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R. D. Shaw, R. G. Warren, & M. J. Freeman

Bureau of Mineral Resources, Geology and Geophysics

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BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

REPORT 260

STRATIGRAPHIC DEFINITIONS OF NAMED UNITS IN THE ARUNTA BLOCK, NORTHERN TERRITORY, 1979-82

by

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ABSTRACT

This report presents stratigraphic definitions of 15 Lower to Mid-Proterozoic rock units (igneous and metamorphic) mapped from 1979-1982 in the Arunta Block, Northern Territory. The units include fully defined formal units and partly defined formal units in the sense of the revised Stratigraphic Code of the Geological Society of Australia.

INTRODUCTION

This Report presents stratigraphic definitions, arranged alphabetically, of named rock units mapped between 1979 and 1982 in the eastern Arunta Block, Northern Territory. The units occur in the Illogwa Creek and Huckitta 1:250 000 Sheet areas. Full descriptions of the units are given in Shaw & others (1982) and Shaw & others (1984). The distribution of geological units in the Illogwa Creek 1:250 000 Sheet area is shown on the second-edition (preliminary) geological map. Preliminary compilation sheets showing the distribution of geological units in the southern part of the Huckitta 1:250 000 Sheet area at scales of either 1:25 000 or 1:80 000 are available through the Australian Government Copy Service. These will be ultimately presented as the DNEIPER* (issued), JINKA, and JERVOIS RANGE geological Sheets by BMR, and the second edition of the Huckitta 1:250 000 geological map being prepared by NTGS.

The named units defined herein are of two types:

1) Fully defined formal units. These units are fully described formations in that they -
   a) have clearly defined boundaries;
   b) are made up of a distinct rock type or combination of rock types;
   c) have established relationships to other units; and
   d) have an established internal order or superposition, or consist of a single rock type or rock suite as is the case for igneous and meta-igneous rocks.
2) Partly defined formal units. These units meet the requirements for official recognition as formations as laid down in the International Stratigraphic Code (Hedberg, 1976) in the revised form adopted by the Geological Society of Australia (GSA, in preparation); that is, they are made up of distinctive rock types and have clearly defined boundaries. They are regarded by us as partly defined in that -

   a) their relationship to other units may be uncertain (i.e., their boundaries with other units may be gradational or indistinct); and
   b) their constituent rock units may not be known in sufficient detail to allow recognition outside the type area. This uncertainty may arise, for example, because the internal order of superposition is unknown or uncertain because of complex folding or faulting.

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* Names of 1:100 000 Sheet areas are printed in capitals.

Such partly defined units have a status equivalent to 'Beds' in the Australian Code of Stratigraphic Nomenclature, (GSA, 1973) and may well undergo revision in the future. Many of the partly defined units have a make-up similar to groups, and revision by subdivision may be possible once they have been more adequately described and their detailed structure unravelled.

All Rb-Sr isotopic ages quoted in this report use an ^{87}Rb half-life of $1.42 \times 10^{-11} y^{-1}$.

STRATIGRAPHIC DEFINITIONS

Albarta Metamorphics (New name)

Proposer:	R.D. Shaw (in Shaw & others, 1982).
Derivation of name:	Albarta Creek (lat. 23°33'S, long. 135°10'E), about 36 km north-northwest of Limbla homestead, southwestern Illogwa Creek 1:250 000 Sheet area.
Distribution:	The unit occurs north of Albarta Creek between Ruby Gap and Aremra Creek to the east in northwestern LIMBLA and southwestern QUARTZ. A second outcrop area extends from Bullhole Dam east to near Junction Bore.
Type section:	East-west tributary of Illogwa Creek that parallels Albarta Creek 3 to 4 km to the north; that is, from QUARTZ GR 100040 to LIMBLA GR 981190.
Lithology:	Quartzofeldspathic gneiss, biotite and muscovite-biotite schist, massive and layered amphibolite, minor calc-silicate rock, and layered magnetite quartzite. The dominant rock type is quartzofeldspathic gneiss which forms layers up to tens of metres thick; it consists of potassium feldspar, plagioclase, quartz, minor muscovite and biotite, and accessory zircon.
Relationships:	Unconformably overlain by Heavitree Quartzite (Late Proterozoic). Intruded by Atneequa Granitic Complex (Early to Mid-Proterozoic). Other contacts are obscured by Cainozoic cover or faulted.
Remarks:	Unit appears to be a metamorphosed sequence of mainly acid and minor basic volcanics or volcaniclastic rocks intercalated with metasediments.

Age:	Mid-Proterozoic or older.
Synonymy:	Previously mapped as undivided Arunta Complex by Forman & others (1967) and Shaw & Milligan (1969).
Status:	Partly defined, formal.

Aremra Granodiorite (New name)

Proposer:	R.D. Shaw (in Shaw & others, 1982).
Derivation of name:	Aremra Creek (lat. 23°30'S, long. 135°40'E), central Illogwa Creek 1:250 000 Sheet area.
Distribution:	The unit extends from Leaky Bore westwards to about 3 km beyond Illogwa Creek.
Type locality:	Along Illogwa Creek in southwestern QUARTZ between GRs 161095 and 150115.
Lithology:	Granodiorite, tonalite, diorite; all retrogressively metamorphosed in part. A typical example of granodiorite is intensely foliated, and consists of plagioclase (50%), quartz (19%), potassium feldspar (17.5%), hornblende (7%) biotite (3%), epidote (3%), carbonate (0.5%), and accessory opaque grains.
Relationships:	Intrudes unnamed unit of quartzofeldspathic gneiss, pCf, mapped in the Alice Springs and Illogwa Creek 1:250 000 Sheet areas. Nonconformably overlain by Heavitree Quartzite.
Age:	Mid-Proterozoic.
Synonymy:	Previously mapped by Forman & others (1967) and Shaw & Milligan (1969) as undivided Arunta Complex.
Status:	Fully defined, formal.

Atneequa Granitic Complex (New name)

Proposer:	R.D. Shaw.
Derivation of name:	Atneequa Creek (lat. 23°38'S, long. 135°20'E), central Illogwa Creek 1:250 000 Sheet area.
Distribution:	Unit occurs, together with overlying Heavitree Quartzite, in fault slices within the Oolera Fault Zone in northwestern LIMBLA.

Type locality:	Hills of massive granodiorite and minor granite in LIMBLA at GR 906207.
Reference localities for subordinate rock types:	1) Creek exposure of muscovite-biotite granite at GR 943132 (LIMBLA). Further granite exposure in continuation of creek to south. 2) Granite-gneiss exposures in sides of gully at GR 970120 (LIMBLA). Also exposures in continuation of gully to the south.
Lithology:	Granodiorite, granite, diorite, granitic gneiss, syenite. A typical example of granodiorite consists of partly saussuritised plagioclase (63%), quartz (20%), potassium feldspar (12.5%), chlorite (3%), opaque grains (1.0%), biotite (0.3%), epidote, and accessory apatite. Granite occurs as porphyritic, very leucocratic, and even-grained homogeneous varieties.
Relationships:	Intrudes Albarta Metamorphics. Nonconformably overlain by Heavitree Quartzite.
Age:	Mid-Proterozoic.
Synonymy:	Previously mapped by Forman & others (1967) and Shaw & Milligan (1969) as undivided Arunta Complex.
Status:	Partly defined, formal.

Attutra Metagabbro (New name)

Proposer:	M.J. Freeman (in Shaw & others, 1984).
Derivation of name:	After Attutra copper deposit, Jervois Mining District (lat. 22°39'S, long. 136°16'E).
Distribution:	Unit forms low hills over 90 km^2 area extending from 5 km east-southeast to 10 km northeast of Jervois (Attutra) mine.
Type locality:	Outcrop in JERVOIS RANGE at GR 352994: 8.5 km northeast of Jervois mine.
Lithology:	A gabbro which is commonly highly altered to an amphibolite. A little-altered example consists of pyroxene (45%), amphibolite (5%), bytownite (35%), slightly chloritised biotite (5%), quartz (5%), and opaque grains (2%).

Relationships: Intrudes Bonya Schist (Early Proterozoic). Nonconformably overlain by units of the Georgina Basin sequence (Late Proterozoic to Palaeozoic) (e.g., Oorabra Arkose, Puo).

Age: Late or Mid-Proterozoic.

Synonymy: Shown by Smith (1963, 1964) as undivided basic intrusives, Ad.

Status: Fully defined, formal.

Bonya Schist (Revision of name)

Proposer: M.J. Freeman.

Derivation of name: After Bonya Creek (lat. 22°53'S, long. 136°53'E) in Huckitta 1:250 000 Sheet area.

Distribution: Near Bonya Bore and Jervois mine, Huckitta 1:250 000 Sheet area.

Type section: In two parts because continuous exposure cannot be found at a single locality. Although these sections do not carry on straight from one to the other it is presumed that there is no gap between them.

1) From 1.5 km southwest of White Violet scheelite prospect in JERVOIS RANGE (GR 096858) northeastwards to Bonya Creek.

2) Along southwest-flowing tributary of Bonya Creek from 1 km southwest of Tashkent scheelite prospect in JERVOIS RANGE (GR 167883) to 4 km northeast of the prospect.

Lithology: Muscovite schist, biotite-muscovite schist, and and alusite-mica schist; lesser amounts of calc-silicate rock, marble, amphibolite, quartzofeldspathic gneiss; minor acid metavolcanics, and layered quartz-magnetite rock.

Subdivided into five informal units and one formal member.

Unit A: Homogeneous and layered amphibolite.

Unit B: Fine-grained quartzofeldspathic rock and medium-grained hornblende gneiss interlayered with muscovite schist and biotite schist.

Unit C: Characterised by a variety of schists including muscovite schist andalusite-mica schist, and muscovite-biotite schist. Other less important rock types include calc-silicate rock, epidote-quartz rock, and amphibolite.

Unit D: The Kings Legend Amphibolite Member: a fine to medium-grained amphibolite containing distinct aggregates of plagioclase which give the rocks a 'spotty' appearance (see p. 9).

Unit E: Unit of muscovite and biotite-muscovite schist locally containing andalusite. Minor rock types include epidote quartzite, layered quartzite, calc-silicate rock, feldspathic schist, and amphibolite.

Unit F: Characterised by laminated potassium feldspar-actinolite calc-silicate and dark grey very fine-grained calcareous metapelite. It also contains other calc-silicate rocks, schist, amphibolite, quartzite,and acid metavolcanics.

Relationships: Overlies Mascotte Gneiss Complex with a gradational contact. Intruded by Samarkand Pegmatite and Jervois Granite.

Age: Mid-Proterozoic or older.

Synonymy: Replaces upper part of Bonya Metamorphic Complex (informal name) in Stewart & others (1980) and 'Bonya sequence' (informal name) in Warren (1978).

Status: Partly defined, formal. Base of unit may need further clarification. The overlying unit is not exposed.

Cackleberry Metamorphics (New name)

Proposer: R.G. Warren

Derivation of name: Cackleberry Bore (lat. 22°36.1'S, long. 135°21.2'E) in the Huckitta 1:250 000 Sheet area.

Distribution: The unit has a patchy distribution extending from 3 km east of Yam Creek Dam to 3 km south of Nine Mile Bore (Huckitta 1:250 000 Sheet area).

Type locality: Mopunga Range.

Reference localities: The unit is made up of more than one rock type but these are not well represented together at any one locality. Three reference localities are nominated.

1) For calcareous units: low ridge 5 km northwest of Yam Creek Dam in DNEIPER at GR 455912.

2) For quartzofeldspathic units: at about 7 km north of Yam Creek Dam in DNEIPER at GR 455934.
3) For pelitic units: 1 km west of the northwestern end of Mopunga Range in DNEIPER at GR 379986.

Lithology: Well-layered calc-silicate rocks, massive porphyroblastic calcareous rocks, well-layered albite-rich quartzofeldspathic gneiss, cordierite-bearing metapelite; minor biotite gneiss and rare cordierite-anthophyllite rock.

Relationships: Intruded by unnamed norite (Pd), Dneiper Granite, Marshall Granite, several unnamed granites (Pgr, Pgy, Pgc, Pgy, and Pg), the Ilappa Metadolerite, and by pegmatites. Overlain unconformably by the Elyuah Formation of the Georgina Basin sequence. The Ledan Schist probably overlies the Cackleberry Metamorphics, but the unconformity is not exposed.

Age: Early to Mid-Proterozoic.

Synonymy: Previously mapped as undivided Arunta Complex (Smith 1963, 1964).

Status: Partly defined, formal.

Deep Bore Metamorphics (New name)

Proposer: R.G. Warren.

Derivation of name: After Deep Bore (lat. 22°41.2'S, long. 134°34.8'E), Huckitta 1:250 000 Sheet area.

Type locality: Outcrops about 4 km west-southwest of Deep Bore (lat. 22°41.5'S, long. 133°33.5'E).

Lithology: Pelitic and quartzose metasediments containing cordierite, sillimanite, garnet, biotite, albite, and quartz; lesser amount of calcareous metasediments; minor mafic granulite.

Relationships: Intruded by unnamed diorite (Pdr) and by the Marshall Granite (Early Proterozoic). Unconformably overlain by the Oorabra Arkose (Late Proterozoic) of the Georgina Basin sequence.

Age: Early or Mid-Proterozoic.

Synonymy: Previously mapped as Arunta Complex (Smith, 1963, 1964).

Status: Partly defined, formal.

Dneiper Granite (Redefinition)

Proposer:	R.G. Warren.
Derivation of name:	Dneiper Pastoral Holding.
Distribution:	Granite extends from west of Myponga Range to about 7 km west-southwest of 9 Mile Bore.
Type locality:	Outcrops adjacent to track 10 km east of Dneiper homestead.
Lithology:	Gneissic adamellite (probably metamorphosed) which contains quartz, potassium feldspar, altered plagioclase (?andesine), biotite, hornblende, ilmenite (partly altered to sphene), allanite, and zircon.
Relationships:	Intrudes Cackleberry Metamorphics (Early Proterozoic). Intruded by several unnamed granites.
Synonymy:	Previously included all granites between Yam Creek Dam and Dneiper homestead south of India Range (south of Moung Ultim) and north of Yam Creek (Smith 1963, 1964). Now restricted to one of these granites, thought to be the oldest, and the most widely distributed. Some of the Dneiper Granite, as now defined, was previously mapped as Arunta Complex (Smith 1963, 1964).
Age:	Early or Mid-Proterozoic.
Status:	Fully defined, formal.

Ilappa Metadolerite (New name)

Proposer:	R.G. Warren (in Shaw & others, 1984).
Derivation of name:	Aboriginal name for the area (Tindale, 1931). Outcrops of the dykes have been quarried for stone axes.
Distribution:	Dykes trend north-northwest from about 2 km south of Cackleberry Bore in DNEIPER (GR 354015). A poorly exposed dyke occurs at Cackleberry Bore (lat. 22°36.1'S, long. 131°21.2'E). Minor intrusions occur near the northwestern end of Mopunga Range.

Dimensions:	Dykes 1-2 m wide exposed over lengths of 800 m (maximum). Dyke exposures terminate in soil-covered plains, and the actual length of the dykes must be greater.
Type locality:	Well-exposed outcrops of the dykes 2 km southeast of Cackleberry Bore.
Lithology:	Fine-grained metadolerite consisting of laths of cummingtonite set in a matrix of actinolitic hornblende, titaniferous hydrobiotite, intergrown clinozoisite and muscovite, and equant opaque grains.
Relationships:	Intrudes the Cackleberry Metamorphics. Overlain by units of the Georgina Basin sequence.
Age:	Early or Mid-Proterozoic. Considered to be the youngest unit predating deposition of the Georgina Basin sequence.
Synonymy:	Previously mapped as Arunta Complex by Smith (1963, 1964). Described by Tindale (1931) as gabbro.
Status:	Fully defined, formal.

Kings Legend Amphibolite Member of Bonya Schist (New name)

Proposer:	M.J. Freeman.
Derivation of name:	After Kings Legend copper mine in JERVOIS RANGE at GR 143808.
Distribution:	It occurs as three bodies: one extends from 7 km southeast to 5 km north of Charlottes Bore; another extends from 7.5 km north to 11 km northeast of Charlottes Bore; and the third outlines a steeply northwest-plunging synform extending from 12 km northwest of Charlottes Bore. The unit forms smoothly rounded hills.
Lithology:	A fine to medium-grained amphibolite which contains characteristic spot-like aggregates of feldspar.
Relationships:	A member within the Bonya Schist. The basal contact with the lower schist unit (C) is sharp. In the south the amphibolite rests on a calc-silicate bed. The upper contact is commonly obscured by soil as the overlying schist unit weathers readily. The member is a lenticular unit.

Age:	Mid-Proterozoic or older.
Synonymy:	Previously part of undivided Bonya Metamorphic Complex (informal name) in Stewart & others (1980) and 'Bonya sequence' (informal name) in Warren (1978).
Status:	Fully defined, formal.

Mascotte Gneiss Complex (Revision of name)

Proposers:	M.T. Freeman and R.D. Shaw.
Derivation of name:	After Mount Mascotte in JINKA (GR 877003; lat. 22°42.9'S, long. 135°58.5'E), southeastern Huckitta 1:250 000 Sheet area.
Distribution:	Unit occupies a belt of hills and ridges extending southeast of Mount Mascotte to beyond Charlottes Bore (abandoned).
Type section:	From Charlottes Bore (lat. 22°45.7'S, long. 136°20.3'E) east-northeast for about 3.5 km to the boundary with the Bonya Schist. A reference area is centred on a point 4 km north-northwest of Mount Thring, and covers an area of about 16 km^2.
Lithology:	Granitoid and layered quartzofeldspathic gneiss; lesser amounts of granitic gneiss, minor hornblende gneiss, para-amphibolite, metasediment, biotite gneiss, biotite schist, and massive amphibolite. Quartzite occurs locally.
Relationships:	Transitionally underlies the Bonya Schist. Both units contain similar rock types near their boundary. The first thick amphibolite unit (thickness roughly 300 m) in the southeast of the type section marks the base of the Bonya Schist. Amphibolites in the Mascotte Gneiss Complex are lenticular and less than 10 m thick. Intruded by the Jinka Granite with Rb-Sr age of 1750 m.y. (Black, 1980).
Distinguishing features:	The Mascotte Gneiss Complex consists of a variety of quartzofeldspathic rocks, whereas the Bonya Schist comprises mainly highly micaceous rocks.
Age:	Early or Mid-Proterozoic.
Synonymy:	Replaces lower part of Bonya Metamorphic Complex (informal name) in Stewart & others (1980), and 'Bonya sequence' (informal name) in Warren (1978).

Status: Partly defined, formal; may be possible in future to subdivide the complex.

Samarkand Pegmatite (Formalisation and revision of informal name)

Proposers: M.J. Freeman, R.D. Shaw, and R.G. Warren.

Derivation of name: After Samarkand tungsten prospect, 20 km west-southwest of Jervois mine, in JERVOIS RANGE at GR 281860.

Distribution: As numerous dykes within the Bonya Schist west of Jervois Range. Forms lenses, pods, and irregular masses, commonly 200 m by 1000 m, but rarely up to 1 km by 3 km.

Type locality: Outcrop of pegmatite adjacent to the northern end of the Jericho tungsten prospect open cut in JERVOIS RANGE at GR 313894.

Lithology: Tourmaline and muscovite-bearing medium to very coarse-grained pegmatite. The pegmatite dykes commonly display a layering which is locally folded and cross-laminated. Some pegmatites show evidence of post-intrusion recrystallisation and multiple injection of material of similar composition. Within the pegmatite at the type locality, mineral percentages vary: quartz from 20% to 30%, potassium feldspar from 5% to 45%, plagioclase from 30% to 60%. This pegmatite also contains minor to traces of tourmaline, muscovite, and apatite.

Relationships: Intrudes Bonya Schist.

Age: Rb-Sr age of 1642 $\pm$ 26 m.y. (IR of 0.757) obtained from pegmatite near the Samarkand tungsten prospect and an Rb-Sr age of 1625 $\pm$ 50 m.y. (IR of 0.714) from a pegmatite near the Jericho tungsten prospect (Black, 1980).

Synonymy: Name has been previously applied by Black (1980) to a single pegmatite dyke near the Samarkand tungsten prospect. The name is now applied to all pegmatites of similar mineralogy intruding the Bonya Schist in the Bonya Bore area. Previously included in the Arunta Complex by Smith (1963, 1964).

Status: Fully defined, formal.

Stanovos Gneiss Member of the Irindina Gneiss (New name)

Proposer:	M.J. Freeman.
Derivation of name:	After Stanovos Creek (lat. 23°15'S, long. 135°22'E), northeastern Illogwa Creek 1:250 000 Sheet area.
Distribution:	Forms a lenticular body 30 km long by 5 km wide near Mount Stanovos.
Reference area:	Taken to extend from 4 km northwest to 3.5 km north-northwest of Mount Stanovos.
Lithology:	The member consists of marble, quartzite, calc-silicate rock, compositionally layered amphibolite, quartzofeldspathic gneiss, biotite gneiss, and porphyroblastic feldspar gneiss. It is made up of three suites of rock types: rock-suite (i) being recognised in the west, rock-suite (ii) in the central region, and rock-suite (iii) in the east. i) Quartzite, marble, calc-silicate rock, biotite gneiss, and rare quartzofeldspathic gneiss and hornblende gneiss. ii) Porphyroblastic feldspar gneiss grading into and intermixed with biotite gneiss and quartzofeldspathic gneiss; some well-layered amphibolite. iii) Marble, quartzite, calc-silicate rock, garnet-biotite gneiss, thinly layered quartzite, compositionally layered amphibolite, and quartzofeldspathic gneiss. A discontinuous prophyroblastic feldspar gneiss is locally intercalated with biotite gneiss in the far eastern part of the member.
Distinguishing features:	Unlike the bulk of the Irindina Gneiss, the member contains abundant calcareous rocks and a distinctive porphyroblastic feldspar gneiss. It also lacks garnet in its gneisses.
Thickness:	Not possible to estimate accurately because (a) fold and fault repetition is likely, and (b) a complete section is not exposed. It is likely to be in excess of 1000 m thick.

Relationships: The unit is a member of the upper part of the Irindina Gneiss, and has gradational contacts with the undivided portions of the Irindina Gneiss. It has negligible quantities of garnet-biotite-quartz-plagioclase gneiss which is the dominant rock type in the Irindina Gneiss. North of Indiana homestead at GR 438198 in QUARTZ the member is overlain directly by the Brady Gneiss, whereas farther to the northeast it is overlain by undivided garnet-biotite gneiss of the Irindina Gneiss. It has been intruded by numerous basic igneous rocks (principally the unnamed unit, Pdx). It is also cut by many post-metamorphic pegmatites in the Harts Range region.

Age: Mid-Proterozoic or older.

Synonymy: Previously mapped by Joklik (1955) as part of the Irindina Gneiss. The Stanovos Gneiss Member has some similarities with the Naringa Calcareous Member of the Irindina Gneiss mapped by Joklik (1955) in the Alice Springs 1:250 000 Sheet area. It differs from the Naringa Calcareous Member in containing porphyroblastic feldspar gneiss and lacking the calc-silicate flags that typify the Naringa Calcareous Member. Joklik (1955) also excluded rocks of the unit from the Naringa Calcareous Member.

Status: Partly defined, formal.

Unca Granite (New name)

Proposer: M.J. Freeman.

Derivation of name: Unca Creek in JERVOIS RANGE (lat. 22°40.5'S, long. 136°17'E).

Distribution: Unit occupies a triangular outcrop area covering about 1.3 km^2, 5 km north of Jervois mine.

Type locality: At southern end of main outcrop in JERVOIS RANGE at GR 318989.

Lithology: Leucogranite. At the type locality the granite is composed of quartz (40%), microcline (25%), plagioclase (20%), muscovite (5%), biotite (7%), chlorite (2%), and a trace of opaque grains. The leucogranite is foliated; the foliation is considered to have formed during a later deformation event.

Relationships: Intrudes Bonya Schist. Probably unconformably overlain by Elyuah Formation (Late Proterozoic), although the contact is obscured by colluvium and scree.

Age: Unit gives an Rb-Sr age of 1459 ± 10 m.y. (Black, 1980). Because the leucogranite is foliated this date may be a minimum age.

Synonymy: Previously mapped by Smith (1963, 1964) as undivided metamorphics of the Arunta Complex.

Status: Fully defined, formal.

Xanten Granite (New name)

Proposers: M.J. Freeman and R.D. Shaw.

Derivation of name: After Xanten copper prospect, 11 km north-northeast of Bonya Bore in JERVOIS RANGE at GR 108913.

Distribution: Unit covers about 3 km^2 at the southern end of Jervois Range. It occupies three fault blocks.

Type locality: At GR 221864 (JERVOIS RANGE) in the main outcrop. Site corresponds to that of BMR sample 80091454.

Lithology: Exceptionally white granite sample (80091454) from the type locality is composed of quartz (65%), potassium feldspar (20%), plagioclase (15%), and traces of muscovite, chlorite, sphene, epidote, and opaque grains. Some of the quartz may have been introduced after intrusion of the granite. The rock has a metamorphic texture indicated by triple junctions between quartz grains, lack of zoning in plagioclase, and lack of perthite in potassium feldspar.

Relationships: The unit may intrude both the Mascotte Gneiss Complex and the Bonya Schist, but the contacts are obscured by alluvium. The unit is separated by faults from formations of the Georgina Basin sequence.

Age: Not determined. The unit is older than the basal formations of the Georgina Basin sequence (Late Proterozoic). It is lithologically correlated with the Unca Granite, which has a minimum Rb-Sr age of 1459 ± 10 m.y. (Black 1980).

Synonymy: Previously mapped by Smith (1963, 1964) as undivided metamorphics of the Arunta Complex.

Status: Fully defined, formal.

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