

Bellbeaver Rigg (35A)

Report of survey carried out by Alan Dawson on 11 March 2014

Background

The purpose of this survey was to measure the height and drop of Bellbeaver Rigg in the Northern Pennines, to ascertain whether it has the 30m drop that would qualify it as a Sim and a Hewitt. Bellbeaver Rigg has a small 620m contour ring shown on OS maps, with 590m contours not quite meeting at the col, suggesting a drop of around 29 metres. Heights were measured using a Leica Geosystems RX 1250 GPS antenna and controller, with subsequent processing using OS Rinex data to obtain precise results. Conditions for the surveys were excellent: dry, sunny, clear and reasonably warm, with a light breeze.

Summit survey

The summit area is large and flat heather moorland with no notable features except two cairns about 200 metres apart. Sightings with a Leica Disto laser level indicated that the more northerly cairn was higher, confirming the OS mapping. The highest point is a small heathery mound next to the northernmost cairn, and the survey tripod was set up over this point.

Summit feature: Heathery mound next to cairn

Summit survey time: 45 minutes

Antenna height: 0.91m

Margin for error: 0.04m



Bellbeaver Rigg summit survey in progress, with Burnhope Seat to the east

Col survey

The col for Bellbeaver Rigg is a large area of deep peat hags that make it difficult to establish a precise col location with any certainty. The deepest peat hags are to the west of the col area, whereas they thin out a little toward the central area nearer the B6277, making selection of an optimal survey point a little easier than it first appeared. Even so, the margin for error at the col was estimated to be up to 40cm.

Col feature: peat hags

Col survey time: 40 minutes

Antenna height at col: 0.99m

Margin for error: 0.4m

Results

Base station:	BEES	CARL	ESKD	GIGG	MORO	NCAS	RICM	WEAR
Distance away:	83	42	86	71	71	57	53	10
Summit ellip height:	671.854	671.867	671.796	671.789	671.811	671.831	671.824	671.851
Col ellip height:	643.089	643.139	643.087	643.055	643.087	643.109	643.101	643.146

Eight base stations were used for both summit and col.

Mean elliptical summit height: 671.83m

Mean elliptical col height: 643.10m

WGS84 to OSGB36 adjustment: 51.912m for summit, 51.876m for col

Adjustment constant: 0.16m

Summit: 620.08m
Latitude: 54° 42' 36.65868" N
Longitude: 2° 22' 10.36407" W
Summit gridref: NY 76288 35080
Col: 643.1m
Col gridref: NY 7710 3573
Drop: 28.7m
Outcome: No status change, Bellbeaver Rigg does not have 30m drop so remains a Subsim



Bellbeaver Rigg col survey in progress