

## FieldBank®.com

## An Internet-based service for managing gravity & magnetic data

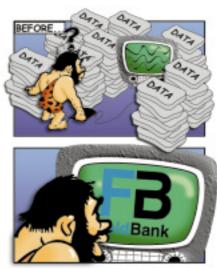
by Ian Smith, Keyworth

ith the developing availability of computer analysis in the 1970s, oil companies have used gravity and magnetic ('potential field') data to support exploration for oil and gas fields, albeit in a subsidiary role to powerful but expensive seismic reflection surveys. These methods can delineate sedimentary basins, areas of uplift, structural trends, and the distribution of igneous rocks in a cost-effective way. At the same time, geophysical service companies had been collecting data, both as speculative surveys for sale to exploration companies and as exclusive projects for specific clients. As a result of this activity, many oil companies acquired large amounts of costly data and valuable interpretations. Typically, however, the organisation of the burgeoning archive was ignored, so that many companies lost track of what they had purchased and to what they had rights.

The BGS has been collecting and managing gravity and magnetic data for the UK and its continental shelf, as well as for many other countries, since the 1950s. ARK Geophysics Ltd have established a strong reputation in potential field data processing and interpretation and have a wide knowledge of data-sets for the UK and worldwide, as well as collecting speculative data in many areas.

Both the BGS and ARK recognised the mutual benefits of working together to offer a service of collating, organising and storing oil companies' potential field data. This service would provide clients with a secure repository for their own data, with simple browsing, picking and downloading facilities. It would provide index information to other data-sets that might be available for trading, and to make publicly available worldwide data that might help their preliminary investigations of a new region. In 1996, with

funding from the DTI, they collaborated with CGG-PECC and the Petrotechnical Open Software Corporation (POSC) on the extension of the Epicentre data model to encompass potential field data. An Oracle® database server with ISDN and Internet connections was set up in Keyworth, with a wide range of security checks to ensure that only authorised access and activities would be permitted. Résumés of data holdings were developed for rapid assessments of data availability, backed up by the PECC PetroVision





Fieldbank® was developed to provide a service for managing oil companies' potential field data. It has evolved into a flexible and secure home for commercial data.

browser for more complex enquiries. Clients were also offered preferential rates for data processing, presentation, and interpretation.

The name coined for the new service was FieldBank® (for potential Field data Bank). Following the launch in 1997, a number of companies have signed up and have provided a large number of surveys for inclusion in the archive.

The IT industry inevitably provided innovations that offered new opportunities. We found that clients were attracted to the simplicity of Internet access and to subsets of web pages for loading on to their own Intranet systems. It was therefore decided in early 2000 to reconfigure FieldBank®, taking advantage of the new Arc-IMS® software from ESRI, which allows maps to be interrogated interactively over the Internet, and provide reports from database queries written in ColdFusion®. The database itself was redesigned to be compatible with a 'footprint' of Epicentre restricted to the requirements of the potential field data. This gives the benefit of immediate transformability into a POSC-compliant database, together with much simplified database maintenance.

The new service, FieldBank®.com was launched in April 2000. It has more options for levels of information to be loaded for each data-set, ranging from a simple marker indicating the existence of a survey with limited metadata, up to the full range of facilities that the original system provided, with comprehensive metadata and the full range of data files, interpretations and images. This offers clients a flexible scale of charging and the ability to upgrade the level of management of individual surveys as required.

FieldBank®.com offers a flexible and secure home for commercial data. It allows clients to establish rapidly the availability of data in new areas of interest. It ensures that any data stored have been validated to high standards and are ready for immediate use. In this way we hope that gravity and magnetic data can play their appropriate part in the increasingly challenging and competitive search for the Earth's rare resources of hydrocarbons.

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