

The legal regulation of mineral extraction in Roman law

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Abstract

This article focuses on the results of research conducted on the primary sources of Roman law, with the aim to examine and evaluate the legal framework of the regulation of mineral extraction. It discusses the regulation of mineral extraction in Latvian Civil Law and its original source in Roman law, Roman legal practices regarding extraction of minerals on land owned by others, gold mining, recruitment of mine labour and fiscal administration of mines. The authors have conducted research and analysis on the information contained in the so-called Justinian codifications, also known as 'Corpus Iuris Civilis', specifically the 'Codex Iustinianus' (Code of Justinian, 529 AD) and 'Digesta seu Pandectae' (Digest or Pandects, 533 AD), as well as in the 'Gaius Institutiones' (Institutes of Gaius, c. 161 AD). The research uses inductive, deductive and comparative methods.

Keywords

Ancient Rome • mineral extraction • Roman law

INTRODUCTION

Mineral extraction is the procedure of excavation and recuperation of mineralisation and associated waste rock from the crust of the Earth to derive a profit. In this process, mineralisation is obtained from the ground using surface and/or underground mining methods (Bustillo Revuelta, 2018). Mineral resource extraction plays a vital role in the global economy, providing essential raw materials for various sectors such as agriculture, energy and the environment. The extraction of minerals is critical to sustainability, but it does come with risks and challenges. By instituting regulations and incentives that support sustainable practices, we can ensure the responsible use of mineral resources and preserve the domain (Wang and Yang, 2024).

Article 1042 of the Civil Law of the Republic of Latvia states the rights of the land owner to the layers of land below it and all the minerals that are in them.

Thus, the question arises about possible actions in situations in which, due to some socially, economically, strategically or otherwise important considerations, it might be useful to allow the exploration and use of minerals to a person who is not the owner of the relevant plot of land.

For instance, land ownership in the United States of America can be severed into surface and subsurface estates, creating a split estate where the surface and mineral rights can be held by different parties. The ability to sever the unified estate depends on land ownership.

Federal land mineral interests are regulated by federal laws and titles cannot be generally transferred to private citizens until the minerals have been severed. Under the General Mining Law of 1872 (the 'GML'),¹ locatable mineral claims may be patented, transferring the title to the locator; however, there has been a patent moratorium in place since 1994.

¹ The General Mining Law of 1872 (the 'GML'), 30 U.S.C. §§ 21–54, 611–615 remains the principal law governing locatable minerals on federal lands. The GML affords U.S. citizens the opportunity to explore, discover and purchase certain valuable mineral deposits on federal lands open for mineral entry, and to locate mill sites for mining-related activities (Connors, 2024) See: 30 U.S.C. United States Code, 2011 Edition, Title 30—Mineral Lands and Mining, §§ 21–54, 611–615, From the U.S. Government Publishing Office, <https://www.govinfo.gov/content/pkg/USCODE-2011-title30/html/USCODE-2011-title30.htm>

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Severance of private land estates is governed by State law, and, generally, private citizens are free to split their surface and mineral estates.

Once the mineral estate is severed and enters the private market, the title to the minerals can be bought, sold, leased or rented as a matter of contract and real property law, subject to reservations in the severance document and applicable laws. The federal government, particularly in the western U.S., may have reserved the mineral estate to itself when it transferred ownership of the surface lands to private citizens or State governments, which could affect the surface owners' ability to alienate the minerals. In some areas, it is common to have different minerals leased to different parties.

A substantial amount of mining in the United States occurs on federal land where the federal government owns both the surface and mineral estates. On this land, federal law primarily governs mineral ownership, operations and environmental compliance, with State and local governments having concurrent or independent authority over certain aspects of land mining projects (e.g., permitting, water rights and access authorisations). The U.S. Department of the Interior Bureau of Land Management (the 'BLM') and the U.S. Department of Agriculture Forest Service Regulation manage mining on federal land. The BLM manages approximately 30% of the minerals located in the United States and one in every 10 acres of land in the country.

If the resource occurs on private land, estate ownership is a matter of State contract and real property law, although operations and environmental compliance are still regulated by applicable federal and State laws.

Estate ownership on State-owned land is regulated by State law, and operations and environmental compliance are regulated by applicable federal and State laws, and in some cases local zoning ordinances (Connors, 2024).

Upon making a discovery of valuable minerals, the locator of a federal mining claim receives the 'exclusive right of possession and enjoyment' of all 'veins, lodes, and ledges throughout their entire depth' which have apexes within the mining claim. The locator also receives the exclusive right to possess all surface areas within the claim for mining purposes, but the United States retains the right to manage the surface of the property for other purposes. A locator's possessory rights are considered vested property rights in real property with full attributes and benefits of ownership exercisable against third parties, and these rights may be sold, transferred and mortgaged.

In most States, the owner of the mineral estate on private land has the right to use as much of the surface as is reasonably necessary to exploit the mineral estate, but such rights are usually qualified and limited in various ways (Connors, 2024). Since the origin of the Article 1042 of the Civil Law of the Republic of Latvia can be found in Roman law, the authors

became interested in further researching of the primary sources of Roman law regarding the legal regulation of mineral extraction.

The authors have conducted research and analysis on the information contained in the so-called Justinian codifications, also known as 'Corpus Iuris Civilis', specifically the 'Codex Iustinianus' (Code of Justinian, 529 AD) (Krueger, 1906) and 'Digesta seu Pandectae' (Digest or Pandects, 529 AD) (Krueger and Mommsen, 1928), as well as in the 'Gaius Institutiones' (Institutes of Gaius, c. 161 AD) (Seckel and Kuebler, 1903) using the inductive, deductive and comparative method.

RESEARCH RESULTS AND DISCUSSION

Regulation of Latvian Civil Law and its original source in Roman law

Article 1042 of the Civil Law (Civillikums, 1937) of the Republic of Latvia, which is taken over from the older Article 877 of the Collection of Local Civil Laws (Bukovskij, 1914; Vietējo Civillikumu, 1928), provides for the rights of the land owner to the layers of land below it and all the minerals that are in them. The origin of the above-mentioned norms can be found in Roman law—the 1864 German edition of the Collection of Local Civil Laws (Provincialrecht, 1864) contains a reference to the **L.13§1D.communia praedior.(VIII,4)/D 8.4.13.1.**, where, accordingly, the text of the Roman jurist Ulpianus (*Domitius Ulpianus*, ?–228. AD) is found, which, translated into English, and could read roughly as follows:

If it is established that there are stone quarries on your land, without your invitation no one can excavate a stone there, neither in private nor in public name, unless such a custom exists in those stone quarries that if someone wants to excavate stones from them, he should do so in no other way than by presenting the usual compensation/satisfaction to the owner/lord, the stones however must be excavated in such a way, after satisfying the owner/lord, that neither the necessary extraction of the stone has been hindered, nor the owner's right to enjoy the thing/ownership has been taken away² (D 8.4.13.1).

² *Si constat in tuo agro lapidicinas esse, invito te nec privato nec publico nomine quisquam lapidem caedere potest, cui id faciendi ius non est: nisi talis consuetudo in illis lapidicinis consistat, ut si quis voluerit ex his caedere, non aliter hoc faciat, nisi prius solitum solacium pro hoc domino praestat: ita tamen lapides caedere debet, postquam satisfaciat domino, ut neque usus necessarii lapidis intercludatur neque commoditas rei iure domino adimatur.*

As we can see, the text of the primary source of Roman law under consideration does indeed speak of the exclusive right of the landowner to allow or, on the contrary, not to allow the use of minerals found on his land to any other economic entity, regardless of whether this entity is private or public—a person authorised by the state authority.

At the same time, it is pointed out the possibility of the existence of such a custom, according to which others can use the mine, providing compensation to the landowner, the amount of which also depends on the relevant custom.

In addition, it is stated that in any case compensation should first be given to the land owner and only then the use of minerals on the land of the owner is possible.

It is also emphasised that the extraction of minerals must in no way threaten the rights and interests of the landowner (Apsītis et al., 2025).

Extraction of minerals on land owned by others

Judging from the information found in other sources of Roman law available to us, the ancient Romans, apparently guided by considerations of economic expediency, did indeed practice legal and economic structures in which some economic entities extracted minerals on land owned by others. Also, in the course of historical development, a practice began to be followed, according to which the amount of compensation due to landowners was determined by the state through regulatory enactments. Thus, in the Codex Iustinianus (529/534 AD), we can find a constitution³ of the emperors Gratian, Valentinian and Theodosius, dated 382 AD, which determines the amount of compensation due to the landowner at 1/10:

All who engage in laborious excavations of stone veins in private places, let them give/pay a tenth to the treasury, a tenth also to the owner/lord, the rest depending solely on their own wishes and demands⁴ (C 11.7.3).

3 The general term 'constitutions' (*constitutiones*) referred to various legislative acts issued by emperors—according to the legal concept prevailing at the time of Justinian, the Roman people had delegated to their ruler all military and political power, including legislative power (D 1.4.1. pr.). Therefore, binding regulations issued by emperors (*edictum*), decisions in court cases decided by emperors (*decretum*) and letters signed by emperors with answers to legal questions from private individuals or officials (*rescriptum*, *epistula*) were considered legally binding (D 1.4.1.1). '... a constitution is anything that the emperor establishes by decree or edict or epistle, and there has never been any doubt that it has the force of law, because the emperor himself derives his commanding power by law' (Gaius, Inst. 1.5.).

4 *Cuncti, qui per privatorum loca saxorum venam laboriosis effossionibus persequuntur, decimas fisco, decimas etiam domino repraesentent, cetero modo suis desideriis vindicando.*

Furthermore, it is clear from the aforementioned constitution that the extraction of minerals has been recognised as a fiscally significant sector of the national economy—such activities are considered worthy of a special tax.

It is also clear from the sources that there were indeed certain contradictions between landowners and those who extracted minerals from their lands—as a result of the latter's activities, the legitimate rights and interests of the landowners were threatened. Thus, with the constitution of the emperors Valentinian, Theodosius and Arcadius from 393 AD, the exploration and extraction of minerals under buildings and structures belonging to others was prohibited:

Some have started to do this, as we have learned, by saying that hidden stones/rocks are covered by earth, so that the foundations of others' buildings/structures are swaying/trembling because of the tunnels dug in the depths of the earth. Where, in regards to the mentioned matter, if when such marbles are said to be hidden under buildings/structures, let the resources sought be denied⁵ (C 11.7.6).

Gold mining

Sources indicate that there was a separate regulation regarding gold mining, which was of particular importance to the state. The constitution of the emperors Valentinian and Valens from 365 AD speaks of the need to impose an appropriate tax on those engaged in such activity:

We have been guided by careful consideration in sanctioning that whoever wishes to exploit the mines should derive benefits from his work both for himself and for the public good/republic⁶ (C 11.7.1 pr.). So if some [people] willingly gather together [to obtain gold], they are forced to pay --- eight scruples⁷ of gold dust, which in Greek is called *krusammos*⁸ (C 11.7.1.1).

In addition, all production from gold miners was to be sold to the state at a price set by the state treasury:

5 *Quosdam operta humo esse saxa dicentes id agere cognovimus, ut defossis in altum cuniculis alienarum aedium fundamenta labefactent. Qua de re, si quando huiusmodi marmora sub aedificiis latere dicantur, perquirendi eadem copia denegetur.*

6 *Perpensa deliberatione duximus sanciendum, ut, quicumque exercitium metallorum vellet adfluere, is labore proprio et sibi et rei publicae commoda compararet.*

7 *Scripulum* (Latin) also *scrupulum* (Latin) – scruple, Roman unit of weight equivalent to 1/24 Roman ounce – 1.14 g.

8 *Itaque si qui sponte confluerint, eos ... octonos scripulos in balluca, quae Graece krusammos appellatur, cogat exsolvere.*

However, everything else [what they] could get, should be primarily appropriated to the treasury, from whose competence [and] from our generosity [they] should accept the price⁹ (C 11.7.1.2).

For the convenience of fiscal accounting, the constitution of the emperors Valentinian and Valens from 367 AD approved a corresponding system of weight units:

For a model of metal units of measurement, within which a special custom is to be preserved, fourteen ounces of gold sand are to be placed as equivalent to one pound¹⁰ (C 11.7.2).

In addition to the above-mentioned tax on each unit of production, there was also a peculiar labour tax, similar to an annual poll tax—according to the constitution of Emperors Valentinian, Theodosius and Arcadius from 392 AD, it was levied on every person employed in gold mining:

Per each year seven scruples on every human [employed] must be delivered to the state treasury from gold miners, not only in the diocese of Pontus, but/indeed also in Asia¹¹ (C 11.7.5).

Forced recruitment of labour, the ‘mine penalty’ (*metalli poena*)

Speaking about the labour force employed in the extraction of minerals, it is worth noting the practice that existed during the late empire—the so-called Dominate¹² period of the Roman state (284 AD—476/565 AD), of forcibly recruiting legally free persons (not slaves) and their descendants to the profession of mining and attracting them to a certain geographical location. The constitution from 424 AD of Emperor Theodosius states the following in this regard:

Miners or/and female miners who have left their region, from which they are said to have originated, and migrated to a foreign land, undoubtedly without any pretext of time, to their own family of origin

and home together with their descendants to be recalled...¹³ (C 11.7.7)

Among others, the mine workforce was also made up of prisoners convicted of serious crimes. For example, *abigeatus*—cattle rustling, the theft of livestock or driving them away from stables or pastures (including forest pastures) and herds—was considered a more dangerous and serious offence than simple, ordinary theft (*furtum*) and was accordingly punished more severely. The subject of the criminal offence—the livestock thief-rustler (*abigeus*, also *abactor*)—qualifies as a certain type of professional offender. According to the opinion of Roman jurists, only those were truly considered livestock thieves-rustlers who ‘separate cattle from pastures or herds and in some certain way steal them and practice the act of stealing cattle as an art/craft, taking horses from herds or cows/oxen from flocks’¹⁴ (D 47.14.1.1.). In areas where the vice of cattle rustling was particularly prevalent, cattle rustlers were subject to the death penalty (D 47.14.1. pr., D 47.14.1.3.). Likewise, the death penalty—handing over to predatory beasts to be torn apart—was a threat in cases where livestock was stolen using armed violence (D 47.14.1.3.). If the above-mentioned circumstances of increased danger were not present, livestock thieves-rustlers were often punished by sentencing them to various types of hard labours: ‘... otherwise they are sentenced to [forced] labor’¹⁵ (D 47.14.1. pr.). Along with other various forms of forced labour (*operis*), this type of punishment could also mean slavery in the ancient mineral extraction industry—the mining punishment (*metalli poenam*) (D 47.14.1.3.)¹⁶ (Apsītis et al., 2025).

Fiscal administration of mines

As regards fiscal administration of the mineral extraction industry, which was economically important for the state, it should be noted that the Roman Empire of the Dominate period (284 AD—476/565 AD) was characterised by a very

9 *Quidquid autem amplius colligere potuerint, fisco potissimum dragant, a quo competentia ex largitionibus nostris pretia suscipiant.*

10 *Ob metallicum canonem, in quo propria consuetudo retinenda est, quattuordecim unicas ballucae pro singulis libris constat inferri.*

11 *Per annos singulos septeni per hominem scripuli largitionibus inferantur ab aurilegulis, non solum in Pontica dioecesi, verum etiam in Asiana.*

12 From *dominus* (Latin)—‘master’, ‘lord’—one of the emperor’s titles.

13 *Metallarii sive metallariae, qui quaeve ea regione deserta, ex qua videntur oriundi vel oriundae, ad externa migraverint, indubitanter sine ulla temporis praescriptione ad propriae originis stirpem laremque una cum sua subole revocentur.*

14 *qui pecora ex pascuis vel ex armentis subtrahunt et quodammodo depraedantur et abigendi studium quasi artem exercent equos de gregibus vel boves de armentis abducentes.*

15 *alioquin et in opus ... dantur.*

16 See: Apsītis and Joksts (2021). *Abigeatus*—mājlopu zādzība jeb aizdzīšana—kā noziedzīgs nodarījums pret īpašumu romiešu tiesībās. *SOCRATES. Rīgas Stradiņa universitātes Juridiskās fakultātes elektroniskais juridisko zinātnisko rakstu žurnāls/SOCRATES. Rīga Stradiņš University Faculty of Law Electronic Scientific Journal of Law*, 1 (19), 67–75/68, 70, 73.lpp.

strictly regulated and relatively complicated system of taxes and duties (see D 50.15.tit., C 10.16.tit., C 10.17.tit., C 10.18.tit., C 10.21.tit., C 10.22.tit., C 10.23.tit., C 10.24.tit., C 10.25.tit., C 10.27.tit., C 10.28.tit., C 10.29.tit., C 10.30.tit.) with a tax collection mechanism organised and administered by the state authorities (see C 10.19.tit., C 10.20.tit., C 12.60.tit.).

Judging by the information found in the Codex Iustinianus (529/534 AD), tax collection was carried out by state officials—*ducenarii*, *centenarii*, *sexagenarii* (C 10.19.1), *apparitores* (C 10.19.5) and in-kind tributes for military needs were administered by *opinatores* (C 10.19.7).

The collection of taxes—‘public money’ (*exactio publicarum pecuniarum*) (C 12.60.6.pr.) (from *exigere*—Latin, ‘to demand’) was carried out by tax collectors—*exactores* (C 12.60.1) appointed by the state authorities.

According to the constitutions of the emperors Gratian, Valentinian and Theodosius from 386 AD, the duty of fiscal administration of the mines was imposed on the mine clerks—procurators (*procuratores metallorum*) appointed from among the decurions (*decuriones—curiales*) of the local councils (C 11.7.4).

The said decurions (*decuriones*) were members of the municipal senate (*ordo decurionum*). They were appointed (*elected*) for life, usually from among former municipal officials—magistrates. Depending on the municipality, the decurions were either appointed by the highest officials of the municipality, or elected by the citizens or by the municipal senate itself. The value of the candidate’s property had to be at least 100,000 sesterces. A special fee (*summa honorarii*) had to be paid upon taking office. Vacancies were filled every 5 years.

As a show of honour, individuals whose services were of particular importance to the municipality, as well as municipal protectors (*patroni municipii*) living in the capital, Rome, could be appointed as members of the municipal senate.

The decurions decided on all matters of major importance to the municipality, appointed municipal officials and acted as an appellate court for appeals against penalties imposed by municipal officials. Decisions were made by a simple majority (>½), in more important votes—also by ⅔ or ¾ votes.

Initially, the position of decurion was considered a great honour, but later, starting from the third century AD, as the country’s economic situation deteriorated and the arbitrariness of the emperors increased, it began to be perceived even as a punishment—decurions (now called *curiales*) were personally responsible for the payment of taxes paid by the residents of the municipality, were forced to pay various fines imposed on the municipality, the status of decurion became hereditary, even their descendants could not be relieved of their duties as decurion and so on.¹⁷

¹⁷ See Berger, A. (1953/1991). *Encyclopedic Dictionary of Roman Law*. Philadelphia, The American Philosophical Society. Philadelphia,

As far as can be understood, the above-mentioned duties of mine clerks—procurators were not particularly desirable, and the decurions tried to avoid fulfilling them in various ways: ‘Since the mine clerks/procurators in Macedonia, Central Dacia/Interland Dacia, Moesia or Dardania are usually appointed from among the members of the municipal councils, through whom the usual tax collection/extortion takes place, having fled under the pretext of fear of the enemy and thus deprived themselves of this duty/need, they should be returned to perform their duties, and everyone should be denied permission to prematurely aspire to an inappropriate rank, as long as they have completed the proper conduct of affairs, being reliable and skilled in the collection of taxes’¹⁸ (C 11.7.4) (Apsītis et al., 2025).

CONCLUSIONS

Article 1042 of the Civil Law of the Republic of Latvia, which is taken over from the older Article 877 of the Collection of Local Civil Laws and provides for the rights of the land owner to the layers of land below it and all the minerals that are in them.

The origin of the above-mentioned norms can be found in Roman law—the 1864 German edition of the Collection of Local Civil Laws contains a reference to the L.13§1D. communia praedior (VIII, 4)/D 8.4.13.1.

The original source of Roman law speaks of the exclusive right of the landowner to allow or not allow the use of minerals on his land by another economic entity. It also indicates the possibility of the existence of a custom, according to which others can extract minerals by providing compensation to the landowner, the amount of which also depends on the custom. In addition, it is indicated that compensation must be provided to the landowner first, only then the use of minerals can be possible. It is emphasised that the extraction of minerals must not threaten the rights and interests of the landowner (D 8.4.13.1.).

Judging from the information found in Roman law sources, the ancient Romans did indeed practice legal and economic structures in which economic entities extracted minerals from lands belonging to others (C 11.7.3).

426–427/612–613. See also: D50.2 tit.; D 50.3 tit.; D 50.16. 239.5; C 10.32 tit.; C 10.33 tit.; C 10.35 tit. See also: Apsītis, A. (2020). *Ekonomisko resursu apvienošana romiešu tiesībās*, Rīga: Rīgas Stradiņa universitāte, 122 lpp.

¹⁸ *Cum procuratores metallorum intra Macedoniam Daciam Mediterraneam Moesiam seu Dardaniam soliti ex curialibus ordinari, per quos sollemnis profligatur exactio, simulato hostili metu huic se necessitati subtraxerint, ad implendum munus retrahantur, et nulli deinceps licentia laxetur prius indebitas expetere dignitates, quam subeundam procuracionem fideli sollertique exactione compleverint.*

Over the course of historical development, a practice has begun to emerge, according to which the amount of compensation due to landowners has begun to be determined by state authorities through regulatory enactments (C 11.7.3). It is clear from the sources that there were certain contradictions between landowners and those extracting the minerals found on their lands (C 11.7.6).

Extraction of minerals has been recognised as a fiscally important sector of the national economy—such activities are considered worthy of a special tax (C 11.7.3).

Sources indicate that there was a separate regulation regarding gold mining, which was important to the state. Such activity was subject to a special tax (C 11.7.1 pr., C 11.7.1.1). All production obtained by gold miners was to be sold to the state at a price set by the state treasury (C 11.7.1.2). An appropriate system of weight units was approved (C 11.7.2). There was a kind of labour tax, similar to an annual capitation tax, which was levied on each person employed in gold mining (C 11.7.5).

During the Dominate period of the Roman Empire (284 AD—476/565 AD), there was a practice of forcibly binding legally free persons (not slaves) along with their descendants to a mining occupation and a certain geographical location (C 11.7.7).

Among others, the mine workforce also consisted of prisoners convicted for serious crimes—the so-called mining punishment (*metalli poena*) (D 47.14.1.3.).

The Roman Empire of the Dominate period (284 AD—476/565 AD) was characterised by a very strictly regulated and relatively complicated system of taxes and duties with a tax collection mechanism organised and administered by the state authorities. The duty of fiscal administration of mines was imposed on mine clerks—procurators (*procuratores metallorum*) appointed from among the decurions (*decuriones—curiales*) of local councils. Such a duty was not particularly desirable and the decurions tried to avoid it in various ways (C 11.7.4). Apsītis and Joksts (2021), Berger (1953) and Apsītis (2020).

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