

# WICKLOW - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Avoca – Tigroney West</b>		
Other names used for site			
<b>IGH THEME</b>	<b>IGH15 Economic Geology</b>		
<b>TOWNLAND(S)</b>	<b>Tigroney West</b>		
<b>NEAREST TOWN/VILLAGE</b>	<b>Avoca</b>		
<b>SIX INCH MAP NUMBER</b>	<b>35</b>		
<b>NATIONAL GRID REFERENCE</b>	<b>719814E 682198N</b>		
<b>1:50,000 O.S. SHEET NUMBER</b>	<b>62</b>	<b>GSI Bedrock 1:100,000 Sheet No.</b>	<b>19</b>

## Outline Site Description

This site includes a flat section on the Avoca River floodplain separated by a railway track from a steep, partly wooded hillside section that includes large volumes of mine waste as well as Avoca's best-preserved 19<sup>th</sup>-century engine house. A small housing cluster lies between part of the site and the river.

## 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

Williams engine house and chimney, dating from around 1860, have been conserved in recent years and are structurally sound. The Deep Adit was initially driven in the late 18th century and now extends northwest for over 800m, draining all workings in Tigroney and Cronebane below the level of the Cronebane Shallow Adit. The largely blocked adit discharges acidic, metal-rich mine water that drains via a 150m-long channel into the Avoca River. Two partly blocked flatrod tunnels, one beneath the railway embankment and one beside the ore bins, originally extended eastwards to Williams shaft. The only other remaining 19th century mine features on the site are two poorly preserved ochre pits and an almost entirely obliterated sawmill. The 750 m-long 850 Adit was driven between 1959 and 1962. Ore was brought out on wagons hauled by a diesel locomotive and tipped into the two large ore bins. DCENR has plans to control the water flow from this adit through the construction of a bulkhead or dams. The two steel ore bins, 4.9m high on a 1.9m-high support structure, and wooden crib show signs of severe corrosion and decay. Tigroney West is covered either by spoil heaps or, in between, a thin layer of spoil. Most of the spoil is in the form of three terrace-like areas east of and above the railway line, and as seen in historical photos of the site.

## Site Importance – County Geological Site

Tigroney West contains Williams engine house, the largest and best-preserved at Avoca. The Deep Adit and its discharge are highly significant, historically and in the present day, in the context of the environmental impact of mining on the Avoca River.

## Management/promotion issues

There are plans to cover or seal a large proportion of the mine waste on the site, potentially affecting the ore bins and flatrod tunnels, in addition to installing a bulkhead or dam in the 850 Adit. There is potential for a 3D Lidar Survey of the 850 Adit before any bulkhead installation, that would serve to document the mining heritage and provide tourism videos for any appropriate visitor centre and website. Williams engine house is fenced off but could be an important part of a mine heritage trail for Avoca. In its current state much of the mine site is unsafe for public access.



Williams Engine House, Tigroney West, viewed from southwest.



Timbered entrance to 850 Level adit partly hidden behind spoil. The channel in front was dug in recent years to accommodate a periodic discharge of water from the adit, a recent development possibly related to blocking of the normal drainage routes within the mine.



Ore bins installed in the late 1950s to hold ore trucked from the 850 adit and destined for the mill in West Avoca. One flatrod tunnel is located just to the right behind the bushes.



