

WICKLOW - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Avoca - Cronebane		
Other names used for site			
IGH THEME	IGH15 Economic Geology		
TOWNLAND(S)	Cronebane		
NEAREST TOWN/VILLAGE	Avoca		
SIX INCH MAP NUMBER	35		
NATIONAL GRID REFERENCE	720604E 683153N		
1:50,000 O.S. SHEET NUMBER	62	GSI Bedrock 1:100,000 Sheet No.	19

Outline Site Description

The Cronebane site is centred on Cronebane open pit, running southwestwards from Connary, between the high moorland of the Mottee Stone site to the northeast and mixed evergreen plantations on the southeast. The southwestern end of the site is dominated by Mount Platt, a landmark spoil heap created from the waste rock produced during excavation of the open pit.

Geological System/Age and Primary Rock Type

The bedrock is part of the c. 455 Ma Ordovician Avoca Volcanic Formation which comprises an interbedded sequence of strongly deformed and altered volcanic and sedimentary rocks. Massive, disseminated and vein-hosted sulphide mineralization (chalcopyrite, pyrite, galena and sphalerite) is found mainly within distinctive chloritic tuffs.

Main Geological or Geomorphological Interest

The site covers the area of the 19th-century Cronebane mine but little of this remains since excavation of the open pit in the early 1970s. Several 19th-century adits and levels are exposed in the floor and northwestern or hanging wall of the pit. In addition, apparently in situ timbers, partially covered by spoil in the floor of the pit, mark the trace of other levels. Another adit, Madam Butler's, runs beneath the plantation to the southeast of the pit. It has partly collapsed to form an open trench. The open pit was originally almost 600m long and 120m wide. The southwestern end was backfilled with waste rock so that the exposed pit is now 350m long and 40m deep. A pond at the northeastern end of the pit was constructed in the 1980s as a reservoir for a gold-leach project.

The northeastern end of the pit contains significant bedrock exposure, including rhyolite, tuffs and a narrow zone of massive sulphide mineralization that includes lead-zinc-rich ore called kilmacooite.

Site Importance – County Geological Site

Cronebane open pit is an important remnant of 20th century surface mining at Avoca and the large spoil heap built from waste rock has been a significant local landmark for 40 years. The pit contains a unique cross-section through a zone of massive sulphide mineralization and interbedded volcanic rocks. Numerous, poorly-preserved 19th-century mine features can be observed throughout the site.

Management/promotion issues

The northeastern, hanging wall of the open pit is unstable and has partly collapsed. The site is surrounded by a 2m-high chain-link fence that is frequently breached. While the bedrock exposure, including its massive sulphide mineralization, is considered to be of significant scientific interest, the site is unsuitable for general public access and these benefits must be weighed up against the need to address the hazards. The Feasibility Study undertaken by DCENR in 2008 contains proposals to use some of the waste rock on Mount Platt to backfill part of East Avoca open pit to address the stability issue.



View northeastwards from Mount Platt of Cronebane open pit. Area in foreground was originally excavated but was backfilled with waste rock.



Exposure of massive sulphide mineralization at northeastern end of Cronebane open pit.



Remains of timbering outline former adit, now blocked, driven at northeast end of Cronebane open pit.



