AMIRA P552 PROJECT

NB/00/01

Scale: 1:1000

EASTING: 345449

NORTHING: 7888342

DATA TYPE: Measured Section

MAP SHEET: Myally

LOCATION: North Boomerang Anticline area

GEOLOGY: P Blake and J Domagala

GEOLOG COMPILATION: KW Barnett

Thickness on 1:1000 scale

Formation on 1:1000 map

Member on 1:100K map published

Total Gamma

Lithology and Grainsize

Structures/ Bedding

PC direction

Outcrop description and other notes

Thickness metres

Torpedo Creek Quartzite

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Surprise Creek Formation

F.C.V.

From 1115.6 to 1244.25m the succession is dominated by very clean sandstone. At the base the sandstones start as fine to medium grained and thick to very thick bedded. Up to 1150m the sandstones are mostly medium grained. From 1150m the sandstones start to coarsen upwards and become medium grained for most of the section. From 1200m the sandstones become very thick bedded and coarse to medium bedded, and the bedding becomes medium to thick. Trough crossbedding is common throughout, planar crossbedding is rare. Occasional ripple marks, and heavy mineral bands are rare.

From 883.5 to 1115.6m no outcrop

From 810 to 883.5m the succession is dominated by laminated to very thin-bedded siltstone which grades upward (starting at 847.5m) into laminated to medium bedded sandstone with siltstone partings. The lowest sandstone beds are thin bedded, but towards the top the sandstones are thick bedded. The sandstones are very clean, contain trough crossbedding and crop out much better than the surrounding very-fine sandstone and siltstone.

From 702 to 810m no outcrop

From 555.75 to 702m is also dominated by sandstone but is more variable in character than in 459.75 to 555.75m. The bedding usually ranges from laminated to thin-bedded siltstone to very thick bedded sandstone. Siltstones do occur in the sequence but these are volumetrically rare. The sandstone usually range from very fine to fine grained and are very clean. The sandstones are bedded sandstones ranging fine to medium grained. Within this sequence generally, the thick to very thick bedded sandstones are very clean, the thin bedded sandstones have trough cross bedding and give low reading on the gamma log. The rest of the sandstones are usually laminated to thin bedded, have a high gamma reading, have a common log, and possess unclear bedding, soft sediment deformation and loading, and rare symmetrical ripples and synaeresis mudcracks.

From 459.75 to 555.75m the succession is dominated by medium to very thick bedded sandstone. The base of this interval is marked by a thin siltstone bed and the top by a sandstone with the sequence are clean. Trough crossbedding and symmetrical ripples are common, soft sediment deformation and loading occurs in the dirty sandstones and planar crossbedding is rare. Generally, the soft sediment deformation and loading occurs in the dirty sandstones which are bedded sandstones with high gamma and sandstones with low gamma are the ones that have abundant crossbedding and ripples. There are some siltstones in the sequence but these are relatively rare and crop out poorly.

From 285 to 459.75m the succession is heterogeneous. It consists of fairly thick intervals of sandstone, siltstone, and areas of no outcrop. Many of the prep of no outcrop are dominated by siltstone and very fine sandstone. The sandstones are mostly very fine to fine-grained, only rarely becoming fine to medium grained. They are also very clean, have trough crossbedding and are usually very thick bedded. The sandstones are usually dark purple or brown in colour, and dirty with mica as a common constituent. Soft sediment deformation, loading, deformation are common, trough crossbedding is rare. The siltstone intervals are laminated to thin bedded and have a high gamma reading. The siltstone intervals are commonly graded. The sandstone beds in the siltstone sequence also display loading and soft sediment deformation. Very large (metres across) loads on the bases of some beds.

Tule casts on the bases of 'massive' fine sandstone beds. (go to 16)

From 17.7 to 285m the succession is dominated by sandstone. It is mostly medium to coarse grained and thick to very thick bedded. Siltstone and mudstone occurring locally. Most of the sandstones are clean (usually greater than 85% quartz). However, towards the top of the section (from 200m to 285m) the sandstones start to fine and become very fine to fine grained. From 285m the sandstones start to become dirtier. One other exception to the rule is the sandstones are very coarse and dirty. Other than these two exceptions the interval from 17.7 to 293.25m is clean. The sandstones are predominantly trough crossbedded. Soft sediment loads occur near the bottom of this interval. Symmetrical ripple marks, interference ripples, and rip-up clasts are also seen only very rarely in this interval.

From 12 to 17.7m: no outcrop

From 0 to 12m: amygdaloidal basalts of the Fiery Creek volcanics. The basalt is aphyric and the amygdales are made of quartz, chalcedony and agate.

Sedimentary Structures and Bedding

BEDDING

Laminated (<1cm) | Thin bedded (1-10cm) | Medium bedded (10-30cm) | Thick bedded (>30cm)

SEDIMENTARY STRUCTURES

Planar X-stratification
Large scale trough X-stratification
Small scale trough X-stratification
Hummocky cross-stratification
Wave & ripple cross-lamination
Flaser/lenticular bedding
Wispy lamination
Large asymmetrical ripple
Small asymmetrical ripple
Symmetrical ripple
Normally graded bed
Inversely graded bed
Fining-upward trend
Coarsening-upward trend
Scour and fill
Soft cracking
Slumping
Contorted bedding
Flute cast
Groove cast/mechanical
Load cast
Synaeresis crack
Developing structure
Tepees
Desiccation crack
Sedimentary breccia
Stromatolite-conophyton
Palaeocurrent (south-south)
Palaeocurrent (east-west)
Halite pseudomorph
Crystal pseudomorph
Cauliflower chert
Intraclast
Pebbles
Intraclast clasts
Rosettes
Oolitic/pisolitic
Pisolite/oolite
Small scale stromatolite
Large domal stromatolite
Organic upper stromatolite
Small columnar stromatolite
Large columnar stromatolite
Conical stromatolite
Stratiform stromatolite
Pyrite/iron
Chalcopyrite
Galena
Phosphate
Pyrite
Sphalerite
Galena

Lithology Legend

SILICICLASTICS QUARTZ>75%(FEAPAR)
SILICICLASTICS LITHIC
SILICICLASTICS FELDSPATHIC
SILICICLASTICS CARBONACEOUS (VARIABLE VOLATILES)
SILICICLASTICS CARBONACEOUS (HIGHER VOLATILES)
DOLOMITIC SILICICLASTICS
CARBONATES

Conglomerate with sandy matrix
Sandstone with mud clasts
Sandstone with mud
Sandstone
Sandy siltstone
Siltstone
Siltstone with carbonaceous material
Shale
Shale (palaeontology undifferentiated)
Dolomitic sandstone
Dolomite with sand
Dolomite with mud
Dolomite
Dolomite with sand
Dolomite with mud
Dolomite
Dolomite with sand
Dolomite with mud
Dolomite