

## Distance in km from the Trailhead

**0.0** **Welcome Mine Trailhead**—car park (map ref. 446 454)

Welcome Mine consisted of a patchy high grade copper deposit which was worked in the 1860s. In 1862 the mine owner H. C. Gleeson employed three miners who raised 23 tons of ore and bagged and dressed it. The ore contained over 40% of copper and was valued at £35 per ton; it was carted to Port Augusta and then shipped to smelters in Wales. Drought in 1864 meant that draught animals could not work and 19 tons of ore waited at the mine until the drought ended in 1867.

Beach Petroleum Ltd drilled extensively in 1970 but copper grades diminished with increasing depth.

**0.4** A good view into Welcome Pound; on the other side of it the dark mass of Barranna Hill is almost due north; the range of glacial tillite and other sediments in which Mt Jacob and Tillite Gorge are located is to the east.

**0.8** The shaly slopes are clad with mulga, dead finish and rock fuchsia-bush.

**0.9** **Checkpoint 1**—turn off to Mt Jacob (map ref. 454 456)

**1.1** **Checkpoint 2**—leave the Mt Jacob track (map ref. 456 456)

**1.2** Close by, the native pear winds its way through the branches of wattles. The spoil heaps of the Great Boulder Mine (copper) lie on the hills to the south.

**1.4** The first of a series of small easily negotiated waterfalls in glacial tillite (rock containing pebbles picked up by ice and then dropped); corkbarks, bullock bush and dead finish line this small creek, which is a tributary of Arkaroola Creek.

**1.9** **Checkpoint 3**—the Arkaroola Creek junction (map ref. 461 458)

## Distance from Trailhead in km

*Walk north up Arkaroola Creek.*

**2.2** The walls of the creek are all tillite and you cross sills of the rock, where water may be held in potholes.

**2.4** Stubbs Waterhole; large water-rounded pebbles can be seen in the rock walls, along with more angular ones plucked out by the ice from their parent rock. Enormous boulders dropped into sea-floor muds from melting icebergs are easily recognised.

**2.5** **Checkpoint 4**—Stubbs Waterhole; track junction (Claude Pass) (map ref. 461 463)

*From here you can continue walking west up Arkaroola Creek, but it is easier along the road (don't walk north-east in the direction of Claude Pass).*

**2.9** **Checkpoint 5**—Barranna car park; track junction (map ref. 458 465)

**3.2 to 3.8** There is no tillite now - the creek runs through Humanity Seat Formation (quartzite and shales) at the foot of Barranna Hill; the shallow marine origins of the massive rock outcrops in the creek are evident with magnificent ripple marks and bedding layers.

White patches of bird droppings on the gorge wall indicate that cliffs like this provide nesting sites for some birds of prey such as the nankeen kestrel and peregrine falcon.

**4.0** **Checkpoint 6**—creek junction (map ref. 449 471)

*After rain Barranna Waterhole extends downstream as far as Checkpoint 6.*

At Checkpoint 6 there is a large 'log-jam'; on the outside bend of the gorge where it changes direction; the log-jam probably results from eddying as the creek swept down during a high flood.

During dry periods Barranna Waterhole shrinks to a deep waterhole 0.5 to 1 km further up the creek which you can continue round the bend to see; along the way weathering of the rock in the creek bottom has produced smooth surfaces and gnamma (or pot) holes—where pebbles and water swirl around to produce cup-like depressions in the rock

Joints in the rock may be occupied by the rock isotome with bright green leaves and white or pale blue star-shaped flowers.

Yellow-footed Rock-wallabies may be seen high up on the cliffs

**Return to Checkpoint 6.**

*Walk over the log-jam and continue up a little gully to the west.*

**4.2 to 4.4** This little gorge cuts through Humanity Seat Formation and Blue Mine Conglomerate and like most creeks displays interesting pebbles. Grey rocks with whitish weathered crystalline spots of andalusite are 'spotted schist' (out of the Woodnamoka Phyllite); other grey rocks (sometimes with a sheen of mica) may contain pink blotches where the original andalusite crystals have been completely replaced by iron-rich micas. Coarse sedimentary blocks with thin layers of black minerals are Blue Mine Conglomerate. Rosy dock and white tea-tree are the main plants to see.

**4.5** **Checkpoint 7**—junction with Spotted Schist Pass track (map ref. 445 470)

*Turn left (south).*

*For part of the way, the track runs along a pebbly creek bed which follows a long faultline extending from beyond Humanity Seat, past Wooltana Cave and almost as far as Italowie Creek.*

The long fault is the Paralana Fault which caused major earth movement vertically and parallel to its north-east/south west axis as the Adelaide Geosyncline was forming; to the west is the Woodnamoka Phyllite which contains the spotted schist; to the east is Blue Mine Conglomerate

**4.6 to 4.8** Cliffs to the east are again the haunt of the Yellow-footed Rock-wallaby.

**5.0 to 6.0** Familiar vegetation includes  
native orange  
dead finish  
mulga  
narrow-leaved fuchsia-bush  
rock fuchsia bush  
elegant wattle and  
corkbark.

**6.8** **Welcome Mine Trailhead**



## Bararranna

The scenery is always changing along this winding route, as it crosses shaly hills and passes between the high walls of Arkaroola Creek. There is plenty to interest geologists. There are massive Bolla Bollana Tillite deposits from the glaciation which started about 700 million years ago; there is the distinctive wedge shape of Bararranna Hill in quartzites, sandstones and siltstones of the Humanity Seat Formation, with great walls of ripple marked sandstone in the gorge.

The return track to Welcome Mine along Spotted Schist Pass follows the line of the great Paralana Fault for some of its length and to the west is the Woodnamoka Phyllite—the spotted schist after which the track is named. This grey rock contains white and red minerals derived from andalusite now degraded to reddish iron minerals and micas.

Because there are a number of waterholes in Arkaroola Creek which fill after rain, you should check access at Arkaroola Village.

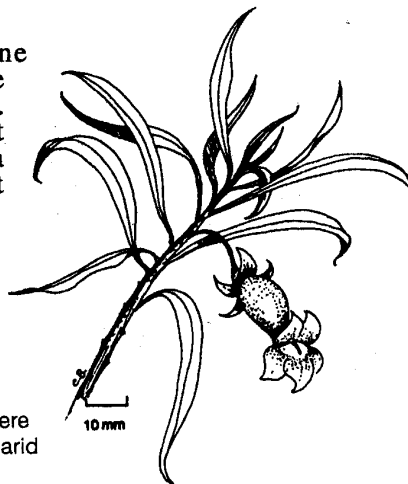
### SELF-GUIDED WALK

- 6.8 km loop walk; allow 3.5 hours

Altitude range 210 m (Stubbs Waterhole) to 280 m (saddle above Welcome Mine).

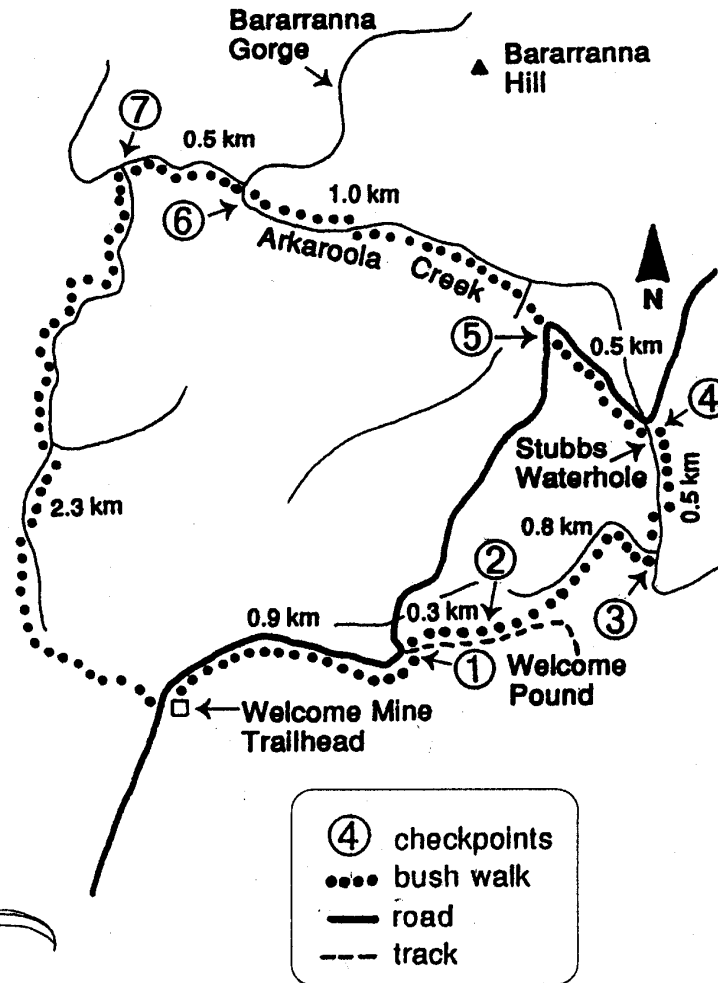
### ACCESS

The Welcome Mine Trailhead is accessible to 2-WD vehicles. Welcome Mine is about 10 km from Arkaroola along the Paralana Hot Springs road.



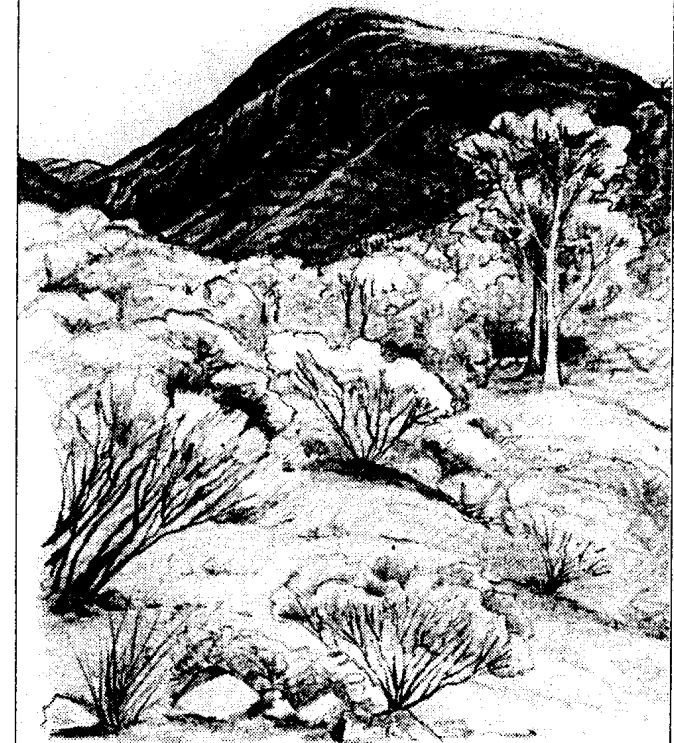
rock fuchsia-bush (*Eremophila freelingii*); there are many eremophilas in arid Australia

## Bararranna Bush Walk



For more map detail see 1:50 000 scale  
Topographic Map sheets  
Wooltana 6737 - 2

# BARARRANNA



Bararranna Hill

# FLINDERS RANGES

## BUSH WALKS

6.8km (3.5hr)