

# GEOLOGICAL MAP OF THE GRANITOID - GREENSTONE TERRANE IN THE VICINITY OF THREE SISTERS, BARBERTON MOUNTAIN LAND

Mapped by E.A. Kohler (1990, 1993)

25°30'S

31°20'E

31°25'E

31°30'E

LITHOSTRATIGRAPHIC LEGEND

- |  |                                                                                                                                                                                                                                                                                      |  |                                          |                                          |                                          |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------|------------------------------------------|------------------------------------------|
|  | Alluvium, colluvium, soil cover                                                                                                                                                                                                                                                      |  | Stentor pluton                           |                                          | NELSPRUIT BATHOLITH                      |
|  | Undifferentiated late-stage basic intrusive rocks consisting mainly of diabase and diorite                                                                                                                                                                                           |  |                                          |                                          | MOODIES GROUP                            |
|  | Quartz-feldspar porphyry                                                                                                                                                                                                                                                             |  |                                          |                                          |                                          |
|  | Medium- to coarse-grained granodiorite-adamellite, foliated in places                                                                                                                                                                                                                |  |                                          |                                          |                                          |
|  | Banded iron-formation*                                                                                                                                                                                                                                                               |  |                                          | Precise stratigraphic position uncertain |                                          |
|  | Siltstone and shale with thin, isolated interlayers of quartzite                                                                                                                                                                                                                     |  |                                          |                                          |                                          |
|  | Predominantly fine- to very coarse-grained quartz arenite, siltarenite and subarkose, locally with pebble zones and siltstone intercalations                                                                                                                                         |  |                                          |                                          |                                          |
|  | Predominantly chert- and quartzite-clast conglomerate, locally with intercalated quartzite units                                                                                                                                                                                     |  |                                          |                                          |                                          |
|  | Argillaceous banded iron-formation*                                                                                                                                                                                                                                                  |  | Precise stratigraphic position uncertain |                                          |                                          |
|  | Banded chert, locally sheared and fuchsite*                                                                                                                                                                                                                                          |  |                                          |                                          |                                          |
|  | Undifferentiated silicic metavolcanic rocks (mainly altered to quartz-muscovite ± fuchsite schists), siltstones and metagreywackes; minor intercalations of fuchsite chert ± carbonate and talc ± carbonate schist / phyllite                                                        |  |                                          |                                          |                                          |
|  | Argillaceous phyllite or slate, locally carbonaceous                                                                                                                                                                                                                                 |  |                                          |                                          |                                          |
|  | Cherty dolomite                                                                                                                                                                                                                                                                      |  | Bien Venue Formation                     |                                          |                                          |
|  | Silicic metavolcanic-volcaniclastic rocks (metadacites and metarhyolites); now largely altered to a variety of quartz-muscovite ± andalusite ± pyrophyllite ± chlorite ± chloritoid schists, some of which contain quartz porphyroclasts and relic chert or metavolcanic clasts (♦♦) |  |                                          |                                          |                                          |
|  | Silicic metavolcanic-volcaniclastic schists (metadacites) consisting mainly of biotite, but also characteristically containing oligoclase porphyroclasts and, in places, relic metavolcanic clasts (♦♦)                                                                              |  |                                          |                                          |                                          |
|  | Chlorite schist (metabasalt)                                                                                                                                                                                                                                                         |  |                                          |                                          |                                          |
|  | Talc-chlorite schist                                                                                                                                                                                                                                                                 |  | FIG TREE GROUP                           |                                          |                                          |
|  | Grey, brown and white banded or massive chert, locally with interlayers of shale, greywacke and silicic tuffaceous sediment (BM = Basal Marker)*                                                                                                                                     |  |                                          |                                          |                                          |
|  | Grey, white and green banded chert*                                                                                                                                                                                                                                                  |  |                                          |                                          |                                          |
|  | Banded iron-formation, locally with macrobands of shale and greywacke*                                                                                                                                                                                                               |  |                                          |                                          |                                          |
|  | Predominantly ferruginous shale / slate with lesser metagreywacke and, in places, subordinate interlayers of silicic metavolcaniclastic sediment                                                                                                                                     |  | Belvue Road Formation                    |                                          |                                          |
|  | Silicic metavolcanic rocks (metarhyolites or metarhyolites); now mainly represented by quartz-feldspar porphyries and quartz-muscovite or quartz-pyrophyllite ± andalusite ± chloritoid schists                                                                                      |  |                                          |                                          |                                          |
|  | Intermediate metavolcanic-volcaniclastic rocks (metadacites or meta-andesites) consisting mainly of quartz and chloritoid                                                                                                                                                            |  |                                          |                                          |                                          |
|  | Black, white and grey banded or massive chert*                                                                                                                                                                                                                                       |  |                                          |                                          |                                          |
|  | Argillaceous banded iron-formation, cherty shale*                                                                                                                                                                                                                                    |  | Sheba Formation                          |                                          |                                          |
|  | Metagreywacke and ferruginous shale / slate, locally carbonaceous                                                                                                                                                                                                                    |  |                                          |                                          |                                          |
|  | Metagabbro (altered, medium- to coarse-grained actinolite + plagioclase + quartz rock)                                                                                                                                                                                               |  |                                          |                                          | Precise stratigraphic position uncertain |
|  | Silicic metavolcanic rock, now largely altered to quartz-muscovite schist                                                                                                                                                                                                            |  |                                          |                                          |                                          |
|  | Talc-magnetite schist                                                                                                                                                                                                                                                                |  |                                          |                                          |                                          |
|  | Predominantly quartz-chlorite ± carbonate ± amphibole schists (metabasalts) with subordinate talc-chlorite ± carbonate schist and, in places, serpentinite                                                                                                                           |  |                                          |                                          |                                          |
|  | Undifferentiated basic and ultrabasic volcanic and plutonic rocks - see Viljoen and Viljoen (1970)                                                                                                                                                                                   |  | Komati Formation                         |                                          |                                          |
|  | Metapyroxenite (altered, medium- to coarse-grained chlorite ± talc ± amphibole rock)                                                                                                                                                                                                 |  |                                          |                                          |                                          |
|  | Quartz-muscovite ± chlorite ± andalusite ± chloritoid schist (metadacite/rhyolite)                                                                                                                                                                                                   |  |                                          |                                          |                                          |
|  | Grey and white banded chert, silicified argillite*                                                                                                                                                                                                                                   |  |                                          |                                          |                                          |
|  | Amphibolite (metabasalt)                                                                                                                                                                                                                                                             |  | Theespruit Formation                     |                                          |                                          |
|  | Serpentinite (metakomatiite)                                                                                                                                                                                                                                                         |  |                                          |                                          |                                          |
|  | Undifferentiated quartz-chlorite ± carbonate ± amphibole schists (metabasalts) or talc-chlorite ± carbonate ± amphibole schists (komatiite metabasalts and metakomatiites)                                                                                                           |  |                                          |                                          |                                          |
|  |                                                                                                                                                                                                                                                                                      |  |                                          |                                          |                                          |

\* Note that the thicknesses of most BIF and chert units has been exaggerated



- TOPOGRAPHIC LEGEND**
- Dam, river, stream, gully
  - Trigonometrical beacon with elevation in metres
  - Spot height in metres
  - Main road
  - Secondary road
  - Farm boundary
  - Power line
  - Building, kraal
  - Mine (disused) or prospect with commodity indicated: Ag - silver; Asb - asbestos; Au - gold; Ba - barite; Cu - chalcocite; Fe - hematite; Hg - cinnabar; Sb - stibnite; Tc - talc; Zn - sphalerite; GOS - gossan or gossanous schist
  - Quarry
  - Mine dump
  - ▲ BVR7 Sample chemically analysed
- STRUCTURAL LEGEND**
- Geologic contact
  - Geologic contact (inferred)
  - Fault trace
  - Fault trace (inferred or not accurately located)
  - Shear zone
  - Synform axial trace
  - Synform axial trace (not accurately located)
  - Antiform axial trace
  - Antiform axial trace (not accurately located)
  - Bedding (75° dip, vertical)
  - Foliation (75° dip, vertical)
  - Mineral elongation or stretching lineation (65° plunge)
  - Younging direction
  - Quartz ± tourmaline vein; zone of silicification
  - Strain analysis locality

