Botswana Geoscience Institute

Excellence in Geoscience

PROSPECTIVITY

2022 ANNUAL REPORT

REPORT COVER CREATIVE RATIONALE

Layered Sedimentary Rock

+

Contour Lines

=

Final Cover

ABOUT THIS REPORT

THEME: PROSPECTIVITY

As we re-imagine the future of Geoscience Research in Botswana through our 2023-28 Strategic Business Plan, our focus is to influence Botswana's favourable ranking on the Best Practice Mineral Potential Index – BPMPI, from 30% in 2021 to 70% in 2028.

This is an integrated business Annual Report of Botswana Geoscience Institute (BGI) that aims to provide concise, relevant and reliable information addressing the Institute's mandate, objectives and activities. The Report also provides a detailed Audited Financial Statements of BGI for the Financial Year 2021/22.

This Annual Report, like those produced in previous years, is published pursuant to Section 31 of the Botswana Geoscience Institute Act 2014.

The online version of this Annual Report is available to provide the convenience of accessibility and cater for readership preference to BGI wider stakeholder network, nationally and across the globe.

Contact details

Feedback, comments and questions on the content of this Annual Report can be addressed to the contacts below:

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REPORT COVER CREATIVE RATIONALE

Cover Design

This Annual Report cover is inspired by the **layered sedimentary rock** depicting depositional stratigraphy with distinctive bedding of typical sedimentary facies. These layers reflect compositional and textural variations resulting from the paleo-environment of deposition. The stratigraphic sequence also reflects changing or different energy levels of fluvial systems especially when there are various episodes of depositional cycles.

Contour lines are generally used in geology to connect points of equal data. They are included in the cover concept to signify areas of study by Geoscientists.

Report Colours

Brown is the principal earthy colour and is presented in different tones and resembles BGI working spectrum.

The earth tone colour schemes come from natural elements of BGI working space such as baseline exploration and preservation of natural resources.

Blue, just like the serene Okavango Delta, inspires a sense of calmness and represents water-specifically in the form of rain as it is a precious resource in Botswana, which our fortunes as a country were built on.

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ABOUT

BOTSWANA GEOSCIENCE INSTITUTE

Botswana Geoscience Institute – (BGI) was established to innovatively apply science and technology to understand the earth for the greater benefit of Botswana and its citizens and broaden the nation's economic base along the mineral sector. The Institute is mandated to undertake research in the field of geosciences, provide specialised geoscientific services and advice in all matters of geoscience and geohazards. The Institute is also responsible for promoting the search for, and exploration of any mineral in Botswana and it is a custodian of all geoscience information.

The Institute Mandate is detailed in the Botswana Geoscience Institute Act, 2014 and is operationalised through a five (5) Year (2018 - 2023) Strategic Plan adopted in 2018 and revised in March 2020. The BGI mandate is entirely linked to the country's national development goals and strategic imperatives.

The establishment of BGI has presented Botswana with a unique opportunity to set up a geoscience organisation that can meet the needs of its stakeholders and customers. BGI therefore is projected to become a trusted adviser in all matters of geoscience in Botswana. This Institute is expected to achieve this by applying diverse professional expertise, historical and tested knowledge, nationwide earth observation infrastructure and strong partnerships and collaborations globally.

In line with Botswana Government's policy and intent to lure investors to Botswana and thereby increase foreign direct investment, BGI is expected to open avenues for collaboration in research and mineral discovery and the overall sustainable development of Botswana's mineral sector and related activities such as the monitoring of geohazards.

OUR VISION AND MISSION

VISION
To be a renowned Geoscience Centre

MISSION
We create economic value through advancing, promoting and disseminating geoscientific knowledge for the benefit of Botswana and our global partners

VALUES

We are **reliable** custodians of Geoscience information

We promote market-oriented and **innovative** products and services

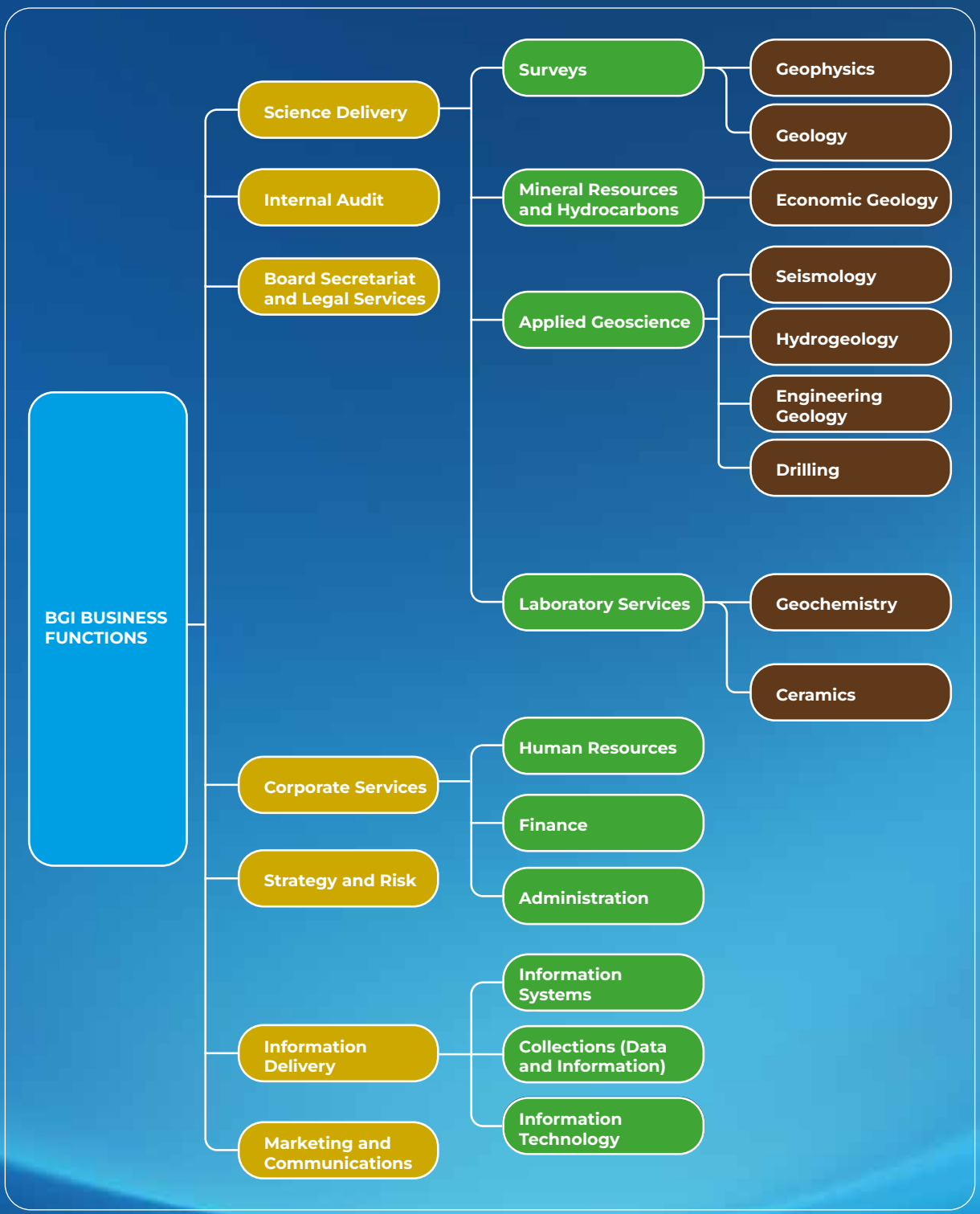
We espouse **professionalism**

We create a conducive environment that promotes absolute **integrity**

BRAND PURPOSE

Our purpose, expressed in our mantra, Excellence in Geoscience" expresses our determination to surpass expected levels of distinction in our practice of geoscience research.

BUSINESS STRUCTURE



PRACTICE OF GEOSCIENCE RESEARCH IN BOTSWANA

NOTABLE MILESTONES

Introduction

As the Institute pursues the renaissance of the practice of geoscience research in Botswana, primarily to improve efficiencies and advance Botswana mineral prospectivity, keeping note of the foundations of the geological survey during the protectorate era to modern-day Botswana remains essential.

Pre-independence era, the Geological Survey essentially covered the groundwater investigations and mapping of the country's geology. Improved use of technology in the late 1950s led to the first proper topographic surveys which in turn enabled systematic geological mapping.

The first phase of coal exploration by the Geological Survey ran from 1950 to 1963. The Morupule, Kgaswe and Mmamabula deposits are all a result of this Geological Survey work. The target was steam coal for the railways.

The post-Independence era ushered in discoveries of base metals and diamonds which put Botswana high on the list of priorities for several mining companies. Though the eastern part of the country was well-mapped, the potential of other parts of the country remained unknown.

Since the establishment of BGI, the focus shifted to increasing mineral discoveries and promoting investment in Botswana's mineral sector. This was done by adopting a Strategic Business Plan for the period 2018 to 2023, whose performance highlights are part of this Annual Report, (page 8-9)

This focus will be pursued and heightened through the 2023-2028 Strategic Business Plan aimed at promoting prospectivity of the country.

PRACTICE OF GEOSCIENCE RESEARCH IN BOTSWANA - NOTABLE MILESTONES

1943-2014 - THE MEMORABLE YEARS

The establishment of Botswana Geoscience Institute (BGI) is a result of decades of pioneering geological survey and exploration. Since 1943, the Government of Botswana, from its protectorate era, constantly adapted to keep up with the economic and social demands of its people.

Botswana Geoscience Institute's forebear, the Department of Geological Survey (DGS), established the practice of geological mapping and exploration until 2014 when it was discontinued to allow for the establishment of BGI, with a view to improve efficiencies and contribute to applied research, producing geoscience knowledge and providing technical and scientific expert analysis. BGI's focus today is to contribute workable solutions to meet 21st century socio-economic needs.

1943-1966 (Highlights)

- Investigations of groundwater commences during the Bechuanaland Protectorate era. This was the first work considered geological in nature, to address the nation's water needs and supply.
- The Department of Geological Survey and Mines was established in the Bechuanaland Protectorate based in Lobatse. The roles of DGS would include mineral exploration and geological mapping.
- The first phase of coal exploration started and led to discoveries of deposits at Morupule, Kgaswe and Mmamabula. The coal was intended to power steam train locomotives.

1967-1997 (Highlights)

- The post-Independence era ushered in discoveries of base metals and diamonds, which put Botswana high on the list of priorities for several mining companies. All these led to the discovery of diamonds and base metals in present-day Jwaneng and Selebi Phikwe respectively.
- The practice of geological survey was formally undertaken by the Department of Geological Survey and Mines under the Ministry of Commerce, Industry and Water Affairs.
- A multidisciplinary Kalatraverse Project was carried out to map a trip of land across the Kalahari Desert between the Orapa area and the Ghanzi Ridge.
- The Aeromagnetic Survey was completed in the Western part of Botswana and the national Gravity survey which led to the publishing of the second edition of the 1.1,000,000 national geological map in 1984.

1998-2014 (Highlights)

- Significant strides in geological mapping in the eastern part of Botswana and coloured 1:125,000 geological sheets with internal brief explanations and accompanying bulletins/ memoirs were achieved.
- Aero Magnetic surveys of eastern and western Botswana were flown at 4km and 1km line spacing and covered with high-resolution magnetic data at 200-250 meters line spacing.
- Molopo farms' economic geology project with the aim to reassess the base and precious metal potential begins.
- Until 2014 when BGI was formed, the practice of Geological Survey progressed and advanced with notable achievements in such areas as; geological mapping, geophysics, economic geology, hydrogeology, environmental geology, laboratory, drilling facilities and the establishment of the National Geoscience Information Centre (NGIC).
- Botswana Parliament passes Botswana Geoscience Institute Act in 2014 leading to the commencement of a new organisation, BGI with a refined focus in 2016.

PRACTICE OF GEOSCIENCE RESEARCH IN BOTSWANA - NOTABLE MILESTONES (Cont.)

2014-2019 - A RENEWED FOCUS

The Origin

- Government of Botswana (GoB) appointed BGI's first Board of Directors. GoB also approved a transfer of the Department of Geological Survey assets to Botswana Geoscience Institute estimated at over P128,171,477 in fulfilment of Section 37 of BGI Act of 2014.
- Other key operations such as the Prospecting License function and hydrogeological monitoring were transferred to the Department of Mines and the Department of Water and Sanitation respectively.

The Turning Point

- The Board of Directors adopted the Institute's maiden five-year Corporate Strategy in 2018. This Strategy was reviewed in January 2020 as it is best practice and its final year of implementation being the current financial year of 2022-23.
- Though the Institute started off by pursuing the completion of projects initiated under the DGS era, refined initiatives under BGI such as digitisation and systems deployment and commencement of projects identified in the National Development Plan -NDP 11 (Interpretation of Aeromagnetic data of Northern Botswana and Development and implementation of the National Integrated Geoscience Information System (NIGIS) were pursued.
- This period saw an acceleration in human capacity development which involved registration and grading of BGI Geoscientists at international professional bodies such as the South African Qualifications Authority (SAQA), South African Council for National Science Professions (SACNASP) and Southern African Development Community Accreditation Services (SADCAS). The Institute also established the Research and Editorial Committee (ERC) to champion and quality assure BGI research projects outputs.
- The Institute is focused on creating a sustainable future through its partners, establishing processes and technological infrastructure necessary to expedite its mandate and sustainable growth. Significant milestones in the period of transition are a solid foundation to create value for the nation and partners.

2020-2022 - YEARS OF INSPIRATION

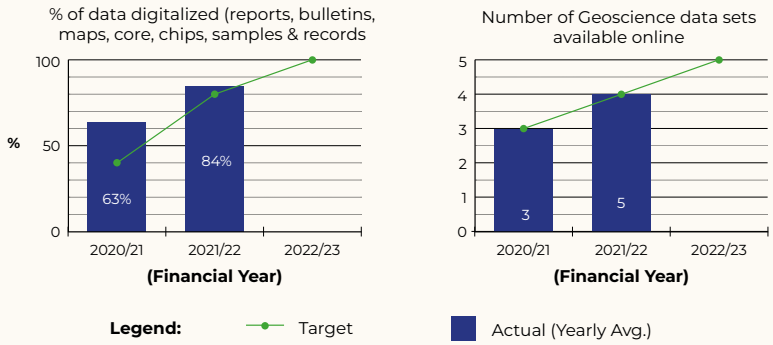
- In 2022, BGI revised its initial Corporate Strategy 2018-2023, to ensure it provides an effective way to allocate resources, reaffirm business expectations and improve the Institute's competitive position, as well as increase shareholder value.
- BGI established and launched its Branding Strategy which included the logo and other necessary elements. This logo icon has an internal acceptance value of 84.3% and represents BGI's agility as a transforming organization.
- The highlights of performance against this initial Strategy are cited below focusing on the financial years 2020/21 and 2021/22 and are a true inspiration to focus on the future.

PRACTICE OF GEOSCIENCE RESEARCH IN BOTSWANA - NOTABLE MILESTONES (Cont.)

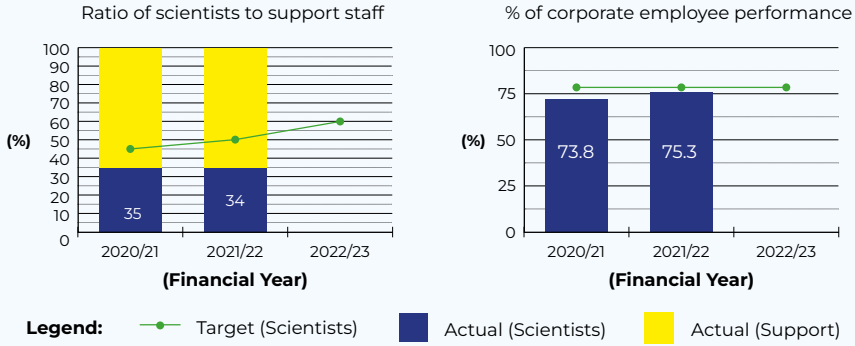
2020-2022 - YEARS OF INSPIRATION (Cont.)

Research Focus – Value-adding research outputs

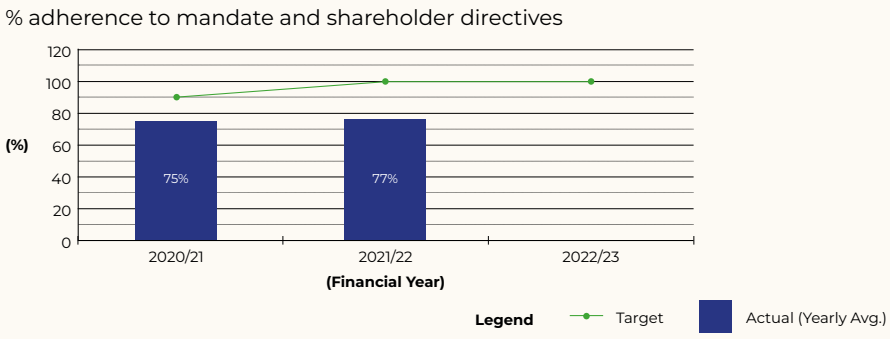
Technology Focus



Human Capital Focus



Operational Excellence



ACRONYMS

AFTAC	Air Force Technical Applications Centre
BGI	Botswana Geoscience Institute
BGI ERC	Botswana Geoscience Institute Research and Editorial Committee
BITRI	Botswana Institute of Technology Research and Innovation
BIUST	Botswana International University of Science and Technology
BOPEU	Botswana Public Employees Union
BSN	Botswana Seismological Network
DGS	Department of Geological Survey
EDD	Economic Diversification Drive
GoB	Government of Botswana
HPO	High performance organisation
IATA	International Air Transport Association
IMS	Institute of Mine Seismology
ISO	International Organization for Standardization
IRIS	Incorporated Research Institutions for Seismology
JOGMEC	Japan Oil, Gas and Metals National Corporation
LEA	Local Enterprise Authority
LIMS	Laboratory Information Management System
MTC	Management Tender Committee
NDP	National Development Plan
NGIC	National Geoscience Information Centre
NIGIS	National Integrated Geoscience Information System
ODR	Okavango Delta Region
OEMs	Original Equipment Manufacturers
OHMS	Open House Management Solutions
PGMs	Platinum Group Metals
QDS	Quarter Degree Sheets
QAQC	Quality assurance and Quality control
REE	Rare Earth Element
SADCAS	Southern African Development Community Accreditation Services
SEG	Society of Exploration Geophysics
SGCI	Science Granting Councils Initiative
TSPs	Tirelo Setshaba Participants
UB	University of Botswana
UZ	University of Zimbabwe

LISTS OF FIGURES AND TABLES

CHAIRPERSONS STATEMENT

Professor Motsoptse Phillip Modisi
CHAIRPERSON

INTRODUCTION

On behalf of the Board, I am delighted to present this Annual Report and Audited Annual Financial Statements for Financial year 2021/22 - another volatile year with uncertainties where the impact of COVID-19 was felt worldwide. Despite this, I am satisfied that the Institute delivered on its annual targets. Delays experienced in several areas across the business were adequately managed by creating plans to minimize the impact of any misfortunes.

CORPORATE GOVERNANCE

We welcome Mr. Thabo Balopi who was appointed by the Minister of Minerals and Energy to BGI Board of Directors for a period of four (4) years with effect from April 2021. This completes the statutory requirement of eight (8) non-executive BGI Board Members.

Mr Balopi was subsequently appointed to the Board Technical Committee in line with Section 19(5) of the BGI Act and in accordance with his expertise. Membership to other Board committees remained unchanged whereas the Board appointed Ms Chandapiwa Mogobe as Board Secretary on an acting basis.

A notable initiative by the Board was its decision to subject itself to **King IV™** Code on corporate governance to ensure alignment with the precepts of governance and accountability. **King IV™** builds on **King III™** which is recommended by Botswana Accountancy Oversight Authority (BAOA).

The Board examined each principle against BGI governance instruments and policies as a way of determining its conformance to corporate governance expectations and practices.

APPOINTMENT OF CEO

A major development during the year was the appointment of a new CEO, Mr. O.C. Mashabila who joins BGI from Debswana Mining Company (Orapa, Letlhakane and Damtshaa Diamond Mines). He takes over from BGI founding CEO, Mr. T.H. Ngwisanyi to whom we are very indebted. The Board welcomes Mr Mashabila with renewed prospects as the Institute refocuses to deliver on the shareholder's expectations.

RISK AND SAFETY

The Board recognizes that, for BGI to perform competitively in today's fast-evolving world and serve a diverse stakeholder network, requires competent, self-

CHAIRPERSONS STATEMENT (Cont.)

motivated people working safely together. The dawn of COVID-19 changed our focus on people's safety and welfare. We prioritised safety and managed risk to sustain business performance over the long term.

STRATEGY AND PERFORMANCE

In our effort to support the shareholders' Reset and Reclaim Agenda, high national interest projects such as digitalization of geoscience data and information and NDP 11 projects such as NIGIS and Interpretation of Aeromagnetic data of Northern Botswana were given priority.

We have facilitated quality data management through the completion of core modules of the NIGIS project and are on track to the completion the development of the Mining Cadastre in partnership with the Department of Mines. The Mining Cadastre organises land tenement and prospecting license data and reports. This is a notable milestone as it justifies our statutory role as a custodian of geoscience data and information.

The Interpretation of Aeromagnetic data of Northern Botswana is at 96.6% complete. Key deliverables such as the production of a number of maps and the economic geology assessment have been realised. The Final Report and the National Bulletin will be completed in the second quarter of the 2022/23 financial year. Other projects' performances are discussed in this Report.

PARTNERSHIPS/COLLABORATIONS

(Left to right) ***Mr. Koketso Jackson, BGI Manager, Minerals and hydrocarbons with Mr. Jeff L. Doebrich, Africa and Middle East Advisor, USGS at one of the mineral investment promotion events.***

We applaud all our strategic partners detailed in this Annual Report (Page 61). These partnerships are yielding remarkable results in our business. For instance, our partnership with JOGMEC which includes geological mapping of the South East Botswana project has resulted in new targets for mineral exploration. They funded Rare Earth Elements (REE) at the Semarule Project Phase II, and battery metals exploration. The Ministry of Communications, Knowledge and Technology has funded the REE projects in Domboshaba, Mahalapye, Kokong and Selebi Phikwe.

LOOKING AHEAD

FY 2022/23 marks the ending year of implementation of our initial Strategic Plan 2018-2023. The Board initiated a process to assess progress made and challenges. The review laid a foundation for refocusing our future to achieve the critical expectations of the shareholder, especially improving mineral prospectivity in the country. Botswana stands a chance to benefit from diligence in mineral prospecting and harnessing REE; including the possibility of wider coverage of undiscovered critical minerals.

FINANCE AND EXTERNAL AUDIT

We note the clean audit for our Financial Statements. Historical discrepancies such as assessment of residual values of property, plant and equipment, labelling of assets and application of accurate inventory valuation method have been adequately addressed.

As different national imperatives have continued to put a strain on the national budget, Board continued to urge Management to monitor the expenses and comply with the procurement plan. Staff costs in this financial year remain proportionately high and inadequate funding negatively affected some mission-critical obligations.

THANK YOU

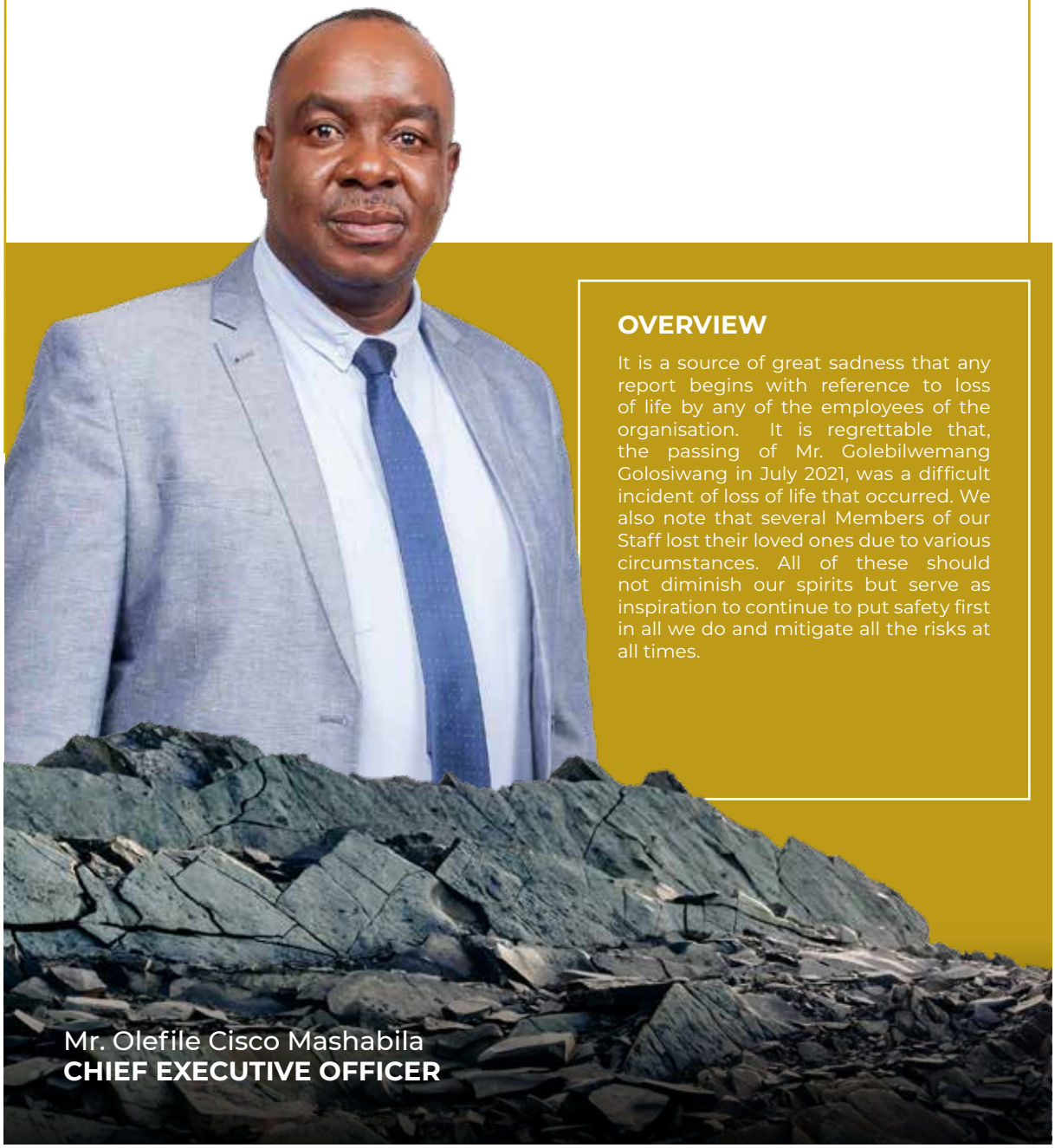
I take this opportunity to thank our shareholders and all our stakeholders for their support in progressing our strategic objectives. I also applaud my fellow board members for their leadership in guiding BGI's efforts and getting closer to attaining its vision.

To the BGI Management and employees, thank you for your commitment and dedication. You all worked tirelessly during a challenging period and managed to deliver our strategic commitments. Let us all remain focused as we go into the final lap of our maiden Strategic Plan.

PROFESSOR MOTSOPTSE PHILLIP MODISI

CHAIRPERSON
BGI Board of Directors

CHIEF EXECUTIVE OFFICER'S STATEMENT



Mr. Olefile Cisco Mashabila
CHIEF EXECUTIVE OFFICER

OVERVIEW

It is a source of great sadness that any report begins with reference to loss of life by any of the employees of the organisation. It is regrettable that, the passing of Mr. Golebilwemang Golosiwang in July 2021, was a difficult incident of loss of life that occurred. We also note that several Members of our Staff lost their loved ones due to various circumstances. All of these should not diminish our spirits but serve as inspiration to continue to put safety first in all we do and mitigate all the risks at all times.

OVERVIEW (Cont.)

I am excited to be part of BGI team that will make an impact by implementing the BGI mandate. I joined the Institute in September 2022 from the mining industry and was encouraged by the progress made. I am therefore thrilled to deliver my first Annual Report.

With the effects of COVID-19 putting strain on the psychosocial well-being, safety and the level of our performance, we managed to mitigate and safeguard the key asset, our employees. We put several controls to mitigate the risks associated with COVID-19.

RESEARCH

The financial year 2021/22 saw heightened activity across all our planned activities. Research projects aimed at promoting mineral exploration such as the **Interpretation of Aeromagnetic data of Northern**

CHIEF EXECUTIVE OFFICER'S STATEMENT (Cont.)

PERFORMANCE HIGHLIGHTS

Botswana delivered critical milestones in creating pre-computation data. Some of these outputs are hydrogeology interpretation; Groundwater Resources Map for both Kalahari and pre-Kalahari that are completed and remote sensing interpretation.

South East Mapping and Mineral Assessments, funded by JOGMEC have advanced significantly. The project has demonstrated the feasibility of a rapid method of revising geological maps using remote sensing and has achieved noteworthy outputs such as detailed geological maps, and new data generation which led to increased understanding and confidence in known mineral prospects as well as identifying new prospects that would require follow ups in future.

Exploration for REE - Shoshong is part of the program to search for critical mineral / REE in Botswana and is funded by the Ministry of Communications, Knowledge and Technology. Mineral targets in the Shoshong area were identified by the integration of historical data sets and information. Follow-up on targeted areas has shown potential for REE, uranium, lead, zinc and silver mineralization.

BGI Drilling team at one of the exploration sites

Exploration for REE – Semarule Phase II project is part of the program to search for critical minerals and REE in Botswana and is funded by JOGMEC. Geological mapping in the previous year indicated prospects for enrichment in REE. During FY 2021/22 geochemical follow-up through soil sampling, trenching and drilling was undertaken to confirm it as a prospect. Interpretation of results is ongoing and the first drill hole has intersected a carbonatite which is known for hosting REE.

Geotechnical Mapping of Gaborone and other major urban centres is an initiative carried out by BGI to advise the government on ground stability, building/construction design process inputs and recommendations. The mapping of the Gaborone area was completed during FY 2021/22.

Assessments of Cement Grade Calcretes Project carried out in collaboration with BITRI aims to assess the quality and quantify the shortage of cement in Botswana thus reducing the import bill.

Assessment and evaluation of cement grade limestone/ calcrete in Letlhakeng was completed in the financial year 2021/22 and a total of 84 boreholes were drilled on two (2) Blocks. The preliminary results from Letlhakeng calcrete deposit has 29.1 Mt of low-grade and 33.3 Mt high-grade cement raw material as per SABS. The deposit has a total resource of 62.4 Mt of cement raw material without considering geological factors that can reduce the tonnage.

Assessment of Shale deposits in Botswana was concluded and nine (9) deposits were identified as prospects for further exploitation. BGI has started the process of engaging critical stakeholders including the Local Enterprise Authority (LEA) to determine funding models and further de-risking of these projects for easy implementation and exploitation by Batswana at the community level.

National Mineral Accounts, provide statements of the mineral wealth of the country from baseline inputs for national development plans and policymaking. The Technical Report 2018/19 was completed and policy advice was given to the government.

Management of National Geohazards remains a critical area in our operations through a network of seismological monitoring (stations). Selebi-Phikwe Microseismic monitoring was expanded with a fourth station based on recommendations from previous years' activities.

The Laboratories were not spared from disruptions due to a lack of support from the Original Equipment Manufacturers (OEM's). This affected a number of projects. A positive note is the launch of the Laboratory Information Management System (LIMS). We also submitted quality management system documents to SADCAS for Laboratories accreditation and the accreditation exercise has started.

TECHNOLOGY

Online Systems and Platforms for data sharing have indicated benefits such as improved efficiency and effectiveness and process changes in addressing customer needs.

Botswana Geoscience Portal is an interactive platform that integrates all BGI data and is a GIS-based. It overlays different datasets from geology, geophysics, geochemistry, drill holes, seismic data, and publications.

LIBWIN Library Systems is a platform for managing Geoscience research Collections and Publications. It is a repository for consultants, geoscientific, Prospecting licenses and mineral resources reports, annotated bibliographies, bulletins, district memoirs, records of the geological survey, seismological bulletin series, multimedia, books, journals, etc.

CHIEF EXECUTIVE OFFICER'S STATEMENT (Cont.)

Borehole Information System (BIS) BOREHIVE presents all Borehole information which has been acquired from various sources including reports and records from prospecting and mining companies, farmers, Department of Water and Sanitation as well as Botswana Geoscience Institute.

Digitization of analogue data has improved service delivery in upscaling and uploading online data. The annual digitization target of 80% was exceeded.

NIGIS project also progressed within the agreed parameters and included the development of the Mining Cadastre module for administering prospecting licences.

HUMAN CAPACITY AND WELL-BEING

We had to adapt to blended ways of working amidst the pandemic to ensure business continuity through the Varied Work Schedules; working remotely, on shifts and flexible schedules. We saw the highest numbers of COVID infections, with time lost through quarantine and isolation.

We prioritised health and safety measures and focused on saving the BGI population; in line with the RESET Agenda. We intensified awareness and education on the pandemic and adherence to national protocols.

Donor Funded training benefited two (2) employees fully funded by the Japanese Government to pursue PhD and master's programmes. In addition, four (4) employees were offered a partially-sponsored scholarship by the Ministry of Tertiary Education, Research Science and Technology.

COMMUNITY SUPPORT AND CITIZEN EMPOWERMENT

We have undertaken projects to assess mineral deposits for exploitation by local communities. Examples of such

Bobonong Agates pioneer, Mr. Rapelang Nkgowe and Ministry of Minerals and Energy Permanent Secretary Ms. Ellen Richard-Madisa pictured at the agates collection site.

projects are; assessments of Cement Grade Calcretes and Shale deposits at Mogobane.

In our efforts to increase opportunities for citizens and communities' beneficiation projects we commenced dialogue with the Bobonong Agates pioneer, Mr Rapelang Nkgowe to explore the potential of the resource to benefit greater Bobonong villages. This project will improve the operation's ability to create jobs, improve income generation and improve the local economy

We recognise procurement opportunities that arise from our business activities as effective economic impact multipliers and affect positive citizen economic Empowerment. We strive to observe with Government of Botswana policies on local Economic Empowerment drives (EDD) and support marginalized groups such as people living with disabilities, women youth and those in rural settlements. This gives them an opportunity to play an active role in our supply chain.

Advertisements for invitations to tender are made explicit to companies that meet the above criteria to participate.'

OUR FUTURE

As we run the last lap of our maiden strategic plan, our efforts will be highly pitched to set a fertile ground to implement a new and Second BGI Strategic Business Plan. This transition period, will complete historical projects, mobilise resources and adequately set up for success in the future.

We will revive and strengthen our partnerships and collaborations with other organisations locally and internationally to maximise the performance of collaboration areas for mutual benefit. Academia remains a critical strategic partner as they offer opportunities for growth for human capital and ensure continuity for the supply of expertise required in our daily work.

CONCLUSION

This is the first Annual Report that I produce after a period of eight (8) Months at the helm of BGI. I thank the Board for giving me this opportunity to face new challenges in the development of Botswana's geoscience and/or mineral endowment landscape. I thank my Executive team, all BGI employees and the stakeholder network for the warm welcome. I thank BGI past CEO, Mr T.H. Ngwisanyi for laying the ground for building BGI we see today.

I thank you. May God bless you.

Olefile Cisco Mashabila (Mr.)

Chief Executive Officer
Botswana Geoscience Institute

BUSINESS LEADERSHIP AND GOVERNANCE

INTRODUCTION

BGI is governed by a Board consisting of eight (8) non-Executive members. The Chief Executive Officer is an Ex-Officio Member of the Board.

According to Botswana Geoscience Act, 2014, the selection and appointment of members of the Board, lies with the Minister of Minerals and Energy. The Board members' appointments are based on prescribed skills and experience in various disciplines, which accordingly assist in ensuring BGI discharges its mandate within the stipulated provisions of the Botswana Geoscience Institute Act. Such disciplines include geological engineering, sciences, law, market regulation, finance and accounting, management and business administration.

BGI
BOARD OF DIRECTORS

PROFESSOR MOTSOPTSE PHILLIP MODISI
BOARD CHAIRPERSON

BGI
BOARD OF DIRECTORS (Cont.)

BACK (LEFT TO RIGHT)

DR. SEBUSI ODISITSE
VICE CHAIRPERSON

MR. OGONE OSCAR MOKOKO GABOUTLOELOE
BOARD MEMBER

MR. HAROLD VAN ZYL
BOARD MEMBER

MR. THABO BALOPI
BOARD MEMBER

FRONT (LEFT TO RIGHT)

MS. BOGADI T. MATHANGWANE
BOARD MEMBER

MS. ONTLAMETSE MOKOPAKGOSI
BOARD MEMBER

MS. TEBOGO MMOSHE
BOARD MEMBER

BGI BOARD MEMBERS' CREDENTIALS

Professor Motsoptse Phillip MODISI
Chairperson

Professor Motsoptse Phillip Modisi is the Botswana Geoscience Institute Board Chairperson appointed to this role with effect from 15 August 2019 for a period of 4 years. He holds a Ph.D. in Geology from McMaster University, M.Sc., in Geology from the South Dakota School of Mines and Technology and B.Sc. (Hons) in Geology from the University of Ibadan.

Professor Modisi has extensive experience in the field of Geology that includes lecturing at the University of Botswana and serving under different capacities such as Head of the Geology Department, Dean of the Faculty of Science and Acting Director in the Office of Research and Development among others.

Professor Modisi has worked for the Department of Geological Survey, now transformed into the Botswana Geoscience Institute where he served in different roles starting from Assistant Geologist and progressing through the ranks up to the role of Assistant Director.

His service to the nation also includes being a Member of the Botswana College of Agriculture (now Botswana University of Agriculture and Natural Resources) Governing Council, Chairperson of the Botswana College of Agriculture Appointments and Promotion Committee and an External Examiner for the Botswana International University of Science and Technology from 2016 to 2017. He is a member of several organizations including the Botswana Academy of Science, the Botswana Geoscientists Association and the Astronomical Society of Botswana.

He is an astute publisher as shown by his articles in geology journals, chapters in books and published monographs.

BGI BOARD MEMBERS' CREDENTIALS (Cont.)

Dr. Sebusi ODISITSE
Vice-Chairperson

Dr. Odisitse has MSc and PhD in Chemistry from the University of Cape Town, South Africa and BSc in Chemistry and Physics from the University of Botswana. He joined Botswana International University of Science and Technology (BIUST) as lecturer in the Department of Chemical and Forensic Sciences. He previously worked at Botswana Institute for Technology Research and Innovation as a Researcher, Nanomaterials, under the Natural Resources and Materials Division.

He has more than two decades of years' experience in teaching, lecturing and as a researcher specializing in Chemistry. He is the author and co-author of international scholarly/ scientific journal articles and technical papers in chemistry, especially Bioinorganic and Materials Chemistry. He is a member of Royal Society of Chemistry (UK), American Chemical Society (USA) and South African Chemical Institute (SACI). He is also a member of The Institute of Directors in South Africa (IoDSA). He serves in national Boards such as Botswana Institute for Technology Research and Innovation (BITRI) and national committees as well as university boards and committees.

Mr. Ogone Oscar Mokoko GABOUTLOELOE, Esq. Sr. PCH
Board Member

Mr. Gaboutloeloe, Esq. Sr. PCH is an admitted Attorney and a Notary Public of the High Courts of Botswana, with an LLB obtained from the University of Botswana, an MSc in Strategic Management and a Masters of Commerce in Trade Law and Policy obtained from the University of Cape Town.

He is presently employed by Botswana Meat Commission – BMC, as Legal Counsel and Secretary to the Board of Commissioners. He was previously General Counsel and Director of Legal Services for Air Botswana, and before that, he worked for Botswana Post for over half a decade in various roles including as Head of Government Relations, Regulatory Affairs, International Postal Affairs, and Corporate Strategy and External Relations. Mr. Gaboutloeloe's professional experience has been across diverse sectors, first as a practising attorney, then at a Non-Governmental Organisation, medical insurance providers, a private hospital, the Botswana Unified Revenue Services, and the Public Procurement and Asset Disposal Board.

Mr. Gaboutloeloe is a lifelong member of the Scout Movement and presently sits on the National Scout Commission as Legal Advisor to Botswana Scouts Association. His experience in Board membership has been gained through various Boards including Non-Governmental Organisations, a private sector property investment consultancy firm and a member of the National Labour Advisory Board. He has had several appointments in international postal and aviation associations and bodies.

Mr. Gaboutloeloe has contributed two chapters to 'The Future is in the Post', a Postal Industry journal. He has been a member of the Law Society of Botswana of good standing and a member of the FIFA club licensing committee, the First Instance Board (FIB) of the Botswana Football Association. He is a recipient of the national award Presidential Certificate of Honour (PCH) for his dedication to the development of Botswana.

He served in the Botswana Geoscience Institute as Chairperson of the Board Tender Committee.

BGI BOARD MEMBERS' CREDENTIALS (Cont.)

Ms. Bogadi T. MATHANGWANE
Board Member

Ms Mathangwane holds an integrated Master's Degree in Water Resources from Iowa State University in the US and BSc Honors double major in Applied and Analytical Chemistry from the UK. She is currently working as Director for Botswana Government in the Ministry of Lands and Water Affairs in the Department of Water and Sanitation.

Ms. Mathangwane has extensive knowledge in areas of integrated water resources management with an emphasis on water conservation, water demand management, water quality and transboundary water resources management. She has also facilitated and directed mega national and regional water and sanitation projects some of which were funded by different International cooperating Partners.

She is a Coordinator of Transboundary water resources, a sitting member the advisory committees of the SADC River Basin Commissions of which Botswana is party to. She was conferred with the prestigious international award: "LEADERSHIP AWARD FOR OUTSTANDING CONTRIBUTION TO WATER EFFICIENCY' at the 2015 World Corporate Social Responsibility (CSR) Congress held at Taj Lands' End, Mumbai, India. This Award was in recognition of her notable contribution to water use efficiency nationally, regionally and internationally.

Ms. Ontlametse MOKOPAKGOSI
Board Member

Ms. Mokopakgosi has MA in Health Policy, Planning and Management from the University of Leeds, UK and a Bachelor of Arts in Social Science, (Economics and Demography), from the University of Botswana.

In June 2016 she joined the Human Resource Development Council (HRDC) as Manager, Human Resource Development Planning. She previously worked as Deputy Permanent Secretary at the Ministry of Mineral Resources, Green Technology and Energy Security and the Ministry of Health responsible for Corporate Services. She previously served as a member of the National Vision Council, Public Service Training Advisory Committee, and SADC Human Resource Planning Sub-Committee.

Ms. Mokopakgosi is a co-author of "National Health Accounts for Botswana: 2000-2012" and "Public-Private options for expanding access to human resources for HIV/AIDS in Botswana", October 2007 publications.

BGI BOARD MEMBERS' CREDENTIALS (Cont.)

Ms. Tebogo MMOSHE
Board Member

Ms. Tebogo Mmoshe is a Chartered Accountant (ACCA) and a Fellow member of the Botswana Institute of Chartered Accountants. She has an MBA obtained from the University of Derby, UK, BSc (Hons) in Applied Accounting from Oxford Brookes University, UK. She is a Certified Risk Analyst by the International Academy of Business and Financial Management (IABFM). She went through the Executive Development programme at the University of Cape Town (UCT) Graduate Business School in South Africa and has a Diploma in Communications from the Commonwealth Telecommunications Organisation.

She currently holds the position of Director of Compliance and Monitoring at Botswana Communications Regulatory Authority, before that she was the Head of Finance. Previously, she worked at Botswana Unified Revenue Service as Acting General Manager and at Botswana Meat Commission as an Internal auditor.

Mr. Harold Van Zyl
Board Member

Mr. Harold Van Zyl was appointed to the Botswana Geoscience Institute Board of Directors on August 01, 2020 for a period of four (4) years up to March 31, 2024

Mr. van Zyl holds a B.Sc. in Geology obtained from the University of Botswana. He also holds several post-graduate qualifications from the University of Witwatersrand, the University of Stellenbosch and the University of Johannesburg, in Mining Engineering, Leadership and Management.

He currently runs his own company Harkoo (Pty) LTD responsible for all Managerial and Technical Services. Mr van Zyl started his career as a regional geologist at the Department of Geological Survey, then joined Falconbridge Explorations (Botswana).

Mr. Van Zyl also worked for BCL Limited, a mining and smelting organization as a Divisional Manager-Resource Planning and a Member of BCL Executive Management Team. This was a portfolio responsible for all technical services and safety, health and environment. He is very passionate about corporate social responsibility (CSR) and led some of BCL CSR initiatives such as availing school furniture for a reception class at Lepokole Primary School.

Mr. Van Zyl has over 30 years of experience as a Geologist, specialising in regional geology, mining geology and exploration with a solid business background and extensive knowledge of mining economics, risk management and financial reporting.

BGI BOARD MEMBERS' CREDENTIALS (Cont.)

Mr. Thabo Balopi
Board Member

Mr. Thabo Balopi was appointed to the Botswana Geoscience Institute Board of Directors on April 01, 2021, for a period of four (4) years.

Mr. Balopi is employed by Debswana Diamond Company as Head of Transformation and Innovation with extensive knowledge and skills in the mining & metals industry. In particular, he is skilled in kimberlites and base metals with key competencies in mantle petrology, drilling methods and techniques, modelling and estimations, rock mechanics, groundwater management and project management, among others.

Mr Balopi holds a Master of Engineering (MEng.) focused in Mining and Mineral Resources Management from the University of the Witwatersrand, South Africa and BSc (Hons) in Mining Geology from the Royal School of Mines, Imperial College of Science, United Kingdom.

He previously worked for Tati Nickel Mining Company as a Section Manager-Mineral Resource Evaluation and De Beers Group of Companies as a Senior Mineral Resources Analyst based in Johannesburg, South Africa. He then took over the role of Senior Mineral Resources Manager at the Orapa, Letlhakane and Damtshaa mines followed by Senior Mineral Resources Manager at Jwaneng Mine before becoming the Group Head of Mineral Resources Management at the Debswana Corporate Centre.

Olefile Cisco Mashabila (Mr.)
Chief Executive Officer

Mr. Olefile Cisco Mashabila was appointed the BGI Chief Executive Officer on September 01, 2021.

Mr. Mashabila joins BGI from Debswana Mining Company (Orapa, Letlhakane and Damtshaa Mines), where he worked under different capacities in the Mineral Resources Management (MRM) Department, Technical Assistant to the General Manager and became part of the Executive Team. He was also appointed the Competent Person in Mineral Resources. He was then appointed Senior Mineral Resources Manager, a position he held for five (5) years. He previously worked at BCL and Tati Nickel Mining mines, also in Geology and Mineral Resources departments.

He brings to BGI his treasure/wealth of knowledge, skills and expertise, which include but are not limited to strategic business planning and leadership, risk management, mineral resources & reserve management, data & information analysis and project management (planning and execution). His experience in mining and mining operations spans over 18 years

He holds MSc (Engineering/MRM) from Witwatersrand University, an MSc in Strategic Management (University of Derby, UK) and a BSc in Geology from the University of Botswana. He possesses a Palladium Kaplan – Norton Balanced Scorecard Certification and he is affiliated with the South Africa Council for Natural Scientific Professionals (SACNASP) and the Southern African Institute of Mining and Metallurgy (SAIMM).

BOARD MEMBERS APPOINTMENTS AND TERM OF OFFICE

Minister of Mineral Resources and Energy, acting in accordance with Botswana Geoscience Institute Act Section 6 (5), appointed the BGI Board as indicated below table. These Members were appointed by reason of their expertise and experience in the areas relevant to the function and Mandate of the Institute.

Table 1: ***Board Members appointments and term of office***

NAME	PROFESSION/ QUALIFICATION	POSITION BOARD, (e.g. Board Chairperson, Audit\HR Committee Chairperson or Ordinary Member)	DATE OF FIRST APPOINTMENT	EXPIRY DATE
Professor Motsoptse Phillip Modisi	PhD in Structural Geology	Board Chairperson	15 August 2019 First term of apportionment	August 2023
Dr. Sebusi Odisitse	PhD in Chemistry, (University of Capetown, South Africa)	Vice Board Chairperson Chairperson, Board **Technical Committee** Member of Board **Finance, Audit & Risk Committee** Member of **Tender Committee**	Re-appointed for second term in July 2020	August 2023
Ms. Tebogo Mmoshe	MBA, (University of Derby, UK), BSc (Hons) in Applied Accounting, (Oxford Brookes University, UK), and ACCA	Chairperson, Board **Finance, Audit and Risk Committee** Member of the **Technical Committee**	Re-appointed for second term in July 2020	August 2023
Mr. Ogone O. M. Gaboutloeloe	Law, Bachelor of Laws (LLB), University of Botswana), Master of Science in Strategic Management and Master of Commerce in Management Practice specializing in Trade Law and Policy	Chairperson, Board **Tender Committee** Member of **Finance & Audit Board Committee**	Re-appointed for second term in July 2020	August 2023
Ms. Ontlametse Mokopakgosi	MA in Health Policy, Planning and Management, (University of Leeds, UK) Bachelor of Arts-Economic and Demography, University of Botswana)	HR Board Committee Chairperson Member of **Finance, Audit & Risk Committee** Member of **Tender Committee**	Re-appointed for second term in July 2020	August 2023

BOARD MEMBERS APPOINTMENTS AND TERM OF OFFICE (Cont.)

NAME	PROFESSION/ QUALIFICATION	POSITION BOARD, (e.g. Board Chairperson, Audit\HR Committee Chairperson or Ordinary Member)	DATE OF FIRST APPOINTMENT	EXPIRY DATE
Ms. Bogadi T. Mathangwane	Master's Degree in Water Resources from Iowa State University, USA	Member of Board **Technical Committee,** Member of Board **Tender Committee** Member of Board **HR Committee**	November 01, 2017. First term of apportionment	October 2022
Mr. Harold Van Zyl	B.Sc., [Geology]	Member of Board **Technical Committee** Member of **Tender Committee** Member of Board **HR Committee**	01 August 2020, first term of appointment	July 2024
Mr. Thabo Balopi	Master of Engineering (MEng) focused in Mining and Mineral Resources	Member of Board **Technical Committee**	1 April 2021	March 2025

RESPONSIBILITIES OF THE BOARD

BGI Board of Directors is responsible for the general control of the performance and management of the undertakings and affairs of the Institute. In particular, the BGI Board of Directors' responsibilities are;

- Determine corporate policy and provide strategic direction for giving effect to the objectives of the BGI Act
- Determining the general performance of the Institute
- Ensures compliance with applicable Laws and Regulations,
- Approve significant capital expenditure projects, selection of service providers and major financial proposals.
- Advise the Minister to change, review or formulate geosciences-related policies and strategies where necessary, and
- Do such other things as provided by the BGI Act or as may be necessary to the proper implementation of the BGI Act.

EXECUTIVE MANAGEMENT COMMITTEE

INTRODUCTION

The BGI Board, subject to predefined limits, has delegated its executive authority to the Executive Management Committee, (EXCO), headed by the Chief Executive Officer (CEO).

The EXCO is responsible for proposing strategic alternatives to the Board and is accountable for the implementation of strategies, policies, and other decisions approved by the Board. It manages the business and affairs of the Institute, implements strategic decisions, prioritises the allocation of capital, technical and human resources and establishes best management practices.

Ms Mogobe was appointed Board Secretary on an acting basis for an unspecified period to allow for the recruitment of the substantive Manager, Legal Services and Board Secretary.

BGI EXECUTIVE MANAGEMENT COMMITTEE

MR. OLEFILE C. MASHABILA
CHIEF EXECUTIVE OFFICER

BGI EXECUTIVE **MANAGEMENT COMMITTEE** (Cont.)

BACK (LEFT TO RIGHT)

MR. JAMES B. MOLOSANKWE
MANAGER, MARKETING AND COMMUNICATIONS

MR. KEVIN K. MASUPE
DIRECTOR, CORPORATE SERVICES

MR. PUSO AKANYANG
DIRECTOR, SCIENCE DELIVERY

FRONT (LEFT TO RIGHT)

MS. LESEGO P. PETER
DIRECTOR, INFORMATION DELIVERY

MS. CHANDAPIWA MOGOBE
MANAGER, STRATEGY AND RISK

MS. ONKEMETSE SAMUEL
MANAGER, INTERNAL AUDIT

BOARD COMMITTEES

Introduction

The Board is accountable for the Institute's activities and deals with all organisations business and achieves this through specifically delegated Committees. The Board has (4) standing specialist committees.

- Finance, Audit and Risk Committee,
- Technical Committee
- Human Resource Committee and
- Tender Committee

Finance, Audit and Risk Committee

This Committee is responsible for ensuring that Executive management creates and maintains an effective control environment for BGI and that management encourages the necessary respect for internal controls among all employees. The Committee reviews Financial Controls, Accounting Systems and reports to the shareholder.

This responsibility of the committee is achieved through;

- Assessing the policies and procedures of the Institute to ensure that the accounting systems and related controls are adequate and functioning effectively.
- Identifying major risks to which the Institute is exposed and verifying that the related internal control systems are adequate and functioning effectively.
- Reviewing the financial statements of the Institute to provide assurance that those financial disclosures made by the Board and management portray the Institute's financial conditions, results of operation and long-term commitments.
- Overseeing both the internal and external audit process, together with reviewing the effectiveness of both auditors.

The members of the Finance Audit and Risk Committee for the year under review were;

Ms. Tebogo Mmoshe	**Chairperson**
Dr. Sebusi Odisitse.	Member
Mr. Ogone O. M. Gaboutloeloe	Member
Ms. Ontlametse Mokopakgosi	Member

BOARD COMMITTEES (Cont.)

Ms. Nomsa Portia Nuku-Basaakane	Co-opted member

Technical Committee

In General, this Committee of the Board provides oversight on technical matters of the Institute, project development and management, and systems and technology acquisition.

The Committee may also consider project economic analysis, appraisal of technical risk factors, appropriate longer-range (as well as the early stage) preparations for project development and implementation, as well as such other matters as may be requested by the Board.

Dr. Sebusi Odisitse	**Chairperson**
Ms. Tebogo Mmoshe	Member
Mr. Harold van Zyl	Member
Mr. Thabo Balopi	Member

Human Resource Committee

The Committee was set up to regulate both substantive and procedural administration of staff and staff welfare issues, which include recruitment processes, industrial relations matters, remuneration and other compensation as may be necessary. Specifically, the Committee undertakes the following;

- Deliberate and decide on policy issues relating to remuneration and benefits, salaries and other related matters.
- Determine, for Board approval, the remuneration policy for all BGI staff.
- Determine targets and objectives for any performance to related pay schemes.
- Recommend to the Board Executive Management appointments.

The Committee is composed of the following

Ms. Ontlametse Mokopakgosi	**Chairperson**
Ms. Bogadi Mathangwane	Member
Mr. Ogone O. M. Gaboutloeloe	Member
Mr. Harold Van Zyl	Member
Mr. Sipho Mbebe	Co-opted member

Tender Committee

The Committee ensures that all tenders within the authority of the Board are addressed in a transparent and procedural manner to enhance an effective control-led environment in the Institute's procurement process. The Board encourages the necessary respect for control by management and employees of the Institute.

The Board Tender Committee has the authority to deliberate and decide tenders in excess of Pula 5 million. In order to expedite the business operations, authority for tenders of Pula 5 million and below has been delegated to a Management Tender Committee (MTC), a sub-committee consisting of Management staff and the outcomes of the tender evaluation and adjudications are reported to the Board Tender Committee periodically.

Mr. Ogone O. M. Gaboutloeloe	**Chairperson**
Ms. Bogadi Mathangwane	Member
Ms. Ontlametse Mokopakgosi	Member
Mr. Harold Van Zyl	Member

BOARD COMMITTEES (Cont.)

Mr. Othusitse Lebuletswe	Co-opted member

Attendance Meeting of the Board and Committees

The Board met on five 4 occasions during the financial year 2021/22 to consider various strategic and policy matters with a material effect on the Institute's affairs. During the year under review, Members of the Board and as part of the respective Committees attended the following meetings.

***Table 2:** Record of meetings attended by Board Members*

NAME	Position	Ordinary Board	Special Board Consultative Meetings	Finance, Audit & Risk Committee	Human Resources Committee	Tender Committee	Technical Committee
Professor Motsoptse Phillip Modisi	Chairperson	4/4	9	N/A	N/A	N/A	N/A
Dr. Sebusi Odisitse	Vice Chairperson	4/4	9	7	N/A	5	4
Ms. Bogadi T. Mathangwane	Member	4/4	4	N/A	5	3	3
Mr. Harold Van Zyl	Member	4/4	5	N/A	4	N/A	4
Ms. Tebogo Mmoshe	Member	4/4	3	7	N/A	N/A	2
Ms. Ontlametse Mokopakgosi	Member	4/4	4	6	9	4	N/A
Mr. Ogone O. M. Gaboutloeloe	Member	4/4	5	7	6	6	N/A
Mr. Thabo Balopi	Member	4/4	7	1	1	2	4
Mr. Olefile Cisco Mashabila	CEO	4/4	3	4	4	3	3

***Table 3:** Co-opted Board Members record of meetings*

NAME	Position	Special Board Consultative Meetings	Finance, Audit & Risk Committee	Human Resources Committee	Tender Committee	Technical Committee
Mr. Sipho Mbebe	Member - Board Human Resource Committee	4	N/A	5	N/A	N/A
Ms Nomsa Nuku-Basaakane	Member - Finance, Audit and Risk Committee	1	7	N/A	N/A	N/A
Mr Othusitse Lebuletswe	Tender Committee	1	N/A	N/A	5	N/A

Remuneration of Members of the Board

Except for the Chief Executive Officer, members of the Board are not entitled to monthly or annual salaries. Instead, they are paid a sitting allowance at Board and Committee meetings. Below is the detail of Board sitting allowance payments for the year under review.

BOARD COMMITTEES (Cont.)

Table4: Remuneration of Members of the Board

NAME	POSITION	AMOUNT (BWP)
Professor Motsoptse P. Modisi	Chairperson	20,475.00
Dr. Sebusi Odisitse	Vice Chairperson	36,540.00
Mr. Harold van Zyl	Member	21,420.00
Mr. Ogone O. M. Gaboutloeloe	Member	36,540.00
Ms. Tebogo Mmoshe	Member	20,160.00
Ms. Ontlametse Mokopakgosi	Member	35,280.00
Ms. Bogadi Mathangwane	Member	26,460.00
Mr. Thabo Balopi	Member	23,940.00
Mr. Olefile C. Mashabila	CEO	Not applicable

Co-opted Board Members remuneration

NAME	POSITION	AMOUNT (BWP)
Mr. Sipho Mbebe	Member – Board Human Resource Committee	11,340.00
Ms. Nomsa Nuku-Basaakane	Member – Finance, Audit and Risk Committee	10,080.00
Mr. Othusitse Lebuletswe	Member – Board Tender Committee	7,560.00

Mr Wetsho Kesianye, Senior System Developer during one of BGI Customer interactions initiatives

CORPORATE GOVERNANCE REPORT

INTRODUCTION

The Board is conscious of its responsibility and is unequivocally committed to upholding ethical behaviour in conducting its business. The Board Secretariat and the Chief Executive Officer ensure that the day-to-day business of the Institute complies with the laws and regulations of Botswana.

King IV™ Report application

BGI Board subjected itself to the principles of **King IV™ Code on Corporate Governance** to ensure alignment with the precepts of governance and accountability. King IV™ builds on King III™ which is recommended by Botswana Accountancy Oversight Authority (BAOA), that provides oversight on accounting and auditing services, standards, quality and credibility on financial and non-financial information by Public Interest Entities (PIEs) such as BGI.

The table below shows a voluntary application of **King IV™ Code of Corporate Governance** principles by the Board of Directors during the Financial Year that ended on March 31, 2022.

Table 5: King IV™ Corporate Governance Principles Application

KING IV™ COPRORATE GOVERNANCE PRINCIPLES	STATEMENT OF APPLICATION/EXPLANATION	STANDARDS/POLICIES INSTRUMENTS AND PROCESSES
PRINCIPLE 1: Leadership, Ethics and Corporate Citizenship	Emphasis is on strategy, policy, oversight and accountability. BGI Board Members appointed in terms of BGI Act 2014, have generally met the expectations under this principle The Board set the strategic direction and has approved annual budgets, and major contracts and brought leadership and commitment to the Institute. It has effectively led the Institute's affairs in accordance with its statutory mandate. BGI Board, through the Strategy and Risk Management Office, has identified the institute's strategic and operational risks and maintains business-wide risk registers. The Board continuously strive to ensure leadership in holding quarterly meetings to review performance against key strategic focus areas.	· BGI ACT · Corporate Strategy · Operational Plan · Annual Budget · Audited Financial Statements · Annual Reports · Declaration of assets · Conflict of Interest declarations · Disclosures of Directors remuneration · Procurement Procedures and Guidelines · Declaration of gifts and presents · Fiduciary Duties and Committees Terms of Reference
PRINCIPLE 2: Organisational ethics.	The Board understands its role as the custodian of ethics and values that govern the Institute. The Board, subject to predefined conditions, has delegated its executive authority to the Executive Management. The governance tools, (Board Charter and Shareholder Compact) are going through review and finalisation stages. These tools are important as they assist in aligning Shareholders' expectations, strategic objectives, vision and mission, expected performance levels and sustainability considerations with the Board. BGI BFARC is responsible for assessing the policies and procedures of the Institute to ensure that the accounting systems and related controls are adequate and functioning effectively.	· Shareholder Compact · Board Chatter · BGI Strategic Plan · Board Committees · A Comprehensive Risk Register/Log · Record of meetings' attendance and remuneration · Disclosures on Board Members Academic and Professional Qualifications

CORPORATE GOVERNANCE REPORT (Cont.)

KING IV™ COPRORATE GOVERNANCE PRINCIPLES	STATEMENT OF APPLICATION/EXPLANATION	STANDARDS/POLICIES INSTRUMENTS AND PROCESSES
PRINCIPLE 3: Responsible Corporate Citizenship	The Board understands that corporate citizenship starts with running a successful geoscience organisation by producing the right solutions for its customers and making valuable contributions to the economic development of the country through the implementation of various projects. BGI's commitment as a corporate citizen goes beyond the economic realms of its operations. This is commonly known as Corporate Social Investment in the form of donations and other kinds of financial assistance made for altruistic purposes. This requires a deliberate effort supported by judicious budget compliance with government policies and directives on local economic empowerment such as Economic Diversification Drive (EDD), support for marginalized groups i.e. people living with disabilities, women youth and those in rural settlements. The Institute strives to intervene in calls by stakeholders such as conducting a geotechnical assessment and monitoring of geohazards.	• BGI Strategic Plan • Operational Plan • Procurement procedures and guidelines
PRINCIPLE 4: Strategy and Performance	The Board is bound by Section 31 of Botswana Geoscience Institute Act no 29 of 2014 to produce the Annual Report within a prescribed period. The Audited Financial statements are compiled by a competent Audit firm appointed by the Board in line with Sections 29 and 30 of the BGI Act. The Annual Reports are published in line with expected standards of disclosure and creating sustainable organisations.	• BGI Strategic Plan • Operational Plan • Annual Budget • Audited Financial Statements • Annual Reports • Performance Management and review. systems
PRINCIPLE 5: Integrated Reporting	The Board is bound by Section 31 of BGI Act no 29 of 2014 to produce the Annual Report within a prescribed period. The Audited Financial statements are compiled by a competent Audit firm appointed by the Board in line with Sections 29 and 30 of the BGI Act. The Annual Reports are published in line with expected standards of disclosures and creating sustainable organisations.	• BGI Act • BGI Annual Reports • BGI Audited Financial Statements • Directors Academic Qualifications disclosures
PRINCIPLE 6: Governing Structures and Delegation	Pursuant to BGI Act, The Board has established specialists' committees and delegated some of its functions and responsibilities for the purpose of performing its functions. Section 19 of the BGI Act stipulates such fiduciary duties and Terms of Reference (ToRs) for Board Committees for ease of reference, application, and compliance. The Board, subject to predefined conditions, has delegated its executive authority to the Management headed by the Chief Executive Officer, while they provide strategic direction.	• BGI Act • Company's Act • Shareholder Compact • Board Chatter • Fiduciary Duties and Committees Terms of Reference

CORPORATE GOVERNANCE REPORT (Cont.)

KING IV™ COPRORATE GOVERNANCE PRINCIPLES	STATEMENT OF APPLICATION/EXPLANATION	STANDARDS/POLICIES INSTRUMENTS AND PROCESSES
PRINCIPLE 7: Composition of the governing body	BGI is governed by a Board appointed by the Minister of Minerals and Energy in accordance with the Botswana Geoscience Act, 2014. The selection is based on prescribed diverse skills and experience in various disciplines, which accordingly assist in ensuring BGI discharges its mandate within the stipulated provisions of the Botswana Geoscience Institute Act. Such disciplines include Geological Engineering, Sciences, Law, Market Regulation, Finance and Accounting, Management and Business administration.	· BGI Act · Company's Act · Shareholder Compact · Board Charter
PRINCIPLE 8: Committees of the governing body	Pursuant to BGI Act, the Board has (4) standing specialist committees. These are; Finance, Audit and Risk Committee, Technical Committee; Human Resource Committee and Tender Committee.	· BGI Act · Fiduciary Duties and Committees Terms of Reference
PRINCIPLE 9: Evaluation of the performance of the governing body	The Board Charter and Shareholder Compact are going through review and finalisation, they set the basis for the Board performance evaluation. Effective collaboration through cross-membership between committees, and coordinated scheduling of meetings has minimised duplication and fragmented functioning.	· Shareholder Compact · Board Charter · Fiduciary Duties and Committees Terms of Reference · Internal Audit function · External Auditors
PRINCIPLE 10: Appointment and delegation to management	Board has appointed a CEO and his responsibilities include leading strategy implementation, report to the Board and agree on membership in other governing bodies. The CEO also has been delegated to appoint executive management and to oversee that key management functions are led by competent and appropriately authorized individuals and are adequately resourced.	· BGI Act · External Auditors · Access to External Legal Advice · External Recruitment · Delegation of authority · ERM Framework
PRINCIPLE 11; Risk governance	The Board assumed overall responsibility for risk governance by overseeing the identification of key risk areas and key performance indicators of BGI's business. The Institute's risk appetite was assessed to guide the adoption of an enterprise-wide risk management methodology. The Board considered the appropriateness of risk responses and guided Management to initiate outstanding controls, develop corporate-wide operational risk registers, enterprise risk management policy and risk management framework.	· Risk Management Policy · Enterprise Risk Register · Annual Internal Audit Plan · Information, Technology and Communication Strategy · Procurement Procedures and Guidelines
PRINCIPLE 12; Technology and information governance	The Board approved the Information, Technology and Communication Strategy that focuses on the current and envisioned ICT environment to support BGI's Strategic Plan. The strategy also covers ICT governance to ensure effective implementation and compliance. Through the adoption of a robust IT governance framework, ICT-related risks are effectively managed, and additional controls are identified in support of the enterprise risk and business continuity management methodology.	· Information, Technology and Communication Strategy · ICT Security Policy · Technology Road Map

CORPORATE GOVERNANCE REPORT (Cont.)

KING IV™ COPRORATE GOVERNANCE PRINCIPLES	STATEMENT OF APPLICATION/EXPLANATION	STANDARDS/POLICIES INSTRUMENTS AND PROCESSES
PRINCIPLE 13; Compliance governance	The Board, endeavours to ensure that the business of the Institute complies with the laws of Botswana and other standards. The Board secretary provides advice to the Board on their fiduciary duties and draws their attention to relevant legislation such as the Declaration of Asserts. BGI ensures compliance with the BGI Act and all other Statutes relating to its business.	• BGI Act • Declaration of Assets and Liabilities Act. • Financial Reporting Act • Economic Diversification Drive (EDD) • Public Procurement and Asset Disposable Act • Public Procurement and Asset Disposable Directives • Mines and Minerals Act • International Financial Reporting Standard (IFRS) • BGI Annual Reports
PRINCIPLE 14; Remuneration governance	The Board, through the Human Resources Committee, has developed a Remuneration Policy and structures for fairness, responsibility and transparency. The policy aims to attract and retain human capital, promote the achievement of strategic objectives, positive outcomes, an ethical culture and responsible corporate citizenship.	• Remuneration Policy
PRINCIPLE 15; Assurance	The Board has an established independent and effective Finance, Audit and Risk Committee led by a member with an MBA & ACCA and a Fellow Member of the Botswana Institute of Chartered Accountants. Internal Auditor conducts the Institutes independent assessments and submits the Reports to the Finance, Audit and Risk Committee (BFARC) for review and actions. BFARC ensures that External Auditors provide overall assurance according to International Financial Reporting Standard. The Board was yet to approve a Combined assurance model which has been prioritised for the next financial year.	• Finance, Audit and Risk Committee • Internal audit charter • External Auditors • Internal Auditor's Annual Plan • Internal audit charter • Internal audit procedure manual
PRINCIPLE 16; Stakeholders	The Board, through the Chief Executive Officer, has maintained an active dialogue with various Government Ministries and Departments and other stakeholders Issues raised during meetings with stakeholders are attended to expeditiously and addressed appropriately. Management on regular basis initiates platforms to engage stakeholders on issues of common interest and the Institute's business operations. Through the Office of the Chief Executive Officer, the board strive to share information transparently with all stakeholders. Annual Reports are distributed to the rest of the stakeholder community.	• Communications Plan • Performance Participation in the MME/ MPIC Improvement Team • Community engagements • Annual Reports • Web-based communication (Social Media, Website, online Portals)

BUSINESS PERFORMANCE AND REVIEW

BGI is a geoscience organisation that strives to operate and deliver highly acclaimed international standards of geoscience research. In this section, we share more about our business and the very essence of our operations.

The Institute, through its business function of Science Delivery, provides the overall scientific implementation of BGI's Research Strategy that supports sustainable economic growth and responsible development.

RESEARCH,ENVIRONMENT AND LABORATORIES

INTERPRETATION OF AEROMAGNETIC DATA OF NORTHERN BOTSWANA

Background

This project was approved in National Development Plan 10 (NDP 10) but was later deferred due to a lack of funds. However during the third quarter of 2017, partial funding was approved which called for a modified project scope. The initial project scope was to fill up data gaps by flying high-resolution aeromagnetic survey in the western part (Nosop-Ncojane basin area) of Botswana subsequently carrying out the mineral potential assessment in the rest of the country as an incentive to private sector investment in mineral exploration.

The geological terrains (i.e. Mafic, Ultramafic and Granitic complexes), which have not been fully explored though known to host base metals and Platinum Group Metals (PGMs) as well as Rare Earth Elements (REE). The discovery of these minerals will not only lead to socio-economic but also contribute to the mineral diversification from diamonds.

Project Scope

The revised and current project scope comprises primarily the interpretation of existing high-resolution aeromagnetic data covering the northern part of Botswana together with other available geoscience information such as gravity, radiometrics, electromagnetic, remote sensing and borehole data to produce at variable scales (1:125 000; 250 000; 1 000 000), geological, geophysical, hydrogeological and mineral potential maps, and subsequently update the National Geological Map of Botswana, which was last updated in 1997.

The project will, in addition to improving information availability and quality, stimulate mineral exploration activities in the Northern part of Botswana and the overall mineral prospectivity of the country at large.

The Project started in July 2020 and was supposed to be completed in eighteen (18) months. However, this did not happen due to various factors such as the effects of COVID-19 and restrictions. The project is delayed by close to four months and due for completion end of June 2022.

Mr. Mojaboswa Hilary Koketso; Manager; Surveys and Project Coordinator of The Interpretation and Assessment of Aero Magnetic Data of Northern Botswana

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Project Achievement for FY 2021-2022

The project is at 96.6%. All key deliverables are complete except for the economic geology assessment, project report and the national geological bulletin which will be completed in October 2022. All the map products are complete and a few going through the final stage of quality assurance as listed on page 41.

Of significance are the mineral potential map and the pre-Kalahari Geological map of northern Botswana ***(Figure 1).***

The map below shows identified mineral prospects of various commodities in northern Botswana overlaying revised basement geology updates.

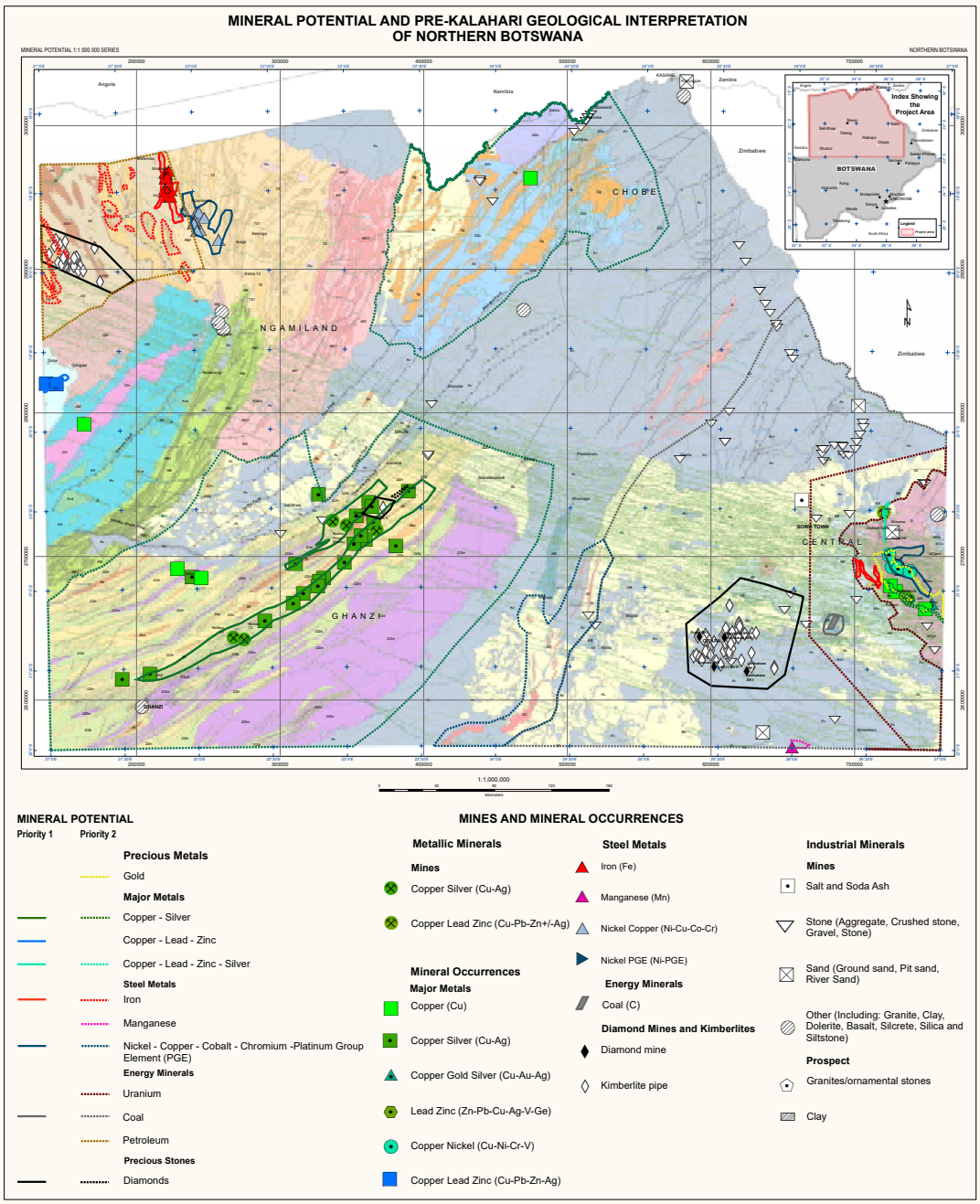


Figure 1: Mineral Potential and Pre-Kalahari Geological Interpretation of Northern Botswana

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Project Achievement for FY 2021-2022 (Cont.)

i) **1:125000** scale geological interpretation maps which covers areas of rock exposures and detailed geophysical/remote sensing signatures.
ii) **1:250000** scale geological interpretation maps covering the project area
iii) Geological interpretation map of the project area at **1:1000000** scale
iv) Hydrogeological potential maps for the Kalahari and pre-Kalahari at **1:1000000** scale in relation to the mapped geological environments.
v) Updated national geological map at **1:1000000** scale.
vi) **1:250000** scale surficial interpretation maps of the project area mainly derived from satellite data (remote sensing) interpretation.

GEOLOGICAL REVISION MAPPING OF SOUTH-EASTERN BOTSWANA

Background

This is a collaboration project with Japan, Oil, Gas and Metals National Corporation - JOGMEC in order to provide specialized services in remote sensing. The project is in its second year supported by JOGMEC.

In this project, the Institute is undertaking the geological revision of Quarter Degree Sheets (QDS), standardization and formalization of lithostratigraphic units in the South Eastern part of Botswana. The objective of the project is to address the inconsistencies identified on existing QDS maps by adding structural data, and mineral occurrences as well as improving information accessibility through the development of databases.

Figure 2: Typical profile, hardpan ferricrete (left) underlain by collapsible residual granite (right)

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Geological Revision Mapping of South-Eastern Botswana (Cont.)

Project progress
Work progressed from the pilot area of Lobatse, Mmathethe, Gaborone and Kanye to the next area comprising Molepolole, Mochudi and Marico quarter degree sheets.

The approach followed was similar to the one adopted from the pilot project where remote sensing in particular and geophysics were tested and evaluated to assess their effectiveness in aiding in enhancing geological mapping. This was complemented by field verifications and conventional field mapping where the technology could not work.

This year, an extensive field mapping exercise was planned as the area was characterised by limited variations in the physical properties of the rocks hence limiting the application of technology (remote sensing/ geophysics). Fieldwork started in July 2021 and ended in January 2022. Data capturing, processing and integration with other existing geoscience data to update the geological maps is continuing. This will be incorporated into a seamless geological map of SE Botswana in the final year (2022/23).

GABORONE URBAN GEOTECHNICAL MAPPING

Background
This project, which commenced during the financial year 2019-2020 has been completed The Gaborone City administrative boundary covers approximately 259 square kilometres. It is bounded by Tlokweng village in the east, Mogoditshane and Kopong in Kweneng District to the west and north respectively, whilst abutting the Malete tribal area in the south.

The study area comprises 80% of the built-up and serviced area while the rest is an expansion area behind Sir Seretse Khama International Airport (SSKIA) to the north. For this reason, the most effective approach was to collect and collate existing data, subject it to quality control and assurance, and subsequently identify gaps.

The main objective of the project was to identify and map geotechnical constraints to the development within the Gaborone area to facilitate decision-making on matters relating to geohazards and their impact on infrastructure development and land use planning. The study area is underlain by the Gaborone Granite Complex rocks, and localised dolerite intrusions. These rocks generally weather to form silty sands to clayey sandy material or gravels depending on the degree and mode of weathering. The localised granite exposures can be found in the southern and central parts of the study area, and are generally deeply buried in the northern part (Expansion area).

Project progress highlights
A generalised Gaborone soil profile consists of transported sandy material of mixed origin covering the residual granite. A layer of ferricrete is often sandwiched in between these horizons ***(Figure 2).*** Underlying the residual granite is soft weathered to hard granites. Expansive clays overlying calcretised residual material were mostly encountered along river flood plains.

The transported sands are generally graded as silty sands or clayey sands with low elasticity indices and hence low expansive potential. However, these soils exhibit collapsible fabric and this can cause differential settlement if not properly mitigated. Ferricrete horizon underlying the sands at 2 meters space to provide competent founding horizon for most single-storey to double-storey structures.

Perched water tables are often encountered on this horizon. Furthermore, its lateral variation and difficulty in excavation may present challenges to development. Residual granite with collapsible fabric is found at depths of 3m. Geotechnical challenges in this horizon include collapsibility, seepage, occasionally deep and differential weathering. It was established that weathering extends to depths of 20m in places.

The Gaborone area was classified according to the following geotechnical suitability classes ***(Figure 3);***

i) **Most Favourable:** This covers about 6% of the study area, primarily in the southwest of the project area. Foundations can be placed on ferricrete or weathered granite at shallow depths of 0.75m.
ii) **Intermediate:** An estimated 66% of the area is classified as having Intermediate characteristics. These conditions would require compaction of competent fill material to improve in-situ conditions and minimise differential settlement. Such areas are mainly found in the central and northern parts of the study area.
iii) **Least Favourable:** These areas constitute 28% of the study area, where constraints such as hard excavation, expansive soils and poor drainage occurrences were encountered. They are mostly located along the river channels and it would generally be costly to develop in those areas.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Gaborone urban geotechnical mapping (Cont.)

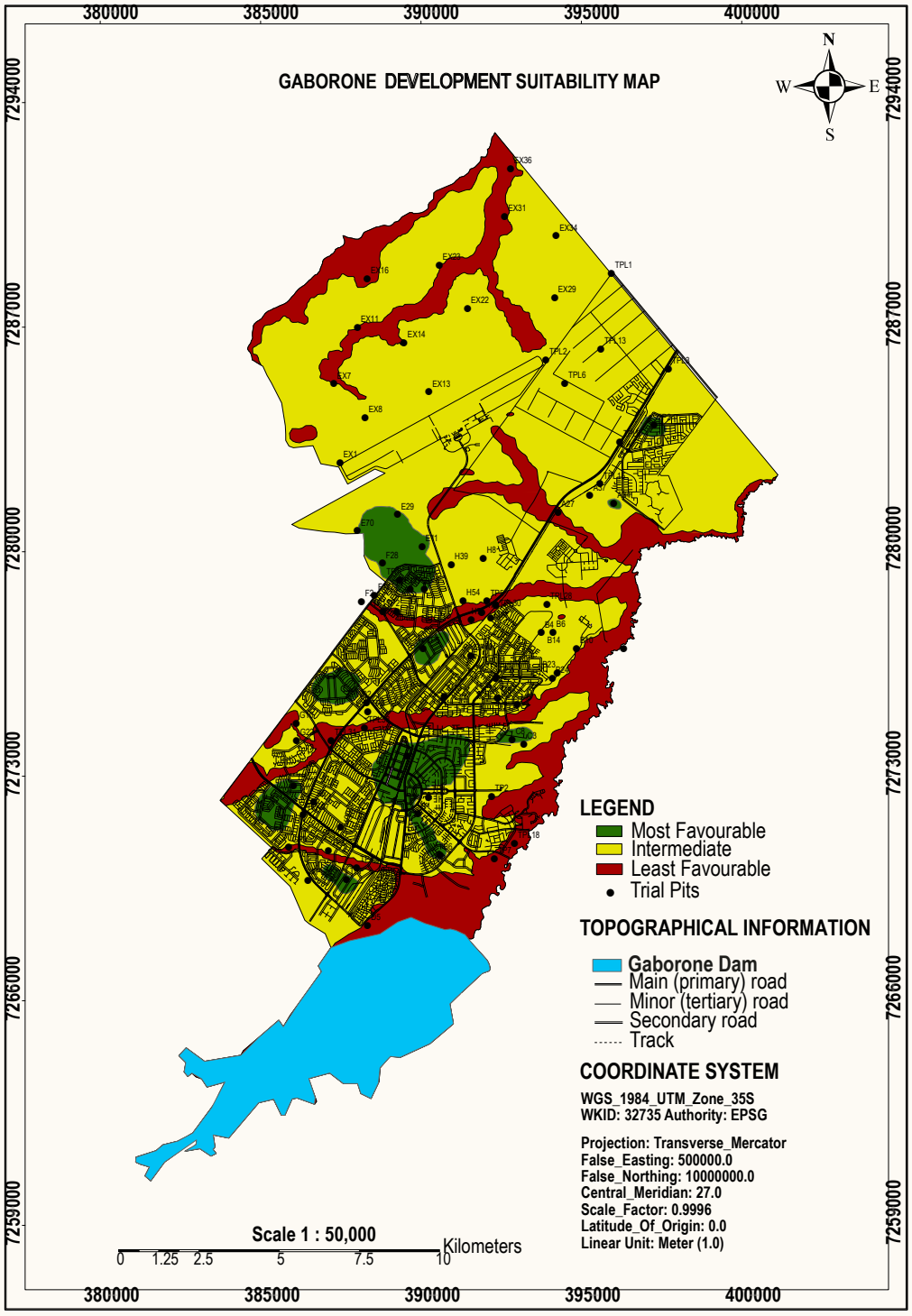


Figure 3: Gaborone Development suitability map

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

RARE EARTH ELEMENTS AND BATTERY METALS OCCURRENCE IN BOTSWANA

Introduction

Rare earth elements (REE) are a group of seventeen chemical elements in the periodic table including the fifteen lanthanide series elements (La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu) plus Sc and Y which are defined by the International Union of Pure and Applied Chemistry (IUPAC) as part of REE due to their similar chemical properties and occurrence in the same deposits. Rare Earth Elements do not occur naturally as metallic elements. They occur in a wide range of mineral types including halides, carbonates, oxides and phosphates. ***Table 6*** below shows REE and their Crustal Abundance Concentration in parts per million (ppm).

Table 6: ***Rare Earth Elements and their crustal abundance concentration in parts per million.***

Element		Symbol	Atomic number	Atomic weight	Crustal abundance (PPM)
LIGHT REEs					
1.	Lanthanum	**La**	57	138.91	39.00
2.	Cerium	**Ce**	58	140.12	66.50
3.	Praseodymium	**Pr**	59	140.91	9.20
4.	Neodymium	**Nd**	60	144.24	41.50
5.	Samarium	**Sm**	62	150.36	7.05
6.	Europium	**Eu**	63	151.96	2.00
7.	Gadolinium	**Gd**	64	157.25	6.20
HEAVY REEs					
8.	Yttrium	**Y**	39	88.91	33.00
9.	Terbium	**Tb**	65	158.92	1.20
10.	Dysprosium	**Dy**	66	162.50	5.20
11.	Holmium	**Ho**	67	164.93	1.30
12.	Erbium	**Er**	68	167.26	3.50
13.	Thulium	**Tm**	69	168.93	0.52
14.	Ytterbium	**Yb**	70	173.04	3.20
15.	Lutetium	**Lu**	71	174.97	0.80

The demand for Rare Earth Elements (REE) and battery metals has increased due to population increase and technological advances. REE are necessary components of most products across a wide range of applications, such as electronic devices, and electric and hybrid vehicles to curb carbon emissions.

In Botswana very, little has been done in terms of exploring for REE and battery metals despite the presence of suitable geological settings (rocks). These rocks are mostly found in the eastern part of the country where they are exposed, with some deeply buried in the Kalahari sands. The potential for REE and Battery Metals occurrence in Botswana is focused on the interpretation of available data from Shoshong, detailed sampling in Semarule and geophysical modelling of the Kokong Carbonatite ***(figure 4).***

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Rare Earth Elements and Battery Metals Occurrence in Botswana (Cont.)

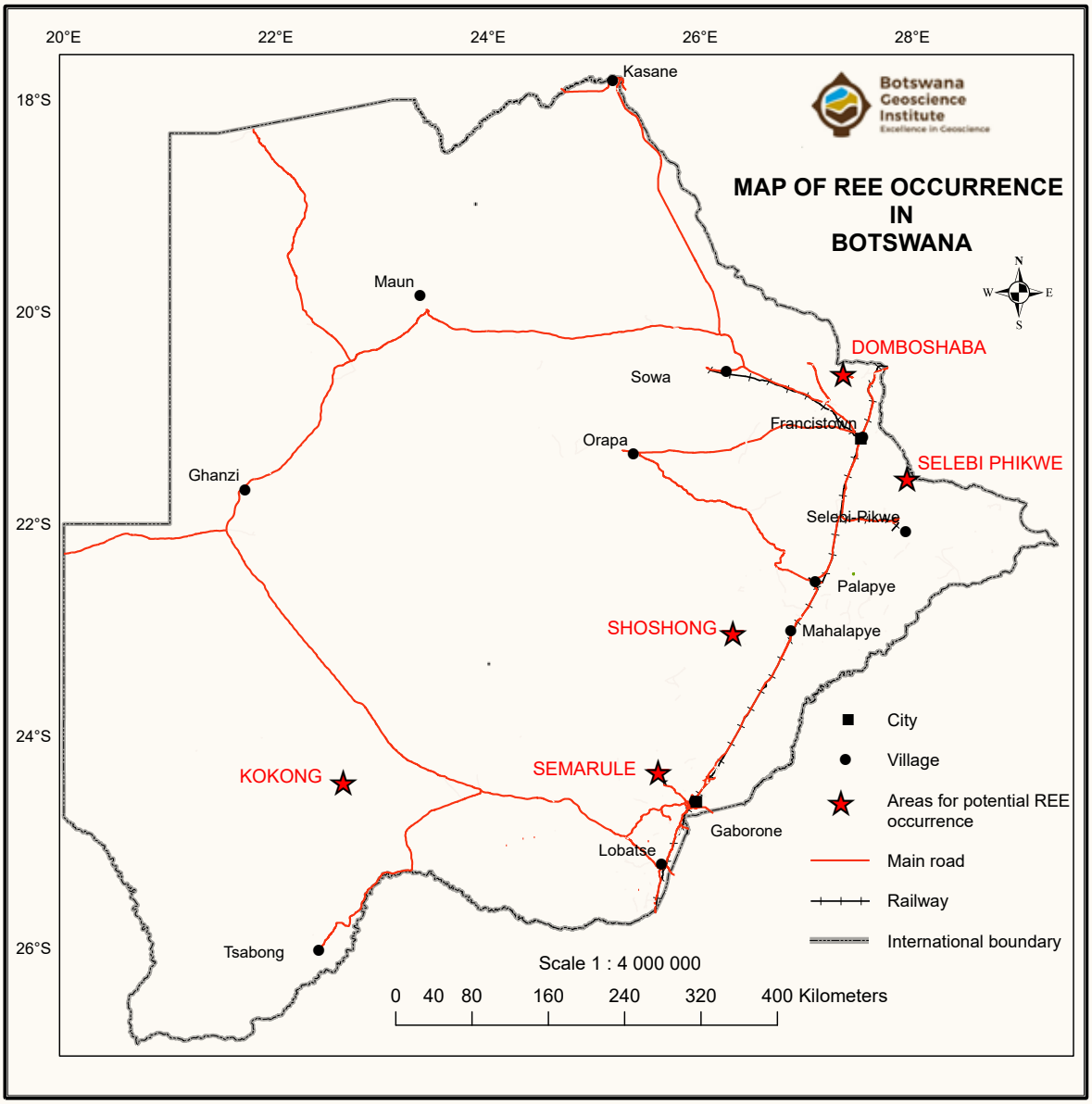


Figure 4: Location map for identified areas for potential REE occurrence.

Project highlights

Kokong

The Kokong area is completely covered by the Kalahari bed hence geophysical survey (magnetics and gravity) was deployed to map the subsurface geology. To delineate the target existing aeromagnetic data was used ***(figure 5).*** The aeromagnetic data was flown along the east-west traverses at 10km line spacing with north-south control lines at 50km line spacing.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Rare Earth Elements and Battery Metals Occurrence in Botswana (Cont.)

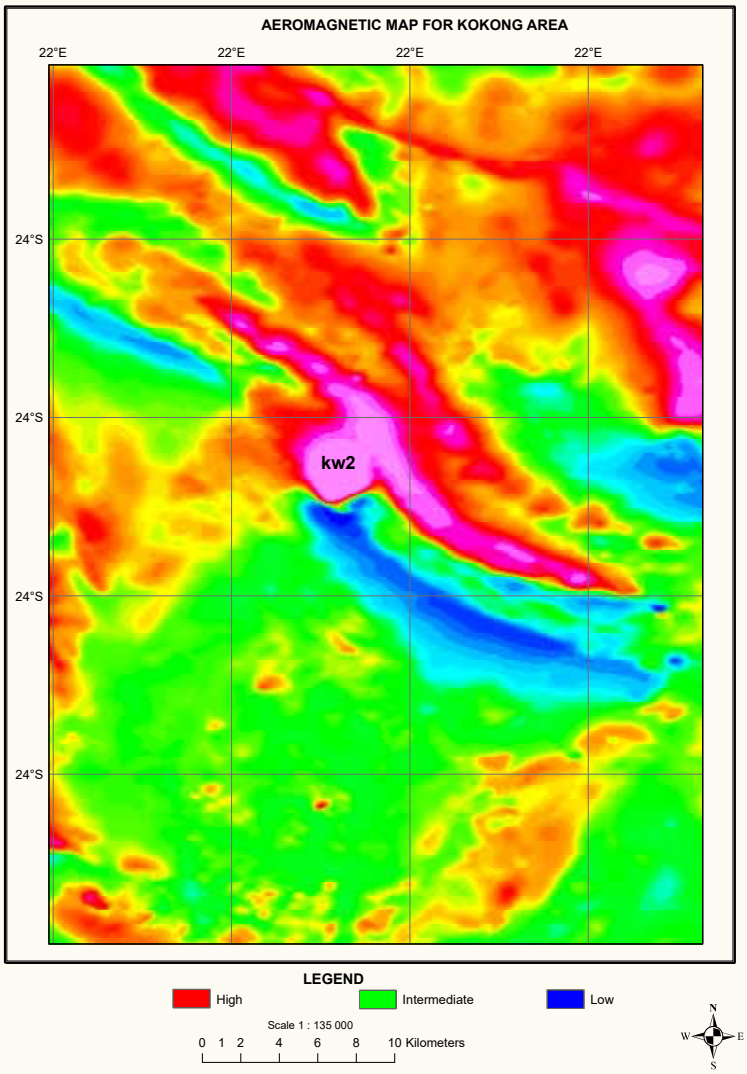


Figure 5: ***Total Magnetic Intensity Aeromagnetic map for Kokong area indicating the location of KW2 carbonatite.***

Gravity and magnetics were carried out at a Station spacing of 50 m. Since there is no existing International Absolute Gravity Base Station Network (IGSN) close to the grid, the survey could not be tied to the national grid. Both datasets were processed using Seequent Geosoft OASIS MONTAJ v.9.1 software. The processed gravity and magnetic data are an aid in qualitative interpretation by applying appropriate Fourier domain filtering. Interpretation of the national aeromagnetic data within the Kokong area has yielded positive results as the known carbonatite reported by both Falconbridge (PTY) LTD and Faith at work (PTY) LTD was clearly visible as magnetic high on the map labelled a green star as KW2 (Figure 5). Carbonatite has been reported to have a significant amount of REE and metals such as Nickel, Cobalt, Chrome, Vanadium and Copper.

Joint forward modelling of the processed ground geophysics, which included ground magnetics and gravity was carried out to aid in quantitative interpretation. The results of the forward modelling show a near-vertical intrusive body buried at depths of about 200 metres below ground level. The results of the forward modelling from ground geophysics assisted in the conceptual understanding of the probable Kw2 carbonatite intrusion and act as a guide to the constrained 3D standard and magnetic vector inversion.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Rare Earth Elements and Battery Metals Occurrence in Botswana (Cont.)

The recovered constrained standard and magnetic vector inversion susceptibility models describe the shape and depth extent of the Kw2 carbonatite. The result of the inversion is the creation of a geologic model which can be used to generate targets for drilling. The geologic model can be improved by more drilling and petrophysical data. The results of the constrained 3D standard ***(figure 6)*** and magnetic vector inversion will be used to generate three drilling targets to be drilled in the next financial year.

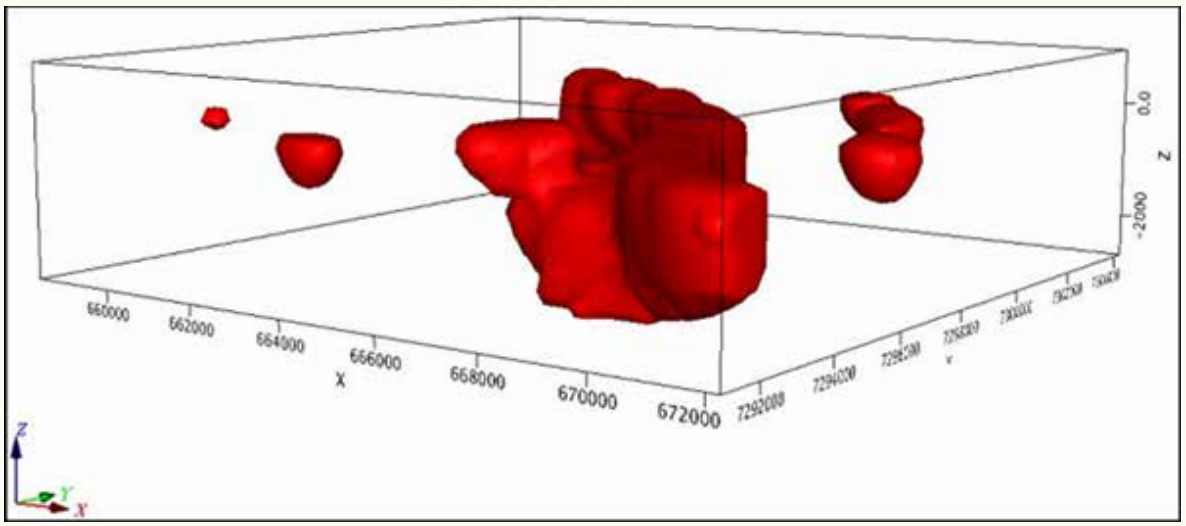


Figure 6: ***Constrained Standard Magnetic Inversion susceptibilities isosurfaces >0.011 SI.***

Shoshong

The Shoshong area was granted to Impact Minerals under the Prospecting Licence 123/2008, to prospect for radioactive minerals. A total of seventeen (17) boreholes were drilled using the reverse circulation drilling technique which was carried out from July to August 2011 and a total of 3,229m drill core was recovered. Drilling was conducted at Red Hills prospect and it was noted that it has similar characteristics that occur in Proterozoic-age Iron-Oxide Copper Gold (IOCG+U+REE) deposits. The Red Hills prospect is characterized by the occurrence of anomalous Cu above 0.1%, Au above 0.1g/t, Total Rare Earth Elements (TREE) above 0.2% and U above 80ppm U_3O_8.

From the desktop study which included the processing of satellite images, interpretation of aeromagnetic data and geochemical survey data gathered during the literature review was used to delineate targets in the study area. The targets were followed by ground-truthing the selected areas and geochemical sampling of both rocks and soils.

A number of analyses were done amongst which an inductively coupled plasma mass spectrometry (ICP-MS) technique was used. The samples were analysed at UIS analytical Services Laboratory in South Africa. The results show that Shoshong sedimentary and igneous rocks exhibit varying REE content with TREE ranging from 39.50 to 4591.80 ppm. Only one (1) sample showed TREE values above 4090ppm, seven (7) samples plotted within a range of 850 to 3280ppm and the remaining forty-six (46) samples ranged between 40 and 850 ppm. The light Rare Earth Elements (LREE) are relatively enriched compared to Heavy Rare Earth Elements (HREE).

Rock and soil sample concentration values were compared to those of the Upper Continental Crust (UCC) abundance from (Wedepohl, 1995) and Pd concentration adopted from (Britannica, 2021) in ppm. ***Figure 7*** below displays all the metals investigated during the study, arranged in the order of increasing crustal abundance plotted against the average concentration of the samples.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Rare Earth Elements and Battery Metals Occurrence in Botswana (Cont.)

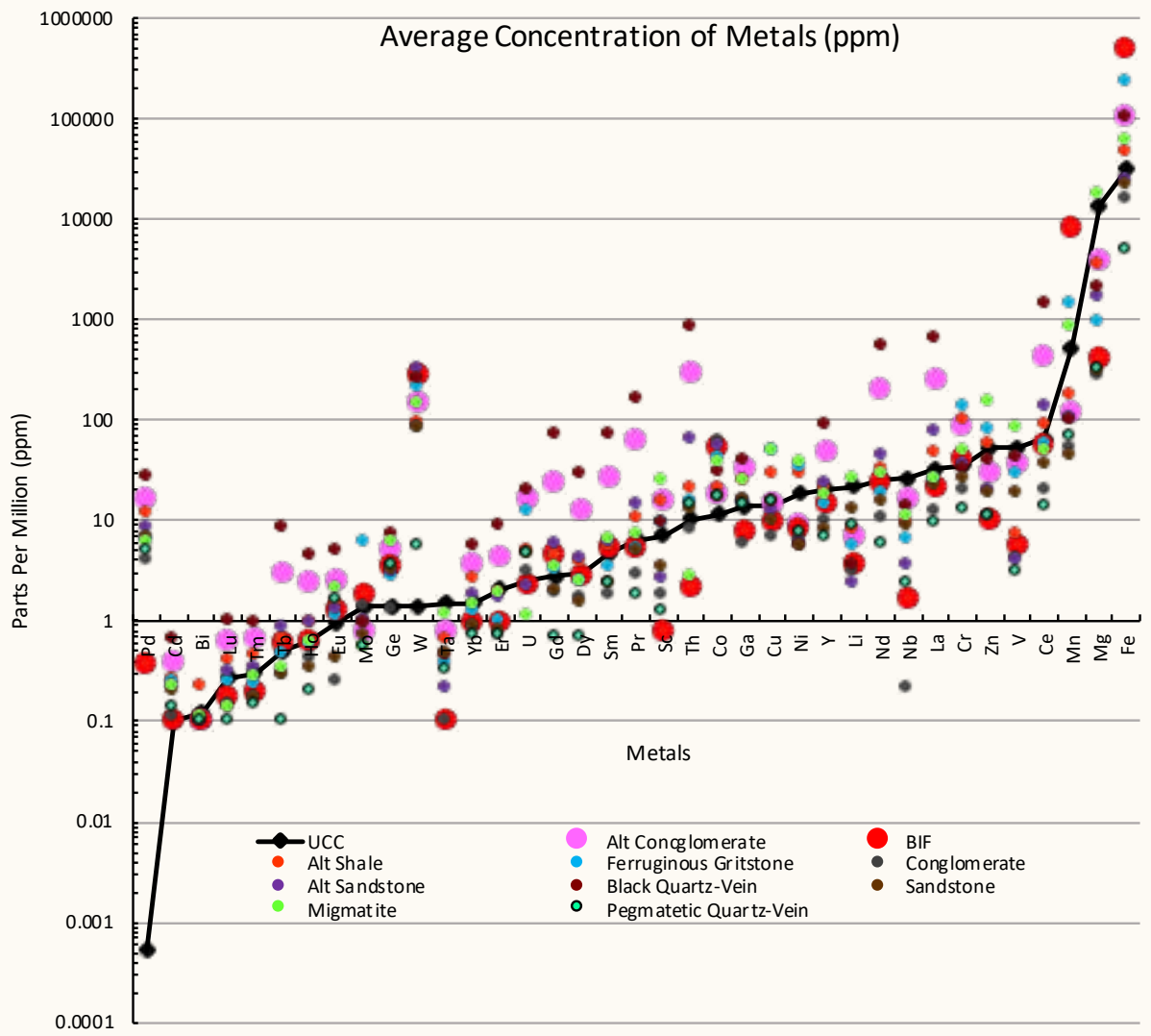


Figure 7: Plot Upper Continental Crust abundance against average concentration of individual sample.

Conclusion

The processed ground and airborne geophysics data from Kokong and modelling of the Kokong carbonatite were successfully completed with the delineation of the KW2 anomaly and other carbonatites in the areas.

It is evident that most of the samples from Shoshong area are anomalous for different metals investigated, with anomalies coming from Pd, W, and others. Most anomalous samples were from Black quartz-veins and altered conglomerates units.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

SHALES ASSESSMENTS

The purpose of this project was to identify and assess shale deposits that can be developed for artisanal mining in Botswana by communities living around the deposits. Shale deposits are associated with the Karoo supergroup which covers most of the country although in some areas they are deeply covered by the Kalahari sands.

The Identification, assessment and development of Shale project is an initiative to promote citizen participation in the mineral sector through small-scale mining. The project will not only promote citizen participation in the mineral sector development but will also fulfil the needs of Batswana in the construction sector as it will provide raw material for the construction industry as a dimension stone. In addition, the project will create employment in the areas of interest.

Structures such as fractures and joints are vital to observe the shales since they affect the cutting and breaking of the rock.

Laboratory testing to determine the quality of the shale, was performed by analysing both the physical properties and mineralogical composition of the samples. The Laboratory results were then used to determine the end use of the shale. Some are qualified to be used as pavers, floor tiles and roofing tiles.

A total of eleven (11) sites were studied across the country and some of them were already exploited by local communities for domestic use such as paving and construction of boundary wall.

Most of the site is qualitied to be used for all major end uses which are pavers, floor and roof tiles (Palapye, Palamaukue, Malaka, Mosolotshane, Moiyabana, Diphawana, Botepetepe and Lobatse) except the Khuis and Mogobane shale deposits. Khuis had poor physical properties which meant that it didn't qualify to be used as paver or tiles and because of its high effloresce it couldn't be used as a roofing tile of decorative ornament. Mogobane Shale is highly fractured and jointed; therefore, it is a good site for Cladding Shale ***(figure 8).***

Figure 8: ***Mogobane Shale deposits, showing an example of a highly fractured Shale which is perfect to be used for cladding.***

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Shales assessments (Cont.)

The thickness of Mosolotshane Shale disqualified it to be used as a roofing tile because it is too heavy but it can be used as pavers.

Although most of the shales are already being exploited it was concluded that more exploration work is needed to establish both the quality and quantity of the deposit with depth. A detailed study which includes, trenching, bulk sampling, drilling, and feasibility is proposed to determine the homogeneity of the shale laminar thickness and quality.

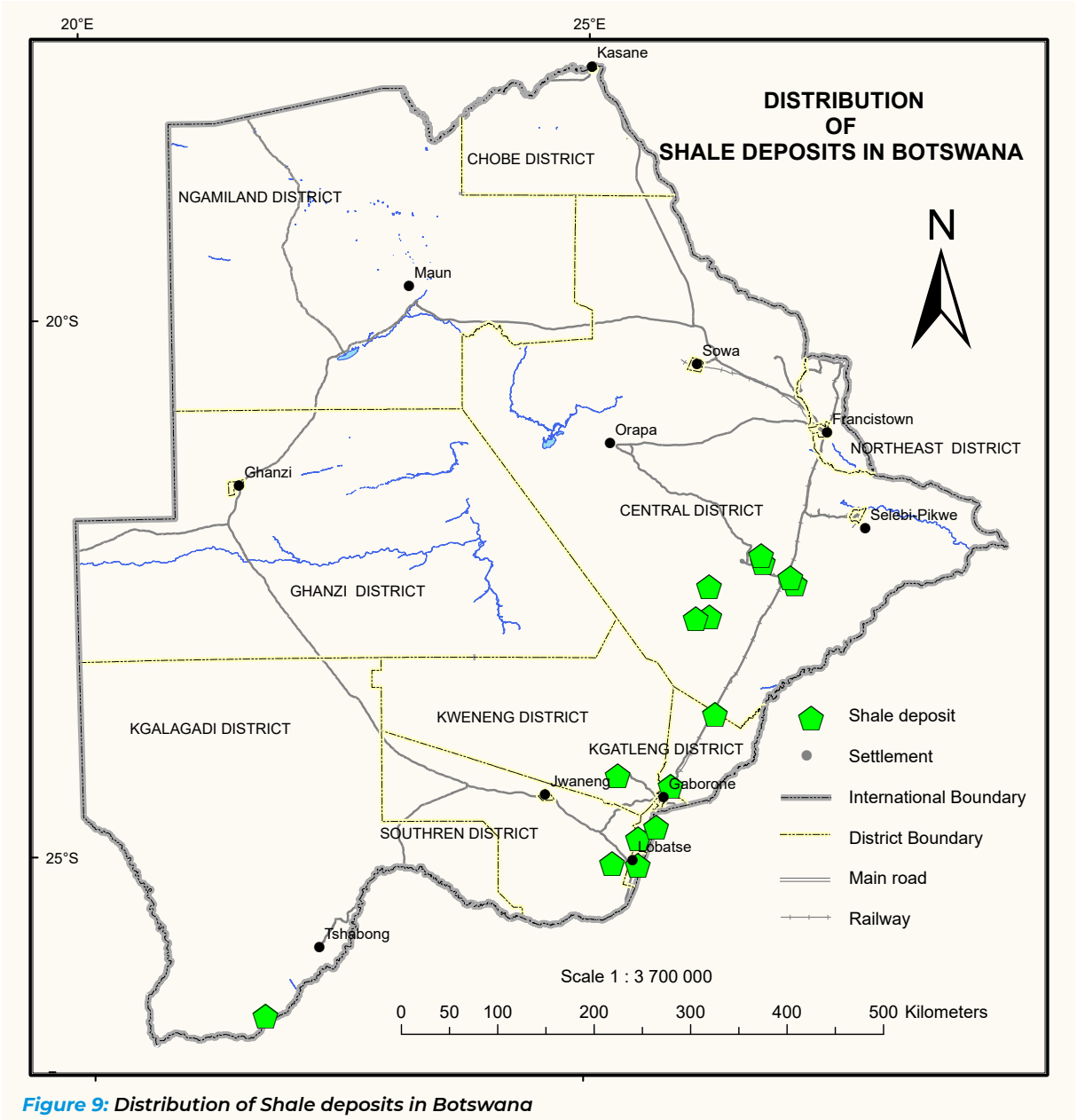


Figure 9: Distribution of Shale deposits in Botswana

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

MINERAL ACCOUNTS

BGI compiles Mineral Accounts under the Natural Capital Accounting (NCA) and Wealth Accounting and the Valuation of Ecosystem Services (WAVES) programme coordinated by the Ministry of Finance.

Mineral accounts are an appraisal of the nation's wealth beyond Gross Domestic Product (GDP) income statements and are derived from various sources of the Ministry of Finance Reports as shown in the figure below;

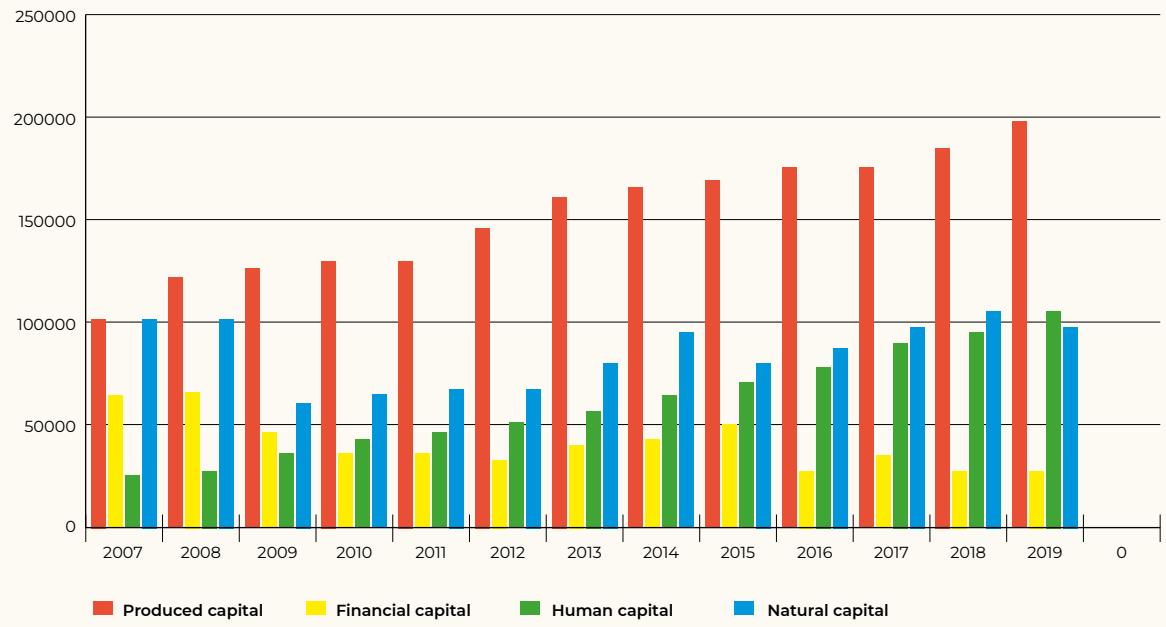


Figure 10: Classification of use of proceeds from Mining for sustainable development.

Notably, the accounts are key for development planning purposes and highlight gaps in policy developments. The reports produced have resulted in what is termed the "ACCOUNTING PUSH" where physical stock flows and economic accounts flows (mineral rents, economic values and depletion component of rent) for the major mined mineral are updated to see whether the country is living off its natural capital or not. The way natural resources are valued in society is changing hence the "POLICY PUSH" has now become pressing for governments to deduce policy messages at different levels of decision-making.

These reports adopt the System of Environmental and Economic Accounts (SEEA) classification concepts which are consistent with the classification and definition of the System of National Accounts that provide updates on the National Balance sheet to enable Macroeconomic Indicators of Sustainable Development.

The accounts ensure that mining, which is a key economic activity and revenue-earning stream for Botswana, is done in a way that doesn't compromise future generations'. The key main spheres in this process are;

i) Mining is done at an economic benefit and its proceeds are invested to other forms of capital (Human, financial and produced) for sustainable development.
ii) To incorporate environmental sustainability in operations.
iii) To keep record of flow of stocks to track if Botswana is living of its natural capital or not.

Diamonds continue to the largest contributor to the major mined commodities. Coal mining's economic benefit is realized in its usage for power production for ensuring energy security. Copper or base metal mining is not included after closure of base metal mines which were in operation until 2016. Records of the newly opened base metal mines are being incorporate.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

MINERAL ACCOUNTS (Cont.)

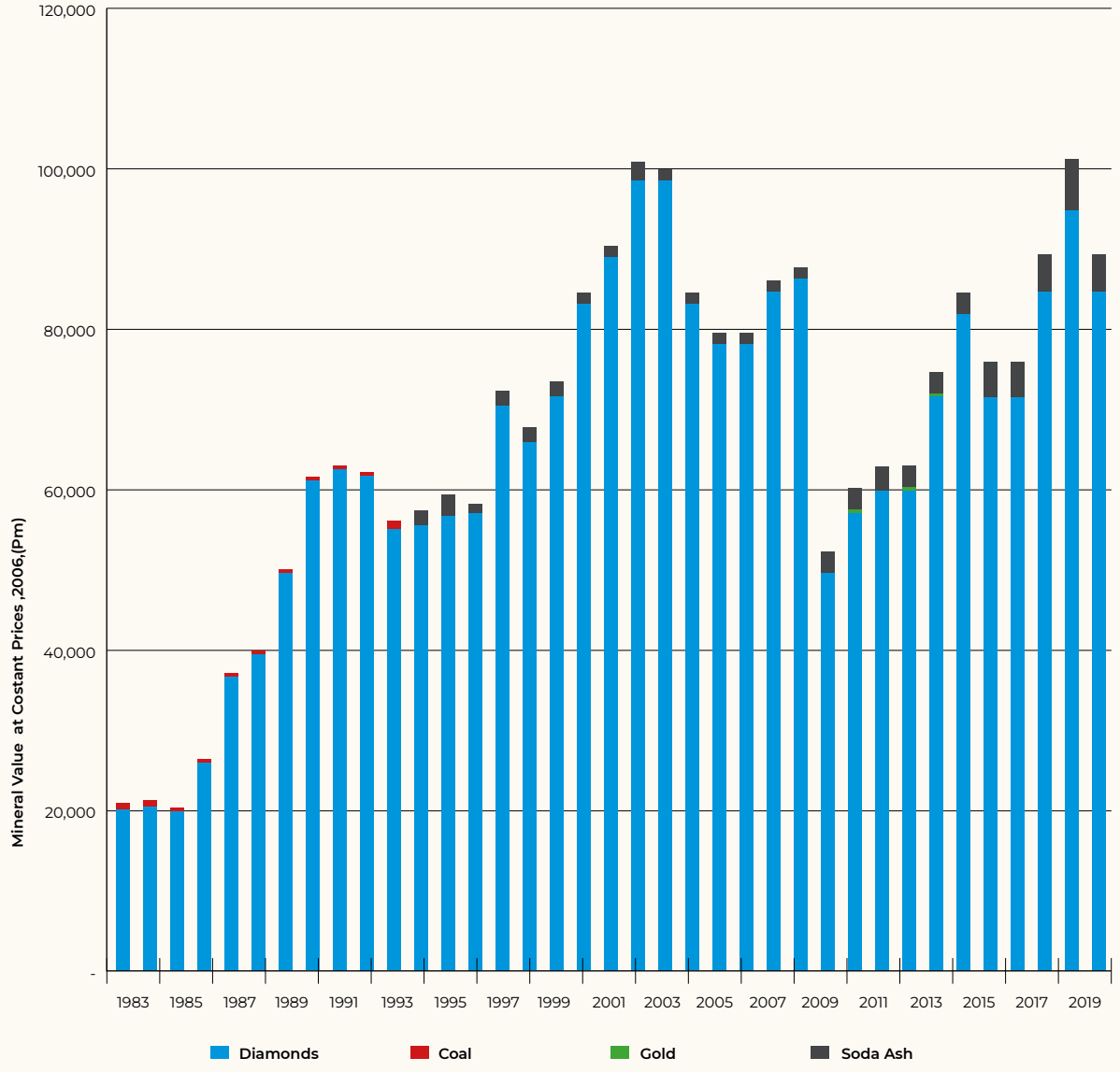


Figure 11: Mineral Value at constant prices ,2006,(Pm)

Diversifying mineral revenues. Prospecting activities in Botswana had a growth trend over the years. Its contribution to the total GDP in 2009 was 406.1 million Pula and in 2019 it recorded 785.6 million Pula. From 1995, coal recorded negative mineral rents and does not show on the graph above.

Ongoing work and Future development of the project

- Enhancing and optimising mineral resource and reserve development, exploitation and accounting/reporting.
- Undertaking research and producing policy briefs that advise on the country's optimal mining from the policy and governance framework.

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

EARTHQUAKE MONITORING AND FACTS

Introduction

Natural hazards such as earthquakes jeopardise public health and safety, threaten critical infrastructure, and can cost the economy millions of Pula if not adequately monitored. BGI, therefore, studies these hazards to provide information and warnings to populations at risk and influence policy and infrastructure development. This also facilitates proactive response at all levels.

The Institute undertakes seismicity/earthquake monitoring through the Botswana Seismological Network (BSN) and Global Telemetered Seismograph Network (GTSN). BSN is a countrywide state-of-the-art network of twenty-one (21) digital, three-component, broadband, telemetry-enabled and autonomously recording seismographic stations with a high availability rate of 86%.

BSN detects and locates earthquakes in Botswana, the surrounding areas and from all over the world on a continuous basis. The seismological observatory of the BSN provides high-quality time series datasets that allow research in understanding the causes of earthquakes, and to advance strategies for minimizing loss of human life, property damage and socio-economic disruption.

The seismicity information is useful in the assessment of seismic hazards and the potential for future damaging earthquakes in the country, and contributes to the development of seismic disaster risk reduction strategies.

The BSN has provided detailed information on the seismicity of Botswana and of southern Africa to be obtained over a 12-month period of April 2021 - March 2022 ***(Figure 12)***.

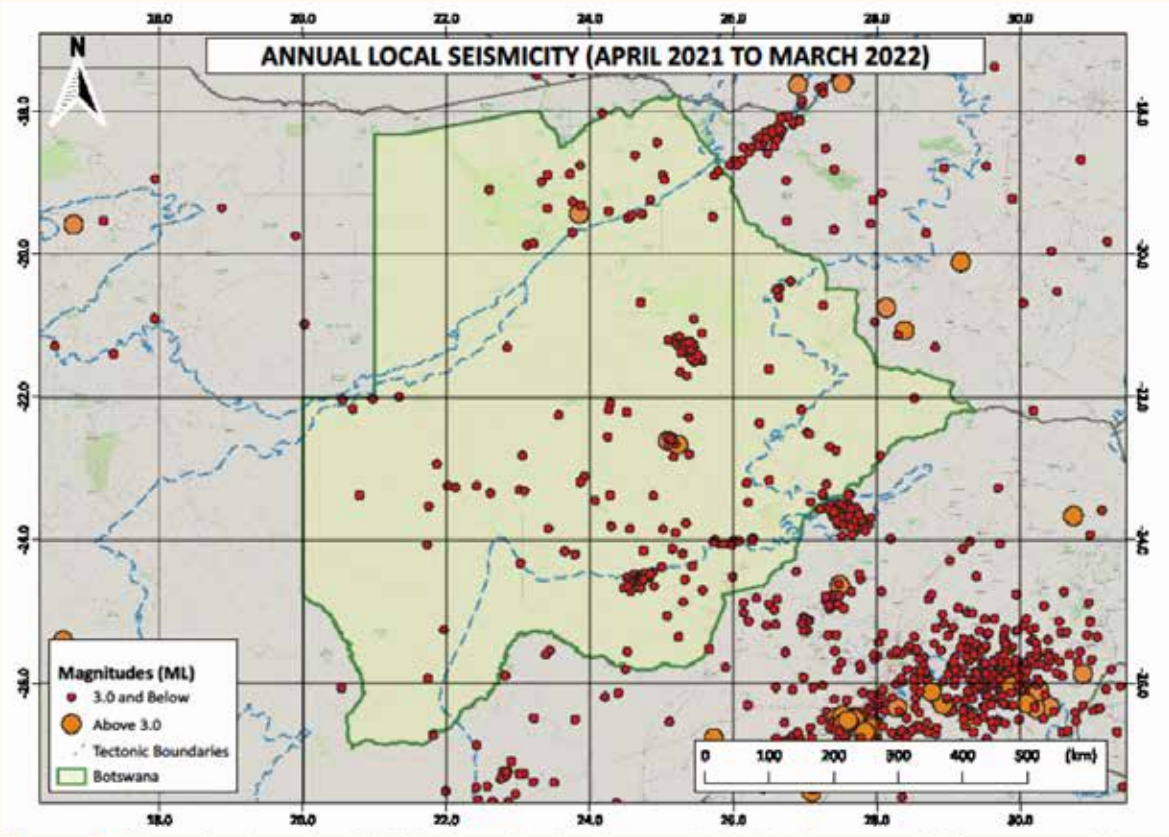


Figure 12: ***Map showing the distribution of seismic events in Botswana and the surrounding area recorded by BSN stations during the period April 2021–March 2022.***

RESEARCH,ENVIRONMENT AND LABORATORIES (Cont.)

Earthquake monitoring and facts (Cont.)

The availability of high-quality data from the BSN provides a wide window of opportunities for undertaking fundamental research in earthquakes, including characterization of regional, national, and micro-zoned and seismic hazard maps, as well as detailed imaging of the earth structure based on a variety of techniques of seismic tomography. One major development during the year was the acquisition and installation of the SeisComp software that enables the automatic processing of incoming waveforms, thereby reducing lead time in the reporting of events.

The Global Telemetered Seismograph Network (GTSN) is one of the 120 auxiliary seismic stations of the International Monitoring System (IMS) deployed within the framework of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The IMS global seismic observatories provide seismic forensic data for the verification regime of the CTBT to detect any nuclear explosion conducted anywhere on Earth.

During the reporting year, the LBTB station continued to provide high-quality seismic waveform data that complemented data from the BSN stations in the accurate detection and location of events for the production of the biennial bulletins. In addition, the station contributed to the detection and location of teleseismic earthquakes as well as in the refinement of the global earthquake model (GEM). Data was relayed to all the designated destinations without any interruptions.

Selebi-Phikwe Microseismic Monitoring

Since 2018, the Selebi-Phikwe area (SPA) has been experiencing spasms of low-magnitude microseismic activity. These micro-seismic events were significant enough to cause alarm.

The Institute initially intervened to establish the cause and advise accordingly. This was done through partnering with Aqualogic and Open House Management Solutions (OHMS) through the deployment of a network of seismic sensors to characterise the events in terms of distribution, time and frequency. Results of this study identified that the South East Extension Shaft of BCL is the source of the micro-tremors. The government of Botswana implemented recommendations and tremors reduced significantly in both frequency and magnitude.

BGI also worked with the Institute of Mine Seismology (IMS) to conduct long-term seismic monitoring in this area. Improvements were made during the year to have the stations relaying data to IMS on a real-time basis, enabling immediate processing and prompt response. For the period April 2021-March 2022, seismic activity rates have significantly decreased with April 2021 having the highest seismic activity while March 2022 was the least seismically active month ***(Figure 13).***

A cluster of seismic events is located along the south-east extension shaft of the BCL mine, further proving the association of the tremors with the BCL mine. As much as continuous monitoring should be sustained, it will also be necessary to start considering long-term management of the situation, even post-mine closure.

The main challenge in the Selebi-Phikwe Microseismic Monitoring Network (SMMN) remained relatively high station downtimes and poor network communication within the SMMN. A local BGI service office situated in Selebi-Phikwe could better provide quicker response.

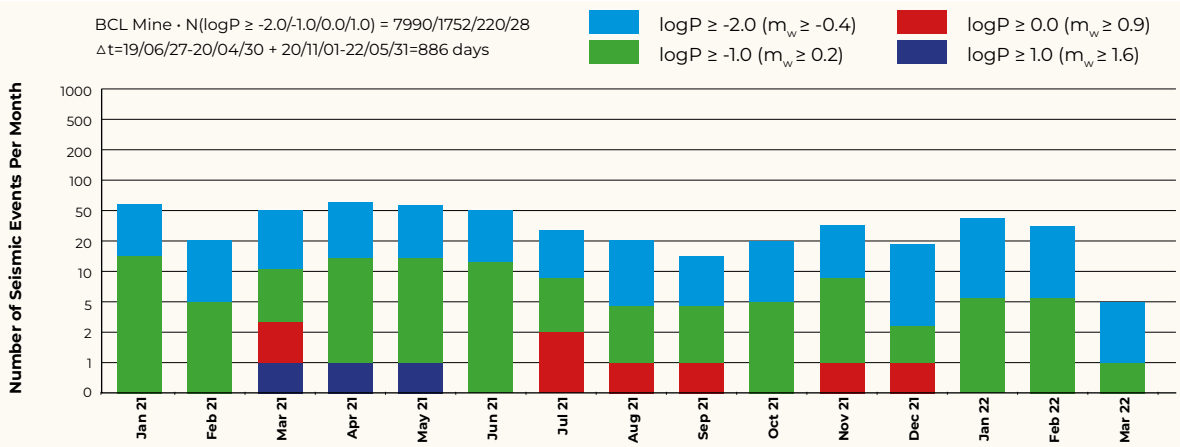


Figure 13: ***Cumulative number of microseismic events per month for the period June 2019 to May 2022***

LABORATORIES SERVICES AND QUALITY

Introduction

The Institute provides quality and timely service and accurate results through the use of reliable testing technology, competent personnel, and quality control/ quality assurance techniques in our value chain of service provision. The Institute's customer base includes private companies, academic institutions, Government, Departments and state-owned enterprises and the general public.

The BGI laboratories are implementing ISO/IEC 17025:2017 standard which is a general requirement for the competence of testing and calibration laboratories in order to earn international recognition. This standard enables laboratories to demonstrate that they operate competently and can generate consistent and valid results, thereby promoting confidence in their work both nationally and globally.

Pursuant to endorsing its service, the laboratory's management system documents have been reviewed by SADCAS with the next step being initial assessment and then accreditation. Furthermore, to drive and enforce the laboratory quality control and assurance protocols, the Laboratories have recently launched LIMS. LIMS plays a key role in automated data integrity solutions which guarantees and secures the searchability and traceability of data to its original source, reducing human error and thereby greatly increasing the validity of results.

Proficiency Testing

The laboratories participated in proficiency testing schemes offered at different levels to assure the quality of the results and confirm the competence of its personnel ***(Figure 14)***. The laboratory achieved excellent performance in both SADCMET and GeoPT as demonstrated by the above-target results obtained throughout the year.

- SADCMET Water Proficiency Testing Scheme **(Regional)**
- International Association of Geochemists Proficiency Testing Scheme (GeoPT)-**UK (International)**

Messrs Thatayaone Pule (Analytical Chemist) and Mogorosi Moshagane (Laboratory Technician)

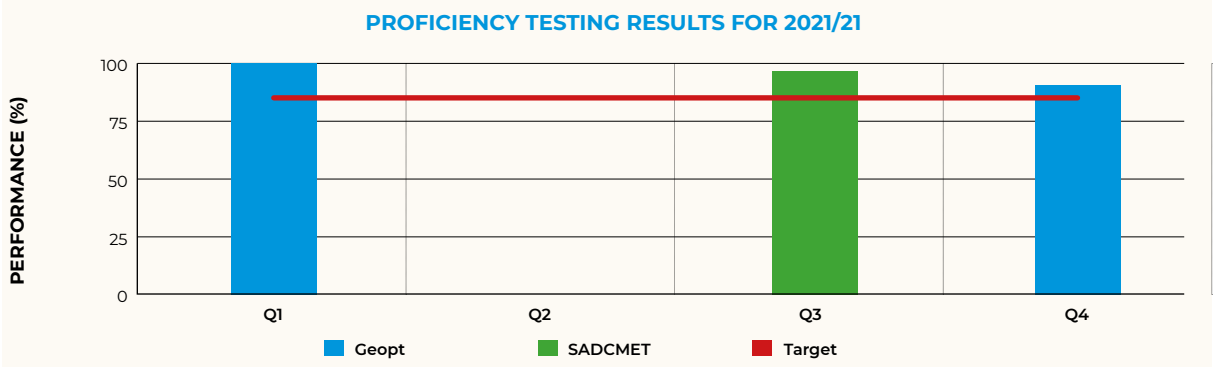


Figure 14: % of Parameters Passing in Proficiency Testing (PT)

LABORATORIES SERVICES AND QUALITY (Cont.)

Proficiency Testing (Cont.)

BGI Laboratories undertake physical and chemical parameters testing on geological raw materials such as soil, rocks, ores and water. The laboratory uses quality control protocols in its processes to assure the validity of results. These include the use of appropriate Certified Reference Materials, interlaboratory comparisons and participation in proficiency testing among others.

Services Provided During FY 2021/22

The laboratories provided testing services for several BGI projects and external customers during the financial year 2021/22. The laboratories provided services to the following BGI projects:

- **Limestone project** – the Laboratories received four hundred and sixty-eight (468) samples for the limestone Project. The samples were dried, milled and pulverized at Mineral Dressing Laboratory using the Retsch Disc mill (DM 200) followed by the Retsch Vibratory Disc Mill (RS 200). The milled samples were analysed for loss on ignition and 10 major oxides using Zetium X-Ray Fluorescence Spectrometer.
- **Geotechnical project (Gaborone)** – Sixteen (16) samples were received from the project and were analysed for Atterberg Limits and grading. Only one (1) sample was analysed for the Specific Gravity test. Some portions of the samples were retained for use in quality checks /control whereas the remaining portions were outsourced for other analyses.
- **REE and Battery Metals Project** – Five hundred and eighty-six (586) samples were received from the Semarule project and twenty-one (21) for the reconnaissance project. Sample preparation and mineral identification were carried out at Mineral Dressing Laboratory and chemical analysis was conducted at Chemistry Laboratory.

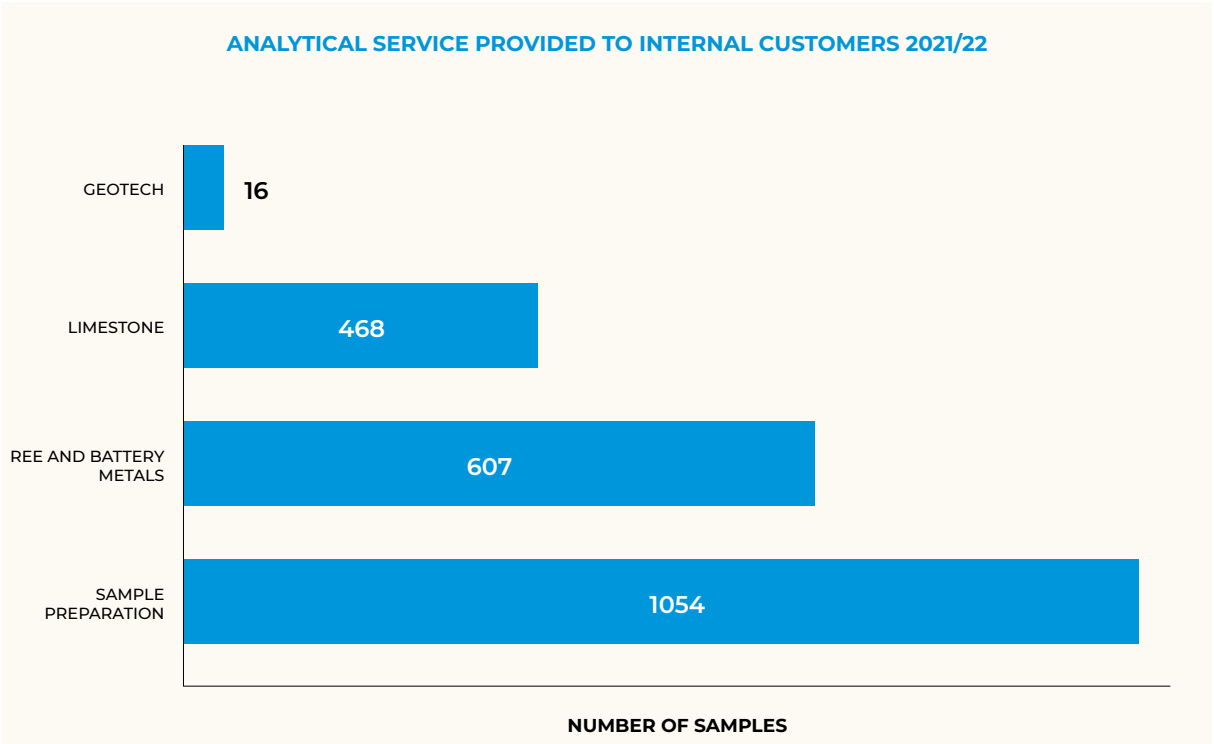


Figure 15: Analytical Service to internal customers

LABORATORIES SERVICES AND QUALITY (Cont.)

Services Provided During FY 2021/22 (Cont.)

The following services were offered to external customers:

- **Specimen characterisation and identification:** This service is offered to provide forensic advice to the police. Mineral identification on diamonds is also offered to Diamond Trading Company Botswana (DTCB) and Diamond Hub. As for the 2012-2022 financial years, the Laboratory received seven hundred and twenty-three (723) samples from DMPU, four hundred and fourteen (414) from DTCB and three hundred and thirty-three (333) from Diamond Hub. Eighteen (18) suspected gold samples and sixteen (16) suspected copper samples from the Diamond and Minerals Protection Unit (DMPU) were analysed.
- **Construction aggregates** – The laboratory received three (3) samples for AIV, LAAV, Water Absorption and Specific Gravity analysis.
- **Grading** – The Laboratory also received ten (10) sample analysis requests for particle size distribution (PSD) from UB (8 samples), BITRI (1 sample) and an individual with one (1) sample.
- **Sample preparation:** The Laboratory received eleven (11) samples for preparation crushing, milling and pulverization). Samples were submitted by UB (1) and BIUST (10).
- **Full brick testing:** A request was received from Kokong Village Development Committee to assess clay in their village to check its suitability for application in pottery and brick manufacturing. Five (5) samples were collected for pottery and brick production. The five samples were analysed for Atterberg limits, Particle Size Distribution, both Drying and Fired Shrinkage, Water Absorption, Compressive Strength and Efflorescence.
- **Water Analysis:** A total of seventy-seven (77) samples were analysed for heavy metals and major constituents for Four (4) customers.
- **Geochemical Analysis:** The laboratory analysed a total of four (4) samples of major oxides for two (2) customers and one hundred and three (103) samples for single elements for two (2) customers.

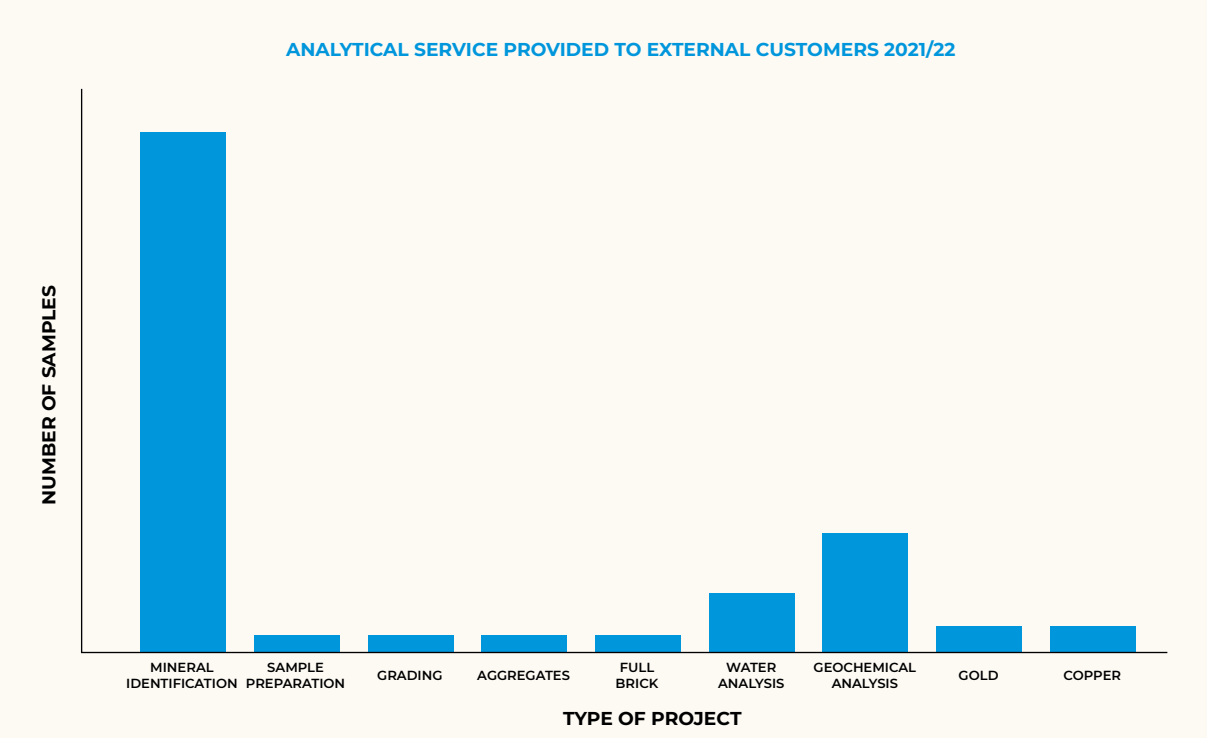


Figure 16: Analytical Service to external customers

FINANCIAL REVIEW AND MANAGEMENT DISCUSSION

Introduction

The 2021/22 financial year began with uncertainty due to the advent of the COVID-19 pandemic. This year progressed the Revised Strategic Plan approved in May 2020. Its implementation has automatically been affected by the drastic 22% budget cut for the current financial year. It has been a very difficult year where operational projects were minimally funded with a huge bill going towards wages. This report summarizes the Institute's full-year performance as at 31 March 2022.

Overall performance

The financial performance for the twelve (12) months ending 31st March 2022 shows total revenue (including interest/finance income) of P82.6 million from the following sources including both NDP 11 project funding & interest income.

- Government Grants are the main contributor at 73% of total income;
- Drilling Services;
- Office lease/rentals;
- Income from Collections;
- Laboratory Services;
- Third Party administration fees;
- Meeting room rentals.

FY 2021/22 full-year balances indicate a P3.3 million deficit derived from actual total revenues of P82.7 million inclusive of both NDP 11 project income, other operating income and finance income, in comparison to actual total operating expenditures, NDP 11 projects and recurring project expenditures of P85.9 million.

Figure 17 below depicts a summary comparison of total revenue and operating costs versus prior year performance. The graph illustrates that BGI has collected P82.7 million as at 31st March 2022 compared to P85.8m in the prior year, a 4% lower than the prior year's performance. Operating costs for the same period stood at P85.9 million in comparison to P84.0m in the prior year, a 2% above prior year performance.

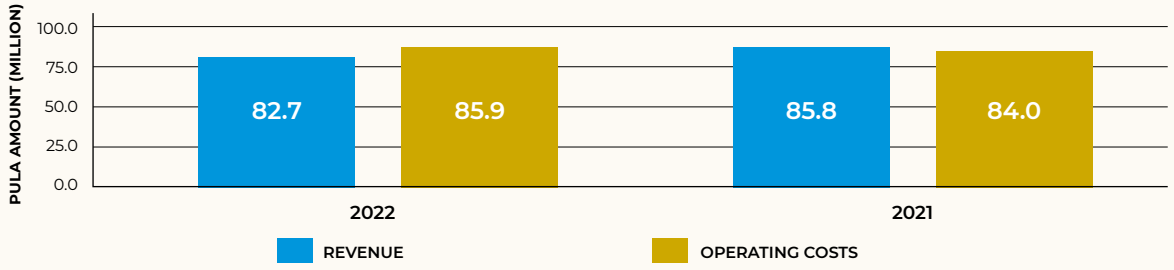


Figure 17: YTD 2021/22 Financial Performance

Operating Expenses

Figure 18 below depicts the Operating costs comparison as at March 31, 2022. The operational expenditure is skewed towards staff costs at 68%. Other than depreciation on the Institutes fixed assets.

Data Management is the next significant spender at 4% of total operating expenses followed by Water and Electricity and Motor Vehicle expenses at 3% each.

Operational Costs for YTD Ended 31 March 2022

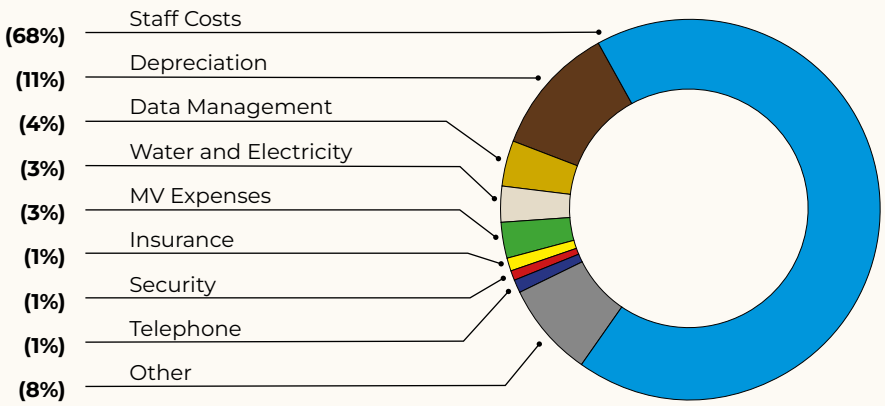


Figure 18: Operational Costs for YTD Ended 31 March 2022

FINANCIAL REVIEW AND MANAGEMENT DISCUSSION (Cont.)

Development and donor funded projects

The Institute undertakes a number of projects with its strategic partners and some are pursued as directions from the shareholder through the Ministry of Minerals and Energy. These projects include, but are not limited to, National Development Plan projects, and emergency responses such as tremors and earthquake monitoring. The table below shows such projects with the scope, budget estimates, expenditure and milestones as at 31 March 2022.

Table 7: Projects budgets and expenditure as at 31 March 2022.

Project	Total Project BUDGET	Expenditure as at March 2022	Comments
Interpretation of Aeromagnetic data of Northern Botswana **(National Development Plan 11 Project)**	**P 10,340,000**	**P 9,182,666.49**	This project was considered and approved in National Development Plan 11 with the scope comprising primarily the interpretation of existing high-resolution aeromagnetic data covering the northern part of Botswana together with other available geoscience information such as gravity, radiometrics, electromagnetic, remote sensing and borehole data to produce at variable scales (1:125 000; 250 000; 1 000 000), geological, geophysical, hydrogeological and mineral potential maps, and subsequently update the National Geological Map of Botswana, which was last updated in 1997. The project is 97% complete. The final Project Report, the National Bulletin, the project database and the GIS files were in the final stages of completion.
National Integrated Geoscience Information System - NIGIS **(National Development Plan 11 Project)**	**P 20,680,000**	**P 14,327,863.03**	Ministry of Minerals and Energy commissioned the NIGIS project under NDP 11 with the aim of facilitating easy access and sharing of data on a common platform for internal stakeholders and external customers. The project which is at 88% complete, will be completed in August 2022. Milestones include; · System integration which covers LIBWIN, Geoscience Portal, BoreHive, and Mining Cadastre development are notable areas which have progressed well; · Mining Cadastre, which will include Mining and Prospecting License applications and permits, and submissions of quarterly and monthly review reports for active licenses to enable monitoring.
Selebi Phikwe Tremors monitoring	**P 8,000,000**	**P 7,540,611.11**	The project was started following reports of localised tremors in Selebi Phikwe in 2018. BGI continues to monitor these tremors and the following are actions carried out following the submission of the initial Report; · Installation of communications repeater tower; · Relocation of Mokomoto station to Phatsimo Junior school carried out successfully to improve communication; · The fourth additional station was installed; · Daily system status, weekly events reports submitted; · Continuous monitoring on a 24/7 basis maintained; · Surface station coordinates surveyed.

FINANCIAL REVIEW AND MANAGEMENT DISCUSSION (Cont.)

Development and donor funded projects (Cont.)

Project	Total Project BUDGET	Expenditure as at March 2022	Comments
Geological Mapping (South-East) JOGMEC	**P 1,558,106.00**	**P 1,377,369.74**	This is one of the partnerships/collaborations and some of the milestones are; • Mapping of Modipe Gabbro that is extending from South Africa into Botswana. The area adjacent to Modipane Hill is covered by black cotton soils which have been mapped for land use management. • Digitization of both remote sensing and field data to corroborate and update the recently collected data. (e.g. Theoletic Basalts). • Creation of shapefiles covering Molepolole, Kanye, Lobatse, Gaborone, Mmathethe, Mochudi and Marico areas by the use of QGIS and ArcGIS • Interpretation of geology and correcting continuity across sheet boundaries using Remote Sensing Imageries • Addition of structural data extracted from Remote sensing and geophysical images • Standardisation of colour codes for similar lithologies in the Mmathethe, Lobatse, Kanye and Gaborone QDS
Rare Earth Elements and Battery Metals (Ministry of Communications, Knowledge and Technology)	**P 2,6Million**	**P 407 162.36**	Department of Research, Science and Technology (DRST funded BGI to advance assessments of REE Deposits in Botswana. The two-year project started this financial year and the overall scope included mapping, sampling, geochemistry, geophysics and drilling in Kokong, Mahalapye, Domboshaba, Selebi-Phikwe. • Project has advanced by 20%. reconnaissance sampling, line cutting for geophysics and data acquisition were completed over the main carbonatite anomaly; • Geophysical modelling of the Kokong anomaly had begun; • Details of the project will be provided on the Project technical.
Global Tele-Seismic Monitoring	**P 416,430.86**	**P 20 558.66**	BGI undertakes seismicity/earthquake monitoring through the Botswana Seismological Network (BSN) and Global Telemetered Seismograph Network (GTSN). BSN is a countrywide state-of-the-art network of 21 digital and metered station, three-component, broadband, telemetry-enabled. Data is analysed to detect and locate seismic events locally, regionally and globally. The system is currently being enhanced, by acquiring and installing SeisComp 3, to automatically report and analyse seismological incidents at a near real-time capability. At the end of Q3, installation of the system was completed and thresholds of reportable incidents were being fine-tuned. During the Q4, BSN station availability stood at 85%, eighteen (18) were telemetered and three (3) data loggers were replaced to improve station availability. No new earthquakes were reported. The second Half (H2) seismological bulletin was completed.

PARTNERSHIPS, COLLABORATIONS AND NETWORKS

Introduction

Partnerships are a key component in undertaking organizational essentials and strategy delivery. They are necessary to kindle ideas and make a positive impact on every business's growth. The Institute has established several partnerships, collaborations and affiliations governed through Memoranda of Agreement, Service Level Agreements and Project Specific Agreements. The table below shows BGI's key partners and collaborations.

Table 8: ***List of Collaborative partners and areas of focus areas***

COLLABORATION PARTNER	FOCUS AREA OF PARTNERSHIP	COMMENTARY
Botswana International University of Science and Technology (BIUST)	• Resource sharing in projects management and capacity building • Research and Development of Technologies • Commercialisation of resulting technologies • Promotion of technology transfer in partnership with relevant agencies. • Training and manpower development	BIUST Labs used during Geotechnical Mapping of Palapye. BGI Utilized BIUST Labs for testing and analysis. Dr J Yandew is the editor of Palapye Geotechnical report. Both institutions are involved in a joint research project on Coal beneficiation for the metallurgical industry project" Led by Prof Musenda and funded through BIH and is currently ongoing. Milestone one (1) that involves BGI is funded at BWP 120,000.00.
Botswana Institute of Technology, Research and Innovation – (BITRI)	• Undertake Research and Development of construction materials from locally occurring limestone. • Identification of the existing limestone deposits, prospecting for new limestone deposits, sampling of limestones, investigation of the fit for purpose of prospected limestones in the production of clinker &/ or associated building materials products, • Quantification of the fit-for-purpose of limestone resources, for the determination of the commercial viability of exploiting those limestone resources in the production of clinker & associated building materials products	Achieved Project to date a) Letlhakeng: i) Drilling of fifty-three (53) Boreholes completed, ii) 6/6 bulk samples collected for prototyping and Beneficiation. b) Geological modelling and resource estimation commenced (Using Micromine) c) Prototyping and beneficiation d) Geological modelling and resource estimation using micromine e) Report progressed to 70%.
Japan Oil Gas and Metals National Corporation (JOGMEC)	• The use of Remote Sensing for Geo-Exploration with emphasis on Base Metal Exploration • Capacity building • Joint project in South East of Botswana Mapping	BGI & SADC Nations have now been trained in Remote Sensing, and the undertaking of joint projects, and satellite data has been provided by JOGMEC for use by its partners. JOGMEC has since opened an office in Gaborone and all its operations are now carried out from that office.

PARTNERSHIPS, COLLABORATIONS AND NETWORKS) (Cont.)

COLLABORATION PARTNER	FOCUS AREA OF PARTNERSHIP	COMMENTARY
Ministry of Communications, Knowledge and Technology (MCKT) Republic of Botswana	• Joint Agreement on REE research and training • Fully Account for the expenditure of the Project Funds using generally accepted accounting principles • Put in place processes to ameliorate and prevent recurrence of audit findings • Enter in its asset register all assets purchased with the Project Funds • Annual Report prepared by an independent auditor arranged and paid by BGI • Submit a Technical Report to the Sponsor (Annually)	a) At the beginning of FY 2021/22, BGI was awarded BWP 2,600,000.00 from the Department of Research, Science and Technology (DRST) to advance assessments of REE Deposits in Botswana. Overall, the scope included mapping, sampling, geochemistry, geophysics and drilling. Kokong, Mahalapye, Domboshaba, Phikwe. b) By end of FY 2021/22, a mineral assessment at Shoshong progressed from 80% to 95% and Shoshong/ Mahalapye at 20%. Reconnaissance surveys in the Phikwe and Domboshaba areas were completed. c) MCKT signed an agreement to assist BGI with BWP 226, 410.00 for staff development which commenced in 2021/22 FY.
Air Force Technical Application Centre (AFTAC) USA	Global Seismic Network Station (the purpose of which is to monitor seismic activity, both natural and human-induced, for scientific applications as well as for enforcing the United Nations nuclear weapons disarmament regime under the Comprehensive Nuclear Test-Ban Treaty (CTBT)).	AFTAC pays a stipend of U$15,000 per annum for the maintenance of Magotlhwane seismic station.
United States Geological Survey. USGS USGS science for a changing world	• Economic Geology and Mineral Resources assessment • Acquisition, processing, analysis and interpretation of Geologic, geophysical, geochemical and remote sensing data • Geoinformatics and data integration • Joint implementation of programmes and projects • Joint Research, development and training • Organise joint workshops, conferences and symposia • Exchange of Scientists, scholars and specialists Exchange of scientific, scholarly and technological information and documentation	Before the establishment of BGI, the department of geological surveys signed an MoU in 1986 that assisted with the establishment of an initial seismological network in the county. the 1986 MoU needed to be revived with BGI. This commenced first with the signing of a Letter of Cooperation (LOC) in 2022. A detailed MoU was negotiated between the two organizations. The LOC also facilitated a project on the assessment of REE in Botswana at a total cost of USD 298,000.00. The project commenced in October 2021 and is scheduled to conclude in September 2023.

PARTNERSHIPS, COLLABORATIONS AND NETWORKS) (Cont.)

COLLABORATION PARTNER	FOCUS AREA OF PARTNERSHIP	COMMENTARY
African Seismological Commission - AfSC	Promotion of seismological research activity in the continent.	The Commission is a trans-African scientific organisation launched in 2014 by the International Association of Seismology and Physics of the Earth's Interior (IASPEI).
International Union of Geological Sciences (IUGS) Membership,	IUGS fosters dialogue and communication among the various specialists in earth sciences around the world, including organising projects meetings and sponsoring symposia and scientific field trips, and producing publications.	Botswana is a member through Prof. R. Mapeo of UB and the BGI Desk officer is Dr Tshoso. BGI has signed an evaluation of the potential for critical mineral resources in Southern Africa, with attention to the role of small-scale mining on the critical mineral supply chain.
PanAfGeo	The Partnership supports the training of geoscientific staff from African Geological Surveys through the development of an innovative training programme that includes the acquisition and development of important professional skills that complement their qualifications and technical skills.	The overall objective is to improve the governance and sustainable use of African mineral resources and related infrastructures. It also aims to strengthen the knowledge and skills in the Africa's mining sector and specifically of African Geological Surveys, to make them able to contribute, in their respective countries - with their expertise and data to inform decision-making and good governance as well as sustainable use of mineral resources.
Organisation of African Geological Surveys European Geological Surveys (OAGS)	Knowledge and skills sharing to foster and sustain geoscience programmes in relation to socioeconomic development, poverty alleviation, sustainable land use, hazard mitigation and environmental protection.	Established February 2007 and membership is open to National Geological Surveys. Its objectives include addressing and promoting African Geoscience Affairs, providing required technical advice to the continent's decision-makers and providing a platform for interaction among members.

DATA MANAGEMENT

Access to geoscience data and information is at the heart of digital transformations of research practices. Data use and applications are undergoing a real revolution and very important to all geoscience organisations. Technology is a critical enabler as it supports and facilitates collaborative work and enhances efficiency and quality of research services.

BUSINESS PERFORMANCE AND REVIEW

Introduction

BGI has pursued a number of projects and initiatives to collate, package, enhance and avail Botswana geoscience data and information digitally. The refurbishment of information and technology infrastructure and upgrading of operating systems was undertaken to advance efficiency, productivity and security.

National Integrated Geoscience Information System - NIGIS

NIGIS provides a base and wealth of information since it hosts multidisciplinary geoscience data comprising of among others, BGI field projects data, prospecting license data, water boreholes, prospecting companies, prospecting locations, core and sample data. Facets of this system are illustrated in ***figure 19.***

(Left to Right) Messrs Thatayaone E. Tlhobogang (Information Systems Manager), Samuel Serero (Information Technology Manager), Motsamai T. Kwadiba (Senior Geophysicist - Seismology)

The project scope covers the integration of all geoscience information to improve information sharing, access and manipulation of datasets. The project is at 88% completion with Surveys, Applied Geoscience, Mineral Resources and Hydrocarbons modules operational. System integration was at 35% and business intelligence sub-system at 30%.

Leveraging technology since the onset of COVID-19 allowed the NIGIS project to remain on course through the creation of a new business model in software development.

Borehole Information System (BIS) Portal - Borehive

This portal, known as BoreHive and found at www.bh.bgi.org.bw/, hosts Borehole information. It allows the search for Water boreholes anywhere in the country including particulars such as depth, water strike, yield and relative borehole logs. The portal provides coordinates that narrow boreholes to specific settlements and pin-point location plotted on Google Maps.

The information contained in this database has been acquired from various sources including reports and records from prospecting license holding companies, mining companies, farmers, the Department of Water and Sanitation as well as Botswana Geoscience Institute. As the information is from independent sources, it has been captured as submitted.

Botswana Geoscience Data Portal

The Botswana Geoscience Data Portal accessible at www.geos.bgi.org.bw is a platform which integrates all BGI data to promote BGI's visibility to the global village. It intends to facilitate the management and dissemination of geoscientific data to all its stakeholders, primarily the exploration companies, research institutions and individuals.

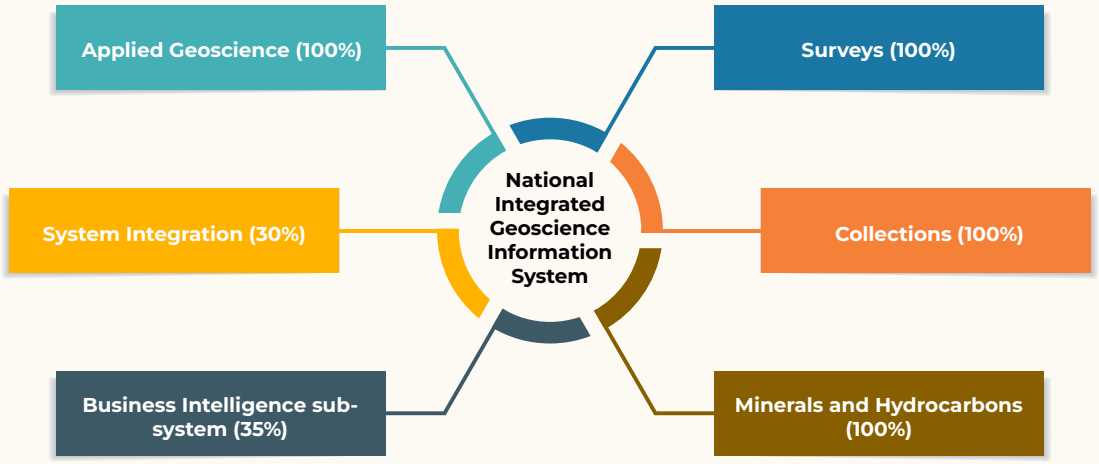


Figure 19: ***NIGIS Project and its portals***

BUSINESS PERFORMANCE AND REVIEW (Cont.)

Mining Cadastre

The system, which was at 60% completion, forms part of the centralized multifaceted database which allows BGI and the Department of Mines to effectively share data. Upon completion, it will create a one-stop-shop solution for exploration and mining companies, increase operational efficiencies and industry stakeholder collaboration and ensure mining companies comply with all required legislation. The system will facilitate revenue collection from the mineral sector and promote transparency in the prospecting process application and administration.

Ms. Susan Sefemo, BGI's Senior Librarian

Geoscience data and Collections

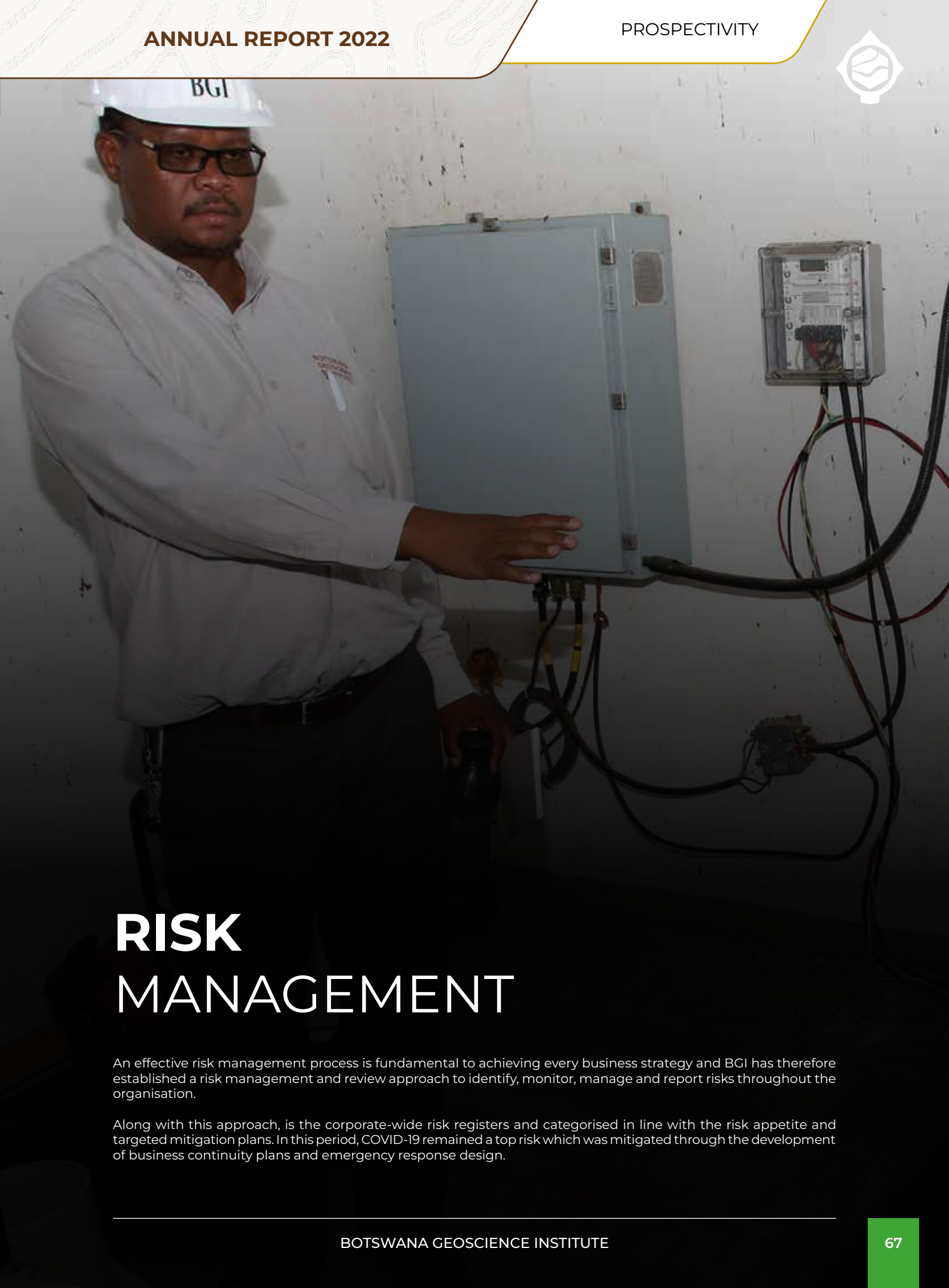
The institute has an impressive amount of geoscience data and collections that reside in various repositories. These collections are the foundation of basic and applied geoscience research and education and underpin industry programs to discover and develop domestic natural resources to fulfil the nation's mineral and energy requirements. The Institute has amassed an enormous wealth of data and collections, most of which remains potentially useful. However, it needs to be benefited and plans are underway to embark on the journey.

A major milestone in consolidating some of the Collections was the reconciliation of borehole data with prospecting license reports during the uploading of data into the Borehole system and the Online Library system. These two systems have assured improved access to geoscience data and collections.

In addition, 63% of analogue data has been scanned and digitized. The data accessible online included more than five thousand (5000) reports from independent consultants prospecting licenses and BGI internal reports.

Table 9: ***Collections access and media type***

Media Type	Accessible Online
Geological Reports - Consultants	2007
Geological Reports - Internal	1755
Geological Reports - BGI Publications	70
Open Prospecting Licence Reports	690
Books	217
Aerial Photographs	2



RISK MANAGEMENT

An effective risk management process is fundamental to achieving every business strategy and BGI has therefore established a risk management and review approach to identify, monitor, manage and report risks throughout the organisation.

Along with this approach, is the corporate-wide risk registers and categorised in line with the risk appetite and targeted mitigation plans. In this period, COVID-19 remained a top risk which was mitigated through the development of business continuity plans and emergency response design.

TOP TEN (10) BGI IDENTIFIED RISKS

The top 10 risks with the potential to affect the business are identified in the table below and are reported to the Board through the Finance, Audit & Risk Committee on a quarterly basis. The Institute's appetite and tolerance for safety are more stringent than that of the rest of the business, thus close attention is currently being paid to the management of the COVID-19 risk.

Table 10: ***BGI Top Ten (10) Risks and mitigation plans***

Risk Name	Risk Mitigation Action Plans
Spread of COVID-19 in the workplace	• Total elimination of sharing of office space and equipment. • Review remote working conditions as part of the HR Strategy
Loss of data and information	• Utilisation of cyber security techniques • To protect systems and data • Conduct Data Protection Impact Assessment • Implement Data Protection Act.
Project delays / Project Failure	• Draft Project Management Policy • To establish a Project Management office
Loss or damage to collections	Seasonal clearing of surroundings, cleaning and fumigation of repositories
Limited breadth of technical skills	• Develop research expertise • Local and Virtual Training
Contamination of Samples	• Provision of user-friendly jaw crusher that can easily be cleaned to avoid contamination of samples during preparation • Sampling QCQA Protocols and processes • Adherence to set standards on samples preparation and minimizing possible contamination
Misinformation of Mineral Endowments of Botswana	• Compliance to Data Management Policy • Data base Audits • Training on reporting codes • Professional registrations
Disengaged, disgruntled and demotivated employees	• Engagement Survey and Implementation Plan • Harmonious monitoring of industrial relations • Conduct HPO Readiness Survey
Insufficient funding for the strategy and operations	• Implement Financial Resourcing Plan • Identify revenue streams & collaborative projects • Improve cost efficiency measures
Inadequate and/or slow technology adoption.	• Utilisation of collaborative platforms • Implement cost-effective measures such as Open Source Corporate Budget Prioritisation & commercialisation • Build integrated technology platforms • Collaborate with partners to co-fund, support, and execute the ICT Strategy.

MANAGEMENT OF COVID-19 RISK AND CONTROLS

The institute adopted measures adopted to mitigate the pandemic risk and impact on risk levels and on average, the perceived effectiveness of all controls was satisfactory.

- Workplace Hygiene
- Health education
- Leading indicators enhancement programme
- Employee support programme
- Decongestion of offices through varied work schedule

Since the outbreak of the pandemic, the peak number of positive cases in the Institute was sixteen (16), recorded in July 2021 as shown in ***figure 20*** below.

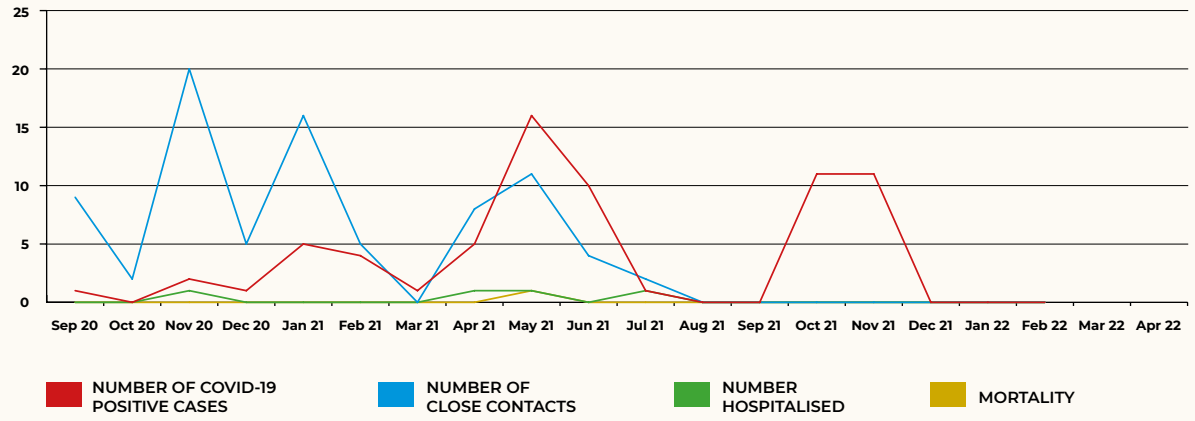


Figure 20: ***COVID-19 Cases Analysis***

Impact of COVID-19 on Strategy Implementation

The institute developed a COVID-19 Business Impact Analysis and recorded significant possible impacts on operations. Quarterly project reviews indicated a reduced impact of COVID-19 on projects. A trigger Action Response Plan (TARP) was also developed and implemented accordingly. It facilitates the organisation's management response and mitigation to COVID cases.

Business Continuity and incident management

Whilst the implementation of business continuity management is still at an infancy stage, the Institute pays attention to safety, health and environment (SHE) risks by tracking key leading indicators.

Incidents of rainwater damage have been observed at data/core storage facilities following the incident of flooding in the BGI building due to suboptimal repair and maintenance plans.

Corporate Business Continuity Plan (BCP) and Emergency/incident management plans are underway and are within the initial stages of development. They will be consolidated into a single integrated plan. Preliminary simulation exercises, to test the effectiveness of controls, have also been scheduled.

HUMAN CAPABILITY AND ADMINISTRATION

HUMAN CAPABILITY AND ADMINISTRATION

Introduction

The Institute recognizes that performing competitively in today's fast-evolving world and serving a diverse stakeholder network, requires competent, self-motivated and empowered people working safely together. The advent of COVID-19 renewed our focus on people's safety and welfare to endure operations and successfully deliver BGI's strategy and sustain business performance over the long term.

Workforce at a glance

During 2021/2022 the Institute maintained one hundred and twenty-seven (127) funded positions and the headcount stood at 115 with twelve (12) positions vacant. The ***figures on pages 21,22 & 23*** depict the status:

BGI Team at one of the Geo-Tech sites

HUMAN CAPABILITY AND ADMINISTRATION (Cont.)

Workforce at a glance (Cont.)

AGE AND GENDER ANALYSIS

This is a critical personnel distribution in any geoscience organization. ***Figure 21, figure 22 and figure 23*** show gender distribution, establishment analysis and age distribution respectively for the period under review. This area is receiving attention and has been identified as a strategic focus zone for the future and aligns with Vision 2036.

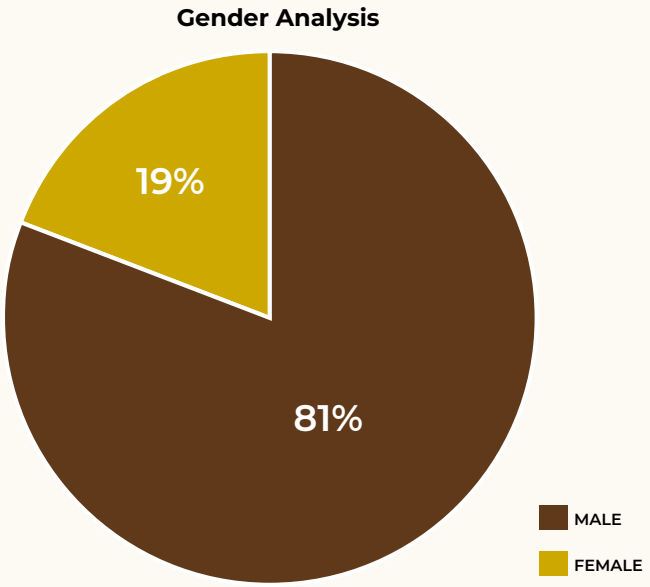


Figure 21: ***Gender Distribution***

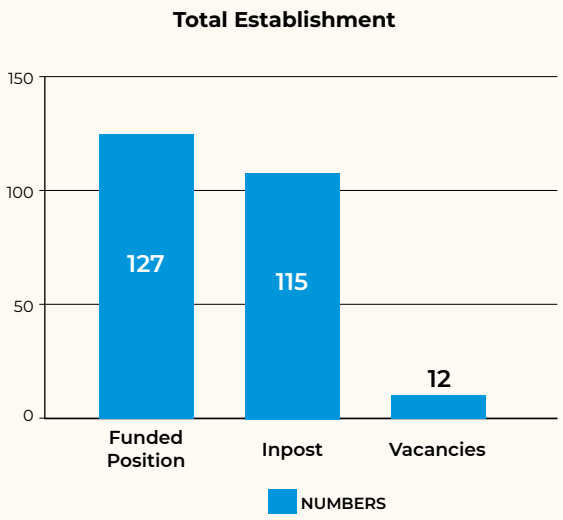


Figure 22: ***Establishment analysis***

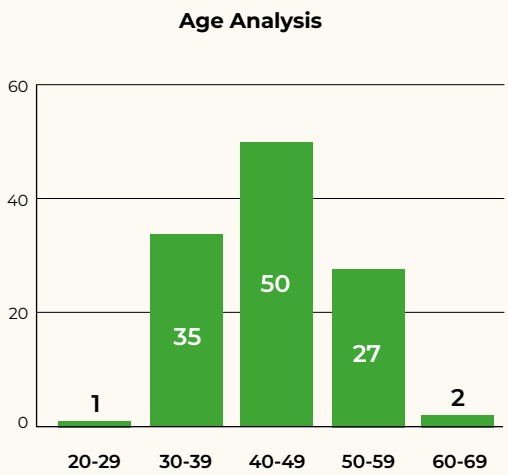


Figure 23: ***Age distribution***

HUMAN CAPABILITY AND ADMINISTRATION (Cont.)

Safety, Health, Environment and Wellness

Employee safety is a fundamental objective for the institute and various initiatives were employed in this area. The Institute strives to align with safe work practices as these minimize workplace accidents and keep employees mentally, physically and emotionally fit. The Institute response to Covid-19 continued to involve extensive contributions from employees who utilized all the tools that were provided to curb the spread of the virus.

The Institute's also took an active part in the commemoration of World Aids day. Key messages to encourage staff to continue taking necessary precautions to prevent infections. It was commemorated under the theme **"Ending the HIV Epidemic: Equitable Access, Everyone's Voice"**

BGI staff during the World Aids Day Commemoration 2021

Staff Retention

A staff retention rate of 99% was recorded against a target of 97% at the end of the financial year. The rate is 1.8% higher than the rate for the same period in the previous year. A retention strategy is being developed to aid in attracting and retaining talent. Even though the retention rate is a desirable one, the Institute experienced a number of departures during Quarters 2 (4 employees) and one employee in Quarter 3.

Youth Engagement

The Institute continued to host interns, Tirelo Sechaba participants (TSPs) and Attachés in support of the Government Skills Development Programme of youth employment. At the end of 2021/2022, the Institute hosted nine (9) youth on Internship interns, four (4) TSPs and one (1) Attaché.

Performance management

A performance management system is crucial as it provides employees with feedback and guidance on their job tasks. it also helps supervisors to identify the development gaps and effectively work towards addressing them. The Institute leadership in this regard has created a positive and productive environment in which the employees were enabled to perform to their best abilities.

During the period under review, COVID-19 continued to pose challenges that delayed the effective implementation of the performance management system.

Training and Development

Training and development remain as critical areas of focus despite financial challenges. BGI has a limited budget for this purpose and therefore takes advantage of donor-funded scholarships, government grants and part-time studies to capacitate employees, especially in geoscientific research. Training priorities for 2021/2022 were done through a skills audit process at the business unit level. Though the priorities included those for support staff, the focus was to build capacity on research skills.

Employee Relations

Employer/Employee relations still form part of the critical focus areas in the workplace hence the continued collaborations with the Union. The two parties have positively engaged on a number of issues that affect the employees.

The current bargaining structure in the Institute comprises Ninety-nine (99) employees which convert to 86%. The remaining percentage (14%) is for employees who are both outside the union bargaining structure and those that have not joined the Union.

Retirement Annuity

Since the inception of the BGI in 2017, the Institute made contributions towards a retirement annuity fund for employees hosted by Botswana Life. To date, the Fund has an investment value of BWP21,512,900.00. This value compared to the Investment value as at May 2021, which was BWP13, 410,526.00 depicts an investment growth of BWP8,102,380.00. As a way forward, the Institute Leadership has taken a deliberate decision to transform the Retirement Annuity fund into a structured pension fund.

BOTSWANA GEOSCIENCE INSTITUTE

FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

FINANCIAL STATEMENTS

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

GENERAL INFORMATION

Country of incorporation and domicile	Botswana
Nature of business and principal activities	Responsible for research in the field of geosciences, providing specialised geoscientific services and promoting the search for, and exploration of any minerals in Botswana.
Board members	Prof. Motsoptse Modisi — Chairperson of the Board Dr. Sebusi Odisitse — Deputy Chairperson of the Board Ms. Tebogo Mmoshe — Member Ms. Ontlametse Mokopakgosi — Member Ms. Bogadi Mathangwane — Member Mr. Ogone M.Gaboutloeloe — Member Mr. Harold Van Zyl — Member Mr. Thabo Balopi — Member Mr. Olefile C. Mashabila — Chief Executive Officer Mr. Othusitse Lebuletswe — Co-opted Member Ms. Portia Nnuku-Basaakane — Co-opted Member Mr. Sipho Mbebe — Co-opted Member
Registered office	Plot 11566 Khama 1 Avenue Lobatse
Postal address	Private Bag 14 Lobatse
Bankers	First National Bank Botswana Limited Botswana Savings Bank
Auditors	Mazars Partnership
Board Secretary	Chandapiwa Mogobe (Acting)

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

MEMBERS OF BOARD RESPONSIBILITIES AND APPROVAL

The Members of Board are required in terms of the Botswana Geoscience Institute Act, 2014 to maintain adequate accounting records and are responsible for the content and integrity of the annual financial statements and related financial information included in this report. It is their responsibility to ensure that the annual financial statements fairly present the state of affairs of the Institute as at the end of the financial year and the results of its operations and cash flows for the period then ended, in conformity with International Financial Reporting Standards. The external auditors are engaged to express an independent opinion on the annual financial statements.

The annual financial statements are prepared in accordance with International Financial Reporting Standards and are based upon appropriate accounting policies consistently applied and supported by reasonable and prudent judgements and estimates.

The Members of the Board acknowledge that they are ultimately responsible for the system of internal financial control established by the Institute and place considerable importance on maintaining a strong control environment. To enable the Members of the Board to meet these responsibilities, the board sets standards for internal control aimed at reducing the risk of error or loss in a cost-effective manner. The standards include the proper delegation of responsibilities within a clearly defined framework, effective accounting procedures and adequate segregation of duties to ensure an acceptable level of risk. These controls are monitored throughout the Institute and all employees are required to maintain the highest ethical standards in ensuring the Institute's business is conducted in a manner that in all reasonable circumstances is above reproach. The focus of risk management in the Institute is on identifying, assessing, managing and monitoring all known forms of risk across the Institute. While operating risk cannot be fully eliminated, the Institute endeavours to minimise it by ensuring that appropriate infrastructure, controls, systems and ethical behaviour are applied and managed within predetermined procedures and constraints.

The Members of the Board are of the opinion, based on the information and explanations given by management, that the system of internal control provides reasonable assurance that the financial records may be relied on for the preparation of the annual financial statements. However, any system of internal financial control can provide only reasonable, and not absolute, assurance against material misstatement or loss.

The Members of the Board have reviewed the Institute's cash flow forecast for the year to 31 March 2023 and, in light of this review and the current financial position, they are satisfied that the Institute has or had access to adequate resources to continue in operational existence for the foreseeable future. The members have also considered, assessed, accounted for and disclosed the impact of COVID-19 pandemic on the operations of the entity which is disclosed in note 22

The external auditors are responsible for independently auditing and reporting on the Institute's annual financial statements. The annual financial statements have been examined by the Institute's external auditors and their report is presented on pages 77 to 78.

The annual financial statements set out on pages 79 to 100, which have been prepared on the going concern basis, were approved by the Board on **06 September 2022** and were signed on their behalf by:

Prof. Motsoptse P. Modisi
BGI Board Chairpersonon

Mr. Olefile C. Mashabila
BGI Chief Executive Officer

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

INDEPENDENT AUDITOR'S REPORT

To the members of Botswana Geoscience Institute

Opinion

We have audited the annual financial statements of Botswana Geoscience Institute (the institute set out on pages 7 to 27, which comprise the statement of financial position as at 31 March 2022, statement of profit or loss and other comprehensive income, statement of changes in funds and statement of cash flows for the year then ended, and notes to the annual financial statements, including a summary of significant accounting policies.

In our opinion, the annual financial statements present fairly, in all material respects, the financial position of Botswana Geoscience Institute as at 31 March 2022, and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards.

Basis for Opinion Emphasis of Matter

We draw attention to Note 22 to the annual financial statements which indicates the effects of COVID-19 on the operations of the Institute. Our opinion is not modified in respect of this matter.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the annual financial statements of the current period. These matters were addressed in the context of our audit of the annual financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have determined that there are no key audit matters to communicate in our report.

Other Information

The Members of Board are responsible for the other information. The other information comprises detailed income statement set out on pages.28. The other information does not include the annual financial statements and our auditor's report thereon.

Our opinion on the annual financial statements does not cover the other information and we do not express an audit opinion or any form of assurance conclusion thereon.

In connection with our audit of the annual financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the annual financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

INDEPENDENT AUDITOR'S REPORT (Cont.)

Responsibilities of the Directors for the Annual Financial Statements

The Members of Board are responsible for the preparation and fair presentation of the annual financial statements in accordance with International Financial Reporting Standards, and for such internal control as the members determine is necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, the Members of Board are responsible for assessing the institute's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Members of Board either intend to liquidate the institute or to cease operations, or have no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the annual Financial Statements

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with International Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual financial statements.

As part of an audit in accordance with International Standards on Auditing, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the institute's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the members of the Board.
- Conclude on the appropriateness of the Members of Board use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Institute's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause Institute's to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with the Members of Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Mazars

mazars

Date: September 06, 2022

Mazars Partnership
Practicing Member: Shashikumar Velambath
Membership number: CAP 022 2022

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

STATEMENT OF FINANCIAL POSITION AS AT 31 MARCH 2022

Figures in Pula	Notes	2022	2021
Assets			
Non-Current Assets			
Property, plant and equipment	3	191,414,469	196,728,606
Intangible assets	4	1,428,986	2,262,972
		192,843,455	198,991,578
Current Assets			
Inventories	5	306,964	445,425
Trade and other receivables	6	372,521	945,234
Cash and cash equivalents	7	18,801,683	22,925,373
		19,481,168	24,316,032
Total Assets		212,324,623	223,307,610
Funds and Liabilities			
Funds			
Capital grants	8	192,843,453	198,991,576
Accumulated surplus		3,540,288	6,790,924
		196,383,741	205,782,500
Liabilities			
Current Liabilities			
Trade and other payables	9	13,742,844	13,523,966
Deferred income		2,198,038	4,001,144
		15,940,882	**17,525,110**
Total Funds and Liabilities		**212,324,623**	**223,307,610**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

Figures in Pula	Notes	2022	2021
Grant Income	11	73,061,492	78,034,712
Other operating income	12	9,455,782	7,539,555
Other operating gains (losses)	13	(86,522)	(2,059)
Other operating expenses		(85,844,000)	(84,028,053)
Operating (deficit) surplus	14	**(3,413,248)**	**1,544,155**
Investment income	15	162,615	192,352
(Deficit) surplus for the year		**(3,250,633)**	**1,736,507**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

STATEMENT OF CHANGES IN FUNDS

Figures in Pula	Capital Grant	Accumulated surplus	Total Funds
Balance at 01 April 2020	**197,229,181**	**5,054,417**	**202,283,598**
Surplus for the year	**-**	**1,736,507**	**1,736,507**
Assets capitalised	8,489,198	-	8,489,198
Amortisation of capital grant	(6,357,480)	-	(6,357,480)
Capital assets disposed	(369,324)	-	(369,324)
	1,762,394	**-**	**1,762,394**
Balance at 01 April 2021	**198,991,575**	**6,790,921**	**205,782,496**
Surplus for the year	**-**	**(3,250,633)**	**(3,250,633)**
Assets capitalised	1,962,808	-	1,962,808
Amortisation of capital grant	(7,804,722)	-	(7,804,722)
Capital assets disposed	(306,209)	-	(306,209)
	(6,148,123)	**-**	**(6,148,123)**
Balance at 31 March 2022	**192,843,452**	**3,540,288**	**196,383,740**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

STATEMENT OF CASH FLOWS

Figures in Pula	Notes	2022	2021
Cash flows from operating activities			
(Deficit)/Surplus for the year		(3,250,633)	1,736,507
Adjustments for:			
Depreciation and amortisation		7,804,721	6,357,480
Losses (gains) on disposals, scrappings and settlements of assets and liabilities		86,522	2,059
Interest received		(162,615)	(192,352)
Changes in working capital:			
Inventories		138,461	(206,232)
Trade and other receivables		572,709	(543,192)
Trade and other payables		218,878	4,946,138
Deferred income		(1,803,106)	(5,168,418)
Cash generated from operations		**3,604,937**	**6,931,990**
Cash flows from investing activities			
Purchase of property, plant and equipment	3	(1,932,241)	(5,903,085)
Sale of property, plant and equipment	3	219,688	248,965
Purchase of other intangible assets	4	(30,567)	(2,586,113)
Non Current asset held for sale		-	118,300
Interest Income		162,615	192,352
Net cash from investing activities		**(1,580,505)**	**(7,929,581)**
Cash flows from financing activities			
Amortisation of capital grant	8	(7,804,721)	(6,357,480)
Capitalised assets	8	1,656,599	8,119,872
Net cash from financing activities		**(6,148,122)**	**1,762,392**
Total cash movement for the year		**(4,123,690)**	**764,801**
Cash at the beginning of the year		22,925,373	22,160,572
Total cash at end of the year	7	**18,801,683**	**22,925,373**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES

1. Significant accounting policies

The principal accounting policies applied in the preparation of these annual financial statements are set out below.

1.1 Basis of preparation

The annual financial statements have been prepared on the going concern basis in accordance with, and in compliance with, International Financial Reporting Standards ("IFRS") and International Financial Reporting Interpretations Committee ("IFRIC") interpretations issued and effective at the time of preparing these annual financial statements.

The annual financial statements have been prepared on the historic cost convention, unless otherwise stated in the accounting policies which follow and incorporate the principal accounting policies set out below. They are presented in Pulas, which is the institute's functional currency.

These accounting policies are consistent with the previous period.

1.2 Significant judgements and sources of estimation uncertainty

The preparation of annual financial statements in conformity with IFRS requires management, from time to time, to make judgements, estimates and assumptions that affect the application of policies and reported amounts of assets, liabilities, income and expenses. These estimates and associated assumptions are based on experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates. The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognised in the period in which the estimates are revised and in any future periods affected.

Critical judgements in applying accounting policies

Board members did not make critical judgements in the application of accounting policies, apart from those involving estimations, which significantly affect the financial statements.

Key sources of estimation uncertainty

Useful lives of property, plant and equipment

The Institute reviews the estimated useful lives of property, plant and equipment when changing circumstances indicate that they may have changed since the most recent reporting date.During the current year, the members determined that the useful lives of certain items of surveilance equipment should be shortened, due to developments in technology.

1.3 Property, plant and equipment

Property, plant and equipment are tangible assets which the Institute holds for its own use or for rental to others and which are expected to be used for more than one year.

An item of property, plant and equipment is recognised as an asset when it is probable that future economic benefits associated with the item will flow to the Institute, and the cost of the item can be measured reliably.

Property, plant and equipment is initially measured at cost. Cost includes all of the expenditure which is directly attributable to the acquisition or construction of the asset..

Expenditure incurred subsequently for major services, additions to or replacements of parts of property, plant and equipment are capitalised if it is probable that future economic benefits associated with the expenditure will flow to the Institute and the cost can be measured reliably. Day to day servicing costs are included in profit or loss in the year in which they are incurred.

Property, plant and equipment is subsequently stated at cost less accumulated depreciation and any accumulated impairment losses..

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES (Cont.)

1.3 Property, plant and equipment (Cont.)

Depreciation of an asset commences when the asset is available for use as intended by management. Depreciation is charged to write off the asset's carrying amount over its estimated useful life to its estimated residual value, using a method that best reflects the pattern in which the asset's economic benefits are consumed by the Institute. Leased assets are depreciated in a consistent manner over the shorter of their expected useful lives and the lease term. Depreciation is not charged to an asset if its estimated residual value exceeds or is equal to its carrying amount. Depreciation of an asset ceases at the earlier of the date that the asset is classified as held for sale or derecognised.

The useful lives of items of property, plant and equipment have been assessed as follows:

Item	Depreciation method	Average useful life
Buildings	Straight line	50 years
Plant and machinery	Straight line	6-7 years
Furniture and fixtures	Straight line	10 years
Motor vehicles	Straight line	5 years
Office equipment	Straight line	4-20 years
Laboratory equipment and instruments	Straight line	15 years

Land is not depreciated.

The residual value, useful life and depreciation method of each asset are reviewed at the end of each reporting year. If the expectations differ from previous estimates, the change is accounted for prospectively as a change in accounting estimate.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.

The depreciation charge for each year is recognised in profit or loss unless it is included in the carrying amount of another asset.

Impairment tests are performed on property, plant and equipment when there is an indicator that they may be impaired. When the carrying amount of an item of property, plant and equipment is assessed to be higher than the estimated recoverable amount, an impairment loss is recognised immediately in profit or loss to bring the carrying amount in line with the recoverable amount.

An item of property, plant and equipment is derecognised upon disposal or when no future economic benefits are expected from its continued use or disposal. Any gain or loss arising from the derecognition of an item of property, plant and equipment, determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item, is included in profit or loss when the item is derecognised.

1.4 Intangible assets

An intangible asset is recognised when:

- it is probable that the expected future economic benefits that are attributable to the asset will flow to the entity; and
- the cost of the asset can be measured reliably.

Intangible assets are initially recognised at cost.

Intangible assets are carried at cost less any accumulated amortisation and any impairment losses.

The amortisation period and the amortisation method for intangible assets are reviewed every period-end. Changes in the expected useful life or the expected pattern of consumption of future economic benefits embodied in the asset are considered to modify the amortisation period or method, as appropriate and are treated as changes in

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES (Cont.)

1.4 Intangible assets (Cont.)

accounting estimates. The amortisation expense on intangible assets with finite lives is recognised in the statement of profit or loss in the expense.

An intangible assets is derecognised upon disposal (ie., at the date the recepient obtains control) or when no future economic benefits are expected from its use or disposal. Any gain or loss arising upon derecognition of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in the statement of profit or loss.

Amortisation is provided to write down the intangible assets, on a straight line basis, to their residual values as follows:

Item	Depreciation method	Average useful life
Computer software	Straight line	10 years

1.5 Financial instruments

Financial instruments held by the Institute are classified in accordance with the provisions of IFRS 9 Financial Instruments.

Broadly, the classification possibilities, which are adopted by the Institute, as applicable, are as follows:

Financial assets which are equity instruments:
- Mandatorily at fair value through profit or loss; or

Financial assets which are debt instruments:
- Amortised cost. (This category applies only when the contractual terms of the instrument give rise, on specified dates, to cash flows that are solely payments of principal and interest on principal, and where the instrument is held under a business model whose objective is met by holding the instrument to collect contractual cash flows); or
- Mandatorily at fair value through profit or loss.

Financial liabilities:
- Amortised cost; or

Note 19 Financial instruments and risk management presents the financial instruments held by the institute based on their specific classifications.

All regular way purchases or sales of financial assets are recognised and derecognised on a trade date basis. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

The specific accounting policies for the classification, recognition and measurement of each type of financial instrument held by the Institute are presented below:

Trade and other receivables

Classification

Trade and other receivables, excluding, when applicable, prepayments, are classified as financial assets subsequently measured at amortised cost (note 6).

They have been classified in this manner because their contractual terms give rise, on specified dates to cash flows that are solely payments of principal and interest on the principal outstanding, and the Institute's business model is to collect the contractual cash flows on trade and other receivables.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES (Cont.)

1.5 Financial instruments (Cont.)

Recognition and measurement

Trade and other receivables are recognised when the Institute becomes a party to the contractual provisions of the receivables. They are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost.

The amortised cost is the amount recognised on the receivable initially, minus principal repayments, plus cumulative amortisation (interest) using the effective interest method of any difference between the initial amount and the maturity amount, adjusted for any loss allowance.

Impairment

The institute does not recognises a loss allowance for expected credit losses on trade and other receivables, as receivables are insignificant compared to income.

Write off policy

The Institute writes off a receivable when there is information indicating that the counterparty is in severe financial difficulty and there is no realistic prospect of recovery, e.g. when the counterparty has been placed under liquidation or has entered into bankruptcy proceedings. Receivables written off may still be subject to enforcement activities

under the Institute recovery procedures, taking into account legal advice where appropriate. Any recoveries made are recognised in profit or loss.

Derecognition

Refer to the derecognition section of the accounting policy for the policies and processes related to derecognition.

Trade and other payables

Classification

Trade and other payables (note 9), excluding VAT and amounts received in advance, are classified as financial liabilities subsequently measured at amortised cost.

Recognition and measurement

They are recognised when the Institute becomes a party to the contractual provisions, and are measured, at initial recognition, at fair value plus transaction costs, if any.

They are subsequently measured at amortised cost using the effective interest method.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the financial liability, or (where appropriate) a shorter period, to the amortised cost of a financial liability.

If trade and other payables contain a significant financing component, and the effective interest method results in the recognition of interest expense, then it is included in profit or loss in finance costs (note).

Trade and other payables expose the institute to liquidity risk and possibly to interest rate risk. Refer to note 19 for details of risk exposure and management thereof.

Derecognition

Refer to the “derecognition” section of the accounting policy for the policies and processes related to derecognition.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES (Cont.)

1.5 Financial instruments (Cont.)

Cash and cash equivalents

Cash and cash equivalents are stated at carrying amount which is deemed to be fair value.

Derecognition

Financial assets

The institute derecognises a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another party. If the institute neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the institute recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the institute retains substantially all the risks and rewards of ownership of a transferred financial asset, the institiute continues to recognise the financial asset and also recognises a collateralised borrowing for the proceeds received.

Financial liabilities

The institute derecognises financial liabilities when, and only when, the institute obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognised and the consideration paid and payable, including any non-cash assets transferred or liabilities assumed, is recognised in profit or loss.

1.6 Non-current assets (disposal groups) held for sale or distribution to owners

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

Non-current assets (or disposal groups) held for sale (distribution to owners) are measured at the lower of their carrying amount and fair value less costs to sell (distribute).

A non-current asset is not depreciated (or amortised) while it is classified as held for sale (held for distribution to owners), or while it is part of a disposal group classified as such.

1.7 Impairment of assets

The Institute assesses at each end of the reporting period whether there is any indication that an asset may be impaired. If any such indication exists, the Institute estimates the recoverable amount of the asset.

If there is any indication that an asset may be impaired, the recoverable amount is estimated for the individual asset. If it is not possible to estimate the recoverable amount of the individual asset, the recoverable amount of the cash-generating unit to which the asset belongs is determined.

The recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs to sell and its value in use.

If the recoverable amount of an asset is less than its carrying amount, the carrying amount of the asset is reduced to its recoverable amount. That reduction is an impairment loss.

An impairment loss of assets carried at cost less any accumulated depreciation or amortisation is recognised immediately in profit or loss. Any impairment loss of a revalued asset is treated as a revaluation decrease.

A reversal of an impairment loss of assets carried at cost less accumulated depreciation or amortisation other than goodwill is recognised immediately in profit or loss.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

ACCOUNTING POLICIES (Cont.)

1.8 Income tax

The institute is a not for profit organisation and its income is exempt from income tax.

1.9 Employee benefits Severance and gratuity benefits

Contract employees are entitled to severance pay in accordance with the terms specified in the Botswana Employment Act, and gratuity in terms of their employment contracts. Severance and gratuity benefits are recognized at the end lof each financial period as they are accrued and a provision made equal to the liability estimated as the employees renders service to the institute up to the period end.

1.10 Government grants

Government grants are recognised when there is reasonable assurance that:
- the Institute will comply with the conditions attaching to them; and
- the grants will be received.

Government grants are recognised as income over the periods necessary to match them with the related costs that they are intended to compensate.

A government grant that becomes receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the entity with no future related costs is recognised as income of the period in which it becomes receivable.

Government grants related to assets, including non-monetary grants at fair value, are presented in the statement of financial position by setting up the grant as deferred income or by deducting the grant in arriving at the carrying amount of the asset.

Grants related to income are presented as a credit in the profit or loss in the statement of comprehensive income presented as a credit in the profit or loss(seperately).

1.11 Inventories

Inventories are measured at the lower of cost and net realisable value.

The cost of inventories is assigned using the first-in, first-out (FIFO) formula..

1.12 Related parties

Related parties are considered to be related if one party has the ability to control or jointly control the other party or exercise significant influence over the other party in making financial and operating decisions.Key management personnel are also regarded as related parties. Key management personnel are those ;persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly, including all board members.

Related party transactions are those where a transfer of resources or obligations between related parties occur, regardless of whether or not a price is charged.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS

2. New Standards and Interpretations

2.1 Standards and interpretations effective and adopted in the current year

In the current year, the institute has adopted the following standards and interpretations that are effective for the current financial year and that are relevant to its operations:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
• Interest Rate Benchmark Reform: Amendments to IFRS 9, IAS 39 and IFRS 7	01 January 2020	The impact of the amendment is not material.
• Presentation of Financial Statements: Disclosure initiative	01 January 2020	The impact of the amendment is not material.
• Accounting Policies, Changes in Accounting Estimates and Errors: Disclosure initiative	01 January 2020	The impact of the amendment is not material.

2.2 Standards and interpretations not yet effective

The institute has chosen not to early adopt the following standards and interpretations, which have been published and are mandatory for the institute's accounting periods beginning on or after 01 April 2022 or later periods:

Standard/ Interpretation:	Effective date: Years beginning on or after	Expected impact:
• Classification of Liabilities as Current or Non-Current - Amendment to IAS 1	01 January 2023	Unlikely there will be a material impact

3. Property, plant and equipment

	2022			2021		
Figures in Pula	Cost or revaluation	Accumulated depreciation	Carrying value	Cost or revaluation	Accumulated depreciation	Carrying value
Land	9,831,985	-	9,831,985	9,831,985	-	9,831,985
Buildings	165,528,015	(16,552,803)	148,975,212	165,528,015	(13,242,241)	152,285,774
Plant and machinery	12,787,250	(2,307,656)	10,479,594	7,309,000	(1,875,722)	5,433,278
Motor vehicles	6,111,164	(3,290,099)	2,821,065	6,167,477	(3,143,547)	3,023,930
Office equipment	11,170,197	(4,604,445)	6,565,752	10,845,221	(3,091,932)	7,753,289
Laboratory equipment and instruments	15,847,140	(3,106,279)	12,740,861	20,679,885	(2,279,535)	18,400,350
Total	**221,275,751**	**(29,861,282)**	**191,414,469**	**220,361,583**	**(23,632,977)**	**196,728,606**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

3. Property, plant and equipment (Cont.)

Reconciliation of property, plant and equipment - 2022

	Opening balance	Additions	Disposals	Transfers	Depreciation	Total
Land	9,831,985	-	-	-	-	9,831,985
Buildings	152,285,774	-	-	-	(3,310,562)	148,975,212
Plant and machinery	5,433,278	-	-	5,188,270	(141,954)	10,479,594
Motor vehicles	3,023,930	850,000	(232,268)	-	(820,597)	2,821,065
Office equipment	7,753,289	395,296	(38,876)	(440)	(1,543,517)	6,565,752
Laboratory equipment and instruments	18,400,350	686,945	(35,066)	(5,187,830)	(1,123,538)	12,740,861
	196,728,606	**1,932,241**	**(306,210)**	**-**	**(6,940,168)**	**191,414,469**

Reconciliation of property, plant and equipment - 2021

	Opening balance	Additions	Disposals	Depreciation	Total
Land	9,831,985	-	-	-	9,831,985
Buildings	155,596,334	-	-	(3,310,560)	152,285,774
Plant and machinery	6,104,226	-	-	(670,948)	5,433,278
Motor vehicles	3,550,979	456,065	(132,387)	(850,727)	3,023,930
Office equipment	4,400,010	4,417,126	(118,637)	(945,210)	7,753,289
Property, plant and equipment 1	17,627,350	1,029,894	-	(256,894)	18,400,350
	197,110,884	**5,903,085**	**(251,024)**	**(6,034,339)**	**196,728,606**

4. Intangible assets

	2022			2021		
Figures in Pula	Cost / Valuation	Accumulated amortisation	Carrying value	Cost / Valuation	Accumulated amortisation	Carrying value
Computer software, other	2,616,681	(1,187,695)	1,428,986	2,586,113	(323,141)	2,262,972

Reconciliation of intangible assets - 2022

Figures in Pula	Opening balance	Additions	Amortisation	Total
Computer software, other	2,262,972	30,567	(864,553)	1,428,986

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

4. Intangible assets (Cont.)

Reconciliation of intangible assets - 2021

Figures in Pula	Opening balance	Additions	Amortisation	Total
Computer software, other	-	2,586,113	(323,141)	2,262,972

5. Inventories

Figures in Pula	2022	2021
Consumables	306,964	445,425

6. Trade and other receivables

Figures in Pula	2022	2021
Financial instruments:		
Trade receivables	75,792	30,420
Other receivables	100,611	651,418
Board and manager recoveries	3,255	16,153
Imprest	93,841	228,232
Non-financial instruments:		
WHT Receivables	31,917	19,011
Prepayments	67,105	-
Total trade and other receivables	**372,521**	**945,234**
Split between non-current and current portions		
Current assets	372,521	945,234

Financial instrument and non-financial instrument components of trade and other receivables

Figures in Pula	2022	2021
At amortised cost	273,499	926,223
Non-financial instruments	99,022	19,011
	372,521	**945,234**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

6. Trade and other receivables (Cont.)

Exposure to credit risk

Trade receivables inherently expose the Institute to credit risk, being the risk that the Institute will incur financial loss if customers fail to make payments as they fall due.

In order to mitigate the risk of financial loss from defaults, the Institute only deals with reputable customers with consistent payment histories.

There have been no significant changes in the credit risk management policies and processes since the prior reporting period.

The average credit period on trade receivables is 30 days (2021: 30 days). No interest is charged on outstanding trade receivables.

A loss allowance has not been recognized for all trade receivables, in accordance with IFRS 9 Financial Instruments, as it is not material at the end of each reporting period.

There has been no change in the estimation techniques or significant assumptions made during the current reporting period.

Fair value of trade and other receivables

The fair value of trade and other receivables approximates their carrying amounts.

7. Cash and cash equivalents

Figures in Pula	2022	2021
Cash and cash equivalents consist of:		
Cash on hand	4,063	2,572
Bank balances	18,797,620	22,922,801
	18,801,683	**22,925,373**

Credit quality of cash at bank and short-term deposits, excluding cash on hand

The credit quality of cash at bank and short-term deposits, excluding cash on hand that are neither past due nor impaired can be assessed by reference to external credit ratings (if available) or historical information about counterparty default rates.Commercial banks in Botswana are not rated, however these are subsidiaries of rated banks.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

8. Capital grants

Capital grant relates to grant for the purpose of capital expenditure. The grant is amortised on an annual basis. The annual amortisation is equivalent to the depreciation on the assets that were financed from the grants.

Figures in Pula	2022	2021
Opening Balance	198,991,576	197,229,181
Capital asset purchased	1,962,808	8,489,198
Amortisation	(7,804,722)	(6,357,480)
Capital asset disposed	(306,209)	(369,323)
	192,843,453	**198,991,576**

9. Trade and other payables

Figures in Pula	2022	2021
Financial instruments:		
Payables	697,709	3,923,522
Payrol liabilities	13,045,135	9,600,444
	13,742,844	**13,523,966**

Financial instrument and non-financial instrument components of trade and other payables

Figures in Pula	2022	2021
At amortised cost	13,742,847	13,523,969

Fair value of trade and other payables

The fair value of trade and other payables approximates their carrying amounts.

10. Deferred income

Deferred income represents grants received from the government that have not been utilised yet. These amounts will be recognised when they are applied for the purposes as defined under the grant convention.

Figures in Pula	2022	2021
Opening Balance	4,001,144	9,169,563
Grant income	73,141,394	80,986,169
Revenue Expenditure	(78,039,280)	(77,665,390)
Capital expenditure	(1,962,808)	(8,489,198)
Cash surplus from reserves	1,806,952	-
Deferred income injected	3,250,635	-
	2,198,037	4,001,144

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

11. Grant Income

Figures in Pula	2022	2021
Revenue from contracts with customers		
Rendering of services	60,725,080	72,200,000
Other Project Grants	12,189,904	8,786,169
Deferred Income utilized during the period	146,508	(2,951,457)
	73,061,492	**78,034,712**

12. Other operating income

Figures in Pula	2022	2021
Commissions received	125,335	122,459
Rental income	510,531	672,151
Amortisation of capital grant	7,804,721	6,357,480
Other income	1,015,195	387,465
	9,455,782	**7,539,555**

13. Other operating gains (losses)

Figures in Pula	Notes	2022	2021
Gains (losses) on disposals, scrappings and settlements			
Property, plant and equipment	3	(86,522)	(2,059)

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

14. Operating profit (loss)

Operating (deficit) surplus for the year is stated after charging (crediting) the following, amongst others:

Figures in Pula	2022	2021
Auditor's remuneration - external		
Audit fee	132,924	147,964
Remuneration, other than to employees		
Consulting and professional services	175,150	550,001
Employee costs		
Salaries, wages, bonuses and other benefits	42,785,512	40,183,879
Gratuity expenses	3,093,560	2,476,632
Retirement benefit plans: defined contribution expense	3,259,907	3,157,104
Total employee costs	**49,138,979**	**45,817,615**
Depreciation and amortisation		
Depreciation of property, plant and equipment	6,940,168	6,034,339
Amortisation of intangible assets	864,553	323,141
Total depreciation and amortisation	**7,804,721**	**6,357,480**

15. Investment income

Figures in Pula	2022	2021
Interest income		
Investments in financial assets:		
Bank	162,615	192,352

Investment income on financial instruments which are available for sale or held to maturity are only presented for comparative purposes for financial instruments held in the prior reporting period but which were disposed of prior to the beginning of current reporting period, which is the date of adoption of IFRS 9 Financial Instruments. Investment income on all other financial assets has been reclassified in compliance with IFRS 9.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

16. Taxation

No provision has been made for tax as the Institute is exempt from tax.

17. Related parties

Figures in Pula	2022	2021
Relationships Members of Board		Refer to page 1(General Information)
Members of key management Stakeholders		Senior management Government of Botswana
Related party transactions		
Income		
Government of Botswana-Grant received	60,725,080	72,200,000
Employee cost		
Senior Management Salaries	7,889,634	7,935,305
Board Expenses		
Board fee allowances	248,535	309,015
Board meetings	230,433	255,734
Amount included in trade receivables related parties		
Board and Manager Recoveries	3,255	16,153

18. Members of the Board Fees

Figures in Pula	2022	2021
Prof. Motsoptse Modisi	20,475	26,775
Prof. Elisha M.Shemang (end of term)	-	3,780
Ms.Tebogo Mmoshe	20,160	34,020
Ms.Ontlametse Mokopakgosi	34,020	49,140
Dr.Sebusi Odisitse	36,540	44,100
Dr.Budzanani Tacheba (end of term)	-	12,600
Ms.Bogadi Mathangwane	26,460	37,800
Mr.Ogone M.Gaboutloeloe	36,540	51,660
Mr.Harold Van Zyl	21,420	20,160
Mr.Othusitse Lebuletswe	7,560	6,300
Ms.Portia Nuku-Basaakane	10,080	5,040
Mr.Sipho Mbebe	11,340	17,640
Mr.Thabo Balopi	23,940	-
	248,535	**309,015**

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

19. Financial instruments and risk management

Categories of financial instruments

Categories of financial assets

Figures in Pula	Notes	Amortised cost	Prepayments	Total	Fair value
2022					
Trade and other receivables	6	273,499	67,105	340,604	273,499
Cash and cash equivalents	7	18,973,465	-	18,973,465	18,973,465
		19,246,964	**67,105**	**19,314,069**	**19,246,964**
2021					
Trade and other receivables	6	926,223		926,223	926,223
Cash and cash equivalents	7	22,925,373		22,925,373	22,925,373
		23,851,596		**23,851,596**	**23,851,596**

Categories of financial liabilities

2022					
Trade and other payables	9	13,742,847		13,742,847	-
2021					
	9	13,523,969		13,523,969	-

Capital risk management

The institute's objectives when managing capital are to safeguard the institute's ability to continue as agoing concern in order to provide returns for stakeholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital..

The institute is funded by the government. Consistent with this objective, the Institute does not monitor capital on the basis of the gearing ratio.

Figures in Pula	Notes	Total	Fair value
2021			
Trade and other payables	9	13,742,84	13,523,969

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

19. Financial instruments and risk management (Cont.)

Financial risk management

Overview

The Institute is exposed to the following risks from its use of financial instruments:
- Credit risk;
- Liquidity risk; and

The board has overall responsibility for the establishment and oversight of the Institute's risk management framework. The board has established the risk committee, which is responsible for developing and monitoring the Institute's risk management policies. The committee reports quarterly to the board on its activities.

Liquidity risk

Prudent liquidity risk management implies maintaining sufficient cash, the availability of funding through an adequate amount of committed credit facilities.

Figures in Pula	Notes	Carrying amount
2022		
Current liabilities		
Trade and other payables		13,742,847
Bank overdraft	7	171,782
2021		
Current liabilities		
Trade and other payables	9	13,523,969

The maturity profile of contractual cash flows of derivative financial liabilities are as follows:

Interest rate risk

As the institute has no significant interest-bearing assets, the institute's income and operating cash flows are substantially independent of changes in market interest rates.

20. Contingencies

There are no known contingent liabilities for the institute as at year end.

21. Events after the reporting period

The members of board are not aware of any materail events occurring between the year-end date and the date of approval of the financial statements, which require disclosure.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

NOTES TO THE ANNUAL FINANCIAL STATEMENTS (Cont.)

22. Effect of COVID-19 on the operation of the Organisation

In December 2019, a novel strain of coronavirus (COVID-19) was reported in Wuhan, China. The World Health Organization has declared the outbreak to constitute a "Public Health Emergency of International Concern." This Coronavirus was also first reported in Botswana in March 2020, and has spread to more than 212 countries worldwide covering Europe, the United States, Russia and even our neighbouring countries, South Africa, Zimbabwe and Zambia.

On 31 March 2020 the President of Botswana declared a "State of Emergency" in Botswana and from 2 April 2020 to 15 May 2020 the country was placed under lockdown and during the lockdown all non-essential businesses were closed down to curb the spread of COVID-19. The lock down restrictions were eased in May 2020 and businesses returned to normality with a list of preventative rules to be followed as a measure of reducing spread of COVID-19. As a result of this numerous sectors of the economy in Botswana are suffering damage and the long-term economic and business consequences remain unknown. Impacts on business such as sales and production disruptions, supply-chain interruptions, negative impacts on customers, volatility in the equity and debt markets, reduced revenue and cash flows, cash out flow through donations to the State COVID-19 fund and other economic consequences have been observed.

Board members highlighted that the COVID pandemic has had direct impact on the operations of the institute mainly in the following areas:

- Financial Impact – Government funding reduction
- Human resources – Loss of productive time/employee absenteeism, delayed Human Resources Development.
- Customers – Restriction of in-person engagement, delayed customer service
- Technology – Information security and lack of business tool

The above were mitigated by a detailed business impact analysis resulting in adjustments of both the workflow operation, redirection of funding and prioritization.

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

DETAILED INCOME STATEMENT

Figures in Pula	Notes	2022	2021
Revenue			
Government grants		60,725,080	72,200,000
Other project grants		12,189,904	8,786,169
Deferred income utilised during the period		146,508	(2,951,457)
	11	**73,061,492**	**78,034,712**
Other operating income			
Commissions received		125,335	122,459
Rental income		510,531	672,151
Amortisation of capital grant		7,804,721	6,357,480
Other Income		1,015,195	387,465
	12	9,455,782	7,539,555
Other operating gains (losses)			
(Losses) gains on disposal of assets or settlement of liabilities		(86,522)	(2,059)
Expenses (Refer to page 29)		**(85,844,000)**	**(84,028,053)**
Operating (deficit) surplus	**14**	**(3,413,248)**	**1,544,155**
Investment income	15	162,615	192,352
Surplus for the year		**(3,250,633)**	**1,736,507**
Other operating expenses			
Advertising and marketing		503,065	1,535,140
Amortisation		864,553	323,141
Auditor's remuneration - external audit	14	132,924	147,964
Bad debts		3,905	20,650
Bank charges		42,826	41,574
Board expenses		478,968	564,749
Cleaning		679,114	667,200
Co-operate& Strategy		73,829	118,739
Computer expenses		47,750	72,000

ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 MARCH 2022

DETAILED INCOME STATEMENT (Cont.)

Figures in Pula	Notes	2022	2021
Other operating expenses (Cont.)			
Consulting and professional fees		175,150	550,001
Consumables Lab service		137,226	87,473
Consumables - Other		204,890	216,703
Data Management expenses		2,808,971	2,969,628
Depreciation		6,940,168	6,034,339
Employee costs		49,138,979	45,817,615
Recruitment Expenses		95,818	-
Annual Report Expenses		320,368	-
General Expenses		316,478	416,678
Health & Safety		204,767	418,148
Insurance		975,926	926,491
Lab services		42,057	176,709
Motor vehicle expenses		568,906	435,171
NDP 11 Projects		12,965,802	12,596,344
BITRI Collab Expenses		414,949	-
Postage & Telephone		951,211	1,115,934
Printing and stationery		223,783	430,435
Protective Cloathing		89,009	100
Recurring Projects		356,269	1,486,343
Repairs and maintenance		2,311,063	2,956,128
Security		946,195	790,867
Staff development and training expenses		394,311	441,675
Staff welfare		1,247	227,067
Subscriptions		69,894	62,844
Travel - external		18,166	56,447
Travel - local		222,017	198,857
Utilities		2,123,446	2,124,899
		85,844,000	**84,028,053**

GEOSCIENETIFIC RESEARCH

GEOSCIENCE DATA AND INFORMATION MANAGEMENT

SEISMICITY RISK REDUCTION

GEOTECHNICAL ASSESSMENT

NATIONAL RESORCE ASSESSMENT

SYSTEMATIC GEOCHEMICAL SURVERY

SYSTEMATIC ACQUIFER MAPPING

DISSEMINATION OF GEOSCIENTIFIC INFORMATION

COMPILATION OF MINERAL ACCOUNTS

THEMATIC MAPPING

Botswana Geoscience Institute
Excellence in Geoscience

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PROSPECTIVITY

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