

## WICKLOW - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Avoca – Tigroney East</b>		
Other names used for site			
<b>IGH THEME</b>	<b>IGH15 Economic Geology</b>		
<b>TOWNLAND(S)</b>	<b>Tigroney West, Cronebane</b>		
<b>NEAREST TOWN/VILLAGE</b>	<b>Avoca</b>		
<b>SIX INCH MAP NUMBER</b>	<b>35</b>		
<b>NATIONAL GRID REFERENCE</b>	<b>720103E 682681N</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 is a narrow, 700m-long northeast—southwest-trending hillside site, bounded to north and south by forestry, heathland and pasture, containing a deep open pit at the upper end as well as extensive mine-waste covered ground and numerous 19th-century mine features.

### 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

Tigroney East was the site of intensive mining both in the 18<sup>th</sup> - 19<sup>th</sup> centuries and in the 20<sup>th</sup> century. It includes (1) the fenced, 20th-century East Avoca open pit (1978-1982) where large blocks of ore can be examined, (2) numerous spoil heaps, (3) several shafts and adits, (4) the remains of Baronet's engine house and (5) well-preserved ochre pits. One shaft (Farmer's) formerly provided access to the extensive underground workings below the site but it is now securely covered. Three adits are open to some degree. Wood Adit was the entrance to the 1.4km-long 53 fathom or Cronebane Deep level - mine water discharging from it was channelled into nearby settling pits where iron hydroxides were separated and dried to provide ochre. Cronebane Shallow Adit, now largely silted up, was the main mining adit in use in Cronebane in the late 18th century. Recent clearance of vegetation around Baronet's Engine House has revealed long-hidden features including a well-preserved flue linking the boiler house and chimney, while removal of mine waste nearby has uncovered a pre-20<sup>th</sup> century dressing floor.

### Site Importance – County Geological Site

East Avoca open pit is a significant remnant of 20<sup>th</sup> century surface mining at Avoca and contains excellent examples of mineralisation not seen elsewhere in the Avoca district. Several 18<sup>th</sup> and 19<sup>th</sup> century mine features add to the site's importance.

### Management/promotion issues

The hanging wall of the open pit at its southwestern end is unstable and there are plans to fill this end of the pit to stabilise it, something that would also block access to the stope that was breached during pit excavation. The remainder of the site contains numerous interesting mine features that could form part of any future mine heritage trail. However, the site in its current state is unsafe and unsuitable for public access. The open pit is reported as having been home to nesting peregrine falcons for many years, and ledges in the pit show active use by some large birds, but the current status of this or other protected species needs review. Several species of bats have been detected at the underground workings (Enda Mullen, NPWS pers. comm.).



Area of last mine blast in centre of East Avoca open pit.



Sulphide mineralization in centre of East Avoca open pit.



Left: Flue entrance at base of Baronet's Engine House chimney, revealed by recent site clearance

Right: 19th-century ore dressing floor, revealed by recent site works.





