

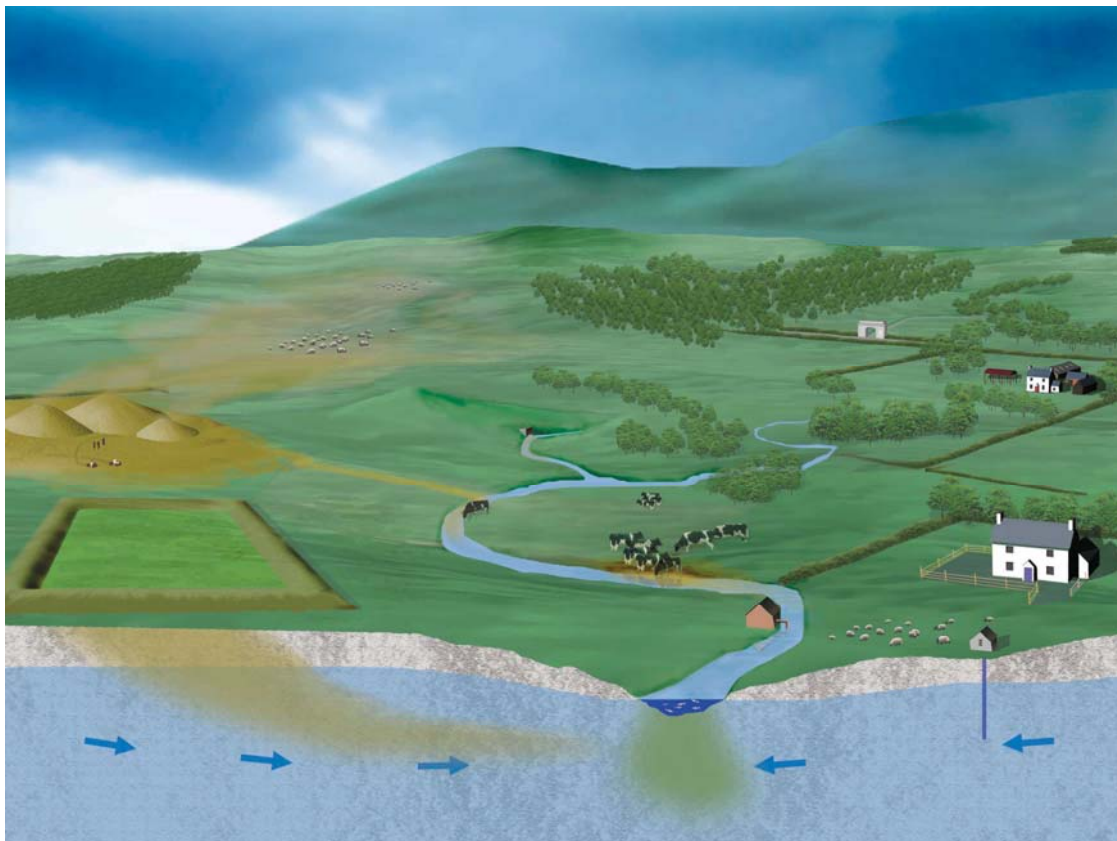
VOLUME I

GEOCHEMICAL CHARACTERISATION AND ENVIRONMENTAL MATTERS

Historic Mine Sites – Inventory and Risk Classification

A joint study carried out by

The Environmental Protection Agency
and
The Geological Survey of Ireland



This Volume should be read in conjunction with Volume II (Site Safety)

July 2009



Comhshaoil, Oidhreacht agus Rialtas Áitiúil
Environment, Heritage and Local Government



Department of Communications, Energy and Natural Resources
Roinn Cumarsáide, Fuinnimh agus Acmhainní Nádurtha

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Preface

Mining is one of the most ancient activities in the world. It has enriched many nations. However, exploration of mineral resources has often been carried out without due recognition of the effects on the environment, especially prior to the 20th century. In the latter part of the 20th century, the environmental impacts of mining became more apparent and regulators responded to this by enhancing legislation and permitting requirements.

In Ireland, environmental effects were recognised primarily at Silvermines, Tynagh and Avoca. Both the Environmental Protection Agency (EPA) and the Geological Survey of Ireland (GSI) asked the question simultaneously 'how many other sites were impacted by previous mining activity?'. At the same time, the European Commission, being aware of the potential of mining operations to impact on the environment through incidents at active mines in Spain at Aznalcóllar and in Romania at Bare Mare, introduced Directive 2006/21/EC on the management of waste from the extractive industries. Article 20 of the Directive requires Member States to produce an inventory of closed mine waste facilities. The combination of these events created the impetus for this project, the Historic Mine Sites – Inventory and Risk Classification.

The GSI, founded in 1845, has extensive data holdings on past mining activity in Ireland, including reports, drawings, maps and diagrams of mining activity. The EPA, established in 1993, has responsibility for environmental assessment, regulation and enforcement.

In this joint study, the EPA contributed financial resources and Ms Jane Brogan dedicated much of her time to the project. The GSI contributed its large databases, Head of Minerals Section, Mr Gerry Stanley, its considerable expertise in digital map compilation, its drilling unit and support staff. The EPA funding permitted the recruitment of Dr Vincent Gallagher and Ms Fionnuala Ní Mhairtín to the geochemical characterisation and investigations and Mr Phelim Lally to site safety investigations. The GSI also contributed funding for the provision of expert advice from international consultants Camp, Dresser and McKee (US) and Geoffrey Walton Practice (UK).

The work has resulted in the most comprehensive inventory of past mining activity in Ireland. All of the major sites have been characterised geochemically and all major chemical site hazards have been identified. Volume I of the report classifies the sites that present the greatest threat to human and animal health and the environment. Volume II will identify the physical hazards associated with the historic mine sites. The two volumes should be read in conjunction with each other. The work provides an important benchmark from which future investigations can be both directed and assessed. An important recommendation from the work is that monitoring of the various sites should be undertaken at varying intervals, depending on the nature of contamination of the site.

The joint project demonstrates the benefits of collaboration between government bodies and provides a template for future actions.

Dr Peadar McArdle
Director, GSI

Dr Mary Kelly
Director General, EPA

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