

Excursion to The Arrochar Igneous Complex

Saturday 25th July 2015

Leader Dr. Chris Burton
Report by Bob Diamond

Participants 19

On a bright day with the usual threat of rain, a group of us led by Dr. Chris Burton set out to explore the Arrochar Igneous complex above the Loch Sloy power station.



Our first stop, not far along the hydro road, was to look at the steep gorge where the river is rapidly cutting down. The question was ‘What was causing this’? The answer seems to be that the recent glacial rebound was causing this rapid uplift



Further up the road it was possible to see how the Tertiary drainage system of the Arklet flowing into the Teith had been severed by the Anglian/Devensian North-South glacial downcutting had ensured that the catchment area now flows via Loch Lomond into the Clyde.

At the small quarry (NN2973 0933) we saw an outcrop of semi pelitic and psammitic schists, indicating that we were in the 'flat belt' of the Dalradian. There was little sign of contact metamorphism, indicating we were not yet in the aureole.

Further along the road (NN29250888) the exposures became harder, close-grained and finally hornfelsed. This indicated that we were finally in the aureole. The extent of the aureole is difficult to precisely determine, as there are few outcrops, but it follows roughly to the forestry boundary and the river. Because the intruding diorite is softer and iron rich there is a marked change in the vegetation.

Continuing on up the road we came to the quarry (NN2856 0897) where the stone used in the construction of the dam had been quarried. There is a considerable amount of detail, but the main feature is the series of carbonate veins. On the eastern face of the quarry there is a brecciated zone (c50 cm wide) which may be associated with gas streaming during the emplacement of the surrounding appinite. The suite of minerals found at this locality seems to argue for an origin from a carbonate platform which was being subducted.

The final location was at a short spur from the road, down to a ford. Here within the river we discovered the chilled margin (a hard fine-grained diorite) of the intrusion.

All in all a very interesting day in amongst an unusual complex of mid-Silurian (c425Mya) age.