**Date:** Sunday 19TH May **Leader:** Lesley Collins

**Aim:** To investigate the **Closehouse - Lunedale Fault system** and the unique mineralisation of the **Whin Dykes at Closehouse**

**Meet:** at 10.15 at Wemmergill Estate track gate on B6276 road, Grid Ref NY873212, c. 6 miles S of Middleton-in-Teesdale on the right -hand side, c. 7 miles north of Brough-under-Stainmore on the left-hand side

**Duration:** 10.30 am to 4 pm. Total walk length c. 3 miles.

**Route:** From the meeting point we will drive up the private Wemmergill road to the large hardstanding parking area at the mine, Grid ref square NY 85 22.

In the morning, we will view the unique setting of the main orebody at **Closehouse Mine**.

After an early lunch, we will walk up the estate track via the Eastern Hushes to **Standards Shap** to see the dramatic landscape along the fault zone.

There will also be an opportunity to view the Great Limestone, at the base of the Namurian, at a small disused quarry on the estate road.

**Equipment:**  Toilets, Café’s, Coop store in Middleton, Toilets & shop with hot drinks in Brough

At Closehouse, no facilities on site, so bring drinks, packed lunches, etc and be prepared for all weathers on this exposed moorland site. Stout walking footwear and waterproofs essential.

Bring any fieldwork equipment you like. This is a Compass-clino, hand lens, notebook, camera, hammer, bag for samples may all be useful.

Hardhats recommended for those wishing to view the rock faces & dumps close to.

**Note:** Wemmergill Estate is a large shooting estate. We have been asked to avoid disturbing ground nesting birds, so access is restricted to the private road, the area immediately around the mine workings and gamekeeper’s access track to Standards Shap. Due to the above, no dogs are permitted.

**Maps:** OS 1:25 000 OL 19 Howgill Fells & Upper Eden Valley

 BGS 1:25 000 Classical Area Sheet NY82, Middleton-in-Teesdale

**Geology:** Close House Mine is a disused extensive opencast & adit mine situated within the Lunedale Fault System, a major geological structure which defines the southern limit of the Alston Block.

The faults have been intruded by 2 dykes off the Whin Sill and have been partly replaced by the mineral *barite* (Ba-sulphate). The large *barite* orebody exposed at the mine displays the structural complexity of this zone and the relationship of the mineralisation to the stratigraphy and structure.

**References:** BGS Geology of the North Pennine Orefield, Vol 1, KC Dunham

BGS Geology of the country around Brough-under-Stainmore, Memoir for Sheets 31, 25 & 30 (parts)

The Barytes Deposits at Closehouse, Lunedale, Hill & Dunham, Proc YGS, Vol36, Pt3, 1968

**Further Details:** Lesley Collins, email lclongashes@gmail.com

Mobile number 07946 358444 (mobile reception is available at Closehouse, but patchy)

If you are planning on attending the trip, please let me know by the morning of

**Friday 17th May,** in order to inform the Estate Office of likely numbers.