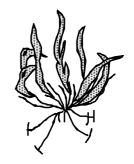
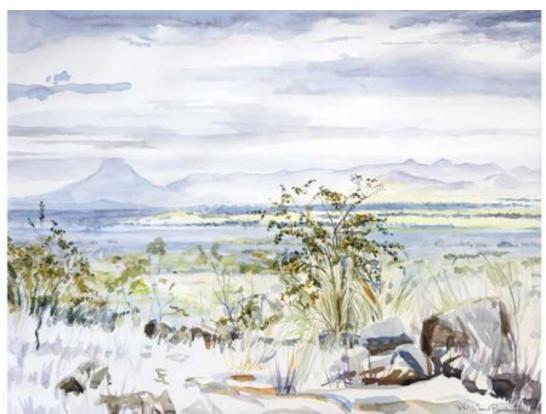
Geological Society of Zimbabwe





Newsletter

October 2012



Chirambakadoma and the Chewore Mountains viewed across the Chenje Valley from the Forest Sandstone ridge, Chewore Safari Area. Watercolour by Trish Broderick.

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The Committee, on behalf of the Geological Society of Zimbabwe, would like to offer a sincere vote of thanks to Marion de Beer of *Cadline* for preparing and printing our Phaup Award certificates for 2009 -- free of charge. This is, as previously, a wonderful gesture of Marion's time and skills and we can only encourage all you geologists and mining houses to steer your Autocad mapping work in her direction and to take advantage of at least 30 years of hard-won cartographic experience. *Cadline* also offers monochrome printing and scanning services in formats up to A0. Their telephone contact is 04-2917261/60 Tel/Fax is 04-301855 and the address is 94B Pendennis Road, Mount Pleasant in Harare. marion.debeer@cadline.co.zw

Editorial



And this is what makes up the flat top of Chirambakadoma – Flat-lying jointed and resistant sandstones, presumably representing an uplifted remnant of the Angwa Sandstone Formation.

Photo by Lynne Taylor.

Chirambakadoma, the flat-topped mountain of Chewore is a monument to uplift at the juncture between the Mana Pools Basin and the Chenje sub-Basin in the Zambezi rift system. A feature that holds a fascination in some of the only real wilderness left to Zimbabwe. Wilderness, as a wasting commodity, has its own intrinsic value as a gift to future generations. We as a nation have a responsibility to protect and preserve our wilderness in a way that its remoteness can be enjoyed in the years to come. Those who seek to exploit in the name of development must surely apply a great sensitivity in their intent to make inroads into this landscape and weigh up the value of short-term gain against posterity.

We see that the Geological Survey is making some progress towards production of the new 1:1 Million Geological Map of Zimbabwe. We can only encourage this happening in the face of technological and resource hurdles. Surely national urgency in production of this map must be realized, as its availability must be the basis for those would-be investors we seek in a resurgent mining and minerals exploration industry. As a spin-off from the application of the new drawing capability at the Survey, it is hoped that Peter Fey's 'Chewore-West' geological map and bulletin will not be forgotten in the process. His geological work is a further monument to our understanding of the wilderness, that which is dominated by Chirambakadoma Mountain.

Our thanks are expressed to Martin Prendergast and Andy Moore for submitting their abstracts for publication in our Newsletter before they appear in hard print. Both their papers are published online, and would be open to your perusal. Our thanks are extended to our regular contributors, notably Forbes Mugumbate, Maideyi Meck and Bornwell Mupaya. Forbes has summarized what amounts to a change in attitude by authority towards the revival of our mining industry. Let us as geologists play our part in instilling an understanding of the requirements for minerals exploration and mining together with the risks that a would-be investor has to contend with before capital can be raised for that development. Future mineral deposits have to be found, proven and shown to be economically exploitable in a long and involved planned process. Those minerals are not all-abundant, and the partnership in realizing their values must be shared equitably.

I take the opportunity to revise and update the facts relating to as many events as possible that have moulded the course of our Geological Society, and I present them for your interest as an archive for posterity. Lest we forget.

The Professional Affairs Committee of the Geological Society of South Africa is reviewing the recent court judgment and its consequences to geoscientists that may arise following the conviction and imprisonment of six Italian professionals and a government official due to their failure to accurately predict the size and implications of the 2009 L'Aquila Earthquake. All were members of the *Commissione Nazionale dei Grandi Rischi*. The GSSA is in communication with the European Federation of Geologists (EFG), who is itself reviewing the judgment. In time their findings could alter our application of codes of conduct and practice in our profession, and we should be aware. Perhaps Keith Viewing, now living just across the Appennines from L'Aquila and who was acutely aware of the event and its after shocks, could throw in an opinion.

The Geological Society of Zimbabwe Group on Facebook is there to facilitate communication between Members. This group has a widening membership of over 250 friends. You are bound to find some of your lost colleagues there so please visit and join in with your news, or ask for details from Andrew on andrew.dutoit@zimplats.com

The views expressed in this newsletter are not necessarily those of the Hon. Editor or Members of the standing Committee.

Tim Broderick



Chairperson's Chat

Fadzanai Bornwell Mupaya

Our Geological Society has shown great signs of recovery following the effects of the country's economic challenges and its dormant exploration environment. We are still waiting for ideas or professional contributions concerning the improvement of our Society and in turn to the mining industry at large. On this note, I would like to commend Tim Broderick for his advice and correspondence concerning geologists' abroad, and also for comments relating to the Macgregor Memorial Lecture, which should be staged early next year. We have

concentrated this year in laying a stronger operating foundation for the Society. Short-listed candidates for the post of Geological Society Office Administrator will be interviewed towards the end of November 2012.

May I remind all Members, that the Honorary Secretary is still waiting for your photos for preparation of Geological Society identity cards!

The national momentum is picking up in the opening up of exploration ground, locked up for years due to the non-granting of Exclusive Prospecting Orders. Companies that were no longer interested in their EPO applications have had these forfeited. This means that companies that responded to the Ministry's request to state their interest in certain areas are having their EPO applications processed. It is a pleasure to note that the Ministry of Mines and Mining Development has taken some steps towards revival of the mining industry by revisiting the granting of Exclusive Prospecting Orders (See News from the Geological Survey). Finally, the BSc Geology Honours Degree has been reintroduced at our University Geology Department (See news from the Geology Department).

We still strive to improve activities in our mining industry in various ways. This year's Summer Symposium will be opened by the Permanent Secretary for Mines and Mining Development. Such interaction will help him to clarify some issues relating to mining policy in the country, which might have been missed by most of us. Preparations for the Summer Symposium on 30th November 2012 are going well. For field trips, "our great trek" to the Eastern Highlands alluvial diamond fields has been finally set following the Summer Symposium on the 1st and 2nd December 2012. This is a rare opportunity for most of our geologists to visit these now famous alluvial diamond deposits, and the interaction should help in understanding their genesis. Check your correspondence for details about the Summer Symposium and the field trip. We look forward to seeing as many of you there as is possible.

Articles and Reports

Zircon geochronology of late Archean komatiitic sills and their felsic country rocks, south-central Zimbabwe: a revised age for the Reliance komatiitic event and its implications

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- 2 Geological Survey of Western Australia, 100 Plain St., WA 6004, Australia
- 3 School of Earth and Environment, The University of Western Australia, WA 6009, Australia

ABSTRACT

The 2.8 - 2.6 Ga Bulawayan Supergroup of the Zimbabwe craton is inferred to be a passive margin- and plume-related conformable sequence comprising (in part) the felsic volcanic Koodoovale \rightarrow sedimentary Manjeri \rightarrow komatiitic Reliance \rightarrow basaltic Zeederbergs units. The Reliance unit is spatially associated with subjacent komatiitic sills of the Mashaba Ultramafic Suite, the inferred subvolcanic intrusive phase of the Reliance flow-fields. We report U-Pb zircon ages for several units. The Pangani sill, in the Filabusi belt, yielded an age

of 2912 Ma, indicating it may belong to the 3.0 - 2.9 Ga Belingwean Supergroup. The Koodoovale unit appears to range in age from 2866 to 2788 Ma. Inferred syn-eruptive mass flow deposits within the Manjeri basinal shallow-water sub-facies in the Midlands SE belt yield ages of 2877 and 2870 Ma. Sills of the Mashaba Ultramafic Suite, together with a previous result of 2743 Ma for the Mashaba Igneous Complex, yield a mean age of 2746 Ma, which we propose as a proxy age for the Reliance unit and for the Reliance komatiitic event as a whole.

The 2.80 Ga age for the top of the Koodoovale unit in the western Filabusi and Gweru NW belts confirms (with greater stratigraphic control) earlier precise geochronology and provides an age for the start of sedimentation in the overlying Manjeri basinal deep-water sub-facies. The 2.79 Ga felsic sample from within the Reliance unit in the Shangani N belt is likely from a Koodoovale-derived, post-eruptive mass flow deposit. In the Midlands SE belt, the new felsic rock ages support the conformable relationship between the uppermost Koodoovale unit and overlying Manjeri unit but place the transition at c. 2.87 Ga, significantly earlier than in belts further west.

The new ages for the Koodoovale unit and the revised age for the Reliance unit introduce new perspectives on the development of the Bulawayan Supergroup: (1) The Koodoovale-Manjeri transition is diachronous across the Zimbabwe craton, (2) the duration of Manjeri sedimentation varied from 50 Ma to 120 Ma in the basinal deep-water and shallow-water subfacies, respectively, to 80 Ma in the platformal facies in the east where sedimentation is estimated to have begun at 2.83 Ga; such prolonged sedimentation is controversial but can be explained by extended periods of non-deposition in the basinal deep-water sub-facies, (3) using all published precise ages, Reliance-Zeederbergs volcanism may have lasted 70 Ma (2.75 – 2.68 Ga), much longer than Phanerozoic plume systems, and (4) the previously proposed correlation and late Archean 'nearest neighbour' relationship between the Zimbabwe and Slave cratons are provided further support.

Key words: Archean, komatiites, Reliance event, SHRIMP, Zimbabwe, zircon geochronology

Published online as Precambrian Res. (2012), doi:10.1016/j.precamres.2012.02.004

The Evolution and Ages of Makgadikgadi Palaeo-lakes: Consilient Evidence from Kalahari Drainage Evolution

A.E. Moore, F.P.D. Cotterill and F.D. Eckardt

ABSTRACT

The Makgadikgadi Pans in northern Botswana are the desiccated relicts of a former major inland lake system, with fossil shorelines preserved at five distinct elevations (~995 m, 945 m, 936 m, 920 m and 912 m). These lakes persisted in the Makgadikgadi Basin, which evolved in the Okavango-Makgadikgadi Rift Zone: the south-western extension of the East African Rift System (EARS) into northern Botswana. This paper synthesizes cross-disciplinary evidence, which reveals that the antiquity of this lake complex has been widely underestimated. It presents a Regional Drainage Evolution Model that invokes tectonically initiated drainage reorganizations as the underlying control over lake evolution. Lake formation was initiated by rift-flank uplift along the Chobe Fault, across the course of the Zambezi River, which diverted the regional drainage net into the Makgadikgadi Basin. Filling of the basin initiated a major climatic feedback mechanism that locally increased rainfall and lowered evaporation rates. This progressively enhanced water input to the basin, and most likely led to

overtopping of the Chobe Horst barrier during the three highest lake stands, with outflow into the Zambezi River. During this period, the hydrology of the basin would have been closely analogous to modern, shallow Lake Victoria. Fragmentation of the regional drainage network by successive river captures resulted in sequential contractions of the lake to lower elevation shorelines. In turn, resultant decreases in areas of these successive lakes modulated the magnitude of the feedback mechanism. Thus, loss of the Upper Chambeshi catchment caused the lake to drop from the 990 to the 945 m level. Severance of the former link between the Kafue and Zambezi resulted in a further drop to the 936 m shoreline. Inflow declined further after the impoundment of a major lake (Palaeo-Lake Bulozi) on the Upper Zambezi River, causing contraction to the 920 m shoreline. Continued incision of the Zambezi channel into the Chobe horst barrier ultimately terminated input from this river to the Makgadikgadi depression, causing contraction of the lake below 920 m, sustained by the Cuando and Okavango prior to final desiccation. This Regional Drainage Evolution Model contradicts previous proposals that have invoked Late Pleistocene climatic forcing to explain inferred fluctuations in lake levels. The timeframe developed for the drainage reorganizations requires that the lake was initiated by ~1.40 to 0.51 Ma at the most recent (Early – Mid-Pleistocene), while archaeological evidence shows that it had contracted below the 936 m shoreline before 500 ka. This contrasts with 14C and quartz luminescence dates (generally <100 ka), which require that the 945 m lake stage was extant during much of the Upper Pleistocene. The calcareous radiocarbon dates reflect multiple episodes of calcrete formation, while the young luminescence dates are ascribed to the extensive bioturbation of older Kalahari landforms.

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Geological Society of Zimbabwe – Historical Notes

Compiled by T.J. Broderick

<u>Past Chairmen of the Geological Society of South Africa (Rhodesian Branch) and the Geological Society of Zimbabwe</u>

The Inaugural Meeting of the Rhodesian Branch was attended by 7 Members of the Geological Society of South Africa and chaired by Dr J.W.N. Sharpe on 3rd June, 1960. It was formally constituted at the request of 20 Members on 29th June, 1960.

J.C. Ferguson	1961 - 1962	J.C. Ferguson
J.C. Ferguson	1963 - 1964	J.C. Ferguson
J.W.N. Sharpe	1966	J.W.N. Sharpe
J.W.N. Sharpe	1968	G.Bond
C.A. Gibson	1970 - 1971	J.W. Wiles
G. Bond $*$	1972 - 1973	C.A. Gibson
J.W. Wiles	1974 - 1975	K.A.Viewing
C.J. Lenz	1976 - 1977	G.Bond
K.A. Viewing	1978 - 1979	J.G. Urie
E.R. Morrison	(Zimbabwe-Rhodesia	Branch)
C.J. Lenz	(Zimbabwe Branch)	
	J.C. Ferguson J.W.N. Sharpe J.W.N. Sharpe C.A. Gibson G. Bond * J.W. Wiles C.J. Lenz K.A. Viewing E.R. Morrison	J.C. Ferguson 1963 - 1964 J.W.N. Sharpe 1966 J.W.N. Sharpe 1968 C.A. Gibson 1970 - 1971 G. Bond * 1972 - 1973 J.W. Wiles 1974 - 1975 C.J. Lenz 1976 - 1977 K.A. Viewing 1978 - 1979 E.R. Morrison (Zimbabwe-Rhodesia)

^{*}Professor Geoffrey Bond was concurrently President of the Geological Society of South Africa for 1971-1972.

A resolution for the dissolution of the Zimbabwe Branch was presented to the Council of the Geological Society of South Africa on 28th March, 1981 and the Inaugural Committee Meeting of the Geological Society of Zimbabwe was held on 17th August, 1981 under the chairmanship of *J.G. Urie*. The Founder Members of the Geological Society of Zimbabwe are R.P. Foster, A. Martin, *E.R. Morrison*, *J.G. Urie* and K.A. Viewing. The elected Inaugural Committee for 1981-1982 was I.G.

Anderson, T.J. Broderick, C.A. Castelin, R.P. Foster, A. Martin, *E.R. Morrison*, J.L. Orpen, P.A. Stidolph, V.R.C. Stocklmayer, *J.G. Urie*, K.A. Viewing and A.N. Ncube (co-opted).

1981 - 1982	J.G. Urie	1982 - 1983	J.G. Urie
1983 - 1984	F.C. Böhmke	1984 - 1985	O.K. Bwerinofa
1985 - 1986	T.J. Broderick	1986 - 1987	A. Martin
1987 - 1988	J.D. Kramers	1988 - 1989	A. Martin
1989 - 1990	F.C. Böhmke	1990 - 1991	E.R. Morrison
1991 - 1992	P. Bourhill	1992 - 1993	T.G. Blenkinsop
1993 - 1994	T. G. Blenkinsop	1994 - 1995	B. Barber
1995 - 1996	H. Munyanyiwa	1996 - 1997	J.L. Orpen
1997 - 1998	P.H.G.M. Dirks	1998 - 1999	M.L. Vinyu
1999	K.G. Chenjerai	2000	H.A. Jelsma
2001	E. Muchemwa	2002	T.J. Broderick
2003	A. Pahwaringira	2004	M.G. Hanssen
2005	A. du Toit	2006	H.N. Gumbo
2007	K. Musiwa	2008	C. Mwatahwa
2009	F. Mugumbate	2010	D. Chatora
2011	H. Bouammar	2012	F. B. Mupaya

Name in italics indicates that the Member is deceased.

Recipients of the A.E. Phaup Award for an author or authors who have made an important contribution, in any one year, to the geology of Zimbabwe by publication of a paper in a recognised scientific publication

1979	J.F. Wilson
	A Preliminary Reappraisal of the Rhodesian
	Basement Complex. Geol. Soc. S. Afr., Spec. Publ. 5, pp. 1 - 23.
1980	A. Martin, E.G. Nisbet & M.J. Bickle
	Archaean Stromatolites of the Belingwe Greenstone
	Belt, Zimbabwe. Precambrian Research, 13 (4), pp. 337 - 362.
1981	No Award Made
1982	A.H. Wilson
	The Geology of the Great 'Dyke', Zimbabwe: The
	Ultramafic Rocks. J. Pet., 23 (2), pp. 240 - 292.
1983	M.K. Watkeys, M.P.R. Light & T.J. Broderick
	A Retrospective View of the Central Zone of the
	Limpopo Belt, Zimbabwe. Geol. Soc. S. Afr., Spec. Publ. 8,
	pp. 65 - 80.
1984	R.P. Foster (Ed)
	GOLD '82: The Geology, Geochemistry and Genesis of
	Gold Deposits. Geol. Soc Zim., Spec. Publ 1, 731 pp.,
	A.A. Balkema, Rotterdam.
1985	No Award Made
1986	R.P. Foster, A.G. Mann, C.W. Stowe & J.F. Wilson
	Archaean gold mineralization in Zimbabwe.

1987

1988

1989

1990

1991

1992

1993

pp. 43-112 in C.R. Anhaeusser and S. Maske (Editors), Mineral Deposits of southern Africa, Vol. 1, Geol. Soc S. Afr., Johannesburg. L.A. Lister The Erosion Surfaces of Zimbabwe. Zim. geol. Surv, Bull. 90, 163 pp. No Award Made M.D. Prendergast For his co-authorship of the first 3 papers in 'Magmatic Sulphides - The Zimbabwe Volume' and his editorship of that volume. J.D. Kramers and J.R Ridley Can Archaean granulites be direct crystallization products from a siallic magma layer? Geology, 17, pp. 442 - 445. J.F. Wilson A craton and its cracks: some of the behaviour of the Zimbabwe block from the Late Archaean to the Mesozoic in response to horizontal movements, and the significance of some of its mafic dyke fracture patterns. J. Afr. Earth Sciences, 10 (3), pp. 483 - 501. O. Gwavava, C.J. Swain, F. Podmore & J.D. Fairhead Evidence of Crustal Thinning beneath the Limpopo Belt and Lebombo Monocline of Southern Africa, based on Regional Gravity Studies, and Implications for the Reconstruction of Gondwana. Tectonophysics, **212,** pp. 1-20. M.J. Bickle and E.G. Nisbet (Editors) with A. Martin and J.L. Orpen The Geology of the Belingwe Greenstone Belt, Zimbabwe: A Study of the Evolution of Archaean Continental Crust. Geol. Soc. Zim., Spec. Publ. 2. A.A. Balkema, Rotterdam, 239 pp. A.H. Wilson Geology of the Great Dyke, Zimbabwe: Crystallization,

and A.H. Wilson

Geology of the Great Dyke, Zimbabwe: Crystallization, layering, and cummulate formation in the P1 Pyroxenite of Cyclic Unit 1 of the Darwendale Subchamber.

J. Petrol., 33, pp. 611-663.

B. Goscombe, P.Fey & F. Both

Structural Evolution of the Chewore Inliers, Zambezi Mobile Belt, Zimbabwe. *J. Afr. Earth Sciences*, **19**, pp. 199 - 224.

1995 S.D.G. Campbell and P.E.J. Pitfield

Structural Controls of Gold Mineralization in the Zimbabwe Craton - Exploration Guidelines. *Zim. geol. Surv.*, Bull. 101, 270 pp.

1996 H.A. Jelsma, M.L. Vinyu, P.J. Valbracht, G.R. Davies, J.R. Wijbrans, & E.A.T. Verdurman

Constraints on Archaean crustal evolution of the Zimbabwe Craton: a U-Pb zircon, Sm-Nd and Pb-Pb whole-rock isotope study. *Contr. Min. Pet.*, **124**, pp. 55-70.

1997 H. Munyanyiwa, R.E. Hanson, T.G. Blenkinsop & P.J. Treloar Geochemistry of amphibolites and quartzofeldspathic gneisses in the Pan-African Zambezi Belt, northwest Zimbabwe: evidence for bimodal magmatism in a continental rift setting. Precambrian Research, 81, pp. 179-196. M. Berger and H. Rollinson and Isotopic and geochemical evidence for crust-mantle interaction during late Archaean crustal growth. Geochimica et Cosmochimica Acta, 61, pp. 4809-4829. 1998 B.D. Goscombe, R. Armstrong & J.M. Barton Tectonometamorphic evolution of the Chewore Inliers: partial re-equilibration of high-grade basement during the Pan-African orogeny. *J. Pet.*, **39**, pp. 1347-1384. 1999 M.L. Vinyu, R.E. Hanson, M.W. Martin, S.A. Bowring, H.A. Jelsma & P.H.G.M. Dirks U-Pb and Ar⁴⁰/Ar³⁹ geochronological constraints on the tectonic evolution of the easternmost part of the Zambezi orogenic belt, north-east Zimbabwe. Precambrian Research, 98, pp. 67-82. 2000 H.A. Jelsma and P.H.G.M. Dirks Tectonic evolution of a greenstone sequence in northern Zimbabwe: sequential early stacking and pluton diapirism. Tectonics, 19, pp. 135-152. 2001 T.G. Blenkinsop and P.J. Treloar Tabular intrusion and folding of the late Archaean Murehwa granite, Zimbabwe, during regional shortening. J. geol. Soc Lond., 158, pp. 653-664. 2002 R. Bolhar, A. Hofmann, J. Woodhead, J. Herget & P. Dirks Pb- and Nd- isotope systematics of stromatolitic limestones from the 2.7 Ga Ngezi Group of the Belingwe Greenstone Belt: constrains on the timing of deposition and provenance. Precambrian Research, 114, pp. 277-294. T. Oberthur, T.W. Weiser, L. Gast & K. Kojonen 2003 Geochemistry and mineralogy of platinum group elements at Hartley Platinum Mine, Zimbabwe. Part 1: Primary distribution in pristine ores of the Main Sulphide Zone of the Great Dyke. Mineralium Deposita, 38, pp. 327-343. Part 2: Supergene redistribution in the oxidized Main Sulphide Zone of the Great Dyke and alluvial platinum-group minerals. Mineralium Deposita, 38, pp. 344-355. 2004 M.D. Prendergast Contact relations between the Koodoovale- and Manjeri-type lithostratigraphic units of the late Archaean Bulawayan Supergroup at Hunters Road, central Zimbabwe. S. Afr. J. Geol., **107**, pp. 325-332.

2005	G. Barale, M.K. Bamford, B. Gomez, T.J. Broderick, M.A. Raath
	& A. Cadman
	A fossil peat deposit from the Late Triassic (Carnian)
	of Zimbabwe with preserved cuticle of Pteridspermopsida
	and Ginkgoales, and its geological setting. Palaeont. afr.,
	41 , pp. 89-100.
2006	W. Moyce, P. Mangeya, R. Owen & D. Love
	Alluvial aquifers in the Mzingwane catchment: Their
	distribution, properties, current usage and potential expansion.
	Physics and Chemistry of the Earth, 31, pp. 988-994.
2007	M.D. Prendergast and M.T.D. Wingate
	Zircon geochronology and partial re-interpretation of the late
	Archaean Mashaba Igneous Complex, south-central Zimbabwe.
	S. Afr. J. Geol., 110 , pp. 585-596.
2008	J.E. Danielsen, T. Dahlin, R. Owen, P. Mangeya & E. Auken
	Geophysical and hydrogeologic investigation of groundwater in
	the Karoo stratigraphic sequence at Sawmills in northern
	Matabeleland, Zimbabwe: a case history. Hydrogeology
	Journal, 15 (2007), pp. 945-960.
2009	A.E. Moore, F.P.D. Cotterill, T. Broderick & D. Plowes
	Landscape evolution in Zimbabwe from the Permian to present,
	with implications for kimberlite prospecting.
	S. Afr. J. Geol., 112 , pp. 65-88.
	J / /11

2011 H.R. Rollinson and M. Whitehouse

S. Master, A. Bekker & A. Hofmann

2010

The growth of the Zimbabwe Craton during the late Archaean: an ion microprope U-Pb zircon study. *J. geol. Soc. Lond.*, **168**, pp. 941-952.

Precambrian Research, 182, pp. 254-273.

A review of the stratigraphy and geological setting of the Palaeoproterozoic Magondi Supergroup, Zimbabwe – Type locality for the Lomagundi Carbon Isotope Excursion.

The Geoffrey Bond Award is to the Geology Honours student who presents the best project report in the year preceding an Annual General Meeting. The nomination is made by the Chairman of the Geology Department of the University of Zimbabwe.

Previously the Macgregor Medal had been awarded by the Geology Department

1983	C.G. Carey	"The geology of the area around and to the east of
		Mushandike Dam"
1984	C.D.B. Payne	"The geology of the Gairezi sediments of the Umkondo
		Group in the Nyanga area with special reference to the
		structure and stratigraphy"
1985	K.G. Chenjerai	"The geology of an area north of Mazoe Mine"
1986	C.M. Tsomondo	"The geology of the greenstone-granite terrain between
		Adzwe Mine and St Joseph's School, Wedza"
1987	S. Mundondo	"The geology of an area around Muchi River, Magondi
		Mobile Belt"
1988	C.T. Mhindu	"Structural controls of gold mineralization and the
		geology of the Pink Reef Mine"

1989	D.M. Carr	"The geology of the Freda Mine and mine area, Gwanda Greenstone Belt, Zimbabwe. A metallogenic and emplacement model"
and	F.C. Mujuru	"Geological, geophysical and geochemical investigation of BIF-hosted gold mineralisation around Lennox Mine, Mashava and the implications for gold exploration in BIF-hosted ore"
1990	P.M.B.C. Mandore	eba "The geology of the country around Pompeii Mine (SW of Shurugwi)"
1991	F.T. Nhiwatiwa	"The geology, metamorphism, structure and gold mineralisation in and around Tiger Reef Mine, Kwe Kwe"
1992	M. Chivasa	"Geology, metamorphism, structure and sulphide mineralisation potential in and around Shabanie Mine, Zvishavane"
1993	M. Makanza	"The geology of an area around Chiswiti, north of Mount Darwin"
and	K. Ruswayi	"The geology of the area around Isabella Mine: structural controls on gold mineralization"
1994	K. Chisi	"The geology of the Gadzema Schist Belt: Tectonics and structural constraints on gold precipitation"
and	W. Mtisi	"The geology of an area south of Rushinga"
1995	R.W.A. Tennant	"A structural re-appraisal of the Chimanimani Mountains"
and	J.A. van der Merw	e "A structural re-appraisal of the geology about Dalny Mine, Chakari, with particular reference to gold mineralisation"
1996	G. Gundani	"Metabasites and the tectonic evolution of the Northern Marginal Zone, Limpopo Belt"
1997	K. Danda	"The geology, geochemistry and alteration patterns associated with the Maramba base metal (Cu-Pb-Zn) deposit: implications for volcanogenic massive sulphide (VMS) exploration"
1998	B. Mangwiro	"Characterising the source, type of placer accumulation and environmentally sustainable production of gold in the Angwa River, NW Zimbabwe"
1999	A. Mamuse	"Geological, geochemical and petrogenic features of tantalum pegmatites: a study of the Benson Mine area (NE Zimbabwe) and implications for tantalum exploration"
2000	B. Ruzive	"An assessment of the contribution of mine dumps to siltation and environmental pollution by heavy metals in Mutorashanga, northern Great Dyke"
2001	G. Chinoda	"Stratigraphic and structural relationships around Shabani: implications on gold mineralisation"
2002	C. Madamombe	"Platinum grade control and the effects of faults and rolls on mining at Ngezi Platinum Mine"
2003 2004	W. Moyce	Not Announced "Groundwater chemistry around Granville Cemetery, Harare"

and	N. Tunhuma	"The Magnesium Problem: re-analysis of the geology and mineralisation of Trojan Nickel Mine, Bindura"
2005		No Award Made
2006	I.T. Nyamukondiwa	"Geological mapping of the Great Dyke of Zimbabwe
		from Darwendale to Impinge – North Dyke: (with
		emphasis on seam characterization and the occurrence
		of blank zones)"
2007		Award deferred to 2008
2008	C. Maramba	"The geology and gold mineralization relationships
		between Shamva Danton claims and Shamva Mine;
		could Danton be an extension of Shamva Mine
		orebody?"
2009		No Award Made
2010		No Award Made
2011		No Award Made
2010		No Award Made No Award Made

The Mike Vinyu Award for the best Geology student at the Bulawayo School of Mines

2003	Not Announced
2004	
2005	M. Dube
2006	
2007	D. Chamunorwa
2008	
2009	L. Chiyamuchiko
2010	W. Chipangamate
2011	L. Poterai

The Keith Viewing Award for the best presentation at the Summer Symposium

2008	M. Kellow
2009	H. Gumbo
2010	No Award Made – ZGS Centenary Symposium
2011	P. Bourhill & H. Gumbo

The A.M. Macgregor Memorial Lectureship

1985	J.F. Wilson	"A Craton and its Cracks"
1987	A.C. Colvine	"Genetic Models in Gold Exploration"
1992	K.A. Eriksson	"Crustal Growth, Surface Processes and
		Atmospheric Evolution of the Early Earth"
1994	R.G. Park	"Early Proterozoic Plate Tectonics - An Analogue
		for the Archaean?"
1998	E.G. Nisbet	"The influence of life on the face of the Earth"
2000	M.J. de Wit	"old rocks act lies: that's why it is so difficult to
		reconstruct what Earth looked like long ago"
2003	J.D. Kramers	"The limits of Uniformitarianism"

2005	T.J. Broderick	"130 years of regional geological mapping –
		Zimbabwe's heritage and a challenge for the future"
2009	A.H. Wilson	"Earth's earliest volcanoes – an insight into planetary
		processes 3 billion years ago"

Honorary Life Members

Dr A.C. Colvine	Prof. K. Eriksson	Mr E.R. Morrison
Prof. J.F. Wilson	Dr L.A. Lister	Prof. R.G. Park
Prof. E.G. Nisbet	Prof. D.L. Jones	Prof. M.J. de Wit
Prof. J.D. Kramers	Prof. K.A. Viewing	Mr T.J. Broderick
Prof. T. Zengeni	Prof. A.H. Wilson	Dr A. Martin
Mr D.E.H. Murangari		

COMMITTEES OF THE GEOLOGICAL SOCIETY OF ZIMBABWE SINCE <u>ITS INAUGURATION IN 1981</u>

1). 1981 - 1982	J.G. Urie	Chairman	(F)
	K.A. Viewing	Vice-Chairman (F)	
Membership 58	R.P. Foster	Hon. Secretary	(F)
	E.R. Morrison		(F)
	A. Martin		(F)
	I.G. Anderson	(Kadoma)	
	T.J. Broderick		
	C.A Castelin	(Redcliff)	
	A.N. Ncube	(Co-opted)	
	J.L. Orpen		
	P.A. Stidolph (Bulaw	vayo)	
	V.R. Stocklmayer		

Names in italics indicate that the Member is deceased. (F) = Founder Member

2). 1982 - 1983	J.G.Urie	Chairman
	F.C. Bohmke	Vice-Chairman
	R.P. Foster	Hon. Secretary
	J.L. Orpen	Treasurer
	T.J. Broderick	
	C.A. Castelin	(Redcliff)
	P. Cotterill	(Shurugwi)
	J.D. Kramers	
	A. Martin	
	A.N. Ncube	
	B.J. Varndell	(Kadoma)
	K.A. Viewing	

3). 1983 - 1984 F.C. Bohmke Chairman O.K. Bwerinofa Vice-Chairman Membership 106 A. Martin Hon Secretary J.L. Orpen Treasurer T.J. Broderick C.A Castelin (Redcliff) K.B. Duguid J.D. Kramers D.E.H. Murangari B.J. Varndell (Kadoma) J.G. Waghorn 4). 1984 - 1985 O.K. Bwerinofa Chairman T.J. Broderick Vice-Chairman Membership 97 A. Martin Hon. Secretary A.M. Dasent Treasurer F.C. Bohmke C.A. Castelin (Redcliff) K.B. Duguid D.L. Jones J.D. Kramers (Co-opted) D.E.H. Murangari J.L. Orpen B.J. Varndell (Kadoma) J.G. Waghorn 5). 1985 - 1986 T.J. Broderick Chairman A. Martin Vice-Chairman Membership 110 J.L. Orpen Hon-Secretary A.M. MacDonald nee Dasent Treasurer O.K. Bwerinofa C.A. Castelin (Redcliff) W.M.B. Fabiani D.L. Jones J.D. Kramers D.E.H. Murangari T.H.C. Nutt 6). 1986 - 1987 Chairman A. Martin Vice-Chairman J.D. Kramers W.M.B. Fabiani Hon. Secretary T.J. Broderick Treasurer P. Bourhill C.A. Castelin (Redcliff) K.B. Duguid (Kadoma) N.L.G. Graham (Vice-Chaiman, resigned) D.L. Jones L.A. Lister T.H.C. Nutt

(Bulawayo)

S.G. Twemlow D.A. Wilson

7). 1987 - 1988 Membership 119 Institutional 18	J.D. Kramers A. Martin T.H.C. Nutt T.J. Broderick F.C. Bohmke O.K. Bwerinofa W.M.B. Fabiani A. Fawcett N.L.G. Graham D.L. Jones A. Marsh	Chairman Vice-Chairman Hon. Secretary Treasurer (Hwange)
8). 1988 - 1989	A. Martin F.C. Bohmke A. Marsh S. Simango G.D. Collis A. Fawcett J.D. Kramers L.A. Lister B. Payne C. Swain M. Tsomondo	(Vice-Chairman, resigned - Bulawayo) Chairman Vice-Chairman Secretary/Treasurer Treasurer
9) 1989 - 1990 Membership 128	F.C. Bohmke E.R. Morrison G.D. Collis P.E. Bourhill A.H. Fawcett N.J. Graham J.D. Kramers L.A. Lister S.M. Ncube T.H.C. Nutt C.J. Swain K.A. Viewing	Chairman Vice-Chairman Secretary/Treasurer
10). 1990 - 1991 Membership 175 Institutional 16 Student 12	E.R. Morrison P.E. Bourhill R. Kuchocha G. Collis V. Atkinson N. Baglow T.G. Blenkinsop F.C. Bohmke A. Fawcett M. Mushayandebvu C. Tsomondo	Chairman Vice-Chairman Hon. Secretary Treasurer

11). 1991 - 1992	P.E. Bourhill T.G. Blenkinsop R.Kuchocha C. Murahwi V. Atkinson N. Baglow K.G. Chenjerai C. Jacobs L. Machiridza E.R. Morrison P.L. Tromp M. Tsomondo	Chairman Vice-Chairman Secretary Treasurer
12). 1992 - 1993 Membership 229 Institutional 15 Student 28	T.G. Blenkinsop K.G. Chenjerai Vice-C S.D.G. Campbell C. Murahwi B. Barber P.E. Bourhill D.L. Jones R. Kuchocha H. Munyanyiwa J.L. Orpen P.L. Tromp (resigned) M. Tsomondo (resigned)	Secretary Treasurer (resigned) (Co-opted) (Co-opted) (resigned)
13). 1993 - 1994	T.G. Blenkinsop B. Barber K. Walsh C. Murahwi E.R. d'Engelbronner P. Fey R. Flint S. Mkweli H. Munyanyiwa T.C.H. Nutt	Chairman Vice-Chairman Hon. Secretary Treasurer
14) 1994 - 1995 Membership 270 Student 22	B. Barber H. Munyanyiwa Vice-C. K.L. Walsh D. Robertson P.H. Dirks E.R. d'Engelbronner P. Fey R. Flint P. Hastings A. Martin S. Mkweli T.H.C. Nutt D. Shoko	Chairman hairman Hon. Secretary Treasurer (Co-opted) (resigned) (Bulawayo)

15). 1995 - 1996	H. Munyanyiwa Chairr	
	J.L. Orpen	Vice-Chairman
Membership 301	M.L. Vinyu	Hon. Secretary
Institutional 15	D. Robertson	Treasurer
Student 31	B. Barber	
	E. Dhlamini	(Bulawayo)
	P.H. Dirks	
	K. Fisk	(Co-opted)
	L. Machiridza	
	A. Martin	
	E. Muchemwa	
	R. Owen	(Vice-Chairman, resigned)
	P. Zhizhou	(resigned)
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16). 1996 - 1997	J.L. Orpen	Chairman
	P. H. Dirks	Vice-Chairman
	M.L. Vinyu	Hon. Secretary
	A. Martin	Treasurer
	T.J. Broderick	
	K. Fisk	
	C. Kambewa (resign	ned)
	W. Magalela	
	E. Muchemwa	
	R.J. Owen	
	M. Prendergast	(Co-opted)
17). 1997 - 1998	P.H. Dirks	Chairman
,	M.L. Vinyu	Vice-Chairman
Membership 323	H.A. Jelsma	Hon. Secretary
Institutional 24	A. Martin	Treasurer
Student 11	T.G. Blenkinsop	
	T.J. Broderick	
	K. Fisk	
	K. Fisk F. Mugumbate	
	F. Mugumbate	
	F. Mugumbate C. Musa	
	F. Mugumbate	
18). 1998 - 1999	F. Mugumbate C. Musa	Chairman
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen	
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu	
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O	Chairman
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O H.A. Jelsma	Chairman Hon. Secretary
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-C H.A. Jelsma P.H. Dirks	Chairman Hon. Secretary Treasurer
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O H.A. Jelsma P.H. Dirks T.J. Broderick	Chairman Hon. Secretary
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O H.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick	Chairman Hon. Secretary Treasurer
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O H.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick R. Fernandes	Chairman Hon. Secretary Treasurer
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-CH.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick R. Fernandes O. Gwavava	Chairman Hon. Secretary Treasurer
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-C H.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick R. Fernandes O. Gwavava T. Lemmon S. Mkweli	Chairman Hon. Secretary Treasurer
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-O H.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick R. Fernandes O. Gwavava T. Lemmon S. Mkweli F. Mugumbate	Chairman Hon. Secretary Treasurer (Midlands)
18). 1998 - 1999	F. Mugumbate C. Musa R.J. Owen M.L. Vinyu K.G. Chenjerai Vice-C H.A. Jelsma P.H. Dirks T.J. Broderick P. Chadwick R. Fernandes O. Gwavava T. Lemmon S. Mkweli	Chairman Hon. Secretary Treasurer

19). 1999 - 2000	K.G. Chenjerai Chairn	nan
Membership 346 Institutional 21	H.A. Jelsma P.H. Dirks T.G. Blenkinsop	Vice-Chairman/Secretary Treasurer
Student 38	P. Chadwick T. Lemmon B. Mapani	(Bulawayo)
	O. Maponga	(Hwange)
	C. Mhindu	(Zvishavane)
	S. Mkweli	(Vice-Chairman, resigned)
	K. Mtetwa	(Midlands)
	F. Mugumbate <i>M.L. Vinyu</i>	
	K. Walsh	
20). 2000	H.A. Jelsma	Chairman
,	E. Muchemwa	Vice-Chairman (Co-opted)
Membership 271	M. Lupankwa	Hon. Secretary
Institutional 23	P.H. Dirks	Treasurer
Student 20	B. Barber	
	T.G. Blenkinsop P. Buchholz	
	P. Chadwick	(Bulawayo)
	K.G. Chenjerai	(resigned)
	T. Lemmon	(6)
	B.S. Mapani	
	B. Mapaya	(alternate)
	C. Mhindu W. Mtisi	(Zvishavane) (Midlands)
	F. Mugumbate	(iviidialius)
	J. Muzuva	(Co-opted)
	M.L. Vinyu	(resigned)
21). 2001	E. Muchemwa	Chairman
•	T.J. Broderick	Vice-Chairman (Co-opted)
	D. Love	Hon. Secretary (Co-opted)
	B. Barber	Treasurer
	P. Buchholz P. Chadwick	(Bulawayo)
	P.H. Dirks	(Dulawayo)
	M. Lupankwa	(resigned)
	B.S. Mapani	
	A. Mikhailov	
	F. Mugumbate	
	J. Muzuva B. Thompson (alternation)	ate, Bulawayo)
	B. Thompson (antenna	ate, Bulawayo)
22). 2002	T.J. Broderick	Chairman
	A. Pahwaringira	Vice-Chairman
	D. Love	Hon. Secretary
	G. Hanssen P. Chadwick	Treasurer (Bulawayo)
	P. Chimbodza	(Dulawayu)
	G. Kwenda	

	L. Mafara B. Mapaya N. Matura P. Mpofu K. Musiwa	
23). 2003	A. Pahwaringira G. Hanssen D. Love A. Mashingaidze A. Ait-Kaci Ahmed P. Chimbodza A. du Toit K. Mtetwa F.B. Mupaya K. Musiwa B. Ruzive	Chairman Vice-Chairman/Treasurer Hon. Secretary Treasurer
24). 2004	G. Hanssen A. du Toit K. Musiwa A. Ngalazi A. Ait-Kaci Ahmed H.N. Gumbo J. Hwata C. Kambewa P. Mangeya F.B. Mupaya	Chairman Vice-Chairman Hon. Secretary Hon. Treasurer (Bulawayo)
25). 2005	A. du Toit H.N. Gumbo K. Musiwa N. Matura R. Chiomba M.T. Hawadi J. Hwata D. Love S. Mangezi S. Ravengai C. Reid M. Roberts	Chairman Vice-Chairman Hon. Secretary Hon. Treasurer (Bulawayo)
26). 2006	H.N. Gumbo K. Musiwa G. Hanssen C. Mwatahwa T.J. Broderick D. Chikutiro A. du Toit M.T. Hawadi J. Hwata N. Matura S. Ravengai D. Shoko	Chairman Vice-Chairman Hon. Secretary Hon. Treasurer (Bulawayo)

G. Hanssen T.J. Broderick D. Chatora A. du Toit H.N. Gumbo L. Manda E. Mupaya K. Musiwa L. Passaportis F. Mugumbate D. Chatora G. Hanssen Hon. Secretary Vice-Chairman G. Hanssen C. Mwatahwa Hon. Treasurer H. Bouammar T.J. Broderick K.G. Chenjerai A. du Toit H.N. Gumbo F.B. Mupaya K. Musiwa A. Revitt Gulawayo) 30). 2010 D. Chatora G. Hanssen G. Hanssen Hon. Secretary Hon. Treasurer C. Mwatahwa Hon. Treasurer Chairman H. Bouammar G. Hanssen Hon. Secretary Hon. Secretary Chairman Grd/Foreign/Ass. Mems K. Musiwa Hon. Secretary Hon. Secretary Hon. Secretary Hon. Secretary Hon. Treasurer	27). 2007	K. Musiwa C. Mwatahwa G. Hanssen T.J. Broderick A. du Toit H.N. Gumbo O. Gwavava L. Manda N. Matura F. Mugumbate F.B. Mupaya	Chairman Vice-Chairman/Treasurer Hon. Secretary (Bulawayo)
F.B. Mupaya K. Musiwa L. Passaportis P. Mugumbate D. Chairman C. Hanssen G. Hanssen Hon. Secretary H. Bouammar T.J. Broderick K.G. Chenjerai A. du Toit H.N. Gumbo F.B. Mupaya K. Musiwa A. Revitt D. Chatora H. Bouammar T.J. Broderick Chairman Chairman Chairman Chairman Cord/Foreign/Ass. Mems C. Mwatahwa Hon. Secretary Hon. Secretary Hon. Secretary Hon. Secretary Hon. Secretary Hon. Secretary Hon. Treasurer Hon. Treasurer	28). 2008	F. Mugumbate G. Hanssen T.J. Broderick D. Chatora A. du Toit H.N. Gumbo	Vice-Chairman/Treasurer Hon. Secretary
D. Chatora Vice-Chairman G. Hanssen Hon. Secretary C. Mwatahwa Hon. Treasurer H. Bouammar T.J. Broderick K.G. Chenjerai A. du Toit H.N. Gumbo F.B. Mupaya K. Musiwa A. Revitt (Bulawayo) 30). 2010 D. Chatora Chairman H. Bouammar Vice-Chairman Ord/Foreign/Ass. Mems K. Musiwa Hon. Secretary 105 C. Mwatahwa Hon. Treasurer Honorary Members T.J. Broderick		F.B. Mupaya K. Musiwa	(Bulawayo)
30). 2010 D. Chatora H. Bouammar Ord/Foreign/Ass. Mems K. Musiwa Hon. Secretary C. Mwatahwa Hon. Treasurer Honorary Members T.J. Broderick	29). 2009	D. Chatora G. Hanssen C. Mwatahwa H. Bouammar T.J. Broderick K.G. Chenjerai A. du Toit H.N. Gumbo F.B. Mupaya K. Musiwa	Vice-Chairman Hon. Secretary Hon. Treasurer
H. Bouammar Vice-Chairman Ord/Foreign/Ass. Mems K. Musiwa Hon. Secretary 105 C. Mwatahwa Hon. Treasurer Honorary Members T.J. Broderick	30) 2010		
105 C. Mwatahwa Hon. Treasurer Honorary Members T.J. Broderick	50j. 2010		
S. Chimedza A. du Toit H.N. Gumbo G. Hanssen F. Mugumbate A. Revitt (Bulawayo)	105	C. Mwatahwa T.J. Broderick S. Chimedza A. du Toit H.N. Gumbo G. Hanssen F. Mugumbate	Hon. Treasurer

31). 2011 Ord/Foreign/Ass. Mems 75 Honorary Members 15 Institutional Members 9	H. Bouammar F.B. Mupaya \K. Musiwa C. Mwatahwa T.J. Broderick D. Chatora A. du Toit H.N. Gumbo I. Manuel F. Mugumbate A. Revitt	Chairman Vice-Chairman Hon. Secretary Hon. Treasurer
32). 2012 Ord/Foreign/Assoc Mems 58 Honorary Members 15 Institutional Members 3	F.B. Mupaya H.N. Gumbo S. Mangezi C. Mwatahwa A. Ait-Kaci Ahmed H. Bouammar D. Chatora A. du Toit I. Manuel F. Mugumbate	Chairman Vice-Chairman Hon. Secretary Hon. Treasurer
	A. Revitt	(Bulawayo)

A Record of Conferences, Symposia, Workshops and Short Courses

The Seventh Commonwealth Mining and Metallurgical Congress May, 1961

Involving the IMM Southern and Northern Rhodesia Sections and IMM South Africa. A special Federal stamp issue was printed. The Hon. Sir George Davenport, Minister of Mines was Regional Vice-President of the IMM for southern Africa.

Pegmatites in Southern Rhodesia - A Symposium 22-23 November, 1962

The Southern Rhodesia Section of the IMM with the S.R. Branch of the Geological Society of South Africa. Held at UCRN, Salisbury. Opening address by C.J. Hatty, Minister of Mines

The Geological Society of South Africa, Seventh Annual Congress, Salisbury July, 1964.

Held at UCRN with 139 delegates from 10 countries. Dr J. de Villiers was President of GSSA. The Opening Ceremony was addressed by Dr W. Adams, Principal of UCRN and Dr F.L. Amm, geologist and Secretary for Mines.

Symposium on the Rhodesian Basement Complex October, 1967

Geological Society of South Africa (Rhodesian Branch). Held at the Ranche House College, Salisbury. The proceedings were edited as an annex to Vol. 71, *Trans. geol. Soc. S.Afr.* Convener: A.E. Phaup.

Symposium on Granites, Gneisses and Related Rocks "Granite '71"

Salisbury, August/September, 1971. Geological Society of South Africa (Rhodesian Branch). Held at the University of Rhodesia with +200 delegates, the presentation of +57 papers and pre- and post conference field trips. A set of commemorative stamps was issued.

Symposium Committee - A.E. Phaup, E.R. Morrison, J.F. Wilson. Prof. Geoffrey Bond was President of GSSA for 1971. L.A. Lister edited the proceedings as *Geol. Soc. S. Afr.* Spec. Publ. **3** (1973).

A Symposium on Mineral Deposits and the Transportation and Deposition of Metals "Metallogenesis '76" Salisbury, 30 August - 3 September, 1976

Geological Society of South Africa (Rhodesian Branch). Organising Secretary - N.M. Harrison. Published as *Geol. Soc. S. Afr.* Spec. Publ. **5** (1979), edited by C.R. Anhausser, R.P. Foster and T. Stratten.

Colloquium on the Salisbury-Enterprise Gold Belt 28-29 September, 1978

Geological Society of South Africa (Rhodesian Branch). Organising Secretary - V.R. Stocklmayer. Included a visit to the Arcturus Mine.

Belingwe Belt Field Workshop

September, 1980

Organised by A. Martin and J.L. Orpen with E.G. Nisbet and M.J. Bickle. Invited guests from South Africa, Swaziland and Zimbabwe. "The Geology of the Belingwe Greenstone Belt, Zimbabwe: A Study of the Evolution of Archaean Continental Crust", edited M.J. Bickle and E.G. Nisbet with A. Martin and J.L. Orpen was published as *Geol. Soc. Zim.* Spec. Publ. **2** in 1993 by A.A. Balkema, Rotterdam.

Other events organised by the Rhodesian Branch included the Summer Schools of 1970 and 1974 and a Workshop on Structural Geology presented by Dr C.W. Stowe.

Workshop on the Geology of and Exploration for Ni Sulphide and Pt Deposits

Salisbury, 20-23 July, 1981. IGCP Project 161. Presented by A.J. Naldrett at the IMR, University of Zimbabwe.

GOLD '82: The Geology, Geochemistry and Genesis of Gold Deposits.

24-28 May, 1982, University of Zimbabwe, Harare.

Geological Society of Zimbabwe. Organising Secretary - R.P. Foster. Chairman - J.G. Urie. +200 delegates from 28 countries with 40 papers and pre- and post-conference tours. Published as *Geol. Soc. Zim.*, Spec. Publ. 1 (1984) by Balkema, Rotterdam and edited by R.P. Foster. Opened by the Hon. Maurice Nyagumbo, Minister of Mines. Opening address by D.A. Etheridge on "The International Role of Gold".

COAL '84 Workshop

13-17 February, 1984

Geological Society of Zimbabwe. Held at the University of Zimbabwe, Harare, with a trade exhibition and a visit to Wankie Colliery. Organising Committee: J.L. Orpen and T.J. Broderick with K.B. Duguid and L.E. Willey. Inaugural Address by E.R. Morrison. Opened by the Vice Chancellor, Walter Kamba and the Deputy Minister of Mines. Invited speakers from South Africa, Germany, the UK and Zimbabwe in all aspects of the coal mining industry.

Fifth Magmatic Sulphides Field Conference

3 - 13 August, 1987

Geological Society of Zimbabwe

IGCP Project 161

Chairman: J.D. Kramers. Organising Committee: M. Prendergast, A. Martin and A.H. Wilson. Proceedings published by Inst. Ming Metall., London as "Magmatic Sulphides - The Harare Conference", edited by M.D. Prendergast and M. Jones.

APT '89 - A Field Conference on the Archaean-Proterozoic Transition IGCP Project 217 Harare, 11-22 September, 1989

Geological Society of Zimbabwe with IUGS and UNESCO. Organising Secretary: J.D. Kramers.

North Limpopo Field Workshop

27 September - 5 October, 1992

Organised by T.G. Blenkinsop and H. Rollinson, Geology Department, University of Zimbabwe with sponsorship from the Geological Society of Zimbabwe and others.

Sub-Saharan Economic Geology

Harare, 21-23 September, 1993

Geological Society of Zimbabwe and the Geology Department, University of Zimbabwe. Organisers: P. Tromp and T.G. Blenkinsop. Published as *Geol. Soc. Zim.*, Spec Publ. **3**, by Balkema, Rotterdam. Edited by T.G. Blenkinsop and P. Tromp.

Conference on Intraplate Magmatism and Tectonics of southern Africa

10-12 September, 1997.

Geology Department, University of Zimbabwe and the Geological Society of Zimbabwe. Held at the Conference Centre, Sheraton Hotel, Harare with workshops on Geoscience Education and Remote Sensing to be adopted as the 17th Colloquium of African Geology. Organised by P. Dirks and H. Jelsma.

Other workshops and short courses have been presented by D. Sangster, Massive Sulphides, 13-14 April, 1984; P. Saker, R. Gilmour and G. Le Blanc-Smith, Computer Applications in the Mining Industry, GSZ and IMM, 5 October, 1984; N. Phillips, Ore Fluids, Kadoma Ranch Motel 3-5 February, 1986; A.C. Colvine (1987) as part of the second A.M. Macgregor Memorial Lecture - "Gold Mineralization"; T.G. Blenkinsop - Structural Geology and J.D. Corbett on Practical Geophysics for the Exploration Geologist, 15 October, 1996; R. Hanson, Introduction to Palaeovolcanology, 19-21 June, 1996 at the University of Zimbabwe, Harare; C. Roth, Short Course in Geostatistics, IMM Zimbabwe Section and Geological Society of Zimbabwe, 16-19 March, 1998; 8th International Platinum Symposium - Great Dyke Excursion, 23-28 June, 1998 led by A.H. Wilson and M.D. Prendergast; J. Vann and M. Harley, Applied Mining Geostatistics Workshop, Geological Society of Zimbabwe and SRK Zimbabwe, University of Zimbabwe, 31 May - 1 June, 1999.

The Geological Society of Zimbabwe has held an annual one-day **Summer Symposium** either at the Geology Department, UZ, Harare or at the School of Mines, Bulawayo since 2001. Most of these sub-committees have been chaired by Andrew du Toit.

A Hundred Years of Geological Endeavour - The Past is the Key to the Future.

Harare, 21-25 October, 2010

An international symposium hosted by the Geological Society of Zimbabwe in association with the Zimbabwe Geological Survey to commemorate the centennial anniversary of establishment of the ZGS, including a three-day field excursion to the Belingwe Greenstone Belt and the Great Dyke led by Tony Martin. Organizing subcommitteee, A. du Toit and T.J. Broderick

News



Geology Department, University of Zimbabwe

Maideyi Meck

The situation at the Department continues to improve. Mrs Chinguno (nee Madari) has rejoined the Department after completing her Masters Degree in the Netherlands. The Department is expecting a PhD-holder from Germany in November, and has received two applications at professorial level, which are currently being processed.

Our application to the University Academic Committee to run an Honours Degree course starting from year 1 has been granted. A new curriculum has been designed and comments, additions and subtractions are welcome. The programme for this is a 4-year BSc. Students will only be doing geology, and will undertake a one-year attachment. A stream of 27 students has started on this programme.

The part-three field trip took place from 2nd to 11th June in the Belingwe Greenstone Belt. Many thanks are extended to those geologists from industry who helped in running the trip, and to Mr Chinoda who was in overall charge. The Mennell Society is up and running and the students will shortly be visiting mining companies seeking assistance for their society functions.

The Department is still appealing for any assistance from well-wishers, which may take the form of supervision, transport, fuel, cash or kind. Those staff who were on the part-three field trip were not paid.

Contact details:

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Note: DG – Department of Geology; MRC – Mineral Resources Centre; GSZ – Geological Society of Zimbabwe





Geological Survey Department

Staffing

There are no changes to the professional staffing situation, which remains at 30% of establishment.

Frank Muzanenhamo, Acting Regional Geologist for Harare, is back at work after spending a few weeks in hospital following a tragic car accident that took the lives of his workmates in the Ministry of Mines and Mining Development, **Richard Sigwadi**, Acting Regional Mining Engineer, and **Newton Gutsa**, Acting Regional Metallurgist. The accident also took the life of a prospector who had accompanied the Ministry officials to a mining prospect in Mutoko. We wish the souls of our departed colleagues eternal rest in peace.

Following the resignation of **Bornwell Mupaya** from the directorship of the Pan African Mineral Development Company, due to pressure of work at his new job, the Ministry of Transport, Communications and Infrastructural Development has appointed **Forbes Mugumbate** to the Board of Directors of this company, which is jointly owned by Zimbabwe, Zambia and South Africa.

Activities

With the poor state of the staffing situation in the Department, current activities are necessarily centred on the provision of consultative extension services to mostly small-scale miners, the auditing of exploration activities in Special Grants, processing of applications for exploration licenses, and computerization of geological data contained in various forms in the A.E. Phaup Library.

The 1:1 million-scale Geological Map of Zimbabwe

Concerning production of this important map, the Department has acquired relevant GIS software, and technicians have been trained in the use of this software. Other activities accomplished under this project include;

- The holding of regular meetings to pave the way forward and assess progress.
- Collation of scanned geological maps to be used in the production of the map.
- Research on the conversion of the current manual cartographic symbols and standards to digital ones.
- Production of the references map.

Progress on this project is much slower than anticipated due to lack of capacity in the Department. Other challenges include the failure by the Surveyor-General to provide standardized topographical data for the map base.

MOUs - Regional Geological Mapping

Under the auspices of an MOU to be signed by representatives of the Governments of

Zimbabwe and the Republic of China, the China Geological Survey has, in principle, agreed to sponsor geochemical mapping of about 20,000km² in the areas north of Harare and around Gweru. This follows completion of a survey across an area of south-east Zimbabwe. Under this project, four officials from the Tianjin Branch of the China Geological Survey visited Zimbabwe in July to investigate the possibilities of establishing a geochemical laboratory at the Zimbabwe Geological Survey.

The Geological Survey has also drafted terms for MOUs with the Korea Institute of Geoscience and Mineral Resources (KIGAM) and Japan Oil, Gas and Metals National Corporation (JOGMEC). These organizations have agreed to the terms that will see selected parts of the country being evaluated for mineral potential. The MOU drafts have already been approved by the Public Agreements Advisory Committee (PAAC) and await tabling at the Cabinet Committee on Legislation.

This year one geoscientist received training at KIGAM in South Korea while two attended courses hosted by the Japan International Co-operation Agency (JICA) in Japan (see the 12 June 2012 GSZ Newsletter).

Forbes Mugumbate

MINING INDUSTRY NEWS

Forbes Mugumbate fmugumbate@gmail.com

Tragic accident

The Ministry of Mines and Mining Development was plunged into mourning when the lives of two brilliant young engineers perished in a car accident. Richard Sigwadi, Acting Regional Mining Engineer, and Newton Gutsa, Acting Regional Metallurgist for Harare, were involved in an accident that took their lives while coming from government duties in Mutoko. These were young professionals with a promising future in the mining industry. The gap they left will be difficult to fill. A prospector who was in the vehicle also lost his life. We wish the souls of the three eternal rest.

Frank Muzanenhamo, Acting Regional Geologist for Harare, the only survivor of the accident, is now back at work after spending several weeks in hospital. We wish him speedy recovery from injuries and from the shock of losing his workmates and friends.

Ministry of Mines' Strategic Planning Workshop

The Ministry of Mines and Mining Development held its strategic planning workshop in Nyanga on 2nd and 3rd October 2012. The workshop was meant to review progress so far this year, and to plan activities for the year 2013. The workshop was also meant to facilitate the budgeting process. The performance of the Ministry, like other government departments, was negatively affected by the shortage of resources in 2012. Year 2013 is promising to be even more difficult. The Ministry of Finance is projecting revenues of only \$3.8 billion. Out of this, \$2.6 billion will go towards salaries for civil servants. Thus only \$1.2 billion will be available for recurrent activities. We can only hope that the economy will improve during the course of the year.

Mining Indaba 2012

Utho Capital hosted the 4th Zimbabwe Mining Indaba in Harare from 12th to 14th September 2012. The annual event was attended by financiers, investors, mining experts, geologists, engineers and government executives, and was officially opened by Vice President John Landa Nkomo. Acknowledging that the mining sector is faced with many challenges including power shortages, lack of modern technology for exploration and extraction of minerals, and a non-availability of financial resources, the Vice President urged Zimbabwean experts in the diaspora to return home and help rebuild the mining industry and the nation.

Several other dignitaries including the Minister of Mines and Mining Development, Obert Mpofu, the Secretary of the Ministry, Prince Mupazviriho, the President of the Chamber of Mines, Winston Chitando, and several captains of industry, addressed the gathering. Representatives of the Chambers of Mines of Ghana, Zambia, DRC and Botswana also addressed the gathering.

Mine Entra

The 17th Mine Entra exhibition was held in Bulawayo under the theme "Real Local Treasure, Strike Global Returns" from 24th to 26th July 2012. A total of 272 exhibitors participated at this year's event, compared to the 209 who participated last year.

New kids on the block

Whitesands Communication (Pvt) Ltd has launched two mining related publications, the *ZimMiners Buyers' Guide*, and the *Mining Journal of Zimbabwe*. *The ZimMiners Buyers' Guide* is a comprehensive directory of active mines and suppliers whereas the *Mining Journal of Zimbabwe* contains news on the mining industry in Zimbabwe. We wish these new publications a prosperous future.

Mining Legislation

The amendment to the Mines and Minerals Act that has been going on for nearly a decade is still on-going, and this is a real cause for concern among potential investors. Of concern now is the possibility that the current parliament might be dissolved to pave way for general elections before the bill is discussed.

Government has formulated a diamond policy aimed at facilitating the optimization of diamond exploration, exploitation and beneficiation. The policy will culminate in amendments to the Precious Stones Trade Act to address certain structural deficiencies in the laws regulating precious stones.

Indigenization and Economic Empowerment

At their presentation at the Mine Entra in July 2012, the Chamber of Mines indicated that although it has always supported the indigenization and economic empowerment of the mining sector, there is a need for an operational framework that leads to growth and continued investment in the mining sector. In this regard, they advised government to formulate and adopt a National Mineral Development Policy, which will allow all stakeholders to understand the intentions of government and how mineral resources development fits into the overall development agenda for the country.

Meanwhile Caledonia Mining announced that it now complies with the requirements of the Indigenization laws after selling a 16% stake in its Blanket Gold Mine to the Zimbabwe National Indigenization and Economic Empowerment Fund.

Zimra to audit mines

A recently promulgated Finance Act gives the Zimbabwe Revenue Authority (Zimra) the power to carry out on-site inspections to determine progress at mining operations in a bid to plug the suspected high rate of revenue leakages from the mining sector. The Finance Act grants the Zimra commissioner-general, or officers acting on his behalf, authority to examine security systems at mining locations, examine and make copies of or take extracts from books, vouchers, documents, maps, drilling logs and all manner of mining records. The Act also gives the national revenue authority the power to demand and take soil samples, specimens of rocks, ores, concentrates, tailings or minerals for examination or assay.

It remains to be seen how Zimra will interact with the Ministry of Mines, which has the expertise to carry out most of the envisaged activities. Or is this yet another attempt to usurp some functions of the Ministry of Mines?

Meanwhile Zimplats is to pay \$34 million to Zimra after the two parties agreed that the claims in capital expenditure for tax purposes during the period 2007 and 2011 should be recalculated.

Platinum Producers' Association

The Chamber of Mines has formed a Platinum Producers' Association whose main objective is to work and liaise with government towards a framework for establishing a platinum refinery in Zimbabwe. The subject of mineral beneficiation has been topical with government raising concerns that industry was deliberately reneging on its obligations to add value to minerals, especially with regards to the refining of platinum group metals. Although the Chamber of Mines agrees with the idea of setting up a refinery, they however argue that it does not make economic sense at current levels of production.

Mineral Exploration

Vast tracts of land were opened up when government cancelled 334 Exclusive Prospecting Order (EPO) applications. Government had invited all holders of the standing 469 EPO applications to express continued interest in them, as some were now more than six years old. The 334 applicants that did not respond had their applications cancelled through a Government Gazette on 31st August. However, the 134 that remain will be granted to pave way for renewed exploration. Currently there is no active EPO.

Exploration for coal has, however, been active throughout the coalfields. There are 32 Special Grants for coal exploration, in which various stages of activity has been reached.

Mine development and mineral production

The resuscitation of mines continues, and positive results are being reported in many areas. The Chamber of Mines estimates that Zimbabwe's mining sector would require over \$5 billion over the next five years to recapitalize in order to increase mineral output. The cash injection would enable the country to increase gold production to 50 t/y, platinum to 21 t/y, and coal to seven-million tonnes a year.

The Chamber of Mines shows that the industry has already surpassed this year's projected growth of 13.3% after raking in more than US\$1.7 billion in export receipts between January and September this year compared to US\$900 million last year. Production and earnings are being dominated by platinum, which accounts for 45%, with gold at 24%, diamonds 14%,

ferro-chrome 10% and the remaining minerals 7%.

The following are highlights in some developments of the country's mining industry:

- January to September gold output rose by 22% from the same period a year ago to 11 tonnes. Gold output is expected to be 15 tonnes this year, compared to 13 tonnes in 2011. The output, however, remains below the 27 tonnes reached in 1999 prior to the decade-long economic crisis that was at its worst in 2008 when hyperinflation crushed the economy, forceing most mines to shut.
- Blanket Gold Mine recorded a 12% increase in gold production in the third quarter of 2012. The company produced 12,919 ounces of gold during this period, a 12% increase from the previous quarter production of 11,560 ounces. Production in the same quarter last year was 9743 ounces.
- New Dawn Mining Corporation reported a record gold production of 37,623 ounces for the year to September 2012, a 41% improvement over the 26,689 ounces produced in the previous year. This also translates to an increase in revenue by 61.8%. Meanwhile the High Court has approved New Dawn's takeover of equity owned by minority shareholders in the Falcon Gold Mine. Before this, New Dawn owned about 85% of Falgold mine.
- Mimosa's output increased marginally from 202,000 ounces to 204,000 ounces of pgm's in the full year to June 2012, despite a fire accident that briefly interrupted underground operations in May. The company expects a 7% increase in the year to June 2013.
- Diamond production at Murowa Mine increased by 64% to 92,000 carats in the three months to September from the previous quarter. Meanwhile the fate of Murowa is still not clear following the announcement by Rio Tinto International earlier in the year that it was realigning its ownership structure particularly for its diamond businesses.
- Zimplats' phase-2 expansion programme was reported to be facing problems due to cash constraints and weak commodity prices prevailing on the international market. The weak commodity prices caused the company's profits to take a plunge for the full year to June 2012. It appears the major markets in North America, Europe and China were either affected by the Eurozone crisis or had surplus supplies.
- Zimasco reported that it had scaled down its mining and smelting operations by up to 40% in response to weak global demand for chrome alloys. The company is reported to have produced an average of 15,000 t per month last year. At peak production in 2007 Zimasco was producing an average of 210 000 t of high carbon ferrochrome a year, about 4% of global production.
- Mwana Africa's Bindura Nickel Corporation is now on the road to recovery following their successful money-raising bid through rights issues. The company is now on a recruitment drive as indicated by many advertisements in local newspapers. Operations had ceased in 2008. The restarting of the smelter and refinery plant will, however, be put on hold as the company needs additional finance, the magnitude of which is difficult to raise at this stage in Zimbabwe. The company will therefore be

exporting concentrates.

Meanwhile as part of the recapitalization and restructuring process of the company in preparation to restart operations at Bindura, staff and creditors now hold a combined 31.74% in BNC after the successful placement of 384 million shares as part of the back pay, retrenchment and liability settlement plan.

• Coal production is predicted to decline for the period 2012 from 2,562,054 tonnes in 2011 to 2,500,000 tonnes. This has been caused by erratic power supplies, cash constraints, and the non-replacement of old machinery. The Chamber of Mines estimates that about \$280 million is required by the coal sector to recapitalize over five years since 2010. Zimbabwe has two producing collieries, Hwange and Makomo Resources.

Meanwhile Hwange Colliery Company returned to profitability after posting a US\$500,000 net profit in six months to June 2012 from a loss of US\$1.4 million. This is due to an improved sales mix and a decline in administrative costs.

News about Zim Geoscientists

Nick Baglow has just returned to Polokwane, where he manages the Limpopo Unit of the Council for Geoscience, from a 3-week long Field School, mostly in the Richtersveld. The CGS celebrates its 100 years of geological excellence in November this year, piped at the post by our own establishment by just two years. Our Congratulations!

Posted on Facebook by **Tendaishe Chidakwa** – 25th July, 2012 WE HAVE LOST A COLLEAGUE - **GWEJE ZIVANAI CHIRINDA** - MAY HIS SOUL REST IN PEACE.

We hope your contributions may improve with the Facebook initiative. Talk to you on the Geological Society of Zimbabwe Group, an open link. Join us there for better communication.

Please provide us with news about yourself or other geologists. We need to keep in touch with all of you out there. E-mail fbmpaya@yahoo.co.uk or makari@zol.co.zw



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.

Conferences

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

Please put the following dates in you diary <u>now!</u>
And confirm your participation with
Sofelani Mangezi <u>sofelani@yahoo.com</u>

Andrew du Toit andrew.dutoit@zimplats.co.zw



Geological Society of Zimbabwe



Summer Symposium

30th November 2012, Department of Geology, University of Zimbabwe Registration (incl teas and lunch) \$20 for members (non-members should join)

Topic	Speaker
Offical Opening	Prince Mupazviriho, Permanent Secretary of Mines and Mining Development
Unlocking the Zimbabwe Mineral Wealth and Maximizing the Potential Contribution of the Mining Sector to Socio-Economic Development	Isaac Kwesu, Chamber of Mines
GSSA and Professional Registration	Gavin Hall, GSSA
Keynote - The Origin of Mafic and Ultramafic Enclaves in the Shurugwi Subchamber of the Great Dyke	Allan Wilson & Sinikiwe Ncube
Mid Ocean Ridges	Gayle Hanssen
Zimbabwe Coal Industry	Oliver Maponga
Applications of MRM system in mining industry with specific reference to Unki mine	Oswald Mapengo
Preliminary appraisal of links between geology and wildlife water supply in the Sub-Kalahari, Hwange	David Love
Geophysics and Gold Mining - Chasing the Vein: A Technical Appraisal of New Generation Ground Penetrating Radar and its Applications in Exploration of Greenstone Quartz Vein Mines"	Ed Magan
Geophysical Applications for small scale mining projects	Hilary Gumbo
Ground Penetrating Radar (GPR) as a ground monitoring system	Dumisani Mapundu
Nkombwa Hill	Jock Harmer
Diamonds in Chimanimani	Bornwell Mapaya
The applicability of Geophysics in exploration for pegmatite hosted tin and and tantalite deposits	Taka Marova
The Geology of Health in Zimbabwe-An Overview	Tendai Njila
Artisanal Mining in Mozambique	Isadore Manuel

Field Trip			
<u>1st December</u>			
Marange Diamonds			
Muusha alluvial diamonds			
Overnight Chimanimani			
2nd December			
Chimanimani Diamonds			
Details of costs & logistics to follow.			
Please send your ID or Passport details by 9th November to reserve a place on this trip.			

3D EARTH EXPLORATION (Pty) LIMITED

Geophysical Contractors & Mineral Exploration Consultants

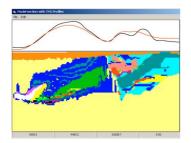
3D Earth Exploration is a Botswana-registered company operating in the Africa theatre and provides the following services:

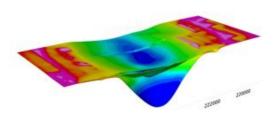
- Ground geophysics surveys
- Physical rock properties measurements ...&... 3D Data processing and interpretation



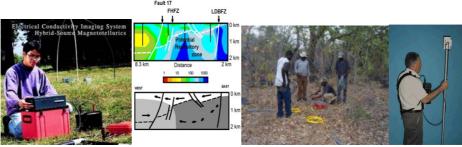
GDD MPP-EM2S+ Magnetic susceptibility and conductivity probe and aximOnsite data processing

• 3D magnetic and gravity data modelling

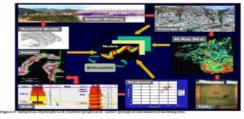




• CSAMT, ground magnetic surveys, Induced Polarisation, gravity (CG3/5, La Coste), rock properties, EM, GPR, radiometrics and a wide range of other ground geophysics surveys.



• 3D Data integration and visualisation



CONTACT:

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VISITING LECTURER

Jock Harmer will deliver a lecture to the Society in the UZ Geology Department at 5pm on 29th November (the night before the summer Symposium)

Geological challenges in satisfying global demand for the Rare Earth Elements

Jock is the *Society of Economic Geologists'* "Travelling Lecturer" for Africa this year.

GEOLOGICAL SOCIETY OF ZIMBABWE: CONTACT DETAILS OF MEMBERS OF THE EXECUTIVE COMMITTEE FOR 2012

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Institutional Membership, 2012

African Consolidated Resources

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Geology Department, UZ

Goldsearch Technical Services

Murowa Diamonds (Pvt) Limited

Samrec Vermiculite Zimbabwe (Pvt) Limited

Zimbabwe Mining Investments

Zimbabwe Platinum Mines Limited