

## GEOLOGICAL RECORDS

---

### Recent Mineralogical visits to Lundy Island

*David Ifold*

Although relatively close to the granites of southwest England the granite of Lundy shares little more than a geographical connection and the basic minerals of feldspar, quartz and mica that make up granites. It is not surprising that Lundy granite weathers to make tor like features similar to that of southwest England.

The granite outcrops that start as Dartmoor and follow the spine of Cornwall are variously dated to 300-275 million years ago (mya) whilst Lundy granite is much more recent with dates of either 59.8 or 58.4 mya +/- 0.4mya. Lundy is the most southerly British outcrop of any igneous rock within The British Tertiary Igneous Province. Some of the Irish granites are of a similar age and their 'exotic' mineralogy can be very similar to that of Lundy.

Over the last few years, Dean Woodfin-Jones and more recently Rosie Ellis, have kindly agreed to controlled visits to study the mineralogy of the waste material below the quarries on the eastern side of the island. The Victorian quarry workers extracted stone and 'dressed' it ready for shipping off the island. Blocks of an unsuitable shape or with flaws were discarded down the slopes toward the sea. It is this material that has been studied and there is no need to touch the lichen covered natural geology of the island.

The visits have shown that what has previously recorded (McLintock & Hall 1912) from the vughs, (small cavities within the granite), is largely correct. The minerals **Feldspar**, **Quartz** (Clear, Smokey and Cairngorm), **Beryl**, **Topaz**, **Fluorspar**, **Mica** and **Garnet** can all be collected as crystallized examples although unless very small they are often damaged. Interestingly, an off-white to cream coloured anhedral mineral that fluoresces under long wave ultraviolet light has been detected occurring with feldspar and it is very likely to be confirmed as **Apatite**. The occurrence of Beryl and Topaz in vughs in the Lundy granite is of particular interest as the occurrence is very similar to that in the similar aged granites of the Mourne Mountains where a prolific location called Diamond Rocks is known.

In the accompanying picture a single hexagonal crystal of greenish Beryl with bevelled edges at the top sits at the centre. A small crystal of lilac coloured Fluorspar is to the left of the Beryl. To the right of the Beryl is a crystal of Quartz with frosted faces. To the left of the Beryl are shattered crystals of Feldspar. The back cover of this report features a picture of a radiating spray of Beryl crystals 41mm across sitting amongst poorly developed Feldspar crystals.

Specimens of the mineral Beryl have been given to Dr. Norman Moles of Brighton University for his research project looking at trace element chemistry of Beryl from locations within the North Atlantic Tertiary Igneous Province. It is hoped that visits will continue in the near future and that the list of Lundy minerals can be increased.

### Reference

**McLintock, W. F. P. & Hall, T.C. F. 1912.** On Topaz & Beryl from the granite of Lundy Island. *Mineralogical Magazine* **16**, 294-301.



▲ A hexagonal crystal of Beryl surrounded by other minerals in a vugh within Lundy granite (photo: David Ifold).