

SULPHUR IN ICELAND

Briefcase

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Some surface deposits of sulphur in Iceland have been known for a long time. In the 18th and 19th centuries the deposits at Namafjall, Krafla, Fremri-Namar, and Peistareykir were worked for export. However, the quantity shipped out of the country each year was little by modern standards. Later the price of sulphur fell greatly, due to the discovery of deposits in Italy and in the United States. Sulphur has not since been exported from Iceland.

In 1939, a small sulphur distillation plant was erected at Namafjall, but operation was discontinued after the outbreak of World War II.

The above-mentioned enterprises have not required such quantities of sulphur that the question ever seriously arose as to what quantity could be obtained. It is only this year that some research has been carried out on that along with other related subjects. However, since a complete investigation of the sulphur resources would be quite costly, the present data is very inadequate.

The sulphur deposits in Iceland are all formed from hydrogen sulphide, which has been carried up to the surface by the vapors from the fumaroles. However, the sulphur is deposited only if the surface conditions are favorable, and even then never quantitatively. The sulphur collects in heaps

around the steam outlets. These heaps contain a very small amount up to 50 tons of sulphur each, and the sulphur is reasonably pure (70-99%).

These heaps are our only source of sulphur that has been worked. They are found at Namafjall, Peistareykir, Krafla, and Fremri-Namar. More locations are known, but because of their inaccessibility have been little investigated. Those of Namafjall are considered to be the most important. It has been estimated that the latter contain 3000 tons of sulphur in heaps, which, if removed, will form again in a few years. The mud around the fumaroles also contains some sulphur.

There have never been drillings for underground sulphur deposits in Iceland. It is conceivable that such deposits exist in or around the sulphur areas.

As can be seen, the Namafjall area is the only place where actual sulphur mining could be projected at this point. Only about 1000 tons can be expected there yearly by continuous workings. The quantity is too small to be of any real significance, even though it might be of commercial value.

However there are other plans which are currently being studied for sulphur production in Iceland. The vapors of all fumaroles contain some hydrogen sulphide (H_2S). It has been found that certain ones in northern Iceland contain the highest amount. At Namafjall, for instance,

the steam from the fumaroles contains 0.3% sulphur by weight as hydrogen sulphide. The present flow of steam from the earth there has been estimated at 25 tons per hour. We know from experience in other locations that the flow can be multiplied by drillings. If the ratio of steam to gas remains constant, it is possible to obtain some 10-20,000 tons of sulphur yearly. The cost of drillings for the above would amount to one half to one million dollars.

The conversion of hydrogen sulphide into elementary sulphur is a simple and inexpensive process which yields high quality sulphur. Other valuable components in the steam could be worked at the same time.

The vapors of the nearby Krafla and Peistareykir also have a high sulphur content. The entire area, when fully developed, might yield 50-100,000 tons of sulphur yearly in this fashion.

A pre-construction estimate based on 10,000 tons yearly production of sulphur has already been made. The project seems to have sound economical possibilities even if only the hydrogen sulphide from the steam is utilized.

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