites and CL:AIRE also intend to publish an industry Code of Practice – Practitioners Guide covering topics on regulations, training, site investigation, sampling and analysis, human health

risk assessment and remediation and waste management. The Definition of Waste: Development Industry Code of Practice, produced by CL:AIRE has proved to be effective for dealing with soils excavated on development sites and it is understood that the steering group associated with this project are assessing options for version 3 of the guidance document.

CL:AIRE are progressing with the project to develop the Category 4 Screening Levels (C4SL) for the assessment of land affected by contamination. Several workshops have been completed to develop a new risk assessment model and it is likely that the first C4SL will be rolled out later in the year.

