Tin Mining During the Romano-Cornish Period

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Geological Components of Cornwall

The Cornish tradition of tin working has been around for millennia, though much of this history is hidden beneath the surface. Evidence suggests that the rich minerals that make up much of Cornish geology have been mined as far back as the prehistoric Bronze Age, around 2000 BCE, when Cornwall and Devon were under the Dumnonii tribe, but the origins of Cornish tin go back even further. Around 300 million years ago, large granite intrusions known as the Cornubian batholith were formed as a result of the Variscan orogeny, a huge mountain-building event caused by the collision of tectonic plates. This batholith stretches across Cornwall and into Devon and the granite is rich in mineral veins that contain valuable metals such as copper, tungsten and, of course, tin.

Surrounding the granite batholith are metamorphic rocks, which have been altered by the heat and pressure from the granite intrusion. These rocks also contain mineral veins, although they are generally less rich than those in the granite itself. Mineral veins in Cornwall were formed by hydrothermal fluids that moved through fractures and faults in the granite and surrounding rocks, depositing minerals as they cooled. These rich mineral deposits are what make Cornwall so valuable for mining.

Roman Uses of Tin

Early miners collected tin from surface veins and shallow deposits, which were easier to access and required minimal technology, but as the surface deposits became exhausted, miners turned to hard rock mining to access deeper veins within the granite. This was made possible due to the Roman introduction of more advanced mining techniques and sophisticated infrastructure, such as water management systems that allowed for deeper mining operations. Hydraulic mining, using high-pressure water to dislodge rock and extract tin and copper ores, was vital in the Romano-Cornish period, enabling tin to be further and more efficiently mined. These advances laid the groundwork for many modern mining practices and continue to influence mining technology today.

During the Romano-Cornish period, approximately 1st to 5th centuries AD, tin working was an important industry, as tin was used for coinage, utensils and construction materials. It was also a crucial component in the creation of bronze, which was essential for weapons, tools and various household items. Bronze is a metal alloy consisting primarily of copper, typically with about 12–12.5% tin and often with the addition of other metals (such as aluminium, manganese, nickel, or zinc.) Bronze is harder and more durable than copper, making it favoured for armour, tools and weaponry, it is more resistant to corrosion than steel and iron, and importantly for the Romans, it was easy to melt and cast Bronze over a bonfire as it is more malleable and has a lower melting temperature than that of copper.

Photo of Roman coins, St Columb Minor, Cornwall (Royal Cornwall Museum)

Roman Technology and Warfare

Not only was tin vital for utensils and construction throughout the Romano-Cornish period but was also a prominent part of Roman technology, particularly in the use of weaponry. Although material evidence for the Roman exploitation of tin is scarce, the majority of the Cornish archaeology relating to the Roman period is warfare-based, from old forts and fortlets to marching camps, leading us to believe that the Roman presence in Cornwall was highly based on warfare and that perhaps the tin trade was related to that. Tin was not just essential for weaponry and armour but the money made from its trade was also strategically important for maintaining the Roman military.

Aerial photo of the site of Calstock Roman Fort, Cornwall (Chris Smart, University of Exeter)

Tin Trade

The extraction and demand for tin is generally considered the motivation behind trade and the Roman involvement of Cornwall. Cornwall's tin was highly valued and traded extensively throughout the Roman Empire, contributing to the region's economic importance. Not only did it supply the rest of the Empire with tin, it also provided them with money and connections across Europe and the Mediterranean. There was a high demand for Cornish tin and archaeological evidence has been found of its export across the Mediterranean, and throughout the rest of the Roman Empire, indicating the extensive trade networks and the importance of this resource to the Roman economy. One of the reasons that the tin trade was able to flourish so well in this region and period, was thanks to the Roman infrastructure, including highly sophisticated roads and ports.

Ancient texts describe tin being transported and produced from an island off the coast of Cornwall called Ictis. This trading island is now believed to be either St. Michael’s Mount or Mount Batten and it played a crucial role as a trade point for tin during ancient times. It is believed that tin from Cornwall was transported to Ictis as ingots, where it could be traded with Gaul (present-day France), as well as Greece and the rest of the Mediterranean. .

Social and Economic Impacts

Tin mining and the subsequent trade avenues it opened up, had a major effect on the local economy and society in Cornwall during the Romano-Cornish period. Mining led to the growth of settlements around mining sites, cultivating entire communities and generating wealth that impacted the broader Roman economy and facilitated trade across the Mediterranean. These settlement patterns and the growth of mining communities have had lasting impacts on the infrastructure of Cornish roads, ports and towns. Furthermore, the effects of mining on the nature of Cornwall are still evident in today's Cornish landscape. This can be seen through the remnants of waste heaps and ancient mining pits, as well as

the pattern of mining that continued long after the Romans had left. Tin mining has also had a profound cultural impact on Cornwall, influencing local folklore and mythology, passed down through stories in generations of Cornish heritage, forever linking the people of Cornwall to their mining past.

The decline of Roman influence in Britain during the 5th century AD marked a turning point for tin mining in Cornwall. While the industry continued, it faced challenges as the organised Roman infrastructure and trade networks deteriorated. However, mining traditions persisted, and Cornwall maintained its reputation as a key source of tin throughout the mediaeval period and beyond.

Conclusion

Today, Cornwall's mining heritage is celebrated and preserved through various conservation efforts. Historic mining sites have been transformed into museums and tourist attractions, allowing visitors to explore the rich history of the region. These initiatives ensure that the legacy of Cornish tin mining remains alive. Archaeological evidence and historical records highlight the significance of Cornish tin in ancient economies, underscoring the region's importance as a centre of early mining and trade activities.

The historical techniques developed in Cornwall have had a lasting influence on modern mining practices. The innovative methods and technologies pioneered by early Cornish miners laid the foundation for contemporary mining operations worldwide. The legacy of Cornish tin mining is etched into the very landscape of Cornwall. From the ancient granite formations to the remnants of early mining sites, the region’s geological and historical heritage continues to captivate archaeologists and historians alike. The story of Cornish tin is a testament to human ingenuity and the enduring importance of natural resources in shaping civilizations.

Exploring the history of Cornish tin mining, we uncover not only the geological richness of Cornwall but also the intricate web of trade and cultural exchange that spanned continents. Cornwall’s tin mining heritage offers a window into the past, revealing how this remote region played a crucial role in the ancient world’s economic and technological development.

References

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