

# **Seminar on the Management of Mineral Resources in Central and Eastern Europe**

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*Coordinated by*  
**Minerals Management Service, The U S Department of the Interior  
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**SEMINAR  
ON THE MANAGEMENT OF MINERALS RESOURCES  
IN CENTRAL AND EASTERN EUROPE**

**DAY 1**

**8 00-8.30      Registration**

**8 30-9 00      Opening Remarks / Welcome**

Dr Robert Middleton      Opening Remarks  
Moderator  
U S Department of the Interior  
Minerals Management Service (MMS)

Dr Peter Eszto      Welcome  
President  
Mining Bureau of Hungary (MBH)

Mr Bruce Abrams      Welcome  
USAID  
Budapest Mission Office

**9 00-10 00      Background and Development of Hungarian Mining Program**

Dr Paul Teleki      Legislative and Structural Reform in the Minerals  
Sector of Hungary 1990-1993

Dr Peter Eszto      Development of Concession Law, Mining Law and  
MBH      MBH

**10 00-10 20      Break**

**10 20-11.00**

Dr Antal Fust      Development of Concession Program and Mineral  
MBH      Exploration Permits

**11.00-12.30      Lunch**

**12.30-2.30      Development of Hungarian Training Program**

Mr Robert Ichord      Background of USAID effort in Hungary  
Chief  
Bureau for Europe and the NIS  
Energy and Infrastructure

Mr Peter Danforth      Technical Assistance to MBH and other CEE  
Bechtel      Geological and Petroleum Agencies Including Training  
and Computer Purchase

Mr Doug Koza. Development of DOI U S Training for Safety Inspectors  
U S Bureau of Land  
Management (BLM)

Mr Bill Cline Training of Eastern European Managers in the U S ,  
Gaffney, Cline & Associates Hungary, Romania and Bulgaria for Relevant National  
Oil Company / Ministry Personnel

**2 30-3 00 Break**

**3.00-4.30 Hungarian Minerals Management Program: Transition Issues**

Mr Balazs Csep Development of the MBH Training Program  
MBH Needs, Opportunities, Experiences

Mr Gabor Katona Royalty Management Issues  
MBH

**6 00 Reception**

To be held at the Hungarian Geological Survey (MÁFI) Museum  
Address Budapest, Stefania ut 14

**DAY 2**

**8.00-9 30 Panel Discussion on US AID/DOI Training Efforts - Lessons Learned**

Mr Martin Grieshaber Revenue Management  
MMS

Dr Roger Whatley Data Management  
MMS

Mr Jeffrey Zippin Environmental Management  
USDOJ  
Office of the  
Assistant Secretary -  
Water and Science

Mr Douglas Koza. Inspector Training  
BLM

**9 30-10 00 Economics of Minerals Development**

Mr Imre Varga. The Importance of Applying the Right Economic  
Varga Enterprises Ltd Yardstick to Development of Minerals Programs

**10 00-10.30 Break**

**10 30-12 00 Minerals Program in Romania**

Mr Doru Badulescu                      Management of Mineral Resources  
President and                              in Romania  
Secretary of State  
National Agency' for  
Mineral Resources

**12 00-1.30 Lunch**

**1 30-3.00 Minerals Program in Bulgaria**

Dr Christo Dabovski                      Management of Mineral Resources in Bulgaria  
Professor  
Academy of Sciences

**3 00-3.15 Break**

**3 15-4 15 Guest Speakers**

**4 15-5 00**

Mr Robert Ichord                      Looking to the Future USAID Programs in Central and  
USAID                                      Eastern Europe & the NIS

**DAY 3**

**8 00-9.30 Minerals Programs in Central and Eastern Europe - Industry Perspective**

Mr Pat Kelly  
Bechtel

**9 30-10.00 Break**

**10.00-12.30 Discussion of Central and Eastern European Minerals Programs:  
Identification of Opportunities for Sharing Experience, Training and  
Personnel**

Panel Discussion and Group Question and Answer Period

**12.30 Thank you and Adjournment**

Dr Robert Middleton. MMS  
Mr Robert Ichord USAID  
Dr Peter Eszto MBH

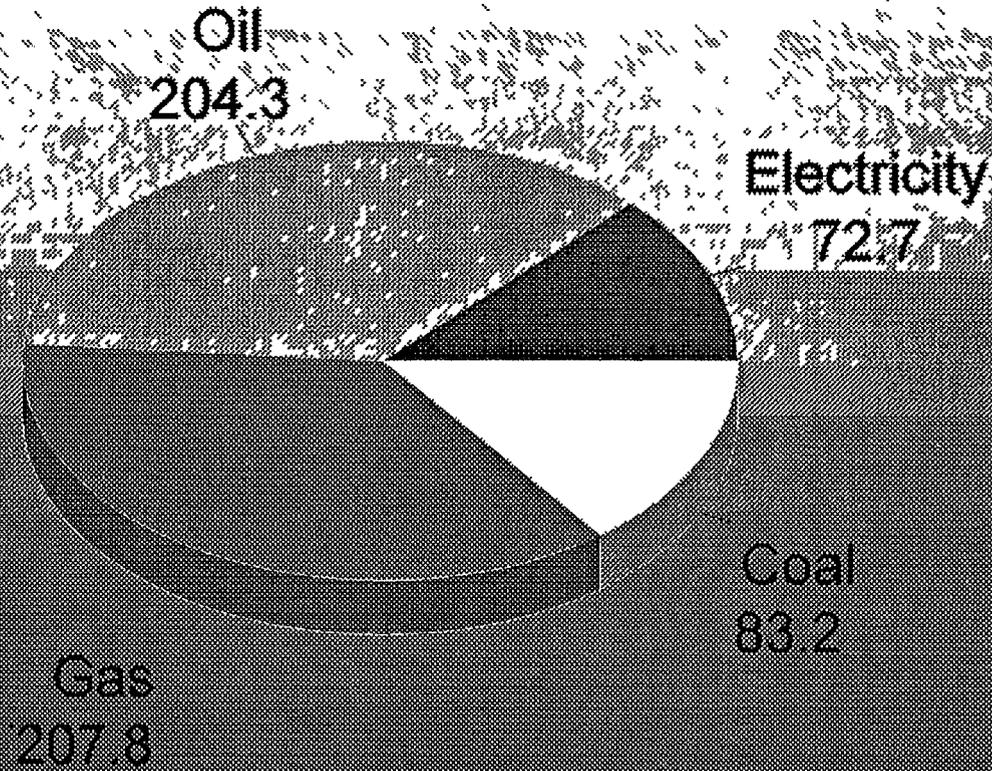
## **HUNGARIAN MINING LAW OF 1993**

### **How does it affect exploration and production?**

- **Concessional bidding**
- **Lease contract**
- **Work program**
- **Property rental**
- **Concessional blocks (petroleum)**
- **Recultivation obligation**
- **Time-limited exploration**
- **Liability insurance**
- **Set royalty**
- **Compensation for damages**

# Energy import

1991 (in PJ)

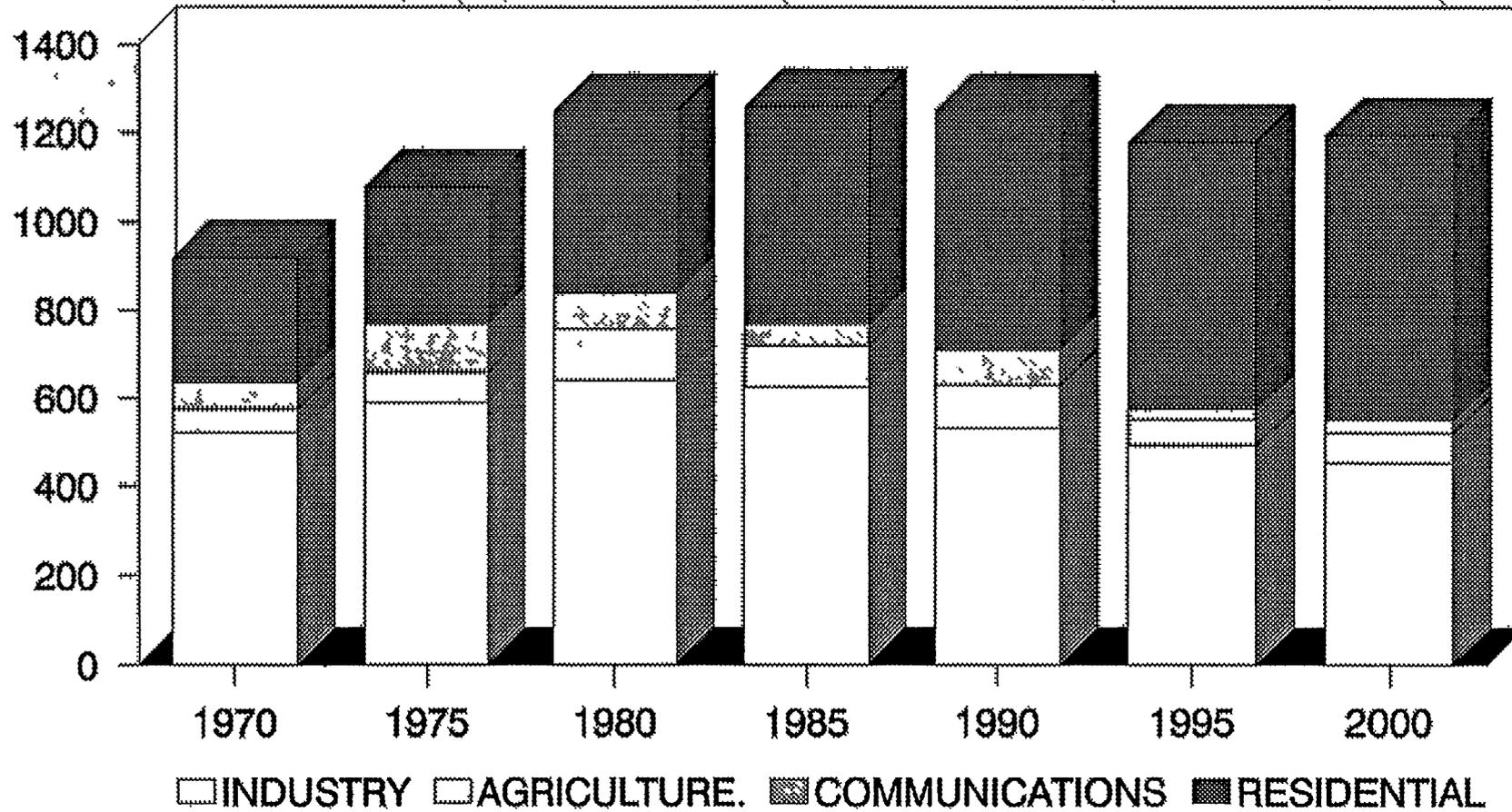


Source: IKM

# ENERGY ALLOCATION

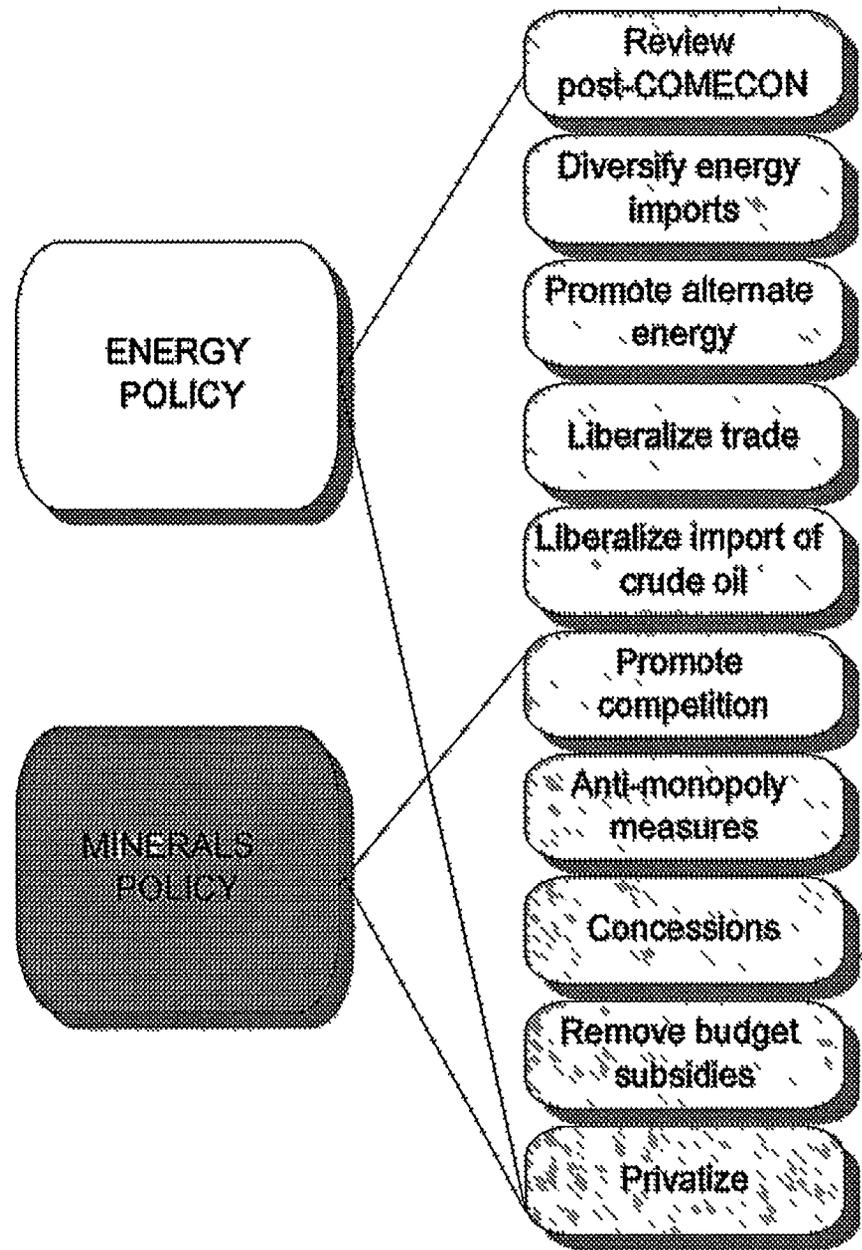
Hungary

PJ



Source: Ministry of Industry and Trade

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## **HUNGARIAN MINING OFFICE FUNCTIONS**

- **Supports national resource assessment base (at Geological Institute)**
- **Designates areas for exploration and development**
  - **blocks for petroleum exploration**
  - **sites for other minerals**
  - **geothermal exploration areas**
- **Industry may nominate areas**
- **Offers concessions for**
  - **petroleum**
  - **hard minerals**
  - **geothermal energy**
  - **utilization of abandoned mines**
- **Evaluates bids**
- **Awards concessions**
- **Permits activities**
- **Inspect and regulate mine safety, workers safety and health**
- **Regulate recultivation of mine areas**
- **Keep records and track work commitment progress**
- **Collect royalties**
- **Permit ownership transfer**
- **Regulate natural gas transport and storage**

## THE MINING INDUSTRY

### ISSUES in 1990

- **Conversion from State ownership to corporate form**
- **Separation of the State's ownership and regulatory roles**
- **Review of functions, realignment, developing strategy**
- **Workable legal framework based on economic principles**
- **Transparent regulatory regime**
- **Rational taxation regime**
- **Proper pricing policy or removal of price controls**
- **Market share recovery**
- **Capital investment through privatization**
- **Investment opportunities in existing or new lines of business**
- **Dealing with competition**

# LEGAL FRAMEWORK FOR MINING

- **New Mining Law based on economic principles**
- **Concession-based exploration and production**
- **Covering petroleum, hard minerals and geothermal energy**
- **Regulatory regime based on**
  - **resource economics**
  - **resource management**
  - **industry nominations**
  - **non-preferential treatment**
  - **investment potential**
  - **acceptable royalty**
  - **environmental protection**
  - **safety**

# GOALS AND ACTIONS OF RESTRUCTURING

## GOALS

- Economic principles
- Establishing private sector
- Establishing competition
- Ensuring supply
  
- Fair taxation (including royalties)
  
- Consumer protection
- Modern legal system
  
- Fair and equitable regulations
- Removal of price controls
- Enticing investment
  
- Provide environmental protection

## ACTIONS

- Economically driven energy policy
- Privatization policy
- Law on Competition
- Law on emergency supplies and energy diversification
- Reduce royalties and standardize taxation
  
- Regulation of utilities
- Laws on mining, electricity and gas distribution
- Economic regulations and safety
- Lift control on tradeable commodities
- Financial restructuring, reducing inflation, financial incentives
- Environmental policy and regulations

# PRINCIPLES OF RESTRUCTURING

- Market economy principles and methods
- Revision of the legal and regulatory framework
- Removal of indirect subsidies
- Privatization of State assets
- Competition in tradeable commodities
- Regulation of monopolistic behavior
- Profit-oriented company operations
- Protection of consumers
- Diversification of energy supplies
- Emergency provisions (stockpiling)
- Quality of service
- Lifting price controls and cost-of-service based pricing
- Environmental protection

# LEGISLATIVE AND STRUCTURAL REFORM IN THE MINERALS SECTOR OF HUNGARY, 1990-1993

Paul G. Teleki

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## Abstract

Featuring economic principles and competitive practices, the 1993 Law on Mining of Hungary replaced a prior version dating from 1960 which emphasized technical regulations and State's right to mine. The new law and the subsequent regulatory framework opened up Hungary to concession-based exploration. More importantly, the steps taken to reach that stage included fundamental revisions of concepts, approaches and actions in transforming a "command economy" to a "market economy". These steps were elements of a reform process that involved, with greater accent on the energy sector than hard minerals, new policies and legislation in diversification in supplies, emergency measures, trade and price liberalization, competition in tradeable commodities, control of monopolistic behavior, ownership reform through restructuring and privatization, removal of subsidies, orientation toward profits, protection of consumers and quality of service and protection of the environment. The new regulatory regime for the petroleum and mineral industries now accent resource economics and management, industry nominations, non-preferential treatment, investment in work, fairer royalty and environmental protection.

## Introduction

After the fall of the Soviet empire, Central and Eastern European countries (CEE), faced formidable tasks in legal, economic and social reforms. Each of these encompassed a multitude of problems to be solved expeditiously. Each country adopted different approaches, depending on their history, economic and financial conditions, and political composition. The underlying basic tenet, however, was that the beliefs and expectations of the populace had to be changed gradually also, in order to accept the process of transformation of "command economies" into "market economies". This would have been easier to accomplish, if the magnitude of the problems could have been measured (but experience was lacking), and if the populace were warned of difficulties they were facing (that, however, was a political liability). In case of Hungary the latter did not happen and the former was glossed over. There was dedication to the cause of transformation, notably in the legal framework and in property rights, the redistribution of the State's assets and in attracting foreign investment. The process of transformation remained on course, but concentrated more on various political issues, less on economic issues and even less on social issues.

In regard to economic issues, the mineral and energy industries of Hungary were certainly high on the list for reform. Dictated earlier by the Soviets through COMECON, expenditures by the

State for a distended heavy industry and for supplying it with raw materials were no longer supportable in 1990. Yet, there were social issues too, namely the large number of miners could not be allowed to swell the ranks of the unemployed suddenly. The Government clearly needed to develop a policy. It did so for the energy sector, including coal, electricity (including nuclear power) and petroleum. Naturally, stronger emphasis was given to these sectors as they were considered strategic. No comprehensive policy was developed for the hard minerals sector.

This paper is intended to recount the reform in the mining sector, specifically in the legislative arena and in the restructuring of the major player in the field, the petroleum company called OKGT into a company called MOL. The paper is narrative, rather than analytical. The process would not be interesting reading without a recounting of policy-making in 1990-1993 and without the lessons learned by all the "reformers".

### Policies of reform

Reforms started with setting policies in broad areas, such were domestic and foreign policy, industrial and commercial policy, defense policy, economic and fiscal policy, education and welfare, ownership reform, and so on. In Hungary, the first *energy policy*, which was an initial proposal to making changes in the government's role, was prepared in 1990<sup>(1)</sup>. The principal subjects were reevaluation of the post-COMECON energy supply picture and options for diversification in imports to reduce energy dependence, improving energy conservation and environmental protection, liberalization of trade policy as it affected import of crude oil, natural gas and electricity, price liberalization in marketable commodities (heating oil, gasoline, etc.), promoting competition in the market place, support for anti-monopoly measures, offering concessions to investors and separation of the Government's ownership and regulatory roles. Legislation on granting concessions (Law on Concessions, 1991) was a key element of this policy (in regard to mineral exploration) and played a strong role in setting other policies such as for telecommunications and for improving the transportation infrastructure. Secondly, it set the tone, together with the 1990 privatization law, in approving the concept of downsizing and transforming state enterprises into joint-stock or limited public companies. Thirdly, it supported elimination of the turnover tax, and together with an industrial policy, influenced removal of subsidies from the industries, although direct subsidies in the energy sector did not exist (hidden and cross-subsidies did, and to an extent still do).

The second version of Hungary's energy policy, assisted by the OECD's survey of the sector, was introduced in 1992<sup>(2)</sup>. The revisions were not major, although more attention was paid to limiting the State's intervention in the sector (read subsidies), future needs in electricity supply due to the inevitable downsizing of inefficient and costly coal production (which was in decline already), and particularly whether another "base" power plant may have to be built in the future in line with demand. Parliament postponed any decision on the latter issue to beyond the year 2000. The survey called for a new Law on Mining (including petroleum and geothermal energy) already prepared by then in draft form, and for new laws of electricity and gas (both were being

written at the time) Concerns about exposure to oil imports arose, however, and legislation was passed that established crude oil and natural "strategic reserves" paid for by the importers, transporters and distributors<sup>(3)</sup> One of the main purposes of new legislation was to separate the functions of ownership and regulations both held by the Government

As it was the practice throughout the CEE, companies in a command economy were an extension of the Government They acted as regulators of their own activities, with only some of the safety matters supervised by government entities Price-setting was an explicit governmental function, no doubt strongly influenced by the major suppliers of commodities Price in the command economy had been used as both an allocative and a redistribution mechanism, that ignored the cost of capital invested, interest charges on fixed assets and working capital, or on differential rent on land, and undervalued raw materials and equipment relative to wages Prices were disconnected, (wholesale from retail, domestic from import) Thus, rate-making did not exist as it is known in the West It was an internal, non-transparent, politically driven process, in which negotiations took place between the powerful company (and the unions) and the government minister

*Trade and price liberalization* of tradeable commodities was essential to broadening import options, and with that step to introduce competition also Under this policy, crude oil could be imported by entrepreneurs (except for crude oil under intergovernmental agreements signed originally with the Soviet Union), and price caps were removed for that as well as for petroleum products at the wholesale and retail levels Reforming the pricing structure of other energy (natural gas, electricity) supplied to industry, the commercial sector and households was, however, set aside Coal as mainly a commodity to use in generating power was not a subject of pricing reform

Other forms of energy, namely electricity and natural gas, remained under Government pricing control Rate adjustments were deferred Arguments against rate increases was ingrained in the belief that a "price-shock" would be detrimental to the economy because inflation would result and would be politically harmful When small adjustments were made, as in the price of household electricity in 1993 which also increased the preferential price workers of the power industry paid, strikes erupted Hence, the energy industry was expected to continue subsidizing the ailing industrial sector and the citizens by furnishing energy at a price less than what it cost to produce it, or in the case of natural gas to import it Justification could also be found in the fact that energy companies were unprepared to disclose their cost data because they feared additional arbitrary taxation never calculated return on investment the rules for depreciation were bizarre, and the cost of a company's operation was known only to the extent of wages, purchases, social costs and taxation

The liberalization of trade brought upon the need to *foster competition* in the market place The price liberalization of tradeable commodities (heating oil, diesel, gasoline, etc ), combined with sale of about half of the State petroleum company's gasoline stations (more than 60% of the market), resulted in an explosion of new construction by international gasoline retailers and independents Two key pieces of legislation assisted in the process These were the Law on

Concessions (1991) and the Law on Competition (actually preventing unfair practices, 1990) As applied to the energy sector, the Law on Concessions intended to counter the monopoly of the State petroleum company in extraction of oil and gas, but was also applied to public utilities which customarily have exclusive rights in serving customers. Competition in providing utility services was misunderstood as the distinction between natural and commercial monopolies was not clear to drafters and lawmakers alike in 1991. Economies of scale that are commonly part of such distinction were also difficult to comprehend. These misconceptions were eventually righted in two pieces of legislation, one on electricity and one on natural gas. The Law on Competition was essentially anti-trust legislation, designed to prevent collusion (unwarranted mergers, acquisitions) however, it did not provide adequate consumer protection (against unfair practices in pricing, services)

A vital step in the reform of any sector, is designing the appropriate form of *legal and regulatory reform* and implementing the same. In Hungary, it was correctly contended, that such effort could be done only in parallel with agreeing upon the future structure for the sector, because if uncertainty remains about how this sector should operate and who the owners will be, then it will result in devising an inadequate, unworkable regulatory system as well.

Based on its energy and other policies, the Government's set out to *restructure the petroleum and the electricity sectors*. The topic of corporate reform is described in some detail in a subsequent section. It should be said though that restructuring proceeded faster and more productively in the minerals/petroleum sector than in the electricity sector.

A subset of both regulatory and corporate reform is the appraisal of the *financial viability* of the industry. Because without such, the revision of the tariff structure will suffer, either the State will continue subsidization of consumers or more likely in view of budgetary deficits, have the relevant company subsidize them. Because of decades of artificially low-cost energy available for consumption, politically, this became the most sensitive issue. As seen in many CEE countries, decisions on thorough tariff reform are delayed, opting for gradual transition, often under pressure from lenders and potential investors. Unfortunately, a misconception on part of the public (and politicians too) has prevailed, that their energy industry is "rich" and will remain "exploitative" unless it is made to "bleed" for a while. Yet, it was clear already in 1992, that bankruptcy could be around the corner for the major companies under the then current tariff structure jeopardizing the entire economy and creating security problems. In the petroleum sector losses on imported gas accumulated rapidly due to having to live with a government-set wholesale price that was below the import price. In the power sector, there were signs of danger concerning lack of funds for maintenance and replacement of equipment and about consequences of postponed investments.

The economic well-being of the energy sector depends not only on the proper tariff structure, or on achieving economic and technical efficiency, but also on future growth and the opportunity to invest and modernize. For this, the cash-flow poor companies (and the State) have looked to foreign investors to bring the needed infusion of cash and technology, allowing them, in the

process, to become shareholders. In the Hungarian energy sector, the equity-to-debt ratio is high (over 90%), therefore debt has not been a significant drawback to attract investors. In the hard minerals and coal sector debt/equity ratio was not an issue, instead, it was an over-saturated market of antiquated and poorly managed mines with excess capacity (excluding small ones supplying construction materials). But fair price for the assets can only be achieved if there is a workable legal and regulatory regime, a regulatory body reasonably shielded from political whim, a forecast of prices and the level of control (or their decontrol), and disclosure about the financial conditions of companies.

The efficacy and timing of such transactions hinged on the form and substance of the Government's ownership reform policy, itself having been a moving target over the years. Several changes have been made to privatization policy since 1989. In every case of modification, two objectives, in conflict with one another, had to be resolved: one is the common need to supplement the Government's budgetary resources, the other its interest in not losing control of a strategic industry. In 1995 the Government cast the dice: it sold minority interests to strategic investors in gas and electric utilities and to financial investors in the petroleum company.

The Hungarian mineral and energy industry could have "self-privatized" in 1989-90 under the then prevailing "spontaneous" process, but it had no initiative to do so, because the companies were self-regulating, comfortable monopolies. By 1991-early 1992, they could only get agreement on transforming their corporate structure (actually, incorporating and becoming registered). In mid-1992, they were transferred from the ministries to the State Holding Co (ÁV Rt), which was tasked to exercise the State's ownership rights and manage her assets. This step occurred nearly simultaneously with the recognition of the scope and role of *natural monopolies*, until then often confused with commercial monopolies, generating a desire to exercise control through ownership. Gas and electric and water distribution companies were therefore added to the portfolio of the ÁV Rt (with subsequent re-transfer of the water supply companies to the ministry that regulates them, abrogating the separation of regulatory and ownership roles). Since then, State control is being reduced gradually by selling shares to investors without harm to the interests of the State, and in this manner regulation has in fact supplanted the Government's earlier role as owner.

### **The state of mining legislation in 1990**

The Mining Law of Hungary in 1990 was an antiquated and rather peculiar law. It emphasized in great detail rules and regulations for mining works and safety of the miners, but had nothing to say about ownership, economics, resource value, and all related subjects so common to mining laws elsewhere. The law which dated from 1962 conformed to others in CEE countries - to make COMECON more uniform and manageable. A 1974 Decree on surface mining stated that the rules refer to all state-owned economic organizations and companies as well as to agricultural and industrial cooperatives and that the measures are needed for personal and property safety. The Government planned, and the State-owned companies prepared the technical plans to conform to the wishes in those plans. The technical plans consisted of descriptions of the facilities, terrain

preparation works, drawings of the technological equipment, traffic, telecommunication, public utility and power supply networks and their connections, descriptions of meeting the requirements of safety, health and fire protection, and similar subjects. The law was worker-specific rather than commodity oriented. Two organizations regulated activities. The task of the Central Office of Geology was to locate and identify minable minerals (except oil and gas) through the efforts of the Geological Institute and the Eotvos Lorand Geophysical Institute and permit their exploration and exploitation. The other was the Central Mining Authority which oversaw the mining activities largely for adherence to safety regulations.

### **The state of State-owned companies in 1990**

The mining sector had been under State control since 1947 when private assets were nationalized. As a result, exploration for hard minerals and oil and gas had been closed to outsiders for 43 years. Searching for oil and gas was the privilege and responsibility of the national petroleum company, called OKGT, which was an enterprise operated as a holding (trust) for 17 subsidiaries, some rather independent. Other companies mined coal in deep-shafts and on the surface, bauxite, copper, sand and gravel and building stone, and a host of smaller not very significant commodities. Uranium mining was still Russian controlled.

In exploration, cost estimates were made for drilling, for geophysical surveys, for logging boreholes, but at fictitious prices, because there were no international price structures or competitive pricing in place. Companies tried to spend all their earnings in order to reduce the Government's take (sometime a tax, sometime a "special provision", a sort of royalty, but in fact an arbitrary assessment on income). The assessment was not always at the same percentage. No one at the company or in the government knew what the well-head cost of oil and gas was or what a ton of coal actually cost. Commodity prices were set by the Government and they were as equally fictitious as their cost of recovery. Uneconomic resources were mined just the same as economic ones. Efficiency was masked by paying for line kilometers of data or meters of wells drilled which promoted speed and not quality. This system was understandable from the view of the workers' interest in increasing income (as wages were low), therefore, the scheme was promulgated in all CEE countries. Results are notable in CEE countries more holes were drilled, more shafts were sunk per unit area than in any Western country, and not because there were more abundant mineral resources but because the Government wanted to show full employment and had to deliver on its promises to the COMECON. The cost of keeping the mining industry afloat became visible and real as the COMECON and the Eastern markets collapsed and the Soviets started to charge international prices for their crude oil.

### **Reform in the corporate sector**

Against this background, the Government decided in 1990 to reduce subsidies, real and hidden alike and especially in this sector where they were prevalent. And, it decided to restructure and

reduce monopolistic powers. The first target was the National Oil and Gas Trust (OKGT), which had already looked for realignment on its own volition, assisted by the World Bank. And, it felt threatened because the State Property Agency (ÁVU) intended to take away a large number of high-volume gasoline stations from the company and sell them to competitors (which it did, reducing OKGT's share of the market to less than 40%)

The restructuring of OKGT, a conglomerate of companies covering all facets of the petroleum business, was started by the Minister of Industry of Trade appointing a commissioner late in 1990. The Commissioner's responsibility was to develop a plan of action for the divestiture of service companies and public utilities, for the marketing portions of the gasoline station network and refineries, design a successor oil company, probably along lines of a mid-to-small size vertically integrated western firm. By October 1991, the task was accomplished resulting in the divestiture of 10 service companies and five gas distribution subsidiaries. The remaining eight companies subsequently became organized into a vertically integrated stock-holding company, with upstream and downstream divisions. The upstream became responsible for exploration, production and transportation of natural gas, the downstream for refining, marketing and transport of crude oil. In the process, the new company (MOL Ltd) reduced its work force instantly by more than 50% to 22,000 employees, and since then pared that to about 16,000. Ownership was retained by the State, or more specifically the Ministry of Industry and Trade until mid-1992, when the assets of MOL and responsibilities for privatizing the company were transferred to the newly created State Holding Co (AV Rt). The divested companies, by and large operated independently until fully or partially privatized (as the gas distributors were in 1995), continuing to receive orders for services from MOL but under competitive rules.

Establishing MOL as a stock-holding company marked the first step in preparing it for later privatization. New concepts were gradually introduced, such as strategy, competition, market share, financial performance, service-oriented attitudes, public image, quality control, ethics, to name a few. The streamlining of the structure of the company was accompanied by measured, yet radical reorganization of business lines and operations. The Government appointed a Board of Directors and a Supervisory Committee. Accounting moved toward international standards. Under the new structure MOL began to strengthen management, develop the company's short- and long-term strategic objectives, increase its attention to environmental and social matters and its activities with international oil and companies and finance institutions, improve working conditions for its employees and introduce rules of ethics in the workplace, and develop new relations with its customers.

Quite rapidly, significant differences between the operational philosophy of the former State-operated Trust and the new stockholding company developed. Management and the new Board became more aware of potential impacts of the Government's proposals for energy policy and privatization policy (in fact, the company offered up its own strategy for privatization). The company started to express its interests more succinctly about diversifying sources of petroleum supply and use, import-export policies, stabilization of markets and market share, balancing domestic production and imports, reconciling the regulatory and taxation regimes such as royalties,

and attaining proper price for natural gas (oil became a freely traded commodity in 1991) MOL responded to increasing competition in the retail sector by modernizing its retail outlets, expanding its range of products and enhancing their quality, and improving services. Aware of the need for long-term survivability, MOL initiated investments in gas transport and storage even though prices were kept artificially low by the Government. Importantly, the company also became aware of public perception, interests of new owners (the State Holding Co. in 1992) and potential new owners (employees and either strategic or financial investors), and competition in the region of its operations.

Similar efforts were not repeated in the hard minerals mining sector. The coal mining companies clung to their belief that they were important to the nation, as told to them by a long succession of Party leaders during the past four decades, and used the workers' unions to threaten the Government from time to time. Their attitude was understandable, few opportunities of other types of jobs existed in the already depressed regions where this industry operated and retraining miners to work in other fields proved to be difficult. Eventually some of the mines were closed, others supplying coal to the power company were merged into that company (to the benefit of neither), a few coal mines tried to make it a private business but capital was lacking. Other mining companies tried to hang on a thin thread of survival, keeping the mines from flooding or trying to find an investor, especially the copper and uranium mines. Many of these are still in this situation with debts mounting year by year. Occasionally the Parliament bails them out.

### **Reform in legislation the new Mining Law**

The following section describes lawmaking by the Government in coordination with policy making and restructuring. It is not a detailed account of the law, the regulations and the regulatory bodies. Instead it describes the process, the rationale for the steps taken and attempts to highlight the major elements of the resulting work.

#### *Lawmaking*

The review of the existing mining law of Hungary in 1990 brought forth the notion painfully that with Parliament enacting market economy-based laws, this one had expired in the practical sense. Several options were discussed initially: a comprehensive Energy Law, a Petroleum Law and a Minerals Law. The first was rejected as cumbersome as it would have to cover too broad a spectrum of topics (the case of which still visible in a few CEE countries), and a Petroleum Law was begun to be composed. The draft was based on the principle of concessions already introduced to Parliament, and on economic principles with elements of cash-bonus bidding, graduated surface rental fee, and royalty rate tied to production. The argument used was that the Government needed cash early in the leasing process and that relinquishment is voluntary by the lessees but governed by economics. For hard minerals, while trying to take into account various scenarios for existing mines, a separate piece of legislation was being written also based on concessional postulates.

Informed that Parliament would only give one opportunity in 1991 for introducing this type of legislation, the texts of the petroleum and hard minerals laws were combined into a single draft act. The draft act called for establishing a concession-based management-regulatory system for exploration and production of hard minerals, oil and gas, and geothermal energy. The principal elements of the law were promotion of exploration and production of minerals and hydrocarbons by the private sector based on resource valuation, environmental assessment and land recultivation, regulation of oil and gas pipelines under a common carrier system, regulation of surface oil and subsurface gas storage, permitting geothermal energy exploitation for the first time, and use of caves and abandoned mines for various purposes. It would furthermore authorize the Government to set up the Mining Office as the regulatory body for oil-gas and mineral concessions, permitting concession and non-concession activities, inspection, royalty collection, and other functions.

The draft act emphasized economic regulations, in contrast to the previous law stressing technical, health and safety issues. Thus training in economic regulations and in the information needed for tracking concessions were recognized as important and were arranged through technical assistance. The draft act was embraced by the industry because it clearly stated the forms and modes of competition or joint ventures, levels of investments expected through work commitments rather than up front cash "bonuses" to the Government, limiting holding unto real estate (exploration areas) without performing work, setting a royalty rate for each mineral commodity and specifying collection, stipulating land recultivation, and providing means to access land through rights-of-way (at a time when land was being returned to private ownership). One section also covered common carrier natural gas pipelines and access to them by commercial entities. Resistance developed mostly on the matter of transferring regulatory authorities from one agency to another and in regard to having included geothermal resources among minerals. This latter topic became a problem because of the absence of an Environmental Protection Law. Eventually the matter was resolved.

Passage of the act took place in 1993<sup>(4)</sup>. Still, questions remained. What were the best ways to attract companies and produce competition? Should regulations be held to a minimum? Could tax incentives help? Would there be a need to guarantee of some market share to the national petroleum company? These all had to be weighed before a regulatory system were to be set up. Most importantly, there was little time to study the options.

One of the steps taken early was to set up the mechanics for allowing foreign oil companies to buy data packages and look at accumulated exploration and production data without the right to copy them (but could subsequently purchase in a limited quantity, seismic profiles and well data). This was so successful that 25 companies, most of them major oil companies, bought the packages and reviewed in Hungary the potential for exploring for oil and gas. Hungary was carved up into concession blocks. A concession schedule was devised, starting with a nomination process combined with resource assessment and environmental assessment. Partly in response to these preparations, four companies were granted concessions to explore for oil and gas in 1994.

*Setting regulatory structure*

Setting up a regulatory structure involves setting out the principles of a regulatory regime. The principles were ensuring the primacy of the public interest, controlling the exercise of monopolistic powers, providing a viable regulatory environment for investment and for returns on investment and discretionary regulatory powers underlined by politically credible, yet non-political decision-making. Such principles have to be translated into practice in the actions of a regulatory agency which becomes the arbitrator between owners, the Government, industry and customers. Therefore the regulatory regimes must recognize and take care of issues of strategic importance to the nation (the public) economic issues, social issues (such as the environment, health safety) and political issues. Replacement of one regulatory regimes with another also involves reorganization of functions and the learning of new concepts and practices.

The act called for replacing the existing Central Office of Geology with a new agency, the Mining Office. This agency, once established, took over the permitting functions of the Central Office of Geology as well as continued carry out the inspection and safety functions of the previous Central Mining Authority. Functions dealing with mineral resource assessment and the maintenance of information on resources were transferred to the new Geological Service, which now houses the Geological Institute and the Eotvos Lóránd Geophysical Institute. The Mining Office also absorbed regulatory functions of the Mining Research Institute which ceased to exist.

The new Office of Mining was faced with absorbing new concepts economic theory and mineral resource assessment techniques, environmental assessment procedures, royalty management, lease (concession) management (including tracking), data base operations and information management, contract management and negotiations processes, inspection and safety procedures, royalty collection and management and related administrative tasks. Through cooperative exchanges concepts were translated into practices. Today, the regulatory structure is in place, the regulatory authority is functioning, and the scientific agencies, albeit with much reduced manpower much as their industrial brethren, are keeping track of the mineral resources of Hungary.

**Lessons learned**

There was unrestrained exhilaration in seeing a totalitarian system wither in Hungary in 1989, the same as elsewhere in the region. There was excitement in seeing illusory economics decay and self-preferential social fabrics being broken up and in observing that governments could be elected by popular voting. Reformers flooded the governments, most from within the segments of societies that had been oppressed, others from outside the borders of their original homeland, others who have had experience in transforming State assets to private hands. Many were idealists, a few were opportunists but both kinds were optimists and eager to assist. There were no guidelines and precious little experience to draw on, no one had been trained to dismantle a command economy. Notwithstanding, changes were instituted by reformers rapidly affecting the

social, cultural, political and economic fabric of societies in CEE countries and many of the steps taken had to be and were radical. It was a critical time for the newly developing democracies to develop processes and procedures that would replace antiquated and often uncommon laws, regulations and company structures, transforming themselves into societies that could rejoin the free world and more specifically Europe once again.

Noble intentions arose to replace the existing system with an open, understandable, elective, competitive new social-economic-political environment. With an environment, in principle, where honest work can bring honest benefits to individuals and their society. There was a genuine yearning by Hungarians to learn new ways that would bring their country into the league of Western nations. There was an equally strong conviction by "foreign advisors" that rapid transformation could be accomplished. That meant a new constitution, new legislation about every conceivable subject, a different legal system, a different supervision of the public interest. Transformation of a command economy to a market economy, a socialized controlled order to a choice-ridden enterprise structure proved not, however, to be a matter of substituting one system for the other.

Because of the rapidity with which new rules emerged, and had to emerge, there was bafflement and resistance among the affected which continues today because there is always much personal discomfort that accompanies any change. When regimes are changed overnight by force there are few opportunities to make personal choices. When they are changed by peaceful conversions, divergent opinions are voiced, and often polemics about the "correct" social, economic and administrative systems and methods take over before any one system is embraced. Both forms of transitions affect people's lives and have their shares of distress, pessimism, and self-doubt, the difference between them is not so much the speed at which society absorbs new information, re-educates itself and adjusts to the new situation, but in the ability to choose between alternatives. Peaceful transformation takes longer to mature and takes more patience. Negativism about the outcome of changes should and do surface, especially when those result in loss of jobs, in reduced income, in competition that replaces a more comfortable, yet low-paid existence, and in loss of social benefits. Still negativism can be ameliorated by adhering to clear and unswerving goals and by attracting the participation of those affected in choosing among alternatives.

Changing the fabric of any society, especially when prior experience in doing so is practically non-existent, is hard work. There was, however, a clear mandate in 1990 shared by everyone, that centralized socialist planning had to be replaced by self-initiated, market driven, competitive, transparent and distinct structures. To accomplish that, a thorough reform had to be implemented affecting all facets of the fabric. Major tasks such economic and budgetary restructuring, inaugurating and practicing political and press freedom, introducing property rights, embarking on privatization of the assets of the State, commencing enterprise restructuring and financial reorganization, revamping societal expectations were all in the forefront in 1990. They were not separate problems but interrelated, inseparable issues. No steps could be taken in one area without affecting another.

Reforms took place in commercial sectors and government institutions alike, either through self-restructuring or through privatization or simply caused by declining State budget allocations. There were many trials and tribulations, occasional consternation and frequent worries about the outcome, about the long-term consequences. There were clashes of opinions, complaints, stalling, resilience. Concurrently, there was solid determination, thorough involvement and quick decision-making to effect the changes so needed.

Although there was little expertise available at the outset to undertake the formidable tasks, there was plenty of enthusiasm among the reformers, that ranged from the political "liberals" to the "conservatives" measurable only by the differences in their approach, rather than in substance. There was ample awareness of the need for transitional measures, to preclude instigating social unrest. The process is yet unfinished, but the first steps were the most invigorating and perhaps even the more fruitful in outcome.

Because of the enthusiastic involvement by a large number of individuals and institutions, resolute in correcting mistakes of the past, substantial progress was made during 1990-1993 in reforming the political and economic framework, partly because of the determination to liquidate the centrally planned economy, partly because as it then appeared, the old civil service had broken down and there was room to maneuver before the next bureaucracy could become entrenched. The term bureaucracy is used for both those of ministries and their institutions and those of companies. In fact the bureaucracy did not break down it simply became, for a while, uncertain about its purpose and its power. In time it regained the latter, and with subsequent legislation, such as for the electricity sector, or with reorganization attempts of regulatory and scientific bodies it did raise its voice much more forcefully.

## Conclusions

Reforms in the minerals sector were part of a broader set of objectives that were and continue to be expressed in policies and legislation. Greater emphasis was given to the energy industries because of their strategic value and impact on the economy. The progress achieved in Hungary can be divided into two sectors: one was the creation of private enterprises, including the gradual change of ownership of State companies such as MOL and the gas and electricity distributors, the other was the creation of new government oversight functions. A major goal of every Government since 1990 has been to reverse ownership from State into private form, and by virtue of that, assist attracting new (mostly foreign) capital. Privatization had many macroeconomic goals, such as new capital rescuing otherwise unproductive capacity or creating new capacity, as well introducing efficiency (breakup of large enterprises). It was also a social objective to create private owners who would create new economic opportunities, to promote development of entrepreneurship, to foster competition and free entry of goods in order to broaden and stabilize the tax base.

Sweeping reforms gave concessions in mining and petroleum exploration, but also in

telecommunications, road building and even gambling. Sales of state assets proceeded faster than in neighboring countries driven both by ideology and by budgetary shortfalls, even though methods had to be changed four times in six years. Green-field developments were encouraged and most do very well. As a result, Hungary enjoys the benefits (and the new kinds of headaches) of the highest level of investment by foreign sources. In the energy sector, privatization was accelerated in 1995 proving, that for Governments since 1990 dismantling the centrally planned economy has become indisputable. The hard minerals sector could benefit from this attitude only selectively, international commodity prices, low resource values and limited investors market conspired against metals, while in construction materials the opposite has been the case. The coal industry is in dire straits everywhere in Europe for polluting the air, and coal could gradually be replaced by natural gas and geothermal energy in the next 2-3 decades.

It can be stated quite categorically though that without the transformations of the legal regime, all other steps would have been at risk. Establishing the proper legal framework should be a prerequisite to initiating major changes in ownership structure. But this ideal approach becomes unworkable when budgetary and political pressures call for quick action and the legislative process stays more deliberate. Still, the Hungarian example is constructive. The law-making and the ownership transformations proceeded simultaneously and quite rapidly, and it is most likely that private capital will play a major role in the immediate future of the energy and mineral industries. For the better, because it is inconceivable that any State, lacking the capital needed for investment and modernization of the sector could as efficiently and economically perform the functions of public services as private owners. The regulatory framework is in place with clear and understandable rules governing industry and with the powers of the State concentrated in the Office of Mining (overseeing the minerals industry's activities) and the Office of Energy (price regulations).

As proof of the accomplishments, one needs to mention that yet another survey of Hungary's energy policy and practices was issued by the OECD in 1995<sup>(5)</sup>. That document states with satisfaction that most of the objectives set out in 1990 have been met as exemplified by the following legislation: Law on Competition (1990), Law on Concessions (1992), Law on State Asset Management (1992), Mining Law (1993, the topic of this paper), Law on Security Stockpiling of Crude Oil and Petroleum Products (1993), Electricity Law (1994), Gas Distribution Law (1994). Together with the regulatory framework set up (the Office of Mining and the Energy Office), the reorganization of MOL and the sale of partial assets in utilities and MOL, one can say that Hungary well under way in completing the assignments set out in 1990.

The message from the foregoing, to other CEE countries, is that the legal framework and institutions should be established as rapidly as possible, whether perfect or not, to boost investor confidence, domestic or foreign, thereby reducing costs to the Government. The delays resulting from lingering law-making and debates about ownership may be understandable but not helpful to the economies of CEE countries and their desire to join the European Union.

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### References

- (1) Government of Hungary, 1990, Tájékoztató az Országgyűlés részére a Kormány energiapolitikai koncepciójáról (Apprising Parliament about the energy policy concept of the Government), Ministry of Industry and Trade, Budapest, No Ig-1032/90 , 22p
- (2) OECD, 1992, Energy policies Hungary - 1991 survey, Int Energy Agency, Paris, 162 p
- (3) Government of Hungary, 1993 Law No IL about strategic reserve of imported crude oil and petroleum products, Magyar Kozlony, No 61, pp , 3357-3362
- (4) Government of Hungary, 1993, Law No XLVIII about mining, Magyar Kozlony, No 61, pp 3345-3357
- (5) OECD 1995 Energy policies of Hungary - 1995 survey, Int Energy Agency, Paris, 214 p

## A BANYASZATI JOG IDŐSZERŰ KERDESEI MAGYARORSZAGON

(Dr. Eszto Peter elnök, okl. banyamernök, jogász  
Magyar Bányászati Hivatal)

Tisztelt Holgyeim, Uraim ! Kedves Kollegák !

Az 1993-as esztendő bejegyezte magát a magyar bányajog történetébe is. Az Országgyűlés 1993. május 20-án - közel egyévi bizottsági csatornázást követően - megalkotta a bányászatról szóló 1993. évi XLVIII. törvényt, majd a kormány 1993. augusztusában elfogadta a törvény végrehajtásáról szóló kormányrendeletet. Ezáltal lezárult egy csaknem öt évet tartó átmeneti, zavaros időszak, amelyben a már alkalmazhatatlan 1960-as bányászati jogszabályokat együtt kellett alkalmazni a rendszerváltás jegyében alkotott új jogszabályokkal.

Az új bányatorvény kiemelkedő erénye az, hogy van, megszületett. Csacsóság lenne azt hirdetni, hogy új törvényünk tökéletes, hiszen ez nem igaz. A tisztelt jelenlevőknek már nyugodtan elmondhatom, hogy már rég felismertük

- a törvény koncessziós szabályainak hiányosságait,
- a fiskális szemléletű, bár korszerű bányajaradék szabályok gazdasági terheit,
- valamint a környezetvédelmi lobbynak a jelen gazdasági viszonyok közötti irrealis korlátozásait

DR ESZTO PETER

Tisztelt Kollegák !

Nem szeretném, ha félreertene nek ! A bányatorvényben sem azt kifogásolom, hogy hangsúlyt, alapvető rangot kapott a környezetvédelem ügye. Ezt minden jövőt feltű ember támogatja. De határozottan kifogásolom, hogy a törvény, és néhány újabb jogszabály jogilag lehetővé tették a bányászati kiszolgáltatottságot olyan tényezőknek, amelyek megfoghatatlanok. Nem a normatív környezetvédelmi, természetvédelmi, vízügyi követelményekkel van gondom, hanem éppen ezek hiányával. E normatív szabályok nélkül a szakhatóság hivatalában ülők ad hoc, kiszámíthatatlan döntései azok, amelyek kiszolgáltatott helyzetbe hoztak - többek között - a bányászatot is.

Meggyőződésem, hogy a termelő ágazatok közül éppen a bányászati volt az, amely elsőként felismerte a környezetvédelem fontosságát és - milliárdokban kifejezhető módon - tett is a környezet megóvására, helyreállítására. Ez bizonyítható tény, de egyben szükségesszerű is, hiszen a bányászati - ha ideiglenesen is, de - objektíve kárt okoz a környezetben. Tehát jogos a káros helyreállításának szigorú követelménye, jogos a környezetkímélő technológiák alkalmazásának sürgetése, - a szakmai tisztesség is ezt követeli meg - valamennyi bányász szakembertől. Ezzel szemben jogsértő az a helyzet, hogy egyedi államigazgatási, szakhatósági határozatok hátráltassák, akadályozzák egy szakma tevékenységét.

A torz szemlélet gyökere abban van, hogy a nemzetközi zöld mozgalmak a társadalmat két alapcsoportba sorolják - akik rongálják a környezetet (ezek között szerepelnek a mernokok is), s akik védik a környezetet - ezek ők. Fel kellene ismerniük, hogy a környezetvédelem a környezetet átalakító mernoki tevékenység integráns része, mely mernokoktól csak a konkrét, az általános és különös kötelező normák, jogszabályi követelmények kidolgozásával és közreadásával lehet elvárni, hogy környezetkímélő technológiákat fejlesszenek ki és alkalmazzanak. Ezek hiányában csak rebuszok ellen küzdhet a szakma, amely helyzet megalázó és tarthatatlan.

Bányajogunk másik rendkívül fontos és aktuális kérdesköre az, hogy Magyarországon ma kinek van bányászati joga, vagy más szóval ki szerezhethet kutatási, feltárási, kitermelési jogosultságot egy in situ ásványi nyersanyag előfordulásra, mi e jognak a tartalma, vannak e korlátai, van e mérhető vagyoni értéke s ez a vagyoni értékű jog átruházható-e

A bevezető gondolatok között utaltam arra, hogy az elmúlt néhány év bányajog-történeti szempontból milyen jelentőséggel bír. E folyamat 1989 végetől indult, és napjainkig tart, amely alatt - ha olykor áttekinthetetlen kerülő utakat is járva -, de alapvetően megváltozott az a személyi kör, aki bányászati jogosultsággal rendelkezik

Érdemes végigjárnunk azokat a jogi stációkat, amelyek útján a meg-megtorpanó jogalkotó végül is megvalósította a bányászabadság elvét Magyarországon, üzleti alapokra helyezte a bányászatot (E folyamatot a mellékelt táblázat áttekinthetően szemlélteti.)

A kiinduló állomás (1960 évi III. törvény) és a végállomás (1993 évi XLVIII. törvény) között alapjaiban - úgy tűnik - semmi nem változott mindkét törvény azt az alapelvet deklarálja, hogy

- az ásványi nyersanyagok természetes előfordulásukban kizárólagos állami tulajdonban állnak, s ezért
- a bányászat joga az államot illeti meg, azaz a bányászat állami monopóltevékenység

Ez utóbbi deklarációt mindkét törvény kénytelen volt feloldani, hiszen államot, mint hatalmi intézményrendszert bányában még senki nem látott dolgozni. Az alapvető különbségek a két törvény között éppen a feloldás tartalmában találhatók

A régi Bt. az állam bányászati jogát

- az állami bányavállalatokra,
- a segédüzemi jelleggel bányászati tevékenységet igénylő állami vállalatokra és állami gazdálkodó szervezetekre (ma úgy mondanánk, hogy állami vertikumokra),
- a termelőszövetkezetekre, (e gazdálkodó szervezeti forma kiemelése már a rendszerváltás első pillanatától alkotmányellenessé vált'), s végül látszat-liberális módon
- az ingatlan tulajdonosra

ruházta át, amely utóbbi tulajdonosi jog saját szukségletre, a csákánytól a lapátig terjedt ki

A piacgazdálkodásra történő átállás eszméje alapjaiban szemben állt ezzel a jog-átruházással, hiszen célként már 1990-ben megfogalmazódott az állam vállalkozói vagyonának jelentős - 60-70 %-os - privatizációja. Az új Bt. tehát objektíve más megoldásra kényszerült. Azért fogalmazom úgy, hogy kényszerült, mert a koncessziórol szóló 1991 évi XVI. törvény meghozatala előtt a legegyszerűbb megoldást - uratlan

koztulajdonná minősíteni az ásványi nyersanyagokat - mellőzte a jogalkotó.

Ennek okát homály fedi, de véleményem szerint vagy a pénzügyi kormányzat mohosága (egy kalap alá vették a tiszta állami bevétel termelő dohány monopóliummal, vagy a szerencsejátékkal), vagy a tudatlanság eredményezte. Eleinte pedig úgy tűnt, hogy a gazdasági társaságokról szóló 1988. évi VI. törvény korlát nélküli utat nyit a liberalizációnak. Bator szabályként fogadtuk e törvény 4 § (2) bekezdését, amely szerint bármely gazdasági társaság végezhet állam részére törvényben fenntartott gazdasági tevékenységet, ha az alapító tagok közül, legalább egy jogosult volt korábban e tevékenységre. E szabály alapján például minden állami bányavállalat, vagy azok leányvállalata gazdasági társaságba vihetné a meglévő bányászati jogot. E jog természetesen tartalmában korlátozott volt. A "nemo plus iuris"-elv (senki nem adhat másnak több jogot, mint amivel ő maga is rendelkezik) alapján a tag csak az általa művelt, nevére szóló bányatelek jogát vitte be - egyszerű bejelentés alapján - az új gazdasági társaságba, amelyet ettől fogva a saját jogán művelhetett. Tehát újabb lelőhelyre alanyi jogon a gazdasági társaság már nem tarthatott igényt.

Hasonló liberális szabályt adott az átalakulásról szóló 1989. évi XIII. törvény (Át) 8 § (2) bekezdése, amely szerint egy állami vállalat, vagy annak leányvállalata, ha gazdasági társasággá alakul át, az általános jogutódlás elve szerint a létrejött gazdasági társaságra haramlott a megszűnt állami vállalat valamennyi korábbi jogosultsága.

E liberális gazdasági társaság alapítási és átalakulási szabályok azonban nem sokáig szolgáltak - egyszerűen és rugalmasan - a bányászat privatizációját.

A jogalkotó 1991. közepén megtorpant és mindent visszajára fordított a koncesszióról szóló 1991. évi XVI. törvény (Kt) kogens szabályként megerősítette az állam bányászati monopóliumát és egyidejűleg hatályon kívül helyezte mindket liberalis gazdasági társasági szabályt (Gt 4.§ (2), Át 8.§ (3)).

E "Pál-fordulással" megszűnt az állami bányászati jog gazdasági társaságba történő bevitelének és átvitelének direkt lehetősége.

A Gt. új szabálya a Kt -hez hasonlóan kogens szabály.

"4 § (2) A koncesszióról szóló 1991. évi XVI. törvény hatálya alá tartozó tevékenységet az állam vagy onkormányzat többségi részesedéssel működő gazdasági társaság gyakorolhatja"

E szabályból következik, hogy bányászati tevékenységet is csak olyan alapítással létrehozott társaság gyakorolhat, amelyben az állami tulajdon majoritásban van, tehát a

tulajdonosi döntéshozatalban az ÁV Rt képvisellete van többségben.

Az átalakulással létrejövő gazdasági társaságok bányászati jogát az Át.-nek a koncesszióról szóló törvénnyel megállapított új 8.§ (3) bekezdése a következők szerint szabályozta

"8.§ (3) Az állam vagy onkormányzat által alapított, s átalakuló gazdálkodo szervezet tevékenysége folytatására az új gazdasági társaság csak az állam, vagy onkormányzat többségi részesedése mellett jogosult. A bányászati kutatás és termelés területén - a pályáztatás feltételeinek kialakulásáig terjedő átmeneti időszakban - az ipari és kereskedelmi miniszter ettől eltérést engedélyezhet."

Az idézett új átalakulási szabály onmagában is értelmezésre szorul. Az MBH reszeről kialakított - az IKM-el közösen elfogadott - értelmezés szerint

- az Át 8 § (3) szakasza kizárólag az állam által alapított, koncessziós tevékenységet végző állami gazdálkodo szervezetek átalakítására vonatkozik. Ebből adódik, hogy nem ezt, hanem az általános jogutódlás szabályát (8 § (1) bek.) kell alkalmazni mindazon bányászati tevékenységet folytató gazdálkodo szervezetek átalakulásánál, amelyet
- nem az állam alapított, hanem más (pl. állami bányavállalatok leányvállalata, szövetkezeti vállalat stb.), vagy
- az állam alapított ugyan, de az ÁVU-IKM tevékenysége (hozzájárulása) nyomán az átalakuláskor az államnak már nincs meg a többségi tulajdona

Részletes szabály hiányában találgatásra ksztetni a jogalkalmazót az az átmeneti, kiegészítő rendelkezés is, amely a miniszter részére eltérési jogot biztosít

Az Át 8 § (3) bekezdése nem mondja meg, hogy MI alól engedélyezhet eltérést a miniszter? Engedélyezheti, hogy

- egyáltalán ne legyen a gazdasági társaságba állami tulajdon? vagy
- csak annyit engedélyezhet, hogy az állami tulajdon mértéke pl. 35 % legyen

Az is magyarázatra szorul, hogy MEDDIG tart az az átmeneti időszak, ameddig a miniszter eltérést engedélyezhet az Át.8 § (3) bekezdés szabálya alól. A jövőben bekövetkező feltétel a pályáztatás feltételeinek kialakulása. Hogy ez mikor következik be, arra is csak találgatni lehet. Az en közeli értelmezésem szerint 1994. július 13 -a előtt nem, mert a bányászatról szóló 1993. évi XLVIII. tv. (Bt) 50.§ (5) bekezdése szerint a pályáztatás szempontjából egyáltalán számításba vehető zart területek első alkalommal történő kijelölését a Bt. hatálybalépését (1993. június 13.) követő harminc nap (1993. július 13.) elteltével meg kell kezdeni, és egy éven belül (1994. július 13.) be kell fejezni. Nyilván nem lehet kialakulniak tekinteni a pályáztatás feltételeit addig, amíg nem ismeretesek azok a területek, amelyeket tendereztetni ohajt az állam.

A privatizációval érintett vezetők tehát 1991. júniusától kizárólag a miniszternek az elterest engedélyező jövedvényben bizhattak - nem is alaptalanul. Akik eltérésért folyamodtak - és ehhez minden támogatást megkaptak a bányahatóságtól is - rövid levélke formájában napokon belül kezhez kapták a kért miniszteri elteresi engedélyt. Az eltérési engedélyek kivétel nélkül lehetővé tették, hogy az átalakulással létrehozott, és így bányászati joghoz jutott gazdasági társaságokban egyáltalán ne legyen állami tulajdonrész. Megalapozottan vetődik fel a kérdés: szükséges volt-e erre a szabályra? Meggyőződésem, hogy miután

- a kérelmek minden mérlegeles és feltétel nélkül teljesültek, továbbá
- az ÁVU olyan privatizációs szerződéseket, megállapodásokat hagyott jóvá, amelyben apportként szerepelt az in situ ásványvagyon tőkeértéke (torvény sertő!)

a válasz egyértelműen az, hogy nem

A gyakorlat megatmenetileg sem ismerte el ezeket a privatizációt korlátozó szabályokat. A vállalatok többsége azt a kerülő utat járta, hogy a privatizációra jelölt bányüzemre leányvállalatot alapított, majd második lépésként az átalakulási szabályt alkalmazva - a miniszteri elteresi engedély birtokában - gazdasági társaságot hozott létre. Ezt követően a bányavállalat és az átalakulással létrejött gazdasági társaság a bányahatóságtól kérte a bányatelek jogosultjában bekovetkezett változtatás átvezetését. Amint a gazdasági társaság nevére került a bányatelek a céget értékesítették. A bányászati jog vagyoni értékét a bányatelekben lekötött ásványi nyersanyag mennyiségével és minőségével arányosan becsülték fel, majd alku során ennél alacsonyabb vagy magasabb értékben érvenyesítették. Nem vitatható, hogy a forgalomképtelen, kizárólagos állami tulajdon, szigorú szabályának "jogszerű" kijátszása ez a megoldás. De az sem vitatható, hogy egy bányászati jog vagyoni értékelése nyilván közvetlenül függ attól, hogy a konkrét előfordulásból milyen mennyiségű, minőségű ásványi nyersanyag, milyen onkoltséggel termelhető ki, és milyenek a piaci értékesítési körülmények. Tehát mennyiben üzlet az adott bányászati jog gyakorlása.

A bányászati jog kovetkező státusza az állam ideiglenes ill. tartós vállalkozói vagyonára vonatkozó 1992. év augusztusi törvények megalkotása volt.

A tartósan állami tulajdonban maradó vállalkozói vagyon kezeléséről és hasznosításáról szóló 1992. évi LIII. törvény főszabályként kimondja, hogy

"Tartós állami tulajdonba tartozik az a vagyon, amellyel az állami többségi részesedéssel működő gazdalkodó szervezet a koncesszióról szóló 1991. évi XVI. törvényben meghatározott tevékenységet végez." (2 § (2) bek.)

Ismét rázza a fejét a bányász-jogalkalmazó éppen ez a főszabály nem igaz a bányászatra, ahol az állam program-szerűen szabadul a vállalkozói vagyontól. A kormány által közzétett - ÁV Rt tartos tulajdonába helyezett - vállalati intézményi listában a kútefat tejelő MOL Rt-on kívül csupan a Magyar Alumíniumipari Rt, a recski Mátrabánya Rt és a Mecseki Ércbánya Vallalat található meg (126/1992 (VIII.28) Korm rendelet melléklete) E három utóbbinál az állam tudatosan a koncesszióról szolo törvénytől eltérően ohajtja fenntartani e cégek bányászati jogát, hiszen a rendelet 5-25% aranyban jeloli meg az állami tulajdon fenntartandó merteket. Az összes többi - jelenleg még állami tulajdonban működöttett banya nem tartozik e törvény hatalya ala

Ebből a törvényből feheren-feketén kiderul, hogy megalapozatlanul került a bányászat egésze a koncesszióról szolo törvény hatalya alá, a bányászat úgy általában nem is tekintethető állami monopól tevékenységnek, az állam kizárólag a hazai kőolaj- és földgázbányászati termeles viszonylatában kívánja hosszú tavon fenntartani tulajdonosi jogait. Ez utóbbit el is lehet fogadni, hiszen a nemzetközi gyakorlatban is ez a tipikus megoldás. Sajnalatos módon, a nyilvánvaló állami szándék ellenére a jogalkotás úgy tűnik az elmúlt évben figyelmen kívül hagyta e tényeket. A gazdasági társaságokról szolo törvény 1992 augusztusi modositása, valamint az időlegesen állami tulajdonban lévő vagyon értékesítéséről, hasznosításáról és védelméről szolo 1992. évi LIV törvény újból megismétlik a koncessziókoteles tevékenységet folytató állami gazdalkodo szervezetek átalakulását, illetve alapítását akadályozo merev szabályokat és tovabbra is fenntartják az ezzel összefuggó miniszteri jog folosleges intézményét.

Az előzőekben vázolt jogi-gazdasági kozegben folyt a bányászatról szolo új törvény előkészítése, majd a törvényjavaslat beteresztése és a parlamentári bizottságok előtt zajló maratoni vitája. A törvény előterjesztéseért felelős ipari és kereskedelmi miniszter es kozvetlen munkatársai, a bányászat szempontjából hala Istennek, világosan felismertek a hazai bányászat es privatizációjanak valódi érdekeit és megkeresték azokat a jogi hezagokat, lehetőségeket, amelyek útján a merev keretszabályok ellenére megteremtették a bányászabadság jogi felteteleit. A szigorú koncessziós szabályok kozé a liberalizáció-éket is az ágazatért felelős tárca utotte azzal, hogy meg 1991-ben kiségitő szabályt fogadtatott el a koncesszióról szolo törvényben. Ez a szabály kimondja, hogy a koncessziós " tevékenységi korok, mint gyűjtőfogalmak keretein belül egyes tevékenységtípusok folytatását" az ágazati törvény koncessziós pályázat és szerződés nélkül is lehetővé tehet, azaz liberalizálhat.

Az így utott res mentén születhetett meg a BT 5.§-a, amely az ásványvagyon-gazdalkodás szempontjából nyílt teruletéken barmely vállalkozó részere lehetővé teszi a bányászati jog

koncesszió nélküli megszerzését Még elgondolni is rossz, hogy e szabály nélkül minden falucska helyi szukségletét szolgáló homok, kavics, agyag előfordulás szezonális jellegű művelési joga is koncessziókoteles lenne.

Hasonló szellemű liberális szabályt ad a BT 50 § (6) bekezdése, amely tiszteletben tartja, es egyben fenntartja a torvény hatálybalepeseig jóhiszeműen szerzett bányászati jogokat, függetlenül attól, hogy a jogosult pillanatnyilag gyakorolja azt vagy sem E szabály szerint a torvény hatálybalepésekor bányászati joggal rendelkező gazdálkodo szervezet csupan terület-kimutatási kotelezettseg terheli, amely egyben nyilatkozat arról, hogy

- a művelés alatt álló banyaiban az általános feltetelekkel folytatni akarja a kitermelést,
- a nem művelt, de bányatelekkel számára már lefedett területeken 5 éven belül megkezdí a kitermelést, illetve
- a folyamatban levő kutatásai az engedélyben foglaltaknak megfelelően, de legkesőbb 4 éven belül befejezi

Szepseghibája a torvénynek, hogy semmilyen szankcioval nem fenyegeti azt az esetet, amikor a jogosult a bányászati jogát e nyilatkozattal ugyan fenntartja, de a vállalt kutatási, feltárási, kitermelési kotelezettseget a határidő lejártáig nem teljesíti. Az így indokolatlanul - és mástól elvont - lekotott területek felszabadítására (nyílt teruletté minősítésére) vagy koncessziós pályáztatására csak a jogvesztő határidő letelte után kerülhet sor

Tisztelt Kollegák! A BT eddig hivatkozott szabályai szerint magyarországon tehát bányászati joggal rendelkezhet

- az állam e célra alapított, többségi tulajdonában álló gazdálkodo szervezete,
- a bányászati koncessziós szerződés alapján létrehozott koncessziós társaság,
- az a jogi személy, vagy magánszemély aki a torvény hatálybalepéséig bármilyen módon bányászati jogot szerzett es azt a területkimutatás beterjesztésével fenntartja,
- nyílt területeken az a jogi személy, vagy magánszemély, akinek a hatóság kutatási engedélyt adott vagy a nevere bányatelket állapított meg, illetve átmenetileg, 1996 augusztus 13.-ig részére műszaki üzemi tervet engedélyezett

A BT alapján tehát csaknem korlátlan az a személyi kor, amely bányászati jogot kaphat A bányászat üzleti jellegének teljes elismerését azonban végül is a BT végrehajtásáról szóló 115/1993 (VIII 12) korm rendelet adta meg E rendelet 12 §(5) bekezdése ugyanis lehetőve teszi a hatósági engedélyen nyugvo bányászati jog masra történő szabad átruhazasat A BT ugyanis csak a koncessziós szerződés alapján gyakorolt bányászati jog átruhazasaról rendelkezett

Nyilván közérdek nem fűződik ahhoz és más ok sem indokolja, hogy az egyéb jogosult kénytelen legyen érdeke és szándéka ellenére bányát üzemeltetni, vagy jelentős vagyonvesztéssel az állam részére lemondani az addig gyakorolt bányászati jogáról. Sokkal inkább érdeke a köznek, hogy a hazai ásvány-előfordulásokat gazdaságosan, környezetkímélő módon és vállalkozási alapon hasznosítsa az állam. Ennek elősegítésére a BT VHR lehetővé teszi, hogy a hatósági engedély alapján jogosult személy a bányafelügyelet jóváhagyásával bármikor, bármikor átengedheti a bányászati jogát, ha az átvevő

- közokiratban, vagy ügyvéd által ellenjegyzett magánokiratban nyilatkozik az átadot terhelő kötelezettségek átvállalásáról,
- igazolja, hogy a bányászati tevékenység gyakorlásához előírt műszaki, biztonsági, környezetvédelmi, pénzügyi feltételekkel rendelkezik és ezek teljesítésére garanciát nyújt, és végül
- megállapodik az átadó által megegyezett bányászati letelepítések tulajdonjogának, vagy használati jogának rendezésében.

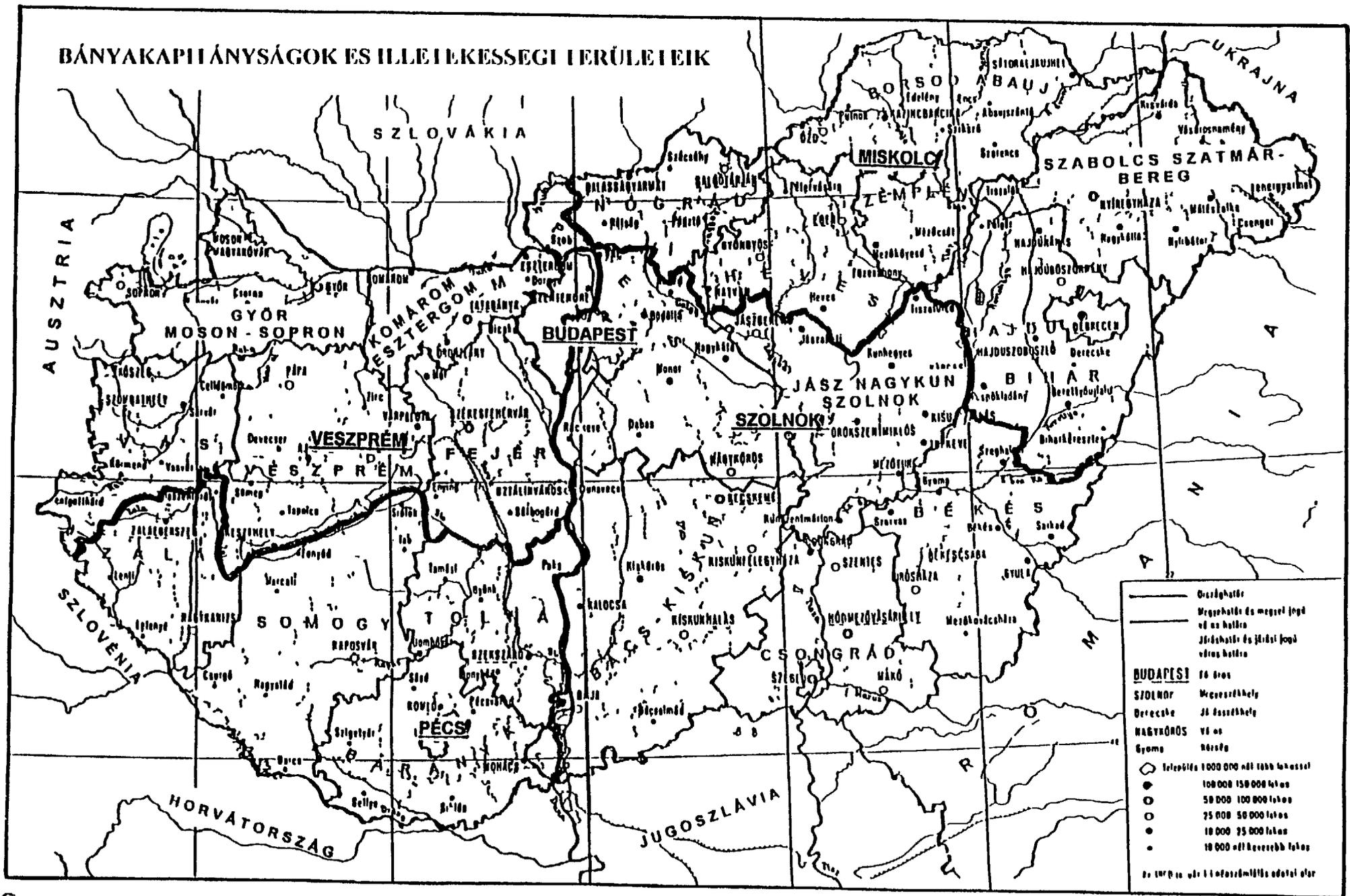
E feltételek teljesítése mellett a bányászati jog vagyoni értéke az átadó és az átvevő között zájlo szabad megállapodás tárgya

Tisztelt Holgyeim! Uraim!

Kedves Kollegák! A rendelkezésemre álló idő lejárt Meggyőződésem, hogy az előadás keretében az elmúlt időszak bányászati jogalkotása ele tartott gorbetukor talan tanulsagokkal is szolgált - meg akkor is, ha esetenként a tukorból onmagunkat is felismertuk Koszonom figyelmüket



# BÁNYAKAPITÁLYSÁGOK ES ILLETKESSEGI TERÜLETEIK



—	Országhatár
—	Megyei határ és megyei jogú város határa
—	Járás határ és járási jogú város határa
<b>BUDAPEST</b>	10 éven
<b>SZOLNOK</b>	Megyei székhely
Debrecen	Járás székhely
<b>NAGYKUNOS</b>	Város
Gyoma	Nérváros
○	Település 1000 000-nál több lakossal
●	100 000-150 000 lakos
○	50 000-100 000 lakos
○	25 000-50 000 lakos
●	10 000-25 000 lakos
●	10 000-nél kevesebb lakos

1:100 000 méretű térképről készült

57

## THE MINING CONCESSION ACTIVITY IN HUNGARY

by

Antal Fust dipl mining engineer, Ph D deputy president, Mining Bureau of  
Hungary, Budapest

### *Summary*

In Hungary the Mining Bureau of Hungary makes preparations gives advice to the minister of industry and trade for the decisions on mining concessions This paper will introduce the economic and political background and the past of the Hungarian concession activity The experiences of the first Hungarian bid round after World War II be presented in details This bid round was a hydrocarbon exploration and production bid round Four foreign companies were awarded the concession rights

In the second part of the paper the author will speak about the next two bid rounds, these were mainly for hard minerals exploration and production The mineral type in these cases was mainly sand and gravel but also gold over two areas and bentonite, carbon dioxide and hydrocarbon also

The paper will be closed by summary of the concession activity experiences gained so far

## THE MINING CONCESSION ACTIVITY IN HUNGARY

by

Antal Fust dipl mining engineer, Ph D deputy president, Mining Bureau of  
Hungary, Budapest

Im speaking in this study about the experiences of the Hungarian concession bid rounds for hydrocarbon and solid minerals. At first some words from the background of the mining concessions in Hungary.

Upon the Hungarian mining law, the mineral resources in their occurrence are state property. Especially in the field of petroleum and natural gas exploration and production it is usual worldwide to award concessions for the hopeful state owned areas. In Hungary in the 1930s in the west of the country American, in the east of the country German companies carried out explorations upon concessions. This resulted in the development of petroleum and natural gas fields in the south-west of the country which led to industrial petroleum and natural gas production in 1937. Because of World War II and the 1948 nationalization the foreign companies had to finish their activities in Hungary. Then the exploration and production were carried out by the established home companies.

In the forty years after the Hungarian petroleum industry did not follow market economy. Although we had good results, due to the political polarization of the world our activities became rather internal and both in exploration methods and instruments and in economic results we were behind the rapidly changing west.

To follow the program of our country in changing towards market economy it is necessary, seeing the world trend to have foreign oil companies exploring in Hungary upon concession. With this we would like to get closer to western standards and we hope that these companies will find new oil and gas fields. It is the interest of the state to explore and produce the treasures of our lands with the professionalism of home and foreign companies. It is also of important public benefit since upon our Mining Act our state gains royalty after the produced oil and gas, after the produced mineral independently of the national origin of the operating companies. In the same time our home companies can use their knowledge, experience and capital to have oil, gas and hard mineral exploration concessions over foreign areas where they have a better chance for a successful work. The Hungarian oil company, MOL Rt has already signed such contract in Tunisia, has negotiations in Albania, and are looking for possibilities in the states of the former Soviet Union.

In the next part of this study I would like to say some words about the first Hungarian exploration and production bid round after the second World War.

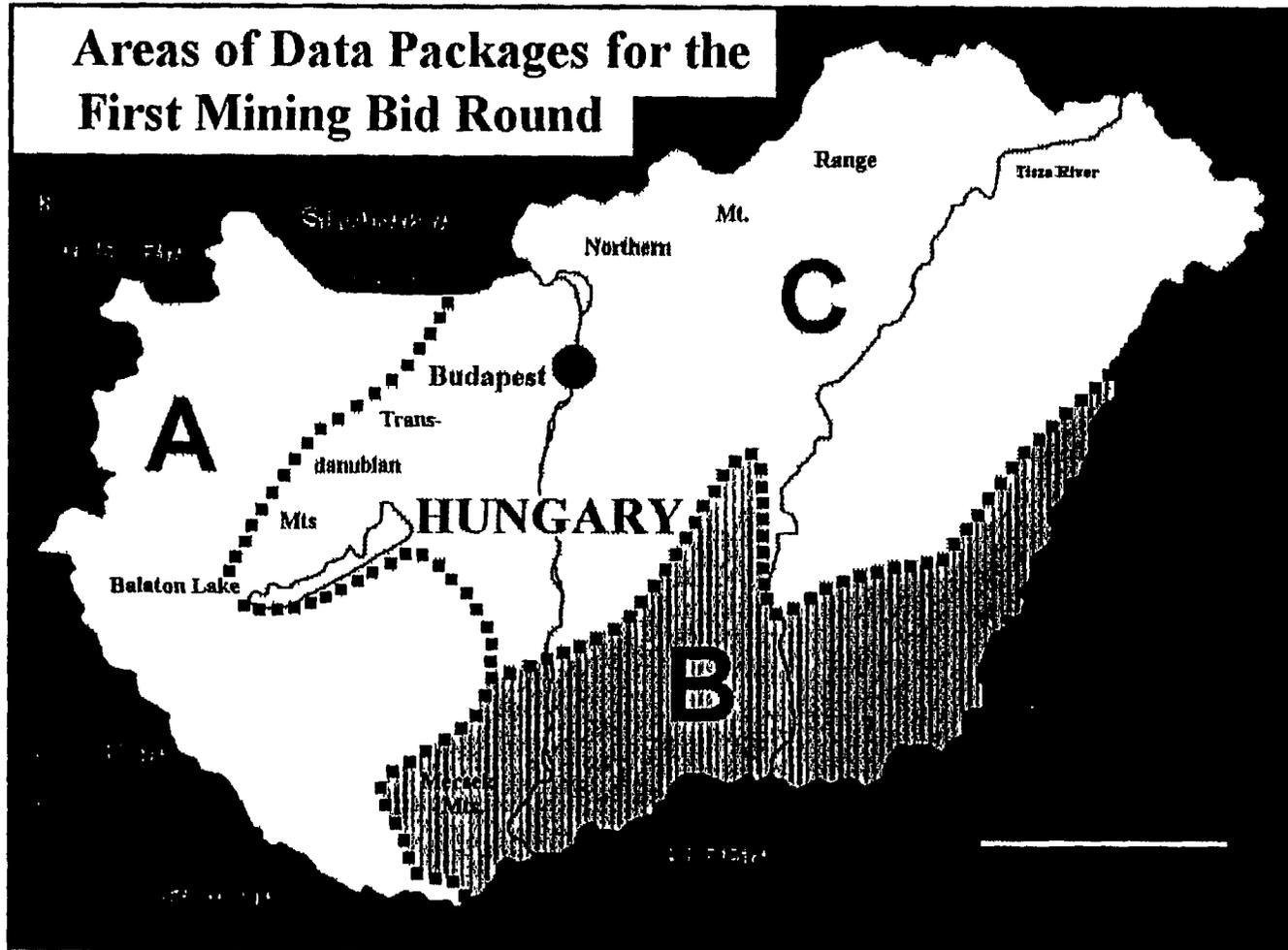


Fig 1

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In April 1991 the Ministry of Industry and Trade issued the geological and geophysical data necessary for exploration, and also indicated that in 1993 hydrocarbon exploration and production bid round will take place in Hungary. The geological data packages had been bought and reevaluated by 22 multinational oil companies (the relevant areas are shown by Figure 1)

The decisions of the minister of industry and trade, connected with the mining concession prepared by the Mining Bureau of Hungary (MBH). For the first concession bid round makes possible the acceptance of new mining law, in 1993. As has been said, with the announcement of the first Hungarian mining concession bid round for hydrocarbon exploration and production in November 25, 1993 we intended to step closer to western standards. We had the hope that foreign companies will find the conditions of economy and geology worthwhile for investments. Although Hungary in international comparison seems to be a very well explored area, with the brand new technologies and interpretation methods we expect the discovery of new fields. It is useful for foreign companies that Hungary has well developed pipeline networks for oil and gas and that the production of home fields gives only part of our home demand. This means that the market is here on the spot and that the delivery of oil and gas needs no further investment.

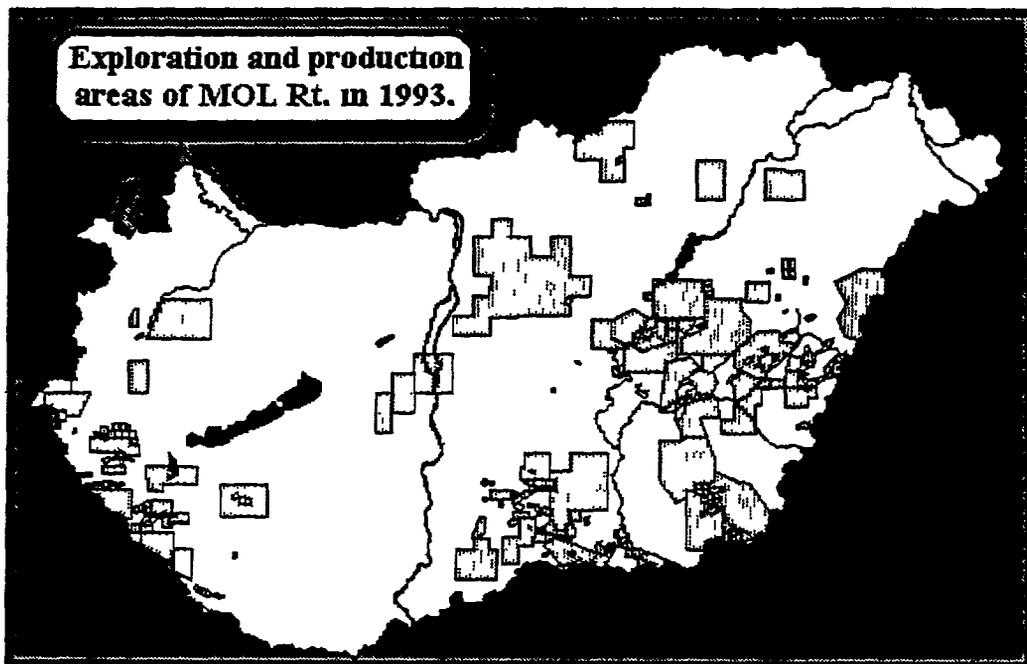


Fig 2

We have to mention that the already discovered (known) oil and gas fields and some reserved areas, belonging to MOL Rt., were not offered for bidding. These are shown by Figure 2. Foreign companies can hold production concessions for the areas that were explored by themselves. We divided the area of Hungary into 20 x 20 km blocks. One bidder can be awarded maximum 3200 km<sup>2</sup>, and blocks at most. The term of the concession is maximum 35 years and once can be prolonged by half of the term. The operator can continue

exploration (geological, seismic and drilling activities) on the concession area for four years. The term of the exploration can be prolonged by two years in special cases.

The Mining Act based first concession bid round for hydrocarbon exploration and production started in November 25, 1993. Two countrywide known daily papers published this event (Napi Gazdasag, Uj Magyarorszag). The deadline for bidding was April 25, 1994, this was the last day to submit the bids to MBH. The MBH asked the potential bidders to indicate their target areas by February 28, 1994 so that adjustments could be made with state agencies responsible for environmental protection, land and water management, etc., for being able to use these conditions in creating the concession contract. Intentions for bidding were reported for five areas. Upon these the MBH asked the relevant authorities about future conditions to fulfill by successful bidders to carry out activity.

Five bids were submitted to MBH before the April 25, 1994 deadline. Two of them had areas partially overlapped. The MBH proposed several options to solve the problem of the overlapped areas. Then the bidders chose to submit common bid for the overlapped area. The target areas of the bid round can be seen in Figure 3.

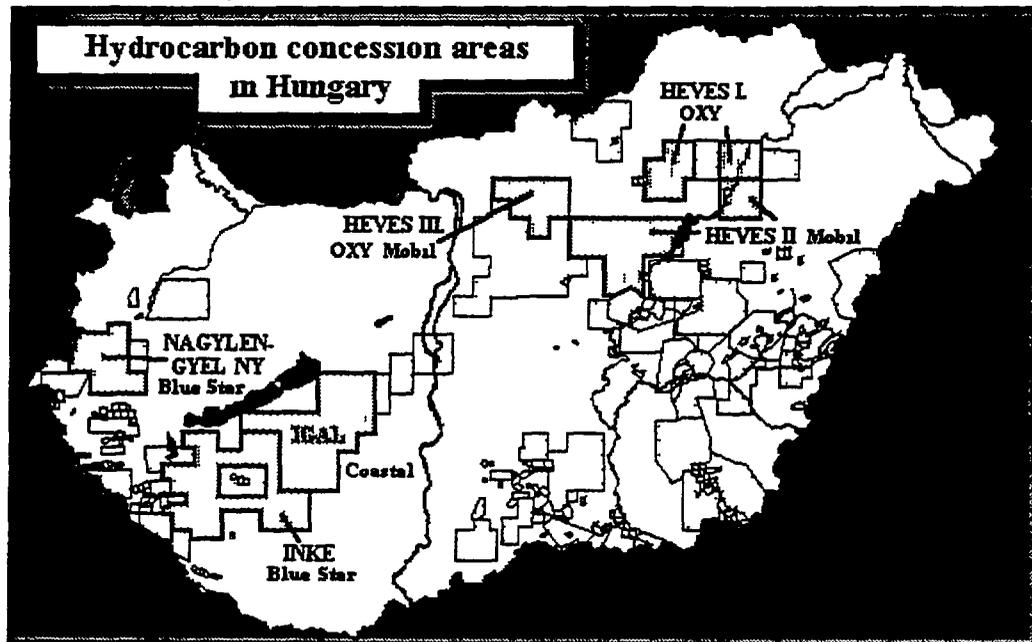


Fig 3

To evaluate the bids the president of the MBH established a Qualifying Committee with members from the relevant ministries, and on the meeting of June 21, 1994, the MBH, with remarks from the Environment Protection and Land Management Ministry and the Ministry of the Interior, proposed to the minister of industry and trade to award concessions to the bidders. The awarding day originally planned for June 24, 1994 was put off by 30 days by the common statement of three ministers. The common statement said that only those bidders could qualify for holding concessions who intend to prepare the

environmental protection study described by the Mining Act, and submit it to MBH by August 15, 1994. The bidders accepted this condition in letters of intention. The new government reviewed the evaluation report of the bids and the minister of industry and trade on August 4, 1994 confirmed the awarding of the concessions without changing to original proposal.

Petroleum and natural gas production needs much capital investment and high technology. The exploration risk is high because one drilling presently costs 100-300 million HUF. There is a long time between the signing of the concession contract and beginning of oil and gas production.

With this, the second period of this first concession bid round is closed, if we say that the first period was between 1991 and 1993 November 25. As you know, in this period and in the second period too the Data Room was open and there was a possibility to buy data packages and other geological data.

The third period is the period for agreement on the concession contract text. This period was the most difficult. The negotiation on the text of the concession contracts were conducted in several phases. Finally, in August 1995, we reached agreement and the contracts were signed. With this, in several areas in Hungary, four companies gained for 35 years concession rights for the exploration and production of hydrocarbons. These are Occidental of Hungary Inc., Coastal Oil and Gas Corporation, Mobil Erdgas-Erdol GmbH and Blue Star Corporation. After the signing of the English and Hungarian versions of the contract the concession winner companies established their Hungarian subsidiaries for carrying out the concession activity, prepared technical operation plans for exploration, plans accepted the district mining offices and started their exploration activities.

The MBH gained important pieces of experience during this first concession bid round. These are as follows:

- the practical know how of mining concessions, that was delivered by the USAID training, can be utilized well in our practice,
- nevertheless this knowledge have to be used in a flexible way considering the Hungarian laws and regulation,
- it would have been better to publish the bid round for individual areas instead of waiting for bids for the whole area of Hungary except for MOL Rt areas,
- the speed and success of the concession contract negotiations very much depend on the partners' knowledge about the laws and regulations of each other and on the tolerance toward each other during the negotiations.

Considering the experiences of the first bid round the MBH prepared the second concession round, which was the first round in Hungary for hard minerals. In this round we asked bids for four sand and gravel areas. This areas can be seen in Figure 4. For this bid round, due to the lack of former explorations, the Hungarian Geological Survey (HGS) did not prepare data packages. The round started on March 27, 1995 and the results were published on August 1, at the Ministry of Industry and Trade. The winners were companies registered in Hungary, partially owned by foreigners, except for one. The data of contract signing was December 1995, and in one case February

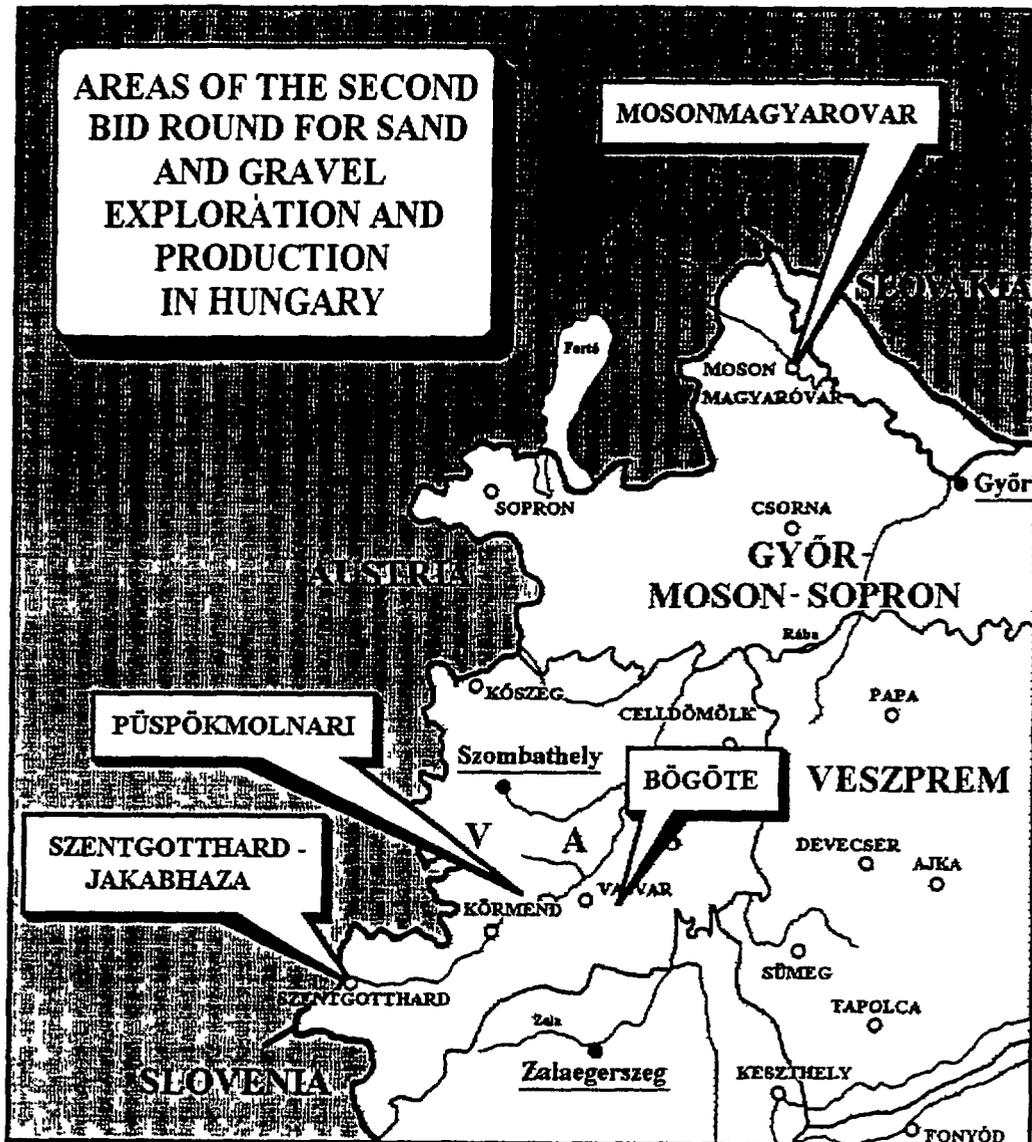


Fig 4

1996 Among the winner bids the Mosonmagyaróvár bid is special. The area here contains a former Soviet Army base area and the winner agreed to restore the soil quality in addition to the normal mining activity. The winners have already started their exploration activities.

The year 1996 started with a good event. On February 1, 1996 we published the third concession bid round for six areas and out of them two had been in the focus of Hungarian and foreign investors for a significant time. The minerals and the areas of this bid round can be seen in Figure 5. The great attention was paid to the Telkibánya and Fuzerradvány gold areas, and in these cases we had very long negotiations (over several years) with the authorities, especially with the nature protection authorities. Telkibánya is one of the most famous towns of the historical Hungary where there had been successful gold and silver mining for several centuries, even in this century.



Fuzerradvany, which is situated a few kilometers from Telkibanya, does not have gold mining traditions, but the neighboring mining town and the good results of the surface geochemical samples suggested a prosperous area. Foreign companies were especially interested in the successful gold exploration of the 1990s in the Matra Mountains. The HGS prepared data packages for all the concession areas and the bidders were able to buy it in English and Hungarian language versions. The period between March 4 and May 3 1996 was open for bidding on the areas and minerals published for bidding. Among other things, one condition for bidding was the buying of the relevant data package. The evaluation of the bids is still going on. The results are planned to be published on July 25.

At the end I would like to summarize the experiences we gained so far during our work with concession bids.

- There is a problem that originates from the difference between the foreign and the Hungarian laws and regulations. Namely, it is difficult for foreign investors to get used to the idea that they, who are the concession owner bid round winners, are not allowed to carry out mining activity directly. For carrying out the concession activity they must establish and have registered a concession company in Hungary. It is then sometimes difficult to find the best way to use the profit produced by the Hungarian home concession company.

- Generally the contract stability is the most important point of every concession contract negotiation. The concessors would like the concession contract to preserve the requirements of laws and regulations that are now in effect, but this today, can not be realized. Only the mining royalty percentage can not be changed during the whole period of the concession.

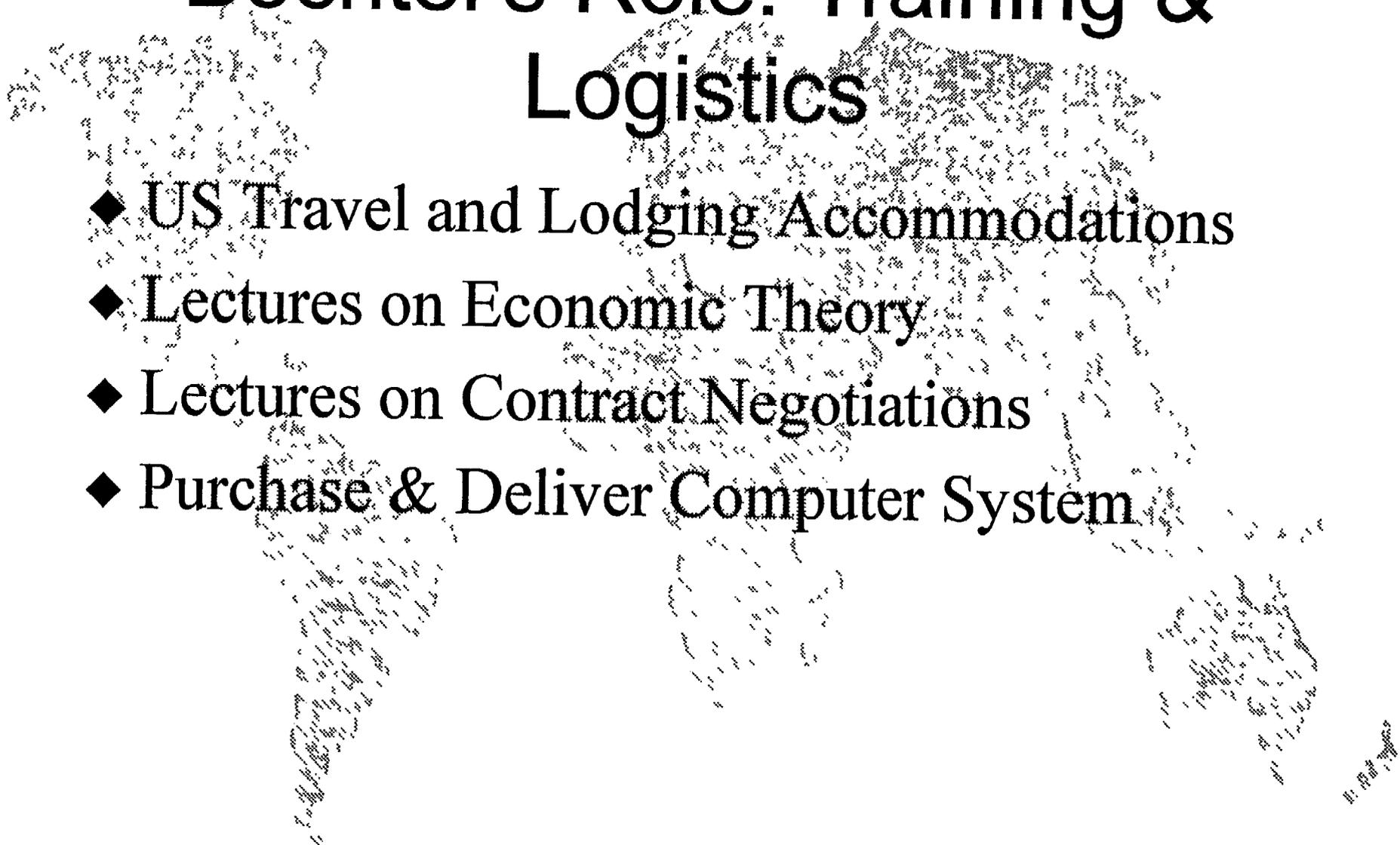
- The urgent task of the future is to harmonize the Hungarian concession and mining laws and regulations with the expropriation, the company establishment, registration and operation and with the relevant financial laws and regulations.

- Last, but not least I have to mention that it is definitely useful, independently from the difference of laws and regulations of individual countries, to get familiar with other countries' experiences before applying concession legal institutions in the practice. The MBH did the same when we got familiar with the USA concession experiences during the USAID training program.

\* \* \*

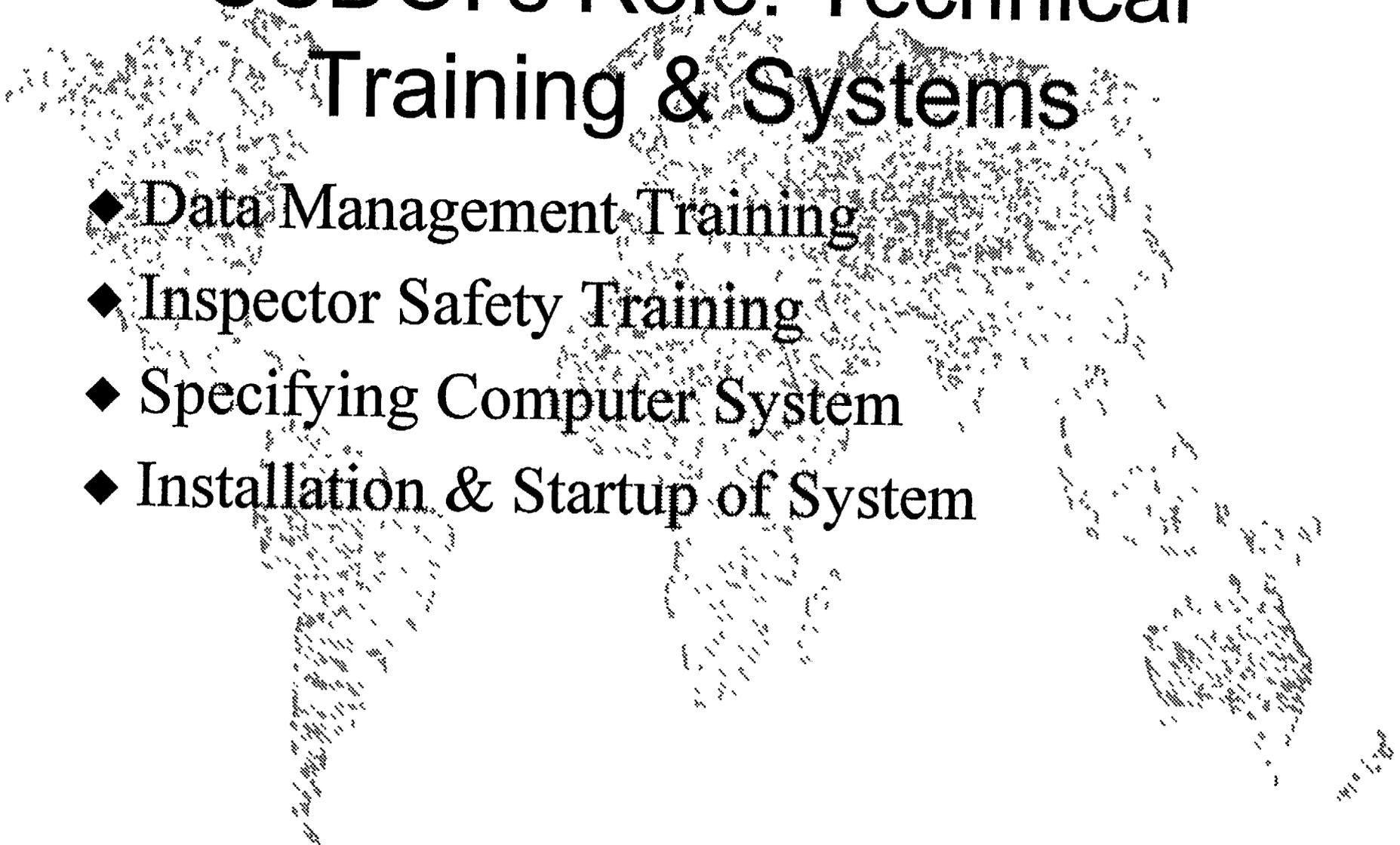
The supervision of concessors will probably have less problems than the supervision of other operators. We hope that the MBH professionals' more and more experience will make the institution of concessions general in mining.

Ladies and gentlemen, it is an honor to thank you for your attention.



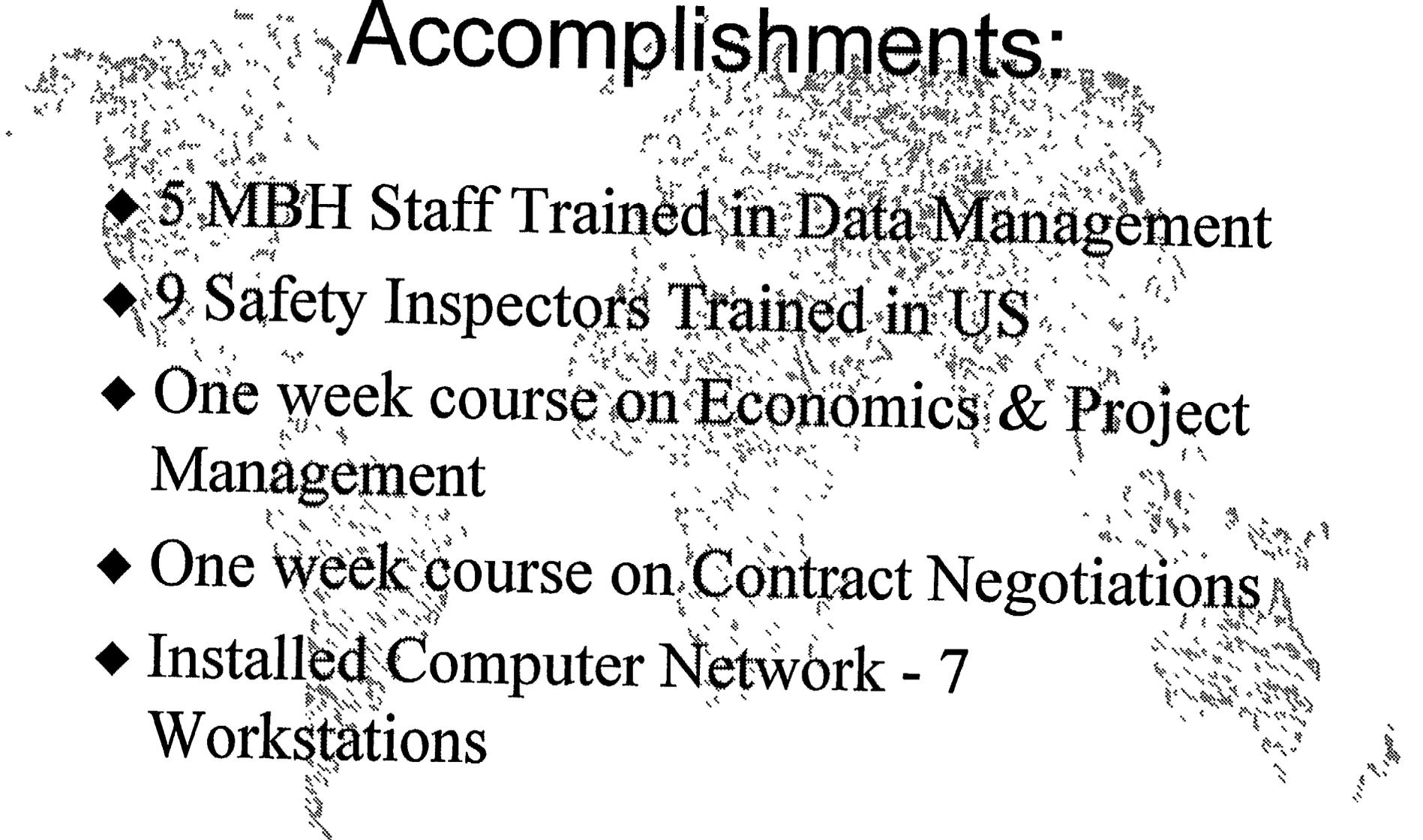
# Bechtel's Role: Training & Logistics

- ◆ US Travel and Lodging Accommodations
- ◆ Lectures on Economic Theory
- ◆ Lectures on Contract Negotiations
- ◆ Purchase & Deliver Computer System



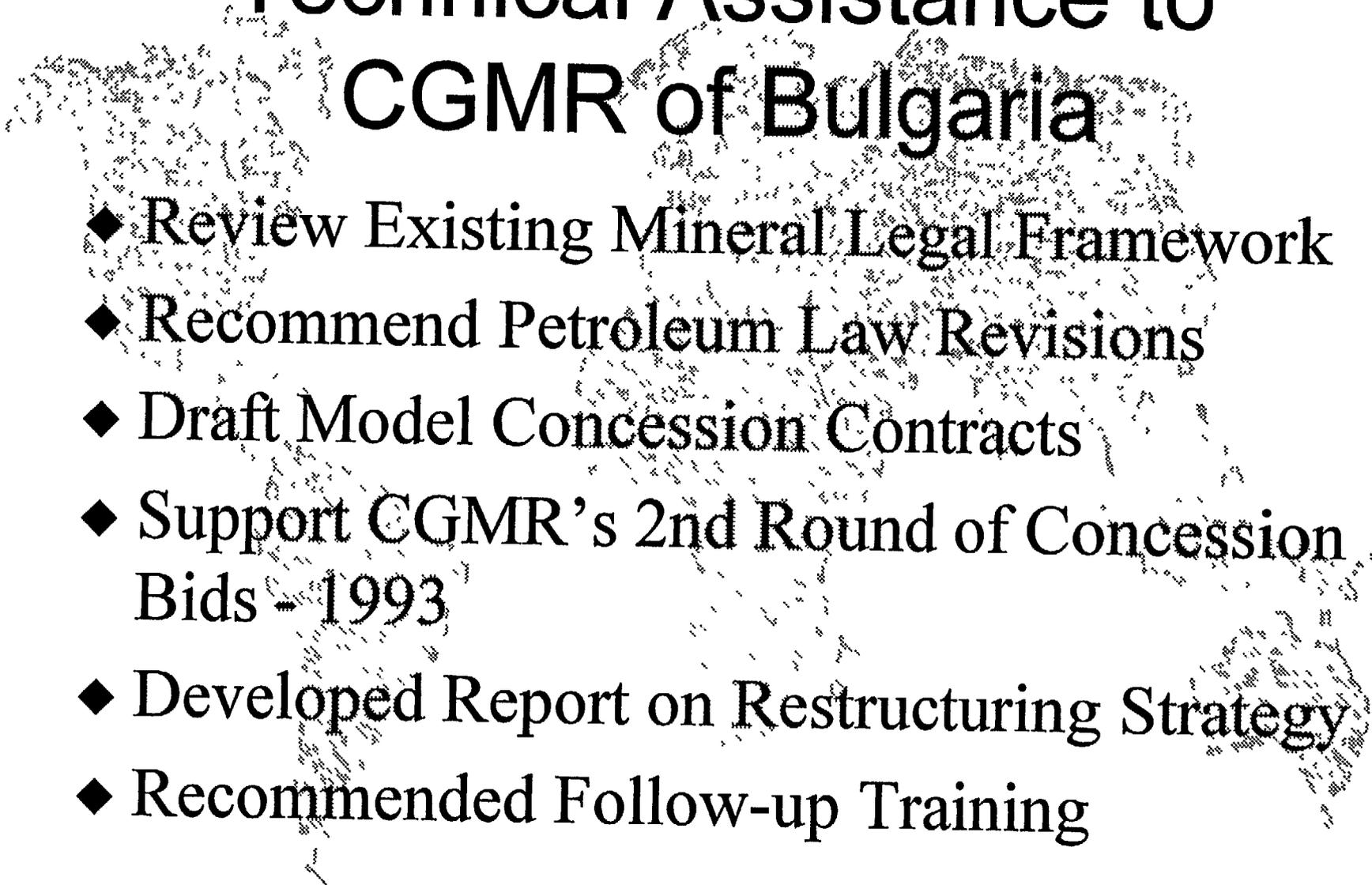
# USDOl's Role: Technical Training & Systems

- ◆ Data Management Training
- ◆ Inspector Safety Training
- ◆ Specifying Computer System
- ◆ Installation & Startup of System



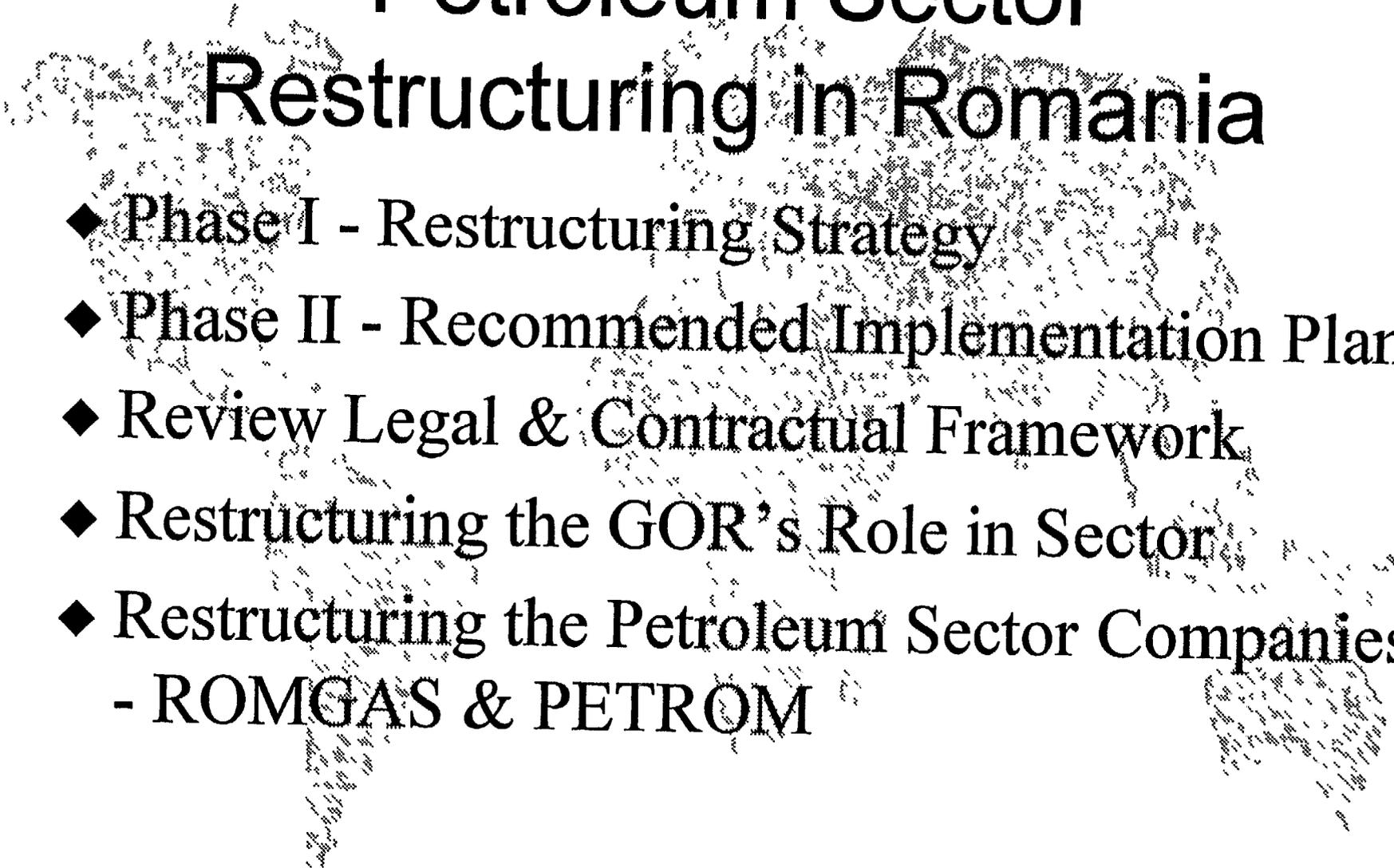
# Accomplishments:

- ◆ 5 MBH Staff Trained in Data Management
- ◆ 9 Safety Inspectors Trained in US
- ◆ One week course on Economics & Project Management
- ◆ One week course on Contract Negotiations
- ◆ Installed Computer Network - 7 Workstations



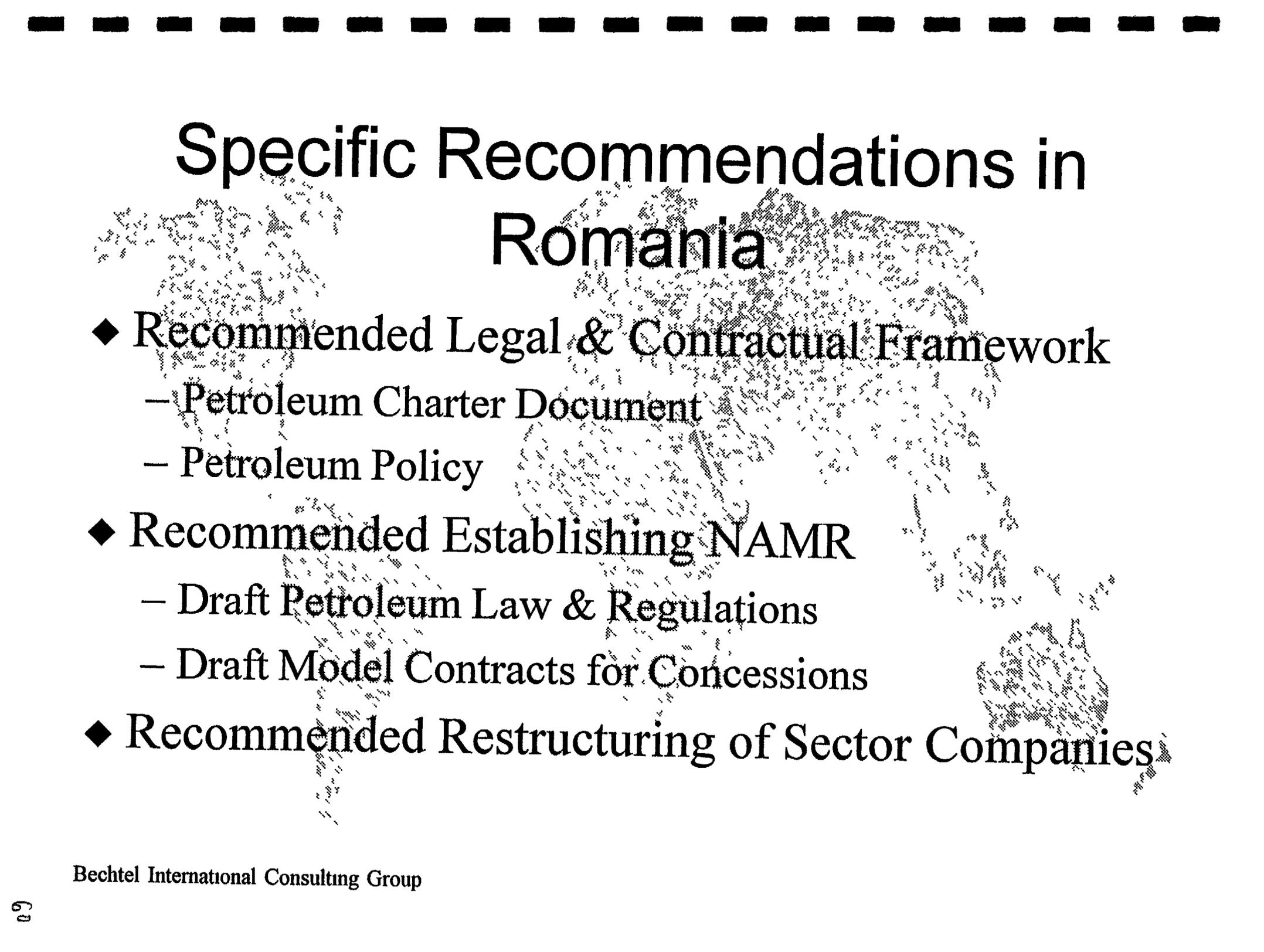
# Technical Assistance to CGMR of Bulgaria

- ◆ Review Existing Mineral Legal Framework
- ◆ Recommend Petroleum Law Revisions
- ◆ Draft Model Concession Contracts
- ◆ Support CGMR's 2nd Round of Concession Bids - 1993
- ◆ Developed Report on Restructuring Strategy
- ◆ Recommended Follow-up Training



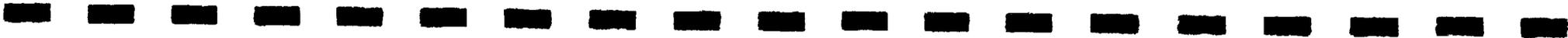
# Petroleum Sector Restructuring in Romania

- ◆ Phase I - Restructuring Strategy
- ◆ Phase II - Recommended Implementation Plan
- ◆ Review Legal & Contractual Framework
- ◆ Restructuring the GOR's Role in Sector
- ◆ Restructuring the Petroleum Sector Companies  
- ROMGAS & PETROM

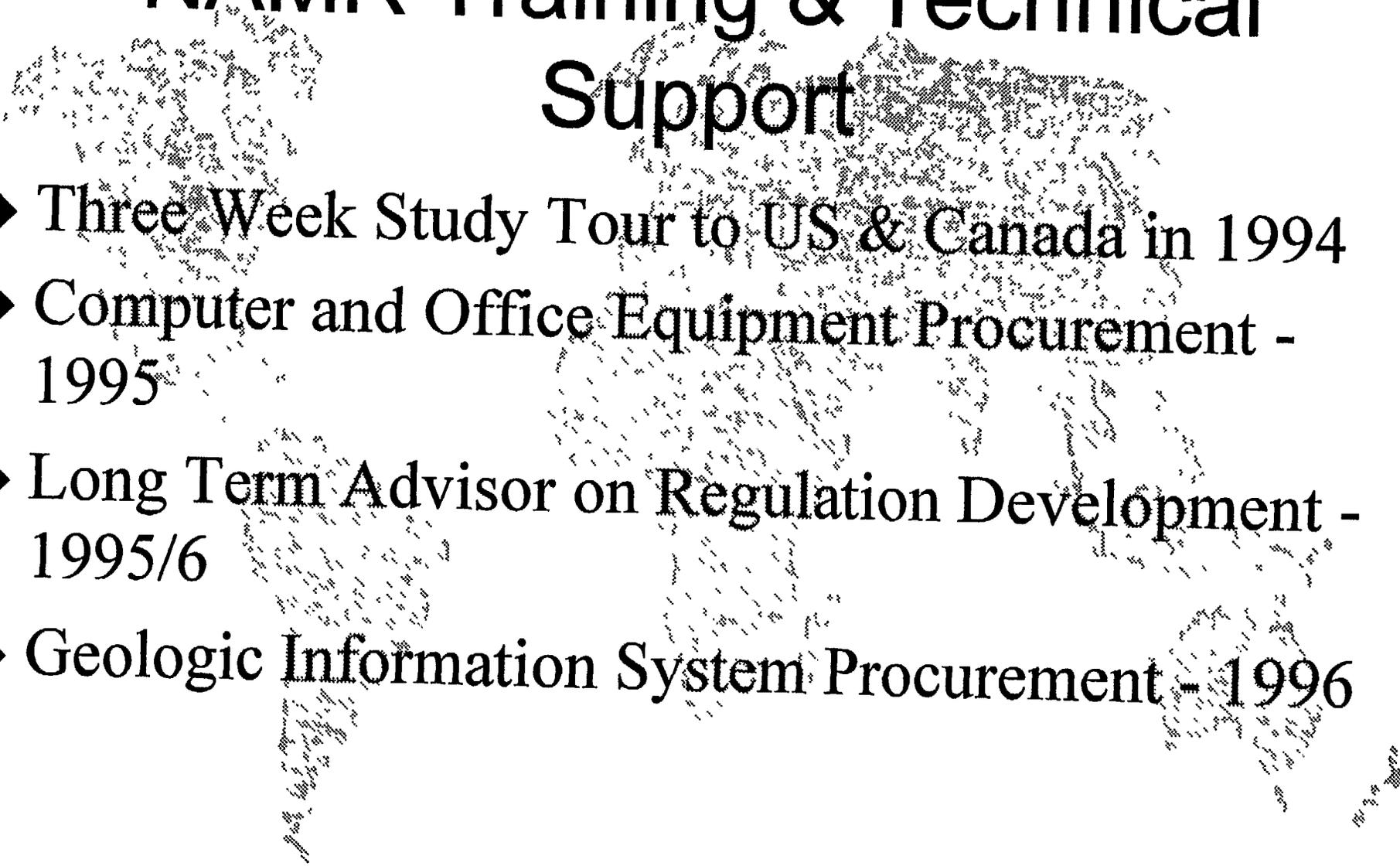


# Specific Recommendations in Romania

- ◆ Recommended Legal & Contractual Framework
  - Petroleum Charter Document
  - Petroleum Policy
- ◆ Recommended Establishing NAMR
  - Draft Petroleum Law & Regulations
  - Draft Model Contracts for Concessions
- ◆ Recommended Restructuring of Sector Companies



# NAMR Training & Technical Support



- ◆ Three Week Study Tour to US & Canada in 1994
- ◆ Computer and Office Equipment Procurement - 1995
- ◆ Long Term Advisor on Regulation Development - 1995/6
- ◆ Geologic Information System Procurement - 1996

## HUNGARIAN OUTREACH

OBJECTIVE. To instill in the Republic of Hungary staff, the different perspective Western Companies have and the effect upon and the importance of a quality Inspection and Enforcement Program.

## I Introduction

- A. What work the Republic of Hungarian Inspectors do.  
Depending on number of people, quick personnel introductions - name, job title and description.
- B. What the BLM does. (\* WO I&E VIDEO)  
Introduction of BLM group and short one sentence explanation of what each does.
- C. Reasons for Inspecting (OPEN DISCUSSION)
  - 1. Hungarian
  - 2. BLM's
- D. Purpose of Training -
  - 1. Explain differences in Gov't control vs. Western Co.
  - 2. Emphasis the important role of Inspections
  - 3. Address specific inspection aspects of mining and oil & gas exploration and production operations.

## II. Western Companies

- A. Hungarian perceptions - (OPEN DISCUSSION CHALK BOARD LIST)
- B. Motivated by Profit
  - 1. \$\$\$ is the bottom line - they would not be here if not for the opportunity to make money.
  - 2. Profit vs. social/environmental responsibility - "Prudent Operator Rule" - Operator is always motivated to operate in a prudent manner, i.e. provides the most income for the least economic outlay.
  - 3. Data confidentiality - most, if not all, information collected will have a direct monetary value or contain information which would be valuable to other entities.

## III. Hungarian I&amp;E - The Big Picture

## A. Concession system

- 1 Systematic offering of Areas with Geologic Potential & Industry Interest where the successful

bidder will obtain rights to explore and produce mineral commodities.

2. Rental based upon acreage
3. Royalties based upon Production
  - a. Monetary obligation to pay
  - b. Metering accuracy and importance of I&E
  - c. Multiple mineral owners - commingling, allocation.
4. Bonds - Money which will cover concessionaire defaults such as environmental damage, abandonment, payment of royalties, correction of noncompliance

#### B Approvals - Initial Permits & Subsequent Revisions

1. Resource Protection - Surface & Subsurface occurrences requiring protection measures (Casing/Cementing Review).
2. Conditions of Approval - specific instructions attached to the permit which ensures operations are conducted in a prudent manner in addition to other regulatory controls.
3. Maximum Ultimate Recovery - operations conducted in such a manner which provides for the highest sustained economic levels without causing damage.
  - a. Site selection - spacing (\*DRAINAGE PACKAGE)
4. Profit Context - Prudent Operator vs. environmental and royalty responsibilities
5. Flagging for Inspection - aspects of the operations which needs to have a Regulatory Inspectors to ensure operations are conducted in a responsible manner.
  - a. Notifications for work start-ups.
  - b. Prior approval for changes of plans.

#### C Inspection & Enforcement

1. Witnessing vs. Operator Self-Certification
  - a. Gov't agency is not doing the work, but rather a Company who might cut corners.
  - b. Importance of "being there" (regulatory presence) to witness critical operations - Safety Tests. NOTE: regulatory "Presence" ensures acceptable work, but does not "micro-manage" operations by directing day-to-day operations (unless specific instructions are necessary for required results)

- c. Those operations where if an inspector is not there the opportunity would be lost or where enforcement at a later date would be moot, i.e. irreversible damage.
- 2. Importance of Production Verification
  - a. Royalty Income (\$) for the Republic of Hungary
  - b. Metering Device Accuracy & Procedures  
Tank gaging, LACT's, belt scales, etc.
- 3. Enforcement (personal vs corporate)
  - a. The responsibility for the proper conduct of ALL operations and the correction of ALL violation rests ultimately with the Concession Holder (Company).
  - b. The individual in the field actually performing the work is not personally liable.
  - c. All violations or notifications should be served on the Company, including fines.
- 4. Resource protection - Why is this here?
- 5. Documentation
  - a. Importance of timely, accurate records
  - b. Reference for Field work leading up to decisions
  - c. Critical for higher level review (Appeal)
  - d. Establishes Operator "Track Record"

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## II. DRILLING & GEOTECHNICAL EXPLORATION OPERATIONS:

OBJECTIVE. To discuss and illustrate by example some critical aspects of drilling operations which necessitate strong regulatory presence.

- A. Geophysical Activities (I Need Help Here!!!)
  - Seismic, Core drilling
  - Environmental Aspects
- B. Drilling Approvals & Inspection:
  - 1. Resource Protection - Aquifers & other minerals which could be damaged by drilling/production operations.
  - 2. Casing & Cementing Design -
    - a. Safe prudent operations
    - b. Protection/Isolation
    - c. Longevity - MUR

3. General Rig Inspection
  - a. Safety - Workmanlike operations (Cleanliness), electrical, layout (pad size & orientation)
  - b. Hydrogen Sulfide Operations
4. Blow-Out Prevention Equipment (BOPE)
  - a. Why, from a regulatory standpoint, BOPE tests and witnessing such tests are critical. (SLIDE PRESENTATION)
  - b. Equipment discussion
    1. BOP Stack
    11. Choke System
    111. Accumulator
  - c. BOPE Test Procedures (\*POSSIBLE VIDEO)
    - Handout of Procedures (\*PACKET)
    - Accumulator Sizing Example (\*PACKET)
5. Industry Standards
  - a. Standard Oilfield Practices (SOP) - may or may not represent acceptable procedures
  - b. American Petroleum Institute (API) Standards, Specifications and Recommended Practices (\*PACKET)
6. Abandonment - Operator responsibility vs. profit motivation - Negative \$\$\$ situation - necessitates field presence
  - a. Plugging procedures
    1. Approval - take into consideration protection of aquifers and other mineral resources (EXAMPLE WELLBORN DIAGRAM), may involve redundancy, should include tests
    11. Inspection - ensures operation conforms to approval, utilizes acceptable practices, plugs are set as (where) prescribed (pressure tests, Tagging w/work string)
  - b. Surface Recultivation
    1. Time involvement - may take several years to establish intended goals
    11. Bond will be held until ALL aspects of recultivation are acceptable to KBF
7. Daily Drilling Reports - the submittal of daily drilling reports on a consistent basis, say weekly, allows Regulatory staff to maintain current status, appraised of problem situations for future abandonment, and reservoir statistics. May be required as COA or in regulations.
8. Environmental Protection - Drilling inspection

should also address any obvious surface deficiencies such as spills, missing pit liners or other permit requirements

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V New technologies (separate modules)

- A. Horizontal drilling - (\*PACKET) Approval and Inspections aspects which change or become magnified due to drilling procedures, i.e. casing design, cement protection & placement, bottom hole location (correlative rights)
- B. EMF's
- C. GPS - global positioning

## OIL PRODUCTION AND MEASUREMENT

OBJECTIVE: Provide overview of oil production and measurement inspection procedures and goals designed to ensure proper accounting of oil production, protection of the environment and safe working conditions

### I. Introduction

- A Objective of this training session
- B Definition of oil for this discussion
- C [DISCUSSION] Why conduct production/measurement inspections?

### II Approvals

- A Long term approvals
  - 1 Point of measurement
  - 2 Off concession storage and sales
  - 3 Commingling
    - a oil from different concessions
    - b oil from different formations
    - c. different types of oil
  - 4. Alternate method of measurement
  - 5 Produced water disposal
- B. Short term approvals
  - 1. Disposal of waste oil
  - 2 Alternate method of measurement

### III Oil measurement

- A. What is measurement of oil?
  - 1 Quantity
  - 2 Quality
- B. Types of oil measurement
  - 1. Tank gauge
  - 2. LACT meter
  - 3 Measurement by weight
  - 4 ??????????

IV Types of inspections

- A Inspection of production handling facilities
  - 1 Safety/H2S
- B Product security inspection
- C Well test inspection
- D. Tank gauging
- E Inspection of measuring device accuracy
  - 1 LACT meter proving
  - 2 Prover barrel water draw
  - 3. Weight scales verification
- F Production/sales verification
- G. Routine environmental
  - 1 Surface protection
  - 2. Water disposal
- H. Undesirable events
  - 1 Spills, fires
  - 2. Avoidable vs unavoidable determinations

V Documentation

- A. Need for inspection standards/forms for uniformity
- B Run tickets, calibration reports, seal records,

VI Enforcement

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## VI Gas Production

### Objective.

The trainees will have a general knowledge of how the BLM deals with Western Oil Companies in the approval process of gas measurement related issues; types of inspections that are conducted; verification of reported production; the resolution of volume discrepancies; the documentation of inspections, and enforcement action taken to resolve gas measurement related issues

The BLM conducts inspection of gas measurement facilities to ensure that the gas is properly handled, measured, and reported for royalty purposes. To accomplish this the BLM has certain equipment and procedural requirements for inspecting equipment and witnessing measurements and meter proving/calibrations. These requirements apply to all operators of Federal and Indian oil and gas leases where the Federal government has an interest.

We determine if the metering equipment was installed, and operated in accordance with the government requirements, and the American Gas Association (AGA) Committee Report No. 3, second edition, September 1985.

We also determine if the proving/calibration of the meter was conducted in accordance with the government requirement, and if volume adjustments are needed due to the meter proving/calibration

We verify if volumes were properly reported for royalty purposes, and take enforcement actions to correct any discrepancies that may be detected as a result of our inspections.

We review applications for approval related to measurement methods, location of the measurement point and the commingling of production.

#### A. Approvals

##### 1. Measurement Point

The measurement point for gas can be located at the individual well sites or at a central measurement point before leaving the concession area, or at an approved location outside the concession area boundary. The only point that the US requires approval is if the measurement occurs outside of the concession area. The operator must apply for the approval by submitting documentation as to the location of the measurement point and the reason for locating it outside the concession area.

The main reasons for locating the measurement point outside the concession area are:

- 1) Topographic
- 11) Central measurement point.
  - Less surface disturbance.

a. Commingling

Operators may request that they be allowed to commingle production from multiple formations, or other concession areas. The application for commingling production must include the justification for wanting to commingle the production, and outline the method to be used in allocation the production back to individual wells and concessions.

The procedure that the operator uses to allocate the production is very important. The allocation will be based on individual well tests and is prorated back to individual wells using the well test data.

The reasons for commingling production are similar to locating the measurement point outside of the concession area.

b. allocation

B. Types of Inspections

1 PVI

a. Record review

We require operators to submit a monthly report of operations for each individual lease or concession, which gives the amount of gas that was produced and the disposition of that production. These documents are used to determine if the proper amount of royalties were paid.

Operators also generate other records that are used to verify that the production was reported properly. These reports include meter proving/calibration reports, integration or volume reports, gas analysis and well test data.

b. Volume determination

All volumes are determined by utilizing an established standard for measurement. The standards for volume determination vary with the type of measurement that is being employed. We determine that the proper method was used to determine the volume. In some case we will independently determine the volume, or utilize a third party to verify the operators volume.

c. Volume comparison

After we have determined the volume, and verified the procedures used to determine the volume, we compare it to the volume reported by the operator on the monthly report of operations.

d. Determine volume error from calibration  
report.

Volume discrepancies may occur as a result of the meter ware and flowing conditions. Adjustments to the volume reported may be necessary to correct past production figures due to the error. These volume adjustments are based on the amount of error detected in the meter as a result of the meter proving/calibration.

Using the data from the proving/calibration report a volume correction can be determined. This will require contacting the operator for a correction to those volumes. It may be necessary at times to negotiate with the operator to arrive at a reasonable volume to be reported.

e. verifying flare/vent and fuel usage

2 Meter Calibration

All meters require periodic testing or calibration to insure that measurement accuracies are maintained. We witness these test or calibrations to ensure that the meter was properly calibrated. At this time we also verify that the meter was installed as per recommended practices and any conditions of approval. These inspections are documented and kept in a file for future reference.

3 Site Security

Site security inspection mainly relates to bypass

pipng around the measurement device.

a. farm taps

4 production handling

5. well test

Well tests are performed to:

a. Determine the well's capability to produce in paying quantities.

b. Determine volume produced

b. Verify reported production.

C. Documentation

The documentation of inspections is a essential part of conducting any inspection. It provides an information source of how well the operator is conducting operations; verification that inspections were conducted; ....

D Enforcement

# INSPECTION AND ENFORCEMENT AND PRODUCTION VERIFICATION FOR HARD MINERALS

## INTRODUCTION

THE DIFFERENCES BETWEEN MINING COMPANIES THAT OPERATE IN CENTRALLY PLANNED ECONOMIES AND COMPANIES THAT OPERATE IN MARKET ECONOMIES

## INSPECTION AND ENFORCEMENT FOR HARD MINERALS

- 1 0 WHAT IS INSPECTION AND ENFORCEMENT?
  - 1.1 GOALS
  - 1 2 RECOMMENDED PERSONNEL KNOWLEDGE REQUIREMENTS
- 2 0 EXPLORATION AND MINE PLAN APPROVAL
- 3 0 PLAN REQUIREMENTS FOR EXPLORATION, MINING, AND RECLAMATION
- 4 0 COMPONENTS OF INSPECTION AND ENFORCEMENT
  - 4 1 CONDUCT UNDERGROUND AND SURFACE SURVEYS
  - 4 2 MEASURE THE AMOUNT OF ORE FOR PURPOSES OF PRODUCTION VERIFICATION AND DETERMINATION OF MAXIMUM RECOVERY
  - 4.3 MONITOR METHODS OF PROSPECTING, EXPLORATION, TESTING, DEVELOPMENT, PROCESSING, AND HANDLING
  - 4 4 DETERMINE VOLUMES, TYPES, AND COMPOSITION OF WASTES GENERATED
  - 4 5 DETERMINE ADEQUACY OF MEASURES TO MINIMIZE WASTES AND METHODS FOR TREATMENT AND DISPOSAL
  - 4 6 EVALUATE RECLAMATION PROCEDURES AND PROGRESS IN ADDITION TO ENVIRONMENTAL CONCERNS
  - 4.7 REVIEW COMPANY DOCUMENTS AND RECORDS FOR ADEQUACY
  - 4.8 DETERMINE IF OPERATOR IS IN COMPLIANCE WITH CONCESSION TERMS AND CONDITIONS, STIPULATIONS, AND REGULATIONS
  - 4 9 EVALUATE POTENTIAL TRESPASS AND OTHER MINERAL CONFLICTS
  - 4 10 THE IMPORTANCE OF DOCUMENTATION
- 5 0 VIOLATIONS AND UNDESIRABLE EVENTS

6 0 SAFETY CONCERNS

6.1 SURFACE MINES

6 2 UNDERGROUND MINES

7 0 SUMMARY

## PRODUCTION VERIFICATION FOR HARD MINERALS

- 1 0 WHAT IS PRODUCTION VERIFICATION?
  - 1 1 THE GOAL OF PRODUCTION VERIFICATION
  - 1 2 PRODUCTION VERIFICATION PRINCIPLES
- 2 0 SCALES
- 3 0 PRODUCTION VERIFICATION PROCESS
  - 3 1 REVIEW OF OPERATOR MAPS AND RECORDS
  - 3 2 DATA COLLECTION, IDENTIFICATION, AND PRODUCTION TRACKING
    - 3 2 1 METHODS USED TO INDEPENDENTLY MEASURE THE VOLUME OF IN-PLACE OR MINED MATERIALS
      - 3.2 1.1 DIRECT VOLUME MEASUREMENT METHODS
      - 3 2 1.2 INDIRECT VOLUME MEASUREMENT METHODS
    - 3.2.2 METHODS USED TO INDEPENDENTLY DETERMINE THE QUALITY OF MINED MATERIALS
    - 3 2 3 PRODUCTION LOSSES WHICH AFFECT MINERAL RECOVERY
  - 3 3 INDEPENDENT CALCULATION AND EVALUATION OF REPORTED PRODUCTION
    - 3 3 1 MANUAL METHODS OF VERIFYING MINERAL PRODUCTION
    - 3 3.2 COMPUTER AUTOMATED METHODS OF VERIFYING MINERAL PRODUCTION
- 4 0 PRODUCTION VERIFICATION PLANS
  - 4 1 THE PURPOSE OF PRODUCTION VERIFICATION PLANS
  - 4 2 COMPONENTS OF THE PRODUCTION VERIFICATION PLAN
    - 4 2 1 INFORMATION FORM AND FLOW CHART
    - 4 2 2 DESCRIPTION OF THE OPERATION
      - 4 2 2 1 MINING OPERATIONS
      - 4 2.2 2 MINERAL CHARACTERISTICS
      - 4 2 2 3 SURFACE AND PROCESSING FACILITY OPERATIONS
      - 4 2 2.4 RECORDS MAINTENANCE, REPORTING ENTITY, AND ROYALTY PAYOR

4.2.2.5 PRODUCTION ACCOUNTING PROCEDURES

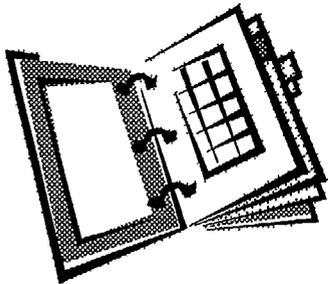
4.2.2.6 ROYALTY ACCOUNTING PROCEDURES

4 2.3 DESCRIPTION OF FIELD OFFICE PROCEDURES USED TO VERIFY  
PRODUCTION

4 2 3.1 MINE AND PROCESSING FACILITY ACTIVITIES

4 2 3 2 FIELD OFFICE ACTIVITIES

5 0 SUMMARY



# Training Eastern European Managers

**Bill Cline**  
**Gaffney, Cline & Associates**

June 1996

## OIL - A SUNSET INDUSTRY \* ?

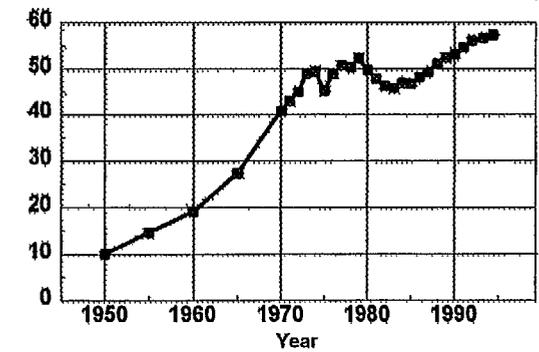
*Mature Product Business Behavior*

- Cut costs
- Outsourcing
- Aggressive inventory management
- Aggressive receivables management
- Shrink product lines to core (niche)
- Short-term results oriented

\* Robert O Anderson, Former Chairman of ARCO

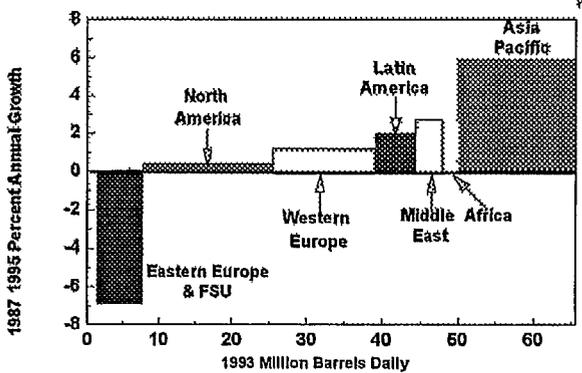
## WORLD OIL DEMAND

Without Centrally Planned Economies



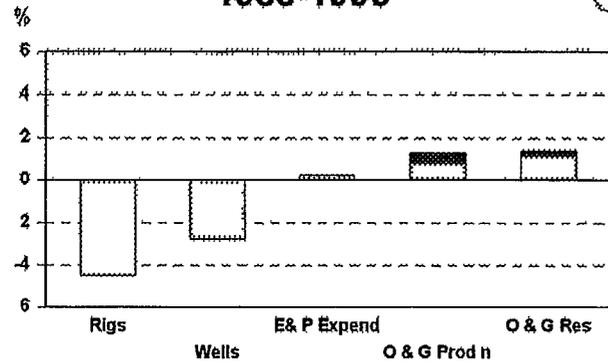
Source Energy Information Administration

## World Oil Demand Annual Growth 1987 - 1995

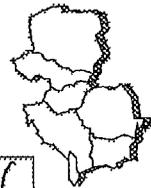
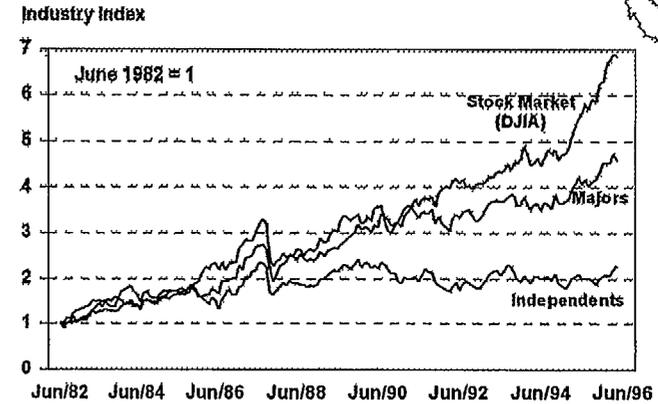




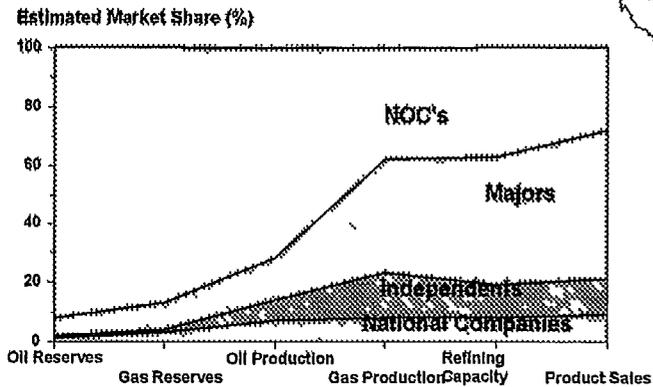
## Producer Efficiency Compounded Growth Rate 1988-1995



## INDUSTRY PERFORMANCE 1982-1995

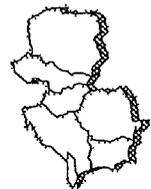


## Reserves & Markets



## Key Issues ~ The NOC's and Ministries

- Selling the new policies at home
- Competing with the FSU and LA
- Re-focusing on gas
- The next road-show in Houston

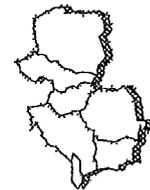


## The International Petroleum Business Environment



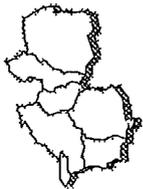
- Increasingly competitive licensing terms
- Single digit rates of returns
- Competitive acquisition market
- Natural Gas
- Integrated Projects
- Pressure on high cost or low value production
  - EOR
  - Heavy, sour oil
  - High operating cost production
  - High transportation cost production
  - High state take production
- Pressure/incentive for E&P capital to fund OPEC

## The Arrival of Natural Gas



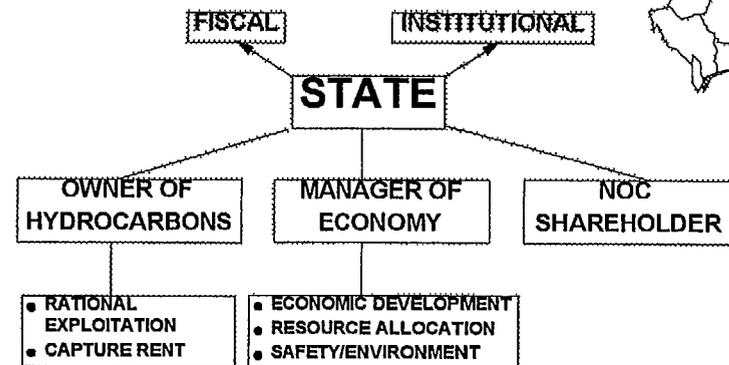
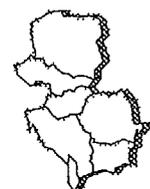
- As a good and growing business
- As environmentally attractive
- As a viable fuel substitute but...
  - Competes with Coal and heavy end of barrel
  - Large increments of investment
  - Long lead-times
  - Often multi-national

## Host Country Perspective



- GOALS
  - Develop and monetize indigenous natural resources at Company risk
  - Stimulate industry and economic growth
  - Acquire new technology

## Role of State



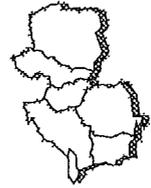
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## Implications of State Roles



- State roles and interests do not depend on fiscal / institutional system
  - State interests similar in all hydrocarbon producing countries
  - Difference among countries is manner of addressing these interests
  - State monopoly is not a goal itself, but one of several methods of addressing these interests
- ***Fiscal and Institutional systems are inter-related and must be addressed jointly***

## Company Perspective



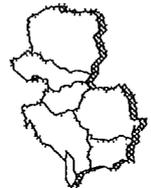
- ACCEPTABILITY OF:
  - Laws and political environment
  - Licensing Terms
    - Prospectivity, Costs, Markets, Time (to deal and production), Fiscal take (timing of take)
  - Competitiveness with other investment opportunities

## Scope of Activities



- Romania
  - National oil company restructuring
  - Petroleum Contracts and Licensing Principles
  - Introductory Petroleum Finance /Economics
  - Develop form of contract
  - Develop institutional framework
  - Business Diagnosis for sector companies

## Petroleum Economics Course Outline



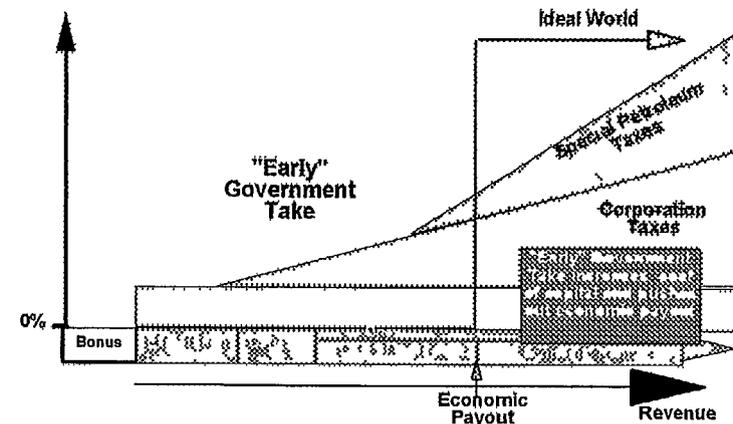
- Time Value of Money
- Rates of Return
- Discounted Cash Flows & NPVs
- Cost of Capital
- Risk-Reward
- EMVs
- Economic Rent

## Fiscal Tools (Sources of Government Take)



- Increasingly regressive  
(less sensitivity to profitability)
- Bonuses
    - Signature
    - Production
  - Carried participation
    - Though this may also be considered an investor cost
  - Royalty
    - A form of non-recourse loan on economic rent
  - Taxes
    - Corporation Tax
    - Other Tax(es)
    - Special Petroleum Tax

## Government Take and Rent

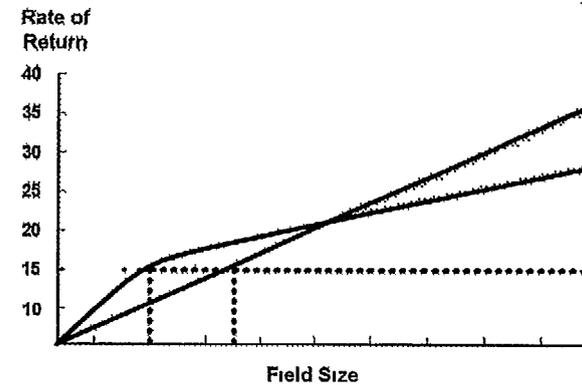


## Royalty, Petroleum Taxes and Corporation Tax



- Royalty
  - Provides immediate cashflow to resource owner (regardless of profitability)
- CT
  - Universal and understood
  - Generally taxes without regard to boundary conditions (upstream, downstream, transportation, etc.)
  - International tax capture (credits), others will tax if you do not
- Special petroleum taxes
  - Aimed to recover economic rent - profits in excess of "normal" levels
  - Ideally should be structured to address broader investment returns than single, forward-looking only, investment decision

## Contractor Economics Retaining Economic Rent vs. Lowering Economic Threshold



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## Scope of Activities

- Hungary
  - Petroleum Contracts and Licensing Principles
  - Introductory Petroleum Finance /Economics
  - Data Management Training



## Contract Negotiations Course Outline

- Anatomy of a Contract
- Analysis of Petroleum/Mining Contracts
- Survey of Contracts forms/mechanics
  - Concessions (Tax & Royalty), TEAs, PSCs, Risk, Service, Association Agreements
- Contract Economics
- Petroleum Licensing
- Negotiation Simulation



## Data Management Course Outline

- Cash Flow Analysis
- Data Management, Retrieval and Storage
  - UTP Geological Information Library
  - MMS
  - Texas Railroad Commission
  - UT Bureau of Economic Geology
- Data Rooms, Data Packages, Licensing Processes
- Information Technology



## Scope of Activities

- Bulgaria
  - National oil company restructuring
  - Petroleum Contracts and Licensing Principles
  - Business diagnosis for sector companies



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## Principles

- Level playing field, transparent process
- Balanced contract is a good contract
- Contract reflects reality (linking terms and conditions to the circumstances)
- Technical, contractual, licensing, institutional aspects have to be complementary and integrated
- Flexibility vs Simplicity



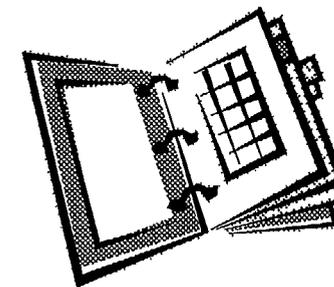
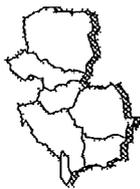
## Other Issues/Principles

- Take into account natural gas
  - Windfalls, secondary investment, gold-plating, incongruent incentives
- Anticipate changes in conditions
  - Lower the economic threshold/ maximize economic rent
- Not just level of state take that matters
- Have to model the contract to negotiate it
- Target



## Lessons from the Front

- The process is as important as the product
  - Iterative and responsive
  - Stick to the schedule
  - Single point control
- Integration of technical, financial and legal



**Training  
Eastern  
European  
Managers**

**Bill Cline  
Gaffney, Cline & Associates**

June 1996

fp

## **Development of the MBH Training Program Needs, Opportunities, Experiences**

**Balazs Csep**

This paper introduces the USAID program in Hungary and in the United States, the topics of the trainings, and the computer system that was built up at the Mining Bureau of Hungary with the assistance of the US Department of the Interior. In the second part of the paper the author gives a brief overview of the present development and training needs for the smooth operation of the Mining Bureau of Hungary.

\*\*\*

### **1 History of the Hungarian USAID training program**

In 1992 the United States Agency for International Development (USAID), with the assistance of the United States Department of the Interior (USDOl), started a training and technical help program. The aim of the program was to assist the Hungarian mining and mineral management system to change for a market economy.

The beneficiary of the program is the Mining Bureau of Hungary. Other institutes also involved in the program were the Ministry of Industry and Trade and the later established Hungarian Geological Survey (HGS).

In developing the details of the program experts participated from the Hungarian State Geological Institute (HSGI), the Eotvos Lorand Geophysical Institute (ELGI) and from the HGS.

I summarize the training and technical help program with the introduction of the following six significant events:

#### **1.1 USDOl data management team studied the MBH data flow (September 24, 1992 - October 22, 1992)**

The American experts studied the MBH data flow, sources and targets of input and output data. They prepared a fairly detailed block diagram of this. The institutes linked in this diagram are the MBH, the district mining offices, the HGS, the HSGI, the ELGI, MOL Rt, other companies, and some ministries. This block diagram for the information flow defined a computer system to be established.

The operation of such a system will bring the followings also. Memorandum of understanding for data share and data management is needed between institutes. Agreement is needed for the definition and treatment of confidential data. The American experts spoke about details and solutions of these problems.

The proposed network and its present state are as follows:

- MBH computer network with a server and work stations (operates at present, and the network that was in the original USAID package was made larger by the MBH by further work stations)
- Personal computers at the district mining offices (operating)
- On line linkage with the district mining offices (operates via modems, the USAID package included 3 modems and this number has been increased since then by the MBH)
- On line linkage with the mentioned institutes and companies (we have the facilities for this also, via modems)

**1 2 First visit of Hungarian experts in the USA  
(October 24, 1992 - November 20, 1992)**

The aim of the visit was to study in the USA at state institutes and some private companies analogous methods for the solutions of concession and mineral management issues that were the brand new MBH tasks

The five MBH experts visited institutes in the following cities Washington D C , Denver, Dallas, Austin, New Orleans, Tulsa

The host companies and institutes were the American Petroleum Institute, the World Bank, the Mineral Management Service (MMS), the United States Geological Survey, the Intergraph, the Bureau of Land Management, the Gaffney, Cline Associates (GCA), the Oracle, the University of Texas at Dallas, the University of Texas at Austin, the East Information Systems Co , the IBM (Dallas), the Texas Railroad Commission Austin, the Petrotechnical Open Software Corporation, the Petroleum Abstracts Tulsa, the Atlantic Richfield Co , the Mobil (Dallas) and the Bell and Howell

The MMS and the GCA were the main hosts of the Hungarian group

At the MMS the Hungarian experts have seen the followings In Herdon they have heard about the federal concession areas (Mexican Bay), bidding procedures for these areas, and about the related information system In Washington D C they met the top leader of MMS In Denver they have seen an information system for royalty management

In Dallas the Hungarian experts visited the CGA company which has a personnel of one hundred people worldwide dealing mainly with deposit and mineral evaluation, bid round packages, and with the installation and operation of data rooms They studied the computer system, the data rooms, the forms that GCA uses, the systematization of the data, and their storage and back search They were given detailed information on the Argentina GCA concession works

**1 3 Short courses for Hungarian experts in Hungary  
(November 2, 1992 - February 5, 1993)**

During this three month period the American guests gave nine short courses for Hungarian mining professionals

The courses were given in the city of Esztergom and the speakers were Bechtel and MMS people. The following trainings were given:

- estimating economic mineral resources
- evaluation of regulations for a mineral program
- revenue management
- basic economic theory and practices
- contract negotiation for concession mineral programs
- technical assistance in developing a revenue management system
- developing environmental assessments and processes
- data management technology, equipment, and software
- technical assistance in developing a data management system

#### **1.4 Courses for mining professionals working on areas of the four district mining offices (March 1993)**

The courses were prepared by Bureau of Land Management people working in the inspection and enforcement. During this four week period the American experts could see the work at the district mining offices and they had the opportunity to study the Hungarian inspection practice also.

The topics of the presentations were the same for the four district offices, with the exception that the oil and gas measurement presentation was only given in Szolnok. The topics were the followings:

- Operation and aims of western companies and their regulation,
- Overview of inspection and enforcement
  - the concession system,
  - licenses,
  - inspection and enforcement product verification, documentation, punishment,
- Drilling activities
  - drilling licenses and inspections,
  - ending drilling activities,
  - new technologies,
- Measurement of produced gas
  - licenses,
  - verification methods,
  - documentation,
  - enforcement,
- Measurement of produced oil
  - rules, licenses,
  - verification methods,
  - documentation,
  - enforcement,

- work safety
- Inspection, enforcement, and product verification in hard mineral mining
  - what is inspection and enforcement?
  - licensing exploration and mine development,
  - parts of inspection and enforcement,
  - noncompliance,
  - work safety

**1 5 Second visit of Hungarian experts in the USA  
(July 5, 1993 - August 13, 1993)**

In this training five hard mineral and four oil industry experts participated from the Hungarian mine supervision. The aim of the visit was to study the American practice in mining royalty collection, environment protection, and in mineral management. The participants could see and study some real cases of state-companies-public cooperation. During the main part of the time the host institute was the Bureau of Land Management (BLM).

The Hungarian experts participated in the following programs

*In Salt Lake City* Basics of economy and mining economy. Visit at Barrick Mercur gold mine, Bingham Canyon copper mine

*In Vernal for oil industry people* Economic and technical inspection of oil production. Conservation of recreation parks and archeological places. Visit at Red Wash oil field (Chevron), Rangely field (Chevron), and at Clay Basin gas reservoir (Questar)

*In Price for hard mineral people* Licensing of production plans of underground mines, inspection of the operations

*In Rock Springs* For oil industry people: issuing drilling licenses, inspection of equipments, abandonment of wells, equipments for producing gas with H<sub>2</sub>S content. Visit at La Barge gas exploitation (Exxon). For hard mineral people: Licensing of production plans of surface mines, inspection of the operations. Visit at Black Butte surface coal mine

*In Farmington for oil industry people* Rules of gas producing wells. Wildlife protection. Building recreation sites. Treating hazardous wastes. Mineral management. Product verification of gas producing wells

*In Spokane for hard mineral people* Environment protection and recultivation. Visit at abandoned surface uranium mines, Sherwood and Midnight, the gold mine of Echo Bay Mining Co., and the "Knob Hill Gold Mine" underground gold-silver mine of HECLA Mining Company

*In Houston for oil industry people* BOP protection and H<sub>2</sub>S protection practical training (with real equipment, but naturally without dangerous gases). Visit at the Daniel Valve company

*In Beckley for hard mineral people* The work of the mine safety inspection. Visit at MSHA Mount Hope Laboratory, Safety and Health Center in Morgantown

*In Washington D C* Visits at several institutes and at their top leaders Among other places at Bechtel, MMS, MSHA, USGS, and at the State Department in the USAID offices

## **1 6 Installation of the USAID computer network at the MBH (June - July 1994)**

As part of the training and technical help program the MBH had a 61 000 USD for the purchase of hardware and software During the installation, in July 1994, two American experts gave help, who traveled to Hungary from BLM Denver for this very purpose The main items of the installed system were

- 1 server (Compaq Prosignia 486/33 Model 550/SCI)
- 7 work stations (Compaq Prolinea 4/25s Model)
- 5 printers
- 3 Discovery 1442 AM modems
- network and non-network softwares (Unix, Oracle, MS)

Naturally, we continuously developed and develop the information system of MBH before and after this event, nevertheless the installation of the USAID computers gave an enormous help in our work

## **2 Present training and technical needs of the Mining Bureau of Hungary**

In the summer of 1994, when we also had the opportunity to welcome American experts in Hungary, the installation of the USAID computer network was only one of our tasks We had the task to think about the past and to think about the future During our discussions with experts who participated in the trainings we could generally make the conclusion that the support and the lot of new information given by the program helped much to our restructured Bureau Since the establishment of MBH we apply the concession system that the American experts introduced to us The mining royalty management, which was introduced to us by the American experts, is also an everyday work now at the MBH

During our discussions we also had the conclusion that in some trainings a big part or the whole of the audience did not hear new information It would have been more effective to have a better selection of experts in the audience This criteria was very well fulfilled by the selection of experts for the visits in the USA

During the 1994 summer visit of the American experts we prepared a schedule of a possible future training program for the MBH In the preparation of this we considered the principle of careful selection of experts to be participated The schedule we worked out is fairly detailed and has proposals for the number of experts to be participated and for the number of training hours also It has great importance in this proposal that we suggest the invitation of not only MBH, district mining office and HGS personnel, but also the invitation of people from the cooperative authorities Ministry of Industry and Trade, Ministry of Environment Protection and Land Management, Ministry of Finance Common trainings with people from these institutes will always help much in our common works

A brief summary of the proposed schedule is the following

I Trainings

- 1 Preparation and publication of bid rounds, evaluation of bids
- 2 Calculation, collection, and verification of mining royalty
- 3 Environmental impacts of mining
- 4 Computer data management
- 5 Mineral management

II Visits The schedule proposes two four week visits in the USA, for two groups of five people, but only for those mine supervision people who participated in the trainings in Hungary

Point I and II would be the following in numbers of participants and training hours 135 hours of training in Hungary for 61 participants, and a one month visit for 10 experts in the USA

III Technical support

- 1 Enlargement of the MBH internal network
- 2 Enlargement of computerization at the district mining offices
- 3 Establishment of connection to the international computer network

I hope that the plans of the new schedule will have their financial support also, because the Hungarian like learning and sharing the information learnt

## **The Mining Royalty in Hungary**

**Gabor Katona**

**Mining Bureau of Hungary**

In Hungary, upon the Mining Act that came into effect in 1993, after the minerals produced and sold mining royalty is due to be paid to the state. The Mining Bureau of Hungary carries out the verification of mining royalty payment obligations.

This paper introduces the main legal requirements on mining royalty, the calculation of the value of the mineral, and the first experiences with the declaration and payment of the mining royalty.

The paper gives a brief overview of the declared and paid mining royalty in 1995.

## 1 The historic background

Mining is one of the oldest human professions and our country also has significant mining traditions. In the Carpathian-basin we found traces of salt and gold mining from ages before the original settlement of the Hungarian

The flourishing of the medieval Hungary was partly due to the important precious metal mining after the Mongol invasion of Hungary. Up to the discovery of America, Hungary had 42 % (1 000 kg/year) in gold mining and 30 % (6 000-10 000) in silver mining of the known world that time.

The Hungarian coal mining developed in the XVIII century and had a large weight in the industry in the XIX century. Today Hungary is a country only with medium mineral assets, but the known mineral assets still give 13-15 % of the total assets of the nation.

In the medieval Hungary the royal incomes came from making coins, change of money, taxes on precious metal and salt mining and commerce. The first mining cities were directly ruled by the king. In that time the "urbura" was an important early mining legal institution and it meant 1/7-1/10 of the income of the mines. This way of taxing mines had been called by several names: mine tax, or from the German "Frohne". The General Austrian Mining Act, which was in effect in Hungary since 1854, was modified several times, and in 1862 it cancelled the mine tax. Instead of it the Act introduced the "I class income tax" that meant the 5 % of the net mining income. For a short period from 1867 the mining income was taxed as other incomes. In 1875 a separate article introduced the "mine tax", and this burdened the net mining income, generally by 5 % and in coal mining by 7 %.

After World War II the mining companies were first nationalised and due to the false strategy in industry in the 1950's coal mining was given an unrealistic large role. The mining was centrally planned and this ruled out market influences. From the end of the 1960's all the companies were taxed the same way, but mining companies were given state support and advantageous investment conditions. The political and economic changes needed the reregulation of mining also. This way was born, as one of the first economic acts after the political changes, the Act XLVIII of 1993 on mining which introduced the legal institution of mining royalty.

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## 2 The mining royalty

### 2.1 Legal requirements on mining royalty

After the mineral and geothermal energy that is produced and became the property of the mining entrepreneur a share, the mining royalty, is due to be paid to the state. The mining royalty ratio is

12 % for oil, natural gas and CO<sub>2</sub>

5 % for non-metal hard minerals from surface mines (with the exception of energy hard minerals)

2 % for other hard minerals and geothermal energy

Until the effective date of the Mining Act hydrocarbons were burdened by a "differentiation turnover tax" of 40 %. It was not swapped by the 12 % mining royalty from one day to the other but a continuous change is applied with a linear decrease until the end of 1997.

Mining concession contracts may require higher royalty percentage than the law requires.

The minister of industry and trade with the agreement of the finance minister may lower the mining royalty for mineral management or other public interests.

A certain percentage of the mining royalty income flows to the Central Environment Protection Fund and, via tendering, this can be the source of land reclamation works that can not be burdened on entrepreneurs. Originally this percentage was 20 % but - probably due to budget difficulties - it shrunk first to 10 % and then to 5 %.

### 2.2 Determination of the value of the mineral for mining royalty payment

Mathematically speaking, the value of the mineral is the product of the extracted quantity and the specific value of the mineral. The determination of the specific value depends on

- the physical state of the mineral (liquid, gas, etc.)
- to what extent the mineral is (pre)processed
- documentation of the producer company

In the calculation of the mining royalty after **petroleum** the basis is not the real sales price, but the petroleum World market price. The Brent price is to be considered as World market price. The mining entrepreneur may decrease the price value if (pre)processing cost can be proved. The petroleum produced by enhanced oil recovery is free of royalty obligations.

The specific value of the **natural gas** is given by the retail price declared in the decree of the minister of industry and trade. The retail sale price can be decreased by costs of processing, transporting and underground storage.

In the case of **hard minerals** the calculation of the specific value can be done by one of the following methods:

- If the mining entrepreneur sells significant part of the extracted mineral in unprocessed (raw) state then the specific value will be the average sales price. Sand is the most frequent mineral for this method.
- If the mining entrepreneur sells significant part of the extracted mineral in processed state then the specific value will be the sales price minus the costs of processing (and internal transport). This method is used in coal and ore mining.
- If the mining entrepreneur does not separate preparation, internal transport costs or sells the mineral in processed form then the specific value will be the "total production cost of the raw mineral increased by the profit". The "total production cost" is the direct production cost of the mineral plus the appropriate proportion for the mineral of the so-called not detailed costs (organisation, administration, bank cost, etc). This method is mainly used in brick production, in rock extraction and at the electric power station coal mines. Main parts of the direct cost are:
  - material and energy costs of production
  - salaries and their supplementaries linked to production
  - amortisation of the mine and the producing machines
  - technical costs related to mining (maps, technical operation plan, geodesy, etc)

### 2.3 Experiences at MBH about the introduction of the mining royalty

Short after the effective date of the Mining Act ministerial decree was published on mining royalty declaration and payment. The participants in the preparation of the decree were mainly MBH people who were given a wide range support from the US government both at training in Hungary and at visits in the USA. We have to mention

the computer network that was given by the American government and that gave an important help in our work. The system is still not totally built up yet, due to partly the lack of manpower and partly the lack of computer capacity

The compliance of mining entrepreneurs is getting better and better in relation with the mining royalty declaration and payment. The introduction of this new institution gave problem mainly at smaller construction material producing agricultural units - due to lack of information - but after a period of guidance the problems had been solved step by step. Payment problems are mainly at underground coal mines in spite of the fact that underground coal mines not involved in power plant integration are exempted from the mining royalty payment obligation. The compliance with mining royalty declaration and payment is better than the compliance with other common payment obligations.

So the summary of the present problems is

- Our computer capacity needs development both in quantity and quality
- We have a vacant operator position
- The mining royalty collected goes totally to the state budget and the MBH does not benefit of this
- Inspectors are not given a bonus after the increase of royalty incomes due to inspections

## 2.4 Mining royalty declaration and payment in 1995

### 2.4.1 Ventures and locations having mining royalty declaration obligations

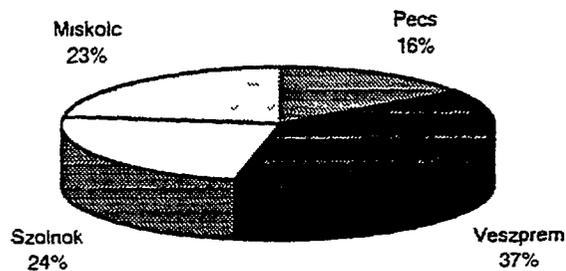
The hard mineral extractions are divided among district mining offices the following way

Mining offices	Extractions
Pecsi Banyakapitanysag	155
Veszpremi Banyakapitanysag	373
Szolnoki Banyakapitanysag	236
Miskolci Banyakapitanysag	225
<b>Total</b>	<b>989</b>

Table 1

95

## Distribution of hard mineral extractions among district mining offices



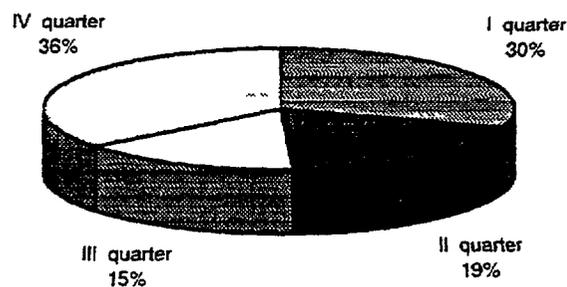
## Declared mining royalty by mineral types in 1995

Thousand forints

Mineral	Declared royalty after the 1995 production				
	I quarter	II. quarter	III quarter	IV quarter	Total
1	2	3	4	5	6=2+3+4+5
Hydrocarbon	4 887 508	3 040 044	2 317 017	5 848 677	16 093 246
Coal lignite	163 147	139 604	132 419	162 794	597 964
Geothermal energy	8 764	2 812	1 086	7 451	20 113
CO <sub>2</sub>	3 101	4 228	4 162	3 599	15 090
Ores	16 955	21 872	22 373	25 952	87 152
Constr materials	31 175	61 337	64 248	48 337	205 097
Other minerals	1 070	1 402	1 157	1 264	4 893
<b>Total.</b>	<b>5 111 720</b>	<b>3 271 299</b>	<b>2 542 462</b>	<b>6 098 074</b>	<b>17 023 555</b>

Table 2

## Declared mining royalty quarterly distribution in 1995



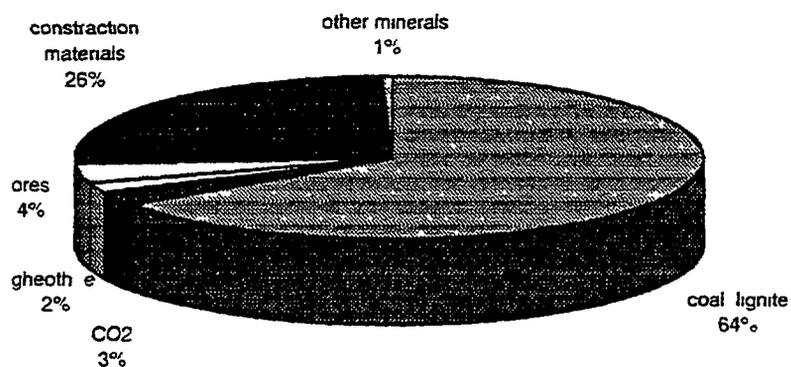
## 1995 payment obligation distribution by mineral types

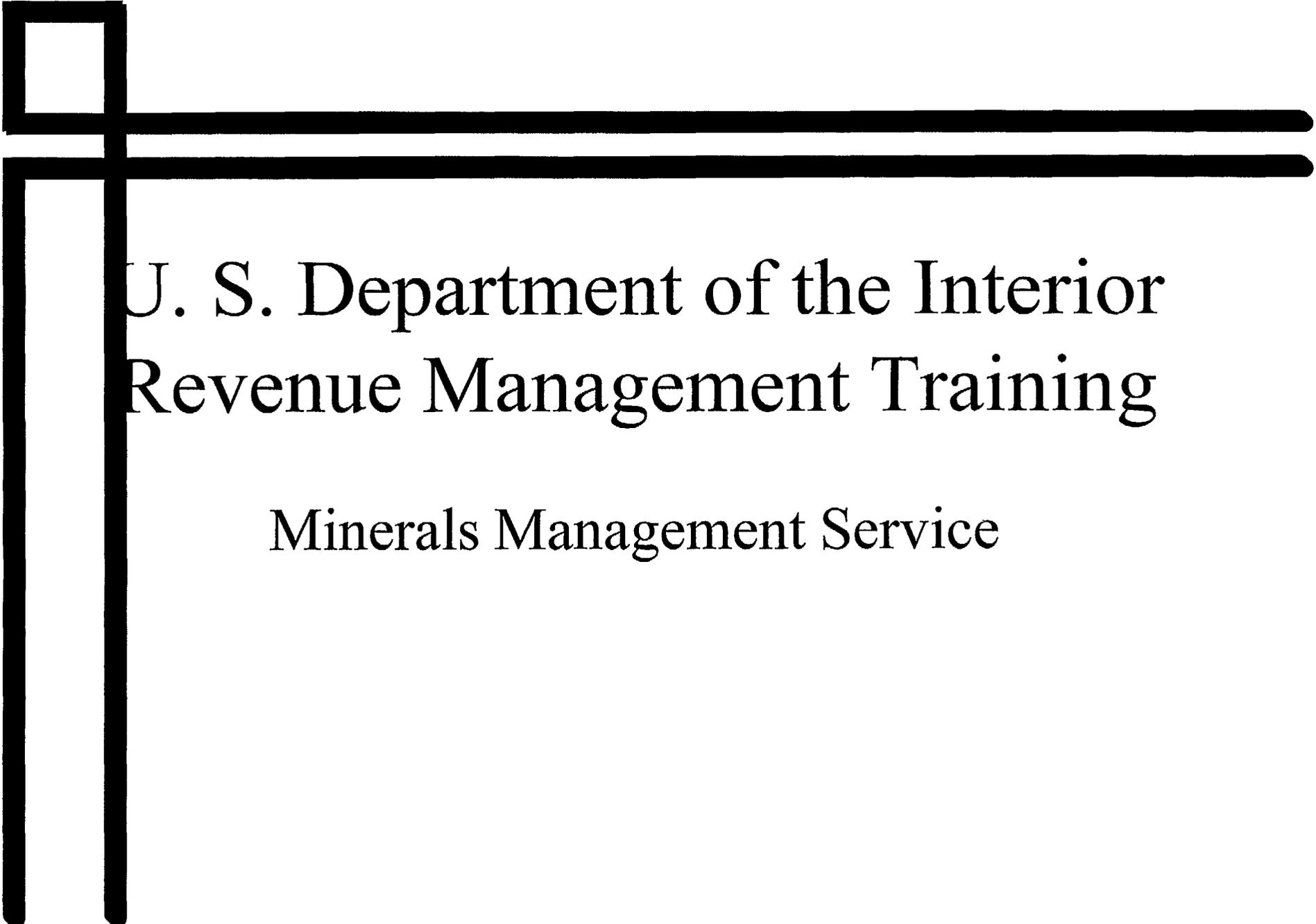
Thousand forints

Mineral	Total 1995 declaration	Approved reduction	1995 obligation
1	2	3	4=2-3
Hydrocarbon	16 093 246		16 093 246
Coal lignite	597 964	82 732	515 232
Geothermal energy	20 113		20 113
CO <sub>2</sub>	15 090		15 090
Ores	87 152	56 231	30 921
Constr materials	205 097	3 064	202 033
Other minerals	4 893	441	4 452
<b>Total</b>	<b>17 023 555</b>	<b>142 468</b>	<b>16 881 087</b>

Table 3

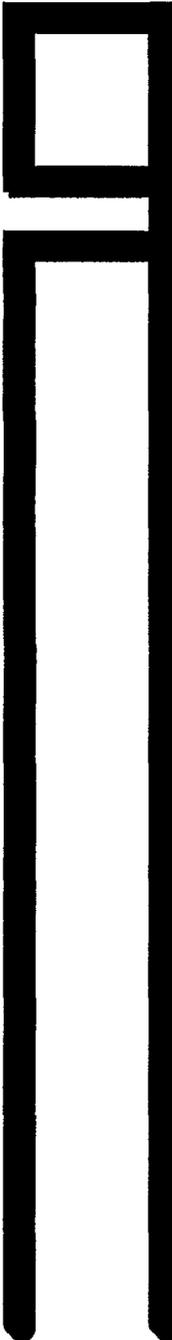
## The 1995 obligations by mineral types without hydrocarbons





U. S. Department of the Interior  
Revenue Management Training

Minerals Management Service

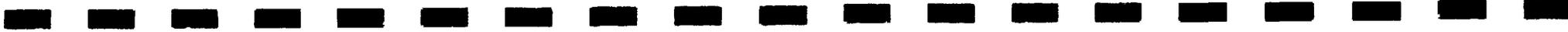


# Introduction

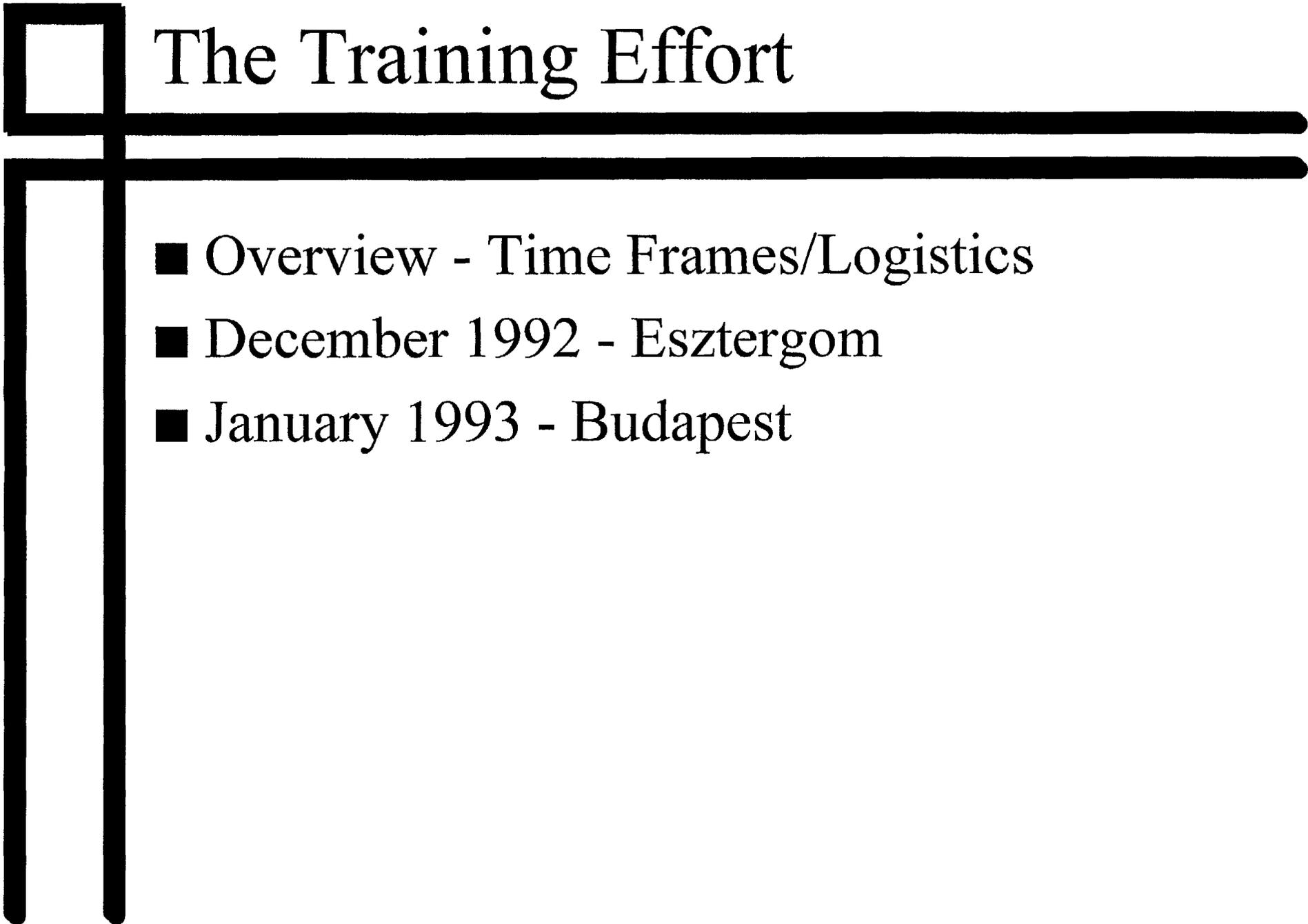
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- Martin C. Grieshaber
- Background
- Provide Perspective of the MMS Training Effort
- Revenue Management Aspects



# The Training Effort



- Overview - Time Frames/Logistics
- December 1992 - Esztergom
- January 1993 - Budapest



# Overall Aspects of MMS

## Royalty Management

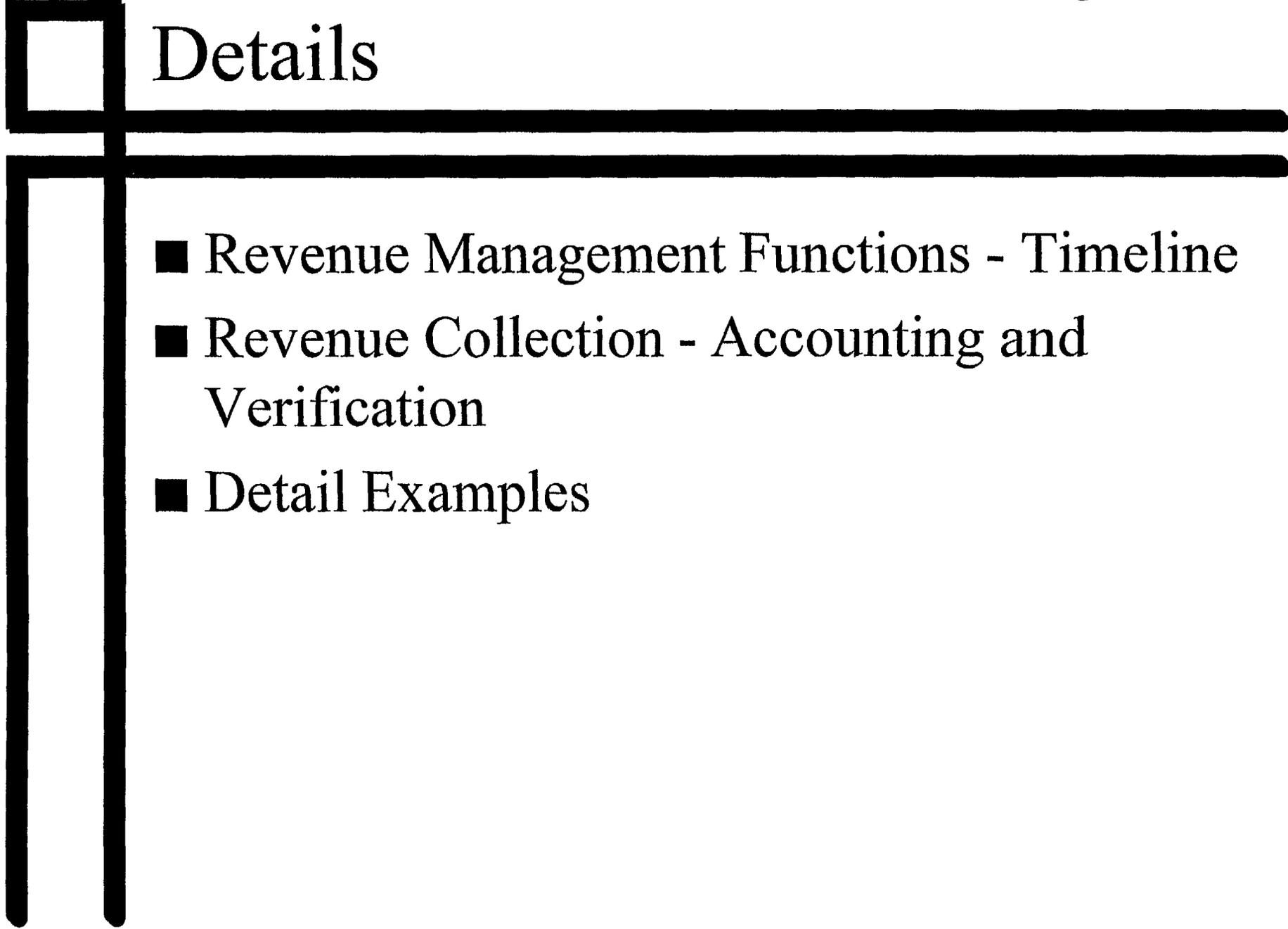
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- Authority, Terms, Lease Clauses, Revenue Accounting
- Data Requirements (Reference, Production, Sales, etc.)
- Verification Processes
- Product Valuation
- Auditing
- Examples of Data Usage

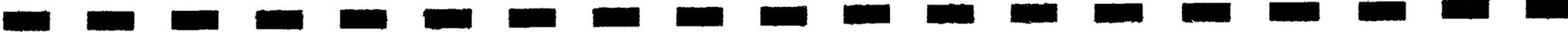
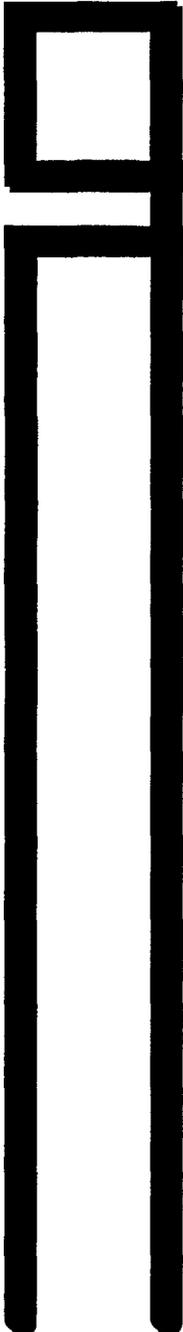


# Mineral Revenue Accounting



## Details

- Revenue Management Functions - Timeline
- Revenue Collection - Accounting and Verification
- Detail Examples

# Observations

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- Very Fulfilling Experience
- MMS Goals
  - Provide the Hungarian Government with Options
  - Rationale for Processes
  - Provide Feedback Following Implementation

**Presentation Format  
Hungary Trip - January 1993**

Topic

**Pre-Concession**

- Qualifications of Concessionaire
- Concession Bidding System
- Bid Evaluation - Minimum Acceptable

**Revenue Management Time Line**

**Concession Issuance**

- Concession Clauses/Instrument  
Granting, Term, Royalty, rental,  
Suspensions, etc
- Required for Data Base

**Establish Data Base**

- Forms for Property, Concessionaire
- Location
- Units
- Effective Dates
- Mineral Estates/Ownership

**Bonus/1st Year Rents**

- Deferred
- Bills

**Collect Subsequent Years' Rents**

- Courtesy Notices
- Terminable and Non-Terminable
- Bills
- Assignments
- Advance Royalties

**Pre-Production Reference Data**

- Operator
- Mine/Well
- Concession
- Effective Dates
- Suspensions
- Mine Information Form (MIF)
- Well Information Form (WIF)
- Facility Measurement Information Form (FMIF)

**Presentation Format  
Hungary Trip - January 1993**

- Topic
- First Production**
- Notification
  - Units
  - Minimum Royalties
  - Payor Information Forms (PIF)
- Mineral Valuation**
- Gross Proceeds
  - Transportation/Processing Allowances
  - Contracts (Arm's-Length)
  - Examples
- Royalty Reporting & Collecting**
- Timing
  - Reports (2014)
  - Payment Methods
  - Matching
  - Deposits
  - Editing
  - Adjustments
  - Assessment (Late, Erroneous, Missing)
  - Accounts Receivable
- Internal Controls**
- System
  - Physical
- Production Reporting**
- Timing
  - Reports
    - Monthly Report Of Operation (3160)
    - Oil & Gas Operations Report (OGOR)
    - Gas Plant Operations Report (GPOR)
    - Solid Minerals Operations Report (SMOR)
    - Solid Minerals Facility Report (SMFR)
    - Gas Analysis Report
  - Editing
  - Adjustments
  - Assessments (Late, Erroneous, Missing)
  - Volume & Quality Verification

**Presentation Format  
Hungary Trip - January 1993**

Topic

**Royalty Disbursement**

- Laws
- Timing
- Methods
- Sharing, Special Use
- Rates
- EOP's

**Exception Verification**

- Production v Royalties
- Royalty Rate
- Adjustments
- Allowances
- Value

**Audit Production and Royalties**

**Billing**

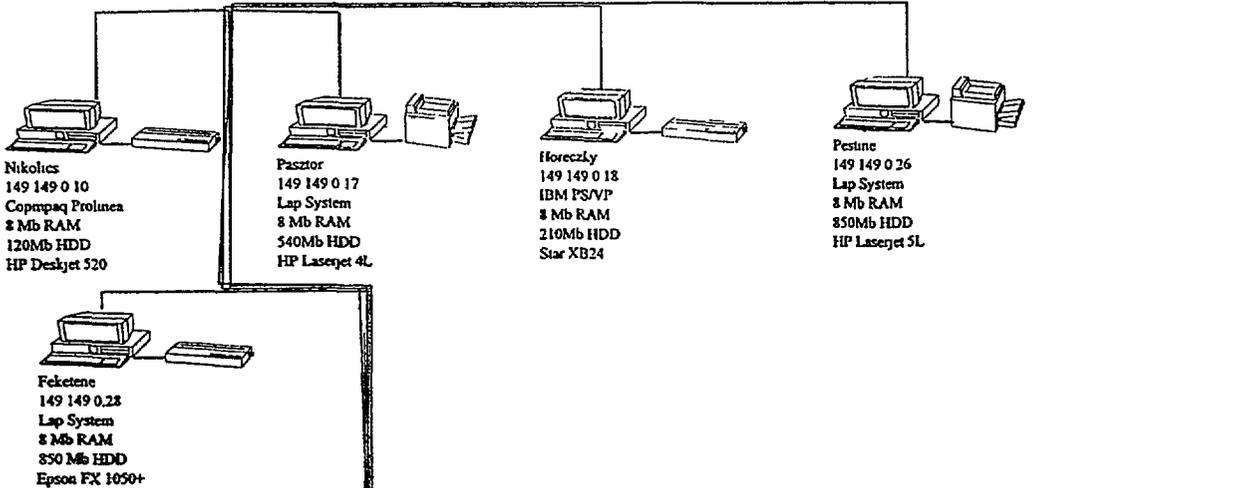
- Audit
- Interest for Late Payment
- Allowances
- Appeal Rights

**Royalty/Production Data Collection Example**

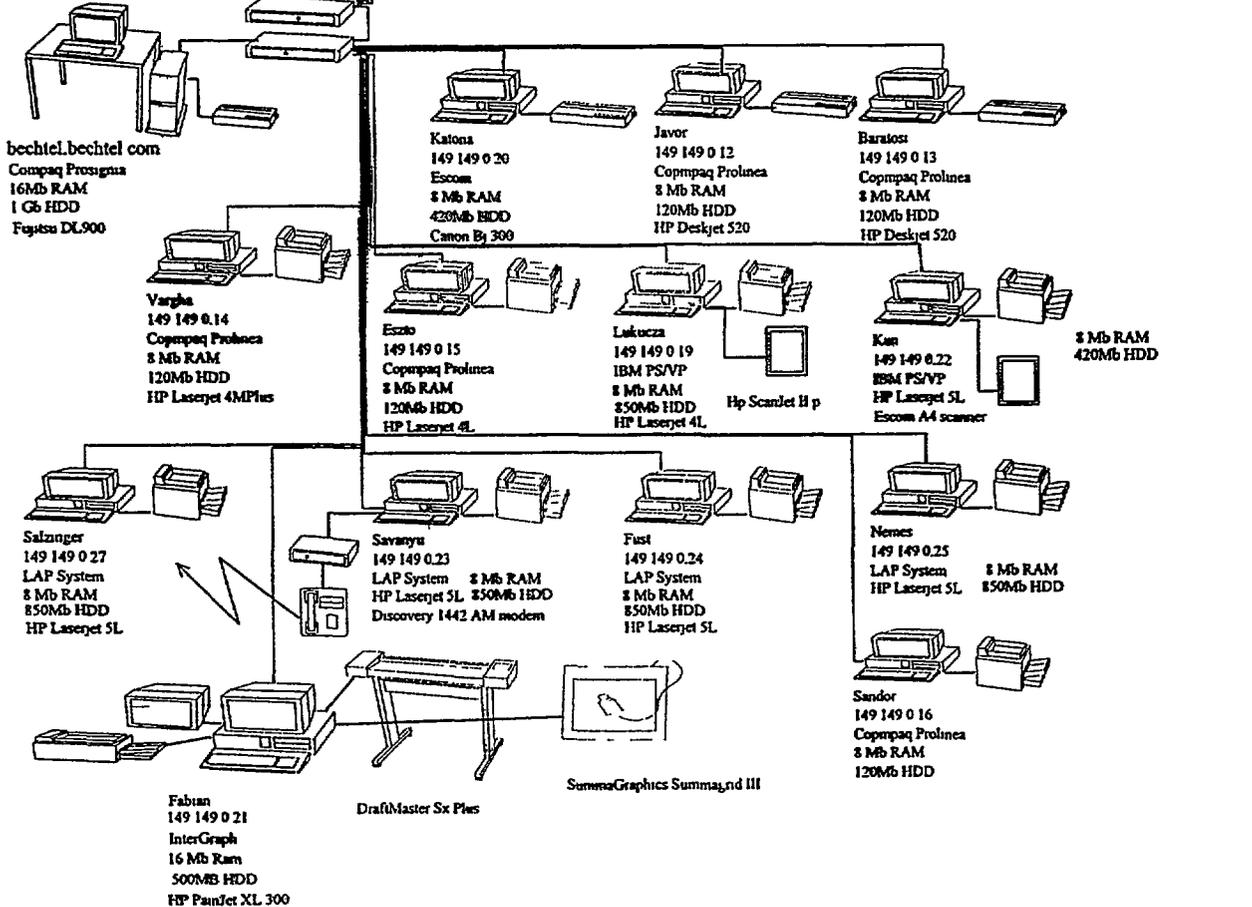
- Oil and Gas
- Coal
- Sand and Gravel

# LAN System of MBH

3rd floor



2nd floor



# *Develop and Implement a Data Processing Network*

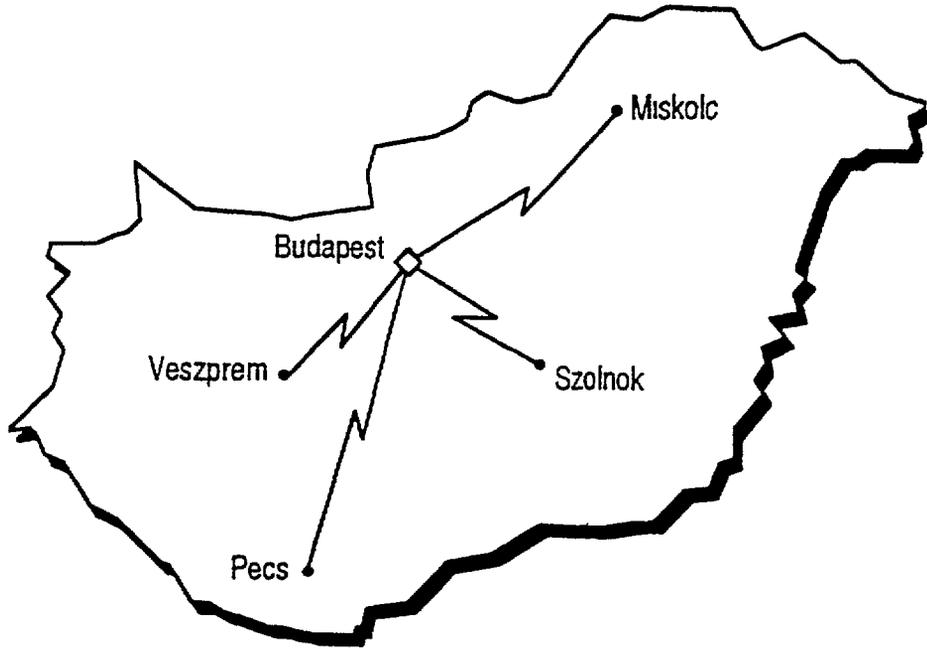
- *Determine LAN - WAN configuration*

*Hungarian Geological Institute (MAFI)*

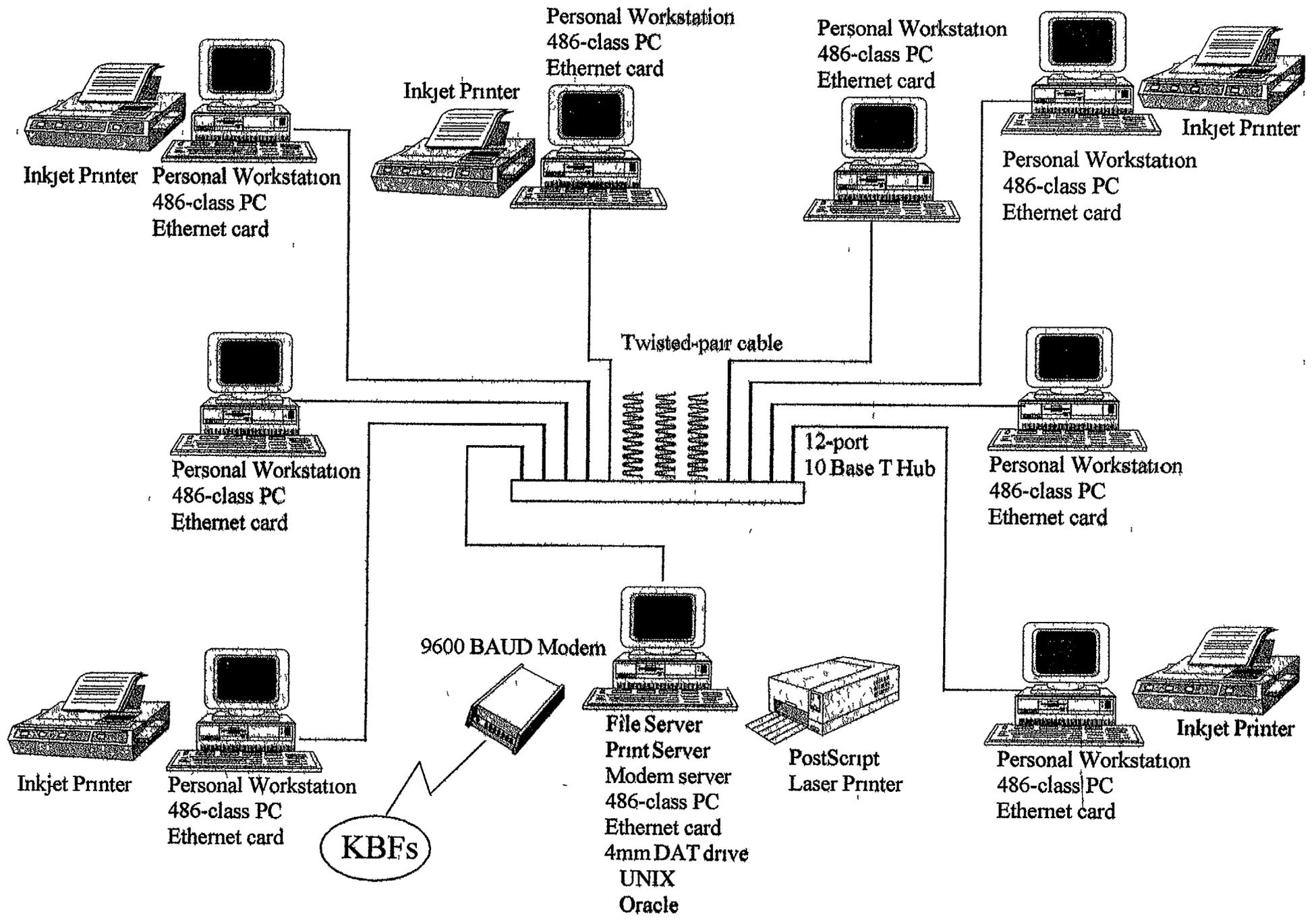
*Hungarian Geophysical Institute (ELGI)*

*Hungarian Institute for Mining Research (KBFI)*

# MBH-KBF Wide Area Network (Preliminary)



# MBH Local Area Network



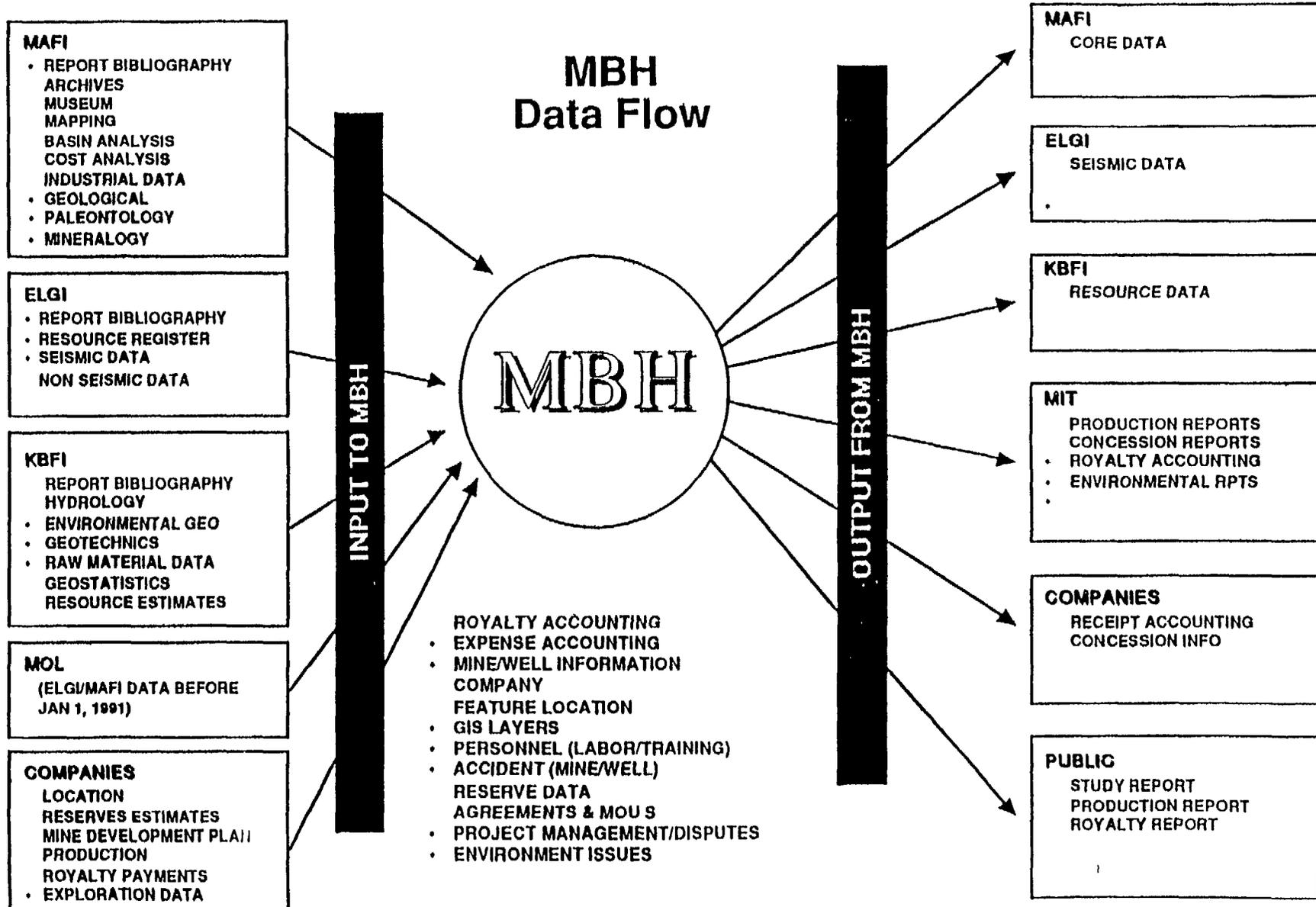
# *Identify - Purchase Data Processing Equipment*

*Determine needs of MBH*

*Identify ADP Equipment*

*Hardware/Software specifications*

*Evaluate potential data networks  
configuration*



# *Confidential and Public Data Management*

*Develop a system for transferring,  
archiving and protecting confidential or  
proprietary data*

*Controls and safeguards for holding and  
using this data*

*Accuracy - affects payments,  
concession fees, legal implications*

*Retrieval methods*

*Collection, storage and disposition of  
data*

## *PURPOSE:*

*To provide technical assistance and training to the Hungarian Bureau of Mining (MBH) in developing skills and knowledge to manage minerals development electronically.*

# *OVERVIEW*

- *Confidential and Public Data Management*

- *Identify - Purchase Data Processing Resources*

- *Develop and Implement a Data Processing Network*

*Hungarian - American  
Partnership*

*Technical Assistance and  
Training*

## Data management at Mining Bureau of Hungary

Joseph Fabriciu, MBH

Main tasks of the computer system of Mining Bureau of Hungary can be summarized by the following

- Data management of several registries accompanying the main tasks of Mining Bureau of Hungary
- Office automation like word processing and data sheet handling
- Facility of construction simple map sheets
- Sharing of written documents and data between multiple users
- Registration of several areas like mining or protected territories, linear and point-like objects like oil and gas pipelines, blasting materials store houses etc on the basis of a digital geographical information system
- On line data link to district offices of mining authority and some institutes and companies e.g. MAFI and ELGI on the future

On the basis of these requirements and after four phase of improvement MBH has the following hardware and software

1 Compaq Prosignia server with 1 Gbyte HDD 16 Mbyte RAM running SCO Open Desktop/Open Server operating system and Oracle 7 Server and Tools for SCO UNIX  
Twisted cable based Ethernet LAN with TCP/IP LAN software from the FTP on the client sides, and with UNIX on the server side

On Workstations and some lonely PC-s we have MS-Windows 3.1 American, then Eastern European and finally Hungarian versions due to the four phase of purchases Office automation is done by Microsoft Office Softwares, mainly with Excel 4.0 5.0 Word 2.0 6.0

For database management we have Oracle for Dos softwares on the workstations side

On some machines we have installed Foxpro for DOS or Windows versions too

To achieve an on line data access to District offices of Mines last year we put in work the three Discovery-125 modems

To work with graphical data and to make digital maps we use InterGraph PC 433 system with 16 Megs RAM 500 Megs HDD

We have the AutoCad Light for Windows software too and we use this graphical workstation with an A0 digitizing tablet and an A0 pen plotter We have an A3 size color Paintjet Printer too

We work with the following data management applications

- A bought system for registration the workers of Mining Bureau of Hungary, and another bought system to carry out the monthly salaries of employees
- Registry of mining territories of Hungary
- Computerized data management system of royalty and mines
- Registry and statistical system of mining accidents
- Registry of Hungarian Mining designers and Mining Geodets
- Registry of Hungarian Mining Companies

We are in a development phase with the

- Computerized registry of blasting materials and persons
- Registry of type licences of several mining machines

### **Let me say some words on the systems of mining territories first**

The 48-th law of the 1993 year states that exploration of mineral or geotermic resources is permitted on a limited part of the surface and depth of the earth. These mining territories are established in a declaration of mining authority.

These territories can later be divided, or integrated with other nearby territories by the mining authority too.

After finishing mining and recultivating activity, these territories are deleted from the registry. To make such a registry is a main task of mining authority.

The basis of mining territory registry system are declarations made by territory offices of Hungarian Mining Authority. The mining territories are 3 dimensional bodies -columns in the earth. The place of this column is given by coordinates of its corners and by the level of their basement and cover flats. The legal user of such a mining territory is always defined exactly and the territory is established for an exactly defined raw material. The Territory declarations contains all these data.

Our database contains all data of each declarations of each declared mining territories in time order with all the modifications in time until now or the deleting of the area.

(fig 8 )

Deleted areas are not erased from registry but are indicated from so called "not living".

Declarations on the same area create a logical time series of states of that area.

(fig 12 )

Full territory database consists of twelve database table.

We update this database about monthly in all cases with data of 5-10 declarations. Today we have data of some 1300 declarations of some 800 territories with about 20 000 000 corner point coordinates.

Database management is done by a program written in Foxpro DOS at the Mining Bureau of Hungary.

We can query database (fig 13 ) and can make garphic plots of mining areas on screen (fig 14 ) We have developed some conversion programs to make AutoCad and MicroStation drawings of mining areas(fig 15 )

Input check and improvement of data needed two years to do with development of program system.

We want to make our geographical information system of mining territories on the base of these database system.

### **Some words of royalty system now**

As we heard yesterday from mr Peter Eszto mining activity in many cases was earlier permitted by local authorities, thats why Mining Bureau of Hungary didn't had all the data of mining activities of the coutry at the time of beginning of its work.

In the later three years collegaues of royalty assesment made a new registry across a country-wide data collection procedure. The royalty assesment system is working on the base of their database tables with data of some 1300 mineral resource places, and of about 800 companies in connection with mining activities.

(fig 16 )

Geothermic and mineral exploration data are stored in Excell tables, mining localities and companies data are stored in DBF Foxpro tables. Main tasks of these tables are to register licencies of mining activities of Hungarian Companies and royalty incomes and balances

We have our future plans to built integrated GIS system with the data of mining territory and royalty systems, and personally I have my opinion, that future's requirement is to build linkages to data of mineral resources database of Hungarian Geological Survey too

#### **Statistical system of mining accidents**

The statistical evaluation of mining accidents has benn carried out at mining outhority from 1989

Data gathered at district offices of mining authority has been transmitted monthlv or quartenary into the MBH on floppy disks till now where they are put into a database table

Statistical evaluation of these data are carried out by small programs and individual queries. The summarized statistical data are transmitted back to district offices and the biggest mining companies

Until the end of february of every veary data are given to Hungarian Work Safety Authority where they are integrated into countrv wide statistics

The rest of our data management systems are not specific for mining but they are established in some form at each companies or financially working organizations



### **Az MBII hardver állománya**

1 db Compaq szerver 16 Mb RAM 1 Gb hattéitái

24 db IBM kompatibilis Pc 4-8 Mb RAM 120-600 Mb HDD

Compaq, Escom, IBM, és clone

SVGA monitorral, magyar billentyűzettel, Hp Ljet 4L, és 5L, Canon nyomtatókkal,

InterGraph PC 433 , 16 Mb RAM, 500 Mb HDD,

2 db 17" SVGA monitorral, HP PaintJet XL300 A3 színes printerrel

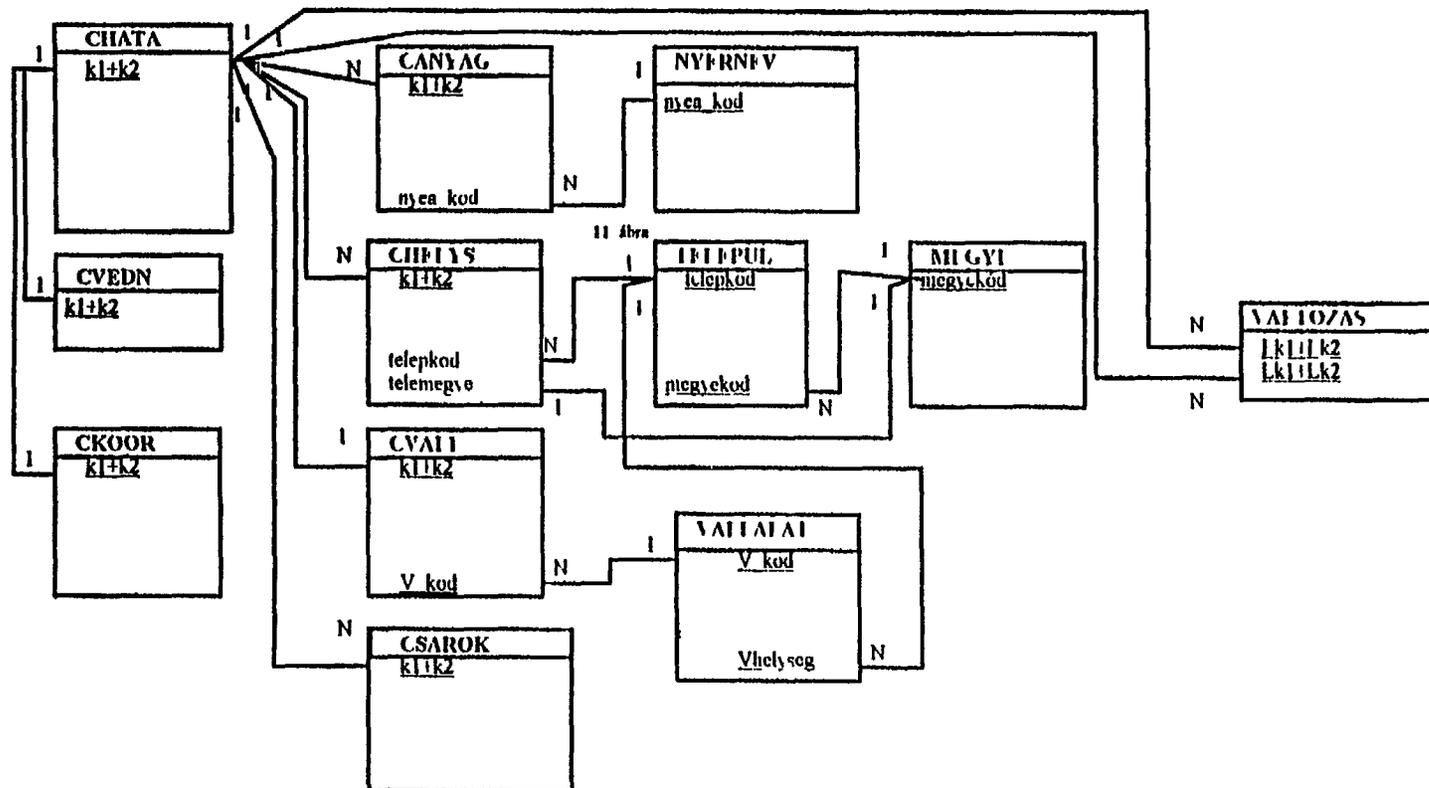
Summagraphics Summagrid A0 digitalizáló tablet

HP Draftmaster SX A0 tollas plotter

2 db Ten Base T hub + Ethernet helyi hálózat

5 ábra

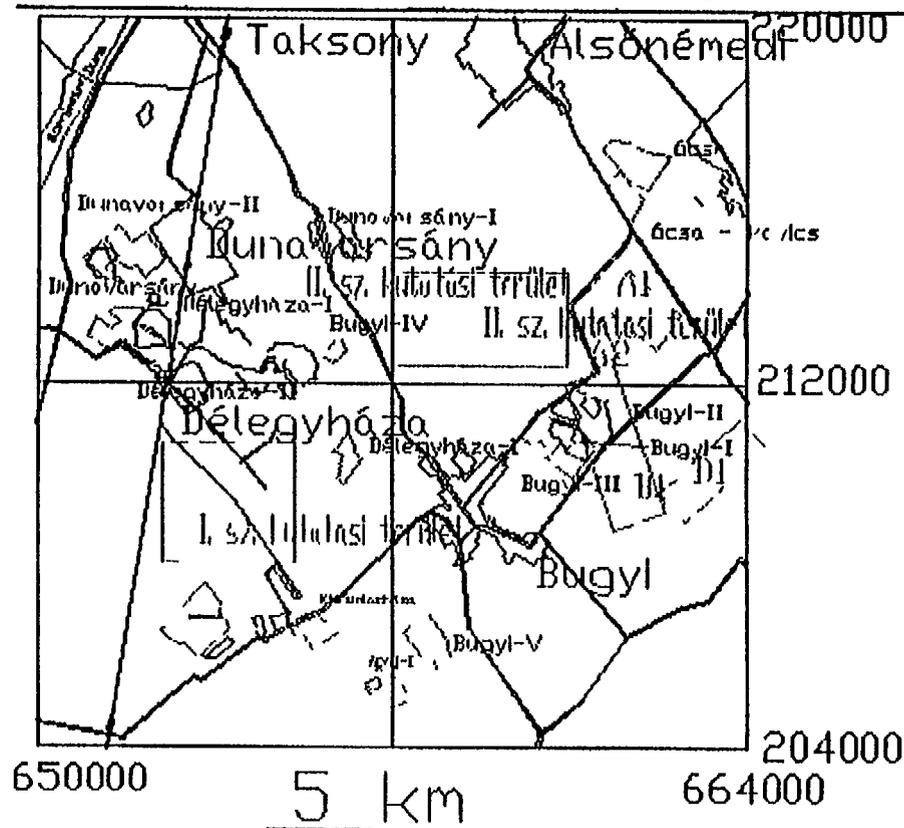
**A bányatelek nyilvántartás adatmodellje az egyed típusok, az azonosító- és kapcsoló tulajdonságtípusok és kapcsolatok feltüntetésével**



12 ábra

122

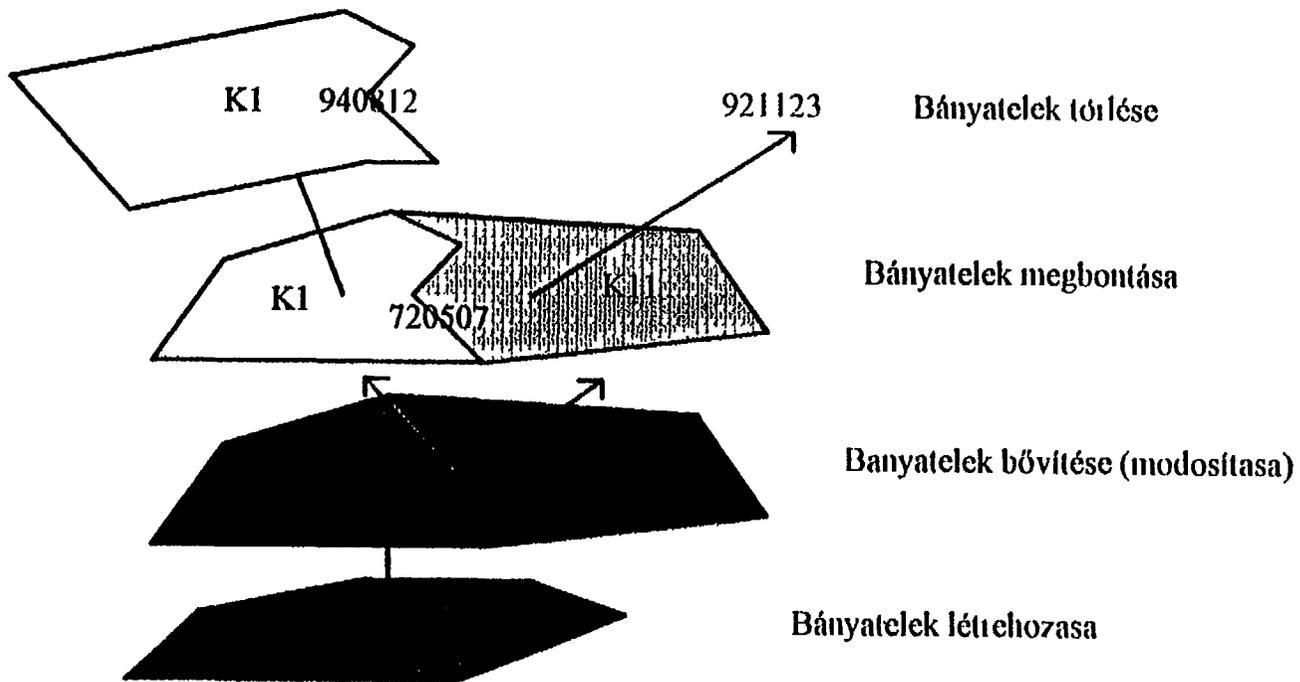
Banyatelek regionális térkép AutoCad Light szoftverrel



15 abra

123

### A bányatelkek módosulásai az idők során



8 ábra

## **Lessons Learned in Presenting TRAINING ON ENVIRONMENTAL PROTECTION**

**Good Morning** I'm going to tell you about the training we did on Environmental Protection for mineral development in January 1993. That date is significant because it is before the new mining law was passed.

**I want to thank** Dr. Eszto and his staff for hosting this conference, U S A I D, and Mr. Ichord for sponsoring it, and Dr. Middleton for inviting me back to Hungary. Like other speakers before me, my time here has been a personal highlight.

**I want to be** a little different from my colleagues. I will discuss the substance of the training on Environmental Protection, and also describe and show slides of the training experience.

**In planning** this training, our team saw this as an opportunity to share our experience in Environmental Management in the United States. We knew Environmental Protection was not a new function in Hungary, but one that would change with privatization and the concession process.

**Our training team** consisted of two people from the Bureau of Land Management- Scott Haight and Paul Dunlevy, and three people from the MMS-Steve Alcorn, Ray Beittel, and myself. We decided to focus on two elements:

1. How and why we develop and use Environmental Information in reviewing and making decisions on mineral development and
2. Our experiences with Environmental Protection, including specific problems we have encountered, solutions we have tried, and mitigation measures to reduce environmental effects.

**I have some general observations** on our approach to Environmental Training:

- I think the DOI is uniquely qualified to present this kind of training. We work in a department where the Secretary must balance responsibilities for both Environmental Protection and development of our mineral resources. We wanted to emphasize this balance---each member of our team believes that mining and oil and gas activities can be compatible with a healthy environment.
- Also, as Dr. Eszto said yesterday, we knew we couldn't bring a blueprint for what Hungary needed, but we set up a dialogue on different approaches to

Environmental Protection We hoped our contribution would be to talk about what we do and how we interact with and regulate private oil and gas and mining companies---thus helping the transition from State industries to a market based industry We also wanted to emphasize the importance of establishing a well understood Environmental regulatory framework with the certainty and consistency needed to attract investment

- Finally, the training we put together did not strictly follow U S laws, but talked about logical environmental assessment techniques

**The topics we covered included**

- How environmental information is used in U S by decision makers and by the public
- How the Hungarians could organize to prepare Environmental Impact Assessments and the staff expertise and resources needed
- How we analyze environmental effects, preparing environmental documents, public participation, and working with other government agencies
- Mitigation techniques to reduce impacts and how to consider mitigation as part of Environmental Impact Assessment
- Long-term monitoring and verification of compliance with environmental requirements
- Development of new environmental information and using existing informational sources
- We talked about other environmental laws generally, and a little about environmental science

**The Training Setting** was mostly a classroom, at the Oktav Industrial Training Center near Esztergom This was a good training facility and by staying in Esztergom we weren't distracted from our work by the bright lights of Budapest There are very few distractions in January in Esztergom We also went to a coal mine, an open pit mine and a limestone processing plant to discuss environmental issues at the sites We used a notebook that we had prepared in advance, maps, slides, computer programs and many real examples from our own experiences

**The Training Team** had many years of experience in environmental protection work with oil and gas development, surface and underground mining, and geothermal development. Each trainer was responsible for developing and presenting a portion of the training, but all the trainers attended every day to ensure continuity and to participate in helping to explain about our work.

**In our Class** we had about 22 of our Hungarian colleagues with technical backgrounds and experience mostly in mining, geology, and geophysics, with one or two biologists. Some of the class had some direct experience with environmental work, but most did not.

In keeping with topics of lessons learned, I have a much longer list of **Things that Went Well** in the Training compared to **Problems We Encountered** in the Training. I will discuss some of the problems we had and get that out of the way. Then I can tell you about all the good things that happened in the training.

**There were Three Problems** that did not help the training and I would have liked to change. **First**, at the time we were in Hungary in 1993 the **new Mining Law had not been passed** by Parliament which meant we were guessing about how mineral development might work under the new law. **Also**, before we came to Hungary we did not have much information on what environmental work was already being done. It would have been helpful to us as we prepared the Training class to know what was already being done.

**Second, the amount of time for the Training was too long.** The class was four weeks but we could have covered most of the same material in three weeks. There were some advantages to having four weeks of training: we got to stay in Hungary longer, we were able to have some visits to mining sites, and we were able to start late in the mornings on Mondays and end early on Fridays so participants could go home for the weekend.

**Third, we attempted to have some of our class outline and notebook material translated into Hungarian** before we left the United States. What seemed like a good idea was a disaster. The translator we used in the U.S. had not lived in Hungary since about 1970, and was not familiar with the technical terms we were using. The class immediately told us that this material could not be used. It was actually easier to use our English language outline and translate each section as we taught the class.

**But most of the Training went very well.** I will briefly speak about what worked well.

**Translator--**The most important part of any training in another language is to have a good translator. This is especially so when you are discussing technical information and specialized words that don't have a common meaning. Let me tell you about a similar

training experience we had in Russia **Endangered Butterfly Story** In Hungary, we had an excellent translator, and we had the same translator for the entire month so we had continuity for us and the class---special terms

**Training Team**-- I was very proud of our training team We lived and worked together for more than one month with everyone contributing to the overall project We also had a team that had diverse experiences and technical backgrounds to draw upon Everyone on the team was glad to be in Hungary and genuinely interested in learning from our Hungarian colleagues

**Group Exercises**--In the United States, much of the environmental work is done in small groups or teams, and just as in sports, it is important for teams to be able to work together effectively Therefore, we began with an exercise unrelated to our topic but designed to get people used to working together in groups where everyone in the group must participate **Then, throughout the training**, we used groups to work on problems Sometimes, we had the group discuss a make believe oil and gas project where everyone in the group had an assigned role to play--the government regulator the oil company representative, a local scientist, a local environmental group, local elected officials, and local business **Example Lake Balaton**

**Field Trip**--As Trainers we thought the two field trips we took were an excellent opportunity to go to an active site and discuss what had happened to the environment from the activity, how it would be reviewed now, and what kinds of mitigation might be appropriate **Most important**, we got an opportunity as visitors to understand something about the economy of small mine operations The economic limitations affect what kinds of environmental protection can be accomplished and this is an important consideration for the government

**Notebook, Maps, Cartoons**--Just like highway signs use international symbols, we knew that we could use pictures, cartoons, diagrams, and maps to speak a common language I think this was very helpful in explaining technical concepts By the end of the four weeks, we had all the walls of the training room covered with maps and diagrams and pictures

**Training Facility**--We were very fortunate to have the training at the Oktav Center We had a fine classroom with good audio-visual equipment The class participants stayed in a Hotel connected with Oktav so they were away from their offices and we had their full attention We all had lunch at the Hotel so we never had to take long breaks for lunch

**Spending Time with Colleagues**--Finally, the best part of the experience was being with the class and getting to know them and learn about Hungary The class took us on a tour

of Esztergom We hosted a party at our Hotel in Esztergom and they hosted a visit to a wine cellar We all went to a wedding together, danced together, and sang songs for each other We toured Budapest with some of the participants and visited their homes It was truly a wonderful experience Some members of our team got to host a group of Hungarians when they visited the U S later that year

- Can't ignore people to people element
- Understanding and appreciation of national culture
- Essential to the free exchange of ideas and information

**Overall I would Say**, this experience taught me that this kind of training is **not a one way** exchange of information The most important lesson is that we **all can learn so much from each other** when given the opportunity to work together This training was a perfect chance to do just that

### **Summary**

- Exchange of information----learn by teaching
- We hoped they could use sound ideas
- Discussed current operations---put in place a process which can assure consideration---protection

# **INSPECTION AND ENFORCEMENT TRAINING**

- **Need and Purpose**
- **Preparation**
- **Hungary Segment**
- **U.S. Segment**
- **Summary**

# **NEED AND PURPOSE:**

- **Transition  
Training**
- **What is New ?**
  - **MARKET BASED  
ECONOMICS**
  - **COMPANY  
RESPONSIBILITIES ARE  
DIFFERENT**

# **Inspection Emphasis Change:**

**FROM:**

**VERIFYING CREDENTIALS**

**TO:**

**ENSURING  
PERFORMANCE**

**AND**

**VERIFYING COMPLIANCE**

# **Change in Liability:**

**FROM :**

**PERSONAL LIABILITY**

**TO :**

**CORPORATE LIABILITY**

# **Maximum Ultimate and Economic Recovery:**

- **GOVERNMENT HAS A  
DIRECT ECONOMIC  
INTEREST**
- **MAXIMIZE REVENUES**
- **MINIMIZE WASTE OF  
RESOURCES**

# **TRAINING DEVELOPMENT:**

- **Timing  
Considerations**
  - CURRENT MINERAL  
OPERATIONS
  - NEW OPERATIONS  
AFTER CONCESSIONS  
ISSUED
  - DEPENDENT ON  
REGULATIONS

# **Training Program Needs Assessment:**

- **CURRENT INSPECTION PROGRAM**
- **CONCESSION SYSTEM**
- **MINERAL COMMODITIES**
- **COMMODITY RESPONSIBILITIES FOR EACH OFFICE**
- **SAFETY CONCERNS**

# **TRAINING IN 2 SEGMENTS:**

- Classroom  
Training in  
Hungary
- On-the-Job  
Training in U.S.

# **TRAINING IN HUNGARY:**

- PROFIT MOTIVATION
- I&E IN A CONCESSION SYSTEM
- TECHNICAL PLANS
- ENFORCEMENT
- INSPECTOR SAFETY
- DOCUMENTATION

# **INSPECTION CONSIDERATIONS:**

- **PUBLIC AND WORKER  
SAFETY**
- **RESOURCE  
PROTECTION**
- **COMPLIANCE WITH  
APPROVALS**
- **ENVIRONMENTAL  
PROTECTION**

# **INSPECTION CONSIDERATIONS:**

- APPROVING WHERE  
PRODUCT IS  
MEASURED
- COMMINGLING
- PRODUCTION  
HANDLING
- MEASUREMENT DEVICE  
ACCURACY

# **INSPECTION CONSIDERATIONS:**

- **PRODUCTION  
VERIFICATION**
- **QUALITY  
DETERMINATION**
- **CHANGES IN PLANS**
- **RECOLTIVATION**

# U.S. Training

## WEEK #1

- ECONOMICS IN FREE MARKET MINERAL DEVELOPMENT

## WEEK #2

- UNDERGROUND COAL MINING
- OIL PRODUCTION

## WEEK #3:

- OIL DRILLING
- OPEN PIT COAL MINING

## WEEK #4:

- GAS PRODUCTION
- HARD ROCK MINING
- GRAVEL PIT MINING
- INDUSTRIAL MINERAL MINING

WEEK # 5

# MINE SAFETY

- PERSONAL SAFETY
- DUST AND VENTILATION
- MINE GASES
- SAFETY INSPECTIONS
- FIRE CONTROL
- RESPIRABLE DISEASES



# **OIL AND GAS SAFETY**

- **WELL CONTROL  
METHODS**
- **PERSONAL SAFETY**
- **MANUFACTURERS  
STANDARDS**

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**THE INVESTMENT RANKING  
NUMBER - THE IDEAL ECONOMIC YARDSTICK**

by  
Imre E Varga, P Eng

(Imre Varga is a Petroleum Engineering Consultant with 40 years of industry and regulatory experience providing advisory and decision-making services related to petroleum engineering, economic and/or environmental assessments, regulatory work for drilling, completion, production, pipe lines, processing plants and abandonment of oil and gas wells )

**ABSTRACT**

*Company owners, investors, and managers face daily challenges in selecting the most favourable projects for investment purposes. As the main objective of most investors is to increase the value of their holdings, it is essential that they diligently evaluate each project, applying accepted economic parameters (e.g. Rate of Return, Present Worth Index, Payback, etc.), and select the best project(s). It is common knowledge that, although these economic parameters generally correlate to each other, each of them provides a different and useful — albeit limited — measure of profitability. None encompasses all the factors or dimensions of profitability pertinent to the investor's decision making and selection process. Rather than evaluating numerous measures of profitability, often results in different decisions or rankings if applied individually, it is likely that investors would prefer a single comprehensive yardstick with which to rank their investment opportunities and ration limited investment funds.*

*This paper proposes the use of a single overall numeric "quality" factor — the Investment Ranking Number — with which investors and financial advisors can rank their investment opportunities. The author has developed a simple mathematical formula which incorporates the following commonly used economic parameters: Present Worth Index, Payback, and Rate of Return. The author also provides a nomogram based on this formula, with boundary values, to reach quick, visual solutions.*

**INTRODUCTION**

Making sound capital expenditure decisions requires an objective means of measuring the profitability of individual investment proposals. Since the best measure of economic worth of such proposals is their ability to produce profits, it is common practice to grade proposed capital expenditures according to their profitability. Whereas "profit" is generally defined as "all income from a project less all costs", no such simple definition exists for "profitability". Usually, the term of profitability not only includes profit, but also a number of other economic parameters which, when properly weighed, lead to decisions of whether to proceed with a certain project, or form the criteria in selecting between two competing projects. Because different individuals or corporations have different investment opportunities, and possibly different investment objectives, it is natural that the general term "profitability" means different things to different investors.

## 2 THE INVESTMENT RANKING NUMBER — THE IDEAL ECONOMIC YARDSTICK

There is an ongoing search among economists for one criterion which properly combines and uniquely expresses all of the considerations of management in relation to investment analyses. Furthermore, as discussed above, it is unlikely that a single profitability criterion will ever find universal acceptance. However, if a single numeric yardstick, incorporating the most commonly used and understood parameters was developed, it would assist both economists and investors in ranking investment opportunities and making decisions; and would in effect, be the "ideal yardstick".

This yardstick would have certain characteristics which would include the following integral characteristics

- 1 It would indicate the effect of a specific investment on corporate profits and values.
- 2 It would isolate only those investment opportunities which are acceptable against established corporate guidelines
- 3 It would aid investors to make the proper choices from a group of mutually exclusive opportunities.

Unfortunately, such an ideal measure of profitability does not exist. As a result, several yardsticks are necessary to properly evaluate investment opportunities. It is obvious that prudent decisions are more likely when measuring an opportunity from several viewpoints

With a view to streamlining the profitability evaluation process, the author has, as the purpose of this paper, consolidated the economic criteria, most commonly used and understood by evaluators, into a simple mathematical formula which yields a single yardstick — the investment ranking number. Through this consolidation the inherent shortcomings and often conflicting influences of each element of the investment ranking number tend to be offset. Furthermore, reducing the various measures of profitability into a single number makes the investment ranking number a useful tool for ranking various investment opportunities and allocating limited investment funds. It is not recommended that the investment ranking number be used for cross-industry purposes, as it may not cover all possible types and variations of investment opportunities; however, it can be used for the evaluation of most oil, gas, and mining industries' investments

### DISCUSSION

#### The Investment Ranking Number (IRN)

The investment ranking number developed by the author may be expressed as follows

$$\text{IRN} = \frac{\text{ROR} \times \text{PWI PER CENT/YEAR}}{\text{VPB}_{PV}}$$

Where

IRN	Investment Ranking Number (per cent/year)
ROR	Rate of Return (per cent)
PWI	Present Worth (Value) Index
VPB <sub>PV</sub>	Present Value Payback (Time) (years)

**IMRE VARGA, P ENG**

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It may be seen readily from this formula that projects with high RORs and/or PWIs placed in the numerator and low  $PB_{pv}$  numbers placed in the denominator will result in a "high" IRN, and vice versa. Accordingly, the higher the IRN the better the investment.

The IRN formula has been designed to enhance the strengths and weaknesses of similar competing projects within a particular segment of an industry, with similar risks and business environment, and rank these projects for the purpose of allocating limited investment funds, easily and quickly. It is not intended to replace the proper analysis of anomalous, unusual, or dissimilar projects. For example, the IRN is not intended to differentiate between offshore drilling investments, normal exploratory drilling, or unrelated projects, such as a major aircraft manufacturing project. Also, the IRN formula is not intended to handle the trade-off of short-term goals with long-term objectives. Further, the risk associated with a project has not been addressed explicitly, rather it has been included in the Hurdle Rates of Return (HR). Finally, discussion in this paper is limited to economic considerations only and does not consider political, technological, or other risks and factors which obviously and/or necessarily do have an impact on investment decisions.

**Economic Parameters Used in "IRN" Formula**

While there are several methods and yardsticks in common use to measure profitability, this paper is limited to a discussion of those elements and techniques which are part of the IRN. These include Present Value Payback ( $PB_{pv}$ ), Present Worth Index (PWI), and Rate of Return (ROR). The minimum or HR will also be mentioned, mainly for clarification purposes. Examples of calculating the  $PB_{pv}$ , PWI, and ROR parameters are shown in the attached Appendix.

**Payback (PB)**

Every discussion of investment criteria must consider payback, not because it gives all the answers, but because it is so widely used. PB is simply the length of time required for the cash flow from a project to return the initial investment to the investor. The point at which the cumulative net cash flow becomes positive is the project's payback. Because the payout or payback is a measure of risk rather than a measure of return, it should not be used as a yardstick to assess profitability. It may serve as a better tool for decision making if it is used in its present value version which, increases the payback time. In order to avoid undue penalty for some profitable investments, such as refineries or tar sand projects with relatively long payback times (due mainly to the long start-up times), the author suggests the use of the square root of the  $PB_{pv}$ . At the same time, the square root function in the IRN formula mitigates somewhat the strong influence of very short payback time, especially those under 1 year.

**Minimum Rate of Return or Hurdle Rate (HR)**

The HR approach to economic evaluations of profitability sets minimum company goals that each project must equal or exceed if it is to be accepted. The HR usually reflects a number of factors, such as the cost of capital, inflation rates, various risks associated with the projects, company investment philosophy, etc.

#### 4 THE INVESTMENT RANKING NUMBER — THE IDEAL ECONOMIC YARDSTICK

##### Commonly Used Hurdle Rates for Rate of Return

	Low Risk Project	Medium Risk Project	High Risk Project
Type of Business	Per Cent		
Real Estate	10	14	18
Coal Mining	14	17	20
Refining and Marketing	14	18	22
Chemical Plants	14	18	22
Oil and Gas	15	19	23
Marine and Pipelines	16	18	20
Gold	17	21	24
Wildcat Drilling	40	60	80

Projects that meet the HR requirements are further evaluated against other economic and non-economic criteria to determine which project(s) should be pursued

##### Discount Cash Flow Rate of Return (ROR)

This measure of profitability has been extensively reviewed by many economists, and is quite popular with many major oil and mining companies. It is based on the principle that making an investment outlay is actually the purchase of a series of future annual incomes. Thus, the ROR of the proposed venture is equivalent to the maximum interest rate which one could pay on the capital tied up over the life of the investment, and still break even.

A trial and error method is used to find the ROR, however, with high-speed computers and hand calculators, the ROR can be found in a matter of seconds.

One of the drawbacks of the ROR method is that it does not take into account the size of the investment being considered. This could possibly lead to sub-optimal or poor choices for investment, if the ROR method is used as the only means of ranking a number of projects.

##### Present Worth Index (PWI)

When evaluating mutually exclusive alternatives with differing investment requirements, or when allocating limited capital funds, the use of the Present Value (PV) technique has a significant limitation: that present values do not reflect the magnitude of investments involved relative to profits generated. One way to overcome this problem is through the use of the PWI. The PWI is defined as the present value of cash inflows divided by the present value of cash outflows, and thus, it measures the relative attractiveness of the projects per dollar investment. Of course, a higher PWI number represents a more attractive investment opportunity than a lower one. If a PWI is equal to 1.0 there is no profit made at that specific corporate discount rate on that investment, only the investment is paid back.

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In the following table, eight different investment opportunities are listed for ranking purposes, demonstrating the usefulness of the IRN yardstick.

COMPARISON OF INVESTMENT OPPORTUNITIES  
CASH FLOW DOLLARS (\$M)

	#1	#2	#3	#4	#5	#6	#7	#8
YEAR	GAS DEV	OIL DEV	PIPELIN E	COAL	REFIN'Y	HOR. DRLG	INFILL DRLG	ENH'D REC'Y
0	-1000	-500	1000	-1000	-500	-1500	-1000	-1000
1	-500	200	0	210	-500	1200	900	400
2	200	-500	0	210	-500	400	300	500
3	700	400	100	210	-500	200	0	400
4	700	400	100	210	700	100	0	400
5	700	400	100	210	700	50	0	300
6	700	400	300	210	700	50	0	200
7	700	400	500	210	700	0	0	100
8	700	400	500	210	700	0	0	0
9	600	300	500	210	700	0	0	0
10	500	300	500	210	700	0	0	0
11	300	200	500	210	400	0	0	0
12	100	100	100	100	100	0	0	0
INVESTMENT YARDSTICK								
PB	3 86	4 00	6 80	4 80	5 70	1 75	1 30	2 25
PB <sub>BY</sub> @10%	4 66	4 64	8 60	6 80	7 20	2 25	1 70	2 75
PWI@10 %	2 24	2 15	1 48	1 39	1 57	1 13	1 07	1 76
ROR	29 00	31 50	16 30	18 30	20 00	19 70	16 20	32 00
IRN	30 10	31 40	8.20	9 80	11 70	14 80	13 30	34 00
OPPORTUNITIES RANKED - BEST = 1, WORST = 8								
	3	2	8	7	6	4	5	1

As demonstrated by the above table, the IRN is a useful tool to evaluate and rank various investment opportunities. This is particularly true when each of the PB, PWI, and ROR are similar. For example, it is worthwhile to compare Case #1 and Case #2, which are similar types of oil and gas development projects. By looking at these parameters, it would be difficult to decide which project is superior. However, once the pertinent parameters are put into the IRN formula, Case #2 results in a higher IRN number, therefore, the Case #2 project would be ranked ahead of Case #1. The other cases may be compared similarly to each other. Of course, some of the alternatives may be ranked upon quick inspection and do not require the utilization of the IRN calculation. Others, however, need another yardstick, wherein the IRN formula would clearly compare projects for ranking purposes.

6 THE INVESTMENT RANKING NUMBER -- THE IDEAL ECONOMIC YARDSTICK

A nomogram attached to this paper was constructed to solve the IRN equation, which helps to visualize the interrelations of the variables along with some suggested HR, and provides an IRN number for any possible variations by simply connecting the variables with two straight lines

It should be noted, that each HR must be exceeded on an individual basis for the project to be seriously considered Failure to pass any one would reject the project

**CONCLUSION**

The simple formula developed in this paper incorporates the most common economic yardsticks and provides a practical and useful tool for ranking and choosing investment opportunities It is suggested that this tool, the IRN, may be used as the "ideal" yardstick by investors, economists, or even by lay people, who are not familiar with all the complexities of the individual variables of the IRN formula

## BIBLIOGRAPHY

- 1 ARPs, J J "Profitability of Capital Expenditures for Development Drilling and Production Property Appraisal" British American Oil Producers Company, Petroleum Trans AIME , 1958
- 2 Barish, N.N , "Economic Analysis for Engineering and Managerial Decision-Making" McGraw-Hill Book Company, 1962 Chapter 11
- 3 Brons, Folkert, "The Relation of Earning Power to Other Profitability Criteria " In Economics, March 1964
- 4 Falk, R "Nomographia ' In Banyaszati Kezikoonyv, I Kotet, Budapest. Muszaki Konyvkiado, 1956
- 5 McCray, A W., "Petroleum Evaluations and Economic Decisions ' Prentice-Hall, Inc , 1965, Chapter 2
- 6 McGill, R E , "Exploration Economics" Third edition PennWell Publishing Company, 1988 Chapter 6
- 7 Newendrop, P D , "Decision Analysis for Petroleum Exploration" Tulsa, Oklahoma PennWell Book Company, (1975) Appendix D, Chapter 8
- 8 Thompson, R R., "A Methodology to Quantify Uncertainties and Leveraging Issues in Oil and Gas Projects" Economics SPE 1986
- 9 Van Meurs, A P H., "Modern Petroleum Economics". Van Meurs & Associates, Limited, 1981 Chapter 5
- 10 Witney, J.W , "Investment and Risk Analysis in the Minerals Industry". Reno, Nevada. John W Whitney, Inc , 1978 Chapter 5

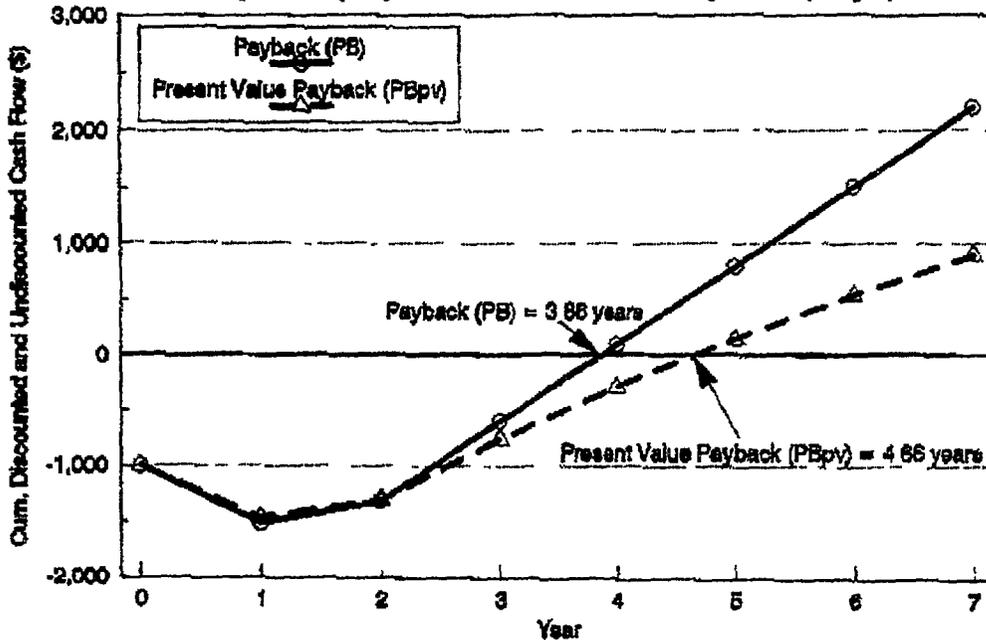
8 THE INVESTMENT RANKING NUMBER — THE IDEAL ECONOMIC YARDSTICK

APPENDIX

For illustration purposes, the parameters used in the IRN formula for Case #1 have been calculated manually as follows

YEAR	Annual Cash Flow		Cumulative Cash Flow	Discounted Factor at 10%	Discounted Cash Flow		Cumulative Discounted Cash Flow
	Out	In			Out	In	
0	-1000		-1000	1.000	-1000		-1000
1	-500		-1500	909	-456		-1456
2		200	-1300	826		165	-1291
3		700	-600	751		526	-765
4		700	100	683		478	-287
5		700	800	621		435	148
6		700	1500	564		395	543
7		700	2200	513		359	902
8		700	2900	467		327	1229
9		700	3500	424		254	1483
10		500	4000	386		193	1676
11		300	4300	350		105	1781
12		100	4400	319		32	1813
TOTAL	-1500	5900			-1456	3269	

1. Payback (PB) and Present Value Payback (PBpv)



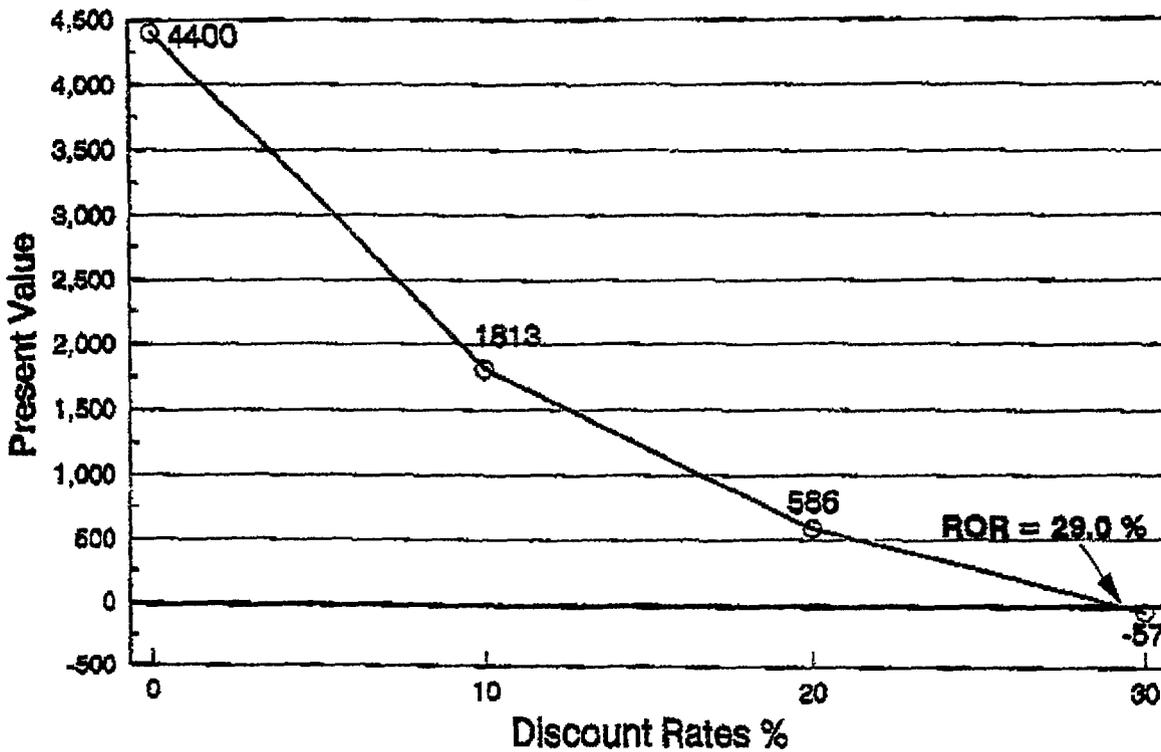
2 PWI =  $\frac{\text{TOTAL DISCOUNTED CASH FLOW IN} = 3269}{\text{TOTAL DISCOUNTED CASH FLOW OUT} = 1456} = 2.24$

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3. RATE OF RETURN - ROR

YEAR	Annual Cash Flow	Discount Factors		Present Values	
		@ 20%	@ 30%	@ 20%	@ 30%
0	-1000	1 000	1 000	-1000	-1000
1	-500	833	760	-417	385
2	200	694	592	139	118
3	700	579	455	405	319
4	700	482	350	337	245
5	700	402	269	281	188
6	700	335	207	234	145
7	700	279	159	195	111
8	700	233	123	163	86
9	600	194	94	116	56
10	500	162	73	81	36
11	300	135	56	41	20
12	100	122	43	11	4
TOTAL	4400			586	-57

Present Value Profile and Rate of Return

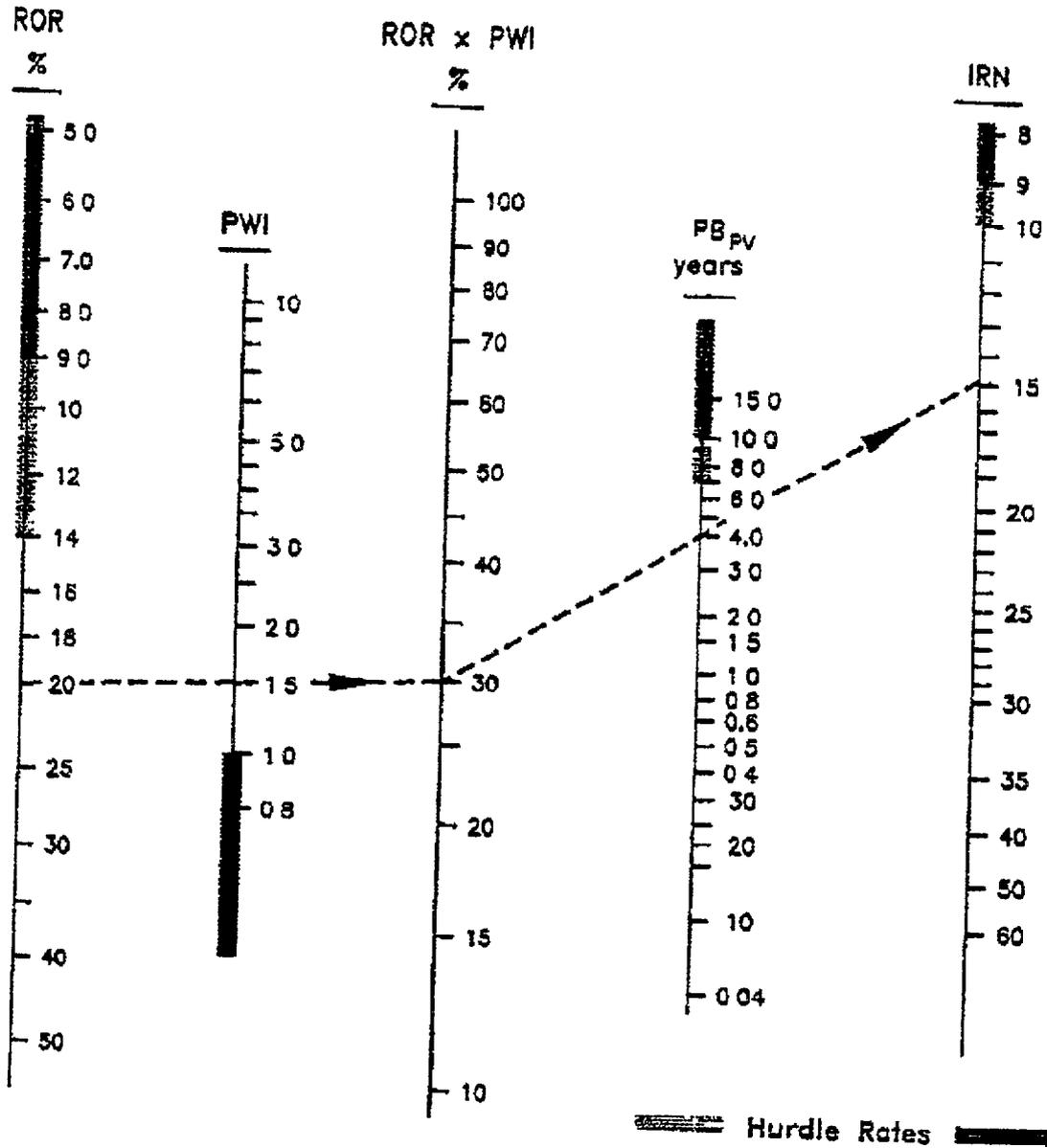


4  $IRN = \frac{ROR \times PWI}{VPB_{PV}} = \frac{29.0 \times 2.24}{\sqrt{4.66}} = 30.1$

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10 THE INVESTMENT RANKING NUMBER — THE IDEAL ECONOMIC YARDSTICK

Nomogram for Investment Ranking Number (IRN)



$$IRN = \frac{ROR \times PWI}{\sqrt{PB_{PV}}} \quad [ \%/\text{year} ] = \frac{20 \times 1.5}{\sqrt{4}} = 15.0 \%/\text{year}$$

- ROR     Rate of Return — [ % ]
- PWI     Present Worth Index — Dimensionless
- PB<sub>PV</sub>   Present Value Payback — [ years ]

**DORU LAURIAN BADULESCU**  
**Secretary of State - Chairman of NAMR**

**Ladies and Gentlemen,**

**\*\*\***

**In this period of deep structural changes in the Central and Eastern European countries, the organization of a Regional Mineral Management Seminar is most welcome by the simple fact that it is necessary.**

**The management of mineral resources is an important responsibility taking into consideration that part of these are strategic and nonregenerative riches, and achieving a good management in this sector implies a continuous effort.**

**It is therefore obvious that this Seminar is a very useful experience exchange among the reforming countries, which have to finalize a new, modern and viable legal framework based on free - market principles.**

**S.1.**

**The important role Romania gives to mineral resources is reflected in the Constitution adopted in 1991, which stipulates that "subsoil riches of any kind are exclusive public property".**

**Having in view that hydrocarbons represent both the main energetic resources of the country and important raw materials for national economy, our presentation will be focused on aspects regarding petroleum sector, which is of major importance for Romania.**

**\*\*\***

## **S. 2.**

**Petroleum exploration activities have been carried out in our country for more than 140 years, so that we can consider it a traditional sector which led to discovery and producing more than 1100 pools.**

**These remarkable results are, on the one hand, the consequence of the complex geological structure of the subsoil which provides favorable conditions to the hydrocarbon generation, migration and accumulation, and, on the other hand of the ability in conducting exploration and production operations, within the limits imposed by the endowment of Romanian entities with regard to equipment, installations and available funds.**

## **S.3.**

**The discovery of important fields in the Gettic Depression (1953), Moesion Platform (1969), Pannonian Basin (1962) and the shelf of the Black Sea (1980), increased the production up to the maximum levels recorded in 1976 - 228,000 bopd ( 14,7 MM to/year ) in the case of oil and 3,5 Bcftd (36.2 Bcm/year ) in 1986 for natural gas.**

## **S. 4.**

**The natural decline of oil and gas production was not compensated by the discovery of new reserves, so that, the current production reaches only 129,000 bopd ( 6.7 Mmto/year ) and respectively 2.4 Bcftd ( 19 Bcm/year ).**

**The revitalization of the Romanian economy during the past three years, marked by the increase in Gross Domestic Product (GDP) by 1.5 in 1993, 3.7 in 1994 and 6.4 in 1995, and especially by the increase of industrial production by 9% in 1995 comparatively to 1994, requires an adequate support from the petroleum sector with regard to discovery and producing of new commercial fields.**

**The discovery of new reserves has to be targeted to deep and subtle traps, which require high technologies, large funds and assumes high risks.**

**At the same time, we envisage other important ways in order to increase the production from the existing fields, by applying modern methods, such as EOR (Enhanced Oil Recovery ) and IOR ( Increased Oil Recovery).**

**A key element which is aimed at ensuring the injection of necessary funds, as well as at providing a door to high technologies and modern management in new areas with difficult access or underexplored yet, but credited with important prognosis reserves, is attracting of foreign investments.**

**In this context, opening of our country to foreign investors in all sectors, including the oil sector proved to be a necessity.**

**In September 1990, 15 Blocks located in the most important oil and gas bearing provinces both onshore and offshore were offered for bidding. These license activities were finalized in 1992, by signing the Exploration and Production Sharing Agreement with: Amoco Romania Petroleum, for Block VII, in the Eastern Carpathians; Shell Romania Exploration for Block X, in the Transylvanian Basin; Enterprise Co and Canadian Oxy for Block XIII, XV in the Continental Shelf of the Black Sea.**

**The amount spent by oil foreign companies in Romania reached about 100 mil. US \$ , and it is to be remarked that companies mentioned before are among the first 10 as regards the capital amount invested in Romania.**

**The conclusion of the Agreements with these famous companies was an important step in our efforts to reach the targeted objectives for development of the oil sector.**

**\*\*\***

**S .5.**

**Other important step Romania made in this respect is the modernization of the legal framework for exploration and production of hydrocarbons.**

**The new Petroleum Law was developed on the basis of the Constitution's provisions, and taking into consideration both previous experience (the first Resources Law being promulgated in 1924 ) and the evolution of the international relationships between the owner of resources and the investors involved in petroleum operations.**

**The Petroleum Law establishes the legal framework for activities regarding exploration, development and exploitation of hydrocarbon resources and is based on some principles, as follows:**

- flexibility, as most of its provisions can be negotiated within petroleum agreements. Among these, it is possible to negotiate royalties on a case - by - case basis, for each pool, as a function of degree of risk;**
- the grant of a concession shall be achieved in a petroleum agreement concluded between the NAMR and Romanian or legally - entitled foreign persons;**
- the petroleum agreement shall remain valid throughout its term. Thus fiscal and commercial stability is guaranteed. Risk is therefore minimized and foreign investors will be able to commit important funds for exploration, development and production;**
- Romanian and foreign oil companies shall be treated as equal, by enabling them to secure petroleum blocks through public offerings organized by the NAMR;**

**- Title holder enjoy non - discriminatory right of access to petroleum pipelines and other State facilities, in order to conduct petroleum operations;**

**- Title holder have the right to freely dispose of their portion of petroleum production , after granting the preemption right to the State with regard of purchasing such production at international market prices, determined in the petroleum agreement;**

**- Foreign companies are granted a series of privileges, including the possibility to export petroleum produced, and to keep their hard currency earnings - from local sales of petroleum - in hard currency on the inter - bank market and to transfer the amounts to foreign accounts.**

**The NAMR has recently prepared a new model concession agreement in line with international principles and good practices of the petroleum industry. The model agreement is, also, adapted to the requirements of the Romanian sector. Its provisions reflects the principles mentioned previously in the Petroleum Law, allows for flexibility during negotiations and gives Parties the possibility to reach their objectives as regards the profit.**

## **S. 6 .**

**- The Competent Authority charged with the application of the provisions of this law is the National Agency for Mineral Resources, acting under the Government of Romania.**

**On the basis of the same constitutional provisions and having in view the international experience the Mining Law was, also, elaborated and it is currently under Parliament's debate. According to market economy principles, it will regulate the sector of solid mineral resources.**

**\*\*\***

**In order to achieve the Government policy with regard to research, exploration, assessment and protection of all mineral resources, National Agency for Mineral Resources was established, as the Competent Regulatory Authority, independent and equidistant both towards Romanian and foreign companies, being the first such authority in Central and Eastern Europe.**

## **S. 7 .**

**The main competencies of the NAMR are the following:**

- administration of the mineral resources of Romania;**
- negotiation of the clauses and conditions of the Agreement for the exploration, production and assessment of the mineral resources;**
- setting up the legal taxes, royalties and prices for exploration and production activity, as well as, pipeline transport tariffs for hydrocarbons;**

- issuing compulsory norms and instructions for the mineral resources sector.

\*\*\*

## **S . 8 .**

The establishment and operation of the National Agency for Mineral Resources was , also , a condition for the effectiveness of the Loan Agreement signed between Romania and the World Bank / International Bank for Reconstruction and Development, regarding Romanian Rehabilitation Petroleum Sector, which comprises three main programs dedicated to our Agency :

- ***Petroleum Exploration Promotion Program***, including the subprogram for ***Developing model agreements for exploration and production***;
- ***Rate and tariffs***, aimed at regulating the prices for oil and gas, as well as, the tariffs for their transportation through the national pipeline system; and
- ***Organization of the NAMR***, including the subprogram: ***Establishment and development of the National Geological Database***.

In order to support Romanian Government's Program with the World Bank in the petroleum sector, the United States Agency for International Development (USAID) have financed a complex Technical Assistance Program for the NAMR.

\*\*\*

## **S. 9 .**

**As an institution of the reform imposed by the necessity to develop a free - market system , NAMR according to its competencies developed a medium and long term strategy for exploration and exploitation of hydrocarbons.**

**The main goal of this strategy is to achieve a good administration of known reserves and promotion of an optimum exploration activity on the Romanian territory, in order to discovery new hydrocarbon pools.**

**The objectives of the oil sector development through offering new blocks were established by NAMR taking into consideration both current situation of the sector and the conclusions of the prognosis studies, as follows:**

- increase of the reserves and consequently the production based on the discovery of new fields;**
- attracting foreign investment;**
- access to high technology;**
- injection of important funds;**
- training of Romanian specialists in conformity with international requirements;**
- improvement of specific management;**

- possibility to use Romanian manufactured equipment and rigs, to provide competitive services;
- social development of the areas with new producing fields;
- opening to the world and consolidation of Romania' s prestige.

\*\*\*

According to the Petroleum Law and the Loan Agreement signed between Romania and the World Bank / International Bank for Reconstruction and Development ratified by Government Ordinance No. 42/1992, NAMR is charged with organizing the *First National Licensing Round for Petroleum Exploration and Production Blocks*.

## S . 10 .

Formal opening of the *First National Licensing Round for Petroleum Exploration and Production Blocks* took place in Bucharest, on April 23, 1996 at an International Conference, under the high patronage of his Excellency Mr. Nicolae Vacaroiu, Prim-Minister of Romania.

This important event hosted 267 participants, 80 companies representing both Romanian entities and 41 international petroleum companies.

**On that occasion, the General data package was put at the disposal of the participants free of charge, except printing costs. It also comprises, besides the materials mentioned before, appendixes containing 388 Km seismic lines, 24 logs for relevant wells, geological sections and stratigraphic columns needed for the primary evaluation of the potential of all 15 blocks.**

**During Conference days, Data rooms were organized for interested companies, which had the opportunity to examine the Block Specific Data Packages, including 2463 Km seismic lines and 159 logs, maps, geological sections, stratigraphic columns and structural maps, to enable them to make an offer.**

**Following the Conference, a three day geological field trip was organized to present type-sections in Eastern Carpathians, details of infrastructure, as well as an integrated cultural program aimed at presenting our country's history and traditions.**

**In order to facilitate participation in this round for companies which could not attend the Bucharest Conference, additional promotional activities were carried out in London and Houston.**

**On the occasion of 1996 AAPG Annual Convention and Exhibition in San Diego, NAMR organised a representative booth regarding Romanian petroleum industry and made a presentation on the First National Licensing Round at a Hospitality Suite organized with USAID's support.**

**In achieving Petroleum Exploration Promotion Program, NAMR is assisted by the consultancy firm SCHLUMBERGER-GEOQUEST, the winner of the bidding organized according to the World Bank 's procedures.**

**\*\*\***

## **S 11**

**The licensing round is planned to close on 31 October 1996 which is the deadline for the oil companies to submit their offer. During first half of 1997 concession contracts are to be negotiated and signed.**

**\*\*\***

**Ladies and Gentlemen,**

**I would like to express my confidence that all these arguments showed you that joining our efforts with foreign assistance may lead to a real economic growth in our countries.**

**We also hope that by continuous improvement of the management, we will successfully carry out our mission of administering the Romanian mineral resources sector.**

# MANAGEMENT OF MINERAL RESOURCES IN BULGARIA

C N Dabovski  
Geological Institute Bulgarian Academy of Sciences

## INTRODUCTION

In the past geological prospecting exploration and production in Bulgaria were conducted solely by state-owned organisations Their activities were planned by a central government authority and financed from the state budget The system demanded strict performance of the planed volume of works without any requirements for economic efficiency and profit

Geological exploration was carried out by two large organisations the Committee of Geology and Rare Metals and mining was conducted by numerous large and small enterprises Academic geological research was centred in the Bulgarian Academy of Sciences and small departments affiliated with the universities

The reforms in the minerals sector were started in 1991 with the aim to create a new organisational structure and a legislative and economic framework on the basis of market-oriented principles

In my presentation I will discuss the current status and problems of the reforms relating to the organisational structure and the legislative and economic framework of the minerals sector in Bulgaria

## ORGANISATIONAL STRUCTURE

The structural reform was directed mainly towards the former Committee of Geology with the idea to separate its regulatory and operatorship functions As a result a new State agency was created the present Committee of Geology and Mineral Resources (CGMR) responsible for the regulation financing monitoring and co-ordination of geological activities in Bulgaria (fig 1) The operating units of the former Committee were separated into individual state-owned companies registered in the court as independent firms according to the Bulgarian Commercial Code (fig 2)

Rare Metals and the large mining organisations were likewise divided into many individual companies The system of academic institutions and universities was in general not restructured

The reform in the CGMR has not been quite successful A great majority of the functions and activities being undertaken by the CGMR are inappropriate to its role as regulator and steward of the State's mineral resources In particular regulatory and operatorship functions with respect to Bulgaria's mineral resources and ownership of State enterprises are overlapping and need to be further separated

These changes and the emerging market-economy relations are reflected in the structure of the minerals sector as a whole Two main groups of organisations may be recognised now (fig 3)

- The first group includes state agencies which regulate and monitor the activities in the minerals sector (the CGMR and various ministries)
- The second group of organisations conducts geological exploration and mining operations (state-owned and small private mainly service companies) and geological research (institutes of the Bulgarian Academy of Sciences and various universities)

This model resembles the structure of the minerals sector in some European countries but differs in three essential elements

- dominating state-owned and overstaffed exploration and mining enterprises
- too many regulating state agencies with overlapping functions
- no market-oriented mining and petroleum legislation to regulate the activities

These elements reflect relationships and traditions from the past - from the time of centrally planned economics

In summary the reforms in the organisational structure of the minerals sector are still in an initial stage. Further restructuring is needed in particular of state agencies and state-owned enterprises. Privatisation and stimulation of private investment and companies is also an essential part of the reform.

The first step will be to separate some of the overlapping functions of the CGMR and to create two new institutions (fig 4) equivalent to a Geological Survey and a Mineral Resources Agency - two bodies (one stimulating and one regulating) typical of many countries with developed mining and petroleum industry.

## LEGISLATION

Bulgaria has no law governing the exploration and production of mineral resources. The Law of Mines and Quarries from 1957 which is still in force has been modified and amended many times but is still containing old legal formulations and contradictions which disagree with the new Bulgarian Constitution of June 1991 and other recent laws. Some of these outdated principles are

- state property both of mineral and petroleum resources as well as the land on the surface
- funding of geological and mining activities solely from the state budget
- exclusive right for prospecting, exploration and production granted only to state-owned geological and mining enterprises
- strict performance of planned volume of works without any requirements for economic efficiency and profit
- lack of requirements for environmental protection

Obviously this outdated law can no longer regulate the social and economic relations in the sphere of prospecting, exploration and production of mineral resources.

A new mining code - the Underground Natural Resources Law (including hard minerals, petroleum and underground water) has been drafted by a group of Bulgarian and American experts in the period 1994-95 and submitted to the Council of Ministers in September 1995 just before the Concessions Law was adopted by the Parliament.

The Concessions Law came into force in October and the Regulations thereto - in December 1995. As a result the draft Natural Resources Law had to be withdrawn from the Council of Ministers and amended to conform to the Concession Law. The final draft of the Underground Natural Resources Law has been submitted to the Council of Ministers in January 1996 and is still waiting for consideration.

Thus Bulgaria has still no market-oriented mining and petroleum laws. Until these laws are passed the activities in the sector are regulated by the Law of Mines and Quarries from 1957 (for state-owned Bulgarian companies) and by other laws and regulations applicable to private Bulgarian and to foreign investors (fig 5). The recent Concessions Law of 1995 was designed to establish the basic legal framework for these activities but has not been tested in the minerals sector yet.

The new Concessions Law seeks to regulate the conditions under which resources considered under the Constitution to be the exclusive property of the State

may be the object of private commercial activity. This essentially administrative statute covers concessions for resources as diverse as mineral resources, beaches, nuclear installations, national post and telecommunications networks, and railway transportation. The general principles of the Law as applied to minerals concessions are illustrated in fig. 6.

The Concessions Law is more concerned with internal organization than with providing an enabling environment for private investment in the sectors concerned. That would be acceptable except that it provides the basic framework for activity in all the different sectors concerned and as such will be considered by potential investors to be the fundamental text regulating their rights and activities. There are several areas which will be of serious concern to prospective investors in the minerals sector which could deter or even prevent potential investors from pursuing ventures in Bulgaria.

- *Licensing Authority* The licensing of natural resources requires specialized expertise both in the design and implementation of a strategy for the promotion of investment and in the implementation of promotional activities, the selection of investors, the negotiation of contracts, and the administration of contracts and monitoring compliance with work programs and other investor obligations. This is entirely inconsistent with these functions being vested in the highest entity of the executive branch, the Council of Ministers. The requirement for approval of each concession by the National Assembly, added to the attribution of basic responsibility to the Council of Ministers (with the Prime Minister to appoint the tender commission) is not consistent with modern practice; it will be seen as leading to delays and political interference and will alone be a cause of sufficient concern to investors to severely diminish their interest in Bulgaria. Licensing should be conducted and regulated by a state entity outside the political stream of central government and staffed by specialized professional experts. The licensing of related groups of resources should be the responsibility of people having specific expertise in the area concerned. Investors require informed counterparts having the appropriate authority to negotiate and administer.
- *Licensing Procedures* In the first place, formal competitive tender is not always the best way to attract and commit investment in the minerals sector and in some areas (exploitation ventures, frontier exploration areas, etc.) it may be totally inappropriate. Secondly, the procedures for tendering concessions are cumbersome and unworkable. For instance, the process of selecting the recipients of concessions by competitive tender is conducted by a commission consisting of a minister and four members chosen by the Prime Minister. Such a commission will not have the expertise in natural resources necessary to effectively evaluate bidders. In addition, control of the bidding process by a commission that is a political extension of the Council of Ministers is not consistent with modern practice and will deter local and foreign investment.
- *Mere "Priority" for "Renewal" of Concessions* The concessionaire will have a mere "priority" over other bidders for the same object or activity when the term of the original concession has expired. Aside from the uncertainty arising in general from the status of holding a "priority" to a concession, this issue raises serious concerns for investors when applied to certain situations. Companies will not invest in exploration if, in the event of a discovery, a concession for production, transportation, and exportation cannot be obtained as of right.
- *Unilateral Termination* The concession may be terminated or the contract terms changed by mutual consent, or unilaterally in the event of a threat to national security or defense, the environment, the lands under concession, or "the public

order" Evidently mining and petroleum companies will not invest in countries whose contracts are subject to unilateral termination or revision by the host country because the risk to the investor of losing its investment is excessive under international standards Promises to indemnify the concessionaire in this event are not enough to diminish the risk to the investor

In summary Bulgaria has a Concessions Law which for the time being is regulating the exploration and production of mineral resources and related activities In my opinion this law is not consistent with modern practice and may deter local and foreign investment

## ECONOMICS

The present economic recession in Bulgarian minerals and petroleum industry is related to low investment in exploration and production State funding has been cut dramatically investment from Bulgarian and foreign companies is insignificant This has resulted in a gradual decrease in the production of mineral resources (fig 7)

State funds are allocated to the Committee of Geology and Mineral Resources only for regional geological geochemical geophysical and environmental programmes (fig 8) and are insufficient to finance normal operations Exploration activities are not funded by the budget and as a result no new deposits have been discovered in the last few years

All these factors have lead to a reduction of the former gigantic minerals and petroleum state sector to normal dimensions for the size of the country Many unprofitable mining companies are scheduled to be closed exploration enterprises are cutting down their staff unemployment is increasing Well-trained specialists have left the geoindustry and are engaged now in other more profitable activities

Despite these problems the economic reform has not started yet The main aim of this reform should be to create a favourable framework for attracting private investment in exploration and production having in mind that mineral and petroleum development require a distinct fiscal regime because of long development time high geological and later price risk export orientation and long pay-back - which do not characterise investment in many other sectors of the economy Unfortunately this is not well understood by Bulgarian economists and politicians

The main aims of the future economic reform in the mining and petroleum industry should be

- to develop a clear investment code comprehensively documenting all pertinent rules including tax import/export regulations foreign exchange and custom duty issues
- to provide a standardised and stable fiscal regime suitable for the industry accelerated recovery of costs tax holiday or minimised tax in the first years of production exemption from import duties (at least for capital equipment) minimal front-end payments payable before production guaranties that the investor can take out foreign exchange in cash or kind to recover his capital and profits
- to develop a promotion strategy for attracting local and foreign private investment including fiscal legal and technical issues

Nevertheless despite the lack of stable fiscal regime and mining and petroleum legislation Bulgaria has made creditable progress in attracting foreign investments in the petroleum industry At the end of 1989 an international bidding round was opened for the award of oil and gas exploration and production licenses in blocks both on-shore and off-shore (fig 9) As a result license agreements were signed in 1991 for six blocks in the Black Sea shelf and two blocks onshore In 1993

a second licensing round was announced but no licenses were awarded. A third round is planned for 1997. The exploration activities in the licensed blocks are summarised in fig 10. The E&P License Agreements and Joint Operating Agreements used in the first and second licensing round are modelled after the international petroleum practice (fig 11).

In the minerals sector there is also some progress in attracting foreign investments. Minorco Services, RTZ Mining and Exploration, Eurogold and Gramex (a joint venture American-Greek company) are conducting geological prospecting for gold on the basis of Research Agreements approved by the Council of Ministers. These agreements are being currently revised and conformed to the new Concessions Law. A Bulgarian-Irish Mining Joint Stock Company - BIMAK - is producing gold concentrate from Chelopech, one of the biggest gold deposits discovered in Bulgaria. The joint venture contract was approved by the Ministry of Industry.

## CONCLUSION

The minerals sector in Bulgaria faces serious organisational, legislative and economic problems. The reforms have started in 1991 but since then there is no significant progress. Urgent reforms are needed in the following main directions:

- structural reform - organisational restructuring aimed at creating new regulating state geological authorities with appropriate functions and privatisation of state-owned companies
- legal reform - to draft new laws and regulations as a market-oriented regulatory framework for the activities of Bulgarian minerals and petroleum industry
- economic reform - to create a favourable environment for attracting private local and foreign investors as well as to minimise state funding of exploration, mining and petroleum activities

MAIN FUNCTIONS OF THE COMMITTEE OF GEOLOGY AND MINERAL RESOURCES

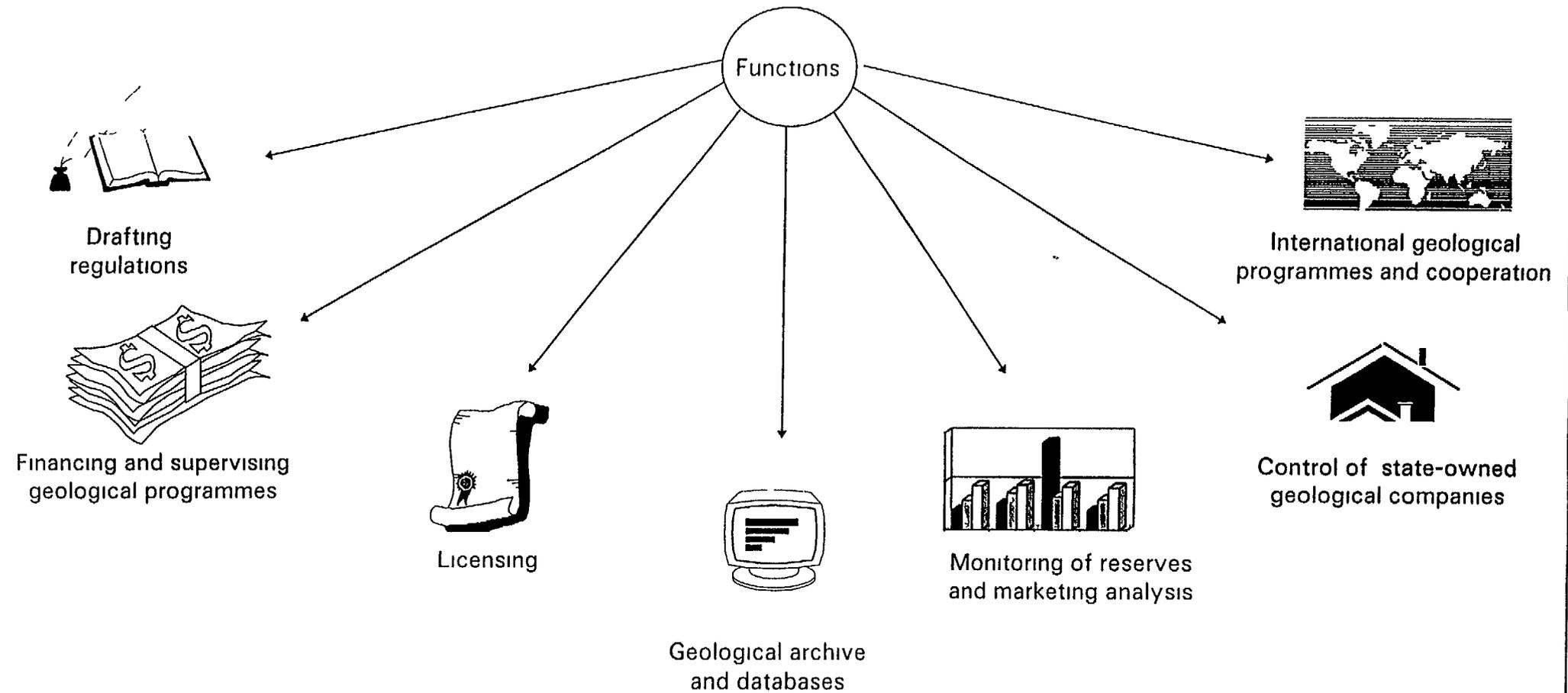
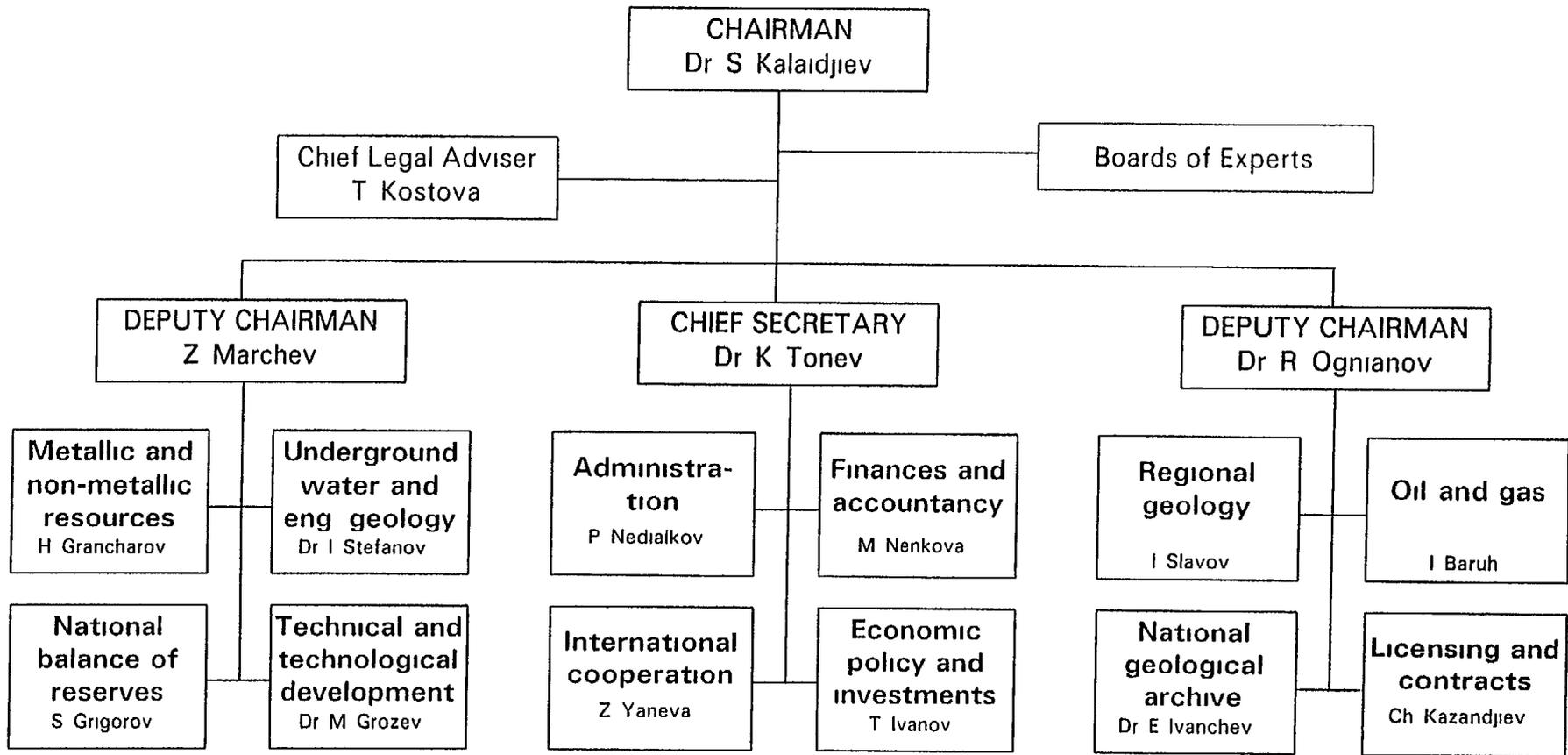


Fig 1

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ORGANISATIONAL STRUCTURE OF THE COMMITTEE OF GEOLOGY AND MINERAL RESOURCES



*State-owned companies controlled by the Committee of Geology and Mineral Resources*

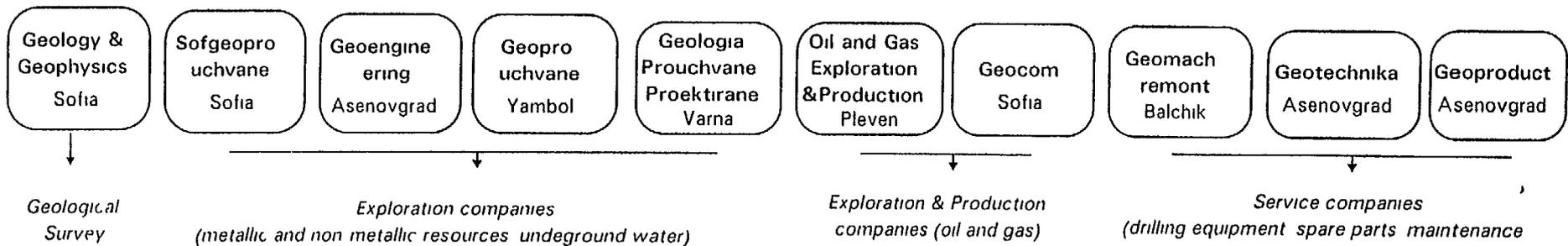


Fig 2

14

*ORGANISATIONAL STRUCTURE OF THE GEOINDUSTRY IN BULGARIA*

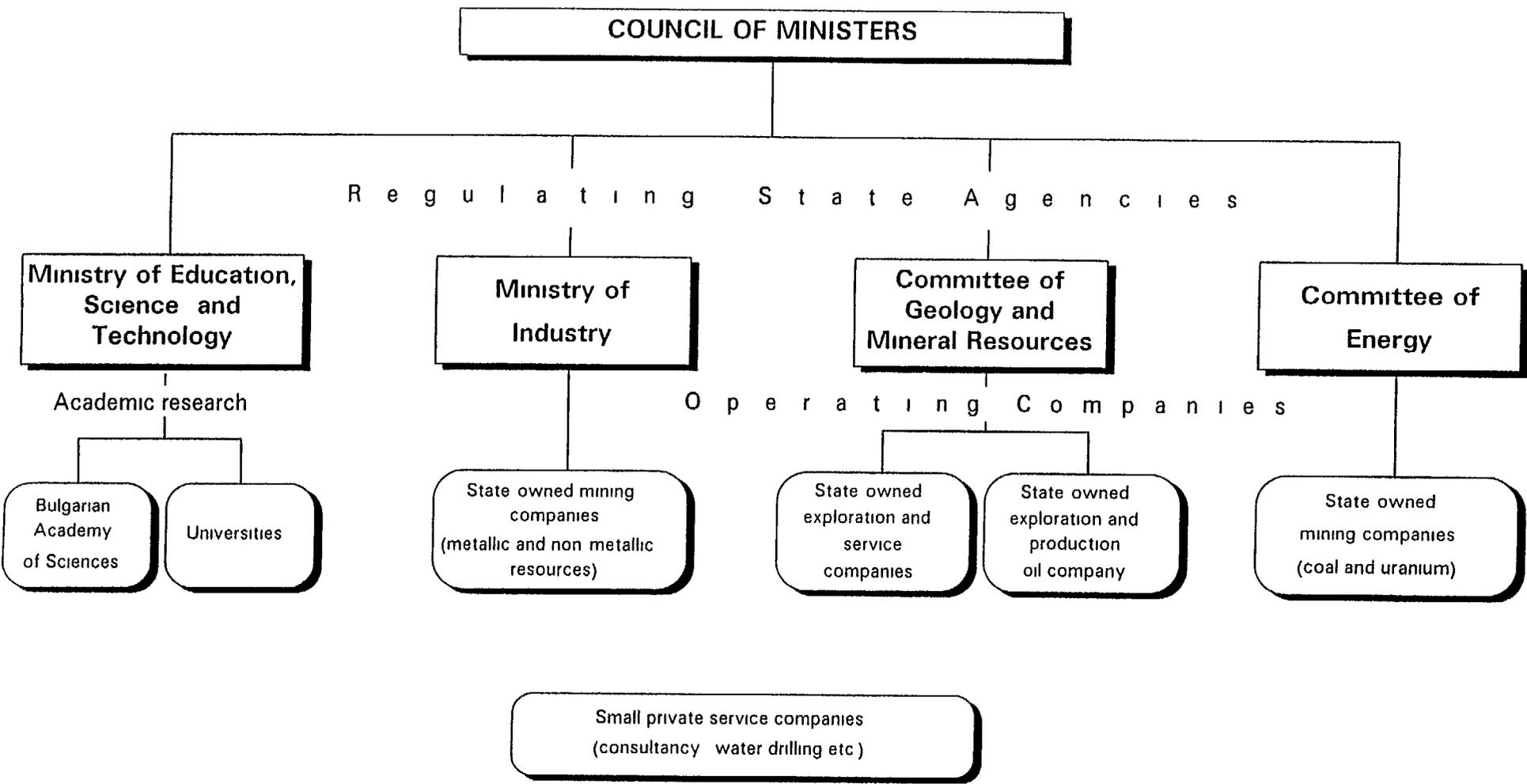
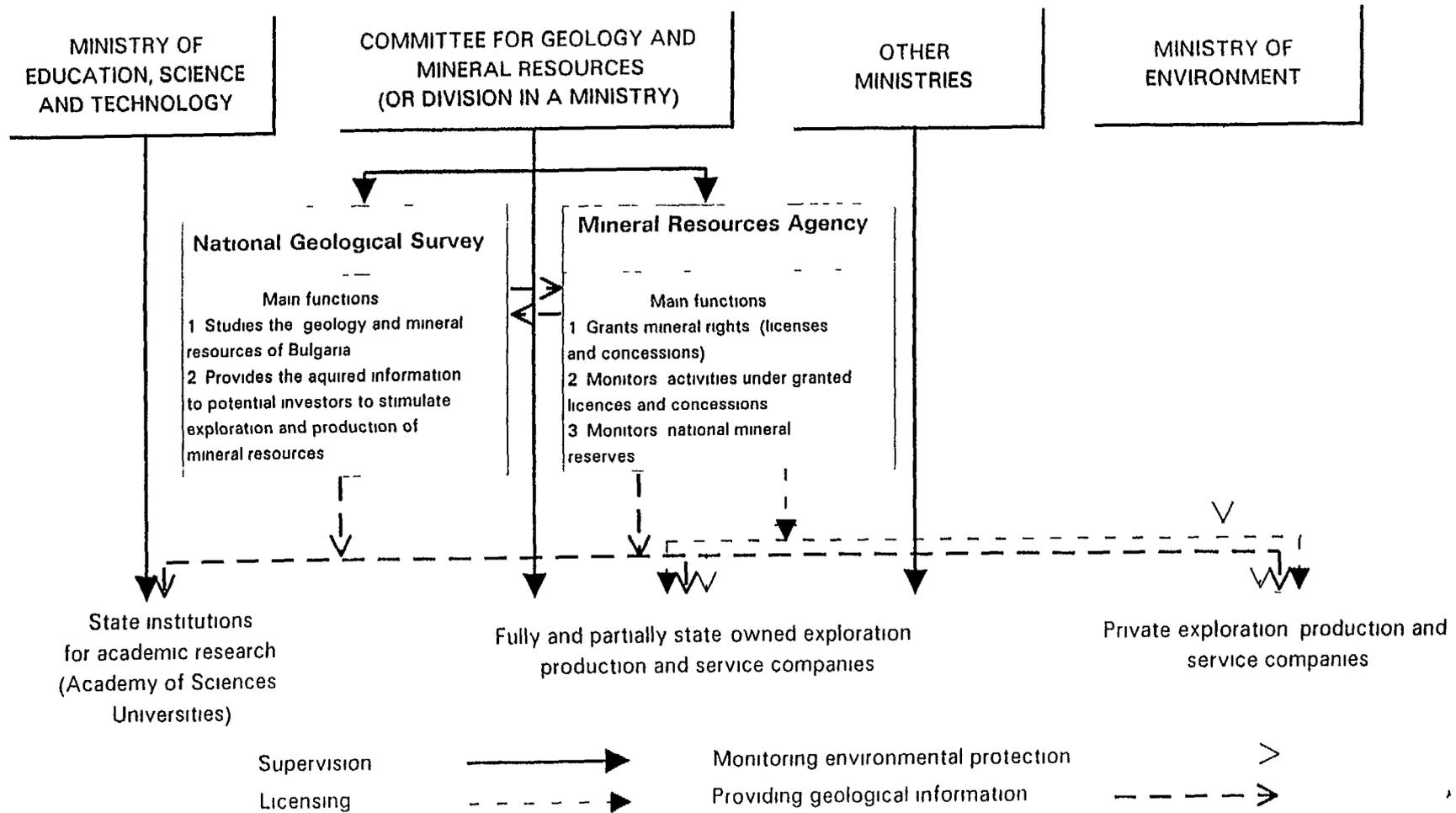


Fig 3

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## ORGANISATIONAL STRUCTURE OF THE MINERALS SECTOR IN BULGARIA PROPOSED MODEL



# Legislation

## General laws affecting foreign investors

- ◆ The Constitution (1991)
- ◆ The Commercial Code (1991, am. 1993-94)
- ◆ The Law on Obligations and Contracts (1951, am. 1993)
- ◆ The Law on Banking and Crediting (1992)
- ◆ The Law on Currency Operations (1992)
- ◆ Decree 56 on Economic Activity (am. 1992)
- ◆ The Law on Economic Activities of Foreign Persons and on Protection of Foreign Investments (1992)

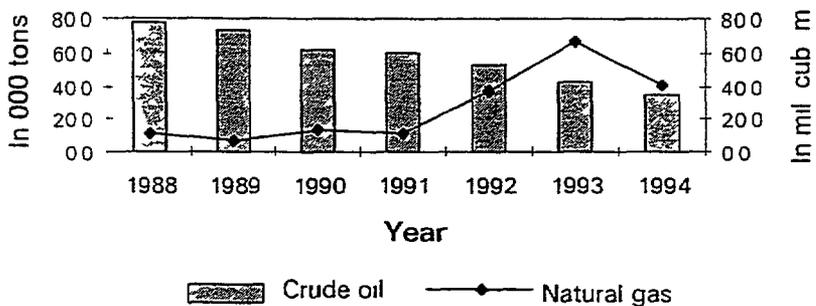
# Legislation

## General principles of the Concessions Law

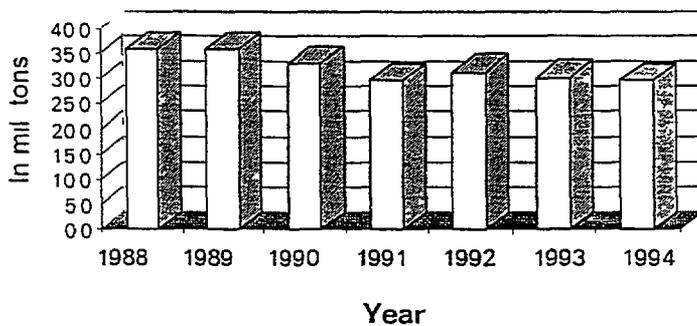
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- ◆ Mineral Resources- State Property
- ◆ Title
  - E&P Concession
  - Contract
- ◆ Titleholder - any Bulgarian or foreign natural and legal person
- ◆ Licensing Authority - Council of Ministers after approval by Parliament
- ◆ Licensing methods:
  - Competitive tender
  - Auction
- ◆ Concession periods
  - initial - up to 35 years
  - one extension - total to 50 years
- ◆ Work Programmes
- ◆ Royalty rates and rental fees negotiable
- ◆ Security of tenure - priority for renewal
- ◆ Termination - mutual consent or unilaterally

Production of crude oil and natural gas  
in the period 1988-94



Production of coal  
in the period 1988-94



Production of iron lead-zink and gold ore  
in the period 1988-94

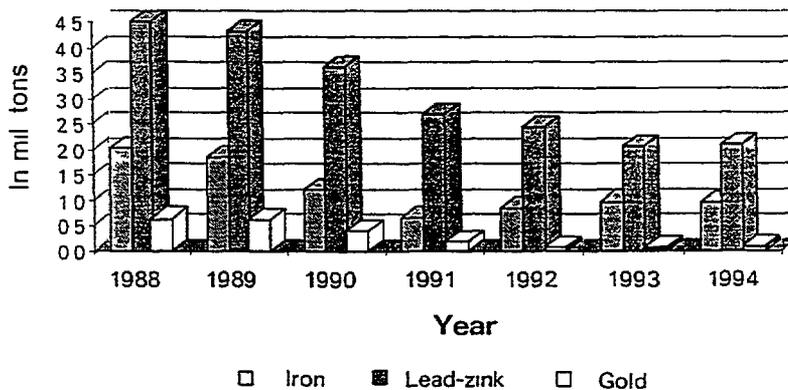


Fig 7

# STATE BUDGET FOR GEOLOGICAL PROGRAMMES

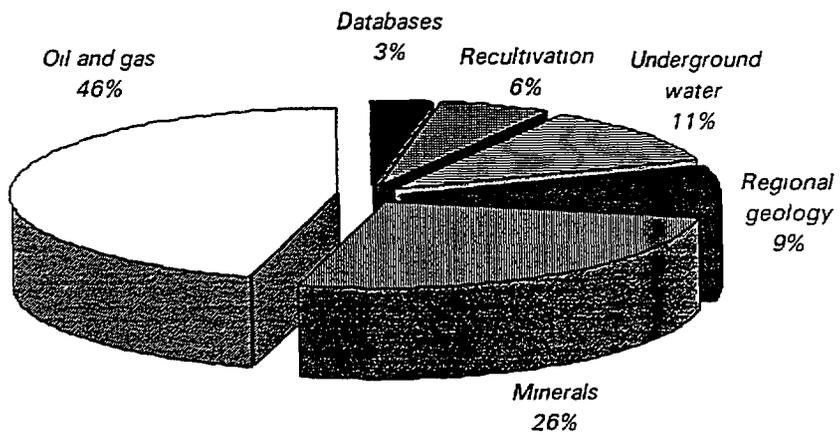
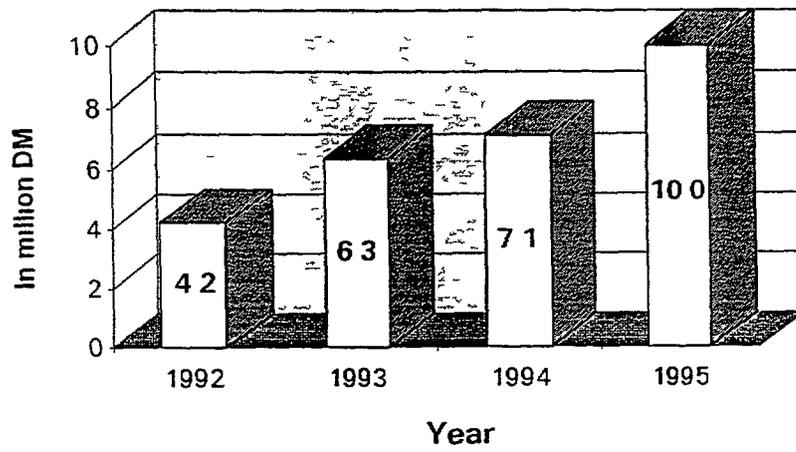
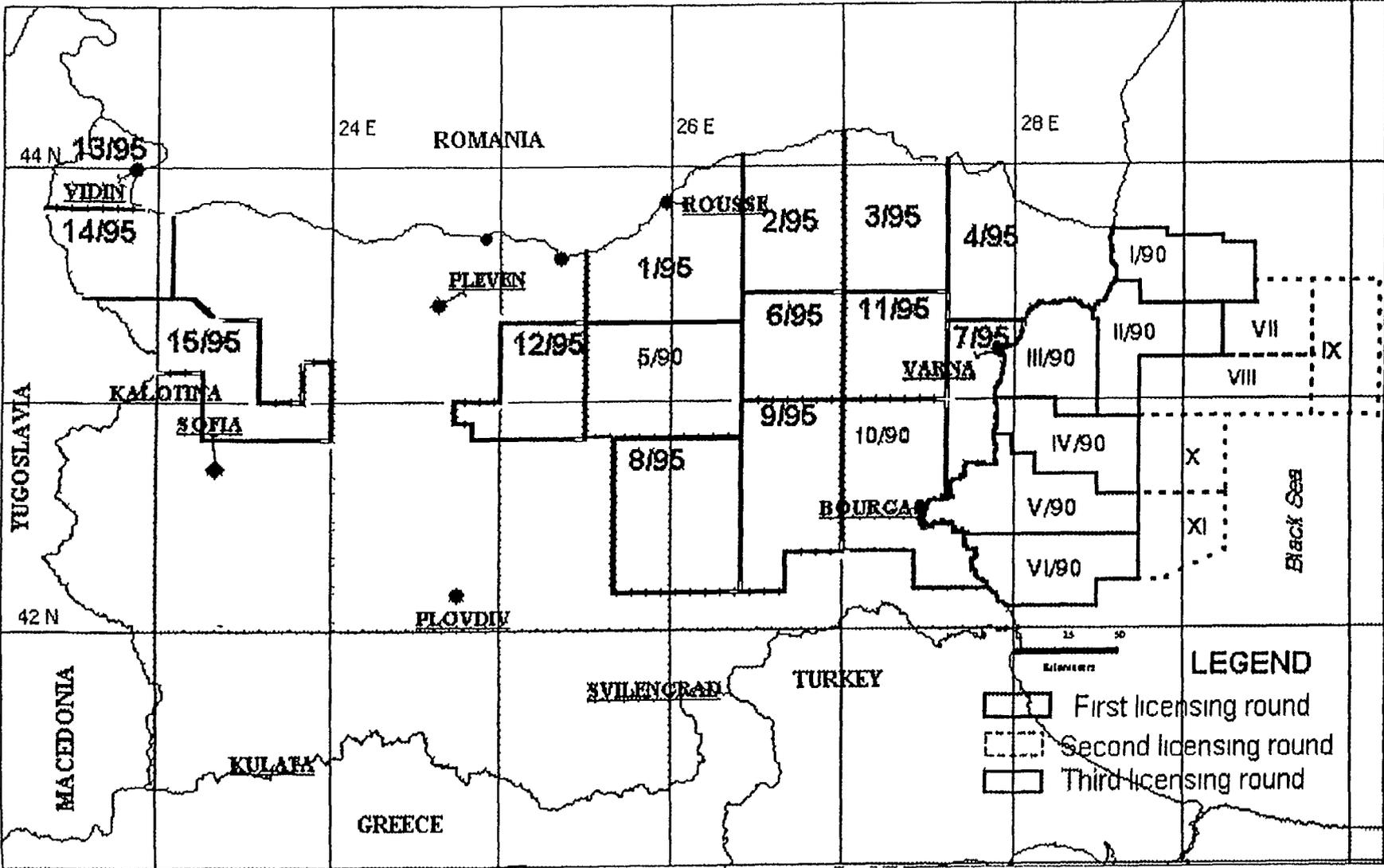


Fig 8

# Licensing Round

## License blocks



# Licensing Rounds

## Exploration activities

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- ◆ International oil companies in Bulgaria:
  - British Gas
  - Enterprise Oil
  - Texaco
  - Maxus
  - Edison Gas
  - OMV
  - MMS
- ◆ Seismic acquisition
  - 8000 km offshore
  - 700 km onshore
- ◆ Wildcat wells:
  - 9 offshore+2 planned 1996
  - 2 onshore
- ◆ 1 gas discovery
- ◆ Total investments 140 million USD

# Legislation

## E&P Agreements for the first and second round

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### Key terms first round

- ◆ 1,500-2,500 km<sup>2</sup> license area
- ◆ 5-7 year exploration period
- ◆ 25 year production period
- ◆ 25-100 USD/km<sup>2</sup>/yr rental fees
- ◆ Seismic + well commitments
- ◆ 12.5-17.5% royalty
- ◆ 100% cost recovery
- ◆ 5 years tax holiday at production
- ◆ Equitable adjustment if taxes increase
- ◆ State equity 50% carried through exploration
- ◆ International arbitration

### Key terms second round

- ◆ 1,300-2,300 km<sup>2</sup> license area
- ◆ 8-10 year exploration period
- ◆ 30-50 years production period
- ◆ 25-75 USD/km<sup>2</sup>/yr rental fees
- ◆ Seismic commitments
- ◆ 12.5% royalty to 12.5% (deep water)
- ◆ 100% cost recovery
- ◆ 5 years tax holiday at production
- ◆ Equitable adjustment if taxes increase
- ◆ State equity 50% carried through exploration and development
- ◆ International arbitration

## WHAT OIL AND GAS COMPANIES NEED TO WORK IN CENTRAL AND EAST EUROPEAN COUNTRIES

THE DRIVING FORCE IN MOST COMPANIES IS TO SURVIVE AS A  
PROFITABLE ENTERPRISE AND TO ACHIEVE PERMANENCE OR GREAT  
LONGEVITY THE PATH CHOSEN TO ACCOMPLISH THIS INVOLVES

MAKING MONEY

STABLE GROWTH

COMPETING

ALTHOUGH COMPANIES COME IN A VARIETY OF CONFIGURATIONS THERE  
ARE NEED FACTORS WHICH ARE COMMON TO ALL PRINCIPAL AMONG  
THESE ARE

ATTRACTIVE RESERVES TARGETS

COMPATIBLE GOALS WITH THE HOST

RELIABLE AND ENFORCEABLE CONTRACTS

STABLE ENVIRONMENT

### RESERVES TARGETS

THE RESERVES TARGETS ARE A PRODUCT OF NATURE WHICH IS NOT  
CONTROLLED BY THE HOST GOVERNMENT LARGE TARGETS ARE MOST  
ALWAYS PREFERRED OVER SMALL ONES THE TARGET SIZE AND SUPPLY

HAVE A SUBSTANTIAL EFFECT ON THE LEVEL OF INTEREST A COMPANY WILL HAVE IN ATTEMPTING TO DO BUSINESS PLENTIFUL LARGE TARGETS INCREASE THE APPETITE AND FLEXIBILITY OF THE COMPANY AND CONVERSELY SCARCE OR SMALL TARGETS INCREASE THE NEED FOR AMENABILITY ON THE PART OF THE HOST IN ORDER TO ATTRACT MUCH ACTIVITY

IN ADDITION, AN INTEGRATED COMPANY THAT IS SELF SUFFICIENT WILL HAVE LESS INTEREST IN PURSUING TARGETS UNDER ADVERSE CONDITIONS THAN ONE THAT IS CRUDE SHORT BOTH, HOWEVER, WOULD BE INTERESTED IN A TARGET THAT COULD CHARGE ALL ITS REFINERIES FOR A YEAR OR MORE

A PURE EXPLORATION AND PRODUCING COMPANY DOES NOT HAVE THE SAME INCENTIVES AS AN INTEGRATED BUSINESS WHICH INCLUDES REFINING, MARKETING AND TRANSPORTATION IN AN ENVIRONMENT WHERE THE HOST IS GOING TO PURCHASE ALL THE PRODUCTION, ALL THE COMPANIES WILL FOR THAT PERIOD BE ANALOGOUS TO PURE E & P COMPANIES

#### GOALS

THE GOALS OF OIL AND GAS COMPANIES MUST REMAIN IN THE SURVIVAL, PROFIT, GROWTH SPECTRUM A HOST WHICH CANNOT ALLOW SUCH ACHIEVEMENTS SHOULD NOT EXPECT TO DO MUCH BUSINESS SOME COMPANIES MAY EXPEND MINOR SUMS AND EFFORT TO KEEP CHANNELS OF COMMUNICATION OPEN AWAITING GREATER RECEPTIVENESS, BUT LARGE AND CONTINUING INVESTMENTS WILL BE DEFERRED UNTIL COMPETITIVE ECONOMIC PARAMETERS ARE IN PROSPECT

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THE FORCES OF COMPETITION ARE ALWAYS PRESENT OIL AND GAS COMPANIES ARE CONSTANTLY SEARCHING FOR NEW SOURCES OF SUPPLY AND ALLOCATE CAPITAL AND TALENT TO PROJECTS IN DESCENDING ORDER OF IMPORTANCE THERE ARE USUALLY MANY MORE POTENTIAL OPPORTUNITIES THAN CAN BE DIGESTED WITH THE RESOURCES AVAILABLE WHILE COMPANIES HAVE MANY SIMILAR CHARACTERISTICS, THEY ALSO HAVE THEIR SEPARATE PERSONALITIES AN ATTRACTIVE PROSPECT OR CIRCUMSTANCE TO ONE MAY NOT BE TO ANOTHER. ACCORDINGLY A FEW COMPANIES MAY ALMOST ALWAYS SHOW SOME INTEREST IN A NEW AREA EVEN IF OVERALL PROSPECTS DO NOT SEEM ESPECIALLY BRIGHT, BUT FOR MANY TO BE INVOLVED THERE MUST BE A COLLECTION OF REASONS HEADED BY THE SIZE AND APPARENT VALUE OF THE RESERVES TARGETS

#### CONTRACTS

IN KEEPING WITH THE STRONG MOTIVE FOR SURVIVAL, OIL AND GAS COMPANY MANAGERS PREFER TO ENTER INTO BUSINESS AGREEMENTS THAT PROVIDE COMPELLING BENEFITS TO BOTH THE PARTIES IF A CONTRACT BENEFITS ONE SIDE MATERIALLY OUT OF PROPORTION TO THE OTHER, THE SUFFERING PARTY WILL LIKELY BE A TROUBLESOME PARTNER AND WILL SEEK TERMINATION OR MODIFICATION OF THE AGREEMENT BALANCED CONTRACTS ARE MORE DURABLE, PRESENT FEWER OPPORTUNITIES FOR DISAGREEMENT, AND PERMIT GREATER COMFORT AND PREDICTABILITY IN BUSINESS DEALINGS THEY ALSO HELP THE PARTIES COOPERATE MORE WILLINGLY TOWARD SUCCESSFUL ACHIEVEMENT TO INCREASE THE MUTUAL BENEFIT

BUSINESS LAWS OF THE HOST COUNTRY NEED TO BE REASONABLY BALANCED AND UNDERSTANDABLE IT IS ALSO NECESSARY FOR THE PARTIES TO THE CONTRACT TO HAVE ACCESS TO A RECOGNIZED COURT OF INTERNATIONAL ARBITRATION FOR RESOLUTION OF DISPUTES OPERATIONS REQUIRE TIMELY AVAILABILITY OF TOOLS AND EQUIPMENT THAT MEET INTERNATIONAL QUALITY AND PERFORMANCE STANDARDS RELATIVE FREEDOM TO BRING IN SPECIAL EQUIPMENT WHEN IT IS NEEDED AND EXPORT IT TO SOME OTHER PLACE WHERE REQUIRED IS AN IMPORTANT CONSIDERATION

INTEGRATED OIL COMPANIES WOULD STRONGLY PREFER TO EXPORT THE CRUDE OIL THEY FIND AND PRODUCE TO CHARGE THEIR OWN REFINERIES COST BASED TRANSPORTATION MUST EITHER BE ALLOWED OR AVAILABLE TO MOVE PRODUCTION TO MARKET FOR PRODUCTION WHICH MUST BE SOLD TO THE HOST A SUITABLE MECHANISM MUST BE IN PLACE TO DETERMINE THE FAIR MARKET PRICE WHICH TAKES INTO ACCOUNT THE QUALITY AND LOCATION OF THE PRODUCTION AND A REASONABLE WORLD OR AREA MARKET DELIVERY POINT THE SAME IS TRUE FOR TAX AND ROYALTY PAYMENTS THE DELIVERY POINT FOR PRODUCTION SHARING OR IN KIND ROYALTY VOLUMES MUST ALSO BE RESOLVED

ANOTHER FACTOR OF IMPORTANCE TO THE COMPANIES IS ACCESS TO THE PEOPLE AND EQUIPMENT REQUIRED TO HANDLE WORK ON A SAFE AND COST EFFECTIVE BASIS THE EXPATRIATE PEOPLE NEED ADEQUATE HOUSING, TRANSPORTATION, COMMUNICATIONS, FREEDOM OF MOVEMENT, SECURITY, LIFE SUPPORT, AND SCHOOLING FOR DEPENDENTS

#### REGULATION

INTERNATIONAL OIL AND GAS COMPANIES HAVE BROAD EXPERIENCE WORKING UNDER MANY REGULATORY REGIMES THE COMPANIES HAVE A SUPPORTIVE STANCE TOWARD PRUDENT REGULATION WHICH PREVENTS WASTE, PROTECTS CORRELATIVE RIGHTS, PROVIDES FOR WORKER AND PUBLIC SAFETY, ADEQUATELY PROTECTS THE ENVIRONMENT, AND FOSTERS OPERATIONS IN KEEPING WITH DEVELOPED AND PROVEN INTERNATIONAL STANDARDS

A RANGE OF REGULATORY APPROACHES HAVE BEEN SUCCESSFULLY EMPLOYED BY GOVERNMENTS AROUND THE WORLD RANGING FROM QUITE DETAILED STEP BY STEP REQUIREMENTS IN SOME PLACES TO WHAT IS ESSENTIALLY SELF REGULATION IN OTHERS IN KEEPING WITH LAWS AND INTERNATIONAL INDUSTRY STANDARDS THE SYSTEM USED IS MOST INFLUENCED BY THE MINDSET OF THE HOST GOVERNMENT, BUT OTHER FACTORS WOULD RATIONALLY HAVE A BEARING ALSO FOR EXAMPLE

ECOLOGICAL CONDITIONS IN AREA OF OPERATIONS

EXTENT OF PAST AND FUTURE DIVERSITY OF OWNERSHIP

HISTORY AND STATUS OF DOMESTIC INDUSTRY

ALTHOUGH THERE CAN ALWAYS BE ACCIDENTS AND ISOLATED ABERRANT BEHAVIOR ON THE PART OF A SMALL NUMBER OF COMPANIES, IT IS TRUE THAT OIL AND GAS COMPANIES ARE THE PRINCIPAL SOURCE AND PROVERS OF TECHNOLOGY AND SAFE OPERATING PRACTICES IT IS IN THEIR SELF INTEREST TO EMPLOY THE CORRECT EQUIPMENT AND COMPETENT PEOPLE IN PRUDENT AND SAFE WAYS TO PROTECT THE

SIZABLE INVESTMENTS WHICH ARE SO MUCH A PART OF THE BUSINESS IT IS IMPORTANT TO MAKE USE OF THE KNOWLEDGE BASE WITHIN THE REGULATED INDUSTRY IN THE DEVELOPMENT OF REGULATIONS HOWEVER WELL INTENDED, REGULATIONS WHICH ARE DRAWN WITHOUT BROAD INDUSTRY INPUT WILL MISS SOME IMPORTANT ITEMS AND CONTAIN REQUIREMENTS WHICH ARE COSTLY AND DO NOT SERVE A USEFUL PURPOSE

AN ITEM OF INTEREST TO THE HOST AND COMPANY ALIKE IS THE LOSS TO ALL PARTIES WHICH RESULTS FROM UNNECESSARY DELAYS OCCASIONED BY WHAT WE REFER TO AS BUREAUCRATIC RED TAPE SOME OF THIS SEEMS INESCAPABLE IN EVEN THE BEST OF REGULATORY ENVIRONMENTS, BUT IT CAN BE REDUCED BY POPULATING THE RESPONSIBLE AGENCIES WITH PEOPLE WHICH HAVE A GOOD BASE OF MATURITY, KNOWLEDGE AND EXPERIENCE IN THE AREAS FOR WHICH THEY HAVE RESPONSIBILITY

*Pat Kelly*