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Rb-sr isotopic studies relating to problems of geochronology on the Nelspruit and Mpageni granites

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Faure, G. and Hurley, P.M.	1963	The Isotopic Composition of Sr in Oceanic and Continental Basalts; Application to the Origin of Igneous Rocks. J.Pet. 4,(1)
Gast, P.W. Tilton, G.R. and Hedge, C.	1964	Isotopic Composition of Lead and Strontium fromAscension and Gough Islands. Science 145, (3637), 1181
Gribnitz, K.H. Poole, E.J. and Voges, S.	1961	Geological Notes on the Swaziland System. Unpub.Rep.Geol.Dept., E.T.C. Mines Ltd.,Barberton
Hall, A.L.	1918	The Geology of the Barberton Gold Mining District. Mem.Geol.Surv.S.Afr. 9
Hamilton, E.I.	1963	Applied Geochronology. Academic Press, London.
Hart, S.R. and Dodd, R.I. Jnr.	1962	Excess Radiogenic Ar in Pyroxenes. J.Geoph.Res. 67, 2998
Hart, S.R.	1964	The Petrology and Isotopic Age Relations of a Contact Zone in the Front Range, Colorado. J.Geol. 72, 493
Heier, K.S. Compston, W. and McDougall, I.	1965	Thorium and Uranium Concentrations, [illegible] Isotopic Composit[illegible] Strontium in the Diff[illegible]iated Tasmanian Dolerites. Cecch. & Cosmcch. Acta 29, 643
Hedge, C.E. and Walthall, F.G.	1963	Radiogenic Sr^{87} as an Index of Geologic Processes. Science 140, 1214
Hunter, D.R.	1957	The Geology, Petrology and Classification of the Swaziland Granites and Gneisses. Trans.Geol.Soc.S.Afr. 60
Hunter, D.R.	1961	The Geology of Swaziland. Pub.Geol.Surv., Zwaziland

Hunter, D.R.	1965	The Precambrian Granitic Terrain in Swaziland. Geol.Soc.S.Afr. (8th Ann. Congr.) (in publ.)
Hurley, P.M. Fairbairn, H.W. Faure, G. and Pinson, W.H.	1963	New Approaches to Geochronology by Strontium Isotope Variations in Whole Rocks. Proc. I.A.E.A., Vienna.
Jäger, E.	1963	Rb-Sr Age Determinations from Micas of Total Rocks from the Alps. J.Geoph.Res. 67, (13),5293
Jäger, E. Niggli, E. and Baethge, H.	1963	Two Standard Minerals, Biotite and Muscovite, for Rb-Sr and K-Ar Age Determinations Sample Bern 4B and Bern 4M from a Gneiss from Brione, Valle Verzasca (Switzerland). Schw.Min.Pet.Mitt. 43,(2), 465.
King, B.C.	1963	The Nature and Origin of Migmatites: Metasomatism or Anatexis - "Controls of Metamorphism". Geol.Jour. spec. iss. 1, 219
Lanphere, M.A. Wasserburg, G.J.F. Albee, A.L. and Tilton, G.R.	1963	Redistribution of Sr and Rb Isotopes during Metamorphism, World Beater Complex, Panamint Range, California. Isotopic and Cosmic Chemistry. N.Holland Pub.Co., Amsterdam
Lessing, P. and Catanzaro, E.J.	1964	Sr^{87}/Sr^{86} Ratio in Hawaiian Lavas. J.Geoph.Res. 69, 1599
McDougall, I. Compston, W. and Hawkes, D.D.	1963	Leakage of Radiogenic Argon and Strontium from Minerals in Proterozoic Dolerite from British Guiana. Nature 198,(4880), 564
McDougall, I.	1966	Precision Methods of K-Ar Isotopic Determination on Young Rocks. Methods and Techniques in Geophysics, p. 279 Interscience pub.

McElhinny, M.W. 1966 Rb-Sr and K-Ar Measurements on the Mopide Gabro of Bechuanaland and South Africa. Earth & Plan.Sc.Let. 1,(6).

McIntyre, G.A. Brooks, C. Compston, W. and Turek, A. 1966 The Statistical Assessment of Rb-Sr Isochron. J.Geoph.Res. 71,(22),5459

Moorbath, S. 1963 Isotopic Dating of Metamorphic Rocks. - "Controls of Metamorphism". Geol.Jour. spec. iss. 1, 235

Moorbath, S. and Bell, J.D. 1965 Sr Isotopes Abundance Studies and Rb-Sr Age Determination on Tertiary Igneous Rocks from the Isle of Skye, North West Scotland. J.Pet. 6, 37

Moorbath, S. and Walker, G.P.L. 1965 Strontium Isotope Investigation of Igneous Rocks from Iceland. Nature 207, 837

Manton, W.I. 1967 Initial Sr^{87}/Sr^{86} Ratios and Their Bearing on the Origin of Associated Basic and Acid Rocks from the Lebombo-Nuanetsi Igneous Province, Southern Africa. Unpub. Ph.D. thesis, Univ. Witwatersrand.

McDougall, I. and Compston, W. 1965 Strontium Isotopic Composition and K-Rb Ratios in Some Rocks from Reunion and Rodriguez, Indian Ocean. Nature 207, 252

Nicolaysen, L.O. 1956 Solid Diffusion in Radioactive Minerals and the Measurements of Absolute Age. Geoch. & Cosmch. Acta 11,41

Nicolaysen, L.O. 1961 Graphic Interpretation of discordant Age Measurements of Metamorphic Rocks. Ann.N.Y. Acc.Sc. 91,(2), 198.

Pidgeon, R.T. 1964 The Geochronology of Two Regionally Metamorphosed Areas in New South Wales. unpub. Ph.D thesis.

AND

Pidgeon, R.T. and Compston, W. 1965 The Age and Origin of the Cooma Granite and its Associated Metamorphic Zones, New South Wales. J.Pet. 6,(2), 193.

Powell, J.L. and Delong, S.E. 1966 Isotopic Composition of Strontium in Volcanic Rocks from Oahu. Science 153, 1239.

Ramsay, J.G. 1963 Structural Investigations in the Barberton Mountain Land, Eastern Transvaal. Trans.Geol.Soc.S.Afr. LXVI, 353.

Read, H.H. 1956 The Granite Controversy. T.Murby & Co., London.

Richards, J.R. 1966 Some Rb-Sr Measurements on Granites from Mount Isa. Aus.I.M. & M. Proc. 218, 19.

Roering, C. 1965 The Tectonics of the Main Gold-Producing Area of the Barberton Mountain Land. Inf.Circ. 23, Ec.Geol.Res. Unit, Univ.Witwatersrand.

Roering, C. 1967 Non-orogenic Granites in the Archean Geosyncline of the Barberton Mountain Land. Inf.Circ. 35, Ec.Geol.Res. Unit, Univ.Witwatersrand, Johannesburg.

Schreiner, G.D.L. 1958 Comparison of the ^{87}Rb-^{87}Sr Ages of the Red Granite of the Bushveld from Measurements on the Total Rock and Separated Mineral Fractions. Proc.Roy.Soc. 245, 112.

Silver, L.T. 1963 The Use of Cogenetic Uranium Lead Isotope Systems in Zircons in Geochronology. Proc. Vienna I.A.E.A. p.279.

Symposium	1960	On Migmatite Nomenclature. Inter.Geol.Cong. Copenhagen part 26, 54.
Turekian, K.K. and Wedepohl, K.H.	1961	Distribution of the Elements in Some Major Units of the Earth's Crust. Bull.Geol.Soc.Am. 72, 175.
Turner, F.J. and Verhoogen, J.	1960	Igneous and Metamorphic Petrology. McGraw-Hill, New York.
Ulrych, T.P. Burger, E. and Nicolaysen, L.O.	1967	Least Radiogenic Terrestrial Leads. Earth & Plan.Sc.Let. 2, 179.
Van Eeden, O.R. and Marshall, C.G.	1965	The Granitic Rocks of the Barberton Mountain Land in Transvaal. Annex Trans.Geol.Soc.S.Afr. 68.
Van Niekerk, C.B. and Burger, A.J.	1967	A Note on the Age of the Acid Lavas of the Onverwacht Series of the Swaziland System. In print Geol.Soc.S.Afr.
Viljoen, M.J.	1964	The Geology of the Lily Syncline and Portion of the Eureka Syncline between the Consort Mine and Joe's Luck Siding, Barberton Mountain Land. Unpub. M.Sc. thesis, Univ. Witwatersrand, Johannesburg.
Visser, D.J.L. Van Eeden, O.R. Joubert, G.K. Söhnge, A.P.G. Van Zyl, J.S. Rosson, P.J. and Taljaard, J.J.	1956	The Geology of the Barberton Area. Geol.Surv.S.Afr. spec.pub. 15
Von Platen, H.	1963	Experimental Anatexis and Genesis of Migmatites. from "Controls of Metamorphism" - Geol.J.spec.iss. 1, 203.

Wetherill, G.W.	1955	Discordant Uranium Lead Ages. Trans.Am.Geoph.Un. 37, 320.
Winchell, A.M. and Winchell, H.	1951	Elements of Optical Mineralogy. J.Wiley & Sons, New York.
Winkler, H.G.F.	1965	Petrogenesis of Metamorphic Rocks. Springer-Verlag, Berlin.
York, D.	1966	Least Squares Fitting of a Straight Line. Can.J.Phys. 44, 1079

THE BARBERTON MOUNTAIN LAND

SCALE

0 5 10 15 20 25 Miles

STRUCTURAL LEGEND

Trend lines of foliation in layered rocks of the Swaziland System

Trend lines of foliated granite

Granite flow lines

Major faults :-

A	Scotsman	J	Violet
B	Lily	K	Komati River
C	Kaap River	L	Theespruit
D	Albion	M	Manhaar
E	Sheba	N	Mpandagazi
F	Barbrook	O	Malolotsha
G	Saddleback	P	Kamhlabane
H	Inyoka	Q	Umquduqudu
I	Moodies		

Plunging anticlinal structure

Plunging synclinal structure

Post – Swaziland System Formations (see Geological Map, Figure 2)

Late intrusive granites

Various granites and gneisses

ANTICLINES

1 Stentor
2 Onverwacht
3 Steynsdorp
4 She
5 Malolotsha

SYNCLINES

6 Koedoe
7 Lily
8 Eureka
9 Jamestown
10 Ulundi
11 Saddleback
12 Stolzburg
13 Kromberg
14 Ingwenya
15 Mhlope
16 Kobolondo
17 Makonjwa
18 Hlambanyati

C.R.A. 1967

(Swaziland granites modified after D.R. Hunter)

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