

pairs may be considered as less on this than on almost any other kind of machinery.

The multiphase high-voltage system has brought nearly every mining district within economical reach of water power.

The induction motor, without commutator, collector or brushes, is the acme of simplicity and durability.

Electro-metallurgical operations are increasing and give promise of success.

Under these conditions it may be safely predicted that during the next five years much greater progress will be made, and the application of electricity will become one of the most attractive and important features of mining economy.

MINERAL DETERMINATION AND MINERAL TERMS.

COMPILED BY T. R. HARDIMAN.

Continued.

CLASSIFICATION AND KINDS OF ROCKS.

1. Fragmentary rocks, *except limestone.*
2. Limestone or calcareous rocks.
3. Crystalline rocks, *except limestone.*

First, or Fragmentary Class, embraces—1. Conglomerates, made up of pebbles and boulders; 2. Grit, coarse sandstone; 3. Sandstone; 4. Sandrock, made of sand not siliceous; 5. Shale, uneven slaty rock of varied colors; 6. Argillite, flagstone; 7. Tufa, volcanic sandrock; 8. Sand and gravel; 9. Green sand; 10. Clay; 11. Alluminum, silt; 12. Tripolite, infusorial earth.

Second, or Limestone Class, divides into two sections: 1. Non-Crystalline; 2. Crystalline.—1. Massive limestone; 2. Magnesium, limestone or dolemyte; 3. Chalk; 4. Marl; 5. Travertine; 6. Stalagmite, included in the first section.

Third, or Crystalline Class, embraces the siliceous rocks, and all the crystalline rocks except marbles and is divided into nine Groups.

1st Group—Siliceous Rocks: 1. Quartzite, siliceous sandstone. 2. Stacolumyte, schistose mica and quartz grains. 3. Siliceous slates. 4. Chert and impure flint. 5. Jasper rock, flinty red or yellow rock. 6. Bahrstone, cellular flinty rock. 7. Floryte, opal or pearl silica.

2nd Group—Mica and Potash (Feldspar series): 1. Granite. 2. Granolyte, contains no mica. 4. Protogene. 5. Mica schist. 6. Paragonite schist, contains soda. 7. Minette. 8. Greisen. 9. Mica-Argillye, variety of flagging stone. 10. Felsyte, compact orthoclase. 11. Porcelanyte, baked clay. 12. Trachyte, mainly of feldspar. 13. Pearlstone, including obsidian and pumice. 14. Leucitite.

3rd Group—Mica and Soda, Lime (Feldspar series): 1. Kersantyte. 2. Kinzigyte. 3. Miascyte. 4. Di-troyte. 5. Phonolyte, clinkstone.

4th Group—Hornblend and Potash (Feldspar series): 1. Syenyte, of which the Pyramids are made.

2. Syenyte-Gneiss, like gneiss, with mica replaced by hornblend. 3. Hornblend schist. 4. Amphibolyte. 5. Actinolyte. 6. Unakyte. 7. Zitcon-syenyte. 8. Foyayte.

5th Group—Hornblend and Soda Lime (Feldspar series): 1. Dioryte freestone. 2. Andesyte. 3. Labradorite. 4. Corsyte. 5. Isenyte. 6. Euphotide.

6th Group—Pyrosene and Soda Lime (Feldspar series): 1. Augite-andesyte. 2. Noryte, gabbro. 3. Hypersthenyte. 4. Doleryte, basalt, trap. 5. Eucryte. 6. Amphigenyte. 7. Nephiliunte. 8. Tachylyte.

7th Group—Epidote and Chrysolite Rocks, with little or no Feldspar: 1. Pyroxenyte. 2. Garnetyte. 3. Eclogyte. 3. Eulyte. 4. Epidosyte. 5. Eulyte. 6. Chrysolite. 7. Sherzolyte. 8. Pircyte. 9. Limbargyte.

8th Group—Hydrous Magnesian and Aluminous Rocks: 1. Chlorite-schist. 2. Chlorite-argillyte. 3. Tacose-schist. 4. Steatyte, soapstone. 5. Serpentine, greasy green rock. 6. Ophiolyte, verd antique marble. 7. Pyrophylyte, slate of a soapy feeling.

9th Group—Iron Ore Rock: 1. Hematyte, specular iron ore. 2. Itabyryte, mica schist, with hetatyte leaves. 3. Magnetyte, magnetic iron ores. 4. Menaccanyte, titanite iron ore. 5. Franklinyte, with zinc and manganese.

CHARACTERISTIC PROPERTIES OF MINERALS.

The physical properties of minerals are useful in their determination, and will usually establish their identity without a chemical test. These properties are cleavage, fracture, hardness, tenacity, specific gravity, luster, color, fusibility, transparency, malleability, sectivity, elasticity, taste and odor. The manner of crystallization, since each mineral generally is crystallized in only one distinct system.

Hardness, Fracture, Lustre, Fusibility, Specific Gravity, Crystallization, and Ores generally, will be dealt with in our next issue.

THE REASON WHY!

The following letter has been received in our office from a well known mining engineer of London, England, which may be of interest to mine owners of B. C.:

"There are many people willing to invest in B. C. mines, but unfortunately do not believe the reports from owners, or their engineers. Now I think it possible that investors may be interested if an independent English engineer was to go over and send his independent report of as many prospects as he could examine, that business would result. If you think the same you should try and arrange with the owners to share amongst them the expenses of such engineer, and, as I have already visited the Western States and British Columbia, I would willingly come over and examine the prospects and mines, and have the reports widely circulated in London and elsewhere, as I am convinced that fortunes await those investors who go into sound mines in B. C." We publish this letter in the interests of mine owners and the country generally, and shall be glad to give the matter all the aid possible to promote development, and circulate our possibilities.