November 1949 Portland, Oregon

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HISTORICAL OUTLINE OF THE MINING LAWS

Introduction

The mining laws of European countries had an influence in the setting up of a system of mining laws in the United States. The laws governing mining operations in continental Europe were, as might be expected, based on crown ownership of mineral lands and governmental control. In England mining laws were liberally administered and individual enterprise and initiative were recognized by Parliament in giving statutory authorization to local rules and customs of miners in Cornwall, Devon, and Derbyshire. Spanish law was the rule in Mexico except for minor changes made in the setting up of the Republic of Mexico in 1821. Mines were the property of the government but title and possession could pass from one subject to another. Royalties were payable to the government. Discoverers of mines could acquire claims or "pertenencias," and rules were established by the government for locating, recording, and maintaining possessory rights. These Mexican laws and customs had a strong influence on rules set up in the organization of the first mining districts in California.

Early United States laws

When California became United States territory, Mexican mining laws then in force were abrogated. Therefore to prevent extreme chaos California miners lost no time in setting up their own rules and regulations to protect claim owners and to regulate the locating and recording of mining claims as well as to specify the amount of work required to maintain title. This unprecedented procedure was later formally approved by Congress and the Supreme Court of the United States even though in reality the miners were trespassers and took the law into their own hands, as was their custom in matters of criminal law.

The California gold rush focused attention on the need for a uniform mining code. The need became more acute after discovery of the fabulously rich Comstock lode at Virginia City, Nevada, with the attendant boom and confusion over the multitudinous mining locations.

During this early pioneer period from 1848 to 1866, mining laws were in a very unsettled condition. At first there were the loose local rules and customs. Later, states and territories set up regulations which were an outgrowth of the local rules. These regulations gave uniformity to the code within the state, but there were variations among the different states, especially in the size of mining claims. Discovery of valuable mineral preceding appropriation of the claim was generally recognized as was a work requirement for maintaining possessory rights. These were fundamental and were so considered by the courts in contests of property rights.

Lode Law of 1866

In this early unsettled period Congress recognized the need for formulating a definite mining code, but there were many divergent opinions as to the best policy and the proper machinery to implement that policy. Congressional action was delayed session after session but the pressure for action grew until the summer of 1866 when the so-called Lode Law of 1866 was passed.

There were several laws passed prior to 1866 which influenced the act of that year. The Department of the Interior was established by statute on March 3, 1849, and from then on this department had jurisdiction over public lands. In 1864 and 1865 laws were passed regulating sale of coal lands. On May 5, 1866, a law was passed which was concerned with the boundaries of Nevada and provided for maintenance of possessory rights in mining claims of a particular mining district in which local rules and regulations were declared valid, but this law expressly stated that fee title was not granted to mineral lands held by possessory title. The Sutro Tunnel Act was approved July 25, 1866. It granted rights of way and other privileges to Adolf Sutro and associates for the construction of an exploration and drainage tunnel to cut the Comstock Lode. This act also recognized mining regulations set up by the Nevada legislature. (The Sutro tunnel was finished too late to be of service and was probably unwarranted in any event. It was a financial failure to everybody concerned except Sutro.)

On the day following approval of the Sutro Tunnel Act, Congress passed the "Lode and Water Law of 1866." This was the first law which formulated a national policy under which title to mineral lands could be acquired. Later laws repealed or superseded most of the provisions of this act but it was important in establishing a means of acquiring title to mining claims under Federal law. It confirmed the rights acquired under local rules and established a definite policy that mineral lands of the public domain should be open to exploration and location. Even then Congress recognized the importance to the nation of encouraging mineral discovery and development.

As the name of the 1866 law indicates, it was concerned with lode claims. It made no provision for acquiring title to placers. The Comstock Lode was then much in the public eye and the spectacular boom in placer deposits was on the wane. Lode mining was gaining in importance and popularity even outside of the Comstock, and a national lode law became essential in order to avoid chaos among mining titles. Senator Stewart of Nevada, co-author of the act, was the principal force behind its passage. The law was built around the conception of a tabular vein deposit; the surface containing the lode was incidental. The law was unsatisfactory as a national mining law and was subject to many Land Office interpretations and court decisions. However, as stated above, it made a start on basic policy including the law of extralateral rights which permitted a claim owner to follow a vein beyond the claim's sidelines under certain conditions. This law was clarified by the act of 1872.

Placer Act

On July 9, 1870, Congress passed a placer law as a corollary to the Lode Act of 1866. The Placer Act defined a placer as "all forms of deposits excepting veins of quartz or other rock in place." This definition left certain types of mineral deposits, later to become important, in a "no man's land" requiring court decisions to place them in one camp or another. The act was important in placing entry, location, and patent of placer claims on the same footing as lode claims. It prescribed claim areas and methods of location.

Act of 1872

On May 10, 1872, Congress passed a new mining law known as the General Mining Act of 1872. It embraced in the one act provisions covering both lode and placer claims. These provisions form the basic mining laws of today. In its declaration of policy the act states

that "All mineral deposits in land belonging to the United States are hereby open to exploration and purchase and the lands in which they are found to occupation and purchase." Thus the policy was declared to be that both the deposits and the lands containing them were inseparable as far as original entry and patent were concerned. The entryman located a surface area containing a mineral deposit, not just a mineral deposit or lode as in the 1866 law.

The 1872 Act specified the maximum area embraced in lode claims (1500 feet long by 600 feet wide), a specification which was indefinite in the Act of 1866. In addition, the act fixed the amount of annual work, clarified rules for marking boundaries, recording and patenting, and provided for location of tunnel sites and mill sites.

Summary

The 1872 Act formed the framework of our mining laws but the whole fabric of these laws is made up, in addition, of subsequent legislation, both state and federal, court decisions, and administrative acts and rulings.[1/] Important among these acts and rulings are the following: granting certain sections of the public lands to states for the purpose of encouraging education and the maintenance of public schools; the Timber and Stone Act of 1878; the granting of lands to railroads to encourage construction; granting of townsite lands; homestead and townsite laws; Forest Reserve acts; formation of Indian reservations, national parks and national monuments; the leasing laws of 1917 and 1920; the Taylor Grazing Act of 1934; and the many administrative withdrawals of land for power sites and for the purpose of classification. Of importance to Oregon was the O and C Railroad Land Revestment Act which in 1916 returned railroad grant lands in Oregon to the federal government. In 1937 these lands were put under a sustained timber yield program, and later special mining regulations applicable to these lands were promulgated by the Bureau of Land Management, successor to the General Land Office.

In formulating the mining laws Congress recognized some basic facts regarding mineral lands of the public domain - namely, that it was essential to the public welfare for mineral deposits to be found and developed; that an incentive in the way of a reward for hardship and labor must be offered the prospector to make the search for minerals attractive; that this incentive should be commensurate with the risks involved; that the real prospector is, above all, an exponent of individualism and extreme optimism; that a minimum of governmental regulations should be set up; and that valuable mineral deposits are generally buried and may not be evaluated the same as timber land, agricultural land, and game resources.

Encouragement to the prospector was the keynote of the early statutes for it was recognized that the prospector provides an all-important link in the chain of finding, developing, and producing minerals - a link that cannot be formed by government, mine operators or investors. The building up of a great mining industry in the West, and a mineral production that contributed heavily to the winning of three wars bear witness to the wisdom of Congress in formulating the mining laws.

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Mining Law in Recent Years, by William E. Colby, California Jour. of Mines and Geology, vol. 44, no. 3, July 1948.

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F. W. L.

1/ With a few minor exceptions the mining laws apply only to the public land states of the West comprising Arizona, California, Colorado, Idaho, Montana, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, Wyoming, and Alaska Territory.

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GALLIUM

Gallium - that rare metal with the unusual properties which, last spring, Alcoa announced it was deriving from bauxite - is in the news again. Almost simultaneously two separate branches of the U.S. Navy are reported to have been investigating potentialities of the metal as a treament for bone cancer and as a heat carrier for an atomic power plant.

According to a story that appeared in the Washington, D.C., Times Herald, the Chemical Society of Washington was told by Navy Commander Horace G. Dudley that a radioactive form of gallium had been used experimentally for bone tumor treatment at the Naval Medical Center, Bethesda, Maryland.

The Wall Street Journal, in a story by Ray Cromley, revealed that the Office of Naval Research and the Atomic Energy Commission were conducting experiments to determine what the metal can do in the way of helping make atom power practical for industrial plants, ships, planes, and rockets.

In its experiments with radioactive gallium, the Navy has injected the material into the blood streams of mice in which bone tumors were present. It emits electrons and high energy X-rays so violently that the hypodermic needle had to be guarded with a lead shield to protect the hands of laboratory workers from severe radiation burns. Within a few hours after its injection into the animals marked concentrations of gallium were found in the tumor mass. If present indications are upheld, said the Times Herald, radioactive gallium may prove to be the most valuable contribution yet made to bone cancer treatment by the new radioactive materials which have followed the atomic bomb and which are made in the government's uranium piles.

Office of Naval Research is looking into the possibilities of gallium along other lines, says the Wall Street Journal. In their efforts to create a practical stomic power plant, one of their chief problems has been how to collect the tremendous heat from an atomic pile and use it for production of power. Water heated to steam isn't usable because steam, as a collector of heat, is practical up to only about 600 degrees Fahrenheit. Scientists say atomic power plants will work most efficiently at temperatures of about 3,500 degrees.

It is here that gallium comes into the picture. Its physical properties are such that although it is solid at temperatures approaching the freezing point of water, it will become liquid at around 86 degrees Fahrenheit. But, it will not boil until above 2500° Fahrenheit. Thus, as a collector of heat from atomic piles it holds much promise for transferring this heat to a gas which would drive turbines to create electric energy. Stumbling block beyond this point is the search for a material to hold the gallium while it is at such high temperatures. Its chemical nature is such that it eats into most containers. The metal is now shipped in solid form in small rubber containers. The rubber is then stripped from around the solid contents to free it for use.

Discovered in 1875, gallium is not new. Up to now, however, its chief use has been in thermometers to measure high temperatures. More recently it has been used experimentally in making amalgams for filling teeth cavities.

Found in combination with most important metals and even with coal, gallium is so thinly spread in its natural state that it is economically produced only as a by-product of refining other metals. Gallium is now being produced at a cost comparable with some of the precious metals.

From The Alcoa News, Pittsburgh, Pa., issue of October 3, 1949.

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LIMESTONE SHIPPED TO PORTLAND CARBIDE PLANT

A 5-car shipment of limestone from its recently acquired marble quarry near Enterprise, Oregon, was received on October 25 by the Pacific Carbide and Alloys Company, Portland. Regular 5-car shipments will follow periodically. Pacific Carbide and Alloys Company bought the Enterprise quarry from the RFC. The stone, of high purity, is burned in kilns at the carbide plant in Portland.

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PERCENTAGE DEPLETION OF PERLITE AND DIATOMACEOUS EARTH FAILS

H.R. 5268 of the 81st Congress contained amendments to the Internal Revenue Code. Section 9 of the bill provided for percentage depletion for perlite and diatomaceous earth. The bill passed the House but the Senate amended the bill to include other materials besides perlite and diatomaceous earth which would come under the percentage depletion provision. These other materials were "tripoli, granite, marble, borax mines and deposits, sand, gravel, stone, calcium and magnesium carbonates, and all other nonmetallic clays and minerals." The conference committee failed to agree and eliminated the amendment with the understanding that the entire matter of percentage depletion will be considered early next year after full study and hearings. Therefore Public Law 378 which amends the Internal Revenue Code according to H.R. 5268 contains no reference to percentage depletion.

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MACE SMELTER PURCHASED FOR SOUTHERN OREGON MINES

According to the Illinois Valley News of October 13, 1949, Waite Minerals, Inc., which owns the Queen of Bronze and Cowboy mines near Takilma, Josephine County, Oregon, has purchased a Mace smelter to be erected at the Queen of Bronze mine. The report states that W. A. Richelsen, consulting engineer, Seattle, has been retained as consulting engineer for Waite Minerals, Inc. It is stated that the smelter will be operated as a customs smelter in addition to treating the ores produced by Waite Minerals, Inc.

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NEW MINERAL CLUB FORMED IN LA GRANDE

On October 24, Twenty-five residents of La Grande met at the home of Mr. and Mrs. Fletcher Milton and formed the Blue Mountain Gem Club. Weekly meetings will be held on Mondays. Mr. N. S. Wagner, field geologist for the State Department of Geology and Mineral Industries, gave a talk on geology of the State illustrating, with the aid of maps, geological phenomena in general, with specific examples representative of northeastern Oregon.

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DEPARTMENTAL ACTIVITIES

Harold Wolfe, field geologist stationed at Grants Pass, and David White, geologist from the Portland office, have been doing plane table work in the area above the old Ashland mine near Ashland, Jackson County, where scheelite, a tungsten mineral, was discovered last summer. When the topographic map of the area has been prepared, the geology will be mapped in an attempt to get a structural picture of the scheelite occurrence which may be of value as a guide to further prospecting. Results of the study will be published in a G. M. I. Short Paper.

Norman Wagner, field geologist stationed at Baker, and Ralph Mason, mining engineer of the Portland office, have examined clay deposits near Spray in Wheeler County and near Dayville in Grant County. The deposit near Spray contained white kaolinite and that near Dayville was a good grade bentonite. Both of the deposits proved to be of restricted size. Ceramic tests of samples were made by Charles Jacobs and chemical analyses by L. L. Hoagland, both of the Portland office.

Hollis Dole and Ralph Mason of the Portland office made an inspection, from a geological standpoint, of the Peninsula sewer tunnel now being driven by the City of Portland in the northern and northeastern sector of the city. Fine cooperation has been obtained by the Department from the engineering department of the city and from the contractor who is driving the tunnel. Petrological studies of the gravels penetrated will be made by the Department, and after the tunnel is finished, probably sometime next spring, a paper will be prepared on the geology of the area exposed by the tunnel. Maps and drill logs along the course of the tunnel have been provided by the city engineering department.

Hollis Dole is teaching an evening class in geology for the Vanport Extension Center of the Board of Higher Education at Vanport College, and together with David White is teaching classes one night a week at Lincoln High School in identification of rocks and minerals for the Portland Extension Center. Harold Wolfe is teaching a class on rocks and minerals organized by the Grants Pass Agate and Mineral Society.

During October members of the Department staff gave several talks to classes in Portland grade schools and to civic clubs.

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OREGON MEMBERS OF BOARD OF GOVERNORS, AMERICAN MINING CONGRESS

At the annual meeting of the Western Division of the American Mining Congress held in Spokane September 28, 1949, F. I. Bristol, F. W. Libbey, and S. H. Williston were elected to the Board of Governors as Oregon members.

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NEW MAP SHOWS GEOLOGY OF A COASTAL AREA IN NORTHWESTERN OREGON

The U.S. Geological Survey has published a new map of the area between Cape Kiwanda and Cape Foulweather along the northern coast of Oregon. It is part of a program to provide data on oil and gas possibilities of the northern Coast Range of Oregon, and was prepared in cooperation with the Oregon State Department of Geology and Mineral Industries.

The map, titled "Geology of the coastal area from Cape Kiwanda to Cape Foulweather, Oregon," by Parke D. Snavely, Jr., and H. E. Vokes, has been issued in one sheet as Preliminary Map 97 of the Oil and Gas Investigations series. Copies may be purchased from the Map Distribution Office, U.S. Geological Survey, Denver Federal Center, Denver, Colorado, at 50 cents each. The map will also be available for "over-the-counter" sale (but not by mail) at Room 1206 General Services Building, Washington,D.C., and at the Geological Survey field offices at 533 U.S. Post Office and Courthouse Building, Los Angeles, California; and at 234 Federal Building, Tulsa, Oklahoma.

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LOS ANGELES TRYING TO REGAIN ITS PLACE IN THE SUN

The West Coast edition of Iron Age, November 3, 1949, reports that 32 gray iron foundries in Los Angeles County must take active steps toward controlling coke ash particles. A county citation with a January 27, 1950, deadline for placing orders for smog-reducing equipment has been issued. The foundries are not the only plants contributing to the eye-smarting, sun-hiding industrial smog, however.

To determine what constitutes smog, the Stanford Research Institute and Los Angeles County developed new instruments which measure in sizes of one-tenth to 10 microns. They find in the Los Angeles area no one contaminant causes smog, but a combination of them does the damage.

In the air they find such contaminants as sulfur dioxide, ammonia, oxide of nitrogen, sulfur trioxide, aldehydes, filterable oil, soluble chlorides, carbon, ozone, hydrogen sulfide, fibers, pollen, tarry organic material, calcium, sodium, aluminum and silicon compounds, small amounts of magnesium, titanium, lead, iron, potassium and barium compounds and traces of compounds of copper, manganese, nickel, zinc, lithium, barium, strontium, silver, boron, vanadium, tin, chromium, zirconium, bismuth, and cobalt. These are the main contaminants. Industries contributing these contribute to smog.

The research group says it now knows that visibility is reduced by carbon and metal particles, responsible for 10 to 50 percent decrease in visibility; transparent light-scattering crystals, including aluminum oxides and silica, 10 to 30 percent; small water-soluble and oil soluble particles and oil droplets (effect small); substances capable of forming moisture droplets in the air, principal of which is sulfur trioxide, 5 to 20 percent; and large soluble crystals such as sulfates, nitrates, and chlorides, 0 to 80 percent. Particulate matter alone limits visibility, not gases which do not form particles.

Industry is far from being the only contributor as even sea salt spray and pollen as well as incinerators, auto exhausts, diesel burning and similar causes form a major part of the trouble.

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