Alkaline plutonic complexes

Site name	GCR selection criteria
Loch Borralan Intrusion	Representative of the intrusion. Exceptional as only British examples of several rock types, including nepheline-syenite, pseudoleucite-syenite and carbonatite. Radiometric age and structural relationships important for timing of movements in Moine Thrust Zone. Internationally important for some of the most extreme potassium-rich igneous rocks found anywhere on Earth. Historically of great importance in development of hypotheses for evolution of igneous rocks.
Loch Ailsh Intrusion	Representative of the intrusion. Radiometric age and structural relationships important for timing of movements in Moine Thrust Zone. Internationally important as type-locality of alkali-feldspar-syenite 'perthosite', and because of unusually sodium-rich character of syenites.
Loch Loyal Syenite Complex	Representative of the complex and the only extensive British intrusion composed of peralkaline quartz-syenite (nordmarkite).
Glen Oykel south	Representative of 'grorudite' (peralkaline rhyolite) suite of dykes which are emplaced only in Ben More Nappe. Important structural relationship of dyke cutting Loch Ailsh intrusion establishes that the latter was emplaced prior to movements on Ben More Thrust.
Creag na h-Innse Ruaidhe	Representative of 'grorudite' suite of dykes in one of the outliers (klippen) of the Ben More Nappe, an important structural relationship.
Beinn Garbh	Representative and exceptional exposures of sills of 'Canisp Porphyry'(a striking feldspar-phyric quartz-microsyenite), the largest development of Caledonian magmatism in the Foreland.
The Lairds Pool, Lochinver	Representative of 'Canisp Porphyry' as a dyke cutting Lewisian basement, which indicates the western extent of this suite in the Foreland.
Cnoc an Leathaid Bhuidhe	Representative of Canisp Porphyry as a sill, close to, but not above the Sole Thrust, confirming the restriction of the suite to the Foreland.
Cnoc an Droighinn	Representatives of 'Hornblende Porphyrite' suite of sills in a setting of great structural complexity, in which the sills are repeated by imbrication.
Luban Croma	Representative of sills of 'Hornblende Porphyrite' suite, and others, illustrating range and variation of pre-deformational minor intrusive rocks in Assynt.
Allt nan Uamh	Representative of unaltered hornblende-rich lamprophyre (vogesite), an otherwise rare rock type which occurs widely in the Moine Thrust Zone of Assynt and Ullapool.
Glen Oykel north	Exceptional locality at which an enigmatic diatreme of brecciated dolomitic limestone in a fine-carbonate matrix is associated with a vogesite sill. May represent only example of transport by gas in Caledonian alkaline suite.

Allt na Cailliche	Representative of suite of quartz-syenite (nordmarkite) sills which occur only close to the Moine Thrust; the only igneous suite in Assynt whose emplacement was localized by the thrusts themselves.
Camas Eilean Ghlais	Representative of nepheline-syenite ('ledmorite') dykes, emplaced in the Foreland yet clearly trending towards the Loch Borralan Intrusion, with implications for timing of thrust movements. Internationally important historically in demonstrating that alkaline magmatism did not involve reactions with limestone.
An Fharaid Mhór	Representative example of nepheline syenite ('ledmorite') dyke in the Foreland, trending towards the Loch Borralan intrusion.

References