Dr Andreas Barth – Beak Consultants GmbH, Germany, andreas.barth@beak.de

Title

National geoscientific information management systems and mineral probability maps - important preconditions for attraction of investment to the mining sector

Abstract

Competing for international mining investment the rich in minerals countries can create important pre-conditions for successful mining project development. Beside factors as legislation, taxation regulations, and transparency in decision-making, the provision of existing information and the public presentation of mineral opportunities are extremely important for the attraction of investment to the national economy.

Over the last hundred years, private and public institutions have spent billions to investigate the geology and mineral wealth, but often this information is not systematized and not really available to potential investors. In the past, geo-scientific and geo-economic data were collected and fixed on paper. Handmade descriptions, bore hole logs, maps, exploration reports etc. have filled up public and non-public archives with materials of inestimable value. In the last years the implementation of modern information technological systems has created even more confusion by presenting different data formats, coordinate systems etc. The result is a jungle of information, redundant data, problems with coding, networking and distribution of information.

In this situation, the systematic standardised digital capture, safe storage and distribution of geological and geo-economic data at a national level is an extremely important but expensive and cumbersome activity. National geo-databases as single sources of reliable primary data and secondary information (e.g. geoscientific maps, boreholes, geochemistry, geophysics, mineral deposits and occurrences, mining activities, library and reports) are of high importance for the attraction of investors.

Value adding services like the creation of mineral prediction maps and their strategic marketing will contribute to attract more investors by helping them to undertake decision-making processes. Especially smaller companies will benefit from this type of value adding as they often do not have the capabilities to execute extensive and long-lasting due diligence prior to enter a new potential market.

In Mongolia, before 1990, enormous funds have been invested into the geological investigation of the country. After 1990, national and international mining companies have benefited from these investigations and contributed to the further growth of the geological knowledge. The broader use of this potential will substantially contribute to develop a strong mining industry as an important backbone of the Mongolian economy.

The paper discusses the structure and strategy of national geo-databases, the implementation methodology of mineral predictive maps by use of advangeo artificial intelligence software and the publication of data and services as important preconditions for investment attraction.

Speaker Biography:

Name: Dr Andreas Barth

Date, place of birth: 29th April 1956, city of Plauen, Germany

Education:

1974 – 1979: study at the Moscow State Lomonosov University,
Diploma of geology / geochemistry: "The thermodynamic properties of Topaz and conditions of its formation".
1986: PhD: "The hydrothermal-metasomatic Zn-mineralisations of the platform cover of the Habban – Mukalla area (Yemen): geology, tectonics, metallogeny, genesis, prospecting criteria"

Employment record:

1979-1980: Geologische Forschung und Erkundung: Exploration of different Sn – deposits in the Ore Mountains, Germany – Geologist
1981-1982: Geologische Forschung und Erkundung: Preparation of the 2nd Boroo Expedition, Mongolia. Geologist.
1982 – 1987: Board of Petroleum and Minerals, Yemen: Mapping and prospecting of the Habban – Mukalla area, responsible for geochemical exploration, economic geology and metallogeny. Geologist, Team leader.
1986: Joint Mongolian-German geological expedition, Boroo, Mongolia: Review of the Au-placer exploration methodology. Geologist
1988-1989: Geologische Forschung und Erkundung: Exploration of the Sn deposit Zinnwald, Germany. Chief geologist
1989 – 1990: Exploration of the Boroo gold deposit. Mongolia. Deputy chief geologist
1991 – 1993: GEOS Freiberg Ingenieurgesellschaft mbH. Project manager, mineral exploration and environmental projects
Since 1994: Managing Director of Beak Consultants GmbH, Germany. Execution of geological, mineral and database / GIS projects in South America, Europe, Africa and Asia:
- Geological mapping, prospecting and exploration e.g. in Bolivia, Europe, Africa and Mongolia: Sn, Au, polymetals, aggregates
- Planning and implementation of national and international Geodatabases, e.g. Kosovo, Namibia, Uganda, Ghana, Algeria, Yemen, Albania, Germany
- Land use management, conflict analysis and environmental projects related to the mining industry
- Development of advangeo: an innovative artificial intelligence based approach for the creation of predictive maps (e.g. minerals and geo-hazards)

Company Information

Beak Consultants GmbH is a modern and fully integrated, innovative service enterprise.

Being founded in 1965 by Thomas Beak in Canada as small private consultancy, the company has developed towards an international consulting business engaged in the spheres of mineral exploration, applied geology, environment and information technology. The German branch was implemented in 1993. In 2003, after a restructuring of Beak Consultants International, the company has moved from Canada to Germany.

Today, Beak is working in Europe, Africa, Asia, and South America for both private and public customers. Typical activities are mineral project due diligence, licensing and permitting, prospecting and exploration, hydrogeology, environmental risk assessment, remediation of contaminated sites, land use planning, mineral resource management, geo-hazards analysis, development of national geo-databases, data processing, software development, and consulting to national authorities.

Beak key staff has experience in Mongolia since 1978 being engaged in the exploration of the Salchit Zn and the Boroo Au deposit.