



Delve Deeper

Audio Trail One

The Mines under the Sea: Geevor to Levant

This guide gives you an opportunity to find out more about undersea mining. Use it to enhance your trail along the coast, or as a follow up after your visit.

If you wish to find out more about these mines then a visit to both Geevor Tin Mine (www.geevor.com) and the Levant Mine engine houses (www.nationaltrust.org.uk) is recommended. Both sites have experienced and knowledgeable guides. If you wish to delve deeper into the history of Levant Mine then this short guide will provide you with more information.

Geevor, Levant and Cornish Mining

Between 1700 and 1914, the metal mining industry of Cornwall and west Devon transformed the landscape. It fed the Industrial Revolution in Britain and influenced the development of our modern world.

The Cornwall and west Devon mining landscape consists of ten areas with distinct personalities. Geevor and Levant are in the St Just Mining District, which is in the western most part of the Cornish Mining World Heritage Site.

World Heritage Site status recognises the importance on a global scale of Cornish mining's historic landscapes, its outstanding mine buildings and other features.

Cornish miners and engineers developed technologies which transformed mining worldwide. Their innovations and skills were vital to the Industrial Revolution and helped shape our modern industrial society.



The widespread surface remains of Levant Mine are located on the cliffs 2 miles north of St Just, about 1/3 mile west of Geevor Mine. A walk along this spectacular stretch of Atlantic Coast reveals a range of fascinating archaeology from this famous “mine under the sea”. It includes the Levant whim, Cornwall’s oldest surviving beam engine, now in the care of the National Trust and once again working under steam power.

The earliest reference to mining on the sett (or designated mining area) dates to 1670 but it is not until 1748 that the name ‘Levant’ appears on *Martyn’s Map* (an extremely detailed survey of Cornwall by Thomas Martyn, a Cornish map-maker). Beginning as an amalgamation of small ventures such as Boscregan and Wheal Unity. The Levant Mine which emerged in 1820, became distinguished as one of Cornwall’s top ten ‘champion’ mines. Its founding adventurers included the wealthy tin smelters Daubuz (Treloweth, St Erth) and Batten (Chyandour, Penzance).

Photo: Barry Gamble/CCC



Trewellard North Cliff. Audio Point 4

The remains of at least two phases of tin floors occupy the sloping ground to the left of the path which runs from top left to bottom right in the photograph. The mine’s arsenic works occupy the seaward side of the path and were built to produce arsenic as a by-product of calcining tin concentrates (calcining is the heating of a substance to a high temperature, below its melting point, to bring about decomposition). Silty waste is stained red from the iron oxide, hematite, which was intimately dispersed within the ore; this natural pigment was mostly carried off in the dressing water discharged into the cove causing a ruddy plume in the sea, a feature of this coast until Geevor finally closed in 1990. Levant practiced the ‘primitive’ Cornish method of tin dressing of sending stamped ore straight to buddles until a new mill was installed in 1921/22. A tramway embankment leads to the upstanding rank of pillars (centre left) that formerly supported the roof of this mill which contained more advanced tin-dressing equipment. The rectangular channeled ‘slime’ pits (bottom right) collected fine tin which would otherwise have been lost to the mine, or the sea. The condensing chambers and flue, now buried, of the mine’s arsenic works led from a row of four Brunton calciners (centre right) to the stack (top left). In 50 years from 1854 the mine produced nearly 4,000 tons of crude arsenic and over 100 tons continued to be produced annually until the 1920s when a new refinery was added, whereby the soot was re-calcined to produce snow-white crystalline arsenic tri-oxide.



Aerial view, Levant Mine. Audio Point 8

Undersea workings extended for a mile beyond the cliffs to depths of over 300 fathoms (548 metres) beneath the sea bed. Two surviving engine houses are clustered around the mine's principal shafts, Skip and Engine, sunk little more than 50 feet from each other as close to Levant Zawn and the rich undersea workings as was possible. The smaller, roofed engine house to the left, aligned with the older Skip Shaft, contains an all-indoor beam-whim, the oldest surviving Cornish engine (1840, Harvey's of Hayle 24-inch to the design of Francis Michell, later enlarged to 27-inch). The engine was saved from scrap in 1935 and brought back to steam in the 1980s by the Trevithick Society. The larger engine house on the right was built in 1835 and contained a 40-inch (later 45-inch) Harvey's of Hayle pumping engine which served Engine Shaft.

By 1830 the *West Briton* claimed of Levant "...for a considerable time one of the most profitable mining concerns in the county of Cornwall". By 1836, 320 men, 44 women and 186 children were employed and by 1840 the mine had made a profit of £170,000 in 20 years. It remained a predominantly rich copper producer until the 1850s and a major tin producer thereafter, until closure in 1930.

Levant used 'pit ponies' (ponies that were worked and stabled underground) in 1893 on the mile-long 278-fathom (508 metres) main tramming level out under the sea, the only Cornish mine to do so in the 19th century (Polhigey in Wendron and East Pool & Agar in Pool did so in the 20th century).

Photo: Barry Gamble



Levant Mine.

Decorative banded brickwork of the Levant man-engine stack. Originally the steam engine that drove the man-engine in Daubuz's Shaft (later re-named Man-engine Shaft) was a 20-inch rotative beam-whim installed in 1857. In 1893 this was replaced by a compound engine (18- and 30-inch cylinders), the beds of which can be seen in the foreground. Man-engine Shaft, 40 yards to the north-east, has been recently re-collared and the tunnel from the miners' dry re-opened. To glimpse the depths of the shaft from within the tunnel is a sombre experience.

The name Levant echoed around the mining world when tragically, on the afternoon of October 20th, 1919, the linkage between the engine and rod in Man-engine Shaft broke, sending 31 miners to their deaths and badly injuring over 50 others. The deeper levels were never worked again and the St Just community will never forget the fateful day when the man-engine broke.

Levant Mine.

In the foreground is one of the four miners' baths in what was, in 1889 when it was built, a state of the art miners' dry or changing house. To the right of this bath is a spiral stairwell with granite steps that descend to a tunnel which accesses Man-engine Shaft; it has been re-opened and conserved by the National Trust for public access, a memorial to one of Cornwall's worst mining disasters. The compressor house, built in 1901 to enable extra productivity from the use of rock drills was converted to a power house in 1921. It also powered the compressed air winding engine working New Submarine Shaft which had been installed in 1897. The winder on Old Submarine Shaft was, remarkably, worked by an underground steam engine. No doubt the productivity of miners was also enhanced by assisting the ventilation in workings that were up to 350 fathoms (640 metres) deep, hot (typically 100°F) and up to a mile out under the sea, thus remote from any surface connection.

Photo: Barry Gamble



Pumping and winding engine house at Guide's Shaft, Higher Bal (Higher Levant Mine).

This was part of the former Spearne Consols sett incorporated into Levant in 1880. The house contained a 35-inch rotative engine relocated from nearby Spearne Moor Mine, where it used to drive stamps. Flatrods, powered by the crankshaft of the engine pumped water from the shaft and two winding drums were used for hoisting. The surface archaeology here is interesting and the shaft itself is gridded for safety. There are two archways in the massive retaining wall alongside the road: one looks straight into the shaft; the second contains a flight of steep granite steps that lead up to the engine house. The V-notches in the retaining wall are ore-passes, chutes down which ore was tipped into carts that carried it to the stamps near the coast path on the Levant site.

Photo: Barry Gamble

