Bulletin of the Peak District Mines Historical Society. Vol.10, No.4, 1988

THE MINING ORDINANCES OF NEW SPAIN

A STUDY OF COLONIAL ADMINISTRATION OF THE MINING INDUSTRY

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Abstract: Spain's rise to power in the 16th century and its ability to retain such power in the face of disastrous foreign policies can be attributed to well organized mining codes that encouraged the discovery and continuous mining of its silver and gold mines in the New World. These codes were originally devised to address the concerns of the practical miner and culminated with royal ordinances promulgated in 1783 that many believe constituted the best mining code ever developed. In the final analysis, however, a statutory mandate for continuous development proved to be the fatal flaw because it could not accommodate times of economic hardship.

There is little question that the position of Spain as a world power during the 16th, 17th and 18th centuries can be attributed to the wealth won from the mines of its colonies in the New World. Despite these mineral resources, however, Spain never enjoyed real prosperity because the Spanish monarchs embarked on a pattern of what we today term "adventurism" that produced an endless series of wars with its neighbours and New World competitors. Spain lost most of these wars beginning with the devastating defeat of its Armada at the hands of England and Sir Francis Drake in 1588 and ending with the wave of revolutions in the New World during 1810-1830. Because the Crown's financial resources were committed to these ongoing wars (and, in the view of many historians, other self-serving, ill-conceived, and decadent activities of the Crown), financing of the mineral development had to be done by private enterprise. Spain therefore had to create a legal climate that would encourage these efforts.

When Charles III of Spain promulgated a mining code for use in New Spain in 1783 (referred to as the "1783 Code" (at this time New Spain included present day Mexico, Central America and most of the western portion of the United States) it was hailed by many as the world's perfect mining code. In many respects it was. It was the product of two and a half centuries of trial and error applied to some of the world's greatest mineral deposits. The 1783 Code was also built on the inspired efforts of some pioneer administrators who recognized the need to encourage mineral development together with a masterpiece of jurisprudential literature written by Franciso Xavier de Gamboa who, in 1761, provided in his commentaries an exhaustive review and criticism of almost 200 years of experience under a single mining code. This paper will summarize the provisions of the 1783 Code and examine its underpinnings.

THE CODES OF THE VICEROYS

The mining laws first applied in the Spanish colonial empire of the Americas were based on Roman theories of state ownership that were embodied in decrees of Alfonso XI in 1385 and Juan I in 1387. These decrees proclaimed that all minerals belonged to the Crown and could be worked only by a special license. This license, if granted, specified that profits would be split two-thirds to the Crown and one-third to the miner (Rockwell 1851 p113).

With the discovery of the New World, and the prospect of mineral discoveries, the right to operate mines was extended in 1504 to all Spaniards in the New World, provided that their claims were registered and that one-fifth of production was paid to the Crown (Prieto 1973 p89).

The problem was a lack of implementing procedures for this directive. On December 9, 1526, undoubtedly influenced by the discovery of tin and copper in Tasco in 1524 and silver in Jalisco, in 1525, by royal decree, the Spanish Crown provided the first real local control by permitting the local government to grant the permission required to exploit the mines. This authorisation was probably the basis of the first local implementing regulations, which, although rather vague, were issued in 1532 by the governing council of New Spain, the **Audencia** of Mexico City. These regulations were superseded by regulations issued by the Crown's primary representative in New Spain, Viceroy Antonio de Mendoza, in 1536, and supplemented in 1539 to detail the registration and exploitation process. It is possible that the timing of the departure of the first major exploration of the western United States by Francisco Vasquez de Coronado in 1540 was influenced by the 1539 regulations.

The first comprehensive mining ordinance for the New World was issued by Viceroy Mendoza on January 14, 1550. This law contained 49 separate provisions and apparently was Viceroy Mendoza's attempt to codify the royal pronouncements, as he understood them, in the framework of a practical mining code for use in New Spain (Aiton 1942 p77; Aiton 1924 p105). The essential process was as follows: The discoverer of a mineral deposit was permitted a lay ownership to a single claim of 80 **varas** (one **vara** is approximately 32.3 inches or 0.82 metres) along the strike of the vein at the surface and 40 **varas** across the vein. All claims registered after the original discovery were restricted to a smaller claim of 60 **varas** along the vein and 30 **varas** across. Each miner was prohibited from having more than two mines within 1,000 **varas** of the original discovery except by purchase. The original locator had 15 days within which to register his find, the failure of which resulted in the loss to the right to the later claim. In the case of conflicting claims, the first to register the claim became the owner and, where the requests for registration were simultaneous, the claimants were required to draw lots.

After the registration process was complete, the claim holders were required to sink a shaft to a depth of at least three **estados** (an **estado** was 2-1/3 **varas**, thus the pit was approximately 18-2/3 feet or 5.75 metres deep) within three months, mark the claim boundaries with stakes of one-half **varas** in height, and post a notice on the claim. The failure to erect these monuments carried a fine of ten **pesos** (a **peso** was a "Crown" size silver coin in a denomination of eight **reales**, which at the time contained approximately three quarters of an ounce of silver).

Other articles of Viceroy Mendoza's code required annual reports to be made to the viceroy to permit him to monitor the level of mining activity and specified that if a mine was not worked for one year, it was subject to forfeiture under a procedure of "denouncement" of an abandoned mine. Essentially, a petition of denouncement had to be read as a part of public announcements after mass in the largest church in the vicinity of the mine for four successive Sundays. The petitioner was then required to deepen the discovery shaft an additional three **estados** within the following three-month period. During this three-month period the absent owner could still appear and reclaim his mine; one suspects that denouncement may have been fraught with disappointment where a claim owner waited for the last minute to assert his rights in the mine. Finally, Viceroy Mendoza's Code included requirements for working of mines by companies, labour laws, licensing requirements for operations and a prohibition against public officials owning any mine or participating as a member of a company owning mines within his jurisdiction.

While the "royal prerogatives" contained in the various decrees dealt with general principles recognizing the rights of the miners and specified the amount of royalty, it was the specifics of Viceroy Mendoza's Code that formed the basis of the practical operation of the mining laws in New Spain. As late as 1577, where conflicts existed, Viceroy Mendoza's Code was determinative in lawsuits in New Spain, despite the fact that Dona Juana, as a regent in the name of Philip II in 1559, and Philip II himself in 1563, had issued specific mining regulations (**Novisima Recopilacion**, ch. 1, 2 and 3, Law 4, Title 1, Book 6, Vol. IV; Prieto 1973 p90).

Viceroy Mendoza's Code was also used as a model elsewhere within the New World and Viceroy Francisco de Toledo issued his own ordinances for the Viceroyalty of Peru in 1574 that included an extensive mining code based on these same principles.

THE 1584 REGAL ORDINANCES

On August 22, 1584, Philip II promulgated the **Ordenanzas del Nuevo Cuaderno** (referred to as the "new ordinances"), which was the first comprehensive mining code applicable to most of the Spanish Empire. In doing so, he wanted to attempt to stimulate the Spanish economy with a practical law that would be accepted by the miners. Not surprisingly then, it was Viceroy Mendoza's Code that formed the basis of the new ordinances. The new ordinances contained a remarkably broad grant of rights that granted to the discoverer the right to work mines as their own "possession and property... observing, both in regard to what they have to pay us [the Crown] by way of duty, and all other respects, the regulations and arrangements, ordered by this edict..." This right has been characterized as a "direct and beneficial grant of property; and is to be regarded as a qualified gift" (Gamboa 1761, Chapter I, Comments 25 and 26).

The new ordinances were quickly applied to New Spain, but in Peru, Viceroy Toledo's Code was specifically approved by Philip II in 1589 and remained the basic law of Peru until the 1783 Code of Charles III was extended to Peru in 1785.

Under the new ordinances a miner had 20 days within which to register a mineral find with a local mining justice or in his absence the local **alcalde.** The size of the first (or discovery) claim was 160 **varas** by 80 **varas** and could be situated either along or across the vein. In a departure from Viceroy Mendoza's Code, the discoverer was not limited in the number of claims he could stake on the same lode, but all subsequent claimants after

an initial discovery were limited to two claims of 120 x 60 **varas**, each of which had to have three claims between them. Claims continued to be perfected through the sinking of a shaft or "trial pit" to a depth of three **estados** which had to be sunk within three months of the original date of registration. Very clear work obligations also continued to be imposed by the new ordinances, and required the owners of a claim to keep four people working on a mine at all times. If the work was not performed for a four-month continuous period, the mine would be forfeited and in order to maintain rights the owner would be required to file a new registration. After such a default the mine also became subject to "denunciation" by third parties.

The royalty rate, although frequently referred to as the **quinto** or "king's fifth" was, in the case of silver, based on a sliding scale depending on the recovery rate from the ore per **quintal** (101.45 pounds or 46.22 kilograms) of ore mined, e.g. 12 ounces or less, 10%; 12 to 32 ounces, 20%; 32 to 48 ounces, 25%; and more than 48 ounces, 50%. Separate provisions required a royalty of 1/30th for copper, 1/10th for antimony and one-half for gold. It seems clear that this royalty structure was premised upon the use of the "patio process" for previous metals extraction using mercury, invented in Mexico in 1554 by Bartolome de Medina. In practice, the royalty varied considerably by both edict and administrative practice in subsequent years and normally ranged from one-eighth to one-half (Rockwell 1851 pp144-45, new ordinances 3 through 7).

Nowhere in the new ordinances did diligence play such an important part as in the rights of the miner to pursue a vein underground outside of the boundaries of the claim as marked on the surface as the new ordinances included the first application in the New World of the right to pursue a mineral vein outside the side boundaries of an individual claim, the so-called "extralateral" right. The new ordinances stated that if the vein was continuous, the miner could pursue it at depth outside his surface boundaries and was permitted to raise ore from the mine until the owner of the adjacent claim could extend his works to meet the operations. At this point, the first operator was required to withdraw to within the surface boundaries of his own claim, but was not required to return any of the minerals mined. In effect, the grant of extralateral pursuit was not a grant of the ownership of the vein itself, but a defeasible right that could only be stopped by the actual mining activity of the adjoining owner (Rockwell 1851 pp265-66, new ordinance 30). Not surprisingly, this provision led to disputes and Gamboa reports that "of all the ordinances contained in the new code, and in the old law, there are none more difficult, or which have been more frequently the subject of litigation in the courts, than this" (Gamboa 1761 Chapter 24, comment 1).

In 1736, an event would take place that would provide a major turning point in the application of mining laws in the New World. It was during that year that Antonio Siraumea, a Yaqui miner, discovered a deposit of native silver a short distance southwest from the present Nogales, Sonora, Mexico, at a site known as "Arizonac." The discovery, named the **planchas de plate** (planks of silver), created a rush of miners into the area and eventually provided the name of "Arizona" to the region and eventually the adjoining state of the United States. The size of the find (according to who is to be believed) ranged from 140 to 1,640 kilograms. The Crown immediately looked into the possibility of declaring this particular find an exceptionally rich mine that should be considered royal property. Capt. Juan Batista de Anza was dispatched to make an official inspection. These efforts to exercise official control over the deposit culminated in an order of the viceroy in 1741 closing the area and a later legal determination that the deposit was a curiosity and thus not covered by the ordinances. There were, however, no other circumstances where a similar ruling was made and the legal treatment of the **planchas de** plata by the viceroy was specifically overruled by the 1783 Code (Rockwell 1851 p54, Chapter VI, Article 21). By this change, natural masses of virgin gold and silver were made subject to acquisition under the terms of the Code. The Crown, however, retained absolute ownership of ancient deposits of money, jewels, or materials what had been previously processed and presumably buried by thieves. This "change" of the law was probably a recognition of the impossibility of enforcement. In case of the **planchas de** plata, even after the authorities seized the deposit, and with no subsequent official mining, the deposit nonetheless disappeared within a very short time with the ores undoubtedly being fed into a thriving black market for contraband silver and bypassing the royalty collectors.

These events foreshadowed the end of the era of tight control over mining activities. The reason the Spanish codes were initially so important and workable was that the miner needed the assistance of the government to provide both a supply of mercury required for the beneficiation of his minerals, and the protection of the army, especially in the dangerous northern area of northern New Spain (now mostly in the State of Arizona in the United States) controlled by the Apache Indians, **Apacheria.** The **planchas de plata** presented a new factor in the equation. This large native silver deposit required no mercury for its extraction, and the process of extraction required very little capital permitting the ores to be quickly moved before the Spanish authorities could exercise any control.

THE 1783 REGAL ORDINANCES

During the latter part of the 18th century, it became obvious that changes were required in the mining laws of New Spain. The most difficult problem that faced Mexican jurists concerned the identification of the applicable legal authority to regular mining activities. The 1584 Ordinances provided a basic source of this regulation, but, although the law had application throughout the Spanish Empire, the law of the Indies had directed that these ordinances would be observed only in those countries where it was not at variance with the municipal laws of each province. The laws applied in the Spanish colonies were in the form of **cedulas, decretos, resoluciones, ordanemientos, reglamentos, autos acordados,** and **pragmatics** each of which had different weight under different circumstances. It was not surprising that authorities had considerable difficulty determining what law to follow. In 1680, the famous **Recopilacion de Leyes de los Reinos de las Indias** was published in an attempt to provide a digest for the laws in force in the Indies. However, in the case of the mining law, neither the 1584 new ordinances nor the local ordinances were included in the digest. Francisco Xavier do Gamboa, a Mexican jurist, finally charted the path of the various mining laws in his **Commentarios a las Ordenanzas de Minas** published in 1761. Principally as a result of Gamboa's commentaries, Charles III promulgated a new code of mining ordinances applicable initially only to New Spain on May 26, 1783, but extended to the Viceroyalty of Peru in 1785.

The location procedures established by the 1783 Code were not dramatically different from the 1584 new ordinances although the provisions were refined significantly. This law survived the Mexican Revolution that began in 1810 and would remain the mining law of Mexico until repealed with the passage of a mining code by the Mexican Republic in 1884.

The core of the 1783 Code was an elaborate system of organization based on a "tribunal of miners" who were elected at a convention with each mining town being represented by delegations of locally-elected deputies (1783 Code, Titles I through IV; Howe 1968). In many respects, the operations of the tribunal paralleled the operations of the German system in Saxony (Agricola, Hoover tr. 1912 pp94-98). The allocation of representatives was based on the size of mining operations within the various districts. It was the duty of the tribunal, though the Royal Tribunal General, to provide the communication between the miners and the Crown by way of an annual report to the viceroy. In addition to the annual report, the tribunal could also bring matters to the attention of the viceroy at any other time when it was deemed necessary.

The officials within this organizational structure, beginning with the various territorial deputations, were vested with the power to decide all matters concerning the management of the mines, including matters arising out of discovery, denunciation, rights of property drainage, desertion or destruction of pillars. The law specifically directed that all disputes would be handled summarily "without any of the usual delays and written declarations, or petitions of lawyers..." This clear expression of an aversion to lawyers went back to 1520 when Hector Cortez, with royal permission, prohibited "attorneys and men learned in the law" from setting foot in New Spain on the ground that experience had shown that they would be sure by their evil practices to disturb the peace of the community (Prescott 1949 p583; Lacy 1985 p2).

The basic grant to the miners was stated as follows:

> Without separating them [mineral rights] from my royal patrimony, I grant them to my subjects in property and possession, in such manner that they may sell, exchange,... or in any other manner, dispose of all their property in them upon the terms of which they themselves possess it...(1783 Code, Title V, Article 2).

The grant was subject to two conditions; first, that royalty be paid and second, that the operations would be conducted in accordance with the provisions of the ordinances. Any default was considered a forfeiture and the mine was then subject to a further grant to any person who denounced it.

In addition to gold and silver, the law applied to all gemstones, copper, lead, tin, quicksilver, antimony, zinc, bismuth, rock salt and other fossils (1783 Code, Title VI, Article 22). The application to mercury was a substantial departure from earlier law. Previously, mercury had been very tightly controlled in an attempt to control black market mining activities because mercury was essential in the amalgamation process for the extraction of gold and silver.

The registration process required the locator to first present a statement of his claim to the territorial deputation, then post a notice on the door of the local church. Within the following 90 days the locator had the formidable task of sinking a shaft on the claim measuring one and one-half **varas** in diameter and ten **varas** deep. When the vein was ascertained by this process, one of the district deputies was required to visit the site accompanied by official witnesses to determine the physical nature of the vein. At the time of the inspection, the claim was measured and its boundaries marked by the locator.

Ground was required to be taken up by portions or **pertenencias**, which were generally 100 **varas** square. If no objections were raised during the 90-day period for the digging of the shaft, the locator's registration was complete. The first locator was entitled to three portions and subsequent locators could not take up contiguous portions.

One of the more interesting changes in the ordinances related to extralateral rights. The 1783 Code drastically limited the earlier rights of possession of the vein outside the surface boundaries. It was recognized, however, that certain rewards should be granted to the first discoverer of an "inclined" vein. This was done by granting wider claims based on the declination of the vein as measured in the shaft. If the vein was perpendicular, the surface width of the claim was 100 **varas**, but if the vein was inclined, the surface was measured according to a formula that allowed the locator a width of up to 200 **varas** where the declination of the vein was 45 degrees or more from perpendicular. Further, as a hold-over from prior practices, the miner was permitted to work a vein at depth outside the boundaries of the claim if prior notice was given to the adjoining owner and profits were divided equally until such time as the adjoining owner could provide his own access, after which time the first miner was required to withdraw. The failure to comply with the notice and sharing provisions would result in trespass damages of twice the ore's value.

The law went on to provide elaborate mechanisms for the working of mines, including safety, flooding and mine drainage, joint operation, the disposition of disputes, labour laws (including, for example, a prohibition against paying miners in merchandise, a requirement to pay extra wages for working in hard ground, protection from excessive garnishment of wages, and even protection from some forms of imprisonment), environmental protection, infra-structure, processing and marketing of ore, financing of mining operations, and accreditation of mining officials.

Finally, and probably the most enlightened element of the 1783 Code was the establishment of the Royal Seminary of Miners (1783 Code, Title XVIII, Article 1). The seminary was not only an institution of higher learning, but also included an extensive research function by providing assistance to miners who brought ore samples to the school for experiments on beneficiation techniques. The school was also required to maintain examples of machinery "in full perfection" so that the performance of current machinery could be measured and compared with new innovations (1783 Code, Title XVIII, Articles 15 and 16).

The various Spanish colonial mining codes are sometimes characterized as leasing systems. They were not. They were a grant of the minerals to the miner conditioned upon his compliance with the operating and other requirements of the codes. In this regard, the nature of the grant was the same as an unpatented mining claims under the 1872 General Mining Law of the United States (U.S.C.A. Title 2, 28). The major difference was in the stringent requirement to keep the mine in actual operation. Although the $100 per claim work obligation under the United States mining laws represented much more of a financial commitment in 1872 than it does today, it was still substantially less than the corresponding obligation to keep a mine operating as was required under the Spanish codes.

The requirement of continuous operation probably represents a fatal flaw of what was otherwise one of the finest examples of a legal framework for mining. This is because it is frequently not desirable or reasonable to keep mines in constant operation because of economic or practical problems. When mines are worked in the face of severe economic hardship of the operator, the tendency is to "highgrade" the better material and leave marginal ores. Because lower grade ores can frequently only be economically mined when they can be blended with higher grade material, the loss of the high grade ores will shorten the life of a mine and reduce the amount of reserves.

The free market economics of mining was further frustrated by the Crown's control of mercury and salt. These vital materials were normally available only through the Crown, and when the miner didn't have the money to pay for the materials, credit was extended under a procedure whereby the debt was repaid by the **quinceno** or one-fifteenth of production. Gradually, as obligations to the Crown built up, the Spanish government was no longer able to extend credit and began asking for cash payments. The miners, without credit, mercury or salt went bankrupt, and the Crown, without operating mines, was deprived of the silver it vitally needed.

These difficult financial circumstances engendered corrupt practices in those persons who were entrusted with the administration of the mines (Thompson 1845 p2), and the resulting stagnation of the economic climate was perpetuated because the system was perceived by foreign capitalists to be hopeless and no new development funds could be obtained. By the time of the Mexican Revolution, there was no way out of a downward cycle.

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DISCUSSION

Q. (Jonathan Wright) Can you prove a migration of Roman law throughout the world?

A. There are certain attributes of Roman law in the administration process of the New World mining ordinances. The organisation of the Tribunal General of New Spain looks very Roman in its detail. Also, similar administrative procedures and organisations can be found in the laws of Saxony in the 15th and 16th centuries.

Q: Is it just common-sense law or Roman law?

A. You make a good point. The common practices of the miners, going back to tribal traditions, follow consistent patterns, and these practices are frequently codified. Thus the common-sense of Celtic and Scythian tribes could have been codified under Roman law.

Q: (Ivor Brown) Is there any remnant of these laws remaining today as part of the modern law?

A: Current mineral laws of Central and South America bear a great resemblance to the mineral laws under the Spanish Colonial system. In many instances the nature of the tenure is the same, that is, title is held subject to development criteria; procedures for "denunciation" of dormant or forfeited title are similar; and the governmental infrastructure is similar.

Q: (David Fox) You mentioned that there was some degree of exploitation of the labour force; did they employ the Indians as miners?

A: One of the initial concerns of the Spanish Crown was the welfare of the Indians. The goal of the Crown was to obtain silver for the conduct of territorial expansion in Europe and elsewhere but also to win souls for the Catholic Church. Thus, evidence of exploitation of Indian labour was looked upon with disfavour - although it certainly did exist. The Spanish obviously learned the lessons of the Romans in Spain where they discovered, that when they had killed off all the slaves, there was no one to work the mines. The Spanish needed the silver thus the codes made some rather extensive provisions for the protection of the labour force to keep the mines working.