



Republic of Botswana

BOTSWANA MINERAL INVESTMENT PROMOTION -2008



1. Background

The exploitation of the country's mineral resources has been a key factor of the development of Botswana since independence in 1966. Botswana is best known for its diamond mines, although the Selebi-Phikwe copper nickel deposit has also been exploited since the 1970s.

The Government of Botswana's main objective for the minerals sector is to continue getting the maximised economic benefits from the sector for the nation while enabling private investors to earn competitive returns. Government policy encourages prospecting and new mine development, and it promotes opportunities for linkages to the rest of the economy to expand value-added activities, especially through downstream processing of minerals, where this is commercially viable. The fiscal, legal and policy framework for mineral exploration, mining and mineral processing in Botswana is continuously being reviewed from time to time to make it more competitive, with the most notable changes being the amendment of Mines and Minerals Act in 1999 and the Income Tax Act in 2006.

Initiatives already taken by the Government towards this objectives includes

- the enactment in 1999 of a new mining code that streamlines licensing and enhances security of tenure,
- the reduction of the fiscal burden on marginally economic mines,
- the reform of procedures within the Ministry of Minerals, Energy and Water Resources (MMEWR),
- investment in new facilities for storing and inspection of technical data on mineral prospectively, including samples and cores, and
- the development of a fully-integrated National Integrated Geo-Science Information System (NIGIS) for titles and data management.

2. MINERAL INVESTMENT CLIMATE

The Mines and Mineral Act of 1999 is a modern mining law which is comparable to some of the better mineral legislation around the world. The mining business is a competitive one and this mining code provides the following assurances;

- Secure title to mining rights; an exploration company has a firm rights to progress through the entire cycle from prospection through exploration, pre-feasibility, feasibility, development to production and the conditions to be fulfilled are clearly legislated. These rights are even protected to up to 6 years if the project is not profitable by way of providing a retention licence.
- Satisfactory Fiscal Regime; Variable Income tax rate which is based on project profitability and 100% capital redemption.
- Stability of Fiscal Regime
- Foreign Exchange Retention
- Right to Assign



- Right to Market Mine Product(s)
- Stability in Environmental Management legislation which is in line with international standards to assist investors in raising funds through international financial institutions.
- Free repatriation of profits
- International Arbitration of disputes
- Freedom of Commercial Operation

3. Mining Code

All mineral rights in Botswana are vested in the state and it is the Minister of Minerals, Energy and Water resources (MMEWR) who should ensure, in the public interest, that the mineral resources of the republic are investigated and exploited in the most efficient, beneficial and timely manner. This is done by ensuring the rule of law prevails and investors are treated fairly through development and implementation of the fiscal and legal policy framework for mineral development which aims at making Botswana's minerals sector to be more competitive and attractive to investors. The new Mines and Minerals Act was favorably received by industry and it compares well with other modern mineral legislation elsewhere meeting investor concerns on issues such as security of tenure; a legislated fiscal regime that is stable, progressive and lessens the burden on marginal mines; clear and streamlined licensing procedures, and environmental obligations that relate to international best practice.

Major highlights in the mining code are as follows;

- The abolition of the government's right to a fifteen per cent free equity participation in all new mining projects, replaced by an option to acquire up to a fifteen per cent working interest participation in proposed mine on mutually-agreed commercial terms and government shall be obliged in the same manner as other shareholders to contribute working interest.
- A downward revision of royalty rates payable on the sale of all minerals or mineral products from five per cent to three per cent, with the exception of precious stones and precious metals, which remain at ten per cent and five per cent respectively
- The introduction of new variable rate income tax formula, applicable to all non-diamond mining operations, diamond being strategic mineral to the economy of Botswana, diamond mining licences are negotiated, in good faith, between Government and the applicant covering all technical, financial and commercial aspects of the proposed project including Government participation.
- The grant, renewal and transfer of mineral licenses have been simplified, to make the process more predictable and transparent, thereby improving security of tenure of mineral concessions holders in Botswana.
- Restrictions on the transfer of mineral concessions have been liberalized



- The introduction of a new type of mineral concession, the retention license (RL), allowing an investor that has completed an exploration programme and confirmed the discovery of a mineral deposit to retain rights over it for renewable periods, should prevailing market conditions make immediate exploitation of the deposit un-economic.

Types of licences

Prospecting License

- The applicant must have access to or have adequate financial resources, technical competence and experience to carry out an effective operation(s)
- A prospecting license is valid for such period up to 3 years with 2 renewals each not exceeding 2 years. Some ground is relinquished from the prospecting area at the end of each period of the renewal. The prospecting area is reduced by half at the end of each renewal of a prospecting licence or at lower proportion as the Minister may agree.

Retention License

- A holder of a prospecting license may apply for a Retention license in relation to an area and a mineral covered by his license after carrying out a feasibility study in respect of the deposit and the study has established that the deposit cannot be mined on a profitable basis at the time of the application.
- A retention license shall be valid for such period not exceed three (3) years, renewable only once, at any time not later than three (3) months before the date of expiry.
- During the renewal period third parties can be authorized upon request to have access to the area for the purpose of collecting samples and data required for the purpose of applying for a mining licence.

Mining Licence

- A holder of a prospecting license, retention license, or a waiver may apply for a mining license.
- A mining license shall be valid for such period not exceed 25 years as is reasonable required to carry out the mining programme, with unlimited renew periods not exceeding 25 years as is reasonable required to carry out the mining programme.

Mineral Permits



- For scale mining operations for over an area not exceeding 0.5 km² per permit ("*small scale mining*" means the intentional winning of minerals other than diamonds in operations involving the mining and processing of less than 50 000 tonnes of raw ore per annum and in which the overall investment in fixed assets does not exceed P1 million).

4. Fiscal Regime

The Fiscal Regime for Mining in Summary	
Mineral Royalty Rates	10% for precious stones; 5% for precious metals & 3% for other minerals, all calculated from the gross market value of mineral sales at the "Mine gate"
Variable Income Tax Rate (VITR),	The higher of the standard company rate (25%) or the tax rate derived from the formula 70-1500/x, where x (%) = taxable income/gross income. (VITR is for non diamonds minerals, diamond tax regime is negotiated and VITR can be applied if there is an agreement)
Capital allowances	100% depreciation of capital expenditures
Allowable losses	Unlimited carry forward of tax losses
Dividend Withholding Tax	15% on distribution to residents and non-resident shareholders
Import Duty	Mining equipment and spares are zero-rated, otherwise duties are payable
Value Added Tax	10% applies to all but zero-rated items, which includes exports of minerals. VAT refunds are available upon re-export of items within six months of being brought into the country
Taxation for Downstream procession (cutting, polishing and refining of minerals)	15 % tax rate (basic rate of 5% and an additional company tax rate of 10%)

5. GEOLOGY

(a). Regional Geology

Despite the considerable geographic spread and occasional unusual thickness of geologically recent overburden, new data is confirming the view that Botswana's geological framework is characterised by considerable diversity and complexity.



Botswana contains significant elements of the major tectonic, magmatic, metamorphic and sedimentary terranes present in the Southern African sub-continent. The geological record spans from the Archaean to Recent and with the exception of some major batholiths, virtually all the rocks within Botswana have continuity or correlatives with those in neighbouring countries. The geological evolution of Botswana is consistent with the emergence of an Archaean cratonic nucleus which provided the locus of subsequent cratonisation and platform events. The continental nuclei stabilised during the Archaean through a series of complex tectonic, magmatic, sedimentary and metamorphic episodes. Subsequently circum-cratonic mobile belt activity followed at various intervals and locations during the Proterozoic to the Palaeozoic and gradually extended the size of the cratonised continental mass. Major sedimentation took place at the beginning of the Proterozoic.

In the Mesozoic further deposition of sediments took place. Widespread tectonics and vast outpouring of continental basaltic magma also occurred. The Zimbabwean and Kaapvaal Cratons are characterised by granite/greenstone terrains of 3.5-2.6Ga and 3.5-2.9Ga respectively. They are separated by the Limpopo Mobile Belt, which comprises high-grade para and meta-gneisses of diverse origins. The oldest rocks in the belt are dated at 3.8Ga and granitisation associated with tectono-thermal events was widespread at 2.6Ga. Seismic data indicates that the western edge of the Kaapvaal Craton has been rifted and attenuated along a distinct linear fracture referred to as the Kalahari Line.

Notwithstanding the interpreted deep crustal structure, surface geological and other geophysical evidence supports the evolution of the Kheis and Magondi Belts by thin-skin fold-and-thrust belts transposed eastward and southeastward onto the craton. The Damara Province completes the sequences of orogenic belts concentric to the Zimbabwe and the Kaapvaal Cratons. Relict Archaean lithologies are thought to be present in these belts, along with platform supracrustal associations and granitoids.

Several important early to mid-Proterozoic supracrustal sequences occur in southeastern Botswana. Chemical and clastic sediments of the Transvaal Supergroup are intruded by the Molopo Farms Complex, which has been compared to the Bushveld Complex in South Africa.

Clastic continental sediments of mid-Proterozoic age were deposited in parts of eastern Botswana. The Karoo Supergroup was deposited from 200-300Ma and was associated with extensive volcanism.

(b). Metallogenic Epochs

Several important metallogenic epochs occurred during the geological evolution of Botswana. The Zimbabwe craton hosts gold, nickel, copper, lead and zinc mineralisation whereas the Limpopo Mobile Belt contains copper, nickel and minor occurrences of precious and other base metals. The Transvaal Supergroup contains manganese, iron and



asbestos. The Molopo Farms Complex has been explored for platinum group metals and chromite. The Kheis and the Magondi Orogenic Belts host considerable amounts of copper, lead, zinc, silver and minor gold mineralisation. Deep sedimentary basins found within the Damara Province are thought to be potential hydrocarbon traps. The Karoo Super group has major deposits of coal in the region and diamondiferous rocks, including lamprolites, were emplaced into the Super group. The Makgadikgadi Basin, a relatively young geological feature, has vast deposits of soda ash and salt.

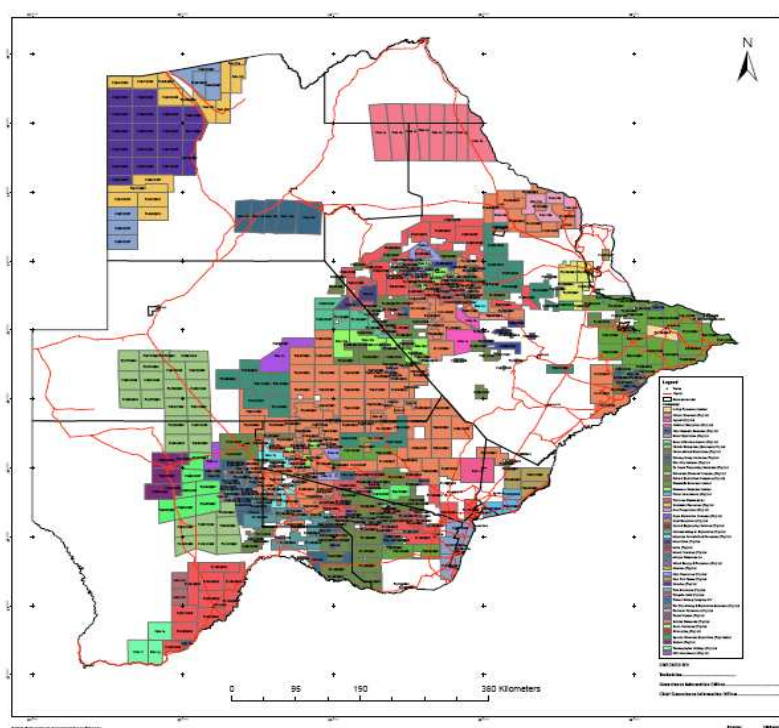
The mineral wealth of southern Africa is well documented and it is therefore possible to assess the mineral potential of Botswana by analogy with similar, better-known, geological terrains in adjacent countries. Some of Botswana's presently known mineral occurrences can be compared to those in neighbouring states. Others, like the Selebi-Phikwe nickel-copper deposits and the Sua Pan brines, may be unique. The mineral potential of Botswana is based on interpretation of known and interpreted geology and mineral occurrences, and extrapolation of mineral potential from occurrences outside Botswana.

6. MINERAL DEPOSITS

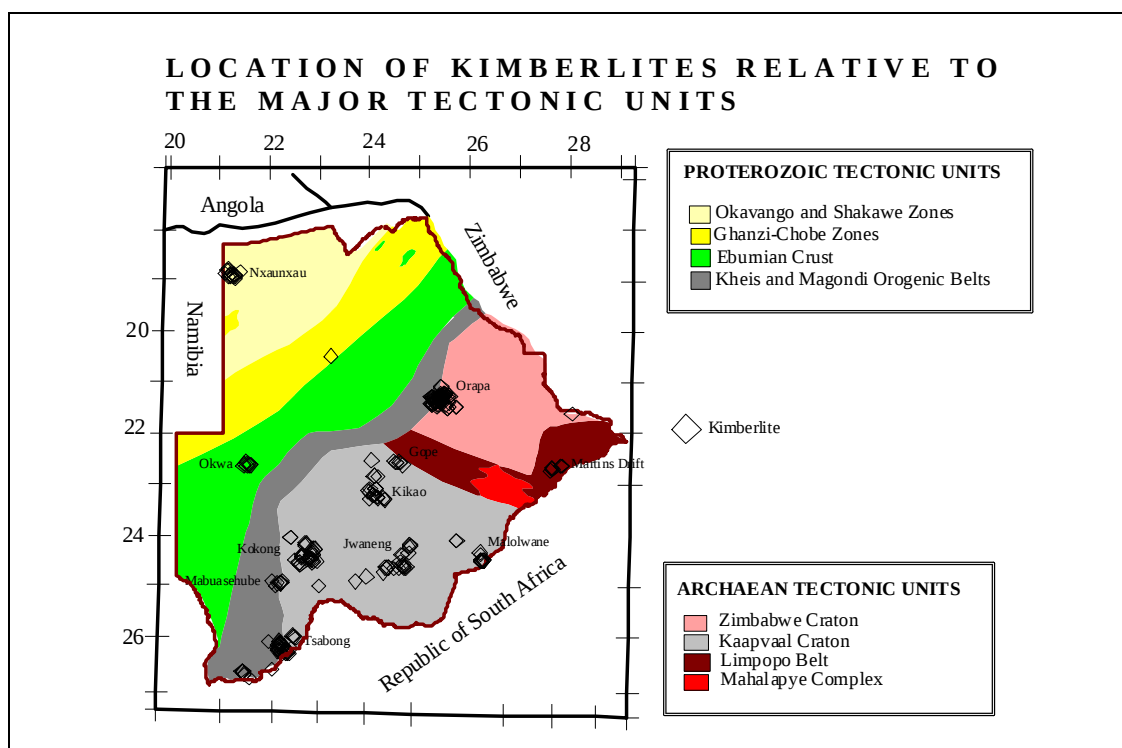
Botswana is the world's leading producer of gem quality diamonds, consistently producing between 30 to some 34 million carats (Mct) between 2003 to 2007. The mining sector during 2006/07 accounted for 75% of national export earnings, 42% of GDP and 48% of Government revenues, mainly in the form of taxes, and dividends from diamonds. Besides diamonds, Botswana also produces coal, soda ash, copper-nickel matte and gold. Other occurrences have been identified, including agates, antimony, silver and chromite.

(a). Diamonds

Diamonds accounted for 53% (473 licences operated by 29 companies) of all prospecting licences issued in Botswana as at June 2008, although the government is trying to diversify the focus of minerals exploration in the country. Diamond exploration continues in Botswana with numerous local and foreign companies carrying out various phases of exploration. Due to the extensive Kalahari sand cover (and Karoo basalts underneath), sophisticated and innovative sampling and geophysical techniques are required to locate undiscovered kimberlites. In general most of Botswana is prospective for kimberlite discovery, and based on discoveries and mining operations to date, the potential for the discovery of diamondiferous kimberlites is high. Extensive areas of diamond exploration tenements cover most of central Botswana, and many overseas companies are involved in the search. Prospecting for diamonds is continuing throughout the country, both by the Government and the private sector.



Distribution of prospecting licences as at June 2008





Over the last forty to fifty years, diamond exploration has revealed about a dozen kimberlite clusters, containing about 150 individual kimberlite pipes and the discovery of three world class, open-pit diamond kimberlite mines at *Orapa*, *Letlhakane* and *Jwaneng*, currently mined by Debswana Diamond Company (50% joint venture between Botswana Government and De Beers). The first recorded diamonds discovery was made in 1955, first production started in 1971 at Orapa, followed by Letlhakane in 1977, Jwaneng in 1982, Tswapong mine in 1997 and closed in 2001, Damtshaa in 2002, and Lerala Mine (former Tswapong mine) in 2008.

Lerala Mine was commissioned during the second Quarter of 2008 near *Martins Drift*, close to the border with South Africa, by DiamonEx Botswana, a subsidiary of DiamonEx Limited listed Australian Stock exchange and Botswana Stock exchange. The project is expected to produce 300,000 carats per annum at full production with a life of mine of about 10 years.

Other prospects include the AK06 kimberlite deposit (near Letlhakane mine) owned by Boteti Exploration company a joint venture between De Beers (Botswana), African Diamonds and Dewat is expected to produce about 11 million carats in 10 years. Gope Exploration, a 100% subsidiary of Gem Diamonds also at an advanced stage of finalising feasibility studies and it is expected to produce about 1 million carats per annum over 15 years.

Botswana is a participant member in the Kimberley Process Certification scheme (KPC), the association of governments of diamond-producing and importing countries, commercial diamond firms, pan-industry associations and non-governmental organisations (NGOs), which has implemented a certification system for the international trade in rough diamonds, designed to prevent so-called "blood" or "conflict" diamonds from being shipped through legitimate trading channels. Botswana successfully chaired the KPC in 2006.

In the diamond sector, however, in March 2008 Diamond Trading Company Botswana (DTCB) was launched to sort, value, market and distribute aggregated diamonds in Botswana. This move is intended to act as an anchor business for the development and nurturing of a fledgling secondary diamond industry in the country. Plans are well afoot to install an aggregation facility in the DTCB building. This means mixing diamonds from different mines and countries like to like. This additional activity will further strengthen the position of Botswana as a meaningful player in the world diamond industry. The DTCB as at July 2008 has run three local sales or sights successfully. By the end of 2009, it is expected that diamonds worth US\$550 million will be polished locally, creating in excess of direct 3000 jobs from the sixteen (16) diamond cutting and polishing factories have been set up. These factories already have an excess of 2 700 employees compared to only 600 in 2004. In April 2008, a Diamond Hub was established to drive this process and ensure its success. The Diamond Hub will work towards building, strengthening, regulating and monitoring the secondary diamond industry.



Which include rough and polished diamonds trading centre, diamond cutting and polishing centre, diamond set jewelry manufacture, and diamond ancillary services.

(b). Copper-Nickel

After diamonds, Botswana's most important mineral product is copper-nickel matte produced at the long-established BCL Mine and smelter in Selebi-Phikwe east of the country. The mine's profitability fluctuates in line with international metal prices.

Tati Nickel Mining Co (TNMC) owned by Norilsk Nickel (85%) and Botswana Government (15%), also exploits the nearby Phoenix and Silkirk copper-nickel deposit and sends its concentrate for toll-smelting at Selebi-Phikwe. Matte produced by the BCL smelter is refined in Norway.

Several discoveries of high-grade copper were made at **Thakadu**, **Makala** and **Bushman** in the Matsitama Schist Belt, in the 20th Century, with the most recent exploration work done by BCL between 1957 and 1974 and Falconbridge between 1977 and 1989. Both companies abandoned the mineral prospect because it was not profitable mine at copper prices around US\$ 0.90/lb to the west of Francistown. Mining activity at Dukwe (old Bushmen mine) is being developed by Messina Copper a subsidiary of African Copper plc (listed in Botswana stock, Toronto and London Stock exchange)

Discovery Metal of Australia has compiled an extensive database of historical exploration work on the **Maun Project** showing a current mineral resource of 49.1 Mt @ 1.2% Cu equivalent. Discovery Metal also has exploration data for nickel in Dikoloti areas showing current inferred mineral resources of 4.7 Mt @ 0.7% Nickel, 0.5% Cu & 1.5 g/t PGE's.

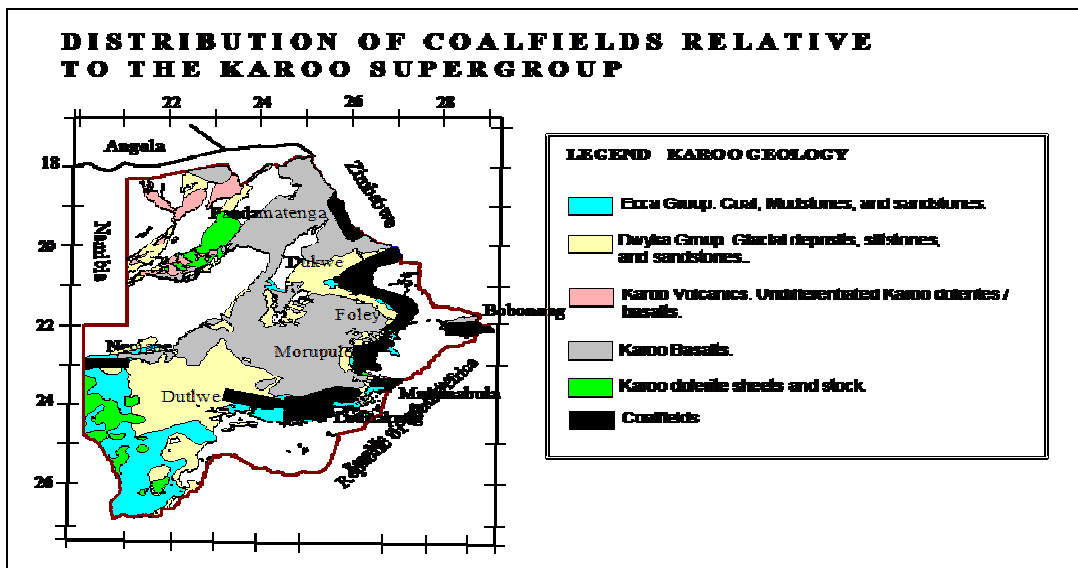
(c). Coal

Botswana has large untapped reserves of semi-bituminous coal but the sole mining operation is the Morupule Colliery in eastern Botswana, which produces just under one million tonnes per year. This coal mainly supplies the Morupule thermal power station operated by the Botswana Power Corporation (BPC), BCL and Botswana Ash (BOTASH). Botswana is endowed with vast coal resources of about 212 billion tonnes, which up to now have not been fully exploited. Interest on these deposits has been concentrated on the Morupule, Mmamabula and Mojabana / Kgaswe coalfields. These are all thermal coals for direct feeding to a power generating station or that can be washed and sold onto the international steam coal markets.



The regional (SADC) imbalance in the supply and demand for electricity is projected for the period 2007 to 2010. This presents opportunities for the development of a mine to feed a coal-fired power generating station from coal on the Mmamabula coalfield. The impending electricity deficit has also motivated the local electricity supplier, the Botswana Power Corporation, to embark on an expansion project aimed at increasing the power generation capacity at Morupule Power which will lead to an expansion of production capacity of Morupule Colliery from the current 1 million tonnes to an estimated 2.6 million tonnes of coal per annum.

Botswana's major coalfields at Morupule, Mojabana / Kgaswe and Mmamabula are in close proximity to the existing rail and power line infrastructure. The Morupule coalfield is already linked to the main railway line by a rail spur; the Kgaswe coalfield near Serowe is about 40 km from the railway line, while at Mmamabula, the railway line cuts through the western part of this coalfield. Mmamabula is earmarked for development by Independent Power Producers for export power station and an export coal-mine. The deposit is suitable for export coal and power for two reasons. Firstly, electricity from a future power station could be fed into the South African grid some 60 km away at Ellisras. Secondly, the Mmamabula coalfield straddles the border between Botswana and South Africa and is known as the Waterberg in South Africa. An export mine on this deposit would therefore be some 60 km from the rail infrastructure in South Africa. This is the same rail system that is used to export coal from ISCOR's Grootegeluk mine near Ellisras in the Limpopo province to international steam coal markets. A railway line linking Mmamabula to the South African line at Ellisras would present opportunities for exporting Mmamabula coal to world steam coal markets.



(d). Soda Ash and Salt

The Sua Pan project, commissioned in 1991, has been extracting salt and soda ash from concentrated brine. The brine reserves (estimated at 16Mm³) are found in the Sua Pan,



which covers an area of 3500km² in the northeast of the country. As a consequence of poor demand for soda ash and salt in southern Africa in the late nineties, the Sua Pan plant had been operating below capacity, producing 195,000t/y (full capacity 300,000t/y), and 214,000t/y (full capacity 650,000t/y) soda ash and salt respectively. However, since the turn of the century, production has been on the increase, reaching 282,000t (soda ash) and 260,000t (salt) respectively in 2005. Investment opportunities exist in beneficiating the soda ash by way of manufacturing usable products like the down stream arise from the glass manufacturing and chemical industry.

(e). Exploration Potential and Opportunities

Ever since the discovery of diamonds, copper and nickel deposits, exploration activity in Botswana has generally been on the increase. Sustaining factors are the country's attractive geology, the discovery of massive mineral deposits, the availability of reasonable up-to-date and easily accessible geological data compiled by the Geological Survey Department, as well as investor friendly mineral legislation.

Exploration expenditure has reflected the state of markets for the various minerals for which Botswana is prospective. Unexploited mineral resources include asbestos, chromite, feldspar, graphite, gypsum and iron, many of which are located in remote areas and/or beneath a thick sequence of Kalahari sands. Considerable opportunities also exist for coal and manganese, as well as gold in the Francistown area.

Publications

Publications from the Department of Geological Survey include a series of geological maps and accompanying texts, regular periodicals and monographs. The following reports are available:

- Annual reports including mineral concessions maps (1964-present).
- Records of the Geological Survey.
- Mineral resources reports.
- Annotated bibliography and index of the geology of Botswana.
- Bulletins.
- District memoirs.
- Hydrogeological reports.

The Department of Geological Survey has a geological database (including digital geophysical data) on Botswana, which is readily available to potential investors.

Mapping

Almost the entire country has been geologically mapped at various scales. Some of the information is summarised below

- Geological maps covering the entire country at scales of 1:125,000; 1:250,000; 1:1,000,000; and 1:2,000,000.



- Airborne electromagnetic and magnetic survey maps covering the Magogaphate area in eastern Botswana at scale of 1:25,000 (1989).
- Airborne electromagnetic survey maps of Eastern Botswana at scale 1:125,000 (1986).
- Aeromagnetic survey maps of the entire country at scale 1:500,000 (1977).
- Aeromagnetic colour contour maps at 1:1,000,000, and the magnetic anomaly maps of eastern Botswana at 1:1,000,000.
- Gravity and Seismic survey maps covering different parts of the country have also been compiled and published at various scales from 1:1,000,000 to 1:25,000.

Ongoing Activities at the Department of Geological Survey include:

- Regional mapping projects (Magogaphate, Matsitama-Mosetse, Ghanzi, Topisi etc.).
- Urban mapping (Lobatse).
- Thematic studies (in collaboration with the Commission for The Geological Map of the World).
- Review of industrial minerals in the Dukwe-Matsitama and Selebi-Phikwe areas.
- National gravity data collection.
- Aeromagnetic data reprocessing and interpretation.

Institutions

The Ministry of Mineral Resources and Water Resources consists of five departments and two divisions: Department of Water Affairs, Department of Mines, Department of Geological Survey, Department of Ministry Management, Minerals Affairs Division and the Energy Division. The role of this ministry is to promote, regulate and assist as well as collect, synthesise and disseminate mining and mineral related information.



Useful Contacts

Ministry of Minerals, Energy, and Water Affairs

PO Box 0018, Khama Crescent,, Gaborone, Botswana

Tel: +267-365-6600

Fax: +267-372-738

Department of Mines

PO Box 0049, Gaborone, Botswana

Tel: +267-365-7000

Fax: +267-3952141

www.mines.gov.bw

Geological Survey Department

Private Bag 0014, Lobatse, Botswana

Tel: +267-332-495/330-327 / Fax: +267-332-013

www.geoscience.gov.bw

Energy Affairs Division

Private Bag 00378, Gaborone, Botswana

Tel: +267-314-221

Fax: +267-314-201