ANALYSIS OF THE CRUDE ORE.

Moisture	0.15	per cent
Graphite	33.48	• ••
Silica	37.54	
Oxide of iron	14.25	
Pyrites of iron	1.27	**
Oxide of alumina	12.35	"
Lime	0.54	**
Magnesia	0.48	**
-		
1	00.00	

On referring to the statement of cost, it is seen that for a 100-foot span bridge, the cost of graphite is \$4.80 greater than iron oxide.

There exists in Canada, in large quantities, a cheap natural product, the specific gravity of which, compared with No. I iron oxide powder, is as 0.31 to I. This material, after an inexpensive treatment, can be mixed with the iron ore powder to reduce the weight and increase the bulk, and on adding oil, a paint will be produced affording an elastic silicious surface which will resist cracking, peeling and blistering for a much longer time than the iron oxide alone.

On a clean, dry surface, paint applied at a temperature of 70° F., will last longest. Painting should not be done in damp, wet or freezing weather, and on summer mornings time must be given for the dew to evaporate before work begins, as oil paint will not adhere to wet metal. Painting should never be done by contract, but by day work, under a competent foreman. In painting it is best to begin at the top and work down. Buy paint in powder form when possible; next best in paste form. Light colors quickly become covered with a layer of dust, which absorbs as much heat as dark surfaces. The greater the number of pigments mixed together, the shorter the life of the paint.

LIFE OF METAL BRIDGES.

Heretofore, owing to increases in train loads, flimsy construction and neglect, the average life of iron bridges has not been over 25 years, and it is now generally believed among well-informed engineers that the average existence