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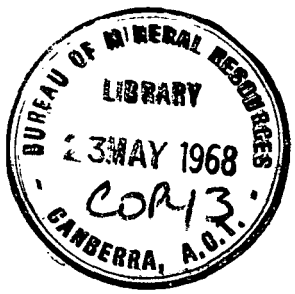

THE NOMENCLATURE OF THE IGNEOUS AND METAMORPHIC ROCKS OF CAPE YORK PENINSULA, QUEENSLAND

Part I The Southern Area

by

W.G. Whitaker* and W.F. Willmott
(*Geological Survey of Queensland)

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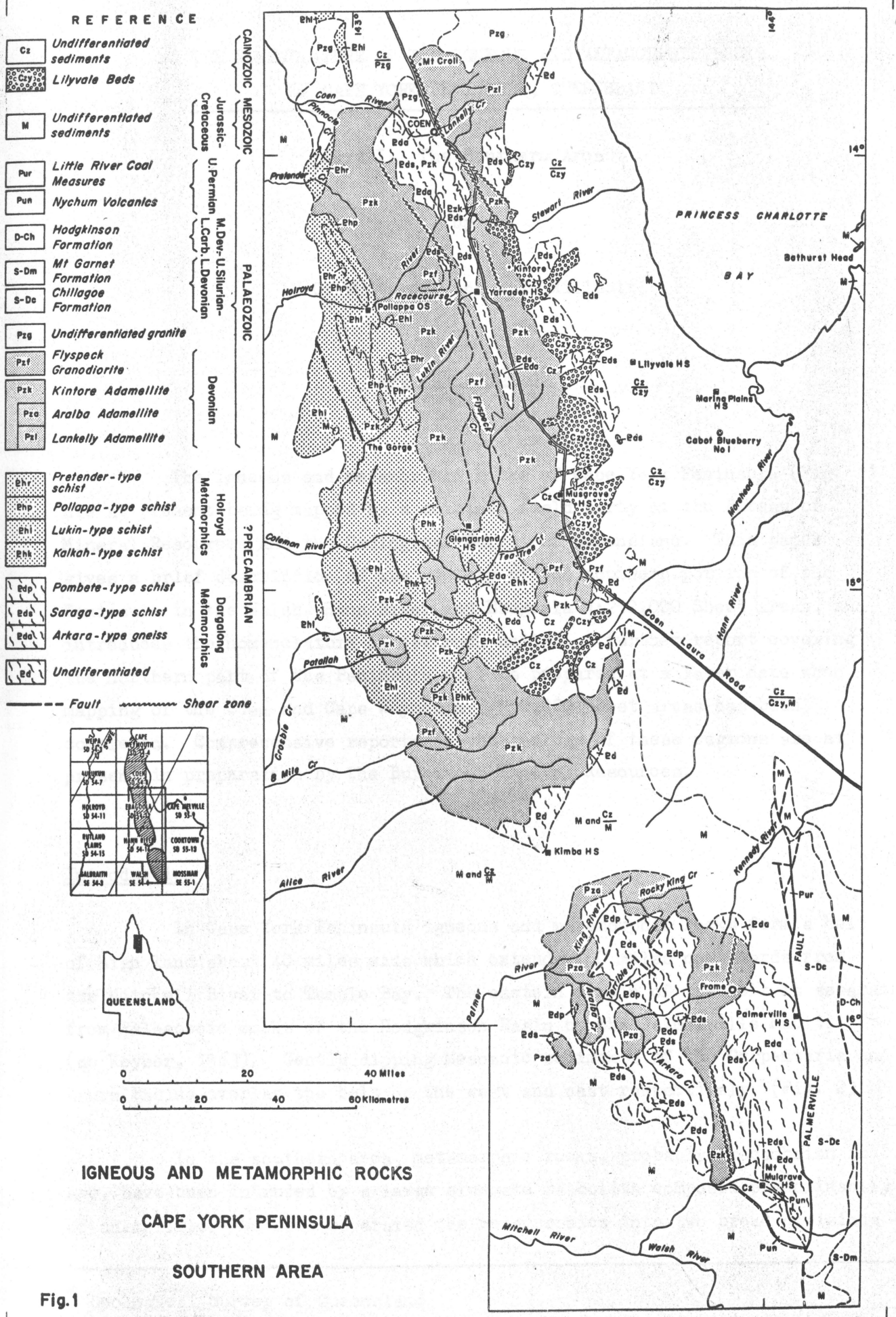

IGNEOUS AND METAMORPHIC ROCKS

CAPE YORK PENINSULA

SOUTHERN AREA

Fig.1

THE NOMENCLATURE OF THE IGNEOUS AND METAMORPHIC ROCKS OF CAPE YORK PENINSULA, QUEENSLAND

Part I The Southern Area

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W.G. Whitaker* and W.F. Willmott+

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The igneous and metamorphic rocks of Cape York Peninsula (Fig. 1) are at present being mapped by a combined field party of the Bureau of Mineral Resources and the Geological Survey of Queensland. This paper gives a brief description of the geology of the southern portion of the Peninsula in the Walsh, Hann River and Ebagoola 1:250,000 Sheet areas, and introduces the nomenclature of new rock units. A further report covering the northern part of the Peninsula will be prepared at a later date when mapping of the Coen and Cape Weymouth 1:250,000 Sheet areas has been completed. Comprehensive reports on the geology of these regions are at present in preparation by the Bureau of Mineral Resources.

Introduction

In Cape York Peninsula igneous and metamorphic rocks form a belt of high land about 40 miles wide which extends 280 miles northwards from the Mitchell River to Temple Bay. The eastern margin of the belt is separated from Palaeozoic rocks of the Hodgkinson Basin by the Palmerville Fault, (de Keyser, 1963). Gently dipping Mesozoic sediments of the Carpentaria and Laura Basins overlap the belt on the west and east respectively. (Fig. 2)

In the southern area, metamorphic rocks, probably Precambrian in age, have been intruded by a large elongate batholith composed predominantly of adamellite. We have separated the metamorphics into two broad divisions -

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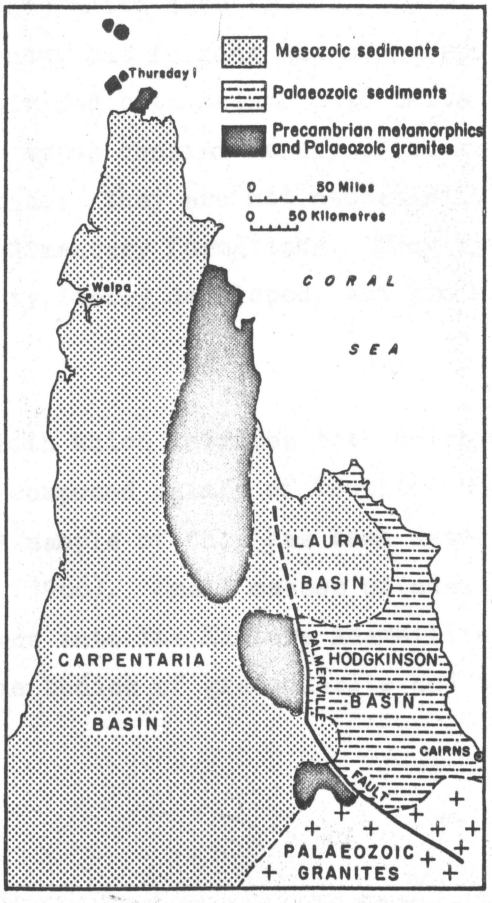

Figure 2: Generalized Regional Geology of far north Queensland.

the Dargalong Metamorphics, first described by Ball (1918), and the Holroyd Metamorphics. The Dargalong Metamorphics consist of schist and gneiss in the almandine - amphibolite facies of metamorphism; the Holroyd Metamorphics are composed of schist and phyllite in the greenschist facies, as defined by Turner & Verhoogen (1960). On their eastern margin the Holroyd Metamorphics appear to merge into the Dargalong Metamorphics with an increase in metamorphic grade. These two metamorphic units have probably been derived from one original sedimentary sequence, but folding and metamorphism were more intense to the east. We have subdivided both metamorphic units into a number of lithological types. These types consist merely of rocks of similar mineralogy, texture and metamorphic grade; they are not necessarily the metamorphosed equivalents of specific sedimentary formations. They have been named from areas where they are most typically developed, but are not defined as formal stratigraphic names.

The large batholith which intrudes both Holroyd Metamorphics and Dargalong Metamorphics is composed mainly of biotite-muscovite adamellite - the Kintore Adamellite. A sample of this has been dated isotopically as Devonian (Richards et al., 1966). Small masses of adamellite of differing compositions appear to grade into the Kintore Adamellite, and are thought to be subsidiary phases. Some bodies of granodiorite and tonalite also occur within the batholith.

METAMORPHIC ROCKS

DARGALONG METAMORPHICS

The Dargalong Metamorphics were named by Skertchly (1899) and described by Ball (1918). Their type area is at Dargalong, near Chillagoe on the Atherton 1:250,000 Sheet area. Similar metamorphics occurring 30 miles north of Chillagoe on the Mossman 1:250,000 Sheet area were included in the Dargalong Metamorphics by Amos & de Keyser (1964). The metamorphics in the Walsh, Hann River and Ebagoola sheet areas extend northwards from the Mossman sheet area and we have therefore included them in the Dargalong Metamorphics. In the Chillagoe area the Dargalong Metamorphics have been assigned to the Precambrian. De Keyser and Wolff (1964) record an isotopic age of 1044 million years for a granite intruding the metamorphics in this region.

The Dargalong Metamorphics are schists and gneisses which were produced by regional metamorphism under conditions of the almandine-amphibolite facies. They have since been subjected to retrograde metamorphism, probably at the time of the intrusion of the batholith. We have divided the Dargalong Metamorphics into three lithological types:-

biotite-quartz-feldspar gneiss, with amphibolite and quartzite (Arkara-type gneiss); muscovite-quartz schist and quartzite (Saraga-type schist); and muscovite-biotite-quartz-feldspar schist with muscovite-quartz schist (Pombete-type schist).

Arkara-type gneiss

The dominant rock type of the Arkara-type gneiss is a grey-green, medium-grained biotite-quartz-feldspar gneiss, with garnet and muscovite in places. The gneiss is commonly well foliated, with light-coloured granular bands of quartz and feldspar up to 5 mm thick alternating with thinner bands rich in biotite. Bands of amphibolite and quartzite up to 200 feet wide and half a mile long occur throughout the Arkara-type gneiss. Their strike parallels the regional foliation in the surrounding gneiss, which is usually northerly. The amphibolite is black, fine-grained, and lineated, and consists chiefly of hornblende, with feldspar, quartz, and garnet.

The Arkara-type gneiss is probably derived from a sequence of predominantly argillaceous sediments and greywackes. Bands of quartzite represent interbedded quartz sandstone, and the amphibolite most likely has been derived from basic igneous rocks or impure limestone.

The name is taken from Arkara Creek, a tributary entering the Palmer River 26 miles west of Palmerville, in the Hann River Sheet area. The gneiss is exposed over an elongate area up to 25 miles wide, extending from Mount Mulgrave Homestead on the Mitchell River to a point several miles north of Palmerville. It also forms three smaller belts, each several miles long, in the Ebagoola Sheet area. The typical area is along the Palmer River west from Palmerville Homestead (lat. 16°00'S. long. 144°04'E) in the Hann River Sheet area.

Saraga-type schist

The Saraga-type schist consists of bands of muscovite-quartz schist from ten to several hundred feet thick alternating with bands of quartzite of similar thickness. In the Walsh and Hann River Sheet areas these rocks occur as scattered bodies and broad bands up to 5000 feet across within both the Arkara-type gneiss and Pombete-type schist. However, in the northern half of the Ebagoola Sheet area, the unit is thicker and occurs over a more extensive area. In many specimens of the schist needle-shaped aggregates of sericite have replaced crystals of sillimanite. Garnet is an accessory mineral, and is most abundant in some bands of quartzite. In many exposures the schist is heavily impregnated with hematite, mostly as a result of iron enrichment at the weathered surface; however in places the hematite is abundant as very small neddles parallel to the schistosity and may be a primary constituent. Rocks containing biotite, chlorite, plagioclase, and garnet occur towards the margins of some outcrops of the unit. These rocks may represent a gradation from the muscovite-quartz schists into the surrounding garnet-biotite-quartz-feldspar rocks of the Arkara-type gneiss and Pombete-type schist. Towards the northern margin of the Ebagoola Sheet area the schist contains many bands of amphibolite and biotite-quartz-feldspar gneiss.

The Saraga-type schist was probably derived from interbedded siltstone and quartz sandstone. The presence of sillimanite and almandine(?) indicates that the rocks were regionally metamorphosed under conditions of the almandine-amphibolite facies. However, the alteration of sillimanite to sericite and garnet to chlorite suggests that they have since undergone retrograde metamorphism.

The name of the schist is taken from the Parish of Saraga between the Palmer and King Rivers in the Hann River Sheet area. The typical area is a body 8 miles across extending south from the King River (lat. 15°45'S, long. 143°43'E.) to Terrible Creek, 10 miles north of the Palmer River.

Pombete-type schist

The Pombete-type schist is composed of two main rock types - muscovite-quartz schist and muscovite-bearing biotite-feldspar-quartz schist. Rocks gradational between these two, and rare bands of quartzite, also occur. Towards its eastern margin, the biotite-rich schist is similar in composition and texture to the biotite-quartz-feldspar rocks of the Arkara-type gneiss. However, the Pombete-type schist is finer grained, more schistose and contains fewer bands of amphibolite. The Pombete-type schist probably represents metamorphosed sediments ranging from siltstone to greywacke.

The name is taken from the Parish of Pombete, which lies on the Palmer River 30 miles west of Palmerville. The schist occurs in a sub-circular area 20 miles across, around a core of Saraga-type schist, mainly on the northern side of the Palmer River. Outcrop is generally poor; good exposures occur only in some of the larger creeks. The typical area is in the Hann River Sheet area between the headwaters of the King River, and a point (lat. 15°59'S. long. 143°45'E.) on the Palmer River, 20 miles west of Palmerville.

Undifferentiated rocks of the Dargalong Metamorphics

Small outcrops of muscovite-biote-quartz-feldspar schist and gneiss occur in an area extending from Kimba Homestead northwards to the Coen-Laura road-crossing of the Morehead River. The rocks have been severely modified and partly assimilated by adamellite of the nearby batholith and cannot readily be assigned to any of the three lithological divisions of the Dargalong Metamorphics.

HOLROYD METAMORPHICS

The Holroyd Metamorphics form the western-most exposures of the igneous and metamorphic rocks of Cape York Peninsula. They crop out in a belt up to 20 miles wide stretching north-north-west from Eight Mile Creek in the central part of the Hann River Sheet area, to the Archer River in the Coen Sheet area (Fig. 1). The name is derived from the Holroyd River, which flows from east to west across the regional strike of the rocks. The Holroyd Metamorphics consist predominantly of steeply dipping mica-quartz schist and

phyllite many thousands of feet thick. Their eastern margin is intruded by adamellite of the batholith and on the west they are overlain by Mesozoic sediments. The age of the metamorphics is at least pre-Devonian, and probably Precambrian. The Holroyd Metamorphics belong to the greenschist faceis of regional metamorphism. On their eastern margin the Holroyd Metamorphics appear to merge into the Dargalong Metamorphics with an increase in metamorphic grade. Both metamorphic units may have been derived from one original sedimentary sequence.

The Holroyd Metamorphics have been subdivided into four lithological types. Again, these types do not necessarily represent metamorphosed equivalents of original sedimentary formations and are not formal stratigraphic units. The subdivisions are: the Lukin-type schist, the Pollappa-type schist, the Pretender-type schist, and the Kalkah-type schist. Their distribution is shown in Fig. 1.

Lukin-type schist

The Lukin-type schist is a fine-grained to medium-grained muscovite-quartz schist which grades imperceptibly into phyllite of similar composition. Graphite is abundant in places. The Lukin-type schist shows irregular regional variations, which include rocks of slightly higher metamorphic grade; rocks of lower metamorphic grade (indurated mudstone and siltstone); spotted and knotted schist; and bands of andalusite-bearing schist. None of these variations have been separated in mapping at 1:250,000 scale. However around Potallah Creek, wide extensive bands of quartzite and chlorite-actinolite greenschist have been delineated as marker bands which outline large isoclinal fold structures.

The name is taken from the Lukin River, a major tributary of the Coleman River in the central southern part of the Ebagoola Sheet area. The rock type occupies the largest area within the Holroyd Metamorphics, and crops out as a belt over 100 miles long and up to 20 miles wide, which extends north-north-west from Eight Mile Creek in the Hann River Sheet area to the Archer River in the central part of the Coen Sheet area. The typical area is between the Lukin River at The Gorge (lat. 14°39'S. long. 143°02'E.) and the confluence of the Coleman and King Rivers, in the Ebagoola Sheet area. The Lukin-type schist is probably several thousand feet thick. Towards its margins it grades

into the other lithological types of the Holroyd Metamorphics.

Pollappa-type schist

The Pollappa-type schist is a medium-grained muscovite-quartz schist with interbedded quartzite. It forms lenses and bands up to 15 miles long and 3 miles wide within the Lukin-type schist between the Lukin River and the northern boundary of the Ebagoola Sheet area. The schist commonly contains porphyroblasts of both andalusite and sillimanite. Sillimanite is generally more widespread; andalusite is restricted to discontinuous bands up to 100 feet wide within the sillimanite-bearing schist. Both andalusite and sillimanite are pseudomorphed by sericite. The lithology and outcrop characteristics of the Pollappa-type schist are in many ways analogous to those of the Saraga-type schist of the Dargalong Metamorphics. Both were probably derived from a similar sequence of interbedded siltstone and quartz sandstone.

The name is taken from Pollappa Outstation (now abandoned) on the Holroyd River in the Ebagoola Sheet area. The typical area is a series of high ridges extending from Pollappa Outstation 20 miles southwards to Fish Creek (lat. 14°35'S. long. 143°03'E.), a tributary of the Lukin River.

Pretender-type schist

The Pretender-type schist consists essentially of medium-grained to coarse-grained biotite-muscovite-quartz schist, containing minor plagioclase in places. The rocks are rather massive and poorly schistose, and crop out as lenses and bands a few miles long within the Lukin-type schist between the Lukin River and the northern margin of the Ebagoola Sheet area. Contacts with the Lukin-type schist are indistinct and gradational. The Pretender-type schist is distinguished from rocks of similar mineralogy within the Lukin-type schist by its relatively coarse grainsize, its higher biotite content, the presence of feldspar, and the development of incipient gneissic texture. These features suggest that the Pretender-type schist belongs to a higher metamorphic grade than the Lukin-type schist.

The name is taken from Pretender Creek, a tributary of the Holroyd River in the north-western corner of the Ebagoola Sheet area. The typical area

is between Pretender Creek (lat. 14°04'S. long. 142°54'E.) in the Ebagoola Sheet area, and Pinnacle Creek (lat. 13°58'S. long. 142°55'E.) in the Coen Sheet area.

Kalkah-type schist

The Kalkah-type schist is composed of medium-grained to coarse-grained quartz-muscovite schist and muscovite-biotite-feldspar-quartz schist. It forms the eastern most outcrop of the Holroyd Metamorphics and lies between the Lukin-type schist and the main body of the adamellite batholith to the east. The boundary with the fine-grained Lukin-type schist is a transition zone up to 2 miles wide across which the grain size of the schist decreases. Some rocks of the Kalkah-type schist contain abundant graphite, and other, iron oxide minerals. Owing to the occurrence of andalusite, garnet, and staurolite in the schist, the Kalkah-type schist is placed in the lowest (staurolite-almandine) sub-facies of the almandine-amphibolite facies of regional metamorphism. Thus the metamorphic grade is higher than that of the Lukin-type schist, but lower than that of the Dargalong metamorphics. In fact, these rocks may represent a zone of transition between the Dargalong Metamorphics and Holroyd Metamorphics.

Thermal metamorphism associated with the intrusion of the adamellite batholith to the east has considerably affected the schist. In many places, large flakes of muscovite and biotite have crystallized haphazardly across the foliation of the schist. More intense metamorphism of the southern outcrop has produced a fine-grained hornfels, enriched in potash.

The name is derived from Kalkah Outstation (now Glengarland Homestead) 16 miles west-south-west of Musgrave Homestead, in the south-central part of the Ebagoola Sheet area. The main outcrop, about 10 miles across, is subcircular and lies mainly to the south-west of Glengarland Homestead. The typical area is between Glengarland Homestead (lat. 14°51'S. long. 143°16'E.) and the confluence of the Coleman River and Tea Tree Creek in the Ebagoola Sheet area.

IGNEOUS ROCKS - THE BATHOLITH

A great part of the belt of igneous and metamorphic rocks exposed in Cape York Peninsula is made up of a northerly trending granitic batholith extending for over 250 miles from the Mitchell River to Temple Bay. In the southern part of the Peninsula (Walsh, Hann River, and Ebagoola Sheet areas) the outcrop of the batholith is up to 20 miles across, and covers more than 1000 square miles. It is composed mainly of adamellite with some granodiorite and tonalite, and intrudes rocks of the Dargalong and Holroyd Metamorphics.

Its effects on the country rocks range from slight recrystallization and minor metasomatism through hornfelsing to mobilization and the formation of migmatites. The overall trend of the batholith is concordant with the regional trend of the metamorphic rocks, but where there are local discordances contact metamorphism is most severe. Shear zones up to several miles long are well developed in the northern part of the Ebagoola Sheet area, and between the Kennedy and Mitchell Rivers in the south. They are parallel to the regional north to north-west trend.

The bulk of the batholith is composed of an even-grained biotite-muscovite adamellite, the Kintore Adamellite. Three other rock types defined within the batholith are the Aralba Adamellite, the Lankelly Adamellite, and the Flyspeck Granodiorite.

Kintore Adamellite

The Kintore Adamellite forms about 70% of the exposed surface of the batholith. It is typically an even-grained, light grey, fine-grained to medium-grained biotite-muscovite adamellite. The composition of some typical specimens averages 35% quartz, 28% microcline, 24% calcic oligoclase, 8% muscovite, and 6% biotite. Accessory minerals are garnet, zircon, apatite, sphene, and tourmaline; the latter two are rare.

Variations of the typical adamellite include a fine-grained type, a leucocratic type with less than 5% mica, and a porphyritic type with feldspar phenocrysts 10 to 50 mm across. Muscovite-bearing aplite, granite, and pegmatite form small bodies and dykes within the Kintore Adamellite and adjacent metamorphic rocks; garnet is a common accessory in these rocks, and

many exposures contain abundant coarse phenocrysts of microcline. The variations are ill-defined and cannot be differentiated at 1:250,000 scale.

The name is taken from Kintore, a prominent hill 10 miles north-east of Yarraden Homestead, in the Ebagcola Sheet area. Jensen (1940) referred informally to a belt of this adamellite exposed in the Palmer River at Frome, 12 miles west of Palmerville, as "the Frome granite". The name Kintore Adamellite is preferred because of its composition (after Joplin 1964) and because the adamellite forms only a small body in the vicinity of Frome.

The type area is the escarpment extending for 38 miles from Musgrave Homestead to Kintore (lat. 14°15'S. long. 143°23'E.) in the Ebagoola Sheet area. A smaple of the adamellite from the escarpment has been dated isotopically by Richard et al. (1966) as 360 million years, a Devonian age. The batholith is being sampled for additional age determinations.

Aralba Adamellite

The Aralba Adamellite crops out as an irregularly shaped body covering abour 150 square miles in the southern part of the Hann River Sheet area. It is a grey, medium to coarse-grained, porphyritic biotite-muscovite adamellite, distinguished from the Kintore Adamellite by a greater proportion of muscovite, which forms characteristic large flakes, and by abundant microcline phenocrysts. The muscovite flakes include small grains of biotite and generally impart a foliation to the rock. Accessory minerals are zircon, apatite, and garnet.

The contact of the Aralba Adamellite and the Kintore Adamellite is indistinct; muscovite granite-pegmatite is abundant near the contact. Patches of Kintore Adamellite occur within the Aralba Adamellite and the contact between the two is generally gradational.

The name is taken from Aralba Creek, a tributary of the Palmer River, on the south side of the river, 32 miles west of Palmerville. The type area is situated within a radius of 4 milles of the junction of the King River and Rocky King Creek (lat. 15°42'S. long. 143°42'E.) in the Hann River Sheet area. The age of the adamellite is probably Devonian, as it is thought to be related to the Kintore Adamellite.

Lankelly Adamellite

The Lankelly Adamellite is a grey porphyritic, biotite adamellite which crops out within a zone at least 25 miles long and up to 20 miles wide extending from the Stewart River, in the north-east corner of the Ebagoola Sheet area, north-westwards to Mount Croll, in the Coen Sheet area. The average composition of the adamellite is 30% quartz, 30% andesine, 25% microcline, and 15% biotite, with some small amounts of muscovite. Elongate euhedral phenocrysts of microcline and microcline-pethite, generally about 40 mm long are evenly distributed and commonly have a preferred orientation. Apatite is accessory.

Veins and dykes of muscovite granite-pegmatite are far less common than in the Kintore and Aralba Adamellites. Towards its south-western margin the adamellite is extensively sheared along directions between 150° and 170°. One such zone extends for several miles. To the south the Lankelly Adamellite merges gradually into the Kintore Adamellite, of which it is probably a phase.

The name is derived from Lankelly Creek, a tributary of the Coen River, extending about 8 miles north-east from Coen township, in the Coen Sheet area. The type area extends for 5 miles east of the Coen-Weipa road-crossing of Lankelly Creek (lat. 13°57'S. long. 143°12'E.). If it is a phase of the Kintore Adamellite, it is presumably Devonian in age.

Flyspeck Granodiorite

The Flyspeck Granodiorite crops out as three main bodies in the central and north-eastern parts of the Hann River Sheet area and in the central part of the Ebagoola Sheet area. It is generally better exposed than the Kintore Adamellite. The Flyspeck Granodiorite is a mid-grey, medium-grained rock which ranges in composition from a biotite granodiorite to a hornblende-biotite tonalite. The granodiorite has an average composition of 35% quartz, 35% andesine, 15% microcline, and 15% biotite; the tonalite is composed of 45% andesine, 25% quartz, 15% biotite, 10% hornblende, and 5% microcline. Zircon, apatite, sphene, and allanite are accessory minerals. The granodiorite predominates over the tonalite except in the southernmost body.

The tonalite body north-west of the Alice River in the Hann River Sheet area has a pronounced foliation parallel to that in the adjacent metamorphic rocks and may have been sheared on intrusion. The contact between the Kintore Adamellite and the Flyspeck Granodiorite is sharp. Dykes and veins of muscovite granite-pegmatite and granite-aplite, common in the Kintore Adamellite, cut both the Flyspeck Granodiorite and the Kintore Adamellite near the contact. The tonalite body north-west of the Alice River intrudes Lukin-type schists metamorphosed by the intrusion of the Kintore Adamellite: but the two intrusives are not likely to be of widely different ages.

The name is derived from Flyspeck Creek in the headwaters of the Coleman River, 16 miles north-west of Musgrave Homestead in the Ebagoola Sheet area. The type area is a belt 35 miles long and up to 6 miles wide extending from Racecourse Creek (lat. 14°20'S. long. 143°16'E.) to Glengarland Homestead (lat. 14°15'S. long. 143°16'E.)

POST-DEVONIAN GEOLOGY

After the intrusion of the adamellites of the batholith in the Devonian, the southern part of the belt of igneous and metamorphic rocks of Cape York Peninsula remained relatively stable. Minor volcanic activity occurred in the south near the Mitchell River during the Permian; and during the Mesozoic, sediments were deposited over much of the present outcrop of the belt. Cainozoic deposits are widespread.

PERMIAN VOLCANICS

Acid volcanic rocks of the Permian Nychum Volcanics both overlie and invade the Dargalong Metamorphics and the Kintore Adamellite near the Mitchell River, at the southern margin of the igneous and metamorphic belt. The Nychum Volcanics crop out over a considerable area to the east in the Mossman Sheet area (de Keyser, & Wolff, 1964).

MESOZOIC SEDIMENTS

Mesozoic sediments overlap the belt on the west, south, and east. They have not been differentiated into formations in the current mapping programme except in the south, where they have been mapped by Woods (1961) and Lucas & de Keyser (1965a).

CAINOZOIC SEDIMENTS

The superficial Cainozoic deposits include minor deposits of river alluvium, marine sediments on the coast of Princess Charlotte Bay, and residual sand, which covers much of the area of the batholith and Mesozoic sediments. As well as these deposits a distinctive unit of poorly consolidated sandstone, the Lilyvale Beds, has been delineated.

Lilyvale Beds

The Lilyvale Beds are made up of poorly consolidated and poorly sorted feldspathic sandstone and conglomerate. They form a blanket deposit on the low country east of the granitic escarpment extending from the Stewart River to Musgrave Homestead in the Ebagoola Sheet area. Small outcrops are scattered over granitic and metamorphic rocks west of the escarpment.

The sandstone is a medium to coarse-grained rock composed of subangular fragments of quartz and weathered feldspar, and flakes of muscovite, set in a silty kaolinitic matrix. It grades into poorly defined bands of conglomerate containing pebbles of quartz and quartzite in a sandstone matrix. The sandstone is soft, friable, and massive. It ranges up to 20 feet in exposed thickness and is undoubtedly much thicker in the coastal plain west of Princess Charlotte Bay; 140 feet of clayey sand and grit recorded in the Cabot-Blueberry No. 1 well near Marina Plains Homestead (Lucas and de Keyser 1965b) appear to be Lilyvale Beds. Thin outcrops of the beds occur on the Holroyd Metamorphics to the west and are commonly ferruginised on their exposed surface, though lateritic profiles are rarely found.

The name is taken from Lilyvale Homestead, 14 miles north-east of Musgrave Homestead, in the Ebagoola Sheet area. The type area is within a radius of 2 miles of Lilyvale Homestead (lat. 14°30'S. long. 143°10'E.). The Lilyvale Beds are uncoformable on Lower Cretaceous sediments and are overlain by unconsolidated alluvium. The beds are probably at least partly equivalent to sediments mapped in the Cooktown and Cape Melville Sheet areas (Lucas & de Keyser 1965a, 1965b) but not formally named.

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IGNEOUS AND METAMORPHIC ROCKS, SOUTHERN PART CAPE YORK PENINSULA

Age	Name	Subdivision	Composition	Grain Size and Texture	Metamorphic Facies	Relationships
DEVONIAN?	FLYSPECK GRANODIORITE		Biotite granodiorite, hornblende-biotite tonalite.	Medium, even-grained		Intrudes rocks metamorphosed by Kintore adamellite.
	KINTORE ADAMELLITE		Biotie-muscovite adamellite, garnet-muscovite granite-aplite and granite pegmatite.	Medium, even-grained, porphyritic in places. Massive to banded.		Intrudes Dargalong and Holroyd Metamorphics
	ARALBA ADAMELLITE		Biotie-muscovite adamellite	Medium to coarse. Porphyritic with feldspar and muscovite phenocrysts.		Intrudes Pombete-type schist. Possibly grades into Kintore Adamellite.
	LANKELLY ADAMELLITE		Biotite adamellite	Coarse, porphyritic		Intrudes Saraga-type schist, grades into Kintore Adamellite.

Igneous and metamorphic rocks, southern part Cape York Peninsula

Age	Name	Subdivision	Compsition	Grain Size and Texture	Metamorphic Facies	Relationships
PRECAMBRIAN?	HOLROYD METAMORPHICS	Kalkah-type schist	Muscovite-quartz schist, muscovite-biotite-plagioclase-quartz schist.	Coarse to fine, Good schistosity	Low almandine-amphibolite	Kalkah-type schist, Pretender-type schist and Pollappa-type schist grade into Lukin-type schist. Holroyd Metamorphics grade into Dargalong Metamorphics with and increase of metamorphic grade.
		Pretender-type schist	Feldspar-biotite-muscovite-quartz schist	Medium to coarse, massive to gneissic	Greenschist to almandine amphibolite	
		Pollappa-type schist	Muscovite-quartz schist and quartzite	Medium to coarse, schistose to massive	Greenschist to almandine-amphibolite	
		Lukin-type schist	Muscovite-quartz schist, phyllite, siltstone, mudstone. Bands of quartzite and greenschist.	Fine to very fine, schistose to massive.	Greenschist	
	DARGALONG METAMORPHICS	Pombete-type schist	Muscovite-biotite-quartz-feldspar schist and muscovite-quartz schist.	Medium and fine, good schistosity	Almandine-amphibolite	Pombete-type schist, Saraga-type schist and Arkara-type gneiss grade into one another
		Saraga-type schist	Muscovite-quartz schist and quartzite. Sillimanite in places.	Medium and fine, schistose	Almandine-amphibolite	
		Arkara-type gneiss	Biotite-quartz-feldspar gneiss with amphibolite and quartzite bands.	Coarse and medium, good foliation, gneissic	Almandine-amphibolite	