A Retrospective Analysis of Metalliferous Mining in North Devon (1845–1913)

March, 2026

Overview

The mid-to-late 19th century represents a definitive period of transition and eventual cessation for the lead mining industry at North Devon in England's West Country.

As documented by Burt, Waite, and Burnley (1984) in ***The Devon and Somerset Mines*** (A. Wheaton & Co. Ltd, Exeter) the extractive industries surrounding Combe Martin attempted to modernise ancient silver-lead deposits with varying degrees of success.

This period is characterised by high-grade ore yields followed by a rapid collapse in productivity and labour force participation.

1. Mineralogical Distribution and Site Classification

Mining operations in this region were geographically diverse, targeting specific mineralogical lodes. The documents identify three primary categories of extraction:

- **Argentiferous Galena (Lead and Silver):** Concentrated in the **Combe Martin (Main)** and **New Combe Martin** sites. The latter's association with the "Late West Challacombe" ownership suggests a consolidation of mineral rights as deposits became harder to access. **Concord (Sydenham Damarel)** also served as a notable site for these high-value minerals.
- **Ferrous Resources (Iron):** Primarily located at **North Combe (Lustleigh)**, illustrating that the regional interest extended beyond precious metals to industrial base metals.

- **Manganese:** Extracted at **Comfort (Braunton)**, a mineral essential for the chemical and glass-making industries of the era.

2. Quantitative Analysis of Production (1845–1879)
The production data for the Combe Martin main site illustrates a classic "boom-to-bust" trajectory. The initial years recorded (1845–1847) show a robust output, while the late 1870s reveal a terminal decline.

Period	Ore (tons)	Lead (tons)	Silver (oz)	Lead Recovery Rate (%)
1845–1847 (Average)	196.3	117.3	*Not Recorded*	~59.7%
1877–1879 (Average)	3.1	2.3	44.0	~74.2%

Source: **Burt, R., Waite, P., & Burnley, R. (1984).** *The Devon and Somerset Mines: Metalliferous and Associated Minerals, 1845-1913*. University of Exeter. Published by A. Wheaton and Co. Ltd, Exeter. In association with The Northern Mine Research Society.

Economic Implications: While the quantity of ore plummeted by over 98% over thirty years, the **lead recovery rate** actually increased. This indicates that while the mines were producing very little, the remaining galena was of exceptional quality. However, high quality could not compensate for the lack of volume, rendering the mines economically unviable by 1879.

3. Operational Management and Labour Decline
The governance of these mines followed the traditional British "Cost Book" or corporate management model, led by specialised agents and secretaries.

- **Managerial Transition:** The transition from agents like **S. Matthews** (1875) to **A. Livingstone** (1895) tracks the industry's attempt to maintain oversight even as yields failed.
- **The Labour Crisis:** By 1878, the **West Combe Martin Silver Lead Mine Co.** had reached a nadir in employment, recording a total workforce of only four underground men. The subsequent classification of the West mine as **"NOT WORKED"** between 1879 and 1881 marks the functional end of major operations in that sector.
- **Lead Crisis of the late 1870s**. During this exact window (1877–1879), the market was flooded with cheap lead from newly opened massive deposits in **Spain and the United States**. This caused prices to plummet, making small-scale operations like Combe Martin —which required expensive manual labour for just a few tons of ore—impossible to sustain.

- **The Silver-Lead Price Crash of 1878**
  The terminal decline of the Combe Martin operations was precipitated by a global collapse in base metal prices during the late 1870s, often referred to as the "Lead Crisis."

  The "Lead Crisis" was not a separate event, but rather a specific industrial symptom of the Great Depression of 1873–1896 (often called the "Long Depression").

  By 1878, the market was saturated with low-cost silver and lead imports from massive, newly developed open-cast mines in Spain and the United States (notably the Silver Cliff and Leadville districts).

  This influx of foreign supply caused the price of British lead to plummet from over £20 per ton in the early 1870s to less than £13 by 1879. For capital-intensive deep mines like those in North Devon—which faced high overheads for labour and steam-powered drainage—the market price fell below the cost of extraction.

  This economic scissors effect rendered even the high-grade argentiferous galena of Combe Martin commercially unviable, forcing the rapid workforce reductions and site closures recorded by Burt, Waite, and Burnley.

Conclusion

The records synthesised by the University of Exeter's research team serve as a forensic chronicle of the "dying days" of a storied industry. Although the Combe Martin district had functioned as a vital source of national wealth and royal revenue since the 13th-century Plantagenet era (Claughton, 2010), the 19th-century industrial revival proved short-lived.

This resurgence was ultimately defeated by the geological reality of exhausted shallow lodes and the prohibitive costs associated with deep-shaft mining (Burt et al., 1984).

Furthermore, the regional collapse was accelerated by the pressures of an increasingly globalised mineral market, where domestic output could no longer compete with the scale of foreign imports (Burt, 1987).

The transition of sites like Combe Martin West from active exploration to being formally "not worked" by 1881 marks the final closure of a significant chapter in British metallurgical history, leaving behind a statistical legacy of high-grade mineral potential that was simply no longer economically viable to pursue.

Summary of Document Content

This analysis, based on the historical records compiled by the University of Exeter, documents the following key historical elements:

- Mining Transition: The mid-to-late 19th century marked the terminal phase of the silver-lead industry in North Devon.
- Mineral Resources: Sites like Combe Martin (Main) and New Combe Martin focused on high-grade Argentiferous Galena. Other regional sites produced iron (North Combe) and manganese (Comfort).
- Economic Collapse: Production plummeted by over 98% between the mid-1840s and late 1870s. While the ore quality remained high, with lead recovery rates rising from ~59.7% to ~74.2%, it was insufficient to offset low volume.
- Global Context: The "Lead Crisis" of the late 1870s, a symptom of the "Long Depression" (1873-1896), flooded the market with cheap foreign imports from Spain and the United States.
- Operational End: By 1878, sites like West Combe Martin employed only four underground men before being declared "not worked" by 1881.

This document serves as a forensic record of the final years of an industry that once provided significant national wealth during the Plantagenet era.

Reference List

- **Burt, R., Waite, P., & Burnley, R. (1984).** *The Devon and Somerset Mines: Metalliferous and Associated Minerals, 1845-1913*. University of Exeter. Published by A. Wheaton and Co. Ltd, Exeter. In association with The Northern Mine Research Society.
- **Burt, R. (1987).** *Cornish Mines: Metalliferous and Associated Minerals, 1845-1913*. University of Exeter.
- **Claughton, P. (2010).** *The crown silver mines and the historic landscape in Devon (England)*. ArchéoSciences, 34, 299–308.
- **Rosenberg, Hans (1943)**. "Political and Social Consequences of the Great Depression of 1873–1896 in Central Europe". *The Economic History Review*. 13. 13 (1/2). Blackwell Publishing: 58–73. doi:10.1111/j.1468-0289.1943.tb01613.x. JSTOR 2590515.

Educational Context

Combe Martin's mining story sits at the intersection of local heritage, national industry, and global economic change.

Combe Martin's Mining Heritage

Combe Martin has one of the longest documented mining histories in Britain, stretching from the medieval Plantagenet period to the late Victorian era. Its identity was shaped by three intertwined elements:

- Royal silver production: From the 13th century onward, Combe Martin supplied silver for the Crown. Claughton notes that the district "functioned as a vital source of national wealth and royal revenue since the 13th-century Plantagenet era."
- Unique geology: The valley contains narrow but exceptionally rich veins of argentiferous galena (lead ore containing silver). These lodes were unusually high-grade but shallow.
- Cycles of boom and decline: Mining revived repeatedly—Tudor, Georgian, Victorian—each time hitting the same geological limit: the deeper the miners went, the more expensive the drainage and labour became.

By the 19th century, Combe Martin was a place where ancient mining traditions met modern industrial pressures, and the mismatch ultimately ended the industry.

Why Silver-Lead Mines Were Important

Silver-lead mining mattered for three reasons—economic, strategic, and technological.

1. Economic value

Lead was essential for:

- pipes and plumbing
- roofing
- ammunition
- paint and glazing
- industrial machinery

Silver added a premium: even small amounts made a mine financially attractive.

2. National strategic importance

Before globalised trade, Britain relied on domestic mines for:

- coinage
- military supplies
- state revenue

This is why medieval kings invested directly in Combe Martin's mines.

3. Industrial-era demand

The 19th century saw:

- rapid urbanisation
- railway expansion
- growth in manufacturing

Lead was a backbone metal of the Victorian economy. But by the 1870s, Britain faced overwhelming competition from huge, mechanised foreign mines, which produced lead at a fraction of the cost.

This is the context behind the document's line:

> "The market was saturated with low-cost silver and lead imports from massive, newly developed open-cast mines in Spain and the United States."

What Was Happening in Britain (1845–1913)?

This period spans late industrialisation, global economic shocks, and the decline of small regional mines. Three forces shaped the fate of Combe Martin:

1. Industrial Revolution Maturity (1840s–1870s)

Britain was the world's industrial leader. Steam power, railways, and mechanised mining transformed production. But this also meant:

- small mines struggled to compete
- deep mining became capital-intensive
- labour costs rose

Combe Martin's narrow veins and difficult drainage made it poorly suited to this new industrial scale.

2. The Long Depression (1873–1896)

This global downturn devastated metal prices. The document summarises it clearly:

> "The 'Lead Crisis' was… a specific industrial symptom of the Great Depression of 1873–1896."

During this period:

- Spanish and American mines flooded the market
- British lead prices fell from over £20/ton to under £13/ton
- Combe Martin's output collapsed by over 98%

Even though ore quality improved, volume was too low to matter.

3. Shift to Globalised Trade (late 19th–early 20th century)

By the 1880s–1910s:

- Britain imported cheap metals
- domestic mining declined
- rural mining communities shrank
- capital moved to large overseas ventures

Combe Martin's mines were formally listed as "not worked" by 1881, marking the end of a 600-year tradition.

Bringing It Together

Combe Martin's mining heritage is the story of a small valley that once supplied kings, revived repeatedly through centuries, and finally succumbed to the pressures of global industrial capitalism. Its silver-lead mines mattered because they were:

- geologically rich
- historically prestigious
- economically vital in earlier eras

Between 1845 and 1913, Britain changed faster than Combe Martin's geology could keep up.

Authorship and Attribution

Researched and compiled by J.P. for the Combe Martin Village History Project (CMVHP):

Early Silver Mining in Combe Martin / Combe Martin Industrial History | Combe Martin Village History [The Little Parish with a Big Story]

March 2026.