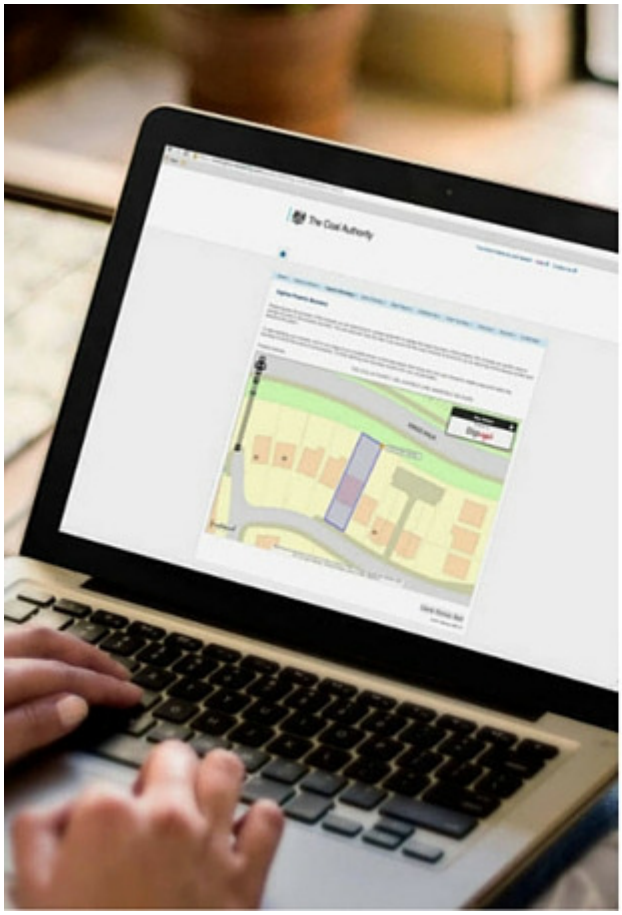
The Coal Authority

Resolving the impacts of mining

User Guide

For the Coal Authority Probable Working Dataset



User Guide for the Coal Authority

Probable Working Dataset

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Probable, Working, Mineral Code, Depth, Considerable, Moderate, Shallow

Front cover
Graphic bottom right represents examples of spatial data from The Coal Authority's National Coal Mining Database

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1 Summary

This document provides information for users on the national Probable Working dataset. It outlines why the dataset was created and its potential uses. Technical information regarding the GIS and how the data was created is described, and information on how to use the dataset is provided.

2 Introduction

The Coal Authority

The Coal Authority (the Authority) is a non-departmental public body sponsored by the Department of Energy and Climate Change, and was established by Parliament in 1994. Its statutory responsibilities include:

- Licensing coal mining operations in Britain
- Providing access to information on coal mining
- Dealing with property and historic liability issues
- Administering coal mining subsidence damage claims
- Providing a 24 hour call out service for public safety hazards.

Further information on all the digital data available from the Authority can be found on our website at **https://www.gov.uk/government/organisations/the-coal-authority** or by contacting:

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3 About the Probable Working Dataset

3.1 Background

The Coal Mines Regulation Act (1872) and Metalliferous Mines Regulation Act (1872) require coal mine operators to deposit mine abandonment plans with the Secretary of State following the cessation of operations. Prior to this legislation mine plans were often destroyed or kept in private ownership due to competition between the mine operators.

The Authority's Mining Heritage Centre in Mansfield, Nottinghamshire, houses the collection of some 120,000 such coal abandonment plans, covering both opencast and deep mining operations, which depict areas of coal extraction and the points of entry into workings. These plans are held by the Authority on behalf of the Health & Safety Executive. The mining information contained on these plans has been captured in the Authority's National Coal Mining Database.

This layer was constructed to show areas where the Coal Authority believe that possible coal extraction was undertaken before the 1872 Act and for which no formal abandonment plan for those workings.

3.2 Dataset History

The Probable Working spatial dataset was created during the early 1980s in readiness for the automated provision of coal mining reports that was introduced locally in 1985 and established nationally in 1989. A team of qualified National Coal Board (NCB) / British Coal Corporation (BCC) mining surveyors were engaged to rationalise the mining and other source plans, reference the same to Ordnance Survey National Grid or County Series and subsequently capture the data into the first computerised mining report system (MRS). The spatial datasets were subsequently migrated into the Authority's current ESRI based GIS in 2011.

3.3 Who might require this dataset?

This dataset is currently used by the Authority in the production of CON29M mining search reports. These provide property specific searches with regard to potential mining hazards in support of the conveyancing market.

This dataset is suitable for use by organisations wishing to identify possible ground instability and potential mining hazards. Users may include but are not limited to Local Authorities, infrastructure operators, land developers, home-owners, solicitors, loss adjusters, the insurance industry, architects and surveyors.

3.4 What the dataset shows

The Probable Workings dataset contains the locations and estimated extents of probable underground workings for which no recorded plan exists, but where it is possible that workable coal at shallow depths was been mined before records had to be kept.

The probable workings dataset is a footprint which provides information on the spatial distribution of potential hazards resulting from unrecorded past underground coal mining.

3.5 Coverage

The coverage of the Probable Working dataset is the known extent of coal mining activity in Great Britain (see Figure 1 below). This area does not represent the full extent of geological coal reserves and resources.

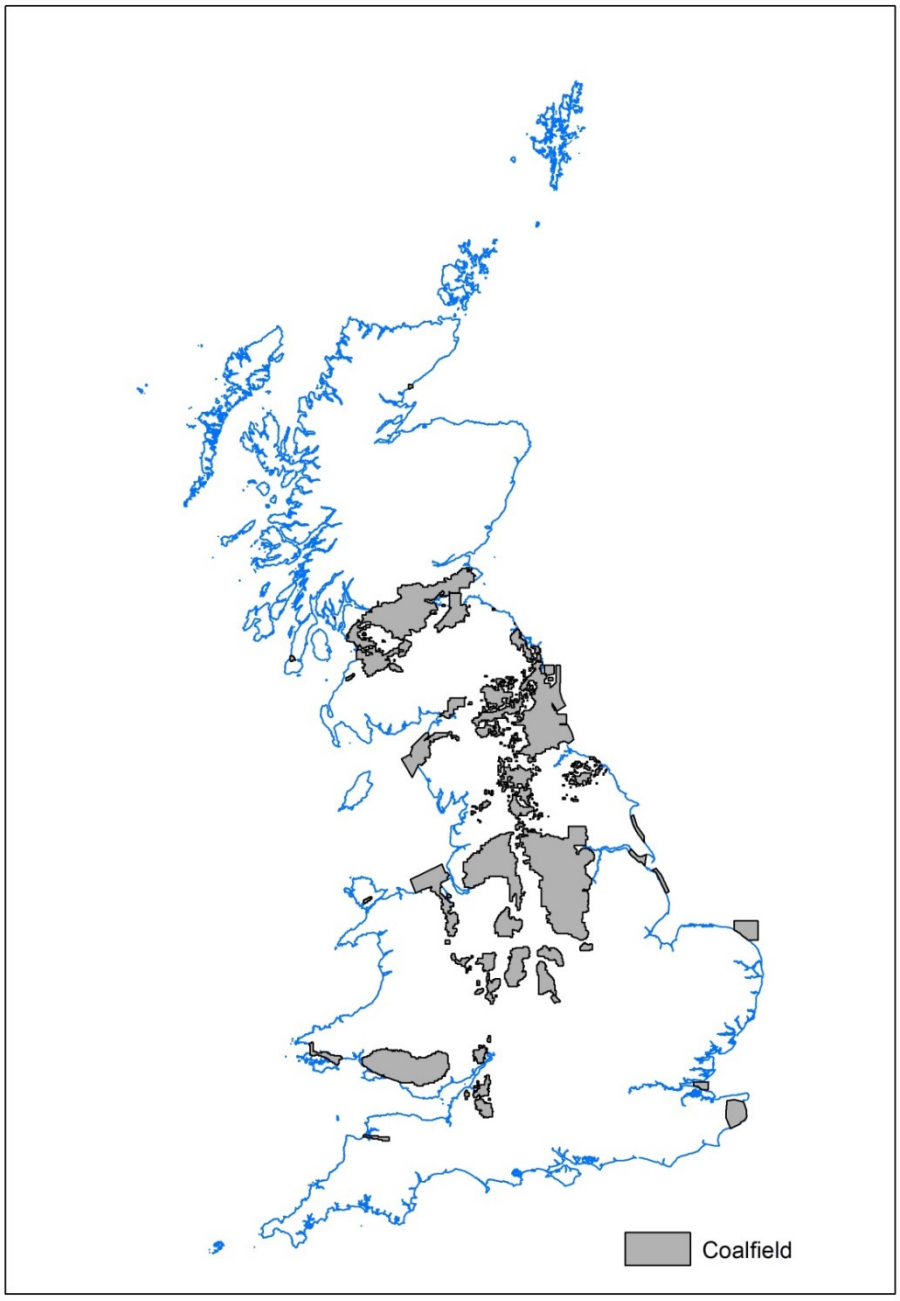

Figure 1: The coverage of the Probable Working dataset

4 Technical Information

4.1 Definitions

What does 'Probable Working' mean?

An area where coal was possibly worked by underground methods at some time in the past but where no definitive records exist.

Mine operators were only required to deposit plans of coal workings from 1872 onwards. These probable working areas are therefore derived from knowledge of areas which were being mined before or around that date together with known coal deposits close to the surface which are thick enough to be economically viable. The data has been estimated from available mining records by qualified mining surveyors.

4.2 Accuracy

4.2.1 Transfer of information from source plans to the National Coal Mining Database

The Authority's primary source records are some 120,000 plans of abandoned coal mines for Scotland, England and Wales. These coal abandonment plans, cover both opencast and deep mining operations, and depict areas of coal extraction and points of entry into the same.

In the late 1970s a national rationalisation project was initiated by the National Coal Board (NCB) where these abandonment plans, and relevant geological and Ordnance Survey plans were examined to identify unique mining information.

Regional teams of qualified NCB / BCC mining surveyors were engaged to rationalise the mining and other source plans and reference the same to National Grid or County Series.

Due to the primitive emerging GIS technology available at the time of initial capture and the primary purpose of the capture being the automated provision of coal mining reports , the rationalised plans show a simplified version of the information contained on the abandoned mine plans.

The mining information contained on these rationalised plans was subsequently digitised by a team of technicians and captured as polygon, point and line data in the Authority's National Coal Mining Database.

4.2.2 Source Accuracy Limitations

All plans are representations and may contain inherent simplifications due to generalisation. When features are represented on plans, their scale often determines the level of detail shown. In addition to these simplifications, limitations may also be introduced through the drawing process.

4.2.3 Digitisation Process Accuracy Limitations

The digitisation process is likely to have introduced intrinsic limitations due to simplification requirements. As different mining surveyors produced plans with variable levels of detail the Authority's mining surveyors may have reduced the level of detail contained within the plans in order to produce the digital information.

4.2.4 Scale

The original plans were produced at varying scales, but were in general digitised to a scale of 1:2500.

4.3 Data Format

The Probable Working dataset has been created as vector polygon data and is available in ESRI shapefile format. Other GIS formats, including ArcInfo Coverages and MapInfo (.tab) or more specialised formats can be supplied on request (but may incur additional processing costs).

4.4 Field Descriptions

Table 1: Attribute table field descriptions

Data Field	Explanation of Data Field
OBJECTID	**OBJECTID** File GeoDB ID number
GLOBALID	**GLOBALID** Globally Unique Identifier (GUID)
MI_CODE	**Mineral Code** Type of mineral.
DEPTH	**Depth** This is a depth statement of shallow, moderate or considerable, reflecting the likely depth of the probable working. Shallow = 0-30 m below surface Moderate = 30-100 metres below surface Considerable = 100+ metres below surface

5 Licensing Information

The Authority does not sell its digital spatial data to external parties. Instead, it grants external parties a licence to use the data, subject to terms and conditions. In general, a licence fee will be payable based on the type of data, geographic area required, the number of simultaneous users, and the duration (years) of a licence.

All recipients of a licence are required to return a signed licence document to us before authorisation for release of digital data is given.

These are general comments for guidance only. Full details of the terms and conditions of supply are included within licences.

The Authority's Data Team will be happy to discuss your proposed use of data and can be contacted at datasolutions@coal.gov.uk . The Data Team will usually be able to provide reassurance that the licence will cover individual user requirements and/or to include additional 'special conditions' in the licence documentation, addressing specific requirements within the Authority's permitted usage.

6 Limitations and exclusion of liability

The Authority is committed to ensuring that the digital data it holds and releases to external parties under licence has been through a robust internal approval process to ensure that corporate quality assurance standards are maintained. This approval process is intended to ensure that all data released: (i) is quality assured; (ii) meets agreed data management standards; (iii) is not in breach of any 3rd party intellectual property rights, or other contractual issues (such as confidentiality issues).

6.1 Limitations

- This dataset is based on, and limited to, an interpretation of the records in the possession of the Authority at the time the data set was created.
- The dataset does not categorise the risk of surface collapse and no account is taken of any past remediation that may have been undertaken.
- An indication of the presence of a mine entry does not necessarily mean that a location will be affected by ground movement or subsidence. Such an assessment can only be made by inspection of the area by a qualified professional.
- If customers are uncertain about the use of particular data they should seek professional advice. However, they may consult the Authority's Data Team datasolutions@coal.gov.uk on technical matters, licensing arrangements, or general aspects including the appropriateness and limitations of the data.

6.2 Exclusions

The databases comprising the subject matter of this report are made up of information supplied to the Authority by third parties under statutory obligation and of which the Authority has no direct knowledge and has not necessarily had the opportunity to verify. Accordingly, it can have no

liability for the accuracy of the information comprising the databases or for any loss of whatever nature directly or indirectly caused which may result from any reliance placed upon it. The licensee takes the information as provided without any such express or implied warranty and must rely upon its own enquiries and where necessary obtain appropriate insurance against any loss arising.