To Produce Rutile.—The Corona Silica Products Company of Rogers will begin commercial production immediately of rutile from ore-bearing deposits located in Magnet Cove, near Hot Springs, it was announced yesterday by the Arkansas State Chamber of Commerce. Less than 500 tons of the product are produced each year in the United States, and this has been produced in Virginia and Florida. The presence of the mineral in Magnet Cove has been known for about 40 years, and George C. Branner, state geologist, directed the attention of the Rogers concern to the deposit. A lease has been obtained on 327 acres, about 100 of which is believed to contain the rutile ore. Rutile is used as a paint pigment, in glazes and enamels, in the tanning industry and for the production of chemicals. Dog- 8-19-31

Company to Mine Titanium in Hot Spring County.

Gazette 10-3-21

The Titanium Corporation of America, a concern organized to develop and mine titanium deposits discovered recently in Hot Spring county, filed articles of incorporation in the secretary of state's office yesterday. The company's capital consists of 30,000 shares of no par value stock. Incorporators are H. R. McKnight of Rogers, Bailey V. Emery, Waldo D. Emery and Joseph H. Huger of Tulsa, Okla.

PLANS TO DEVELOP RUTILE DEPOSITS

Oklahoman Ships Machinery for 150-Ton Mill to Magnet Cove.

Oct 6 1931

Special to the Gazette.

Hot Springs, Oct 5.—Two mineral deposits discovered recently which mining engineers and geologists say may prove profitable, will be developed soon, it was announced here today.

H. R. McKnight of Tulsa is placing machinery in Magnet Cove for a 150-ton mill to take care of the deposit of rutile recently discovered there. The mill will be less than a mile from Cove creek, Hot Spring county, near Highway No. 6. From rutile is obtained titanium dioxide and the deposit, like that of barite, also a new discovery in the Magnet Cove sector, is said to be extensive. State Senator Joe E. Kimzey of Magnet Cove was instrumental in getting the rutile deposit developed. Part of the machinery for the mill is on the ground.

George Blow, mining engineer and consultant geologist, with headquarters in New York, has been looking over the cinabar deposit in Pike county. Cinabar is a metal from which mercury is derived.

"I have looked the ground over thoroughly for the past 10 days," Mr. Blow said, "but I cannot at this time make a statement regarding the purpose of my visit."

His brother, Almond Blow, vice president and general manager for the Amerade Petroleum Company, said to be a subsidiary of the Standard Oil Company, conferred with him here. Much of the cinabar deposit is on land owned by the Graysonia Lumber Company.

The following incorporation papers were filed in the secretary of state's office yesterday:

Rockport Minerals, Inc., Malvern, articles of incorporation; capital stock, 50,000 shares of $1 par value each; Joseph Y. Norwood, H. R. McKnight and others, incorporators.

Malco-Saenger Theaters, Inc., North Little Rock, articles of incorporation;

NEW WHITE PIGMENTS CONSUME ZINC OXIDE

from the Joplin Globe of Jan 31 1932

Titanium Is Beginning to Be Used Extensively in the Making of Paint.

BY W. GEORGE WARING.

Recently several new white pigments have appeared in the paint trade that are of importance to zinc ore producers because some of them consist partly of zinc oxide. All of them are important as paints on account of their superiority to white lead and some other white paints because of their non-toxic and their innate qualities as pigments.

The oxide of antimony, a very durable white pigment, has been known for many years under the trade name of melanox. The dioxide of titanium, properly called titania, has been known to chemists since its discovery in the pure state by H. Rose in 1821. It attracted attention as a very important pigment about the year 1910 under the trade name of titanox.

A few words may be said here about the origin of titania, because it is so little known, although one of the eight or nine most common constituents of the universe.

Discovery of Titanium.

The metallic element, titanium, number twenty-two in the periodic system, was first detected in 1789 by a Cornish clergyman, Rev. William Gregor, as the chief constituent of the brown or black sands on the sea beach at Monnacan, near Falmouth, in Cornwall. This was only fifteen years after Joseph Priestley's great discovery of oxygen (August 1, 1774, which marks the origin of modern chemistry). All the young, enthusiastic chemists of that era, Klaproth, Rose, Borzelius, Wohler, et al., took a hand in developing Gregor's discovery. One chemist, C. M. Kersten, made an observation, first published in Poggendorf's annalen in 1840, that clay containing titania beams blue when ignited with deoxidizing agents, thus, as he remarked, "muffles made of such clay and used for the distillation of zinc may acquire in parts a rich violet color." "When a mixture of silica, alumina, lime and ten parts of titanic oxide and zinc is calcined it acquires a fine blue color."

This observation is important in connection with the present-time development of the coloring power of titania in the ceramics industry. It apparently has escaped the attention of all the writers on the metallurgy of zinc since 1900, as well as of those investigators of the coloring of gems, etc., Messieurs Levin and Vernuiel, who worked from 1890 to 1910 trying to discover the cause of the blue color in the sapphire. Their ultimate success in 1910 and what led to it is described in detail by Isaac H. Levin in the latest Encyc. Brit., Vol. VII, Pages 96-97.

The year 1910 marks the beginning of a vast amount of research and of improvement in the chemistry and practical use of titania in the industries, which still continues. Thus, a hurried glance through Chemical Abstracts for 1928 and 1930 showed that in 1928 some seventy-three research papers on titanium were published and thirty-two patents granted for improvements in the metallurgy of titanium. In 1930 there were sixty-one papers and sixty-three patents. There seems to be no great diminution since.

Not a Rare Metal.

It is rather trite to refer to titanium as a rare metal, as is usual in government reports and the like, seeing that metallic titanium is actually being produced by the ton and used in the steel industry and that titania and its compounds are also produced in very large quantities for use in dyeing in ceramics and in other industries. But as a fact, pure metallic titanium was unknown before that epochal year for this element and it was not until 1810 that pure metallic titanium was first produced commercially by the process of M. A. Hunter.

Metallic titanium is silver white and very brittle when cold. At a moderate red heat it is malleable like iron.

Where the ores of titanium are found, how they are treated, what the products are and their uses, are matters that are told of fully in information circular No. 6365 of the United States bureau of mines, department of commerce, recently published. The foregoing description of titania or titanox forms no part of said information circular which is a quarto treatise of thirty-eight pages.

I should state that information circular 6365 was written by E. P. Youngman and that it should include, as one of the titanox pigments, the formula made public in 1925 and approved by the bureau of standards, as follows:

Titanium white (titania), 50 per cent.

Zinc oxide, 40 per cent.

Extending pigments, 10 per cent.

Matter soluble in water, not over 0.8 per cent and to contain no trace of lead and no water of combination.

One of the commonest of the 92 elements, titanium, is one with which few except the scientists are familiar. Only eight other elements are more prevalent, yet because of the difficulty of obtaining it in pure form it is called "rare." In their report to the Electrochemical Society on titanium, Profs. M. A. Hunter and A. Jones of Rensselaer Polytechnic Institute said that the element's resistance to isolation is one of the qualities giving it commercial value. It is a natural "joiner" among the metals, disliking to exist alone when there is anything around with which it can unite. In the iron and steel industry it is used as a scavanger for oxygen and nitrogen, which it devours with great avidity. As it combines readily with carbon to form titanium carbide, it can remove an excess of this element also. There are huge deposits mixed with iron in the Adirondacks

Gazette Oct. 2, 1934

tarted. Democrat 7-27-36

Information on deposits of rutile or titanium oxide, which also is known as brookite and arkansite, is sought by Frank L. Hess of College Park, Md., who is mineralogist for the United States department of the interior, for inclusion in a volume he is preparing on non-metallic minerals, Dr. George C. Branner, state geologist, said today. Dr. Branner said that about 400 tons of rutile has been mined by two companies since 1934 in the Magnet Cove area.