



# Prospects for an expanding gemstone industry

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## Scottish gemstones



*A 9.6 carat cut sapphire found in a camptonite dyke, Loch Roag, Isle of Lewis.*

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Garnets occur widely in metamorphic rocks from Sutherland to Perthshire, but most are too fractured, too dark in colour and too full of inclusions for use as gemstones. Exceptions are the pyrope garnets from Elie Ness in Fife. These so-called 'Elie rubies', with their delicate port-wine colour, are much sought after. Excellently terminated crystals of schorl tourmaline are not uncommon in the pegmatites of the Scottish highlands, but their opacity rules them out as gemstones. However, an occurrence of gem-quality elbaite tourmaline in Glenbuchat in Aberdeenshire has produced many cut, if small, stones with a variety of hues, including clear, green, blue-green, pink and, rarely, mauve varieties.

part of Scotland to have diamond-bearing rocks, although subsequent commercial studies in Ireland have indicated that Dalradian rocks may also have potential. The Lewisian rocks also contain gem-quality sapphires. In 1995 a 9.6 carat cut stone was obtained from a camptonite dyke at Loch Roag in Lewis. Ruby has also been recorded from the Lewisian in recent years.

The Cairngorm mountains continue to be the country's principal source of gem material, and in the past the search for stones formed a locally important industry in the upper Deeside area of Aberdeenshire. The stones occur within late-stage pegmatites and drusy cavities in the Cairngorm Granite and consist principally of yellow to black cairngorm which is locally accompanied by topaz, aquamarine and beryl.



*Colour banded elbaite tourmaline, Glen Buchat, Aberdeenshire.*

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Agates are among the most varied and beautiful of Scottish gemstones. They formed in the sites of former gas cavities in andesitic and basaltic lavas or, more rarely, in open cracks and fissures in these rocks. The best-quality agates are found on the east coast between Perth and Stonehaven, in north Fife and in Ayrshire.

Imported gemstones will continue to be used in Scotland for the manufacture of jewellery, on account of their superior quality and size and their lower cost. However, there is scope for expanding the existing small-scale production of indigenous gemstones. These stones might be combined with gold panned from Scottish rivers or from the developing Cononish gold mine to produce premium all-Scottish jewellery.



*Cut agate from lower Devonian andesite, Ardownie Quarry, Dundee.*

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The essence of quality gemstones is summed up in the '4 Cs' — cut, clarity, carat and colour. Their appeal is also based on beauty, durability, hardness and rarity. Although many rock-forming minerals have been cut, the world of gemstones is dominated by those which are most popular with the general public, i.e. diamond, ruby, sapphire and emerald. It is these minerals which regularly command the greatest prices.

The rocks of Scotland contain a wide range of gem material. In addition to sapphire, ruby and possibly diamond, the country has produced topaz, beryl, cairngorm (citrine) and amethyst, together with gem-quality garnet, tourmaline, agate and zircon.

There are two unsubstantiated claims of diamond being discovered in Scotland (Ayrshire and north-west Sutherland), both dating from the nineteenth century. More recent research by the BGS, based on a modern understanding of diamond-forming processes and the distribution and geophysical properties of potential host rocks, suggests that the Lewisian terrain of north-west Scotland is the most likely