

	FORMATION	TONE	TOPOGRAPHY	EROSION	DRAINAGE PATTERN	VEGETATION	BEDDING OR RELICT BEDDING LINEAMENTS	CLEAVAGE OR SCHISTOSITY	JOINTS	FAULTS	GENERAL REMARKS
QUATERNARY	Qa	Alluvium, swamps etc.	Light to dark	Flat	Deeply incised gutters and creeks.	Meandering deeply incised creeks.	-	-	-	-	-
	Qs	Sandplain	Light to medium	Flat to gently undulating.	Occasional aeolian exposure of claypans.	Deeply incised creeks rapidly "flood-out".	-	-	-	-	Irregular burn marks in spinifex from old bush-fires.
	Qrd	Sand-dunes	Light to medium	Very subdued dunes of short length.	Loose sandy crests.	Minor creeks "flood-out" rapidly.	-	-	-	-	Regular N-NW trend of dunes. Subdued dunes do not affect drainage trends.
	Qrt	Scree, gibbers, talus etc.	Light	Gently undulating to flat.	Fair soil cover around margins of mesas. Wavy concentric gibber patterns.	Drainage pattern radial around mesas. Sometimes dendritic.	-	-	-	-	-
TERTIARY	Tc	Chalcedony cappings.	Light to medium.	Flat, mesa-capping.	Thin soil cover, sometimes thicker black soil plains with crab-holes, swamps, steeply incised escarpments.	Dendritic and sometimes radial drainage pattern from mesas.	-	-	-	-	Structureless mantle-rock.
	Ta	<u>Austral Downs Limestone.</u>	Light	Medium-gentle lower slopes of mesas.	Fair soil and travertine development. Gentle gullies.	Dendritic drainage pattern from mesas.	-	-	-	-	Structureless mantle-rock.
	Tsi	Duricrust.	Light	Flat, mesa-capping.	Steeply incised escarpments. Little soil development.	Dendritic pattern from mesas.	-	-	-	-	Structureless mantle-rock.
	Tse	Laterite.	Dark	Flat, mesa-capping.	Steeply incised escarpments. Little soil development.	Dendritic pattern from mesas.	-	-	-	-	Structureless mantle-rock.
CRETACEOUS	K	Highly lateritised sandstone, siltstone, conglomerate.	Dark	Flat mesa-type. In Bathurst area sometimes along creek valleys.	Steeply incised escarpments. Fair soil developments along creek valleys.	Dendritic pattern from mesas.	-	-	-	-	Structureless mantle-rock.
	Rt	<u>Tarlton Formation</u> - Boulder beds, sandstone, siltstone.	Mainly dark. Lower beds light.	Flat-mesa type.	Little soil development. Steeply incised escarpments.	Dendritic pattern from mesas.	-	-	-	-	Structureless mantle-rock.
DEVONIAN	D	Current-bedded red to white sandstone with conglomerate.	Medium	Mesa and cuesta-type.	Light sandy soil development.	Deeply incised gullies. Dendritic pattern from mesas.	-	-	-	-	Sandstone-type lithology.
	Omm	<u>Mithaka Formation</u> - Sandstone, siltstone.	Medium to dark.	Some cuesta-type near Gaphole Creek. Mainly gently undulating.	Some thin sandy soil development.	Deeply incised gullies in broad alluvial flats. Dendritic in mesas and cuestas.	-	-	-	-	Sandstone and shale-type lithologies.
MIDDLE ORDOVICIAN	Omc	<u>Carlo Sandstone</u> - Current-bedded red sandstone.	Medium to dark.	Mesa, cuesta and elevated plateaux of Toko and Tarlton Ranges. Rugged strike ridges of Gaphole Creek area.	Thin sandy soil development.	Deeply incised creeks with steep canyons.	-	-	-	-	Prominent joints near faults. Displacement of bedding traces and development of fault-scarps.
	Omn	<u>Nora Formation</u> - Siltstone, sandstone, thin limestones.	Dark	Steep scree slopes below Carlo Sandstone plateaux, mesas, cuestas. Some isolated mesas.	Thin soil development. Mainly covered by scree of Carlo Sandstone.	Deeply incised gullies around escarpments of Toko and Tarlton Ranges.	-	-	-	-	Shale-type lithology - poor subdued outcrop.
	Olc	<u>Coolibah Formation</u> - Calcilitite, marly limestone, chert.	Light	Gently rolling subdued hills, mesas. Usually poor outcrop.	Thicker travertine and soil development. Typical wavy concentric gibber pattern where partly covered with scree.	Broader erosion in gullies. Radial, dendritic pattern around mesas.	-	-	-	-	Some jointing.
LOWER ORDOVICIAN	Olk	<u>Kelly Creek Formation</u> - Sandstone, siltstone, dolarenite, calcarenite, chert.	Light to medium.	Cuesta and mesa-type topography.	Medium soil developments particularly on carbonate members.	Deeply incised radial to dendritic pattern. Creeks have smoother profiles down dip-slopes	-	-	-	-	Well-defined NE and NW jointing accentuated by creeks.
	C-On	<u>Ninmaroo Formation</u> - Calcarenite, dolarenite, sandstone, algal limestone.	Light to medium.	Mainly subdued rounded rolling hills. Some cuestas and mesas.	Fair soil developments. Deeply incised creeks.	Radial around mesas and cuestas. Deeply incised creeks. Often sub-parallel where strongly jointed.	-	-	-	-	Well-defined NE and NW joints control drainage.
UPPER CAMBRIAN TO LOWER ORDOVICIAN	C-Ot	<u>Tomahawk Beds</u> - Sandstone, siltstone, dolomite, dolarenite. Highly lateritised in northern areas.	Light-medium-dark.	Slightly more rugged mesas and cuestas due to increase in sandstone lithology.	Fair soil development. Deeply incised creeks.	Radial around mesas, to dendritic and deeply incised creeks in lateritised sandstone. Many 'ghost' drainages often sub-parallel where strongly jointed.	-	-	-	-	Well-defined NE and NW joints control drainage.
	Cua	<u>Arrinthunga Formation</u> - Dolomite, dolarenite, calcarenite, limestone, chert.	Light to medium.	Rounded rolling hills. More rugged strike ridges along faults and monoclines where beds steeply inclined.	Fair calc-soil developments. Deeply incised gutters.	Fairly steeply incised gullies and creeks. Major creeks normal to bedding. Minor gullies parallel to bedding.	-	-	-	-	Some NW jointing parallel to faults and monoclines.
MIDDLE CAMBRIAN	Cmm	<u>Marqua Beds</u> - Chert, shale, platy limestone, sandstone.	Light to medium.	Rounded rolling hills. Some subdued strike ridges.	Fair calc-soil and travertine. Deeply incised gutters.	Fairly steeply incised gullies. Many 'ghost' drainage patterns. Creeks more rounded profile.	-	-	-	-	Minor faults displace and drag bedding trends.
	Fug	<u>Grant Bluff Formation</u> - Sandstone, siltstone, greywacke.	Light to medium.	Prominent strike ridges in Keepers Ridges.	Poor soil development. Fair soils along softer horizons.	Fairly deeply incised gullies mainly normal to strike ridges.	-	-	-	-	Sandstone-type lithology.
UPPER PROTEROZOIC	Puf	<u>Field River Beds</u> - Arkose, sandstone, minor boulder beds, dolomite.	Medium to dark.	Prominent strike ridges north of Craigie Dam. Subdued slopes beneath Tarlton mesas south of Craigie Dam.	Poor soil developments	Fairly deeply incised gullies normal to strike ridges. Radial pattern around mesas.	-	-	-	-	Minor faults displace bedding trends.
	Pgr	Granite, pegmatite etc.	Some light-toned linear pegmatite rises 8 miles NW. of Craigie Dam.	Subdued rises parallel to strike of pegmatite veins.	Poor soil development.	'Ghost' drainage pattern.	-	-	-	-	-
ARCHAEOAN	Aa	<u>Aranta Complex</u> - Meta-sediments, granite-gneiss etc.	Light	Subdued rises west of Tarlton Fault.	Thin soil developments. Poor outcrop.	Dendritic type pattern.	-	-	-	-	-