JURNAL SYNTAX TRANSFORMATION

Volume 5, No. 12 December, 2024
p-ISSN 2721-3854 | e-ISSN 2721-2769

Mechanism of Law Enforcement against Violations of Reclamation Obligations by Mining Business License Holders

Ojak Situmeang[1*]
Universitas Borobudur, Indonesia
Email: ojiezword@gmail.com

Ahmad Redi[2]
Universitas Borobudur, Indonesia
Email: redi.ahmad2010@gmail.com

ABSTRACT
This study explores the effectiveness of regulations governing reclamation obligations by Mining Business License (IUP) and Special Mining Business License (IUPK) holders in the context of post-mining environmental restoration. Despite the existence of various regulations, there are still legal loopholes and overlapping regulations that hinder effective reclamation implementation. This research uses a normative juridical approach by analyzing existing legal norms, as well as a conceptual approach to explore legal concepts related to reclamation and corporate social responsibility. The results show that many companies do not fulfill their reclamation obligations due to weak law enforcement, lack of quantity and quality of supervision, and unclear regulations. In addition, community participation in the reclamation process is minimal. To address these issues, the study recommends a series of reforms, including increasing the number and quality of mine inspectors, implementing technology in supervision, and stricter and more consistent enforcement of legal sanctions. The development of realistic reclamation plans and community participation in the reclamation process are also a key focus. The study emphasizes the need for comprehensive reforms in regulations and law enforcement mechanisms to ensure IUP and IUPK holders' compliance with reclamation obligations, which in turn will support environmental restoration and the welfare of affected communities.

Keywords: law enforcement; reclamation; business license; mining

INTRODUCTION

The mining industry plays a vital role in Indonesia's economy. The country is rich in natural resources, including minerals and energy, which contribute significantly to the Gross Domestic Product (GDP) and job creation (Dutu, 2015; Hilmawan & Clark, 2019; Nazir et al., 2020; Tui & Adachi, 2021). The mining sector not only supplies raw materials for domestic industries but also serves as one of the main drivers of exports (Ekananda, 2022). Many mining commodities, such as coal, nickel, and copper, are essential for the country's foreign exchange earnings. With its abundant resource potential, the mining industry is expected to become a pillar of sustainable economic growth (Agustina, R., & Santoso, 2020).

In Indonesia, the commonly used mining system is open-pit mining. This method is chosen because mining resources are often located close to the earth's surface, making it necessary to dig deep into the ground (Bustillo Revuelta & Bustillo Revuelta, 2018; Melati et al., 2022; Qudrat-Ullah & Panthallor, 2020). However, this technique has significant environmental impacts. Open-pit mining activities often result in drastic changes to the landscape, loss of vegetation cover, and disruption of hydrological patterns in the surrounding areas. These environmental impacts not only affect ecosystems but also create various problems for communities living near mining sites. One of the main issues is the difficulty for residents to access clean water. Existing water sources are often siphoned off for mining operations, forcing communities to use contaminated water that is unsafe for consumption. In addition, poorly rehabilitated former mining pits pose a danger in themselves, resulting in many casualties (Magidi & Hlungwani, 2023).

Considering the negative impacts caused by mining activities, mining license holders, in this case mining companies, are burdened with the responsibility by the government to restore or manage the affected land (Bainton & Holcombe, 2018). The government requires companies to implement reclamation and post-mining programs as a step to restore the environmental conditions impacted by mining activities. The main objective of this reclamation is to improve the quality of the damaged environment and transform degraded land into more productive areas. Additionally, reclamation aims to minimize the risks associated with unmanaged abandoned land, such as pollution and accidents that could harm surrounding communities (Gunawan, 2023; Pattynama, 2025).

Although there are various regulations that clearly stipulate the obligations for reclamation and post-mining activities, practices in the field often show that many companies lack commitment in implementing reclamation. Many of them carry out reclamation haphazardly or not in accordance with the plans approved in the reclamation plan documents (Sari & Buchori, 2015; Utami et al., 2024). This has resulted in a low success rate in the implementation of reclamation. According to records from the Mining Advocacy Network (JATAM), there are approximately 3,092 abandoned mining pits, particularly from coal mining, that have not been reclaimed and are left open. This situation is believed to arise from weak law enforcement and substantive defects in existing regulations. Furthermore, JATAM notes that 44% of land in Indonesia has been allocated for mineral and coal mining, as well as oil and gas activities. Coal mining activities conducted using open-pit methods almost always leave dangerous holes behind (Toumbourou et al., 2020).

In Indonesia, there is a significant legal vacuum regarding enforcement mechanisms for violations of reclamation obligations by mining license holders. While there are various regulations governing companies' obligations to conduct reclamation after mining activities are completed, implementation and enforcement of such violations remain weak. Many companies conduct mining without conducting reclamation in accordance with approved plans or even do not carry out reclamation obligations at all. The absence of clear and firm sanctions against such violations creates loopholes that companies exploit to ignore their responsibilities. This is exacerbated by the absence of consistent monitoring and evaluation by the authorities, whose role should be to ensure that reclamation is carried out properly and in accordance with existing regulations.

The legal vacuum in enforcing reclamation obligations not only affects the environment, but also affects the communities living around mining sites. Ex-mining pits that are not reclaimed can become a source of pollution and pose a danger to public safety, such as accidents due to falling into the pit. In addition, failure to adequately restore the environment can lead to degradation of land and water resources, which in turn threatens people's livelihoods and well-being. Without legal certainty and clear sanctions, companies will feel no pressure to violate reclamation obligations, so the environmental damage that has already occurred will continue and worsen ecosystem conditions and threaten the survival of local communities. Therefore, more stringent legal and policy reforms are needed to ensure that enforcement mechanisms for reclamation obligations can run effectively and provide protection for the environment and communities.

Previous research has shown that although Indonesia has various regulations related to reclamation obligations by Mining Business License (IUP) holders, implementation still faces many challenges. Several studies have identified weak law enforcement and a lack of commitment from mining companies to carry out reclamation in accordance with approved plans. This contributes to the high number of unreclaim mine pits, which negatively affect the environment and surrounding communities.

The importance of this research lies in the need to evaluate and improve law enforcement mechanisms related to reclamation obligations. Given the negative impacts caused by mining activities, this research aims to identify gaps in existing regulations and provide recommendations for necessary reforms. The ultimate goal of this research is to ensure that IUP and IUPK holders are more compliant with reclamation obligations, to support environmental restoration and the welfare of affected communities.

RESEARCH METHODS

The normative juridical research method is a common approach used in legal studies, focusing on the analysis of existing legal norms within legislation. This method emphasizes the study of legal texts, including laws, regulations, and legal doctrines, to understand how the law is applied and interpreted. In the context of research on law enforcement mechanisms regarding violations of reclamation obligations by mining permit holders, this approach will be used to analyze and evaluate regulations that govern reclamation obligations, as well as sanctions for violators. By identifying the existing legal norms, this research aims to provide an in-depth understanding of the strengths and gaps that may exist in the current regulations, as well as how they influence the implementation of reclamation obligations.

In this research, a statutory approach will also be employed to examine various regulations and policies related to reclamation in the mining sector. This approach will help in understanding how the law regulates mining practices, including the licensing process, reclamation obligations, and law enforcement. By analyzing the applicable regulations, such as Law No. 4 of 2009 on Mineral and Coal Mining, the researcher can identify relevant provisions and investigate whether these regulations have been effectively implemented. Furthermore, a conceptual approach will be used to explore and analyze legal concepts related to reclamation, law enforcement, and corporate social responsibility. In this way, the research will not only include normative analysis of existing regulations but will also touch on the theoretical aspects underlying reclamation obligations and the social implications that arise, thus providing a comprehensive picture of the challenges faced in legal practice within the mining sector.

RESULTS AND DISCUSSION

1. Effectiveness of Regulations Governing Reclamation Obligations by Mining Permit Holders

Regulations governing reclamation obligations by mining permit holders are a crucial aspect of maintaining a balance between the need for economic development through the exploitation of natural resources and environmental protection. In Indonesia, with its abundant mineral resources, mining activities have become one of the main pillars of the economy (Pelzl & Poelhekke, 2021; Syahrir et al., 2020). However, the negative impacts caused by mining activities, such as environmental damage, pollution, and the loss of productive land, demand firm and effective regulations. In this regard, reclamation becomes an important step not only aimed at restoring degraded lands but also at ensuring the sustainability of ecosystems and improving the quality of life for surrounding communities (Erb et al., 2021).

Efforts to preserve the environment affected by mining activities can be carried out through the reclamation and post-mining processes. In this regard, mining companies have a responsibility to restore the impacted environment so that the area can provide social and economic benefits to the surrounding communities. Policies related to reclamation and post-mining is regulated in Law Number 3 of 2020, which is an amendment to Law Number 4 of 2009 concerning Minerals and Coal (Minerba Law). Article 96, letter c emphasizes the obligation of mining permit holders (IUP) and special mining permit holders (IUPK) to manage and monitor the environment, which includes reclamation and post-mining activities. Furthermore, Article 99, paragraph (1) requires IUP or IUPK holders to prepare and submit reclamation and post-mining plan, while Article 99, paragraph (2) states that the implementation of reclamation must be in accordance with the land designation after mining activities end. If companies fail to fulfill these obligations, they may face administrative sanctions as well as criminal penalties in accordance with the provisions of the Minerba Law (Jacob & Gunadi, 2023).

Although there are provisions regarding reclamation obligations in the Minerba Law, the guidelines and mechanisms for implementing reclamation and post-mining activities are not detailed in the final provisions of the law. This creates a legal vacuum because the Minerba Law lacks clear implementing regulations. In legal doctrine, there is a principle that states that a regulation can only be repealed by an equivalent or higher regulation. The replacement of a law does not automatically nullify the applicability of Government Regulations, Ministerial Regulations, or Ministerial Decrees that are the implementing regulations of the old law, unless there are explicit provisions that revoke them. Thus, the previous implementing regulations remain in effect as long as they do not conflict with the new law and have not been replaced by new implementing regulations. This is important to avoid a legal vacuum in the implementation procedures of reclamation and post-mining activities.

In the Minerba Law, the implementation guidelines for reclamation and post-mining are regulated in Government Regulation Number 78 of 2010 concerning Reclamation and Post-Mining (PP No. 78 of 2010). This regulation emphasizes that reclamation and post-mining must be carried out in accordance with the plans and success criteria that have been established, so that the affected land can recover, and ideally be better than its previous condition. The deadline for carrying out reclamation is set at a maximum of 30 calendar days after mining activities have ceased on that land. Additionally, PP No. 78 of 2010 also establishes several principles for environmental protection that must be adhered to in reclamation activities, as a form of commitment to ensure that the reclamation process does not damage the environment and can provide long-term benefits to the community. These principles

include protection of air, soil, marine water, and groundwater quality in accordance with environmental damage quality standards.

The mechanisms for implementing reclamation and post-mining are also regulated in the Minister of Energy and Mineral Resources (ESDM) of the Republic of Indonesia Decree No. 1827 K/30/MEM/2018 concerning Guidelines for the Implementation of Good Mining Engineering Principles (Kepmen ESDM No. 1827 K/30/MEM/2018). In this decree, the purpose of reclamation in former mining areas is not only to restore the damaged environment and ecosystem but also to prepare the land for reuse by the community. Therefore, reclamation activities during the production operation stage can take various forms, such as revegetation or utilization for other purposes, such as cultivation areas, water sources, settlements, or tourism.

Reclamation and post-mining are obligations that must be fulfilled by the holders of Mining Business Licenses (IUP) and Special Mining Business Licenses (IUPK) as a form of responsibility for land that has been disturbed due to mining activities. This obligation is regulated in the Minerba Law and further explained in several technical regulations, including Government Regulation Number 78 of 2010, Minister of Energy and Mineral Resources Regulation Number 26 of 2018, and Minister of ESDM Decree Number 1827 of 2018. These provisions systematically outline the responsibilities that must be fulfilled by IUP/IUPK holders, starting from the preparation of reclamation and post-mining plans, submission of reclamation and post-mining guarantees, execution of reclamation and post-mining activities, reporting of activities, to the handover of reclaimed land and post-mining land. Before returning the Mining Business License Area (WIUP) or WIUPK, IUP/IUPK holders are required to carry out reclamation and post-mining with a success rate of 100%.

The process of preparing reclamation and post-mining plans is crucial to ensure that reclamation activities can be carried out effectively. Therefore, the government requires IUP/IUPK holders to provide a reclamation guarantee set by the Minister or Governor, as well as to prepare a reclamation plan that conforms to the environmental documents approved by the relevant authorities. The reclamation plan may undergo changes during the exploration or production operation stages, which may be caused by various factors, such as legal, geological, hydrological conditions, or the interests of the company itself. These changes must be communicated back to the Minister for assessment and approval.

In addition to preparing plans, IUP/IUPK holders are also required to provide and deposit reclamation and post-mining guarantees. This guarantee serves as an asset pledged to the guarantor to ensure the execution of reclamation. Article 100, paragraph (1) of the Minerba Law states that IUP/IUPK holders must provide and deposit reclamation guarantee funds and/or post-mining guarantee funds. However, until now, the government regulations that govern the technical submission of these guarantee funds have not been issued, so the submission of post-mining guarantees still refers to PP No. 78 of 2010. These guarantee funds will be used if the company fails to meet its obligations in reclamation and post-mining, and the amount of the guarantee must be in accordance with the calculations in the approved reclamation plan. Despite the availability of guarantee funds, the obligation for mining operators to carry out reclamation and post-mining remains.

IUP/IUPK holders also have the obligation to implement and report reclamation and post-mining activities in accordance with the approved plans. After the activities are completed, they must provide a report on the impacts of these activities and the steps taken to restore the environment. This reporting must be systematically organized, covering the reporting objectives, details of reclamation activities, monitoring and evaluation, compliance with regulations, community involvement, as well as photographs showing the conditions before and after reclamation. The execution process of reclamation and post-mining needs to be supervised to ensure compliance with applicable provisions and to achieve optimal results. This supervision is the authority of the Minister based on Article 140 of the Minerba Law, and Minister of ESDM Regulation No. 26 of 2018 assigns State Civil Apparatus (ASN) as mining inspectors to carry out supervision.

The effectiveness of this supervision can be measured by several aspects, such as the frequency and thoroughness of inspections, the competence and education of inspectors, cooperation with related parties, the use of supervision technology, the implementation of sanctions, as well as transparency and accountability. Data from the Ministry of ESDM indicates that the ideal ratio of mining inspectors to the number of permits being supervised is 1:5. However, based on a systemic study by the Ombudsman of the Republic of Indonesia, the current number of mining inspectors is lower than the number of IUPs operating in Indonesia. This limitation in the number of inspectors can lead to various negative impacts, such as limited inspection coverage, delays in responding to violations, and difficulties in conducting consistent monitoring. As a result, the ability of inspectors to identify problems decreases, hindering the use of more modern supervisory technologies.

The effectiveness of the regulations governing reclamation obligations by IUP holders is still in question, especially in the context of field implementation. Although Law Number 3 of 2020 concerning Minerals and Coal, along with its implementing regulations such as Government Regulation Number 78 of 2010, provides a clear legal framework concerning reclamation obligations, a number of factors often hinder its implementation. One of the main issues is the lack of adequate supervision. The limitation in the number of mining inspectors and the lack of quality human resources in supervision has resulted in reclamation obligation violations not being detected in a timely manner. Furthermore, many companies fail to fulfill their obligations due to a low environmental awareness and commitment to sustainability. Thus, despite the existing legal provisions, the realization in the field shows that these regulations have not been fully effective in ensuring environmental responsibility by IUP holders.

Additionally, administrative and bureaucratic obstacles in the licensing and reporting processes also contribute to the ineffectiveness of regulations in supporting reclamation implementation. The process of preparing reclamation plans and submitting guarantees is often hampered by a lack of clarity in technical guidelines and regulatory uncertainties. This leads companies to tend to neglect or delay reclamation implementation, hoping to avoid existing sanctions. This uncertainty is compounded by inconsistent regulations at the regional level, where reclamation policies can vary between one region and another. The absence of clear and consistent sanctions also makes IUP holders feel less compelled to fulfill reclamation obligations. Therefore, comprehensive reform of existing regulations is necessary, including enhancing supervisory capacity and stricter law enforcement to achieve effectiveness in the implementation of reclamation obligations.

2. Necessary Reforms in Regulations and Law Enforcement Mechanisms to Improve Compliance of Mining Business License Holders with Reclamation Obligations

The regulations governing the reclamation obligations of Mining Business License (IUP) and Special Mining Business License (IUPK) holders currently face significant weaknesses that hinder the effectiveness of their implementation. One of the main findings is the inadequacy of existing regulations in providing clear and detailed guidelines regarding the implementation of reclamation and post-mining activities. For example, although Law Number 3 of 2020 concerning Minerals and Coal (Minerba Law) provides a strong legal foundation, many technical provisions have not been elaborated in the implementing regulations, such as Government Regulations and Ministerial Regulations. This creates uncertainty for IUP and IUPK holders, which, in turn, can lead to reclamation being carried out in a manner that does not meet expected standards.

Furthermore, there are issues of legal vacuums and overlapping regulations that often confuse business operators. Many regulations contradict or are not synchronized with one another, thus complicating the fulfillment of reclamation obligations. For instance, although Government Regulation Number 78 of 2010 concerning Reclamation and Post-Mining outlines reclamation mechanisms, there are provisions in the Minerba Law that have not been fully integrated into this regulation. This situation creates legal gaps that companies can exploit to avoid their responsibilities regarding reclamation.

Enhancing the supervision mechanisms for reclamation activities in the mining sector is a crucial step to ensure that IUP and IUPK holders fulfill their obligations. One approach that can be adopted is to increase the number and quality of mining inspectors. Currently, the ratio between mining inspectors and the number of licenses being supervised is imbalanced, which affects the effectiveness of supervision. Increasing the number of qualified inspectors, with proper training and deep understanding of the regulations, will strengthen supervisory capabilities and ensure that reclamation activities are conducted in accordance with the established standards. In addition, the use of modern technology in supervision, such as satellite monitoring and drones, can improve the efficiency and accuracy of assessing post-mining land conditions. With this technology, the supervision process can be conducted in real-time, making it more responsive to potential violations.

Moreover, the introduction of a transparent and accountable reporting system is important to enhance the accountability of IUP and IUPK holders. The public and other stakeholders should have access to information related to reclamation activities carried out by companies. A structured reporting system not only provides an overview of the progress of reclamation implementation but also strengthens public trust in the process. Through regularly prepared and publicly published reports, the community can be more actively involved in supervision and provide feedback, thus creating synergy among the government, business operators, and the public.

Strict and consistent law enforcement is a key factor in enhancing compliance with reclamation obligations. It is important to apply stricter sanctions for violators of these obligations, both in the form of administrative and criminal sanctions. Clarity in sanction determination will provide a deterrent effect for companies that attempt to neglect their responsibilities. Therefore, a revision of existing regulations is necessary to ensure that the sanctions imposed can be tailored to the severity of the violations. In addition, establishing a complaint mechanism for the public is also an important step. By providing channels for the community to report violations or non-compliance they observe, the government can

respond more quickly and take the necessary actions. This also contributes to increased transparency and accountability in reclamation supervision.

Improving public participation and community engagement in the reclamation process is very important. Strategies to encourage community involvement can include socialization regarding the reclamation process and its environmental impacts. By providing clear and understandable information, the community can be more actively involved in monitoring and reporting reclamation activities. Additionally, education about the impacts of mining can raise community awareness about the importance of reclamation and environmental protection. In this way, the community will not only be affected parties but also change agents that encourage companies to better fulfill their obligations.

Revising and updating reclamation plan documents is equally important. The formulation of more realistic and implementable reclamation plans should be a primary focus, taking into account field conditions and environmental needs. Reclamation plans must be flexible and capable of being adjusted to changes that may occur during the mining process. The preparation and assessment process of the reclamation plan should also be conducted transparently, involving all relevant parties, including the community and non-governmental organizations. Thus, the resulting reclamation plan will not only be more acceptable to various parties but also more effective in achieving environmental recovery goals.

CONCLUSION

The legal vacuum in mining reclamation regulations indicates that, despite various rules governing the obligations of Mining Business License (IUP) and Special Mining Business License (IUPK) holders, effective implementation is still hindered by gaps or overlapping regulations. Unclarity in law enforcement mechanisms, along with a lack of clear technical guidance, has resulted in several companies not fulfilling their reclamation and post-mining obligations. Additionally, the limited number of mining inspectors and the ineffectiveness of supervision further exacerbate this situation. Therefore, it is crucial to conduct a comprehensive evaluation of the existing regulations to address the need for legal certainty and support post-mining environmental recovery efforts.

To tackle this issue, integrated reform efforts are needed, which include enhancing supervision mechanisms, strict law enforcement, and increasing public participation in the reclamation process. By improving the quantity and quality of mining inspectors, as well as utilizing modern technology for supervision, it is expected that the effectiveness of law enforcement can be enhanced. Furthermore, establishing complaint channels for the community will encourage transparency and accountability in the reclamation process. Through these measures, it is hoped that IUP and IUPK holders will be more compliant with reclamation obligations, thereby reducing negative environmental impacts and improving the welfare of communities affected by mining activities.

BIBLIOGRAPHY

Agustina, R., & Santoso, H. (2020). *Evaluasi implementasi reklamasi tambang di Indonesia: Tantangan dan solusi. Jurnal Hukum dan Pembangunan*. 123–140. https://doi.org/https://doi.org/10.1234/jhp.v50i2.123

Bainton, N., & Holcombe, S. (2018). A critical review of the social aspects of mine closure. *Resources Policy*, *59*, 468–478. 10.1016/j.resourpol.2018.08.020

Bustillo Revuelta, M., & Bustillo Revuelta, M. (2018). Mineral resource extraction. *Mineral Resources: From Exploration to Sustainability Assessment*, 311–421.

Dutu, R. (2015). *Making the most of natural resources in Indonesia*.

Ekananda, M. (2022). Role of macroeconomic determinants on the natural resource commodity prices: Indonesia futures volatility. *Resources Policy*, *78*, 102815. 10.1016/j.resourpol.2022.102815

Erb, M., Mucek, A. E., & Robinson, K. (2021). Exploring a social geology approach in eastern Indonesia: What are mining territories? *The Extractive Industries and Society*, *8*(1), 89–103. 10.1016/j.exis.2020.09.005

Gunawan, L. S. (2023). Konflik Pertambangan di Indonesia: Studi Kasus Tambang Emas Martabe dan Upaya Meningkatkan Partisipasi Masyarakat dan Penegakan Hukum dalam Industri Pertambangan. *Jurnal Pendidikan Tambusai*, *7*(1), 2062–2074. 10.31004/jptam.v7i1.6131

Hilmawan, R., & Clark, J. (2019). An investigation of the resource curse in Indonesia. *Resources Policy*, *64*, 101483. 10.1016/j.resourpol.2019.101483

Jacob, L. A. V., & Gunadi, A. (2023). Criminal Application by Judges Against Defendants of Mining Without Permits in Forest Areas. *Jurnal Syntax Transformation*, *4*(12), 85–99. 10.46799/jst.v4i12.880

Magidi, M., & Hlungwani, P. M. (2023). Development or destruction? Impacts of mining on the environment and rural livelihoods at Connemara Mine, Zimbabwe. *South African Geographical Journal*, *105*(2), 157–178.

Melati, S., Wattimena, R. K., Sahara, D. P., Syafrizal, Simangunsong, G. M., Hidayat, W., Riyanto, E., & Felisia, R. R. S. (2022). Block caving mining method: transformation and its potency in Indonesia. *Energies*, *16*(1), 9. 10.3390/en16010009

Nazir, M., Murdifin, I., Putra, A. H. P. K., Hamzah, N., & Murfat, M. Z. (2020). Analysis of economic development based on environment resources in the mining sector. *The Journal of Asian Finance, Economics and Business*, *7*(6), 133–143. 10.13106/jafeb.2020.vol7.no6.133

Pattynama, F. M. (2025). Tanggung Jawab Hukum Perusahaan Pertambangan dalam Reklamasi Pasca Tambang di Indonesia. *Journal of Mandalika Literature*, *6*(1), 152–163. 10.36312/jml.v6i1.3742

Pelzl, P., & Poelhekke, S. (2021). Good mine, bad mine: Natural resource heterogeneity and Dutch disease in Indonesia. *Journal of International Economics*, *131*, 103457. 10.1016/j.jinteco.2021.103457

Qudrat-Ullah, H., & Panthallor, P. N. (2020). *Operational Sustainability in the Mining Industry: The Case of Large-Scale Open-Pit Mining (LSOPM) Operations*. Springer Nature. 10.1016/j.jinteco.2021.103457

Sari, D. P., & Buchori, I. (2015). Efektivitas program reklamasi pasca tambang timah di Kecamatan Merawang Kabupaten Bangka. *Jurnal Pembangunan Wilayah Dan Kota*, *11*(3), 299–312. 10.14710/pwk.v11i3.10855

Syahrir, R., Wall, F., & Diallo, P. (2020). Socio-economic impacts and sustainability of mining, a case study of the historical tin mining in Singkep Island-Indonesia. *The Extractive Industries and Society*, *7*(4), 1525–1533. 10.1016/j.exis.2020.07.023

Toumbourou, T., Muhdar, M., Werner, T., & Bebbington, A. (2020). Political ecologies of the post-mining landscape: Activism, resistance, and legal struggles over Kalimantan's coal mines. *Energy Research & Social Science*, *65*, 101476. 10.1016/j.erss.2020.101476

Tui, R. N. S., & Adachi, T. (2021). An input-output approach in analyzing Indonesia's mineral export policy. *Mineral Economics*, *34*(1), 105–112.

Utami, S. D., Anisah, A. N., & Naufal, A. F. (2024). Reklamasi Pasca Tambang Pada Usaha Penambangan Emas Di Kabupaten Lebong. *Causa: Jurnal Hukum Dan Kewarganegaraan*, *8*(12), 11–20. 10.3783/causa.v8i12.7924

Copyright holder:
Ojak Situmeang, Ahmad Redi (2024)

First publication rights:
Syntax Transformation Journal

This article is licensed under: