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TABLE OF CONTENTS

PREFACE

The present Annual Report provides a summary of the statutory tasks and ancillary activities undertaken by the state organization Czech Geological Survey - Geofond (Geofond) during the year 2004. A brief account of the financial outcome for the year is also presented. The report has been produced for use by state authorities and also by other geological organizations and the wider public. A more detailed description of all these activities can be found in the Report on the activities and financial affairs of Geofond during 2004, produced on behalf of the Ministry of the Environment of the Czech Republic.

As in previous years, Geofond carried out statutory tasks in compliance with its Charter of Foundation and the laws of the Czech Republic, specifically, Law No. 62/1988 Coll. On Geological Works (Geological Law), Law no. 44/1988 Coll. On Protection and Utilization of Mineral Resources (Mining Law), all amendments to these laws, and the Agreement Ref. no. M/140/1997 between the Minister of the Environment and the Minister of Industry and Trade on the activities of Geofond.

Statutory duties involving maintenance, regular up-dates and extending the accessibility of files and databases containing the results of geological investigations have continued. Special attention has been given to improving the quality, complexity and accessibility of these databases.

In addition, Geofond undertook numerous geological projects financed from the budget of the Geological Department of the Ministry of the Environment. The Project "Documentographic processing of reports from 1941-1978 in the possession of Geofond" was completed, including the final report. The Projects "Completion of the Documentographic information subsystem in 2003 – 2006", "Economic registers of SurIS (the information subsystem for raw materials)/ Enlargement and update of the economic branch of SurIS", "Evaluation of state-controlled mineral deposits in the state reserve", "Database of main mine workings II", "Database of mine waste dumps II" have continued. The following tasks were started: "Geographical location and interpretation of old mining maps", "Beginning the creation of the digital archive of reports for incorporation in the information system of the Czech Geological Survey – Geofond" and co-operation on the two-year international project "e-EARTH – Electronic access to geological data from borehole databases", which is co-financed by the European Commission (EC) and the Ministry of the Environment as a part of the e-Content programme. In addition, two one-year projects were undertaken: "Compilation and use of geophysical data, obtained with finance from the state budget" and "Maintenance and development of the information system of Geofond in 2004".

Geofond also took a significant part in collaborative projects financed by the Ministry of the Environment, managed by other organizations. The project "Stratigraphic architecture of the Cenomanian in the Bohemian Cretaceous Basin: relationship between sedimentary systems and reactivation of structures in the basement underlying the Cretaceous strata" (Led by the Geophysical Institute of the Czech Academy of Science), was completed during 2004, including the final report. Co-operation on the projects "Digitisation of borehole geophysical measurements from selected boreholes and their input to the Central Relational Database of Geofond" (Led by Aquatest Inc.), "Processing of borehole geophysical measurements from DIAMO s.p. and transferring them to the Central relational database of Geofond – Crystalline formations of the South-Western part of Bohemia" (Led by První Příbramská Ltd.), "Digitisation of borehole geophysical

measurements from DIAMO s.p. – Moravia" (led by DIAMO s.p., GEAM Dolní Rožínka branch) continued. Co-operation on a new task: "Digitisation of geophysical measurements from selected boreholes and their incorporation into the Central Relational Database of the Czech Geological Survey – Geofond" (Geofyzika GP Ltd., Ostrava) was begun.

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1. ACTIVITIES DESIGNATED BY THE MINISTRY OF THE ENVIRONMENT

1. Acting in the capacity of a branch of the State Geological Service, Geofond routinely fulfils tasks requested by state authorities.

These individual tasks were not specified at the beginning of the year and therefore were not formally listed among the main projects. The main *ad hoc* tasks in 2004 were:

- Compilation of drafts of the State Statistical Statements "Hor (Ministry of Industry and Trade) 1-01" and "Geo (Ministry of the Environment) V3-01" for the year 2005, and their discussion. The wording of these Statements has been approved under the program of the Czech Statistical Bureau for inclusion in the collection of statistical data for 2005, published in the Collection of Laws (Czech Statistical Bureau).
- Submission of the Maps of Protection of Mineral Deposits for use by the State Mining Authority, and donation of the publication "Mineral Commodity Summaries of the Czech Republic" and "Balance and Changes in the Reserves of Exclusive State Controlled Mineral Deposits between 1994 – 2003" to the State Mining Authority and the Czech Bureau of Mines.
- Providing information on landslide areas of interest to the Regional Council Vysočina.
- Providing Maps of Protection of mineral deposits for the Office for the Representation of the State in Property Affairs, Brno.
- Providing information on rehabilitation of land to the Ministry of Agriculture – information for the Research Institute of Agricultural Economy.
- Providing information on rehabilitation for the Final Statistical Report of the Institute of Ecology of the Countryside.
- Providing information on rehabilitation to the Agency for Protection of Nature and Landscape.
- Providing information about exclusive mineral deposits, undermined areas and slope deformation in the surroundings of Cheb for TEBODIN Czech Republic, Ltd. to be incorporated in a study of ecological stability of the landscape.

2. Compilation and publication of "The Balance of Reserves in Exclusive Mineral Deposits in the Czech Republic" and "Register of Reserves in the Non-exclusive Mineral Deposits of the Czech Republic", up-dated versions as of 1 January 2004, in accord with §29 Par. 4 of the Act No. 44/1988 Coll., On Protection and Utilization of Mineral Resources (Mining Law), and § 10 of the Act No. 89/1995 Coll., On the State Statistical Service, all amendments to these laws.

On 31 May 2004, three parts of "The Balance of Reserves of Exclusive Mineral Deposits in the Czech Republic" (the Balance) were published (I. Ores, Minor Elements, II. Fossil Fuels, III. Exclusive Industrial Minerals and Rocks) and also the "Register of Reserves of Mineral Deposits of the Czech Republic", containing non-exclusive construction materials (i.e., those outside state control), using data from the State Statistical Statements "Geo (Ministry of the Environment) V3-01". Both publications were distributed to 42 bodies of the state administration of the Czech Republic selected by the Geological Department of the Ministry of the Environment.

3. **Compilation and distribution of the yearbook "Mineral Commodity Summaries of the Czech Republic" - updated as of 1 January 2004.**

This yearbook, produced by Geofond and published by the Ministry of the Environment, is the only generally accessible source of information on the mineral resource potential of the Czech Republic. It also gives a list of the main mining companies. The following numbers of copies were produced: 200 (in Czech), 250 (in English). Publication dates: 30 June 2004 (Czech edition) and 31 July 2004 (English edition). On 31 October 2004, it was issued in the form of a CD in Czech and English versions.

4. **Preparation and compilation of the report "Balance and Changes in the Reserves of Exclusive Mineral Deposits between 1994 and 2003".**

This information, for internal use by the Ministry of Industry and Trade, the Ministry of the Environment and the State Mining Authority only, is to assist the state administrative bodies in the preparation of documents concerning State policy on raw materials. This was produced in the same form as in the previous years.

5. **Compilation of "Reserves of Minerals within Designated Mining Claims and Other Exploited Deposits of Non-exclusive Minerals", prepared at the request of the Ministry of Industry and Trade and in accord with §10 of the Act No. 89/1995 Coll., On the State Statistical Service, all amendments to this law.**

The data were collected using the State Statistical Statement "Hor (MPO) 1-01". A compilation of reserves of minerals was published on 31 May 2004, printed in 80 copies and mailed to those institutions selected by the Ministry of Industry and Trade.

6. **Undertaking registration of geological works in accord with §7 Law No.62/1988 Coll. (On Geological Works), all amendments to the law, and the Act of the Ministry of the Environment 282/2001 Coll. (governing registration of geological works).**

	2001	2002	2003	2004
The number of organizations	**107**	**150**	**168**	**190**
The number of registration forms *)	**941**	**2069**	**2680**	**2859**
Geological research	**3**	**10**	**4**	**5**
Geology of mineral deposits	**24**	**21**	**29**	**30**
Hydrogeology	**639**	**1087**	**1516**	**1651**
Engineering geology	**163**	**616**	**803**	**825**
Exceptional impacts on the Earth's crust	**25**	**14**	**50**	**35**
Geology of the environment	**23**	**54**	**52**	**110**
Detection and remediation of pollution	**64**	**314**	**258**	**246**

**) the total number of registered works may be larger then the number of registration forms because some of them include two types of work*

7. Providing protection and registration of exclusive mineral deposits in accord with §8 Law No. 44/1988 Coll., On Protection and Use of Raw Materials (Mining Law), all amendments to the Law, and §15 to 19 of the Law.

According to §8 of the Mining Law, Geofond is responsible for protection and registration of 453 exclusive (state-controlled) mineral deposits. For 368 of these mineral deposits, a total of 368 protected areas have been designated. Of the remaining 85 state-controlled mineral deposits, applications for the designation of 32 protected areas were lodged in 2004. Representatives of Geofond take part in negotiations and on-site investigations related to the definition of these protected areas of mineral deposits. For the remaining 53 state-controlled deposits, proposals for designation of protected areas are being consecutively prepared. Geofond also regularly prepares proposals for modifications and cancellation of existing protected areas as changes in the status of state-controlled mineral deposits take place. However, 11 mineral deposits without protected area status have not yet been approved as exclusive deposits, for 11 more state-controlled mineral deposits the evaluation has been interrupted for a long time and for certain others their protected status will be reviewed subject to the results of the project "Evaluation of regional mineral resources for regional raw material policy". A total of 95 designated protected areas have so far been cancelled on the recommendation of Geofond. Of these, 6 were cancelled in 2004.

8. Maintaining the database of old mine workings in accord with §35 Law No. 44/1988 Coll. On Protection and Use of Raw Materials (Mining Law), all amendments to the Law, and regulation No. 363/1992 Coll. of the Ministry of the Environment (registration of old mine workings, maintaining the database, taking part in on-site investigations at the request of the Ministry of the Environment).

In accord with the laws listed above, Geofond undertakes registration of old mine workings. Data is stored in the Database of old mine workings which, since 2002, has been presented at signal level on the Geofond intranet and on the Internet. A total of 348 new reports on dangerous surface effects arising because of old mine workings were registered. Later investigation showed that 6 of these reports were duplicate reports on an already registered locality. As of 31 December 2004, 1.602 such reports had been registered, involving 1.474 old mine workings. These numbers may vary from one year to the next due to more precise definition and changes in the categories of old mine workings. In addition, 9 reports of multiple events from previous years related to 2.862, sites without more detailed specifications, have been registered. Representatives of Geofond were present at on-site investigations and at inspections of safety measures at 33 localities, and took part in meetings concerning problems of old mine workings at the request of the Ministry of the Environment. A detailed list of old mine workings, updated as of 31 December 2004, was produced by Geofond for the Geological Department of the Ministry of the Environment. This serves as information in support of the Annual Report of the Ministry of the Environment.

9. Providing information at the request of public or private bodies in accord with Law No.123/1998 Coll., On the Right to Information about the Environment.

In 2004, 10 requests from public and private bodies for provision of information in accord with the above Law were processed, though the applicants did not refer to their rights under this Law. These enquiries were mostly related to problems

arising from old mine workings and their rehabilitation and information was provided with the agreement of the Ministry of the Environment and the Ministry of Industry and Trade.

10. **Preparation of expert opinions concerning protection of mineral deposits, potential dangers from undermined areas and landslide movements at the request of regional councils, organizations and other parties, in accord with §13 Law No. 62/1988 Coll. on geological works, all amendments, including compilation of literature summaries if requested.**

In 2004, there were 1.261 requests for expert opinions, of which 6 were for purposes of regional planning, 413 for local planning in towns and villages, 70 for changes of land use made on behalf of the Land Registries and 778 concerned with construction projects. All requests were duly fulfilled. There were 37% more requests received in 2004 than in 2003. In addition, during 2004, the department in Kutná Hora compiled 11 expert reports concerning localities endangered by landslides and 87 expert reports concerning undermined areas.

11. **Expert supervision of the compilation of specialised databases by Geofyzika Co. Brno, and Geomin Coop. Jihlava, as contracted and commissioned by the Ministry of the Environment.**

In April 1997, Geofond was appointed by the Geological Department of the Ministry of the Environment at that time to supervise the compilation of specialised databases. Those databases had been created or maintained under the terms of particular projects, financed and contracted by the Ministry of the Environment. In 2004 this activity concerned only the co-operation with Geomin Co-op. Jihlava on processing a geochemical database. The co-operation continues without problems. New versions of this data, with additions and corrections were supplied. Errors and inconsistencies found during the process of incorporation of the data into a transformed model of the geochemical subsystem in the central relational database were corrected. This task was completed under the terms of the project "The development and maintenance of the information system of the Czech Geological Survey-Geofond 2004". Under the terms of this project a database for geochemical exploration was generated by MGE Ltd. as a subcontractor. The database is designed as a part of the Subsystem of Exploration, which is provided as a signal level of information enabling navigation to large collections of data in the geochemical subsystem.

12. **Compilation and updating of metadata for the meta-information system of the Ministry of the Environment (MIS) in accord with Commission No. 22/2000 Minister of the Environment.**

Metadata records are updated under instructions from the Department of Informatics of the Ministry of the Environment. In 2004 some changes and enlargement of the data management system were made. Geofond metadata are updated annually at the same time as the web pages of Geofond are updated.

13. **Co-ordination and management of projects financed from the state budget by the Ministry of the Environment (Fund for Geological Works, Fund for Studies):**

- ***Documentographic processing of reports from 1941-1978 in the possession of Geofond***

The designated objective of this work, started in 2000, is to documentographically process and put into the database (ASGI-code) all remaining reports and other manuscripts labelled V and MS and stored in Geofond. In 2004, the final stages of this work involved revision and addition of missing information, determining

geographical locations and the deletion of duplicates. As of 30 November 2004 when the project was finished, 3.820 duplicate reports had been removed. The final report on this project was delivered on time and was approved at the 1075th meeting of the Committee for Projects and Final Reports on 17 December 2004. The task of eliminating duplicates will be continued after the end of the project as a part of the routine activities of Geofond.

- ***Completion of the Documentographic Information Subsystem during 2003 – 2006***

This project is linked to the project "Complex processing of geological documentation from archives acquired by Geofond", completed in 2002. The main aim of this project was to complete the processing of archives transferred from other organizations.

- ***Středisko dokumentace ložisek zlata v Jílovém:*** (Centre for Documentation of Gold Deposits, Jílové): The documentographic processing of the archive of maps of gold deposits continued using purpose-designed software based on that used for the database of main mine-workings. 281 map sheets were processed in 2004.
- ***Báňské stavby Most (Mine Construction Co., Most):*** Processing of the extensive archives of boreholes continued. Another 17 reports, consisting of coherent collections of borehole records from particular localities and, if possible, from the same period of time (from 3 to 24 single boreholes), were incorporated in the Geofond archives in 2004.
- ***Geoindustria GMS – Archive of geodetic measurements:*** The collection of loose map sheets – the maps and plans of historical buildings and monuments (for instance the Kladruby monastery near Stříbro) and of the town-centres of historical towns (for instance Tábor) were processed and catalogued. A total of 414 map files have now been incorporated (in some cases these map files are very large and contain a few tens of partial plans and maps), together with 542 maps of irrigation systems.
- ***Geoindustria Inc. (now in liquidation):*** The map collection from the archives of former Dubí works, used in co-operation with the state administrative bodies (Cadastral Authorities) were acquired, processed and catalogued. These maps were mostly of 1:5 000 scale.
- ***The Institute of Raw Materials (ÚNS-Kutná Hora):*** The archive of the liquidated ÚNS was taken over during the year 2004. It contains 2.262 reports and 667 travel reports, which were moved to storage in Stratov.
- ***Samples from Kaolin Deposits:*** Material from kaolin exploration boreholes was acquired from Lasselsberger Inc. In total, this consisted of the core from 17 boreholes. The cores were moved to the store of material documentation in Kamenná where they were catalogued.
- ***Processing files related to mineral deposits acquired from other organizations:*** Reports and references on chosen deposits or on parts of chosen deposits were acquired from the archives of other institutions. Incorporation of information concerning mineral deposits extracted from these sources into the Mineral Deposits Information Subsystem of Geofond (SurIS) was begun. This was undertaken by sub-contractors in order to add information, so far missing from the records. In 2004, 16 deposits were processed this way.

- ***Processing of the files in the archive of main mine workings:*** During 2004, 505 documentographic ASGI records were created from reports written between 1990 and 2003 during the compilation of the register of main and old mine workings.

- ***Economic registers of SurIS (information subsystem of raw materials) / Enlargement and update of the economic branch of SurIS***

The Ministry of the Environment awarded the project to Geofond for the period from 2003 to 2006, enabling continuation of work, which, up to 2001, was funded under the terms of the project "Specialized databases for the Information System on Raw Materials (SurIS)". This work entails a daily survey of world prices and the compilation of a price register (with sub-registers for crude oil, gas, ore metals, rare metals, strategic (minor) metals and selected industrial minerals). A commentary on the major fluctuations in prices of particular monitored commodities and an annual survey of prices of raw materials processed and produced in the Czech Republic are also included. Improvements and enlargement of the yearbook "Mineral Commodity Summaries of the Czech Republic" were also undertaken, including translation to an English version. The Czech and English versions were published in digital form as a CD. The annual report "Balance and Changes in the Reserves of Exclusive (State-controlled) Mineral Deposits" was also compiled. In addition, exchange of information, reports and expertise on raw materials with foreign geological surveys and presentations of Czech work at international conferences (Spain, Poland), as well as publications in international specialist journals, should be mentioned.

- ***Evaluation of state-controlled mineral deposits in the state reserve (Re-evaluation)***

The Ministry of the Environment approved this project for a period from 2003 to 2006. This is linked to the project "Re-evaluation of Mineral Deposits in the Czech Republic" (1993 – 2001). The aim is to re-evaluate unused state-controlled mineral deposits which, for various reasons, were not covered by the previous project. Re-evaluations of particular mineral deposits were made by independent geological companies contracted by Geofond. Geofond co-ordinated the work and specified the methods used, and also managed the discussion and approval of special conditions for the utilization of the deposits, as well as compilation of expert reports and submission of the results of re-evaluation for approval by the Committee for Projects and Final Reports of the Ministry of the Environment. In 2004 re-evaluations of 25 state-controlled mineral deposits were completed. Of these, 18 were shown to have no economic reserves, for 2 deposits there are prognostic reserves and the reserves for 5 deposits remain to be calculated. By the end of 2004 the Committee for Projects and Final Reports had discussed and approved all conditions for utilization and all the contractors had submitted final reports.

- ***Database of Main Mine Workings II.***

As a part of this project, 2.344 records were gathered and incorporated during 2004. This involved the addition of data from the second stage of surveying the main mine workings in the Liberecký, Ústecký, Karlovarský and Pardubický regions, updating of the information about localities in the Klatovsko and Andělskohorsko areas and, especially, addition of information from the register of old mine workings and from the database of abandoned mine workings held by DIAMO-SUL Příbram (formerly RD Příbram). During this work, 420 duplicate records were detected and corrected. By 31 December 2004 the database contained 14.418 records.

- ***Database of Mine Waste Dumps II.***

As a part of this project, 602 records were gathered and put into the database during 2004. These were from the areas of Krušné hory – northeast, Krkonoše - west and Klatovsko. Records of other processed areas should be provided by the Ministry of the Environment to be checked and incorporated in the database during 2005. By 31 December 2004 the database contained a total of 1.429 objects.

- ***Geographical location and interpretation of old mining maps***

In 2004 the Ministry of the Environment approved a new project for the years 2004 – 2007: "Geographical location and interpretation of old mining maps". The aim of the project is to define the polygons covered by each map with old mining sites, scan particular maps and to create a relationship between the databases of old mining maps, undermined areas, main mine workings and old mine workings. Work on this project was begun late, in September 2004 after the contract was signed. So far, only purchases of necessary material and establishing subcontracts for work on the creation of the necessary applications have been completed.

- ***Beginning the creation of the digital archive of reports for incorporation in the information system of the Czech Geological Survey – Geofond***

Thanks to a dedicated capital investment at the end of 2003, Geofond was able to purchase two scanners (a book scanner Minolta PS7000 and a map scanner A0 Océ) and a file server for saving the scanned data. Thanks to this, in 2004 it was possible to start this project. The aim during 2004 and 2005 is to develop and implement the technologies for preserving documentation in safe and durable digital form. This will also allow more effective access to archived information. The strategy follows from the outcome of the project: "Integrated digital archives of reports and references stored in Geofond CR", financed in 2000 by the Ministry of the Environment. This project was suspended before the proposed date of completion, because of the high costs involved and because of lack of equipment in house. The main objective: the organization, equipment and software to support a new scanning workplace, was reached in 2004. A model of the technological function and workflow was created and operations were begun on a test basis. A new database model of the documentographic subsystem was created, its function was tuned and an application for transformation of data into the new model and a further application for updating and maintenance of the database were created.

- ***Development and maintenance of the information system of the Czech Geological Survey – Geofond in 2004***

The project arises from the results of the projects: "Complex information system of Geofond CR" (1998-2002) and "Management, maintenance and testing of possible developments of the information system of Geofond in 2003". The main aim was to solve the integration of existing as well as newly established databases into a unified central relational database (CRD) in the environment of Oracle. It also allows further development of the application infrastructure ensuring the management, maintenance and expert processing of data and users intranet and internet applications. Thanks to the purchase of a database server, web server and the ArcIMS licence at the end of 2003, many essential activities could be started in 2004. These were aimed at improving the security and speed of access on the network, and possibilities for introducing new technologies, especially to improve intranet and internet applications. New data were acquired

and compiled. After processing, some are now accessible on the Geofond website. This project covered the charges for the maintenance of the licensed products and for the partial upgrade of the computer equipment. Under the terms of the contract, the project was completed by 15 January 2005, and the final report was submitted.

- ***Compilation and use of the geophysical data obtained with finance from the state budget***

From 2001 until 31 August 2003, geophysical data was handled under the terms of the project "Compilation and use of geophysical data obtained with finance from the state budget", which was established as a contract between the Ministry of the Environment as client and Geofyzika Co. Brno as contractor, and signed in 2001. On 1 September 2003 the contract was ended and most of the key personnel were re-employed by Geofond and the Czech Geological Survey. Based on a new Contract between the Ministry of the Environment and Geofond and additional Clause no 1, the work continued at Geofond and the Czech Geological Survey, completing the original programme for months 9. - 12. of 2003. In 2004 a new project was established on the basis of a Contract between the Ministry of the Environment and Geofond. This involved work on the registers of geophysical exploration, airborne geophysics, gravimetry, petrophysics, geoelectric measurements and the register of seismic data, including management and maintenance of geophysical data. In connection with the acquisition of archives (expert reports, maps, primary seismic and geoelectrical documentation) by Geofond, physical inspection of the documents and a record of all materials received were included in the project. Besides Geofond, the Czech Geological Survey, Miligal Ltd. and other external experts were involved in the project as subcontractors. Under the terms of the contract, the project was completed by 15 January 2005 and the final report was submitted.

14. Collaboration on projects financed from the state budget by the Ministry of the Environment (Fund for Geological Works, Fund for Studies), and managed by other organizations:

- ***Stratigraphic architecture of the Cenomanian in the Bohemian Cretaceous Basin: relationship between sedimentary systems and reactivation of structures in the basement underlying the Cretaceous strata (Led by the Geophysical Institute of the Czech Academy of Science)***

In accord with the contract, the remaining part of digitized borehole data (GDO, GEO, geophysical logs and inclinometry measurements) were delivered by 1 October 2004 as requested. During preparation, the data were being verified formally and logically, and factually controlled, in accord with the requirements designated for specific areas. This involved comparison with the primary documentation in archives and making corrections. Applications for selection and addition of new data were improved. The copies of primary documentation required by the participants were provided.

- ***Digitization of borehole geophysical logs from selected boreholes and input of these to the Central relational database of Geofond (leader Aquatest Inc.)***
- ***Processing borehole geophysical measurements from DIAMO s.p. and the transfer of these to the Central relational database of Geofond – Crystalline formations of the South-Western part of Bohemia (leader První Příbramská Ltd.)***

- ***Digitization of borehole geophysical measurements from DIAMO s.p. – Moravia (leader DIAMO s.p., GEAM Dolní Rožínka branch)***

All three projects for processing of borehole geophysical measurements were approved in June 2003, when contracts between the project leaders and the Ministry of the Environment were signed for years 2003-2006. The co-operation of Geofond was based on a dedicated supplement to the Geofond budget. As in the previous year, information was provided to enable the identification of particular boreholes for which geophysical logs have been digitally processed and for selection of boreholes giving representative coverage of borehole geophysical data over the territory of the CR. Checks were carried out to avoid the duplication of the same data processed by different participants. In cases where multiple logs of the same borehole were found, Geofond took the decision on which data to use. The resulting files of digitized geophysical measurements submitted by project participants were revised and have subsequently been put into the central relational database of Geofond. The Ministry of the Environment agreed to allow Diamo s.p. to take on the workload of 1.Příbramská during 2003, on condition that 1.Příbramská covered an equivalent workload during 2004. Two amendments were made to the original contracts to allow this. Aquatest Inc. processed a total of 87 boreholes with an average depth of 345m, that is to say that data from a total of 30.015m of down-hole geophysical logs were processed. 1.Příbramská Ltd. submitted three files of data, containing processed information from 310 boreholes. During 2004, data from a total of 397 boreholes were processed as a part of this project.

- ***Digitization of borehole geophysical logs from selected boreholes and input of these to the Central relational database of Geofond (leader Geofyzika GP ltd., Ostrava)***

The project was accepted in June 2004, when the contract between Geofyzika GP Ltd., Ostrava and the Ministry of the Environment for years 2004-2006 was signed. The contribution by Geofond was similar to that during the previous project. Despite the terms of the contract, no resources were given to Geofond for this co-operation during 2004. In 2004 the contractor processed a total of three boreholes with an average depth of 1340 m. This corresponds to the total of 4.015m of borehole geophysical log data, which was filed in Geofond.

15. Participation in the project "e-EARTH Electronic access to geological data from borehole databases" (as a part of the EC e-Content programme).

The project was submitted in March 2003 by a consortium of eight organizations from seven European countries as a contribution to the e-Content programme under the 3rd Call, Action Line 1.2. (European Commission, Information Society Directorate-General, Luxembourg). The project was accepted at the beginning of 2004 and the contract between the co-ordinator of the project NITG-TNO (NL) and the European Commission (EC) was signed on 27 February 2004. The planned duration of the project is 18 months, from 1 March 2004 until 31 August 2005. In accord with the rules of the e-Content programme, the costs of the project are financed partly from the resources of EU (50%) and partly from the resources of the participating organizations (50%). To cover the Czech part of the budget, the necessary resources were transferred to Geofond by the Ministry of the Environment under the terms of the contract and subject to completion of the programme of work. Besides the Co-ordinating institution (TNO-NITG, NL), the other members of the consortium are the British Geological Survey (BGS, UK), the German Geological Survey (BGR, DE), the Lithuanian Geological Survey (LTG, LT), the Polish Geological Survey (PGI, PL), the Czech Geological Survey – Geofond

(Geofond, CZ) and two commercial organization: Geodan Mobile Solution (NL) and Golder Associates (IT). The project consists of eleven main workpackages (WP1-WP11) undertaken in the three main stages of the project: Inventory and definition stage (1st–9th month of the project), Implementation and testing stage (10th-15th month of the project) and Marketing, extending the implementation and demonstration of the results (16th-18th month of the project). In 2004, stage 1 was completed. This consisted of WP1 (Project Management), WP2 (Legal Implications), WP3 (Inventory of best Practices in the Management of National Borehole Data), WP4 (Comparison of Standards and Structure) and WP5 (Technical Design). All these WPs were completed, including the submission of interim reports. Stage 2 WP6 (Multilingual Thesaurus) for which Geofond was responsible and stage 3 WP11 (Awareness and Dissemination) were begun. Geofond acts as the leader of WP6 and is making contributions to most of the other workpackages.

2. INFORMATION SYSTEMS

PRESERVATION OF, AND MAINTAINING ACCESS TO, THE RESULTS OF GEOLOGICAL WORKS

This task is undertaken in accord with §12 Law No. 62/1988 Coll., on Geological Works, and all amendments. In 2004, 3.422 reports and manuscripts were handed over to Geofond. Of these, 3.361 were new documents, submitted by persons or by organizations in accord with the above law. There were 811 items more in 2004 than in 2003. Of these, 3.352 were reports of category "P", 45 of category "FZ", 15 of category "ZC" (foreign travel reports) and 10 reports which were submitted under the terms of the project "Re-evaluation", forming appendices to already existing reports of categories "P" and "FZ". The remaining 58 reports were taken from the project: "Completion of the Documentographic information subsystem in 2003 – 2006".

Breakdown of reports acquired by Geofond in 2004

	Number of reports	%
Engineering geology	938	27,3
Hydrogeology	1 866	54,4
Reports on Mineral deposits	98	2,9
Others	529	15,4
Total	**3 431**	**100,0**

By the end of 2004, 3.541 reports had been received and documentographically processed for inclusion in the Geofond archive. The 961 new reports received at the end of 2004 will be processed during the first months of 2005. In 2004, the total number of reports put into the Geofond archive was 721 more than in 2003.

In 2004, 683 visitors from 393 organizations used the study room service, making a total of 2.843 separate visits. In total, 14.366 reports and 2.562 maps were consulted. Compared to 2003, when the total number of visitors was 467, the number increased slightly. The number of individual visits was lower (202 less) and the number of loans of maps decreased (543 less) and the number of loans of reports increased (52 more). The decrease in the number of visits is believed to be due to the increasing ease of access to basic information via the internet.

Summary of the numbers of reports received and lent by Geofond in the period 1981-2004

Year	items received	individual*) authors	enquiries	reports lent	maps lent
1981	3.030	not recorded	5.034	14.853	9.730
1982	2.968	not recorded	7.439	20.987	13.218
1983	3.180	not recorded	7.366	19.882	12.526
1984	4.018	not recorded	8.178	21.562	19.736
1985	3.631	not recorded	7.648	21.500	12.564
1986	3.835	not recorded	7.609	23.272	15.790
1987	4.311	not recorded	7.907	25.624	12.797
1988	3.582	not recorded	7.736	24.847	10.774
1989	4.956	not recorded	7.283	22.467	11.351
1990	4.503	102	7.375	21.524	13.334
1991	3.508	83	6.044	21.041	12.603
1992**)	2.971	77	3.947	28.083	7.505
1993	3.003	141	3.570	19.408	7.053
1994	3.122	138	3.794	19.347	7.027
1995	3.143	142	3.709	16.035	5.385
1996	3.411	123	3.743	18.148	4.741
1997	2.786	110	3.445	14.934	4.763
1998	4.234	114	3.638	15.217	4.460
1999	2.868	100	3.436	14.913	4.800
2000	2.862	90	3.668	15.777	5.185
2001	1.869	131	3.591	16.183	4.283
2002	2.386	149	3.196	14.799	3.962
2003	2.820	181	3.044	14.314	3.105
2004	3.541	165	2.842	14.366	2.562

**) first authors or legal entities who produced the manuscript*
***) change in procedure for counting loans and visitors*

In 2004, the core from 16 boreholes in the area of Kaznějov was acquired for permanent storage. This consisted of 221 core boxes from the store of Lasselsberger Inc.

During the year, core from 36 boreholes acquired (including the boreholes from 2003) was stored. Simultaneously, transfer of core specimens from the original field boxes to unified storage in boxes of the CH-I type continued. Cores from 10 boreholes were transferred.

As of 31 December 2004, the number of objects in storage was 1.474 (mainly drill cores). Of these, 1.334 have been permanently stored in 8.259 CH-I boxes, while the remaining cores are still in their original boxes. 220 boxes of the total number of boxes with heavy mineral samples acquired from the archive of Geomin-družstvo Jihlava were placed in permanent storage. Work continues on the remaining boxes.

In 2004, archived core material was used by 5 researchers. A selection of holes was made from the areas required, and 134 boreholes were tested. No samples were taken.

Summary of activities of the Material Documentation Unit

Year	Number of drill cores stored	Total cores	Cores excep for CHI-type boxes*)	Filled boxes	Proposals to discard cores
1982	12	793	196	181	131
1983	43	836	196	221	114
1984	34	870	196	173	106
1985	5	875	196	209	116
1986	12	887	196	149	133
1987	12	899	196	201	93
1988	16	915	196	187	88
1989	24	939	196	706	99
1990	31	970	196	347	84
1991	38	1.008	196	320	54
1992	43	1.051	196	579	87
1993	24	1.075	196	420	19
1994	74	1.149	196	435	9
1995	42	1.191	196	200	16
1996	47	1.238	196	138	14
1997	34	1.272**)	188	224	3
1998	5	1.276**)	169	234	2
1999	34	1.310	188	350	7
2000	116	1.426	241	388	2
2001	2	1.428	190	344	1
2002	29	1.457	198	229	4
2003	1	1.458	181	216	1
2004	16	1.474	151	209	1

**) CH I = type of sample boxes*
***) minus pooled and discarded cores*

The Centre for Documentation of Gold Deposits at the Regional Museum in Jílové u Prahy gathers geological documents and primary sample material from exploration and mining works on gold deposits in the Czech Republic. The collection includes samples of minerals, ores and host rocks with alteration types, selected segments of drill core (halved cores, thin sections of rocks and veins, and polished sections of gangue and ore minerals). The collection also includes original geological reports and geological maps, and especially old maps of gold-bearing districts. The material has been classified according to locality and comprises 5.500 samples of minerals, ores and rocks, 2.000 thin sections and 400 polished sections.

In addition to work undertaken on the project "Completion of the Documentographic Information Subsystem in 2003 – 2006", a selection of material for research work on the geology and mining history of gold deposits was also provided for two diploma students from the Faculty of Natural Sciences at the Masarykova University in Brno and also for the Industrial School at Příbram. Other documentation and consultation was provided to enable the surveyors of DIAMO s.p. to compile a map register of undermined areas. In addition, the materials necessary for the compilation of a map of Nové štoly in the Halířovské pásmo area of the Jílové mining district were selected.

CREATION, UPDATING AND USE OF DATABASES IN THE INFORMATION SYSTEM

Systematic filing and updating of data concerning geological conditions and ground water resources in the territory of the Czech Republic is carried out under the terms of § 17 Law No. 62/1988 Coll., on Geological Works, and all amendments.

The Documentographic Information System

Compilation of an ASGI documentographic database that is used as a digital card-index for searches for reports and other geological information is a part of the routine system for storing and ensuring access to the results of geological work and documentation.

In 2004, 6.404 new documentographic records were added. Of these, 3.551 new records originated from newly acquired reports (3.503 coded as "P", 37 coded as "FZ" and 11 coded as "ZC") and 2.853 from reports already archived (208 coded as "V", 1.623 coded as "MS", 10 coded as "P" and 1.012 coded as external archives); 4 duplicated records were deleted.

As of 31 December 2004, the ASGI database contained, in all, 196.104 records (106.142 coded as "GF P" (reports), 3.514 "GF FZ" (fund of mineral deposits), 10.383 "GF ZC" (foreign travel), 72.712 "GF V" (boreholes), 7.598 "GF MS" (shallow pits), 349 "GF KT" (down-hole geophysical logs), 1.319 "CGU" (reports from the Czech Geological Survey archive), 1.709 "ITG" (reports from the Intergeo archive), 1.162 "DIAMO" (reports from archives of the uranium exploration organizations), 377 "RDP" (reports from archives of Rudné doly Příbram), 900 "MND" (reports from the archive of Moravské naftové doly), 1.674 "SG" (reports from the archives of Stavební geologie), 134 "JIL" (reports from archives of Středisko dokumentace ložisek zlata v Jílovém, 202 "UNIG" (reports from archives of Unigeo Ostrava) and 11 "UVR" (reports from archives of Ústav pro výzkum rud). The number of items entered in the database is 12.082

less than the total sum of listed entries. This is because duplicate listings (P+V, P+FZ) and multiple listings (V) have been made in certain cases.

In 2004, a total of 4 searches containing 1.241 records were made for external users and 5 searches containing 82.071 records were made for Geofond staff projects.

The Factographic Information System

Database of boreholes

Annotation of new drilling was made both by permanent staff at Geofond and by external contractors. In total, 5.364 boreholes were coded. After formal and factual revision, 5.917 boreholes, compiled from 2.260 reports, were added to the Central Information System.

By the 31 December 2004 a total of 635.846 boreholes were in the database, including 7.174 boreholes without geological log descriptions in the archives of Geofond. This is 19.450 less than were originally entered; some were removed because of duplication and others because the quality of the geological logs was not acceptable.

The Table below shows a significant decrease in the numbers of borehole records annotated and stored after 1990, because the borehole archive was nearly complete by this stage.

Temporal trends in the numbers of annotated and stored drill cores

Year	Annotated boreholes		Stored boreholes	
	per year	total	per year	total
1976	4 055	4 055	-	-
1977	4 803	8 858	2 095	2 095
1978	8 257	17 115	3 059	5 145
1979	5 098	22 213	10 639	15 793
1980	9 147	31 360	8 220	24 013
1981	13 840	45 200	5 816	29 829
1982	42 331	87 531	17 167	46 996
1983	43 782	131 313	43 351	90 347
1984	48 812	180 125	47 898	138 245
1985	51 819	231 944	46 556	184 801
1986	60 378	292 322	53 903	238 704
1987	60 089	352 411	52 414	291 118
1988	52 243	404 654	55 124	346 242
1989	54 285	458 939	60 200	406 442
1990	58 927	517 866	50 713	457 155
1991	24 926	542 792	48 971	506 126
1992	14 107	556 899	21 706	527 832
1993	11 872	568 771	14 618	542 450
1994	9 701	578 472	6 725	549 175
1995	12 725	591 197	20 679	569 854
1996	10 647	601 844	11 953	581 807
1997	11 138	612 982	13 628	595 435
1998	8 692	621 674	13 387	608 818
1999	7 718	629 392	9 724	618 542
2000	5 753	635 145	15 955	634 497
2001	5 019	640 164	6 291	640 788
2002	4 559	644 723	3 805	644 593
2003	4 354	649 077	4 786	649 379
2004	5 364	654 441	5 917	655 296

There was an increase of interest in the borehole database during 2004 as compared to the previous year. Requests for information increased from 179 in 2003 to 232 (3 requests from the Czech Geological Survey, 9 for diploma works and other educational purposes, 1 from a local authority and 219 from private organizations and individuals). That is 53 requests more.

Use of the borehole database

Year	users	Number of boreholes
1984	87	45.144
1985	142	81.554
1986	163	155.739
1987	133	77.960
1988	75	84.435
1989	121	116.978
1990	97	78.919
1991	126	155.710
1992	75	81.472
1993	51	44.922
1994	48	46.391
1995	76	36.180
1996	79	10.009
1997	67	20.972
1998	118	67.311
1999	94	62.293
2000	166	29.978
2001	188	75.449
2002	133	30.516
2003	179	32.812
2004	232	11 162

Database of hydrogeological objects

In 2004, a total of 3.498 objects (boreholes, wells and springs) were entered in this database. Of these, 637 objects were from archived reports, 185 from the Fund of Reserves and 2.676 from new reports, 1 object was deleted. By the 31 December 2004, the database contained 64.990 objects. A specialized database of potential geothermal energy sources also forms part of this database (1.224 objects). It contains 876 records of thermal waters, for which the measured temperatures were higher than 20°C, and 348 production boreholes for extraction of crude oil and gas. The specialised database of objects relating to anthropogenic impact on groundwater now contains 8.977 test wells, 1.202 remedial wells and 4.605 monitoring wells.

In 2004, 123 maps at a scale 1:25 000 showing the locations of hydrogeological objects were loaned to 173 customers. Hydrogeological data on 34.159 objects were provided to 82 users in the form agreed and 302 outputs in graphical form. Of these, 19 requests were from the Czech Geological Survey, 1 from the Czech Hydrometeorological institute, 7 from regional councils and local authorities, 8 for education purposes, 2 from the Ministry of Health Care and 44 from private organizations and individuals and 1 from the Czech Academy of Science.

Database of down-hole geophysical logs

The creation of this database was started in 1999 under the terms of the project: "Complex Information System of Geofond CR". In the period 1999-2002, down-hole geophysical and inclinometric measurements were processed. The boreholes were selected from original documents on structural, hydrogeological and exploration drilling for black coal made by the former Geophysical Logging Centre Tuchlovice and acquired from the GMS archive. Geophysical logs made by the former Liberec Uranium Exploration, Hamr Uranium Mines, and other organizations working in the Czech Cretaceous Basin were also checked and digitized. The data were processed under contract by Aquatest and Diamo s.p. Files of old data, processed in 1995 by GMS, Aquatest and Geotrend by order of the Ministry of Economy and Trade, were also incorporated. Subsequently, measurements from boreholes in the Vídeňská basin and the Carpathian foredeep were acquired from Moravské naftové doly a.s. Hodonín.

In 2003, three projects were started with the main aim of processing down-hole geophysical logging data from other sources and putting them into the Central Relational Database. These were data from measurements made by the former uranium exploration branch UP-IV Nové Město na Moravě (Moravian area – Rožínka), compiled by Diamo s.p. and the former Liberec UP (Uranium Exploration), Branch VIII Příbram (Crystalline Terrain of South-West Bohemia), processed by 1.Příbramská Ltd. Also, other boreholes from archives of the former GMS made for hydrogeological purposes and investigation of non-metallic resources were processed by Aquatest Inc. In 2004, data from 397 boreholes were processed under the terms of these 3 projects and a project, proposed in co-operation with Geofyzika GP Ltd. was started. This project is focused on digitizing and incorporating data from boreholes drilled in North Moravia, financed in the past from the state budget (3 boreholes were processed). As a result of collaboration with MND, geophysical log data from 6 boreholes was acquired on condition that access to this information was restricted.

By 31 December 2004, the geophysical log data from 3500 boreholes and inclinometric measurements from 2355 boreholes were incorporated into the database.

In 2004, data from 24 boreholes were processed, fulfilling a request for a diploma dissertation. A large amount of data was also requested for use in the project "Stratigraphic architecture of the Cenomanian in the Bohemian Cretaceous Basin".

Database of geological specimens (diamond drill core, samples)

In 2004, the integration of the database of geological specimens within the subsystem of geologically documented objects continued, 18 new boreholes were incorporated. Localities of 9 boreholes had to be corrected and for these the geological logs were added and other minor corrections made. The total number of boreholes for which samples of core are stored and the records integrated into the subsystem was increased to 1.394. There were no requests for information from this database during 2004.

Database of regional hydrogeological investigations

In recent years, regional hydrogeological investigations have been minimal, so that only archived reports have been put into the database. In 2004, 46 outlines and related attributes were processed. By the 31 December 2004, the database contained 649 outlines of areas taken from 670 reports for which the reserves of

drinking water were calculated in the past. New calculations of usable reserves of drinking water were made. For 15 areas results were in the category "A", for 62 in the category "B", for 82 in the category C1 and for 85 in the category C2. There were no requests for information from this database during 2004.

Database of radiometric anomalies

This database contains information on radiometric anomalies measured during exploration for uranium by the former ČSUP (Czechoslovak Uranium Explorations). Data from Cretaceous sediments and boreholes in mineral deposits were not included. In 2004, the database was not updated. By 31 December 2004, the database contained 16.203 objects. Requests from 7 users were fulfilled in 2004 in which data on 610 objects were processed to the required output. (1 university, 1 order under the terms of a project for the Ministry of the Environment, 1 individual and 4 private organizations)

Database of radiometrically anomalous areas

Maps of radiometrically anomalous areas show the effects of radiation over designated regions. The surveyed areas are classified into three categories with respect to radiation. These are, respectively, areas with high, middle and low radio-ecological effects. In 2004, the database was not updated. By 31 December 2004 the database contained 3.420 objects. Requests by 2 regional councils, 1 local council, 1 for education reasons and 1 individual were fulfilled, in which data on 463 objects were processed to the required output.

Database of radiometric investigations

This database contains information on radiometric mapping and shows the boundaries of areas where prospecting for radioactive materials has been carried out using various survey methods. In 2004, a revision of the database was made. The areas depicted on the internet application of Geofond as polygons on maps at 1:100 000 scale (otherwise at 1:50 000 and 1:200 000 scale) were compared during this revision. In total, 346 corrections were made. These corrections improved the accuracy of the database. By 31 December 2004, the database contained 464 objects. Requests from 7 users for information on radiometrically anomalous areas and radiometric anomalies were fulfilled in 2004.

Database of landslides and other dangerous slope deformations

Regular updates continued during 2004, and data from 42 expert reports were processed. Priority was given to processing reports on mapping of landslides and slope deformation in the Ústí nad Labem Region and North Moravia, where updating of maps has been made by the Czech Geological Survey and the Academy of Science of the Czech Republic. There were 349 new objects put into the database, while information on 124 objects was amended. In all, by the 31 December 2004, the database contained 7.420 objects. A total of 41 requests for information were processed. The outputs contained basic information on 16.119 objects. (1 request from the Ministry of Economy and Trade, 1 from the Czech Geological Survey, 1 from the Land Fund, 3 for educational reasons, 4 from the regional councils, 11 from local councils and 20 from individuals and private organizations).

Database of undermined areas

In 2004, the database was given a major update. Significant changes to outlines of undermined areas were made with reference to the database of main mine workings using Geomedia (Intergraph) software. Most attention was given

to the processing of information from the Jihočeský, Plzeňský and Karlovarský Regions, for which maps and reports were produced in 2004. The database was continuously updated and 372 new objects from 43 expert reports and assessments were added, 35 objects were deleted and 338 polygons were updated. As of 31 December 2004, the database contained 5.221 objects. A total of 40 requests were dealt with in which information on 8.422 objects was processed (the Ministry of Economy and Trade –1, other ministries - 2, the Land Fund – 1, universities – 2, regional councils – 3, local authorities – 9, private companies and individuals – 22).

Database of main mine workings

In 2004 the filling of this database has continued under the terms of the project "Database of Main Mine Workings II". During 2004, 2.344 objects were collected and added to the database. This consisted of entering the data from stage II of surveying of the mine workings in the Liberecký, Ústecký, Karlovarský and Pardubický regions, of updating the information about the areas of Klatovsko and Andělskohorsko and, especially, adding the information from the register of old mine workings and from the database of abandoned mine workings DIAMO-SUL Příbram (work of the former RD Příbram). 420 duplicates were found and removed from the database during these activities. As of 31 December 2004, this database contained 14.418 objects. Information from this database is mainly used during the inspection of mine workings in accord with §35 of the Mining Law, for purposes of local planning, and for improving the knowledge of undermined areas.

Database of mine waste dumps

In 2004, the filling of this database continued under the terms of the project "Database of mine waste dumps II". 602 objects, particularly from the areas of Krušné hory – northeast, Krkonoše – west and Klatovsko, were collected and added to the database. Records from the other processed areas should be supplied by the Ministry of the Environment and added to the database in 2005. As of 31 December 2004, this database contained 1.429 objects. Information from this database was only accessible in the form of signal information through the Internet in 2004. Interest in these data is expected to increase when more objects are incorporated and the area covered by this survey is enlarged.

Database of areas affected by the exploitation of mineral resources

Data on areas affected by the exploitation of mineral resources form part of the State Statistical Statement "Hor (MPO) 1-01", technical information on mining operations. The data concern mining claims and registered non-exclusive mineral deposits. This information, together with a summary describing the impact of exploitation of mineral resources, remediation and reclamation works and the creation of funds for restoration, are compiled in the form of printed lists or tables in the database. As the information in this database is confidential, only summaries are given as outputs. Complete data are circulated to organizations selected by the Ministry of Industry and Commerce.

In 2004, data relating to 919 mining claims and 225 registered non-exclusive mineral deposits were listed and used by the following users:

- Ministry of Agriculture: comprehensive outputs from "Hor (MPO) 1-01" covering the whole CR-information in the following categories: areas affected by the exploitation of mineral resources, and areas where recultivation is in progress or already completed.

- Czech Agency for Protection of Nature and Countryside (Ing. Penk): for the compilation of a report requested by the Ministry of the Environment- data on areas in the territory of the Czech Republic affected by the exploitation of mineral resources, or where recultivation is in progress or already completed, classified under agricultural land, forested land, water-covered areas and other categories.
- Czech Ecological Institute (Dr.Křivánková): for the annual report summarizing information on the total area of the Czech Republic affected by the exploitation of mineral resources, and for areas where recultivation is in progress or already completed, classified under agricultural land, forested land, water-covered areas and others categories. In addition, sub-totals of the affected areas in each of the Czech Regions were also compiled.

Database of geological maps in the archive of Geofond

In 2001, this database was transferred to the Czech Geological Survey under the terms of the project "Digital Map Archive of the Czech Geological Survey", funded by the Ministry of the Environment. The database consists of a list of maps that should be added to the unified digital archive. No updating was undertaken in 2004. By 31 December 2004 the database contained information on 9.135 geological maps at different scales.

Database of historical mining maps

In the Kutná Hora department of the Czech Geological Survey - Geofond a collection of more than 9.000 mining maps is stored. These form parts of separate special collections. Since 1990, references to these maps have been entered into a database.

In 2004, progressive updating of the database continued with the correction of existing information and addition of new records. 3.887 records were put into the database, 161 duplicates were deleted and 349 new maps were added. By 31 December 2004 the database contained records of 9.344 mining maps. In 2004, searches on particular mining maps requested by 26 users were undertaken at the Kutná Hora branch. In total, 382 archive maps were used.

Database "Library of the Kutná Hora branch"

The specialist library located at the Kutná Hora branch contains more than 7.000 publications and other historical documents related to mining, technology and the geological sciences. Since 1992, the information on this resource has been entered in the database. In 2004, a complete inventory of the individual volumes was finished. New accessions were added and duplicates were removed during this inventory. By 31 December 2004 the database contained records of 7.020 publications. In 2004, the database was used only internally, to assist the updating of information on undermined areas. Searches for publications for visitors to the branch were also undertaken.

Information System on Raw Materials (SurIS)

All available data on the raw materials potential of the CR is gathered and comprehensively presented in this information system. All sub-databases were continuously updated during 2004. By 31 December 2004, the system contained:

Register of mineral deposits: 9.417 objects, of which:

1.566 are exclusive (state-controlled) deposits with calculated reserves (Subregister B)

736 are non-exclusive registered deposits (Subregister D)

818 are other non-exclusive deposits (Subregister N – deposits of exclusive and non-exclusive minerals, which are not in the Balance, but which have calculated reserves in any category). Mostly they are smaller deposits of non-exclusive minerals, for which calculations were not approved, so they are not included in subregister D. There are also former (exclusive state-controlled) deposits, which were excluded from the Balance, and reserves of exclusive minerals, which, for a particular reason (mostly non-approval of reserve calculations) were not included in the Ballance. Mostly these "deposits" are not viable under present economic conditions, but because they have historically calculated reserves, which have not yet been extracted, they were not included in subregisters V, Z or U.

208 are approved prognostic resources (subregisters P, R)

1.063 are other prognostic hypothetical resources (Subregister Q – other registered prognostic sources)

1.416 are areas for which the results of exploration were negative, or areas which were not prospective or with sub-economic mineral occurrences, and areas where exploration revealed industrial minerals in sub-economic amounts. In accord with §4 of Mining Law (Subregister V) these are not approved as mineral deposits

3.610 are cancelled or abandoned deposits (Subregisters Z and U).

In 2004, 69 new records were entered and 1.830 were updated.

- **Register of protected areas of mineral deposits (CHLU)**

In total this register contains 1.289 objects of which 57 were added and 84 updated in 2004.

- **Register of mining claims (permits delineating mining operations - DP)**

In total this contains 1.281 objects of which 126 were added and 341 updated in 2004.

- **Register of preliminary permits delineating mining operations (PS DP)**

In total this contains 711 objects of which 59 were added and 126 updated in 2004.

- **Register of exploration areas and projects (PÚ)**

In total this contains details of 549 sites of which 22 were added and 86 updated in 2004.

- **Register of graphical objects (GO)**

This register is common for all sub-registers. In total it contains 15.606 objects. In 2004, 276 new graphical objects were added, 74 cancelled and 465 updated.

- **Economic register (ER)**

This contains data on prices of the main mineral commodities in the domestic and world markets, and on the value and volume of foreign trade in raw materials.

All registers are regularly updated using the following sources of information :

- Annual State Statistical Statements "Geo (Ministry of the Environment) V3-01" and "Hor (Ministry of Industry and Trade) 1-01"
- Results of the project, Re-evaluation of deposits of state-controlled minerals in the CR
- Results of the project, Re-evaluation of prognostic resources
- Audits of reserve approvals
- Documents concerning state-controlled deposits
- Decisions concerning cancellation of reserves
- Documents concerning transfers, changes, establishment or cancellation of mining claims
- Decisions on establishment or cancellation of protected areas of mineral deposits
- Final reports on exploration

Administrative registers

- **Register of companies**

This database contains information on 2.910 organizations undertaking geological work, exploration for mineral resources and mining (including those no longer in existence). In 2004 53 new companies were added and data on 620 companies were revised using public sources of information and statistical statements. Names and registration numbers, together with other general information on existing organizations are listed in accord with the Trade and Business Register.

- **Register of decisions governing approval and depreciation of reserves**

In 2004, existing files concerning approvals of reserves made by the Committee for Calculation of Reserves (KKZ) were updated, and 43 new reports approved by the Committee for Projects and Final Reports (KPZ) were entered. In total, this database contains information on 3.664 approved reserves.

In 2004, a total of 95 requests were dealt with and information on 13.625 mineral deposits, 3.520 mining claims and 3.061 protected areas of mineral deposits was delivered (the Ministry of the Environment – 1, the Ministry of Economy and Trade – 1, other state administrative bodies – 4, universities – 9, regional councils – 4, municipalities – 15, private companies and individuals - 59). In fulfilling 11 requests, data on 218 exploration areas and projects were submitted (regional councils – 4, municipalities – 2, universities – 2, private companies – 3).

Summary of outputs from all databases in 2004

	Number of orders	Total costs according to price list	Invoiced
Ministry of Environment [1)]	2	6.530,---	0,---
Czech Geological Survey [1)]	30	167 037,---	98 603,---
Ministry of Industry and Trade	1	84.000,---	84.000,---
Ministry of Health Care [2)]	1	853 621,---	10.000,---
Ministry of Agriculture	2	600,---	0,---
Other state administrative bodies	3	1.030,---	0,---
Academy of Science	5	22.010,---	20.273,---
Regional Councils [3)]	6	501 855,---	156 615,---
Towns and Cities [3)]	37	29 037,---	26 185,---
Universities [4)]	37	171 997,---	14 058,---
Other users [5)]	444	628 123,---	426 123,---
TOTAL	**568**	**2 465 840,---**	**835 857,---**

Note: *'Total costs according to price list' means the price calculated in accord with the Geofond Price list for work and services.*

1) Geofond is expected to co-operate with the Czech Geological Survey in work on relevant projects. In many cases the invoiced price is therefore lower then the price according to the price list.

2) Under the terms of co-operation on updating the protected areas of natural spas.

3) For these councils, a fixed charge is levied for providing thematic coverage of signal information or, on request, some more detailed data (hydrogeological information)

4) Outputs from databases were given free of charge for educational purposes and for diploma work.

5) The difference of about 200.000 CZK between the total costs according to the price list and the amount invoiced for services is due to some services not being chargeable, e.g. the order from Lesy ČR s.p. which was completed under the terms of their contract with the Ministry of the Environment (list price 84.000 CZK, DIAMO a.s., where the work was still in progress at the end of the year and will be invoiced in 2005 – 74.775 Kč, for work by certain companies for the Ministry of the Environment or minor requests which gave negative results) or in cases where the price was set by previous agreement.

Compared to 2003, the number of requests (113 more) and payment for outputs (264.478 CZK more) showed a marked increase. The greatest increase in demand came from those in the category of other users (113 more), slight increases or decreases in requests from other groups of users were more or less the same and did not have any effect. Concerning the paid outputs, the greatest increase was also from other users (102.124 CZK more) and also from the regional councils (98.022 CZK more), even though the number of requests was lower. This was thanks to invoicing for detailed data on landslides to fulfil the Public Order "Slope deformation of Moravskoslezský Region" (117.500 CZK).

COMPILATION OF SPECIALIZED MAPS

Maps with special geological features

One of the most important functions of Geofond is the regular publication of maps depicting areas with special geological features, such as protection of mineral deposits, landslide hazards and undermined areas, which could affect

regional and local planning and environmental protection. These maps, at a scale of 1:50 000, are published in revised editions every 1 - 3 years and are produced in accord with § 17 of Law No.62/1988 Coll., and all amendments. According to this law, the organizations responsible for the national geological service are obliged to collect and make available data on geological conditions, on protection and use of raw material resources and ground water resources, and on potential geological risks within the territory of the Czech Republic. These maps are designated as a primary source of information to support state authorities responsible for regional and local planning and decision making in the preparation of technical documents concerning land use. These maps are passed to the Department of Geology and the Regional Departments of the Ministry of the Environment, Regional Councils and, through them, to District Administrations and Building Offices. Maps of protection of mineral deposits are also passed to the Ministry of Industry and Commerce and Regional Mining Offices.

In 2004, **Maps of Protection of Mineral Deposits** for the Karlovarský, Ústecký, Jihočeský, Středočeský and Prague Regions were published. These maps take into account the results of the project "Re-evaluation of deposits of state-controlled minerals in the Czech Republic" and information taken from reports made by other organizations is added. A new edition of **Maps of Undermined Areas** was made for the Jihočeský, Plzeňský and Karlovarský Regions and a new edition of **Maps of Landslides and other Dangerous Slope Deformations** was made for the Ústecký Region.

Additional large-scale maps and digital maps

Since 1999, maps of borehole exploration, maps of protection of mineral deposits, maps of landslide areas and undermined areas, maps of other mineral deposits, which were not included in the previously completed sets, maps of exploration areas, old mine workings and main mine workings have been gradually made accessible at www.geofond.cz, using the Geomedia Web Map technology. All the maps are supplemented with "signal information" for individual objects. At the end of 2004, a new version of these applications, using more modern ArcIMS – ESRI technology, was tested and introduced on the website.

If required, signal information can be provided in the form of vector maps and data files in GIS formats suitable for use in local information systems. These can be updated yearly on request.

3. OTHER ACTIVITIES

Purchase of geological magazines and other necessary periodicals

In 2004, the total number of geological magazines and other necessary periodicals purchased was 27.

Publications

Based on the Plan of Publication, Geofond produced the following publications in 2004:

- Re-edition of codes and dictionaries used in the Database of boreholes
- List of organizations and codes used in the ASGI database

- Annual Report of the Czech Geological Survey - Geofond 2003 (250 copies of Czech and 100 copies of English version)
- Updated web pages of Geofond (Czech and English versions)

Geofilm and Video Library

The Czech Geological Survey - Geofond is responsible for one of the video-rental facilities of the Ministry of the Environment. The video library contains 391 videos, mainly ecologically oriented. Geology is less well represented. In addition, 33 videos belonging to the ENvideo Foundation and 7 video transcriptions of geological films from the former Czech Geological Bureau are available. In 2004, 40 new videos were acquired. After stocktaking, Geofond also keeps 68 documentary films on geological topics (510 copies). In 2004, a total of 43 videos (31 titles) were rented to 37 users.

4. INTERNATIONAL ACTIVITIES

In the field of mineral resources, international collaboration proceeded as follows:

- In the field of mineral resources, international collaboration proceeded through exchange of the English version of "Mineral Commodity Summaries of the Czech Republic" for reports from other geological surveys, by provision of information on the balance and changes of raw material resources in the Czech Republic to international journals and to other publications (e.g., Industrial Minerals, Metals Bulletin, EU publications produced by Roskill Information Services, USGS etc.) and regular systematic exchange of information and consultations with the U.S. Geological Survey, Mineral Resources Section. Long-term co-operation with the Slovak Geological Institution of Dionýz Štúr has been maintained.
- From 25 March to 4 April 2004, a representative from Geofond took part in the "17th International Congress on Industrial Minerals" in Barcelona, Spain. This was financed from the project "Economic registers of SurIS (Information Subsystem of Raw Materials)".
- From 17th to 30th August 2004, representatives of Geofond took part in the "32nd International Geological Congress" in Florence, Italy. This was financed from the projects "Economic registers of SurIS (Information Subsystem of Raw Materials)" and "Database of Main Mine Workings II".
- From 28th September to 2nd October 2004, representatives of Geofond took part in the "14th Conference on Mineral Economy: Present and future" in Zakopane, Poland. It was financed from the project "Evaluation of Exclusive Mineral Deposits in Administration"
- From 20th to 22nd October 2004, a representative of Geofond took part in a seminar "Ways and Novel Techniques to Establish Harmonised Inventories of Waste Materials Extraction Across Europe" in Bratislava, Slovakia. It was financed from the project "Database of Mine Waste Dumps II".

In the field of information technologies, international activities took the form of collaboration on the project "e-Earth – Electronic access to geological data from borehole databases". This involved an increase in travel abroad and attendance at working meetings. Meetings were also organized by Geofond in Prague and Kutná Hora. The activities of GIC (Geoscience Information Consortium) continued. Dr. Čápová has been a member of its Steering Committee (the elected council for co-ordination of the consortium) since 2003.

- From 14th to 17th March 2004, a representative of Geofond took part in the opening negotiation of the "e-Earth" project in Luxembourg. This was financed from the project "e-Earth".
- From 20th to 26th June 2004, representatives of Geofond took part in a working meeting of the "e-Earth" project in Warsaw, Poland. This was financed from the project "e-Earth".
- From 31st July to 8th August 2004, a representative of Geofond took part in "19th Geoscience Information Consortium" in Denver, USA. This was financed from the Geofond budget.
- From 13th to 15th June 2004, a representative of Geofond took part in a working meeting of the "e-Earth" project in Utrecht, Netherlands. This was financed from the project "e-Earth".
- 15th June 2004, representatives of Geofond took part in a working meeting of the teams involved in WP5 (Technical design) and WP6 (Multilingual Thesaurus) of the "e-Earth" project in Hannover, Germany. This was financed from the project "e-Earth".

5. ECONOMIC STATEMENT FOR 2004

The budget for non-capital expenses was 37,364.000 CZK, of which 37,581.000 CZK, i.e. 100.58% of the total, was actually used.

Most of this was spent on salaries. The financial allocation for salaries (16,032.000 CZK) was overspent by 3.25 %. Overspending by 522.000 CZK for other personnel costs was due to the use of non-budget resources. This was spent under the terms of the grant from the European Commission to co-operate in the project "e-EARTH - electronic access to geological data from borehole databases". Relative to the year 2003, there was an increase in salaries of about 1,761.000 CZK and the sum paid back to the state by the employer as mandatory social and health insurance increased from 5,113.000 CZK to 5,564.000 CZK. From 2003 to 2004, the average monthly salary increased from 17.107 CZK to 17.797 CZK, which marks an increase of 4.03%. During 2004, 88% of the set limit of 84 full-time employees was used (the equivalent of 74 full-time employees). The average salary band number for all Geofond employees was 9.49, compared to 8.34 in 2003. This was due to the change from 12 to 16 bands in the salary scale.

The highest expenses (11,337.000 CZK) were those for services purchased from other institutions. This was 1,911.000 CZK more than the amount spent in 2003. Of these, for the completion of projects financed from the funds of the Department of Geology of the Ministry of the Environment, there was a total of 6,392.000 CZK ("Completion of Documentographic information subsystem in 2003 – 2006" (D) – 200.000 CZK, "Economic registers of SurIS (Information Subsystem of Raw Materials) / Enlargement and update of the economic branch of SurIS" (E)

– 190.000 CZK, "Database of mine waste dumps II" (X) – 72.000 CZK, "Database of main mine workings II" (H) – 108.000 CZK, "Evaluation of state-controlled mineral deposits in the state reserve" (R) – 626.000 CZK, "Digitisation of borehole geophysical logs from selected boreholes and entering them into the Central Relational Database of Geofond" (KA) – 40.000 CZK, "Processing the borehole geophysical measurements from DIAMO s.p. and transferring them to the Central Relational Database of Geofond – Crystalline formations of the South-Western part of Bohemia" (KP) – 40.000 CZK, "Digitization of borehole geophysical measurements from DIAMO s.p. – Moravia (leader DIAMO s.p., GEAM Dolní Rožínka branch)" (KD) – 40.000 CZK, "Stratigraphic architecture of the Cenomanian in the Bohemian Cretaceous Basin" (T) – 40.000 CZK, "Compilation and use of geophysical data, obtained with finance from the state budget" (GF) – 1.616.000 CZK), "Geographical location and interpretation of old mining maps" (M) – 235.000 CZK, "Beginning the creation of the digital archive of reports for incorporation in the information system of the Czech Geological Survey – Geofond" (DA) – 774.000 CZK, "Development and maintenance of the information system of the Czech Geological Survey – Geofond 2004" (K) – 1.649.000 CZK, "Collaboration in the project e-EARTH - electronic access to geological data from borehole databases" (under the terms of the "e-Content" programme) (EMZP)" – 749.000 CZK, "Storing of documentation from the archive of Department of Geology of the Ministry of the Environment" (U) – 13.000 CZK). That is, in total, 1.789.000 CZK more then in 2003.

Travel expenses increased markedly from 273.000 CZK in 2003 to 496.000 CZK in 2004, especially the costs of travels abroad (from 124.000 CZK in 2003 to 395.000 CZK in 2004). This was due to several more expensive journeys abroad – see the previous chapter. Inland travel expenses, however, decreased from 149.000 CZK in 2003 to 101.000 CZK in 2004. Some other charges increased due to international activities: the charges for conferences increased from 8.000 CZK in 2003 to 23.000 CZK in 2004 and charges for hospitality increased from 9.000 CZK in 2003 to 17.000 CZK in 2004. This was due to the higher number of events with foreign attendance and visits from abroad.

Charges for telecommunication services increased from 249.000 CZK to 356.000 CZK. This was partly caused by the rise in VAT (value added tax - DPH) from 5% to 22%, later to 19% during 2004, by the cost of establishing a new telephone line in Kovanice, and by charges for the internet and telephone services in the newly established workplace in Brno. Also the cost of external reprographic services increased from 437.000 CZK to 518.000 CZK as a result of higher charges for printing the publication "Mineral Resources of the Czech Republic in 2003" and the Annual report. Expenses for meal subsidies increased from 343.000 CZK in 2003 to 442.000 CZK in 2004 owing to an increase in the cost of meal-tickets, related to changes of the VAT for meal subsidies.

Water, energy and fuel costs increased slightly again from 573.000 CZK in 2003 to 604.000 CZK in 2004. This reflects especially the cost of electricity (which increased from 332.000 CZK to 371.000 CZK). This was probably due to price increases introduced by Pražská energetika, the provider of electricity, and their new tariffs, which do not correspond with the calendar year so the level of expenses depends on the level of standing charges designated.

The expenses for the following items in 2004 were about the same, or slightly higher, than in 2003: expenses for **education** – 82.000 CZK (80.000 CZK in 2003), expenses for **gasoline** – 103.000 CZK (100.000 CZK in 2003) in spite of the increased number of kilometres travelled, expenses for **production works** – 158.000 CZK (150.000 CZK in 2003), services of **post offices and**

finance institutions – 82.000 CZK (78.000 CZK in 2003) and **sundry services** 2.100.000 CZK (2.098.000 CZK in 2003).

There was a slight decrease in maintenance and repair costs which were reduced from 360.000 CZK in 2003 to 338.000 CZK in 2004. This was because no more major repairs were undertaken on the buildings in Chotěboř in view of the intention to sell them. Most expense was incurred for maintenance and repair of the buildings in Kutná Hora, for servicing Geofond vehicles and for computers and reprographic equipment. Expenses for books and manuals decreased from 122.000 CZK in 2003 to 110.000 CZK in 2004, and expenses for office stationery decreased from 799.000 CZK to 680.000 CZK.

The decrease of expenses for minor **equipment** (from 2.266.000 CZK in 2003 to 1.195.000 CZK in 2004) and for **software** (from 435.000 CZK in 2003 to 209.000 CZK in 2004) was because of the expense of equipping the new workplace in Brno in 2003. Rental expenses also decreased from 1.198.000 CZK in 2003 to 1.169.000 in 2004 as a result of paying a refundable deposit of 200.000 CZK in 2003.

The applications for **capital investments** submitted during the year were all approved in 2004. Geofond was given a capital grant of 160.000 CZK to enable purchase of a new database system - Oracle Database Standard Edition One. A saving of 9.314,47 CZK on the original grant was made by purchasing directly through the electronic market system. This saving was returned to the state budget.

The target of 1,700.000 CZK set for **income** earned by Geofond activities in 2004 was exceeded. Total income reached 2,726.000 CZK. This marked increase in income was caused directly by the grant from the European Commission (522.000 CZK) to enable co-operation in the project "e-Earth – Electronic access to geological data from borehole databases", which was paid to the income account of Geofond. Compared to 2003, only the income for the services from factographic systems increased more rapidly (from 397.000 CZK to 716.000 CZK). In most other items there was a slight decrease.

The budget deficit is determined by the difference between income and expenditure. After calculation of the final budget provision, the budget deficit was expected to be in the order of 35,824.000 CZK. Thanks to increases in earned income and savings on some non-capital costs and on the capital investment budget, the deficit decreased to 35,005.000 CZK, which was 819.000 CZK (2,29%) lower than anticipated.

6. ORGANIZATIONAL STRUCTURE OF GEOFOND

By comparison with 2003, there were no organizational changes in 2004. The structure is described below. Planned numbers of staff are given in brackets; middle and high-level managers are denoted as +1, while heads of lower units are included in the staff number.

100 DIRECTORATE (20+1)

110 Secretariat and Offices reporting directly to the Director (2)

Co-ordinates the agenda for which the Director is ultimately responsible. This unit includes the Secretariat, Personnel Department, Accounts Department, Office of Foreign Affairs, Legal Department, Civil Defence Unit, Fire Prevention Office and an Occupational Health and Safety Unit. Part of this agenda is set by law. Some services are carried out under contract. This unit is also responsible for the editorial policy of Geofond.

120 Department of Information Systems (17+1)

121 Computer Services (2)

Responsible for the maintenance of the local computer network (Intranet) of Geofond and its connection with the Internet, looking after computer operation systems and hardware, keeping an inventory of computers and software, co-ordinating requests for new computer equipment, periodically making back-up copies of databases and operation systems which are archived, ensuring data is protected from unauthorised users and ensuring compatibility of the information system of Geofond with higher-level information systems (SIS, Intranet of the Ministry of the Environment, Internet).

122 Unit for Operation and Development of Computer Systems and Applications (6)

Ensures development, maintenance and updating of methodology for the information system of Geofond (indexes, coding manuals, operation manuals). Implements new systems, maintains software for running databases, develops software applications, maintains programming and user‘s documentation, organizes training of employees, implements new technologies (WWW, GIS) and uses these technologies to allow user-friendly access to databases, supervises building and development of the Complex Information System of Geofond, supervises compilation of external specialised databases and information subsystems, ensures integration of these subsystems into the Central Information System, provides information on specific use of the Geofond Information System, provides non-standard outputs from databases, co-ordinates research, grants or other projects in the field of development and use of modern technologies and data processing in geology.

123 Data Processing Unit (4)

Responsible for acquisition and pre-processing of data, including digitisation, provides standard outputs from databases, collaborates in maintenance and updating of individual databases of the Information System.

124 Unit for Geophysical Data (5)

Responsible for compilation and use of geophysical data, established with finance from the state budget. Tasks involve the creation, maintenance, management and updating of the geophysical database, maintenance of an archive of geophysical reports and measurements, and provision of the most common outputs from the databases.

200 Division of the Deputy Director of Finance (13+1)

In charge of all activities necessary for the financial and logistical operation of the organization. The Deputy Director for Finance manages the budget, supervises civil defence and fire protection, presides over the investment panel, and oversees building activities and purchase of machinery and equipment.

210 Department of Accounts (4+1)

Responsible for the operation of the complex payroll and invoicing, registering orders and contracts, controlling the cash-flow within these contracts, preparing statistical statements, running an accounting information system to enable control of the budget, and for implementation of software for accounting and operations, carrying out money transfers, ensuring cash payments, calculating travel expenses and destroying accounting papers and other old documents.

220 Department of Operations (7+1)

Administers assets, takes inventories of property and equipment, prepares contracts on property leases, manages the use of telephones, radio, television, water, electrical energy, and the payment of municipal fees, oversees utility payments and prevents budget deficits, supplies materials, ensures maintenance of buildings, office equipment, technical equipment, disposes of obsolete equipment, organises audits of selected technical appliances and repairs, supervises company cars, night guards, switchboard and fire alarms.

300 Division of the Deputy Director for Geology (49+1)

Responsible for all activities of the expert departments, collaboration with the Department of Geology and Regional Departments of the Ministry of the Environment in the field of geological information and ecogeological aspects of territorial planning. Undertakes compilations of manuscripts on past geological projects, and reports on special geological phenomena, on protection, contamination and destruction of bedrock and on conflicts of interest between mineral exploitation and environmental protection.

310 Department of Geological Documentation (15+1)

311 Documentography Unit (6)

Collects and compiles observations, documentographically processes and stores written and graphical documentation. Carries out annotation of unpublished reports and enters data into the ASGI documentographic database; maintains and regularly updates the ASGI database, registers new geological works; processes reports on foreign travel for the Ministry of the Environment, controls film and video rentals.

312 Geological Specimens and Material Archives Unit (3)

Collects and preserves geological samples and makes them accessible. Participates in disposal of unnecessary rock samples at other institutions/ companies and selects material for preservation by Geofond (diamond drill core and rock samples). In charge of the Database of specimen materials. Co-ordinates acquisition and transfer of abolished external archives.

313 Loans and Reprographic Services Unit (6)

Provides reprographic services and all services related to in-house loans, registers reports delivered to Geofond, checks on completeness of accepted manuscripts, tracks manuscripts between departments during processing, generates invoices.

320 Department of Factographic Information (12+1)

321 Boreholes Database Unit (6)

Builds, maintains and updates the Database of boreholes, Database of radioactive anomalies and Database of radioactively anomalous areas.

322 Hydrogeological Unit (6)

Builds, maintains and updates the Database of hydrogeological objects, groundwater pollution (test wells), geothermal energy, mineral springs and their zones of protection, zones of protection surrounding spas, water resources and past hydrogeological projects.

330 Department of Mineral Resources Information (8+1)

Administers deposits of industrial minerals in compliance with the Geological and Mining Law (in collaboration with the Ministry of the Environment and Ministry of Industry and Commerce). Supports the protection and use of mineral resources by providing information, provides basic data for the state policy on raw materials and geological exploration, runs SurIS (Information System on Mineral Resources), provides outputs from SurIS and literature searches including sources of primary data with confidential access.

331 Unit for Protection and Registration of Mineral Resources (5)

Registers deposits forming state reserves and ensures protection of these deposits. Maintains archives of rulings of the former Commission for Rating of Reserves, rulings on reserves by the Ministry of the Environment, rulings on cancellation of reserves by the Ministry of Industry and Commerce, certificates of state-controlled deposits, decisions on protected land surrounding deposits, further documents on state-controlled deposits in compliance with the Mining Law, drafts on establishment and changes in the protected land surrounding deposits in cases registered and managed by Geofond. Maintains the Register of protected areas surrounding deposits, limits of mining operations, preliminary mining permits, exploration licenses, licenses to carry out geological work, and a register of geological and mining companies. Prepares basic documents on cancellation of reserves for the relevant Commission of the Ministry of Industry and Commerce. Collaborates with the State Mining Bureau, provides information related to administrative documents, participates in state-financed projects aimed at changing quantitative and qualitative parameters of reserves resulting from economic trends. Updates information systems on past mineral exploration

projects in the Czech Republic, maintains the Register of mineral raw materials and all its sections: Exclusive (state-controlled) deposits with calculated reserves (subregister B), non-exclusive registered deposits (subregister D), other non-exclusive deposits (subregister N), approved prognostic resources (subregisters P and R), other prognostic resources (subregister Q), and mineral occurrences and areas with industrial minerals in sub-economic amounts (subregister V). Calculates reserves of exclusive (state-controlled) deposits, registers reserves of non-exclusive deposits, compiles maps of protection of deposits for individual regions in compliance with the Geological Law. Provides outputs, including graphics, on the raw material basis of the Czech Republic to bodies of the central state administration, the State Geological Service and businesses. Uses GIS at a specialized workplace, prepares compilations of data from unpublished reports. Participates in state-financed projects aimed at enlarging the information base on mineral deposits, maintains archives of registration sheets of mineral deposits and Statistical Statements GEO (Ministry of the Environment) V3-01. Updates lists of numeric codes for mineral deposits in the territory of the Czech Republic, delivers these codes to the Complex Information System of Geofond.

332 Raw Materials Policy Unit (3)

Prepares statistical evaluation of imports and exports of mineral raw materials, follows prices of selected commodities both in the Czech Republic and at foreign commodity exchanges, prepares regular documentary summaries for the Department of Raw Materials Policy of the Ministry of Industry and Trade. Prepares the publication of specialized booklets: Mineral Commodity Summaries of the Czech Republic, Securing the Czech Republic with Industrial Minerals, Balance and Changes of Reserves of Mineral Raw Materials in the Czech Republic, and Summary of Pricing of Mineral Raw Materials in the Czech Republic. Participates in international collaboration in the field of mineral raw materials and pricing. Carries out market-oriented studies on selected industrial minerals.

340 Department for Support of State Administration (10+1)

Administers old mine workings in compliance with the Mining Law. Responsible for the processing of the Statistical Statement “Hor (MPO) 1-01” (assignment by the Ministry of Industry and Trade); responsible for the Database of main mine workings (joint assignment by the Ministry of the Environment, Ministry of Industry and Trade and the Czech Mining Bureau). Provides information sensu Law No. 123/1998 Coll. and 106/1999 Coll., responds to specific queries by state administrative bodies at all levels and/or co-ordinates such response through specialist organizations.

341 Land Information Unit (5)

Carries out complex processing of the Statistical Statement “Hor (MPO) 1-01”, passes on data to all relevant Registers (Institutions, Reclamation, Deposits, Spatial limits of mining operations). Produces customized outputs from these Registers for ministries and the Czech Mining Bureau. Publishes the annual “Summary of reserves of non-exclusive industrial minerals in active mines”. Maintains and updates the Register of main mine workings and old mines, provides basic documents to the Ministry of the Environment for categorisation and securing of mines, deals with requests made by the state administration and other institutions, provides evaluations for developers, land-use planners and the Land Fund of the Czech Republic with respect to special geological features in selected areas.

342 Risk Assessment Unit (5)

Builds the Database of landslides and other dangerous slope movements, Database of undermined areas and specialized databases on historical mining activities. Periodically issues reports for land-use planners in compliance with Section 13 of the Geological Law. Offers evaluations of geological hazards, runs specialized library and archives on historical mining and ore processing.

ORGANIZATIONAL STRUCTURE OF GEOFOND

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