PREFACE

The present Annual Report provides a summary of the statutory tasks and ancillary activities undertaken by Geofond of the Czech Republic (Geofond) during 2001. 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 organisations and the wider public. A more detailed description of all these activities can be found in the Report on the financial affairs and activities of Geofond during 2001, 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 the laws of the Czech Republic, specifically, the Law of the Czech National Council no. 62/1988 Coll. On Geological Works, Law no. 44/1988 Coll. On Protection and Use of Mineral Resources (Mining Law), all amendments to these laws, and the Agreement Ref. no. M/140/1997 between the Minister of Environment and the Minister of Industry and Commerce on the use of Geofond.

Statutory activities 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 and sophistication of these databases. In addition, Geofond undertook numerous geological projects financed from the budget of the Czech Ministry of Environment. Projects continuing from the previous year include "Processing of geological documents in archives acquired by Geofond", "Complex information system of Geofond", "Compilation of the Database of main mine workings", "Documentographic processing of reports archived by Geofond during 1941-1978". Projects completed during 2002, including final reports, were "Record of the results of geological work in the Vanec-Ocmanice area", "Re-evaluation of deposits of state-controlled minerals in the Czech Republic", "System of specialised databases related to the Register of mineral deposits of the Czech Republic", and "Record of the results of geological work undertaken during uranium prospecting - Phase 1".

Because of the high cost, the modified project "Integrated digital archive of assessments and reports in the possession of Geofond" was terminated. The project "Compilation of the Database of mining waste piles", financed from the budget of the Geological Department of the Ministry of the Environment has been newly established.

During the latest stage of development of information technologies within Geofond the existing applications have been improved and a number of new ones have been created to facilitate usage of databases on the local network – intranet. The menu of available applications can be found on the Geofond web pages www.geofond.cz, together with this annual report. New additions include information concerning areas of exploitable mineral resources, and information concerning other mineral deposits in the vicinity of these mineral resources which lie within protected areas, but which have not been published previously.

RNDr. Vladimír Shánělec, CSc.
Director of Geofond CR

1. MAIN ACTIVITIES DURING 2001

Priority projects

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 as projects. The main *ad hoc* tasks in 2001 were:**

- Compilation of drafts of the Statements Hor (Ministry of Industry and Commerce)1-01 and Geo (Ministry of Environment) V3-01 for the year 2002 and their commentaries. The wording of these Statements has been approved by the Czech Statistical Bureau for inclusion in the Program of collection of statistical data for 2002, published in Section 45 of the Collection of Laws (Czech Statistical Bureau).
- Preparation of a new edition of Maps of protection of mineral deposits, Maps of undermined areas and Maps of landslides for the newly established Central Czech, Ústí nad Labem, Liberec and Vysočina Regional Authorities, and for the Districts of Vsetín and Nový Jičín, in accord with §13 of the Geological Law.
- Preparation of a new edition of Maps of undermined areas and Maps of landslides for the Svitavy District (Ministry of Environment OVSS VI Hradec Králové).
- Compilation of information for discussion at the government session „Report on the state of the Environment of the Czech Republic in 2000“ (Ministry of Environment).
- Compilation of opinions regarding intended investments in the surroundings of Most. (Town Council of Most, Czech Bureau of Mines, Government of the CR)
- Preparation of a new edition of Maps of protection of mineral deposits for the purposes of the State Mining Authority, and donation of the publication “Raw Materials of the Czech Republic – Mineral resources” to the Czech Bureau of Mines.

2. Compilation and publication of "Evaluation of reserves of state-controlled mineral deposits in the Czech Republic" and "Register of reserves of mineral deposits of the Czech Republic", versions updated as of 1 January 2001.

On May 31 2001, three parts of the "Evaluation of reserves of state-controlled mineral deposits in the Czech Republic" were published (I. Ores, Trace Elements, II. Fossil Fuels, III. State-Controlled Non-metallic Mineral Deposits) and also the "Register of reserves of mineral deposits of the Czech Republic", containing non-exclusive building materials (i.e., those outside state control). Both publications were distributed to 42 bodies of the state administration of the Czech Republic selected by the Geological Department of the Ministry of Environment.

3. Compilation and distribution of the annual report "Raw Materials of the Czech Republic – Mineral Resources" – updated as of 1 January 2001.

This report, produced by Geofond and published by the Ministry of Environment, is the only generally accessible source of information on the mineral potential of the Czech Republic. It also gives a list of the main mining companies. Number of copies: 200 (in Czech), 300 (in English). Publication dates: 30 June 2001 (Czech edition) and 31 July 2001 (English edition).

It was produced in the form of a CD in Czech, English and German versions on 30 September 2001.

4. Preparation of the report "Status and changes in the reserves of state-controlled mineral deposits between 1990 and 2000".
This information, for internal use only, is to assist the state administrative bodies (Ministry of Industry and Commerce, Ministry of Environment, State Mining Authority) in the preparation of documents concerning State policy on raw materials. Data on prices of industrial minerals in the international market are also published in "Raw Materials" (see 3. above). This was produced in the form of a CD on 30 November 2001.

5. Compilation of "Reserves of non-exclusive industrial minerals within designated mining boundaries and other currently active mines"
A compilation of reserves of non-exclusive minerals was published on 31 May 2001. The data were collected using the new statistical statement form Hor(MPO)-1-01. This publication was mailed by Geofond to competent companies selected by the Czech Mining Bureau.

6. Compilation of the chapter „Reserves and predicted resources of raw materials“ and part of the chapter “Economic potential of the regions” relating to mining of raw materials in case studies of two administrative regions within the frame of the project “Regional raw material policy in the Czech Republic”.
In 2001 the chapters “General regional characteristics”, “Economic potential of the regions” and „Reserves and predicted resources of raw materials“ for the regions of Vysočina and Olomouc were completed as part of the project “Regional raw material policy in the Czech Republic”. This part of the project was fulfilled in co-operation with the Czech Geological Survey. The task was finished on 30 November 2001. The final report has been approved by the Council of Referees appointed by the Ministry of Industry and Commerce.

7. Formulation of guidelines for the chapters on reserves and extraction of raw materials in the methodological framework of the project „Raw material potential of protected natural areas and the limits of exploitation“.
In 2001 the guidelines for chapters on reserves and extraction of raw materials were compiled in co-operation with the Czech Geological Survey at the request of the Ministry of Environment.

8. Cooperation with the Department of geology of the Ministry of Environment on the Act governing registration of geological works, processing of the registration list and provision of the registration service in accord with Law no.366/2000 Coll.
A number of the staff of Geofond took part in establishing the final version of the Act of the Ministry of Environment No.282/2001 Coll. The template registration form, prepared by Geofond, was used as a preliminary guideline. Since approval on 1 September 2001, the registration of geological works in this format has become obligatory.

Specific tasks

1. Co-ordination and management of projects financed from the Fund for Geological Works of the Ministry of Environment.

- *Re-evaluation of state-controlled mineral deposits of the Czech Republic.*

Work on this project, begun in 1993, has continued through 2001 following an up-dated plan in parts 1 to 3. The project ended on 21 December 2001 with compilation of the final report, which was submitted to the Ministry of Environment and approved by the Committee for Projects and Final Reports. The main aim of the project was to re-evaluate reserves of unused state-controlled mineral deposits taking into account the current specifications for quantity and quality of raw materials. In the first stage, priority was given to those deposits falling under the jurisdiction of Geofond for which the last calculation of reserves had been made 15-20 years previously. During the second stage, attention was mainly focused on mineral deposits for which the mining claims had been cancelled during stage1, but which still contain subeconomic reserves so that the duty to protect them remains. The administrative responsibility for these deposits was mostly transferred to Geofond. The outcome has been the processing of 889 state-controlled mineral deposits. Of these, 341 deposits were left in the state inventory without any change, proposals for the cancellation of reserves in 207 deposits were made, of which approval was given for the reserves of 160 deposits to be written off. Of 337 deposits for which re-evaluations of reserves were made, 318 deposits remain in the inventory. For a variety of reasons, the 19 remaining deposits were removed from the list (for instance, because mining claims or preliminary licenses for areas with exploitable mineral resources (PÚ) were granted).
The calculations of reserves for all deposits were made according to the specifications for exploitation established by the Ministry of Environment for each deposit separately. In addition, independent calculations of reserves were made. The new status of reserves proposed for 171 deposits were ratified. For 8 deposits the previous status was retained, and the reserves for 64 deposits were given "zero" status. For the remaining deposits, the results of re-evaluation are at different stages of the auditing process.

- *Specialised databases for the Information System on Raw Materials (SURIS).*

This project, initiated in 1997, related to the project "System of specialised databases for the Mineral Deposits register of the Czech Republic", continued in collaboration with sub-contracted organizations. The project ended on 31 December 2001 with compilation of the final report, which was submitted to the Ministry of Environment and approved by the Committee for Projects and Final Reports on 11 January 2002. During the period of the project from 1 January 1998 to 31 December 2001, a total of 771 files containing general data on mineral deposits were processed, of these, 31 in the year 2001, and 145 files containing technical and quantitative data on the deposits were processed, of these, 1 in 2001. In total, general data were compiled for 2675 mineral deposits and technical and quantitative data for 989 deposits. In 2001 a new application was created giving access to the database of reserves approved by the Committee for Projects and Final Reports (Ministry of Environment, previously Ministry of Economy, previously Ministry of Economy and Industrial Development, Czech Geological Survey) and 939 new approvals

were added. This database was unified with the previously existing database of approved reserves compiled under the former Committee for Classification of Reserves. It contains, in total, 3532 approved reserves. Within the frame of this project a survey of prices of crude oil and gas (daily), ore metals (two times a week) and selected non-metallic minerals (monthly) has been maintained using a variety of sources (Economic Daily, Metals Bulletin, Mining Journal, Industrial Minerals). The prices are presented graphically as time series for 1-, 3- and 12-month intervals. Statistical data on the export/import of industrial minerals (prices paid and amounts sold) were also compiled on a regular basis. In collaboration with the State Enterprise DIAMO, a database of uranium prices on the international market was also compiled for the period 1989-1994, so the information for the period 1989-2000 is now complete.

- *Complex processing of geological documentation from archives taken over by Geofond.*

The main aim of this project is to compare newly acquired documentation with that already existing in Geofond archives, and then adding those that are missing to the digital archive. The material acquired has been classified according to the ownership of the primary data. Some has come from state-financed projects, and some from companies which, despite their legal obligation, have failed to supply one copy of their results to Geofond in the past. The processing of these latter documents has been completed and materials from Unigeo Ostrava, Geologie Rýmařov and RD Příbram (Ore Mining Company Příbram) were transported to the storage facility at Kovanice.

At the end of 2001, as part of this on-going project, the individual archives have been processed to the following extent:

- Rudné Doly Příbram (Příbram Ore Mining Company): In July 2001 this state archive was transported to Kovanice. The content of the archive of the former ÚVR Mníšek pod Brdy was compared with ASGI database and 93 missing reports and expert assessments were documentographically processed by Geofond staff.
- Unigeo Ostrava: Selected reports and expert assessments were documentographically processed and added to the ASGI database. Copies have been made of 27 missing reports and included in the Geofond archive.
- Středisko dokumentace ložisek zlata v Jílovém (Centre for documentation of gold deposits, Jílové): The comparison of the content of the archive and the Geofond database together with ASGI and basic processing of primary documentation continued. The last missing 55 reports were documentographically processed.
- Moravské naftové doly (The Moravian Oil Company): Selection from the archive of MND was completed and subsequently 972 reports were documentographically processed.
- Československý kamenoprůmysl (Czechoslovak Stone Industry): During 2001, this archive was transported from storage at Kamenná to storage at Kovanice, where it was sorted, processed and documentographically processed.
- Intergeo: All the materials stored at Geofond were computer processed and integrated with the basic archives and ASGI database.
- PÚDIS: The company archive was compared with the content of the ASGI database and 1201 reports and expert assessments were selected for digital processing.
- Český geologický ústav (Czech Geological Survey): The ASGI database was compared with the computer processed part of the CGS archive. Some of the missing reports were documentographically processed (396 ASGI records).

- Stavební geologie (Engineering Geology) and Aquatest: The lists of reports and expert assessments from the archives of both organizations were obtained and the comparison with the Geofond archive has been started.
- Geoindustria GMS: Acquisition and comparison of reports from the company archive and the remote archive in Vráž with those in the Geofond archive and appropriate documentographic processing continued. The archive of the Drill Logging Centre at Tuchlovice was stored and processed. Part of the geodesic archive of Geoindustria has also been processed and stored.

- *Setting up a Database of Main Mine Workings*

Work on this project was continued for the third year. In 2001, data on 5044 objects were entered so that, as of 31 December 2001, the database contained 9904 records. Digital photodocumentation and graphic supplements were also included. After preliminary agreement, 2100 records of Main Mine Workings were obtained free of charge from Rudné doly Příbram (Příbram Ore Mining Company) and DIAMO – SUL Příbram. In 2002 this database will be used for improving the accuracy of outlines of undermined areas.

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

The designated objective of this work is to ASGI-code all remaining reports and other manuscripts preserved in Geofond. Specifically, items labelled V and MS fall within this category. These items include reports on drilling submitted between 1941 and 1978. These reports formed the basis of the previous Register of drilling locations. In 2001, 12,500 sheets were processed to create records in ASGI.

- *Recording the results of geological work in the Vaneč – Ocmanice area*

The purpose of this project is to incorporate into Geofond archives and search systems the results of geological investigations made by the DIAMO company and its predecessors as part of the programme of exploration for radioactive minerals in the Třebíč Massif. Continuing the project during 2001, the final processing was done. The project ended in December 2001 with compilation of the final report, which was submitted to the Ministry of Environment and approved by the Committee for Projects and Final Reports at the 997 session on 27 April 2001.

- *Recording the results of geological work undertaken during exploration for uranium – Phase 1*

Processing took place according to the proposed schedules. The DIAMO company co-operated as a subcontractor. A detailed analysis of the state of the geological documents compiled by the former investigation branches of Jáchymovské doly and UP Liberec has been made. In total, data from 665 final or intermediate reports, 132 summary reports and data on 55 anomalies verified in the frame of the KORA project were processed. Areas in which geological mapping, survey investigations and detailed exploration surveys were undertaken, were processed into tables and cartographic outputs. Maps of geological exploration and the locations of drilling for uranium in the CR were also compiled. Based on the analysis of all

compiled data, the proposal for Phase 2 of the project was submitted. Areas were selected where, despite the amount of data acquired, the final processing and evaluation of the results of the geological works had not been completed. For this additional stage of processing, 8 areas were selected for the preparation of final and summary reports. The project ended in December 2001 with compilation of the final report, which was submitted to the Ministry of Environment and approved by the Committee for Projects and Final Reports at the 1011 session on 11 January 2001.

- *Complex Information System of Geofond CR*

In 2001 work on this project, initiated in 1998, continued. Processing of the series of reports from Section ZC (Reports on Foreign Travel), were coded and added to the ASGI database, regularly updated to form part of the integrated CRD (Central Relational Database). In the subsystem SGDO and their attributes (subsystem of geologically documented objects) the applications for input and management of hydrogeological data were completed. The first version of the application for presentation of geophysical logging data on the intranet was designed, together with the application for on-line plotting of simplified drilling profiles. The geophysical data produced by Geofyzika Brno and geochemical data produced by Geomin Jihlava, have been analysed and compared with existing parts of CRD Geofond. Some 300 000 records of geochemical analyses of samples from the geochemical database were integrated with the CRD. In the subsystem SGDJ (subsystem of geologically documented features) applications for data management were improved and developed so that updating, quality control and output of data on main mine workings, old mine workings, undermined areas and landslides was possible. Revised data from the database of radiometrically anomalous areas has been progressively integrated into the CRD. The first version of the application for presentation of these data on the intranet was also completed. In the subsystem SGP (subsystem of geologically surveyed areas) the function of applications related to regional hydrogeological exploration and maps of drilling locations was enlarged and improved. The first version of intranet and Internet applications for presentation of data concerning areas with exploitable mineral resources (PÚ) was developed. Integration of areas of geochemical exploration within the CRD was begun and the first version of an application for presentation on the intranet has been developed. Applications were improved so that SURIS (the mineral raw materials information system) could be accessed and used without problems and new functions were also added to meet the needs of users. Integration of these data with the CRD has continuously progressed. The Internet and intranet applications for presentation of the signal level of information relating to all mineral deposits, including those not displayed in maps of protection of mineral deposits, were also developed. The project for the processing of documents from external archives has continued with digitisation of records of geophysical logging and their partial conversion to files. Data from 1225 boreholes in the Czech Cretaceous Basin, drilled by the former Uranium Exploration Co., Liberec and Uranium Mining Co., Hamr, were processed by DIAMO. Data from 139 boreholes, which were stored at the logging centre at Tuchlovice, were processed by Aquatest. Inclinometric data has also been entered (1200 boreholes selected of which measurements of 500 are now completely recorded).

- *Integrated digital archive of reports and expert assessments preserved in Geofond CR*

Based on pilot studies made in 2000, it was concluded that this task would be more time-consuming than originally estimated and that the resources allocated for the original project were too small. The project was modified and re-submitted to the Ministry of Environment. For financial reasons, the modified proposal was not approved and the original contract was cancelled.

- *Compilation of the Database of mining waste piles*

In 2001 the project for compilation of the new database of mining waste piles was begun. Based on discussions with the Ministry of Environment and independent experts about the definition of a waste pile, the content of the record file and methodical guidelines, Geofond undertook the creation of the entry application. It allows addition of digital documentation to each record file, which can be related to particular parts of the CRD. From 2002 the Ministry of Environment will supervise the entry of data by private companies. Geofond will distribute the installation media with the application, gather the data from processed areas, check and verify them, and integrate them with the central database.

2. Technical supervision of the compilation of specialised databases by Geofyzika Co. and Geomin Coop., as commissioned by the Ministry of Environment

The responsibility for supervising the compilation of specialised databases financed and contracted by the Ministry of Environment was delegated to Geofond. Supervisory one-day meeting are held with the contractors and, in addition, yearly reports are evaluated by Geofond.
In the case of Geofyzika Co., some problems remained outstanding because of the failure to re-negotiate the legal agreement between the Ministry of Environment as the client, Geofyzika Co. as subcontractor and Geofond as supervisor to include rules for data sharing. The contract between Ministry of Environment and Geofyzika Co. was finally signed on 26 June 2001, and the licence agreement between the Ministry of Environment and Geofond concerning the use of geophysical data was signed on 17 December 2001. As a result, in contrast to previous years, Geofond received the report, map supplements and data, (not only for the 2001 phase but also for all previous years), on time. The total amount of data is huge, so it could not all be reviewed and checked in detail in the short time remaining. The petrophysical data and geophysically surveyed areas, forming only part of the total, were analysed and uncertainties resolved so that errors could be sent to Geofyzika for correction. All systematic changes and corrections required will be made in 2002.
Collaboration with Geomin Jihlava on compilation of a geochemical database was effective, data were supplied fluently and there were no substantial delays. The progress was regularly checked at one-day meetings. One remaining problem is the lack of state-of-the-art computer technology in Geomin. Quality control of data undertaken in the frame of the project "Complex Information System of Geofond", led to the discovery of a significant number of mistakes and duplications, which had previously been hidden. The checking of data is continuing so that mistakes and ambiguities are being removed and corrections made to the newly created structures within the CRD.

3. Compilation and update of metadata for the metainformation system of the Ministry of Environment (MIS)

In 2001 no important changes in the metainformation systems maintained by the Ministry of Environment have been made. The updated data set for the metainformation system maintained by the Institute for Ecopolitics, and the data for a partial update of MIS were compiled. Several meetings were organised by the Department of Informatics of the Ministry of Environment for the purpose of co-ordinating the work of the Ministry and service organizations. The project, Map Server of the Ministry of Environment, was tested using sets of signal information compiled in the required format from Geofond databases. The subsequent development of this concept will depend on methodological and financial support from the Ministry, because the technology under test requires a high level of investment, which is beyond the financial resources presently available to Geofond.

2. ROUTINE ACTIVITIES

In addition to priority projects and specific tasks, we continued to maintain, update and revise our documentographic and factographic databases, which are in continuous use by our clients. Other routine activities were undertaken in accord with the laws and regulations governing Geofond.

Archiving, documentation and compilation

These activities are quantified in summary tables and graphs. The numbers can easily be compared with those for previous years.

Summary of the numbers of manuscripts received by Geofond and lent by Geofond in the period 1981-2001

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

Year	items received	individual*) authors	enquiries	reports lent	maps lent
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

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

A total of 2,350 manuscripts were received by Geofond in 2001, of which only 1,981 were new, submitted in accord with §12 of the Geological Law. Compared to 2000 this marks an increase of 47.3%. The remaining 369 were older reports from the archives of GMS (353) and Unigeo (16) acquired during the project "Documentographic processing of reports from archives transferred to Geofond". By the end of 2001, a total of 1869 of these had been documentographically processed and placed in the archive (1518 from 2001 plus 351 from the previous year). The remaining reports were not processed because they arrived at the end of the year. At the beginning of 2002 these remaining 832 reports will be processed.
In 2001, 341 visitors used the study room service making a total of 3591 visits. In total, 16,183 reports and 4,283 maps were consulted. The number of loans increased moderately in 2001 relative to 2000. The number of visitors (ca. 14 per day) corresponds to the average number for the period 1992-2000. The income earned for archive services increased significantly from 105 000 CZK in 2000 to 124 000 CZK in 2001.
In 2001, 941 plans for geological work were registered by 112 individuals and organisations (for purposes of civil engineering geology 163, hydrogeology 744, raw materials 24, research 10). There was a marked increase in registrations compared to the number in 2000 (381 geological projects). This was due to the renewal of the Geological Law and the regulation No.282/2001 Coll. of the Ministry of Environment requiring formal registration of plans for all geological work.

Breakdown of reports acquired by Geofond in 2001

	Items	%
Engineering Geology	1 166	49,6
Hydrogeology	803	34,2
Research Reports	17	0,7
Reports on Ore Deposits	271	11,5
Reports on Foreign Travel	60	2,6
Other	33	1,4
Total	**2 350**	**100,0**

Summary of activities of the Material Documentation Unit

Year	number of drill cores stored	total cores	cores except for CH I-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

****)** *minus pooled and discarded cores*

In 2001, Geofond received core material from 2 new drill holes made to investigate the structure of the Poděbrady spring. During 2001, 37 cores were permanently stored. Simultaneously, transfer of core specimens from the original field boxes to unified boxes of the CH I type continued and core from 16 drillholes was transferred. As of 31 December 2001, the number of objects in storage was 1, 428 (mainly drill cores), of these, 1,249 are stored in 7,605 CH-I boxes, while the remaining cores are still in their original boxes. Of the

108 new cores acquired from Unigeo Ostrava in 2000, 72 still remain temporarily stored in their original field boxes; 11 of these are due to be placed with those already in storage.
In 2001, archived core material was used by 4 researchers. A total of 40 drill cores were examined and 94 subsamples taken for photodocumentation and further scientific evaluation.

Centre for Documentation of Gold Deposits (Division of Geofond)

The Centre, which specialises in the history of gold mining in the Czech Republic, is housed in the Regional Museum at Jílové u Prahy. The Centre was established in 1994 in response to the need to gather all documentation resulting from state-funded gold exploration projects that culminated in the 1980s. The decision was taken to locate this Centre in a museum where primary and material documentation from the Jílové gold-bearing district had been stored previously. Gold exploration and exploitation at Jílové ended in 1969.
The Centre houses primary geological and material documentation from exploratory and mining works, including original geological reports and geological maps, and especially old maps of gold-bearing districts. The material documentation includes samples of ore minerals and rocks collected during exploration and mining works, including 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 is arranged geographically. The collection currently consists of 5,500 specimens of minerals and rocks, 2,000 thin sections and 400 polished sections.
In addition to work undertaken on the project to incorporate geological documentation from external archives into those at Geofond, selected documentation was also provided for the purposes of scientific research into the geology and mining history of gold deposits.

Information Systems

The Documentographic Information System

The ASGI Database

In 2001, the number of records increased by 18.185 (there were 14.350 new records in 2000). The new records originated from newly acquired reports (1.809; coded as P 1.662, FZ 47 and ZC 100) and 16,300 from reports already archived (coded as V 15.550 and external archives 750) and 76 as substitutes for duplicates. 11,122 records from former databases ASGI-ZC, ASTI-ZC and INTERGEO were converted from the previous ISIS format. As of 31 December 2001, the ASGI database contained, in all, 152.328 records. A total of 17 searches for external users were carried out. These contained a total of 138,559 entries relating to unpublished documents.

The GeoRef Database

In fulfilment of a bilateral agreement, records concerning 205 newly acquired Czech and 148 Slovak geological publications (a total of 353) were sent to The American Geological Institute, Alexandria, VA, USA.

The following CD-ROM GeoRef editions are available at Geofond: GeoRef 1785-1974, GeoRef 1975-1984, Geo-Ref 1985-1992, GeoRef 1993-1996, GeoRef 1997-2001. The information contained in these CD-ROM is accessible using SPIRS software.
Geofond responded to 4 GeoRef requests by state organizations (Czech Geological Survey, Faculty of Science, Charles University, and the Ministry of Environment). The output contained 6,243 entries.

The Factographic Information System

Database of boreholes

Annotation of new drilling was done by 23 contractors (4.105 boreholes) and the staff of Geofond (914 boreholes). The number of annotated drill logs was increased by 5,019. A total of 6.291 drill logs were prepared for inclusion in the database. 150 reports, together with 577 annotated cores were added to the database from GMS archives. By the 31 December 2001 the actual number of drill logs in the database was 618.126. Another 22,662 drill logs were also entered, however these were removed because of duplication.
The Table below shows a significant decrease in the numbers of annotated and stored drillcores in recent years. This is due primarily to the fact that the recording of older cores was completed in 1990. The decrease in 1994 was related to the delay in updates while work required to improve the structure of the database was being undertaken. In 1998 and 1999, lower numbers of entries reflect a general decline in geological exploration, and a decrease in the number of project reports sent to Geofond.
An increase of interest in this database during 2001 in comparison with the previous year was noted. Requests for data increased from 166 in 2000 to 188 in 2001. The accessibility of the signal level of information on the internet led to a reduction in requests for data on drilling locations from the local authorities. Large data files, the number of which is not included in the table below, were pre-processed as a part of the collaboration by Geofond in several Research and Development Projects (VaV).

Temporal trends in the numbers of annotated and stored drill cores

Year	Annotated boreholes per year	Annotated boreholes total	Stored boreholes per year	Stored boreholes total
1976	4 055	4 055	-	-
1977	4 803	8 858	2 095	2 095
1978	8 257	17 115	3 059	5 154
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

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

Database of hydrogeological objects

In 2001, a total of 1,228 objects (boreholes, wells and springs) were entered into this database. Of these, 1,024 objects were from 745 new reports and 204 objects from 241 archived reports. By the 31 December 2001, the database consisted of 56,967 objects. A specialized database of potential geothermal energy sources also forms part of this database (1,147 objects). It comprises objects for which temperatures higher than 20°C were measured. By the end of 2001, a specialised database of objects describing the anthropogenic impact on groundwater contained information on: 7, 672 test wells, 1, 248 remedial wells and 4,107 monitoring wells.
In 2001, 363 maps at a scale 1 : 25, 000 showing the locations of hydrogeological objects, as well as 4,978 data sheets, were loaned to 196 customers. Data on 16,256 objects were provided to users in digital form, of these only 35,3 % were provided on a commercial basis, while the others were requests mainly from university students who obtained the data sets free of charge for educational and scientific purposes.

Database of regional hydrogeological investigations

One object outline from a regional hydrogeological survey was added to the database in 2000. In 2001 some corrections were made to 170 records. By the 31 December 2001, the database contained 614 outlines of territories for which the reserves of drinking water have been calculated. In 2001 one user from Aquatest and one user from the Czech Geological Survey, requested data from this database.

Database of landslides and other dangerous slope deformations

Regular updates continued during 2001. There were 48 new objects entered into the database, while information on 127 objects was amended. In all, the database contained 6,706 objects by the 31 December 2001. There were 33 orders processed to provide basic information on 10,668 objects and 23 expert reports to users.

Database of undermined areas

In 2001, major modernization and structural changes to the database were made. The database was continuously updated and data from 45 expert reports and assessments were added. As of 31 December 2001, the database contained 4,619 objects. A total of 37 requests were dealt with, information on 7,710 objects and 88 expert reports were provided to users.

Database of main mine workings

The work on this database continues in the frame of project “Database of main mine workings”, which was begun in 1999. During 2001, entry of new data and quality control continued. 5,044 objects were entered and added to the database, of these 2,100 were made on a voluntary basis (unpaid) by Rudné Doly Příbram (Příbram Ore Mining Company) and DIAMO – SUL. As of 31 December 2001, this database contained 9,904 objects. Information from this database is mainly used during inspection of mine workings for purposes of local

planning, in accord with §35 of the Mining Law, and for improving the knowledge of undermined areas.

Database of old mine workings

In accord with regulation No.363/1992 Coll. of the Ministry of Environment and §35 of the Mining Law, Geofond maintains a database of old mine workings. In 2001, 129 new reports of dangerous subsidence near old mines were filed. As of 31 December 2001, 810 such reports had been registered (870 separate incidents, of these, 706 involved old mines *sensu* Czech Mining Law). From previous years, 7 reports of multiple events relating to 2,417 objects without detailed specifications have been registered. Representatives of Geofond were present at on-site investigations and inspections of safety measures, which were made at the request of the Ministry of Environment. An updated list of old mine workings was produced by Geofond for the Department of Geology of the Ministry of Environment. This serves as information in support of the Annual Report of the Ministry of the Environment and for a Report to the Government of the Czech Republic concerning the problems associated with old mining workings.

Database of areas affected by the exploitation of mineral resources, reclaimed and recultivated areas

This database is partially composed of data from the Hor(MPO)1-01 register. The structure of the database was created in 1997-1999 in co-operation with the Ministry of Environment, Czech Bureau of Mines and representatives of the main mining companies. Basic information on the mineral deposit, area of exploitation, land use prior to mining, the layout of the area affected by exploitation, volumes of topsoil and sub-soil overburden materials in dumps, plans of reclaimed areas and plans for later land use in abandoned workings are all included. In addition, the database includes information on POPD, and general plans for closure of mining operations and reclamation. The data are related to mining claims or non-exclusive registered mineral deposits. By agreement, the information in this database remains confidential, so only summaries are given as outputs. Each year, complete data are passed to the Ministry of Industry and Trade, the Ministry of Environment, the Czech Bureau of Mines and to other organizations selected by the Ministry of Industry and Trade.
Regular collection of data has been made since 2000 (compiling data from 1999) and the process continued during 2001 (compiling data from 2000).
By 31 December 2001 the database contained information on 973 mining claims and 260 non-exclusive registered mineral deposits. Information on the effects of exploitation of raw materials, remediation and reclamation are used mainly by the Ministry of Environment, the Czech Bureau of Mines, the Czech Geological Survey and the Czech Agency for Protection of Nature and Countryside.

Database of exploration areas and projects

The database contains details of areas for which exploration licenses have been granted, together with the identity of the minerals for which the exploration license has been granted. Permits to undertake geological works for prospecting and surveying of special mineral deposits are issued by the Ministry of Environment in accord with §4 Law No. 62/1988 Coll.

In 2001, 27 new records were entered and 49 were updated (extensions or changes in the validity of licenses). By 31 December 2001 the database contained details of 527 licenses.

Database of radiometric anomalies

In 2001, the database was integrated with the CRD and the first version of an application, allowing presentation of these data on the intranet was designed. By 31 December 2001 the database contained 16,203 objects. Requests by 4 external users were fulfilled, in which data on 4,443 objects were processed to the required output.

Database of radiometrically anomalous areas

In 2001, the database was integrated with the CRD and the first version of an application allowing presentation of these data on the intranet was designed. By 31 December 2001 the database contained 3,420 objects. Requests by 5 external users were fulfilled, in which data on 1,270 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. The information contained in the previous two databases of radiometrically anomalous areas and radiometric anomalies has been amplified. Data were processed on behalf of Geofond by the survey organizations of the former ČSUP (Czechoslovak Uranium Explorations) under the terms of the project: "Collection and Processing of Data obtained from Prospecting of Radioactive Materials for Environmental Purposes". In 2001, the database was integrated with the CRD and the first version of an application allowing presentation of these data on the intranet was designed. By 31 December 2001 the database contained 466 objects. There were no outputs requested in 2001.

Database of geological maps in the archive of Geofond

This database was transferred to the Czech Geological Survey to form part of the project, Digital Map Archive of the Czech Geological Survey, funded by the Ministry of Environment. The database lists maps, which should be added to the unified digital archive. No new data were entered in 2001. By 31 December 2001 the database contained information on 9,135 geological maps at different scales.

Information system on raw materials (SURIS)

All sub-databases were continuously updated during 2001. By 31 December 2001, the system contained:

Register of mineral deposits: 9,106 objects, of which:
1,637 are state-controlled deposits with calculated reserves (Subregister B)
668 are non-exclusive registered deposits (Subregister D)
1,075 are deposits without calculated reserves (Subregister N)
184 are approved prognostic resources (Subregisters P and R)
1,065 are other prognostic resources (Subregister Q)

1,462 are mineral occurrences and areas where exploration revealed industrial minerals in subeconomic amounts (Subregister V)
3,015 are cancelled deposits (Subregisters Z and U).

In 2001, 201 new records were entered and 607 were updated.

Register of protected zones surrounding deposits
In total this contains 1,136 objects of which 32 were added and 81 updated in 2001.

Register of permits delineating mining operations (mining claims)
In total this contains 1,136 objects of which 8 were added, 238 updated and 3 cancelled in 2001.

Register of preliminary permits delineating mining operations
In total this contains 615objects of which 6 were added and 17 updated in 2001.

All registers are regularly updated. The sources of data used by Geofond are as follows:

- Annual statistical statements Geo(Ministry of Environment) V3-01
- Results of the project, Re-evaluation of deposits of state-controlled minerals
- Results of the project, Re-evaluation of prognostic resources
- Audits of reserves
- Documents concerning state-controlled deposits
- Decisions concerning cancellation of reserves
- Documents on changes in permitted spatial limits of mining operations
- Decisions on establishment/cancellation of protected areas surrounding deposits
- Final reports on exploration.

Administrative registers

Register of companies
This database contains information on 2,689 organizations (including those no longer in existence) undertaking geological work, exploration for mineral resources and mining. 141 new companies were added and data on 2,354 companies were revised in 2001.

Register of personal licences for carrying out geological work
In total 1,863 licences are registered of which 269 were added and 192 updated in 2001.

Register of geological projects financed from the state budget
In total 1,613 registrations, no new entry in 2001.

Register of rulings on reserves by the KKZ panel
In 2001, previously entered documents concerning approvals of reserves made by the Committee for Calculation of Reserves were revised, and the approvals of these by the Committee for Projects and Final Reports were entered. In total, this database contains 3.532 approved reserves.

Summary of outputs from all databases in 2001

	Number of orders	Invoiced	Total costs according to price list
Total	296	292 795,20	1 132 644,70
- for state administration	56	93 115,20	717 900,20
▪ Ministry of Environment	1	0,-	87 490,-
▪ Ministry of Industry and Commerce	1	0,-	200,-
▪ Czech Bureau of Mines	2	0,-	625,-
▪ Ministry for Regional Development	1	8 000,-	16 000,-
▪ Ministry of Interior	1	0,-	50,-
▪ Land Fund	1	0,-	175,-
▪ District Councils	12	10 360,20	20 710,20
- Czech Geological Survey	3	7 330,-	85 630,-
- Universities	23	30 000,-	374 335,-
- Towns and Cities	7	6 425,-	6 425,-
- Regional Councils	5	31.000,-	126 260,-
- Other users	237	197 730,-	412 794,50
- International Institutions	3	1 950,-	1 950,-

Relative to the total list price of 1,132 .644,70 CZK for outputs, as shown above, the proportion of paid services was ca. 26 %. This low percentage is primarily a result of unpaid service to Universities (theses and teaching), to the Ministry of Environment, and to the Czech Geological Survey (mostly when Geofond participates in Research and Development Projects for which grants have been made directly to the budget of Geofond).

Compilation of specialized maps

Maps with special geological features

One of the most important functions of Geofond is the publication of maps at a scale of 1:50,000 depicting areas with special geological features, such as protection of mineral deposits, landslide hazards and undermined areas. These maps, published in revised editions every three years, are produced in accord with Section 17 of Law no. 62/1988 Coll. According to this law, the organizations responsible for the national geological service are obliged to provide the state administrative bodies with the results of geological work that potentially could affect regional and local planning and environmental protection. This includes information on regional and local geology, protection and exploration of mineral resources and ground water resources and all geological risks. These maps are passed to the Department of Geology and the Regional Departments of the Ministry of Environment, Regional Councils and, through them, to District Administrations and Building Offices. Maps of protection of mineral deposits are passed to the Ministry of Industry and Commerce and Regional Mining Offices.
In 2001, **Maps of Protection of Mineral Deposits** for the Regions Karlovy Vary, Ústí, South Bohemia and Central Bohemia 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 "Re-evaluation of prognostic resources". A revision of measures to protect state-controlled deposits was also considered. This was carried out by the Regional Departments of the Ministry of Environment. A new edition of **Maps of Landslides and other Dangerous Slope Deformations** continued with the Regions Plzeň, South Bohemia and Central Bohemia.
A new edition of Maps of Undermined Areas will be prepared following major updates of the relevant database in 2002 in connection with the newly prepared Database of main mine workings.

Additional large-scale maps and digital maps

Since 1999 the maps showing the locations of boreholes and basic data are accessible on-line using internet applications. Since 2000, Maps with special geological features (protection of deposits, landslide hazards and undermined areas) were made accessible using the same technology. In 2001 maps of other mineral deposits, which were not included in the previously completed sets, and maps of exploration areas and projects were also added. All the maps are supplemented with "signal information" for individual objects. Signal data is used for basic orientation or to draw attention to the existence of a particular object in a given area. All the applications, which mediate access to the maps, together with the documentographic database ASGI, are accessible on the internet (www.geofond.cz - Czech version only) or available on the intranet for visitors to the study room at Geofond.
Signal information is also available in the form of vector maps in GIS formats, suitable for use in local information systems. Updates are made on request. In 2001, the Ministry of Environment was given all sets of GIS data of this type to be tested in the context of the project, “Map Server of the Ministry of Environment.”

3. SCIENTIFIC RESEARCH

Most of the activities undertaken by Geofond CR do not fall in the area of scientific research. Traditionally, research in-house is directed towards the introduction of new computer technologies for geoinformatics. In 2001, the project "Complex Information System of Geofond" continued. This project was originally commissioned in 1998 by the Ministry of Environment under the title "Unified system of geological, hydrogeological, geochemical and geophysical databases in relation to the Database of drilling". The project will end in 2002. Progress made in 2001 has been described in the section under Specific tasks.
Geofond further provides information support to Research and Development projects ("VaV") co-ordinated by other institutions. Outputs and pre-processing of data from the Geofond databases was supplied for the following projects (project number and institution of the principal investigator in brackets): "Potential use of geothermal systems for energy production" (VaV 630/3/99; Geomedia Ltd.), "Quality of geoenvironment in terms of standardized components" (VaV 630/4/00; Geomedia Ltd.), "Study of crystalline formations in the deep structures beneath the Doupov Complex and its environs" (VaV 630/1/00; Czech Geological Survey).

4. INFORMATION SERVICE, PUBLICITY

Based on the Plan of Publication, Geofond produced the following volumes in 2001:

- Guidelines for entry of data to the Database of boreholes
- Guidelines for users of the hydrogeological database – on-line help
- List of organizations and codes used in database ASGI
- Guidelines for entry of data to the documentographical database ASGI
- Annual Report of Geofond of the Czech Republic 2000.

In 2001 the last quarterly part of the Catalogue of acquisitions of geological documentation (4/2000) was completed. In 2001, the printed version was substituted by the ASGI application on the internet, which is the main line of development in Geofond. It has become more and more important both in communicating with clients and in the dissemination of geological information. Thanks to the wide accessibility of the internet, there has been a marked increase in interest in our services, queries received have become more specific and better targeted. An increase in the number of e-mail communications has also been noted. The web pages of Geofond (www.geofond.cz) were updated and amended in 2001 and new applications were also added.

Geofond is responsible for one of the video-rental facilities of the Ministry of Environment. The video library contains 274 videos, mainly ecologically-oriented, geology is less well represented. In addition, 33 videos belonging to the ENvideo Foundation and seven video transcriptions of geological films from the former Czech Geological Bureau are available. In 2001, 26 new videos were acquired. Geofond also keeps 55 documentary films on geological topics (360 copies). In 2001, a total of 89 videos were rented.

5. OTHER ACTIVITIES

In 2001, on behalf of the Ministry of Industry and Commerce, Geofond produced 192 commentaries on fluctuations in the price of selected commodities (mainly industrial minerals). In addition, on behalf of the state administration, land developers and other organizations, 39 expert assessments, evaluations and literature summaries in the field of mineral resources, 833 reports on various aspects of protection of mineral deposits, groundwater resources, cave-in and land-slide hazards and 88 assessments relating to sites endangered by geodynamic phenomena were produced, as well as 921 evaluations of the potential for discovery/occurrence of mineral deposits on 22,910 plots designated for substitute restitutions by the Land Fund and on state-owned land for sale in accord with 95/1999 Coll. The Land Fund announced that this process of evaluation would be terminated on 1 October 2001.

6. INTERNATIONAL ACTIVITIES

Collaboration with the American Geological Institute, Alexandria, VA, USA continued on the basis of an Agreement for delivery of information from the GeoRef database on CD-ROM in

exchange for an index of geological literature from Czech and Slovak journals (agreement made on April 4, 1992).
In the field of mineral resources, international collaboration proceeded as follows:

- Provision of information on raw materials in the Czech Republic to international journals and to other publications (e.g., Industrial Minerals, Metals Bulletin, EU publications of Roskill Information Services, USGS etc.). Exchange of the English and German versions of "Raw Materials of the Czech Republic – Mineral Resources" for international publications.
- Regular systematic exchange of materials and consultations with the U.S. Geological Survey, Mineral Resources Section.
- From 10 to 14 June 2001, representatives of Geofond took part in the "13th International Minor Metals Seminar" in Nice, France, at which emphasis was placed on strategic (minor) metals – developments in production, patterns in the prices of selected commodities and the latest trends in their use. Travel was funded under the budget of the project: Specialized databases for the Information System on Raw Materials (SURIS).
- From 25 June to 1 July representatives of Geofond took part in the conference "Securing the Future" in Skelleftea, Sweden. This was devoted to protection of the environment in relation to the exploitation of mineral resources, and to the problems of cultivation and remediation after closure. Travel was funded from the budget of the project: Re-evaluation of state-controlled mineral deposits of the Czech Republic.

In the field of information technologies, international co-operation continued. Partly this took the form of correspondence (e-mail conferences and forums for discussion), and partly by personal participation in seminars, working meetings and the organisation of seminars with international collaborators:

- From 3 April to 6 April 2001 Geofond organized a seminar aimed at better knowledge and understanding of the state of development of information systems in geological surveys from neighbouring countries. It was held partly in the Ministry of Environment and partly in Geofond. Participants from the Czech Republic, Poland, Slovakia, Lithuania and United Kingdom agreed the need for exchange of geological information and expressed their willingness to create the infrastructure needed. The EULOGI (European Logical Geoinformation Initiative) group was established and its main aims were formulated. The first objective was to build a common project proposal and to determine the available sources of funding. It was agreed to invite participation by Hungary, because their representative could not attend the first seminar.
- On 14 December 2001 a meeting of the consortium for a proposal to the e-Content Programme was organized at Geofond. This project is co-ordinated by BGS. The main aim of the project is the creation of an e-commerce system for the marketing of information held in borehole databases, and especially the graphic display of geological profiles of boreholes and related parameters. Participants from the Czech Republic, United Kingdom, Poland and Holland formulated some changes in the proposal and decided to prepare the project for the 3rd Call of the e-Content Programme.
- From 29 May to 2 June 2001 a representative from Geofond took part in the seminar Geoscience Modelling: Technical Meeting and Workshop, organized by BGS in Nottingham, UK. The seminar was focused on visualization, process modelling, and

the solution of geoscience problems using modelling and management of geospatial information. Participation in this workshop was undertaken in connection with the project "Study of crystalline formations in the deep structures beneath the Doupov Complex and its environs" and travel was funded from this budget.

- From 7 to 9 June 2001 a representative of Geofond took part in the meeting of the members of the EULOGI group, organized by the Polish Geological Survey (Panstwowy Instytut Geologiczny). At this meeting, the work begun in April 2001 was continued. Travel was funded by Geofond.
- From 9 to 17 June 2001 a representative of Geofond participated in the 16th Meeting of ICGSECS (The International Consortium of Geological Surveys for Earth Computer Sciences) in Vilnius, Lithuania. The meeting was devoted to the problems of management of information systems, publication of geoscience information on the web, development of electronic commerce for distribution of this information and problems of copyright. The application of Geofond for regular membership in the consortium was approved. The Consortium adopted a new name – GIC (Geoscience Information Consortium) and other organizational changes were made to its Charter. Travel was funded by the Ministry of Environment.
- From 13 to 16 September 2001 a representative of Geofond took part in the working meeting of the EULOGI group (Group 1) at the Astron Conference Centre in Frankfurt, Germany. The meeting was focused on preparation of the final version of the project: EULOGI – Technical Metadata. The travel was paid by Geofond.

7. ECONOMIC STATEMENT FOR 2001

During 2001 Geofond had an equivalent of 70 full-time employees. This amounted to 82 % of the set quota of 85 employees.
The financial allocation for salaries (12,400.000 CZK) was fully used. Relative to the year 2000, the mean salary increased by 7.4 % to 14,519 CZK. The average salary bracket number for all Geofond employees decreased from 8,3 to 8,2 relative to 2000.
The budget for non-capital expenses was 40,917.000 CZK; of which 40,849.000 CZK, i.e., 99,83 % of the total, were actually spent.

The highest expenses (18,234.000 CZK) were those for services purchased from other institutions, especially under subcontracts within geological exploration projects financed by the state. Of these, 4,268.000 CZK went toward the Re-evaluation of State-controlled Mineral Deposits of the Czech Republic, 379.000 CZK toward Specialized Databases for the Information System on Raw Materials (SURIS), 425.000 CZK toward Complex Processing of Geological Documentation from Archives taken over by Geofond, 5,367.000 CZK toward the Complex Information System of Geofond, 536.000 CZK toward Setting-up a Database of Main Mine Workings, 640.000 CZK toward Documentographic Processing of Reports from 1941-1978 in the possession of Geofond, 200.000 CZK toward Recording of the Results of Geological Works in the Vaneč-Otmanice Area, and 485.000 CZK toward Recording the Results of Geological Work undertaken during exploration for Uranium – Phase 1. As usual, there was an increase in phone bills and mailing expenses (754.000 CZK in 2001 compared to 693.000 CZK in 2000).

Relative to 2000, there was an increase of about 526.000 CZK in the sum paid for salaries and also the sum paid back to the state as mandatory social and health insurance increased from 4, 070.000 CZK in 2000 to 4, 285.000 CZK in 2001. There was an increase in travel expenses from 371.000 CZK to 452.000 CZK due to the higher number of journeys made by staff to meetings locally and abroad. These expenses were fully covered by Geofond, using both the basic budget and funds allocated from the projects listed above. There was a notable decrease in maintenance and repair costs from 2,680.0000 CZK in 2000 to 1,785.000 CZK in 2001. The high cost in 2000 was exceptional because of the need to reconstruct and decorate buildings owned by Geofond at Stratov, Choteboř and Kutná Hora. In 2001 the greater part of these expenses were paid for the repairs to the heating equipment which had broken down, the rest was used for maintenance of the reprographic and computer technology, for completing the reconstruction of the Kutná Hora office and for other necessary repairs. The decrease in costs of water and energy from 880.000 CZK in 2000 to 820.000 CZK in 2001 were significant; costs of gasoline also decreased from 117.000 CZK in 2000 to 1000.000 CZK in 2001 as a result of lower gasoline prices and a decrease in the total distance travelled by car (1.351 km less than in 2000). The expenses for material supplies were also down from 2.344.000 CZK in 2000 to 1.898.000 CZK in 2001.

No funds were allocated to Geofond for capital investments in 2001, so nothing was spent.

Although the income earned by Geofond for activities increased from 1.472.000 CZK to 1.588.000 CZK, the target of 1.700.000 CZK set for 2001 was exceeded only thanks to insurance compensation received for a stolen car. Overall, during 2001, there was a decline in demand for expensive outputs from the Information System, but there was a rather greater demand for cheaper on-site loans and reprographic services.

In 2001 the planned budget deficit, as determined by the difference between income and expenditure, was 39.217.000 CZK. Thanks to a small surplus in planned income; the final deficit of 30.080.000 CZK was 137.000 CZK lower than anticipated.

8. ORGANISATIONAL STRUCTURE OF GEOFOND

There were no organisational changes during 2001. The present structure has been in operation since it was established on 1 July 2000. Planned numbers of employees are given in brackets; middle and high-level managers are denoted as +1, while heads of subordinate units are included in the single staff number.

100 DIRECTORATE (15+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 required 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 (12+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 Environment, Internet).

122 Unit for Operation and Development of Computer Systems and Applications (5)

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, organises 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, ensure integration of these subsystems into the Central Information System, provides information on specific use of Geofond's Information System, provides non-standard outputs from databases, co-ordinates research, grant or other projects in the field of development and use of modern technologies and dataprocessing in geology.

123 Data Processing Unit (5)

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.

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

In charge of all activities necessary for the financial and logistical operation of the organisation. 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 lease, 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, destroys 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 (54+1)

Responsible for all activities of the expert departments, collaboration with the Department of Geology and Regional Departments of the Ministry of 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 (17+1)

311 Documentography Unit (7)

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

312 Material Documentation and Material Archives Unit (4)

Collects and preserves material documentation and makes it accessible. Participates in disposal of unwanted rock samples at other institutions/companies and selects material for preservation in Geofond (core logs and rock samples). In charge of the Database of material documentation. Co-ordinates take-over and transfer of former 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 (13+1)

321 Boreholes Database Unit (7)

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 (10+1)

Administers deposits of industrial minerals in compliance with the Geological and Mining Law (in collaboration with the Ministry of 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 access to sources of confidential primary data.

331 Unit for Protection and Registration of Mineral Resources (6)

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 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: state-controlled deposits with calculated reserves (subregister B), uncontrolled registered deposits (subregister D), deposits without calculated reserves (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 state-controlled deposits, registers reserves of uncontrolled 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 Environment) V-3/01. 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 (4)

Prepares statistical evaluation of imports and exports of industrial minerals, 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 Commerce. Prepares the publication of specialized booklets: Raw Materials of the Czech Republic – Mineral Resources, Securing Industrial Minerals for the Czech Republic, Quantification 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 Commerce); responsible for the Database of main mine workings (joint assignment by the Ministry of Environment, Ministry of Industry and Commerce and 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 specialized workplace.

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 customised outputs from these Registers to 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 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 areas scheduled for development.

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.

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