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# INDUSTRIAL ARCHAEOLOGY NEWS 107 Winter 1998

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## COVER PICTURE

Re-excavation at the Lagan Canal's lock 12 at Lisburn,  
Northern Ireland (see page 14)

Photo: NI Environment and Heritage Service

## Honduran mining complexes of the sixteenth century

Pastor Gómez

*This article (translated by Blanca Martín) outlines the historical background and potential value of studying the sixteenth-century industrial archaeological heritage of two Honduran districts: Santa Lucía Tegucigalpa and San Lorenzo Guazucarán, both of which have documented sources.*

In November 1995, the Honduran Institute of Anthropology & History (Instituto Hondureño de Antropología e Historia) carried out archaeological surveys in San Lorenzo Guazucarán, in the municipality of Ojojona, where a colonial mining complex was found. Surveys in nearby areas showed many remains of this type throughout the central region of Honduras.

The old mining districts of Santa Lucía Tegucigalpa and San Lorenzo Guazucarán are located on the high central lands of Honduras, in the outskirts of the actual capital city, Tegucigalpa. Both districts are 1,000 metres above sea level, with a warm climate and annual rainfall which assures permanent water courses that can operate hydraulic machinery. Pine trees dominate the area, and were used as construction timber for engines and charcoal for blast furnaces. The geology of the region is complex and rich in volcanic materials and mineral veins of hydrothermal origins.

During the sixteenth century, the Spanish Crown expanded its domains on the American continent through the private initiative of its subjects. This was how Honduran territory became part of the colonial empire. Although the conquest of Honduras began in 1524, it was not completed until 1550. Indian rebellions were common during

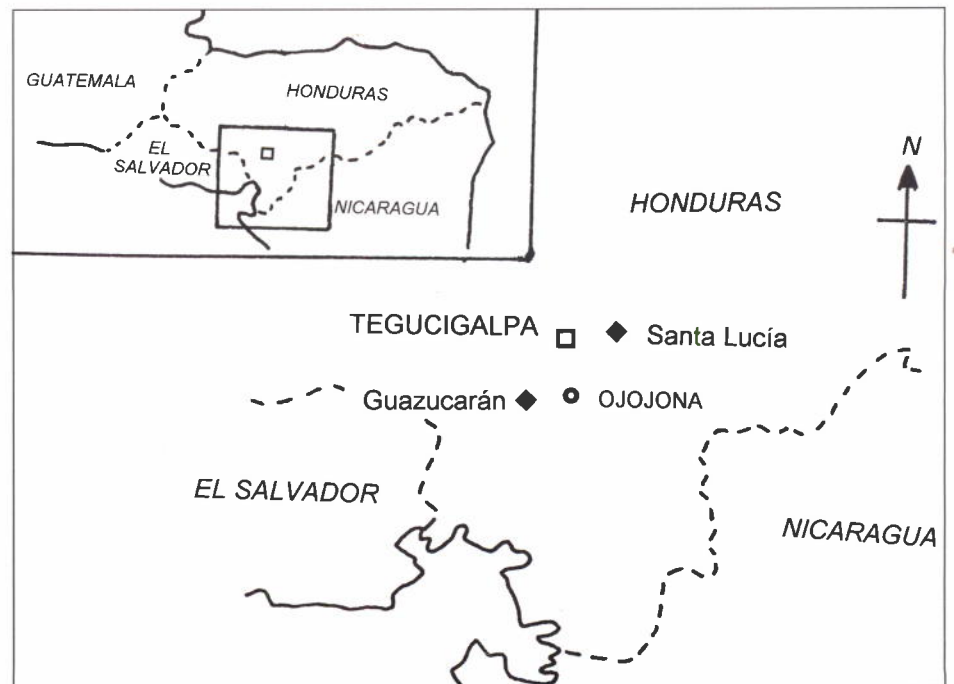
this period, which was also the time when mining exploitation started.

Mining activity was at first usually limited to washing gold in alluvial deposits, where forced native labourers used rudimentary technology. The original Spanish conquerors started to look for other income sources when alluvial deposits became over-exploited and the indigenous population, already declining, came under the protection of the Spanish Crown.

The discovery of silver deposits near Comayagua (then the seat of colonial government) marked the beginning of industrial mining exploitation in the country. It was in 1569 that the first silver minerals in the district of San Lorenzo Guazucarán were worked. Later discoveries, such as Agalteca (1576) and Santa Lucía Tegucigalpa (1578), led to the creation of the Alcaldía Mayor de Minas de Tegucigalpa (the Mining Mayorship of Tegucigalpa) which covered several thousand square kilometres, including over 14 indian villages, a Spanish town and abundant mineral deposits.

In 1590, Honduras was visited by a commission of the Spanish Crown with orders from Felipe II to find out about the possibility of transferring the Spanish Navy of the Viceroyalty of Peru from Panama to Honduras. However, they also had orders to visit the Tegucigalpa silver mines and report on their quality.

This commission documented 14 mining complexes in the country, 11 of them in Santa Lucía Tegucigalpa and three more in San Lorenzo Guazucarán. There were 172 black slaves and 79 forced native labourers employed in these complexes, each of which processed the minerals of up to five mines. All had blast furnaces and the



Location of the Santa Lucía Tegucigalpa and San Lorenzo Guazucarán mining districts of Honduras

majority had some kind of mineral processing mill. Three complexes had hydraulic mills for grinding the ore. Seven were operated by mules, in two the mineral was ground by hand, and only two complexes had no grinding mill. The machinery activated iron hammers, each weighing about 60 lb, which ground the minerals to a dust for further processing. The ground mineral was sieved and, depending on the quality, was separated from the ore by smelting or by amalgamation with mercury. This last method was first applied in Mexico after 1555.

The construction of hydraulic and animal-powered engines, furnaces and the use of the amalgamation method implied a technical knowledge that the first colonists did not have. It was brought to the area by Diego Xuárez, a master engine-maker, miner and carpenter, who arrived in Honduras at the end of the sixteenth century. A document shows that a certain Diego Xuárez, official of engines, skilled in the exploitation of gold and silver mines, left Sevilla for Peru in 1569. Though it remains to be confirmed, it seems likely that this is the same person.

In 1574, Diego Xuárez was employed to make the engines for the recently discovered mines of San Lorenzo Guazucarán, where he was also in charge of running the mining production. Before 1580, he made two other engines for the Agalteca mines. The discovery of mines in Santa Lucía Tegucigalpa around that date also demanded his services.

In 1580, Xuárez and a Spanish partner signed contracts to exploit a mining operation in Santa Lucía Tegucigalpa, both men contributing black slaves and sharing the right to exploit several mines. Apparently, these enterprises encouraged Xuárez to settle there with his family.

When the royal officials visited Tegucigalpa in 1590, Xuárez was the owner of a mining complex that included a hydraulic mill for mineral grinding, a furnace, a forge and a mill for grinding wheat. As his five slaves did not mine enough ore to utilise his hydraulic engine to capacity, Xuárez offered his services to other miners of the area, for whom he processed ore by grinding and amalgamation. This engine maker's knowledge determined the rentability of the Honduran mining industry to such an extent that the officials of the Spanish Crown referred to the province as prosperous during the 1590s.

At the beginning of the seventeenth century, mining production declined for several reasons. One was the lack of capital to invest in mines, another was the difficulty in supplying mercury from Spain due to the European wars, while a labour shortage added a third problem to the history of mining in Honduras.

Although no further documents about Xuárez's activities have been found, there is much information on Honduras' mining industry during the seventeenth to nineteenth centuries. Linda Newson, professor of King's College, London, states that in the middle of the seventeenth century some mining complexes were still worked around Guazucarán and Santa Lucía. William Wells, a North American engineer who visited Honduras in the mid-nineteenth century, documented that some



Section of the water canal, built with rubblework, at Guazucarán  
Photo: Pastor Gómez



Blast furnace of the Guazucarán complex  
Photo: Pastor Gómez

mines were still being exploited. He pointed out that a mill used by miners in Guazucarán was moved by mules, and another one in Santa Lucía had a hydraulic mill.

The ruins of a mining complex were found by the bank of the Ingenio River during the archaeological survey in Guazucarán. These ruins included a dam which altered the course of the river, canals for the water, the remains of a hydraulic mill, some processing tanks and a furnace, which the locals know as 'El Chimbo'.

The toponymy has kept the memory of the mining activities of that time in the area. An example of this is the name of the river where the ruins lie: 'Río del Ingenio' (Engine River). In addition, the historian Mario Felipe Castillo points out that the word 'chimbo' was once used for blast furnaces. The slag found around the oven of Guazucarán confirmed that its use was related to mineral processing. All the structures of the site were made of cobblestone, brick and mortar. There are no visible remains of either the machinery or the roof of these structures because most were made of wood. Other mining complexes in the area were not visited due to time limitation.

In conclusion, two facts might relate these ruins with the complexes of Guazucarán during the 1570s. The first is that the complex described and the mines of San Lorenzo Guazucarán are very similar, and the second is that the Ingenio River is the only water supply in the area with enough flow to activate hydraulic machines. In spite of that possibility, we have to remember that Newson and Wells state that some mining complexes were still working in this area in the seventeenth and nineteenth centuries. Therefore, the only way to date this site is through archaeological research.

Although research of this kind has never been done in Honduras, several elements underline its importance in these mining districts: the closeness of both districts with the capital of the country,

the historical documents related with them, and the probable existence of remains that have been preserved. Therefore, this would be a suitable area for preliminary research and a possible conservation project of Honduran industrial heritage.

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