Geological Society of Zimbabwe

Newsletter

October 2015 No. 3 of 3 of 2015

Heavy mineral concentrate (Total weight 4.974g) from the Somabula alluvial deposit. One diamond crystal (octahedron/dodecahedron) of gem quality (0.145g) is featured in the centre. Other gems shown are: chrysoberyl, alexandrite, sapphires, garnet, amethyst, topaz ("Somabula blue" and white), aquamarine, boart and native gold.

Natural History Museum, London collection (Sample 937). Photo: Susan Stocklmayer.

www.geologicalsociety.org.zw

The Geological Society of Zimbabwe, P.O. Box CY 1719, Causeway, Harare

Contents

Editorial

Welcome to the final Newsletter for 2015, the second under the Chairmanship of Ali Ait Kaci. The timing precedes our annual symposium, this year ambitiously being held in Kariba with promises of an interesting field trip along the route to the Caribbea Bay venue on 19th November. Following our presentations we board the Ferry to Sinamwenda, there to visit the impact structure. An exceptional effort has been made by Andrew du Toit in particular to organize this unusual event, and we encourage those who have not committed to the proceedings to do so as soon as possible. The latest circular is reproduced in this letter for your edification and action. We are going to have fun, and with the addition of Sharad Master, his students, and other stalwarts from the region, we will learn a lot. Unfortunately the student unrest in South Africa has caused some of our visitors to pull out due to the forced rearrangement of exam timetables etc.

Vernon and Sue Stocklmayer have kindly allowed us to reproduce their review of diamonds in Zimbabwe. This *per force* is to appear in two parts, the first section gracing this newsletter. To follow, the second part will include some interesting aspects of the gemmolgy relating to Marange diamonds. The current downturn in earth scientist employment in Australia is provided in a media issue from the Australian Institute of Mining and Metallurgy. An interesting record of geologists who have been employed by the National Museum over the years is presented.

Our news contributions covering the Geological Survey, activities in the mining industry and progress at the Geology Department at UZ are welcomed and revealing. Ernest, Forbes and Maideyi are thanked for there efforts in this regard. It is noted that both Ernst Mugandani and Forbes Mugumbate are to be congratulated on their respective promotions, and a pom-pom to Sydney Simango on being appointed GM of the ZMDC.

Tim Broderick

.

Visit our website at www.geologicalsociety.org.zw and also relate to our Facebook page

Chairperson's Chat

Ali Ait-Kaci

There have been many very busy months of preparation for our Summer Symposium champion, Andrew du Toit. Thanks to him, we will have a very special symposium this year in Kariba, both in session and on lake! The 20th November programme for the Symposium itself promises to be highly interesting, with presentations covering a wide range of fields. We now have authorisation from National Parks to do our field trip to the Sinamwenda Meteorite Impact Structure on 21st November, so don't miss the fun.

Unfortunately up to now we have not staged any other field trips nor talks. The Buchwa trip was cancelled and there have been no volunteers for talks! Brent Barber has prepared a presentation on the Karoo of Zimbabwe, the first in a cycle on talks on Zimbabwean Geology. This talk will probably take place at the beginning of December, and will be followed by a braai to mark year-end.

An updated Membership List is now available on the Society's website. So anyone can now check his status.

The Committee has resolved that from now, the Vice Chairman of the Society will be both our representative at the Chamber of Mines and the Patron of the Mennell Society. With respect to our students, the Geological Society sponsored the Geology Department field trip in August, from a donation from the 2015 RAND fund.

The A.M. Macgregor memorial lectures will be held in 2016. Our invited guest will be Martin Prendergast, who has accepted and will soon provide dates for his visit coupled with some field trip proposals. This should be in about August next year.

We look forward to seeing many of you at the Summer Symposium!

Articles and Reports

A Review of Diamonds in Zimbabwe – a Century On – PART 1

Vernon and Sue Stocklmayer

Introduction

A summary of Zimbabwe (Rhodesia) diamond occurrences was produced in 1981 and this article provides a comprehensive update. Accurate reserve and production figures proved impossible to obtain and much of the data presented has been gleaned from unconfirmed web site entries.

The first diamonds in Zimbabwe were found in 1903 in the Somabula River at a point some 20km southwest of Gweru. Subsequent diamond exploration was initially rather sporadic but became increasingly intense as more-and-more kimberlite bodies and clusters were discovered and aerial magnetic data became available. An estimated 140-200 kimberlitic bodies have been discovered to date.

Reported diamond production to 2006 was relatively low by world standards with only the alluvial deposits at Somabula and the River Ranch and Murowa kimberlites recording substantial diamond production.

In 2006, the large alluvial Marange deposits were discovered leading to a chaotic diamond rush, which involved up to 20,000 illegal small-scale miners. The Zimbabwe Government took subsequent control of the mining operations, which they still control through a number of parastatal partnerships.

Marange diamonds exhibit some distinctive internal features including; numerous platy inclusions causing haziness, short baton-like and longer filamentary channels and complex star phenomena.
The primary sources for both the Somabula and Marange alluvial diamonds have yet to be conclusively defined although the Sese-Murowa kimberlites have been suggested as the primary source for the former.

Kimberlites

Following on from the discovery of the alluvial diamonds at Somabula in 1903, the search commenced for their proximal kimberlitic source. No kimberlites were discovered near the Somabula Diamond Field; the Colossus Kimberlite, located to the northeast of Bulawayo, was discovered in 1907 and by 1910, five other kimberlite bodies had been discovered in the area. The Colossus, Wessels and Clare pipes produced small, generally good quality diamonds but at sub-economic grades.

After a general hiatus in diamond exploration, De Beers Consolidated Mining Company completed an extensive exploration programme in the west-central portion of Zimbabwe (Stocklmayer, 1981). Recent alluvial deposits were tested at 245 different sites but only 9 small diamonds were recovered. In 1947, De Beers Consolidated Mining Company relinquished their exclusive rights to diamond exploration in Zimbabwe but there was relatively little subsequent exploration done until the release of aeromagnetic data in the mid-1980s.

By 1980 there were 22 recorded kimberlitic bodies known in Zimbabwe (Watkeys and Harrison, 1977; Stocklmayer, 1981); by the end of 2000 this had increased to 117 (Mafara, 2001). Post 2000 data on Zimbabwe diamond exploration and discoveries are very limited and generally unsubstantiated. Various government presentations and newspaper reports suggest that between 140 and 200 kimberlitic bodies have been discovered to date.

Data to 2001 shows that the kimberlitic bodies occur as diatremes, dykes and sills in clusters within three main tectonic settings, the Zimbabwe Craton, the Karoo, and the Limpopo Metamorphic Belt. The majority of the clusters occur within the Zimbabwe Craton with three associated with Karoo lithologies at the west end of Lake Kariba and a further four within the Limpopo Metamorphic Belt (Figure 1) (Mafara, 2001).

The majority of the kimberlite bodies are barren, few contain small diamonds and only two currently are of economic significance; River Ranch in the Limpopo Metamorphic Belt and the Murowa group in the Zimbabwe Craton.

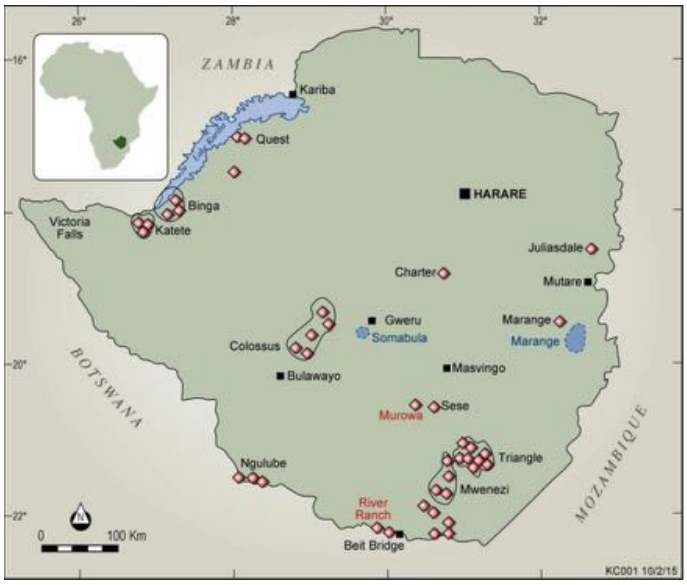


Figure 1: A map of Zimbabwe showing positions of the main kimberlite bodies and clusters known to 2001 as well as the locations of the Somabula and Marange alluvial diamond occurrences (after Mafara, 2001 and Moore and Moore, 2006)

The River Ranch Kimberlite

The River Ranch Mine is located 12.5 km west–northwest of the border town of Beitbridge in Zimbabwe and 1.6 km north of the Limpopo River.

The kimberlite was discovered in the period 1974 to 1975, and in 1991 the property was acquired by Auridiam. Production started in 1992, with 10,481 carats produced during the last three months of the year and operations were gradually scaled up to produce a maximum of 474,000 carats in 1996. This decreased to 421,300 carats in 1997, but the mine was closed in 1998 due to low diamond prices.

Bubye Minerals took possession of the River Ranch Mine in September 1998 and managed to increase production to around 30,000 carats per month. There was a change of ownership in 2004 followed by a lengthy legal dispute. In 2006, Bubye Minerals lost control of the River Ranch Mine.

The mine was placed under liquidation in July 2012.

The main, east to west-striking River Ranch kimberlite pipe, 5.27 ha in area, measures approximately 500 metres long by 100 metres in width with a fault or dyke controlled northeast-trending limb extending from the western end. Two smaller kimberlites are located several hundred metres east of the main pipe (Mafara, 2001).

The pipe is situated in the Central Zone of the Limpopo Mobile Belt and intrudes Archaean metasediments of the Beitbridge Group. Attempts to date the pipe produced poor agreement between the results with ages varying from 430+/- 6 Ma (U-Pb) to 740+/- 260-310Ma. It is likely that the River Ranch pipe intruded at a similar time to the South African Venetia cluster (Muusha, 1997; Barnett, 2004).

The current level of erosion is unknown, but it appears as if the diatreme facies is exposed. The main ore types are hypabyssal kimberlite, tuffaceous kimberlite and breccia. According to Mafara (2001), the mineralogy is consistent with Group 1 kimberlites.

Current reserves are unknown, with an unconfirmed report (2004?) of 17 Mt at an average grade of 40 carats/100 tonnes.

About half the diamonds produced were brown, with white diamonds making up around 26% and grey stones 21%. Fancy colours such as yellow, pink and green comprised fewer than 2% of the total (Mafara, 2001). Some of the diamonds were large (up to 75 carats) and many were of high quality (Khar'kiv *et al.*, 2005).

The Murowa Kimberlites

The Murowa group of kimberlites is located some 100 km southwest of Masvingo in the Midlands Province of central Zimbabwe (Figure 1).

In the early 1990s, Rio Tinto conducted a diamond exploration programme in Zimbabwe and discovered a small group of kimberlites in the Murowa area in 1997, three of which were diamond-bearing. Two of these three kimberlite pipes, namely K1 and K2, were of an economically exploitable size whilst the third, K3 is the smallest with the lowest grade and will be mined after the two larger pipes have been depleted.

Feasibility studies and mine planning were conducted from 1998 to 2000, with commissioning of a small-scale operation in 2004. Rio Tinto plc has a 78 per cent interest in the company with the remaining 22 per cent interest owned by Riozim Limited, an independent Zimbabwean owned and listed company.

The Murowa kimberlite field includes several kimberlite pipes and multiple kimberlite dykes that have been emplaced into the Archaean Zimbabwe Craton and have been dated at 538±11 Ma. The pipes, labelled K1 to K5, lie between two structural features with a north-south trend; to the west is a dolerite dyke and to the east a major shear zone (Mjimba, 2013).

K1 is an irregular-shaped, multi-lobed kimberlite pipe occupied by volcaniclastic and coherent kimberlite and enveloped by kimberlite-poor country-rock granite breccias and volcaniclastic rocks. It is interpreted to result from multiple emplacement events, involving kimberlite magmas with varying proportions of gas, liquid and solid phases.

K2 is a steep-sided, sub-circular pipe, which flares slightly with depth and is dominantly infilled by massive coherent kimberlite (Moss *et al.*, 2013). The K2 pipe shows a clear boundary between ore and waste, whereas the ore in K1 and K3 has a halo of lower grade material.

The pipes themselves are exposed in the root zone at the current erosion level. The small complex multi-lobed bodies together with sills and dykes are characteristic of the basal part of kimberlite pipe development (Smith *et al*., 2004).

The kimberlites have fenitized the 2.6Ga granite wall rocks, converting the granite into a syenite by the breakdown or removal of primary quartz, the removal of biotite and the addition of sodic pyroxene and amphibole amongst other minerals. Plagioclase is saussuritised, reddened with iron oxides and compositionally altered from oligoclase to albite (Smith *et al., op cit.*).

The diamonds from the Murowa pipes are mostly octahedral, moderately rich in nitrogen with moderate to high aggregation and contain mainly dunite-harzburgite mineral inclusions. Dunite xenoliths predominate over harzburgite within the kimberlites, while eclogitic xenoliths are extremely rare.

Limited mining operations began in 2004 and the 2012 production was 401,000 carats at an average value of US$106/carat (Equity Communications Private Ltd., 2013).

The mining reserve within the three kimberlite pipes as of December 2010 was 16.5 Mt at 90 carats/100 tonnes plus a mineral resource of 10 Mt at 100 carats/100 tonnes.

Alluvial diamonds

Alluvial deposits associated with Recent river sands and gravels

Although several rivers in Zimbabwe have yielded small diamonds from sand and gravel beds, these were isolated occurrences most probably originating from adjacent Karoo sediments. To date there is no record of any positively identified primary source for these diamonds.

Stocklmayer (1981) recorded 15 small diamonds, between 0.014 and 1.15 carats in size that were found in various rivers, mostly in the region between Kwekwe and Bulawayo. Since then, it is possible that many more have been discovered, but data is lacking.

Alluvial deposits associated with Karoo sediments

Alluvial diamond deposits are found associated with remnants of the Late Triassic Karoo sediments south of Gweru and to the west of Kwekwe in central Zimbabwe.

The Somabula (Somabhula) Deposit

The Somabula gravels occur at the base of a thin outlier of Late Triassic Upper Karoo sediments resting with a pronounced unconformity on an older granite basement. The outlier forms a narrow southeast-elongated body, isolated from the major Karoo outcrop located to the northwest. Fossil leaf impressions, notably of *Thinnfeldia* and *Schizoneura,* indicate a Triassic age.

In 1903 a prospector, H.R. Moir, noted gravels in the Somabula River (spruit) that had similarities to those he had worked on in the Vaal alluvial diamond fields in South Africa. Mr Moir and his brother prospected the area and discovered diamonds, sapphire and chrysoberyl. They mistakenly assumed that the black staurolite crystals were ilmenite. Moir was unable to work the ground himself and eventually sold his rights to the South African Option Syndicate, a subsidiary of Sir John Willoughby's Consolidated Company.

Work on a large scale commenced in 1905 and ceased in 1908 when the area was thrown open to individual diggers. Some of the diggers who took up the new ground had been working similar gravels on Ngamo Farm some 10 miles (16 km) to the northwest of Somabula. (Macgregor,1921).

The maximum thickness of the Karoo sedimentary sequence at Somabula is 38 metres (Moore and Moore, 2006). The basal Mudstone Unit is not persistent and, where absent, the Arkose Unit rests directly on the weathered gneissic granite basement; the contact often being difficult to identify in pits. The Mudstone Unit comprises an irregular basal conglomerate overlain by pink, mauve or chocolate fine-grained sandstone and mudstone that was referred to as "pink bar" by the diggers (Macgregor, 1921).

The Arkose Unit is relatively homogeneous comprising coarse red to pink feldspathic sandstone with thin intercalated pebble beds composed predominantly of quartz, quartzite and basic igneous rocks.

The Karoo succession is overlain by gravel up to 3 metres in thickness containing pebbles of agate, silcrete and fossil wood (genera *Dadoxylon* and *Rhexoxylon)* in addition to the various lithologies found in the underlying Karoo units. This is overlain by up to 7.5 metres of fine-grained red or white sand that is of Recent origin and elsewhere contains artefacts of human manufacture (Warner, 1969).

By far the most diamonds were found in a basal conglomerate that fills irregularities in the bedrock floor and is thus laterally discontinuous, with thickness varying between 0 and <2m (Moore and Moore, 2006). The conglomerate tends to be matrix-supported and the clasts are sub-rounded to sub-angular comprising a large variety of lithologies. Vein quartz and tourmaline-bearing quartzite are the most abundant with lesser granite, silicified serpentinite, chromite, chrome mica schist, green quartzite, chert and jaspilite. Zealley (1918) also noted a single sub-angular pebble of eclogite.

The diamonds are associated with a unique and distinct mineral assemblage. The heavy mineral suite contains diamond, kyanite, andalusite, rutile, blue and green corundum (sapphire), garnet, staurolite, blue topaz, aquamarine, chrysoberyl, alexandrite, tourmaline, zircon, gold, platinoids, chromite, Ce-rich aluminous phosphate beans and very rare ilmenite (Master, 1995). Native gold as fine gold and nuggets occurs in the heavy mineral concentrate with a reported average grade of 0.001 to 0.005 g/t.

Macgregor (1921) noted that octahedra, with or without modification of crystal faces, are the most usual diamond form; these are often flattened to give plates with a triangular outline. Dodecahedra and modified octahedra with curved unstriated faces are common as are twinned crystals.

The Somabula diamonds commonly have a characteristic faint green tinge that is entirely lost in cutting. Yellow and smoky brown stones were also found and F.P. Mennell (in Macgregor, 1921) considered that there was a distinct relationship between the colour of a diamond and the character of the matrix in which it was embedded.

Recorded output during the period 1905-1954 is given at 15,886.4 carats. However, notes left by A.E. Phaup, one-time Director of the Geological Survey, indicated that many of the stones were sold to illegal diamond buyers and that the total production was

considerably larger. Average diamond size was marginally over 1 carat, with the largest comprising a 37.5-carat stone of good quality and a 50-carat boart (Moore and Moore, 2006). In 1965, Rio Tinto, the last major mining company to examine the deposit, reported a diamond grade of about 4 carats/100 loads (about 5.5 carats / 100 tonnes) from selected areas (Stocklmayer, 1981). Subsequent work by Southern Sphere Mining and Trans Hex/Somabula Explorations recorded diamond grades in the range of 0.02 to 3.30 carats/100 tonnes, with most towards the lower value (Moore and Moore, *op cit.*).

The Ngamo Deposit

This deposit lies some 16 km northwest of the Somabula deposit and is similar geologically. Ngamo was worked between 1904 and 1906 and several small diamonds, averaging around 0.7 carats, were recovered from the basal conglomerate. Diggers then moved to more prospective ground in the Somabula field.

Subsequent work appeared to concentrate on the more recent reworked gravels and five small diamonds were recovered in 1949, possibly washed downriver from Somabula (Cheshire *et al.*, 1980).

The Crystal Farm Deposit

Two yellow stones of unknown size were reported to be from basal Karoo sediments located on the northern bank of the Umniati (Munyati) River to the west of Kwekwe (Stocklmayer, 1981). The exact location is unknown.

Diamond source

The Somabula and spatially associated Karoo diamond occurrences are unique in the fact that diamonds are concentrated in a discontinuous, relatively immature basal conglomerate; they are associated with a distinct assemblage of heavy minerals and there is a virtual absence of kimberlitic indicator minerals. Any hypotheses regarding provenance and depositional mechanism of these basal gravels would need to take all these factors into consideration.

The nature of the component heavy minerals that are found together with the diamonds suggest a multitude of provenances as there is nowhere currently known in Zimbabwe where staurolite, alexandrite, platinoids, topaz and diamonds amongst others are found in close proximity. For example, staurolite, the most abundant of the heavy minerals, is known to occur some 300 km north and 370km northeast of Somabula; there is one known occurrence of alexandrite situated some 200 km to the east-south-east (Schmetzer, *et al.*, 2011) and the soft platinum grains were probably derived from a proximal greenstone belt (Oberthur, *et al.*, 2002).

Early workers (for example Macgregor, 1921) had little doubt that the deposits were fluvial, and that the lowermost beds were deposited by a sluggish river flowing from the east. The most recent hypothesis by Moore and Moore (2006) suggested that the basal conglomerate clasts and associated heavy mineral suite, including diamonds, represent the winnowed and concentrated lag products of a former Permian till with a distal provenance.

To date the primary source of the Somabula diamonds has not been conclusively located. However, Moore *et al.* (2009) infer that the Sese-Murowa kimberlites could comprise the primary diamond source for Somabula, with some of the heavy minerals, including staurolite, being derived from as far to the east as the Chimanimani Mountains in Mozambique.

With permission from the Editor. *The Australian Gemmologist.* January-March 2015, Vol. 25 No. 9, pp. 316-325.

To be continued

Australia's minerals sector facing skills crisis

Australia's minerals industry professionals have experienced another surge in unemployment

.

The mining industry is now losing highly skilled professionals as they pursue alternative work. The organization representing minerals professionals, the Australasian Institute of Mining and Metallurgy (AusIMM), today released annual survey results highlighting an alarming increase in unemployment amongst highly trained and skilled minerals industry professionals.

Key results from the annual AusIMM Professional Employment Survey include:

- The unemployment rate for Australia's minerals professionals is 16.2 per cent – a significant increase from 12.2 per cent in 2014and a massive jump from just 1.7per cent in 2012. Unemployment for mining professionals is almost triple the national unemployment rate.
- Minerals production roles, including mining engineers, metallurgical engineers and geotechnical engineers, have faced the largest year-on-year increase in unemployment, although geoscientists were the first groups affected by the downturn.
- Almost one-quarter of Australia's iron ore mining professionals (24.4 per cent) are currently unemployed, reflecting significant job cuts in that sector despite increased volumes of iron ore going to market.
- Employment volatility is increasing and opportunities decreasing:

16.4 per cent of mining professionals have been made redundant, and 18.3 per cent of employed mining professionals have changed employers in the last year.

- Almost 30 per cent of unemployed mining professionals are now long-term unemployed (that is, unemployed for 12 months or more). Many are seeking employment outside the mining industry and may never return to the sector. The industry is experiencing a third round of redundancies and retrenchments, leaving many mining professionals without jobs and with

limited prospects of re-entering the industry. This has national implications given the significance of mining to Australia's economic health. AusIMM President Rex Berthelsen says the survey results reflect the hard reality for many mining professionals who have lost their jobs. 'Many of us have spent our careers in mining and we have experienced cycles and job losses before, but few can remember worse times and as an Institute, we are alarmed at the loss of good people who may not return and can never be replaced. 'We are also concerned that a whole level of experienced managers is being removed, leaving the industry at risk of losing its ability to innovate and pursue continuous improvements in safety and environmental performance.'

AusIMM CEO Michael Catchpole says the survey shows alarming increases in unemployment. This is a worrying addition to the fact that Universities have seen significant reductions in the numbers of students enrolling in and completing professional qualifications. 'The continued turbulence and resulting loss of skills creates major risks for the future of the Australian mining sector and for the Australian economy,' Mr Catchpole said. 'This sector underpinned years of economic growth, and supported Australia's economy through the global financial crisis. Government now needs to ramp up support for skills development, research, innovation and productivity improvements to maintain Australia's position not just as a commodities exporter, but a leading exporter of skills, technology and equipment to the global mining industry.'

To view the full AusIMM Professional Employment Survey results:
www.ausimm.com/survey2015

AusIMM Media Release, 29th September 2015

Geologists and Palaeontologists at the Bulawayo Museum 1901 to Present

Compiled from annual reports by T.J. Broderick, with assistance from Darlington Munyikwa

The appointment of Mr F.P. Mennell as the first Curator of the National Museum and Keeper of Geology in December 1901 continued to 1908 when he resigned to take up a post as consultant to Sir Abe Bailey. He remained as Honorary Geologist to the Museum till August 1909, publishing *The Miner's Guide* in that same year.

A.E.V. Zealley, ARCS London, was appointed Curator of the Rhodesia Museum in 1908 under a new constitution that had been ratified by the Rhodesia Chamber of Mines, the Rhodesia Scientific Association and the Bulawayo Municipality.

In 1910 A.J.C. Molyneux and F.P. Mennell were on the Museum Committee as four Members could be nominated by the Chamber of Mines and four by the Scientific Association. Zealley was the Curator. The Geological Survey came into existence in 1910 in Bulawayo with the arrival of H.B. Maufe as Director.

Zealley was Geologist and Curator of the Museum to May 1911, when he resigned to join the Geological Survey. Both Mennell and Zealley remained as Honorary Geologists from May, whilst Molyneux was Secretary to the Museum Committee during 1911. George Arnold (zoologist) took up the position of Museum Curator from 23rd October 1911.

A.M. Macgregor was appointed Assistant Curator and Geologist in July 1912. A.J.C. Molyneux became Chairman of the Museum Committee

Macgregor continued as Assistant Curator & Geologist in 1913. Molyneux was the Museum Committee Chairman whilst H.B. Maufe was a Committee Member.

In 1914 Chairman Molyneux reported that, "It is therefore deplorable to have to record a further depletion of our resources, since we have been obliged to dispense with the valuable services of Mr Macgregor, the Assistant Curator. The step was necessitated by reasons of economy, owing to an intimation received from the Government to the effect that our annual grant for 1915 might be considerably reduced or even entirely withdrawn."

In his 1915 report Molyneux stated that, "Mr Macgregor left the Museum on 31st March, having been granted 2.5 months leave on full pay. On his return to Bulawayo in August to take up a position under the Administration, the Committee, with the permission of the Director of the Geological Survey, appointed him Honorary Geologist to the Museum." Further Arnold in his Curator's Report, stated "The most serious result of this reduction was the termination of the Geologist's agreement and the consequent reduction on the development of the Geological Department - work is practically at a standstill, the only donation being that of pillow lava from Bubi by the Geological Survey."

In 1916 AJCM was Chairman and HBM a Committee Member. Macgregor resigned as Honorary Geologist in February before proceeding to England on War Service. In March AEVZ accepted this appointment with permission of the Director, Geological Survey.

A.J.C. Molyneux was Chairman in 1917 whilst HBM and FPM were on the Museum Committee. Zealley resigned as Hon. Geologist in February, and the task was taken over by Mennell. In June classes of instruction were given to prospectors by HBM, FPM, AJCM and AEVZ. Only four students attended. Future classes were therefore discontinued.

In 1918 Mennell was Hon. Geologist and on the Museum Committee. Molyneux as Chairman reported the passing of A.E.V. Zealley:

"OBITUARY - The Committee have to record, with much regret, the recent death of Mr A.E.V. Zealley, of the Geological Survey, formerly Curator of the Museum, and who subsequently rendered invaluable assistance in determining and classifying the mineral ores of Rhodesia and in delivering popular lectures on scientific subjects."

"Early in the year Mr Maufe, Director of the Geological Survey, very kindly devoted a considerable amount of his spare time to the re-arrangement of our Rhodesian stratigraphical collection."

C.D. Fleming was Museum Chairman in 1918-1919. Mennell was Mineralogist, being

replaced by G.A. Pingstone from 1st June 1919.

In 1920 Maufe was on the Museum Committee whilst G.A. Pingstone was Part-time Mineralogist.

"It is with deep regret that the Committee record the death of Mr A.J.C. Molyneux, past Chairman of the Museum Committee, 1911 to 1918."

Through 1921 and 1922 G.A. Pingstone was Consulting Mineralogist to the Museum whilst both FPM and HBM helped in the Geology Department. A donation was received from F.P. Mennell of the co-type of a lizard-like reptile, *Tangasaurus mennelli*, from the Karoo beds in Tanganyika territory where he discovered it.

G.A. Pingstone continued as Consulting Mineralogist in 1923. It was noted that the appointment of a Geologist and Assistant Curator was greatly needed, the post not having been filled since 1914.

1924 - Consulting Mineralogist - G.A. Pingstone. Government has now augmented the grant to the Museum and a geologist has been appointed to assume office in 1925.

Mr Alfred Frost, BSc (Hons), ARCSc, was appointed as Assistant Curator and Geologist from April 1925. F.P. Mennell continued on the Museum Committee with assistance being provided by HBM, Ben Lightfoot and AMM of the Geological Survey.

1926 - FPM on Committee. A. Frost was Assistant Curator and Geologist.

Alfred Frost left the Museum at the end of August 1927 to join Union Corporation. The post remained vacant to the end of that year, when it was taken up by Mr D.W. Bishopp.

1928 - FPM on Committee, D.W. Bishopp, Geologist.

1929 - As above. International Geological Congress in Pretoria.

1930 - FPM on Committee. L.C. Thornton, Geologist.

1931 - FPM on Committee. L.C. Thornton - Assistant Curator and Keeper of Geology. The Committee recorded the death of Mr Thornton in October 1931.

1932 - FPM on Committee. D.W. Bishopp was re-appointed as Keeper of Geology after several months.

1933 - FPM on Committee. D.W. Bishopp resigned in April 1933 due to little security being offered to the post of Keeper.
L.H. Ower was appointed Assistant Curator and Keeper of Geology from 1st May, 1933.

1934 - FPM on Committee. L.H. Ower, Keeper of Geology.

1935 - FPM and G.A. Pingstone on Committee. L.H. Ower, Keeper of Geology.

Between 1935 and 1945 Ms Evelyn Ferrer was Keeper of Geology for a short period and from 1941, Geoffrey Bond helped in the Geology Department.

Geoffrey Bond was appointed as Keeper of Geology in 1946 and remained so until 1960 when he transferred to the University College of Rhodesia and Nyasaland as the inaugural Professor of the Geology Department. He was Chairman of the Museum Board during the 1970's and early 1980's.

Ronald Tyndale-Biscoe succeeded Bond as Keeper of Geology in 1960 and remained so in Bulawayo until May 1963, when he retired.

Craig C. Smith was appointed Keeper in July 1965, as was his assistant Mr A. Ndhlovu. Smith continued in this post until August 1971, when he left for Italy. That same year with H.E. van der Heyde he published a bibliography of Rhodesian Geology to 1968.

There was no Keeper of Geology in Bulawayo for some 2 years, but Mike Raath was active in the field of palaeontology at the Queen Victoria Museum in Salisbury through 1972. He later became Director of Museums.

Peter Lock, Grandson to FP Mennell as the son of his daughter Marjorie, joined the Museum as Geologist in 1973 when he revamped the Geology display in Bulawayo. He later became Regional Director at the Mutare Museum, when the Department in Bulawayo was closed for a couple of years.

In 1980 Dr Michael R. Cooper was transferred from the Queen Victoria Museum to open the Palaeontology Department at the National Museum in Bulawayo. In 1983 he left to join the University of Durban Westville.

Archi Patsanza ran the Palaeontology Department through 1990. He later joined De Beers and then ACR when he was involved in diamond exploration. Archi died a few years ago.

A South African, E. Ledwaba and then R. Matora stood in for the Palaeontology section during the early 1990's, but neither stayed long in the department.

Darlington Munyikwa became the palaeontologist in Bulawayo in 1991. His MSc degree was on the Matura Hill mammal-like reptile remains from Hwange when he was seconded to the Bernard Price Institute at the University of the Witwatersrand under the tutorage of Mike Raath, then Director. Munyikwa became Regional Director at the Mutare Museum in 2004 and is presently Deputy Executive Director of Museums at head office in Harare.

Mr Sifelani Jirah became the Museum's palaeontologist on 1st May 2005, but he resigned to South Africa in October of the same year.

It is understood that the post in Bulawayo is presently vacant, and that anyone suitable will be welcomed.

News

Geology Department, University of Zimbabwe

Maideyi Meck

The Department now has 10 teaching staff: Dr Meck, Dr Njila, Dr Mulugheta, Prof. Manuel, Mr Chinoda, Ms Mudimbu, Ms Ncube, Ms Magaranhewe, Ms Sibanda and Dr Owen. All of them save for Dr Owen are full time. We now have four streams of students after enrolling 35 for the Part 1 intake in August. Teaching is progressing well, despite the numbers challenge. Logistics are in place to run our Department effectively, the biggest issue being that we only have 14 microscopes for 104 students.

We have run two field trips, with considerable assistance from the Geological Society of Zimbabwe. Most of the students are doing well, and have been attending talks and trips organized by the Society. However, we have a number of students who need assistance in the form of scholarships. A US$1000 scholarship would see a student through a whole year.

Great appreciation is extended to the Geological Society, the mining industry and to individuals for their assistance in a number of ways. Hats off to players in the mining industry for taking yet another 17 students on attachment, following on from last year's total of 19. In these hard economic times it is a tremendous effort to absorb such a high number of students. We are hoping the mining industry will once again accommodate our students for the crucial experience that they need next year.

As a Councillor of the GSAf for the Southern African Region (2012-2016) term, Dr Meck will happily forward any news from Zimbabwe to the GSAF Newsletter.

Contact details:

Name	Position	Other	Email	Cell
Dr Nhamo	Chairperson	Chemistry, UZ	lnhamo2@gmail.com	
Dr M.L. Meck	Lecturer		mabvira@science.uz.ac.zw	0772-906612
Dr T. Njila	Lecturer			
Mr D. Maguze	Chief Technician		dmaguze@science.uz.ac.zw	0712-639792
Mrs G. Chipari	Secretary, DG		gchipari@science.uz.ac.zw	0772-950681
Dr Ali Ait-Kaci	Chairperson, GSZ		ali_aitkaci@yahoo.fr	0777-174141
Mr. K. Musiwa	Hon-Secretary, GSZ	Mining, UZ	kudzie@eng.uz.ac.zw	0772-948915
DG Direct line/Fax:	263-4-303557			

Note: DG – Department of Geology; GSZ – Geological Society of Zimbabwe

Other Staff Members at DG: Dr T Mulugheta; Prof Manuel; Mr G Chinoda; Ms D Mudimbu: Ms S. Sibanda; Ms Ncube; Ms Magaranhewe; Dr R. Owen.

The Professor Tom Blenkinsop UZ Geology Field Trip Fund

Following the successful presentation of the 2013 A.M. Macregor Memorial Lecture in Harare and Bulawayo, and his lead of the field trip in the Renco Mine area, Professor Tom Blenkinsop made a generous donation of $200 to the Geological Society of Zimbabwe (GSZ). This was in support of University of Zimbabwe (UZ) geology student field trips. Over the years the UZ Geology Department has been under funded, resulting in their failure to raise sufficient money to conduct the mandatory field trips for its students. The GSZ responded by donating funds and materials from its own resources as well as from members. This assistance went towards the welfare of the geology students, especially in meeting costs for field trips.

Using the donation from Prof. Blenkinsop as seed money, the GSZ has now established the *"Professor Tom Blenkinsop UZ Geology Field Trip Fund"* to be administered by its Executive Committee. Tom has indicated an interest in supporting the Geology Department on a long term basis, not only to help in mobilizing funds for various activities, but by also providing moral and material support. Annually the students go on their main field trip, which lasts around 2 weeks with direct costs being in the range of $6000 per class. Therefore we are appealing to all our members to donate generously to this worthy cause both in cash or in kind. Materials such as fuel and food are most welcome.

The direct benefits that accrue to the geological profession are that it ensures a properly trained graduate. Referring to the adage that he best geologist is the one who has seen the most rocks, our students need quality field trips. From these field excursions we also want to develop the Zimbabwe Geology Atlas.

Your donations, either in cash or in kind, should be forwarded to our Treasurer, Collins Mwatahwa – E-mail: cmwatahwa@Angloplat.com or to our Administrator, Julie Kuhn - E-mail: geol.soc.zimbabwe@gmail.com

H. N. Gumbo June 2014

ZIMBABWE

Geological Survey Department

Ernest T. Mugandani

STAFFING

The staffing situation at the Geological Survey continues to be affected by the current restructuring of the Ministry. Some senior members of staff have been re-deployed as follows:

Forbes Mugumbate has now been appointed to a substantive post of Provincial Mining Director for Mashonaland Central Mining District while **Sokesimbone Lunga** (Principal Geologist) continues to act as Provincial Mining Director for Matabeleland South Mining District. **Sibongubuhle Mpindiwa** (Principal Geologist) is Acting Provincial Mining Director for Masvingo Mining District with effect from mid-October 2015. Prior to the new developments she attended a training workshop on "Practical Intervention Techniques to reduce public doses at Uranium mining and legacy milling sites", which was held in South Africa in June 2015. She also attended a week-long meeting on "Major Environmental Considerations Associated with Uranium Mining and Milling" held in Austria in October 2015.

Frank Muzanenhamo (Senior Geologist) has been appointed Acting Mining Director for Mashonaland West Mining District with effect from mid-October 2015. Prior to the new appointment, Frank and **Lloyd Shawarira** (Principal Geophysicist) were the latest beneficiaries of the look-east policy where they are on a month-long visit to China. The visit follows the Geochemical Survey carried out in Zimbabwe between December 2013 and July 2014 by Chinese counterparts who are now compiling the final report of that survey.

Ernest T Mugandani (Principal Geologist) has been appointed Acting Deputy Director of the Geological Survey with effect from June 2015. Prior to this he attended the Second Japan-Africa Ministerial Meeting for Resources Development (JAMM2) and Japan-Africa Mining and Resources Business Seminar held in Tokyo at the end of May 2015.

Thwala Luba (Geophysicist) is currently in Japan on an eleven-week training course on Metal Mining Development Administration organised and sponsored by the Japan

International Cooperation Agency (JICA). The training started on the 28th September 2015.

Two geological technicians for Mashonaland Central Mining District, **Edmore Marima** and **Malvern Kudzurunga** resigned from the Ministry with effect from end of August 2015.

TRAINING

Two of the ZGS geology cadets (**Robert Mashambanhaka** and **Evelyn Marumani**) began their 3rd year industrial attachment on 1st September 2015 courtesy of Trojan Nickel Mine in Bindura. The other two geology cadets (**Vimbai Takawira** and **Amicable Hove**) are studying for their 1st semester final year Honours Degree in Geology at the University of Zimbabwe.

Staff members listed in the table were trained in Digital Data Capture and the Production of Multi-coloured Geological Maps from 13th July to 23rd October 2015 at the Geological Survey and at SIRDC courtesy of the African Development Bank (AfDB) Government Institution Strengthening Programme (GISP).

Name	**Position**
Sithole R T	Chief Cartographer
Mudzi A (Mrs)	Assistant Chief Cartographer
Chimuka N (Mrs)	Principal Cartographer
Chobove L (Ms)	Cartographer
Matsatswa M (Ms)	Cartographer
Chiriseri W	Geological Technician
Mupomhori E (Ms)	Geological Technician
Kashiri T	Senior Geologist
Thwala L (Ms)	Geophysicist
Munyaradzi	Cartographer (from Mines HQ)
Muteta B	Geologist (attended a 1-week Remote Sensing course at SIRDC)

MOUs

Memorandum of Understanding (MOU) between the Japan Oil Gas and Metals Corporation (JOGMEC) and the Zimbabwe Geological Survey.

This long awaited MOU was finally signed on 10th September 2015 by the Permanent Secretary for Mines and Mining Development, Prof. F. Gudyanga and JOGMEC Senior Councillor, Mr. Daisuke Matsunaga, on behalf of the Minister of Mines and Mining Development, Hon. W. Chidakwa and JOGMEC President, Mr. Hirobumi Kawano respectively. The signing became a very important milestone for JOGMEC, having achieved the signing MOUs with all thirteen SADC member states which have a Geological Survey Department.

PROJECTS

Archaean and Proterozoic rocks - Geochronology and Isotope Geochemistry

Seven geologists from the Tokyo Institute of Technology in Japan were affiliated to the Zimbabwe Geological Survey in August 2015 and have conducted field surveys in Chinhoyi, Shurugwi and Beitbridge districts to collect rock samples for geochronological studies and isotope geochemistry. The results will be published in international journals by mid 2016. The seven geologists are registered with Research Council of Zimbabwe until 1st October 2016.

MINING INDUSTRY NEWS

Forbes Mugumbate
fmugumbate@gmail.com

Provincial Mining Directors
There have been staff movements following the recent restructuring of the Ministry of Mines and Mining Development into provincial directorates. The following appointments have been made:

Province	Name of Director	Profession	Status of appointment
Mashonaland Central	Forbes Mugumbate	Geologist	Substantive
Mashonaland East	Taz Mutema	Chemist	Acting
Mashonaland West	Frank Muzanenhamo	Geologist	Acting
Manicaland	Chris Dube	Metallurgist	Acting
Masvingo	Sibongubuhle Mpindiwa	Geologist	Acting
Midlands	Malcom Mazemo	Metallurgist	Substantive
Matebeleland South	Sibonesonke Lunga	Geologist	Acting
Matebeleland North	Julius Moyo	Mining Engineer	Substantive

Zimbabwe Mining Indaba 2015
The major highlight in mining news during this reporting period is the Mining Indaba Conference held at Meikles Hotel from 14-16 October 2015. The Minister of Mines and Mining Development, Honourable Walter Chidhakwa officially opened the conference that was attended by both local and international delegates. Judging from the number of delegates, this conference was a pale shadow of previous Mining Indabas. It appears people are tired of being told the same stories over and over again without much happening on the ground to investigate our much-publicized mineral potential. The country is yet to reap fruits from this annual event, as the macroeconomic challenges largely remain unchanged.

Highlights from some of the issues discussed at the conference include the following:

Energy shortages
The shortage of electricity is impacting negatively on the performance of the mining industry. Inadequate power supplies coupled with unsustainable tariffs become more severe in the declining mineral commodity price environment currently prevailing. There seems to be no immediate

solution to Zimbabwe's power crisis.

Government Policies
The need for clarity on policies that affect miners was emphasized. For instance while some government officials have downplayed the need for FDI, events on the ground clearly show that the industry cannot grow without foreign investment. The country only has US$5 billion in the banking system whereas mining alone requires US$5 billion for it to grow, much of which must come from foreign investment. Hence government officials were warned on the consequences of pronouncing unnecessary rhetorical resource statements.

Delegates complained about the Indigenization Law, which they consider to be vague and difficult to understand. Minister Chinamasa admitted that while indigenization of the industry, especially the extractive resource industry, is here to stay there is a need for clarity on the processes involved.

The merging of diamond mines was discussed with some delegates advising government to weigh the advantages of such a move against disadvantages. Disadvantages tend to outweigh advantages if one considers constitutional provisions and the legality of the move, difficulties in arriving at an agreed formula to work out the worth of each company, the potential loss of jobs as the new company streamlines, a loss of production as companies anxiously wait for the conclusion of the process, and the potentially adverse signal the policy will sent to potential investors. Minister Chidhakwa, however, insisted that there is no going back on the policy.

In general the various policies announced by the Ministry through the media point to a shift whereby government will gradually become more directly involved in mining activities. For instance, apart from being the majority shareholder in all diamond exploration and mining activities, government will be the sole exporter of raw chrome ore and miner of alluvial gold through Special Purpose Vehicle companies. The Mining Promotion Corporation has also been revived to carry out mineral exploration.

Mines and Minerals Act Amendment Bill
It was reported that the much-awaited new Act has been partially discussed at the Cabinet, and will be tabled before Parliament during the current session. The main issues covered in the new Act include access to mineral areas considering the new land tenure, environmental protection, streamlining of various taxes and fees, and the computerization of mining cadastre.

Minerals Exploration Marketing Corporation (MEMC) bill
The bill that seeks to merge the Mining Promotion Corporation (MPC) and the Minerals Marketing Corporation of Zimbabwe (MMCZ) has been tabled in Parliament for debate. It is anticipated that a new company will be in place before year-end. Why it became necessary to merge an exploration company and a marketing company is difficult to comprehend, but may have been caused by the government's inability to raise funds for MPC to carry out its mandate. Thus exploration by the new company will be funded in part from the revenue generated through minerals shipment.

Relief for platinum miners
Government has suspended a 15% tax on raw platinum exports, ceding to company requests to be given at least two more years to establish smelters and refineries. The levy imposed in January 2015 was aimed at encouraging local processing of the precious metal. Platinum miners argue that while Zimbabwe holds the world's second-largest platinum reserves after South Africa, the volumes mined are not high enough to make construction of multibillion-dollar refineries

economically viable. There is also scepticism that the energy supply would be adequate to run such plants. With platinum prices already depressed, the tax threatened to have devastating effects. Government should therefore focus on policies that encourage development of more mines to boost production.

Small-scale miners shine

Gold deliveries to Fidelity Refiners and Printers increased substantially by about 48.6% to 1546.16kg on a year-on-year basis in March 2015 compared to 1040.49kg in March 2014. This was driven by a significant increase in small-scale miner's deliveries. Deliveries by primary and small-scale producers increased respectively by 20.8% and 142.3% to 969.64kg and 576.53kg during the same period.

The contribution by small-scale miners is obviously good news. More is expected from this sector as it becomes better organized. Sustained productivity in the sector cannot be relied upon if most producers are subsistence miners. The recently elected president of the Zimbabwe Miners Federation, the largest representative of small-scale miners, **Mrs Appolonia Munzveregwi**, has a lot to do to transform this sector into an important contributor to national mineral production.

Mine Entra Exhibition

The regional annual Mining Engineering and Transport (Mine Entra) exhibition was held in Bulawayo in July 2015. Minister Walter Chidhakwa officially opened this year's exhibition themed "Unearthing Opportunities". The exhibition can be said to have been successful judging from an excess of 160 exhibitors who occupied 92% of the available space, and by the quality of conference debate, which ran concurrently with the exhibition.

Mining projects

Metallon Gold, which sits on a world-class resource of 9.2 million ounces of gold, has expressed confidence in Zimbabwe by embarking on major expansions at their mines. A multi-million dollar sands retreatment plant is nearing completion at the Mazowe Mine while a $4.4 million slimes dam is being constructed at Shamva Mine. Dewatering of the Redwing Mine progressed down to 6-Level where mining resumed mid-October.

Hwange Colliery Company Limited (HCCL) commissioned $31.2 million of equipment. The new equipment, together with the work of a contractor — Mota Engil — should see output totalling a minimum of 450 000 tonnes of coal per month by the second half of this year.

Premier African Minerals has brought the RHA Mine from exploration status to production status. The company has produced its first tungsten mineral concentrate through a simple gravity separation process. Recent sample head-grade was 1.52% WO_3. Wolframite is the dominant tungsten-bearing mineral with 1.28% of the recent sample being wolframite and 0.28% being scheelite.

ZMDC appoints a new General Manager

The Zimbabwe Mining Development Corporation appointed **Sydney Simango** as its new General Manager with effect from June. He replaced Jerry Ndlovu who was suspended. Sydney is a fellow geologist who holds a BSc Honours Degree in Geological Sciences from the University of Aston in Birmingham, UK and a MSc Degree in Mineral Exploration and Mining Geology from Leicester University, UK. He started his mining career in 1981 at the Geological Survey and subsequently worked for several companies before joining Zimplats, his last post prior to his ZMDC appointment. We wish him all the best, knowing the difficult task ahead.

Geological Society of Zimbabwe

SUMMER SYMPOSIUM AT KARIBA

19th - 22nd November 2015

The Geological Society of Zimbabwe holds an annual symposium towards the end of each year where presenters, from amongst the membership and invited guests, talk on a wide variety of topics of interest to the geological community.

SCHEDULE

Pre-Symposium Field Excursion

19th November 2015

Various outcrops along the road from Karoi to Kariba to look at the Hurungwe gneisses, the Makuti Group (with a detour to the Zambezi escarpment), a couple stops 10-12 km E of Kariba to see porphyritic granitoids and granitic gneisses, and the Kariba Sillimanite Quartzite. Discussions at the outcrops will include tectonic and geological implications of the new geochronological results from these localities - leader Sharad Master (WITS)

Meet in Karoi at Twin Rivers Motel at 8:45am.

Symposium

20th November 2015

Carribea Bay - Kariba 8am to 5pm - Registration Cost $50 per person (including teas and lunch)

The current provisional program includes the following talks:-

Title	Speaker
The vanished orogeny: Geochronology of Palaeoproterozoic "basement" gneisses of the Kariba and adjacent areas, western Magondi Belt (Zimbabwe and Zambia)	Sharad Master
Implications for the extent of the Zimbabwe Craton, from U-Pb zircon geochronology of the Dete-Kamativi Inlier (NW Zimbabwe) and the Choma-Kalomo Block, of SE Zambia.	Sarah Glynn
Impact of hydrothermal solutions on the world economy	Tony Martin
Ruby Bearing Amphibolitic Gneisses - Montepuez Complex, Mozambique	Tenyears Gumede
The Sinclair Supergroup: its evolution and implication on the assembly of Rodinia.	Ben Mapane
Kariba - 60 Years Since Inception. A Geological and Geotechnical Review	Tim Broderick
A Review of Optically Stimulated Luminescence Dating in Southern Africa	Mary Evans
Challenges in the interpretation of luminescence dating of quartz grains in the Kalahari environment.	Andy Moore
Professional Status and the Geological Society of Zimbabwe	Andrew du Toit
The need of a Geochemical baseline study for the SADC region.	Zibisane Bagai

Post-Symposium Field Excursion

20th - 22nd November 2015

Visit to Simamwenda Meteorite Crater - leader Sharad Master (WITS)
Cost, two nights on the Ferry, full board (excluding drinks) - $160 per person. The ferry has a cash bar.
Note that the Ferry does not offer cabins and private accommodation. The sleeping arrangement is a communal setting with ample chair beds for each passenger.
(www.karibaferries.com)

Day	Date	Time	Activity
Friday	20-11-2015	17:00	Ferry departs Kariba
			Overnight travel across Lake in Ferry, with dinner and breakfast
Saturday	21-11-2015	07:00	Passengers disembark at Sinamwenda
			Walk 5km each way to crater, packed lunch, carry out various surveys - leader Sharad Master
Saturday	21-11-2015	15:00	Passengers return to ferry and leave for Musango
			Overnight travel across Lake in Ferry, with dinner and breakfast
Sunday	22-11-2015	07:00	Passengers disembark at Musango to view various fossils and stone age artifacts
Sunday	22-11-2015	09:00	Passengers return to ferry and leave for Kariba
			Travel across Lake, lunch
Sunday	22-11-2015	14:00	Ferry arrives in Kariba
Sunday	22-11-2015	14:00	Drive back to Harare

Transport

Please let us know if you require transport from Harare to Kariba and back.

Accommodation

There are a variety of accommodation options available in Kariba.

If there are sufficient bookings, Carribea Bay is $77.50 per person sharing, bed and breakfast,

Please reserve and pay for your accommodation through Baobab Bookings, email loraine@baobabzim.net (+263 773 263 671) and indicate that you are part of the Geological Society group. They can also arrange self-catering accommodation for you if you prefer.

Costs

Registration $50 for the Symposium, includes symposium attendance, lunch, teas and abstracts only. You need to book and pay for accommodation separately and direct with the lodge or camp of your choice.

The Sinamwenda Trip costs $160 per person. Places the Ferry are limited and will be booked on a first paid – first served basis

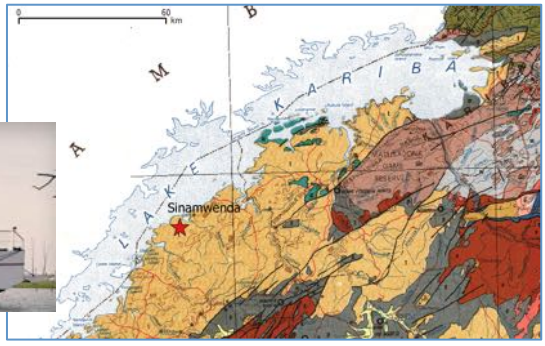
Note This excludes National Parks Lake usage fees and National Park Entry which currently total $8 for locals and $20 for visitors which will be payable in cash on embarkation

Please reserve your place before 15th September 2015 by paying $50 (symposium only) or $210 (symposium & Sinamwenda Trip) into:-
Bank Details
Acc No 6533195
Barclays Bank
Kurima House 2157
SWIFT - BARCZWHX
Please let us have confirmation of your payment for reconciliation purposes.

Please let us know if you are interested in attending either or both of the field trips.
Address all inquiries, replies and other correspondence

To:

The Administrator
Email: geol.soc.zimbabwe@gmail.com



3D EARTH EXPLORATION (Pty) LIMITED

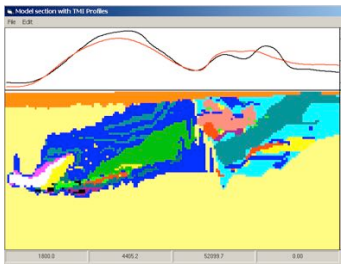
Geophysical Contractors & Mineral Exploration Consultants

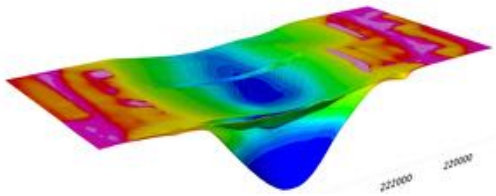
3D Earth Exploration is a Botswana-registered company operating in the Africa theatre and provides the following services:

- Ground geophysics surveys
- Physical rock properties measurements …&… 3D Data processing and interpretation

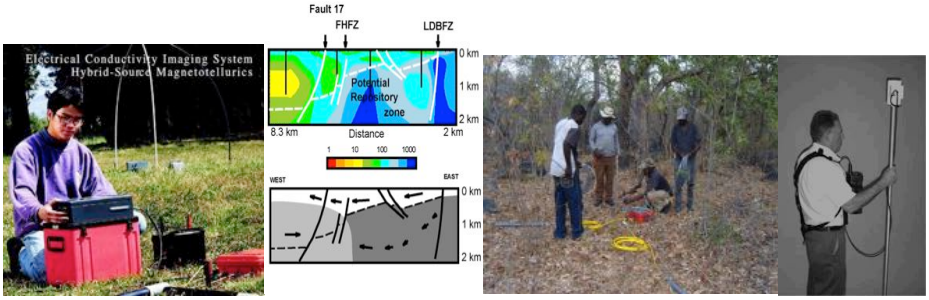
GDD MPP-EM2S+ Magnetic susceptibility and conductivity probe and axim ……..Onsite data processing

- 3D magnetic and gravity data modelling

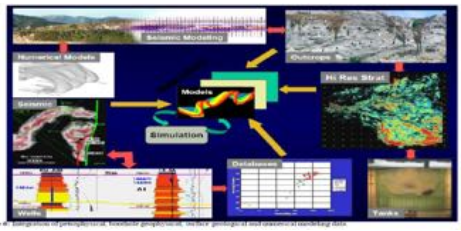




- CSAMT, ground magnetic surveys, Induced Polarisation, gravity (CG3/5, La Coste), rock properties, EM, GPR, radiometrics and a wide range of other ground geophysics surveys.



- 3D Data integration and visualisation



CONTACT:

For more information please contact Mr Hillary Gumbo +263-772-566912, email: hgumbo@mweb.co.zw

Conferences

The 23rd International Geological Congress, Cape Town, South Africa – September, 2016.

GSZ Research and Development Fund

Enquiries relating to the distribution of funds through this facility should be made through the standing Chairperson.

SEG Timothy Nutt Scholarship Memorial Fund

This fund will be available to provide financial support for geology students and young economic geologists located in Zimbabwe or in Southern Africa with ties to Zimbabwe. The fund may be used to support SEG student chapter activities, travel to meetings, field trips, for research or study grants, technical lectures or any other activities approved by the SEG Regional Vice President for Africa.

Applicants must describe what the project is, why the research is important and how it is to be done.

An estimate of expenses for the project must be included with the application.

Grants are expected to be fully utilized by year-end.

Grant recipients are required to provide a year-end accounting of how the money was spent together with a suitable progress report or final abstract.

See the Society of Economic Geologists website for further details and the next call for applications.

GEOLOGICAL SOCIETY OF ZIMBABWE:
CONTACT DETAILS OF MEMBERS OF THE EXECUTIVE COMMITTEE FOR 2015

NAME	PORTFOLIO	EMAIL
Ait Kaci Ahmed, Ali	Chairman	ali_aitkaci@yahoo.fr
Barber, Brent	Vice-Chairman	barber.brent@gmail.com
Musiwa, Kudzai	Hon. Secretary	kudzimusi@gmail.com
Kuhn, Julie	Administrator	geol.soc.zimbabwe@gmail.com
Mwatahwa, Collins	Hon. Treasurer	cmwatahwa@angloplat.co.zw
Chatora, Daniel		dchatora@gmail.com
du Toit, Andrew	Summer Symposium	andrewdutoitzim@gmail.com
Hanssen, Gayle		gaylehanssen@gmail.com
Matthews, Paul	Matabeleland Representative	pmatthews2904@gmail.com
Meck, Maideyi	UZ Representative	maideyimeck@yahoo.com
Mugandani, Ernest	Newsletter	emghans@yahoo.co.uk
Mugumbate, Forbes	Geological Survey Representative	fmugumbate@gmail.com

Institutional Membership, 2015

Bruker RSA

Chamber of Mines of Zimbabwe

Freda Rebecca Mine

Goldsearch Technical Services

Marowa Diamonds (Pvt) Limited

Metallon Gold

Mimosa

New Dawn Mining

RioZim Limited

Samrec Vermiculite Zimbabwe (Pvt) Limited

Sandvik

SMC Drilling

Trojan Nickel Mine

University of Zimbabwe Geology Department

Unki Mines (Pvt) Limited

Vast Resources

Zimbabwe Geological Survey

Zimbabwe Mining Development Corporation

Zimbabwe Mining Investments

Zimbabwe Platinum Mines Limited