

the production of sulphuric acid for the manufacture of explosives. Tin and mercury, are also essential, the latter being of special importance for the making of detonators for explosives.

Coal, though superseded by oil as naval fuel, is considered as the most important non-metallic war mineral. Petroleum—one of the recent war recruits—is, however, no less essential as the source of the liquid fuels that are vital to the movement of the naval, air, and highly mechanized land forces. Were it not for the lubricants produced from crude petroleum, present mechanized operations on land and sea and in the air would cease at once, and the supporting industrial machine could not function. Other non-metallic minerals usually classed as essential for war are sulphur, mica, asbestos, fluorspar, graphite, potash, magnesite, pyrite, phosphate, and iodine. There are many other minerals that, while actually as essential, are not so classed, in some cases because of widespread and abundant occurrence; limestone, essential for the smelting of iron ore and for the production of other war minerals, is an example. Such seemingly unimportant war-purpose minerals as those used in glass-making are other examples, although, without glass lenses and prisms for range finders, anti-aircraft artillery and long-range naval guns would lose most of their effectiveness.

No nation is self-sufficient in the possession of natural resources from which to draw its full requirements of raw materials, even in peace-time, and all are less so in meeting the greatly expanded war-time demands for essential raw materials. This is particularly true of mineral resources. Deficiencies in native supplies must, therefore, be made good by purchases from other nations—and in war time from allied or neutral nations only. Large economic resources are, therefore, of vital importance in the waging of modern major wars in order to finance such purchases. The great war significance of economic reserves has been demonstrated by the fact that, immediately on the outbreak of the present war, all the Allied nations, including Canada, set up exchange control organizations with wide powers to conserve and build up the national foreign-credit position. This emphasizes the importance of gold, the universally accepted medium of exchange, as an essential war metal, though not usually classed as such.

The contributions that can be made by a nation's mining industry to its war effort are thus of two kinds:—

1. The production at reasonable cost of those minerals that are essential for the manufacture of armaments, munitions, and other war supplies, as well as for normal civil needs.

2. The creation of essential foreign credits by the production of gold and silver, and of other minerals, surplus to national needs, for export sale to neutral countries.

Canada's Mineral Resources Development.

The importance of mining in Canada's economy may be appreciated from the fact that it now ranks second among the great basic industries. The estimated output, valued at over \$473,000,000 in 1939, was the highest on record, yielding first place only to agriculture. The Dominion now occupies a leading position among world mineral producers—in 1938, ranking first in nickel, asbestos, and platinum; second in radium; third in gold, silver, copper and zinc; and fourth in lead. These important minerals are produced mainly for export. In addition, Canada produces large quantities of coal, gypsum, petroleum, and many other minerals.

The attainment of such prominence in the mineral field, a development largely of the present century, is evidence of the wealth of the Dominion's mineral resources.