

Identification

<u>Nomination</u>	Engelsberg Iron Works
<u>Location</u>	Västmanland
<u>State Party</u>	Sweden
<u>Date</u>	25 October 1989

Justification by State Party

The property is among the most characteristic examples of iron works, representing an important cultural, technological, and industrial development (criterion iv).

History and DescriptionHistory

Iron was produced in this region from at least the end of the Migration Period, using primitive smelting furnaces. The local peasants began mining ore and smelting in the 13th century, to supplement their agricultural activities. The introduction of the water-wheel to supply power for furnace bellows and hammers led to the rapid development of the Swedish iron industry in the later Middle Ages. The first bar-iron forge was operating at Engelsberg in the closing years of the 16th century, and by the mid 17th century the scale of operations there was substantial.

The policy of the Swedish Government of the time was to restrict pig-iron production to the peasants and to site forges outside the mining districts, leading to the establishment of estates with iron works attached (järnbruk) by noblemen or burghers, who were economically better able to develop high-output units.

This was the case at Engelsberg, where a nobleman built a blast furnace in 1681, for producing both pig and bar iron. Production steadily increased during the 18th century as a result of improving the technology and acquiring neighbouring forges: between 1695 and 1767 it rose from 135 to 264 tons per year. In 1778-9 a new blast furnace was built, incorporating recent technological innovations, together with an ore crusher and large charcoal store. The introduction of a new blowing engine in 1836 resulted in a significant increase in production. A gas-fired ore-roasting kiln was added in 1848. The forge, which was rebuilt in the later 18th century, was re-equipped with French hearths in the 1850s.

The decline of charcoal iron production began with the introduction of the Bessemer and open-hearth bulk steel-making processes into Sweden in the 1860s. Engelsberg was only able to survive by increasing the size of its smelting furnaces and lengthening their operating periods in the 1880s. By this time the Engelsbergs bruk was owned by the Fagersta Company, which found the older works increasingly uneconomical and closed it down in 1919.

Description

Engelsberg is the most complete surviving example of the traditional järnbruk upon which much of Sweden's prosperity was based in the 17th and 18th centuries. These self-contained estates comprised not only technical installations but also a range of administrative and residential buildings for management and workers, including those who worked on the associated farm. Over 50 buildings of various ages and functions have been preserved within the complex.

The main building, erected around 1750, is a two-storey wooden house with weather-boarded walls and a black iron-plated roof. Some of the rooms are decorated with paintings in the "Gustavian" style (akin to English Georgian), with views of the manor itself, its furnace, and forge. The last modernization dates from 1828, when the manor changed hands again. New windows and a porch were added, together with a clock tower on the courtyard facade. The buildings has two wings, that on the east containing the kitchen. There is a round pavilion, built of slag-stone, in front of each wing: the interior of that on the west is elegantly decorated.

Other buildings around the manor house include the master gardener's house (1790), the brewery (1829), and a monumental slag-stone barn (1872). Other noteworthy buildings at Engelsberg include the inspector's house, a wooden storehouse, the office building (brought to Engelsberg from Dalecarlia in 1917-18), stables, a coach-house, and smiths' cottages.

The smelting house of 1778-9, together with associated installations from later periods, survives intact, as do the forge of the 1850s and the ore-roasting kiln of the 1800s. Together they provide a very complete picture of the technological equipment of a traditional Swedish järnbruk.

Management and Protection

Legal status

Engelsberg, which is owned by Nordstjernan Förvaltnings AB, Stockholm, was declared a National Monument in 1974 under the provisions of the Swedish Cultural Heritage Act 1988.

Management

The estate is managed by the Central Board of Antiquities and the County Museum of Västmanland.

Conservation and Authenticity

Conservation history

The Engelsberg estate was restored in 1968-75 by the owner, Avesta Jernverks AB, a member of the Axel Johnson Group. The Swedish Labour Market Board contributed 20% of the total cost.

Authenticity

Despite having ceased operations in 1919, most of the administrative, technological, and residential buildings at Engelsberg have been conserved in their original condition, and the restoration work has been of the highest quality in terms of techniques and materials.

Evaluation

Qualities

Engelsberg is the best preserved and most complete example of a Swedish iron-working estate (järnbruk), of the type which produced the superior grades of iron that made Sweden the economic leader in this field for two centuries.

Comparative analysis

At its 15th Meeting in 1991 the Bureau of the World Heritage Committee deferred the examination of Engelsberg pending the completion of a study by ICOMOS of the industrial heritage which had been requested by the Committee. That study is now under way, in association with TICCIH (The International Committee for the Conservation of the Industrial Heritage). However, TICCIH experts on early iron-making have indicated to ICOMOS that the Engelsberg complex is unquestionably one of the most important in the world and as such would figure automatically at the top of any list that might be produced.

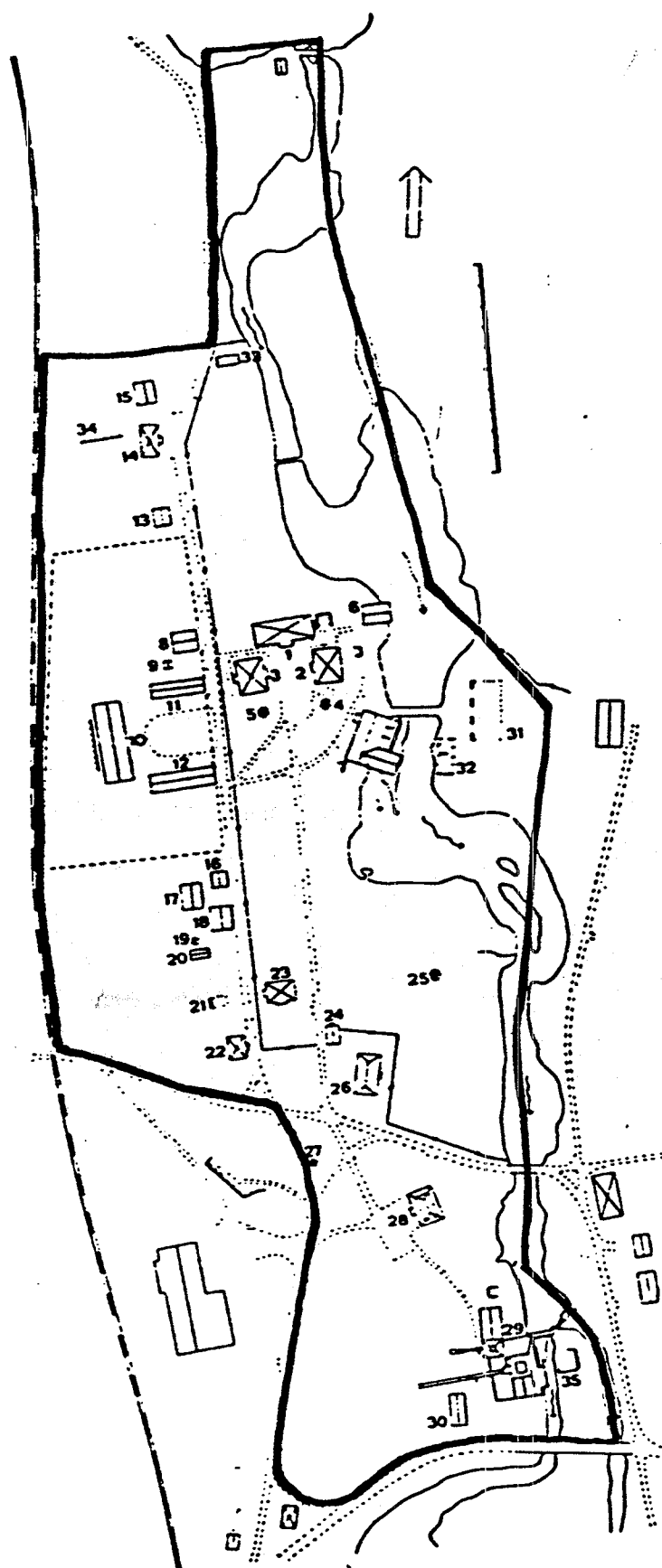
The property was visited by an ICOMOS expert mission in June 1993.

Recommendation

That this property be inscribed on the World Heritage List on the basis of criterion iv:

- Criterion iv Engelsberg is an outstanding example of an influential European industrial complex of the 17th-19th centuries, with important technological remains and the associated administrative and residential buildings intact.

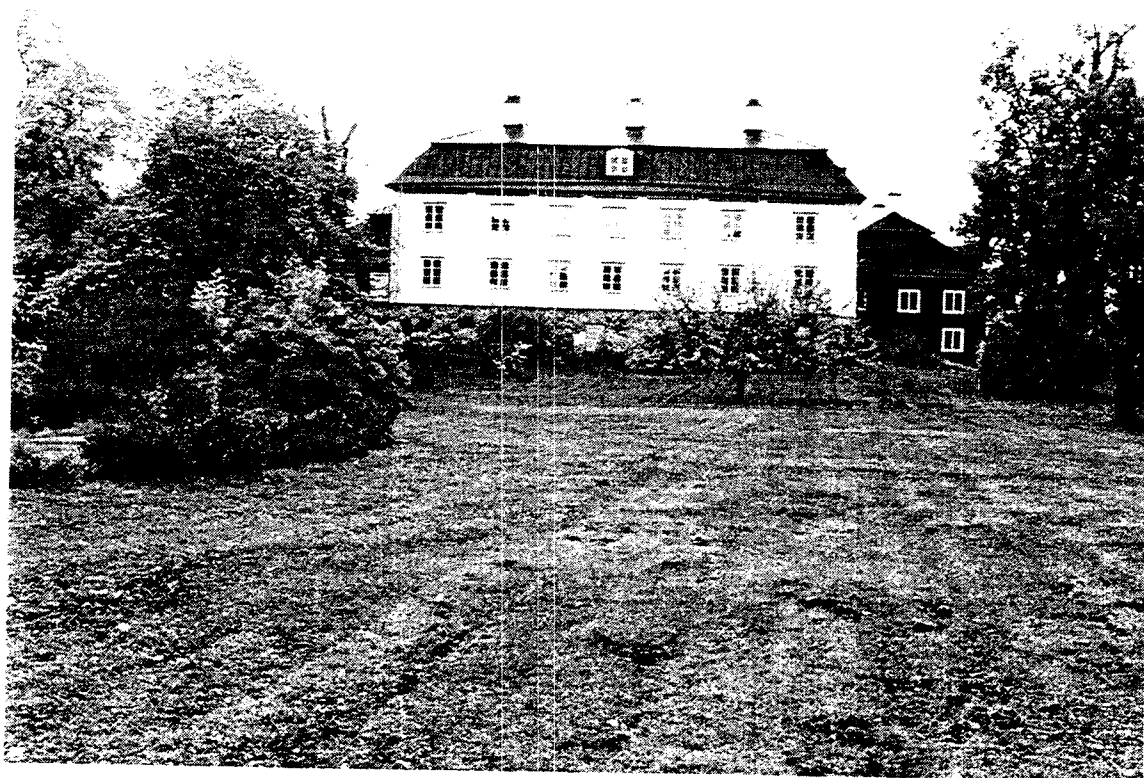
ICOMOS, October 1993



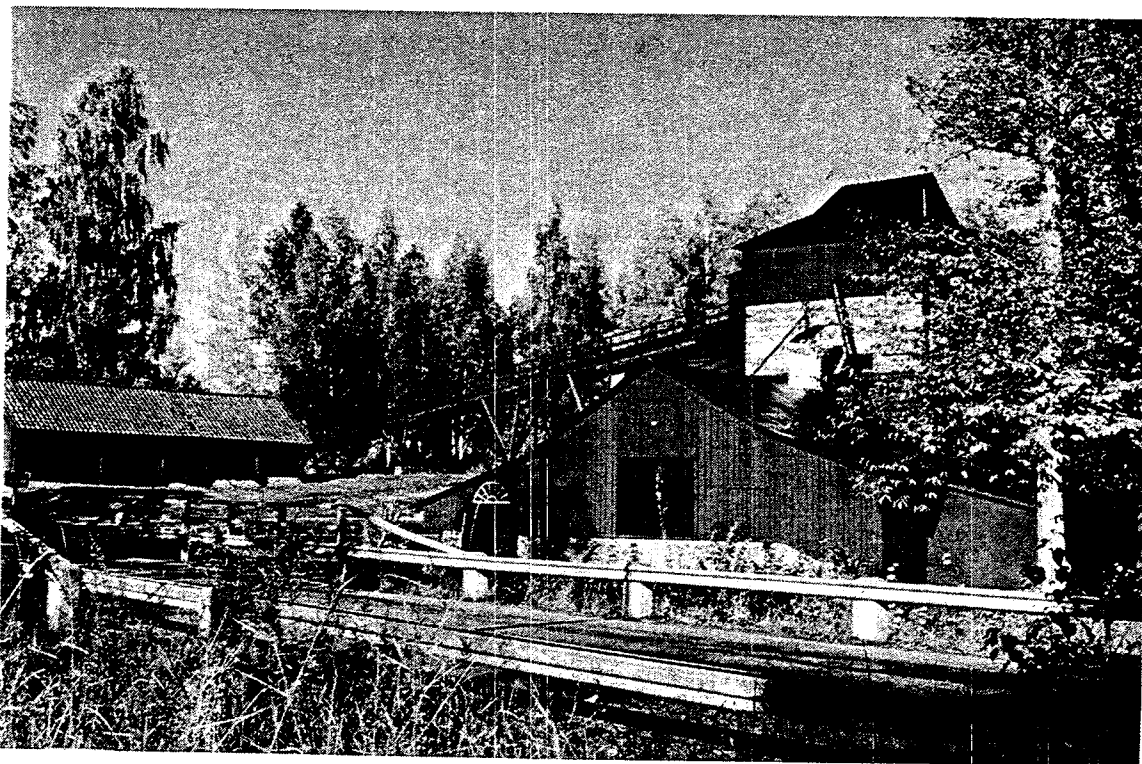
- 1 Main building
- 2 East wing
- 3 West wing
- 4 Slag-stone pavilion
- 5 Slag-stone pavilion
- 6 Brewery
- 7 Forge
- 8 Granery
- 9 Privy
- 10 Barn, now archives
- 11 Outhouses
- 12 Sheds and mangle-house
- 13 Ice-cellar
- 14 Master gardener's dwelling
- 15 Cellar
- 16 Old stable
- 17 Coach house
- 18 Stable
- 19 Privy
- 20 Cellar
- 21 Earth-cellar
- 22 Old office-building
- 23 Inspector's house
- 24 Storehouse
- 25 Summer-house
- 26 Worker's dwelling
- 27 Storehouse
- 28 Office-building
- 29 Blast furnace
- 30 Workshop

Engelsberg : plan du site / map of the site

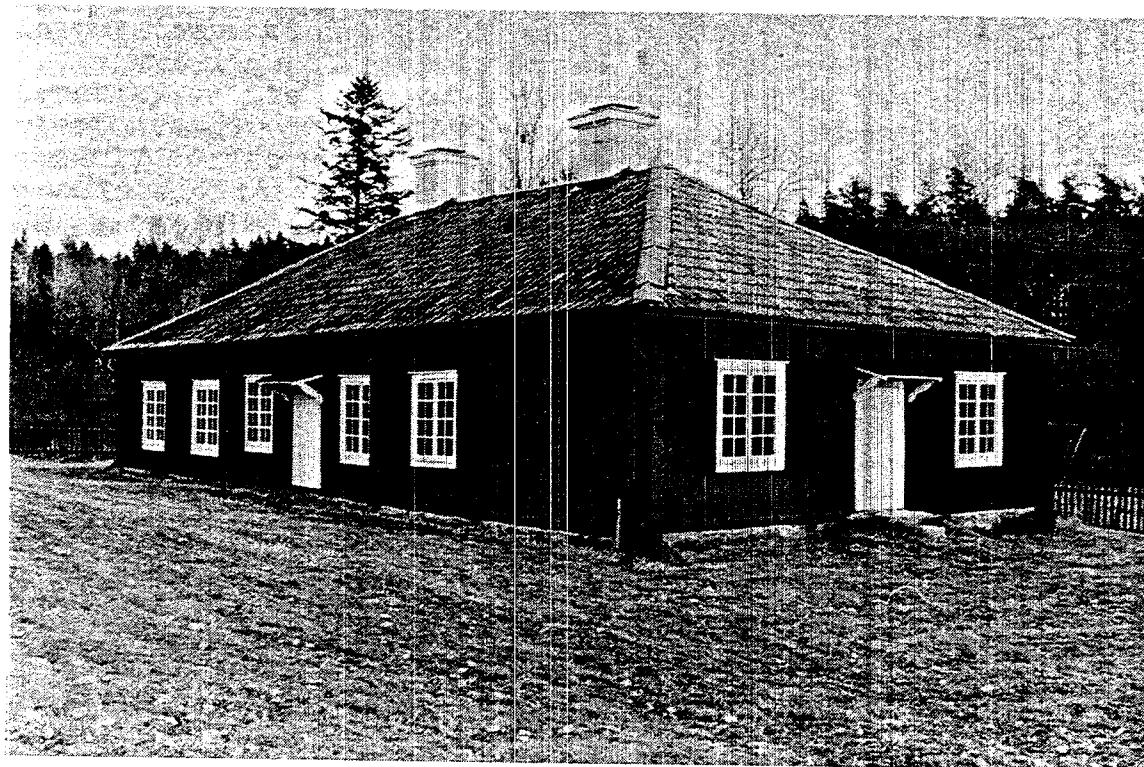
Engelsberg : plan du site / map of the site



Engelsberg : bâtiment principal / main building



Engelsberg : le haut fourneau / the blast furnace



Engelsberg : logement des forgerons /
smith's dwelling