WICKLOW - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Glendalough-Glendasan-Glenmalure District - Overview**
Other names used for site	
IGH THEME	**IGH15 Economic Geology**
TOWNLAND(S)	**Camaderry, Seven Churches, Brockagh, Lugduff**
NEAREST TOWN/VILLAGE	**Laragh**
SIX INCH MAP NUMBER	**22, 23, 28, 29**
NATIONAL GRID REFERENCE	**708500E 696300N**
1:50,000 O.S. SHEET NUMBER	**56 GSI Bedrock 1:100,000 Sheet No. 16**

Introduction

Small quartz vein-hosted Pb-Zn(-Cu-Ba) deposits along the margin of the Leinster Granite batholith were worked episodically from the late 18th century to the 1950s. Lead ore (Pb) was the main product although limited amounts of copper (Cu) and silver, from argentiferous galena, were also produced. Efforts to produce zinc (Zn), notably in the 1950s, failed, possibly for want of proper processing technology. Most of the deposits were small, producing some ?tens of tonnes of ore, but 45,000 tonnes of Pb, 60% of the total Irish output, was produced in the Glendalough District between 1826 and 1900.

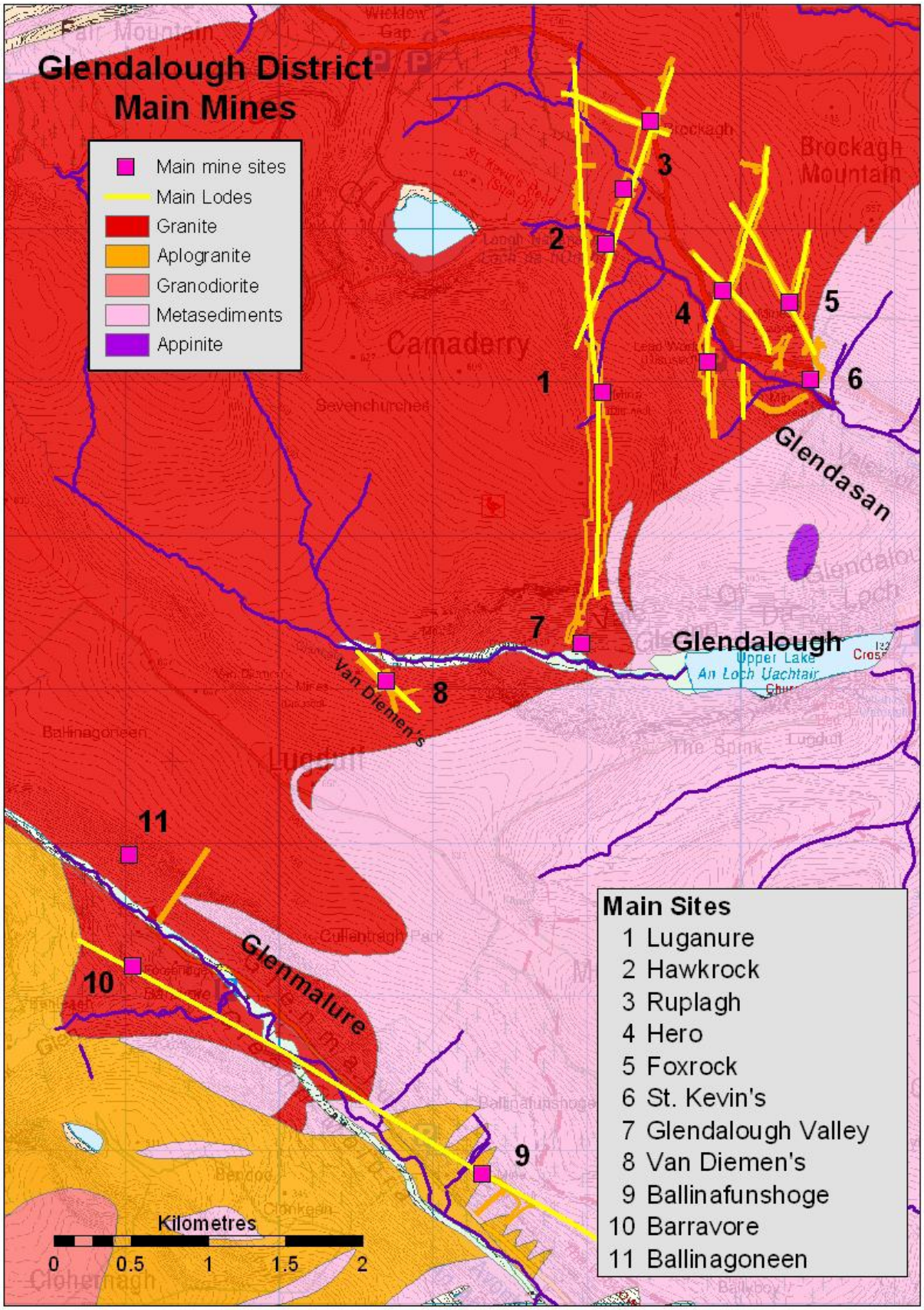
The Glendalough-Glendasan district comprises a number of mine sites in three broadly parallel valleys that run northwest-southeast through the Wicklow mountains. **Glendasan** in the north is separated from **Glendalough** valley by Camaderry mountain. These two valleys host most of the mine sites in the district. The rivers that drain them, the Glendasan and Glenealo rivers, come together at the old monastic site in Glendalough to form the Avonmore River. In the south, the **Glenmalure** valley was the site of earliest mining in the district in the late 18th century.

Geology

The mineralization is hosted mainly by the 405 Ma Leinster Granite in quartz veins that follow the line of faults or previously emplaced pegmatite/aplite veins. Their strike direction varies but most are oriented at a high angle to the granite margin (Fig. 1). The longest vein, the Luganure Lode, was worked over a length of almost 3.5 km but is typically less than 6 m in thickness. In most instances, brecciation preceded and followed the deposition of sulphides. The mineralized veins are largely confined to the granite but a few cross the granite/wallrock contact where particularly rich mineralization has been found. The mineralogy of the veins includes major galena (PbS) and sphalerite (ZnS), subordinate chalcopyrite (CuFeS2) and pyrite (FeS2) and minor amounts of other minerals including haematite and native silver.

Main Geological or Geomorphological Interest

The underground workings in the district are very extensive considering the narrow courses they were driven on. Maximum depth of workings below ground is approximately 400m though most levels are significantly shallower than this, with the median depth below ground about 80m. In all, over 40km of levels and shafts were driven, most of them in the 19th century. The mines were generally kept dry by drainage from the adits but deeper levels were pumped dry, using waterwheels powered by water from Lough Nahanagan. Waterwheels were also used to raise ore. In 1871, a drought seriously reduced the amount of ore produced by MCI. Most adits have now collapsed or are blocked off and the underground workings are in poor condition and inaccessible to the public. There are extensive surface workings, including processing floors, spoil heaps, tailings ponds, the remains of mine buildings (offices, miners' accommodation, mill, dressing sheds, hoppers, etc.), wheel pits and the traces of plugged shaft openings.



Map from Stanley *et al.* 2010

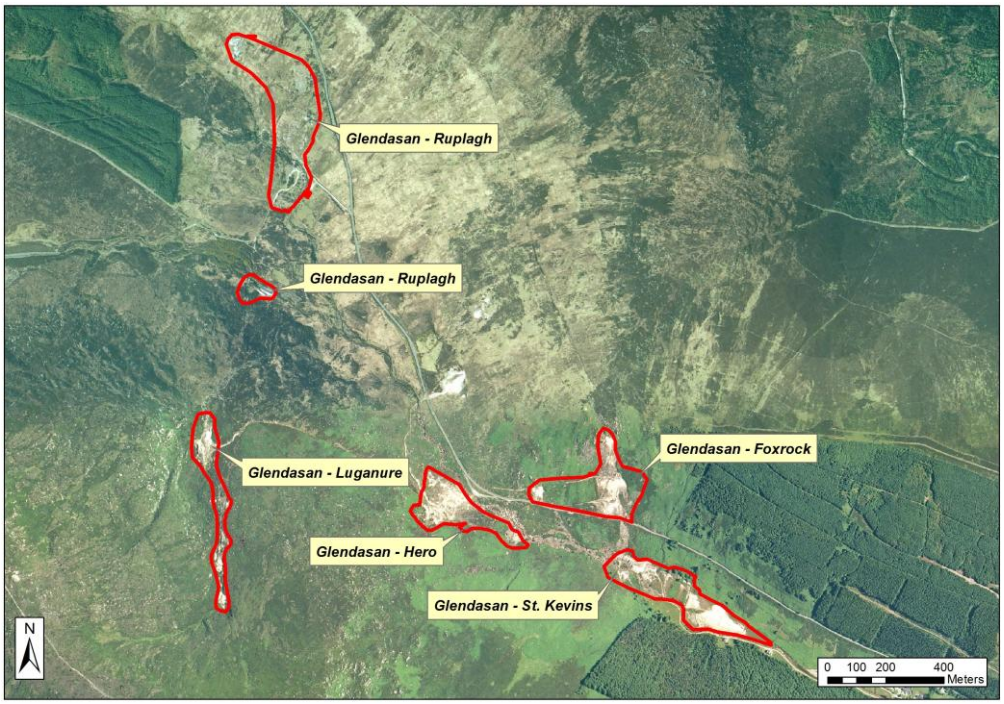
Site Importance – County Geological Site

The Glendalough – Glendasan – Glenmalure district is one of the most significant historical mine sites in Ireland with excellent rock exposures, numerous remains of mine buildings,

large, well-documented ore processing sites and very extensive underground workings with abundant surface expression.

Management/promotion issues

The district is within the Wicklow Mountains SAC, SPA, pNHA and National Park, and is very popular with visitors and walkers. Glendasan and Glendalough have both been the subject of detailed mine heritage studies, supported by WCC, and there are plans to erect signboards at Glendalough and Glendasan. Promotional leaflets or a booklet on the mining history of the area would be useful additions to the overall experience of the area for the tourist.



Aerial photograph showing in detail the density and outline of the mine sites in Glendasan.