



THE EFFECTIVENESS OF ENVIRONMENTAL MONITORING ON MINERAL MINING

Usman¹, Abrar Saleng²

¹Faculty of Law, University of Sembilanbelas November Kolaka

² Faculty of Law, Hasanuddin University

E-mail: usmanfitriany@gmail.com

Abstract:

This study aims to determine (1) the Implementation of Oversight of Regional Environmental Services to Mineral Mining and (2) the Effectiveness of Oversight of the Kolaka Regency Regional Environmental Service to Mineral Mining Post Law No. 23 of 2014 concerning the Regional Government. This research uses empirical research methods. The study's chosen location was in Southeast Sulawesi, Kolaka District, and Pomalaa District. The basis for consideration of site selection because that the Kolaka Regency is one of the largest nickel mine producers in Southeast Sulawesi Province. The results showed the Implementation of Regional Environmental Services Supervision Against Mineral Mining. It focuses on Environmental Permits issued to conduct Environmental Monitoring of compliance with mineral mining business responsibility. In comparison, the Effectiveness of Supervision of Regional Environmental Services on Mineral Mining Post Law No. 23 of 2014 concerning Regional Government has not been effectively implemented by the Regional Environmental Agency through the supervision of RKL-RPL and PPLH Permits due to the facilities and facilities provided by the Environment Office to carry out supervision in the field of nickel mineral mining, not available, so it requires facilities from the parties company to carry out supervision. Supervision that must be carried out in applying environmental law requires facilities to carry out supervision effectively without affecting environmental law enforcement activities.

Keywords: Effectiveness; Supervision; Mining.

Abstrak:

Penelitian ini bertujuan menganalisis implementasi pengawasan Dinas Lingkungan Hidup Daerah terhadap pertambangan mineral, dan efektivitas pengawasan Dinas Lingkungan Hidup Daerah Kabupaten Kolaka terhadap Pertambangan Mineral Pasca Berlakunya UU RI No. 23 tahun 2014 tentang Pemerintahan Daerah. Penelitian ini menggunakan tipe penelitian empiris. Lokasi yang dipilih dalam penelitian dilakukan di Sulawesi Tenggara Kabupaten Kolaka Kecamatan Pomalaa. Dasar pertimbangan pemilihan lokasi karena di Daerah Kabupaten Kolaka merupakan salah satu penghasil tambang nikel terbesar di Provinsi Sulawesi Tenggara. Hasil penelitian menunjukkan bahwa Implementasi Pengawasan Dinas Lingkungan Hidup Daerah terhadap Pertambangan Mineral. Berfokus pada Izin Lingkungan yang diterbitkan untuk melaksanakan Pengawasan Lingkungan Hidup terhadap ketaatan penanggungjawab usaha pertambangan mineral. Sedangkan Efektivitas Pengawasan Dinas Lingkungan Hidup Daerah terhadap Pertambangan Mineral Pasca Berlakunya UU No. 23 tahun 2014 tentang Pemerintahan Daerah, belum secara efektif dilaksanakan Dinas Lingkungan Hidup Daerah melalui pengawasan RKL-RPL dan Izin PPLH, diakibatkan sarana dan fasilitas yang diberikan Dinas Lingkungan Hidup untuk melaksanakan pengawasan di bidang pertambangan mineral nikel, tidak tersedia sehingga membutuhkan fasilitas dari pihak perusahaan untuk melaksanakan pengawasan. Pengawasan yang harus dilakukan dalam penerapan hukum lingkungan hidup dibutuhkan sarana dan fasilitas untuk melaksanakan pengawasan secara efektif tanpa mempengaruhi aktivitas penegakan hukum lingkungan hidup.

Kata Kunci: Efektivitas; Pengawasan; Pertambangan.

A. Introduction

The state protects the environment, which has a fundamental position contained in the preamble of the 1945 Constitution, paragraph four, namely: The Government of the State of Indonesia, which protects the entire Indonesian nation and the entire homeland of Indonesia and promotes the public welfare. This affirmation places the State's obligation and the Government's duty to protect all of Indonesia's human resources as components of biological (biotic) natural resources and non-biological (abiotic) natural resources for the happiness of all Indonesian people and all humankind. (Yunus wahid, 2014)

The international world's attention to the issue of the use of natural resource management has been manifested by the agreement of various declarations such as the Stockholm Declaration, the Nairobi Declaration, the Rio De Janeiro Declaration, the Johannesburg Declaration, and The Earth Charter. This international conference has given birth to sustainable development, namely long-term and sustainable development. (Nambo & Puluhuluwa, 2005) The characteristics of natural resources are the distribution of natural resources on this earth is not evenly distributed. Some parts of the earth are full of natural resources, but some are not, so the next generation can still use natural resources. (Situmeang, 2020) Utilization of natural resources in the management process is carried out based on environmentally sound management. Development that meets the needs of the present generation without compromising the ability of future generations to meet their needs. (Mas Achmad Sentosa, 2016) The ability of the current generation to support ecosystems will be enjoyed by the future so that in the future, they will not feel the environmental damage caused by the present if the present takes precautions against environmental damage.

Entering the reform era until the revision of Law No. 22 of 1999 to Law No. 32 of 2004 concerning Regional Government is the first phase of implementing regional autonomy. Then it was changed again with Law number 23 of 2014 concerning Regional Government. The basis for consideration of the issuance/revision of the Regional Government Law is that the separation of management powers in the mineral and coal natural resources sector becomes the authority of the Central Government and the Provincial Government. Meanwhile, Regency/City Regional Governments no longer manage Government affairs in Mineral and Coal Mining as stipulated in Law No. 4 of 2009 concerning Mineral and Coal Mining. (Sufianto, 2020)

Law No. 4 of 2009 concerning Mineral and Coal Mining, the authority of the Regency Regional Government still has a vital role in the mining sector, both in terms of issuance of Mining Business Permits, supervision of environmental management, reclamation, and post-mining. Furthermore, Law No. 32 of 2009 concerning PPLH further regulates the authority of Regency/City Governments in supervising the obedience of those in charge of businesses and/or activities. The Government and Regional Governments carry out the State's control of Mineral mining. At the same time, the Government carries out control by the State as the holder of mining authorization by establishing an implementing agency. The government is responsible for regulating and supervising business activities whose implementation is carried out by the regulatory agency. (Nurlani, 2019)

Mining business activities need to pay attention to aspects of sustainable development because it is one manifestation of environmental insight. On the other hand, the principle of sustainable development must be applied in environmentally sound development policies. There is no sustainable development without the

environment as its main element, and no environmental insight without sustainable development. The implementation of sustainable development that is environmentally sound if the role of the Government in carrying out environmental supervision of business activities in the mining sector goes well. (Jimly Asshiddiqie, 2009)

Environmental problems in nickel mining management, as stated by Fenty U. Puluhulawa in his research on environmental damage, are due to the weak intensity of supervision implementation, which has an impact on the implementation of law enforcement has not been realized. This firm sanction and force of coercion are explained in the legal definition, namely that the law has fixed principles and characteristics. First, the law is an organ of abstract regulations, and second, that law is a social process to establish legal order and regulate human interests. (Hardiman et al., 2019)

Mining business activities from negative aspects get various negative impacts of mining activities on the environment as follows: (Abrar Saleng, 2004)

1. In a relatively short time, the mining business can change the soil's topography and the land surface's condition (land impact) so that it can change the balance of the ecological system for the surrounding area.
2. Mining businesses can cause various kinds of disturbances, among others, pollution due to dust and smoke that pollutes the air and water, wastewater, tailings, as well as mine waste containing toxic substances. The disturbance is also in the form of noise from various heavy equipment, sounds of explosive explosions (explosives), and other disturbances.
3. Mining carried out without regard to work safety and geological field conditions can cause landslides, mine explosions, mine collapses, and earthquakes.

Weak law enforcement in the environmental field, it can be observed that only a few law violators in mining businesses who commit environmental damage are successfully prosecuted, and entrepreneurs as the main actors can avoid these penalties against laws and regulations in the environmental sector. The person in charge of the mining business in its activities causing pollution and/or environmental damage can provide information to the community so that it can prepare itself for the symptoms that will arise. The importance of access to information is an essential pillar in strengthening environmental democracy and confirming the government's and individuals' responsibility in overcoming pollution and environmental damage. (Susilowati, 2020)

The Regional Government has not maximally implemented law enforcement on the protection and management of the mining environment because the Regional Government has not effectively carried out the controls that should have been carried out effectively so that the community does not see any risk from the implementation of environmental supervision carried out by the Regional Government on nickel mineral mining.

B. Research Method

This study uses empirical research methods. The approaches used in this research are statutory and conceptual. The study's chosen location was in Southeast Sulawesi, Kolaka Regency, Pomalaa District. The basis for consideration for site selection is that Kolaka Regency is one of the largest nickel mine producers in Southeast Sulawesi Province. The data analysis technique used is qualitative data analysis, namely data

collected by looking at the process of an object of research. Conclusions are made to provide a clearer picture of the research results.

C. Discussion

1. Implementation of Regional Environmental Service Supervision on Mineral Mining

Every living thing has the right to a good and healthy living environment; without a healthy environment, living things are meaningless, so there needs to be human awareness in maintaining their behavior in doing damage to the environment, therefore the environment as a support for the welfare of living things, especially humans. God has provided a good and healthy environment for His creatures so that His creatures feel comfortable in living their lives. Munadjat Danusaputro said that life is impossible without the environment. (St. Munadjat Danusaputro, 1985) To ensure that the wealth of natural resources are not depleted in a short time, a policy is needed to fully utilize natural resources with a sense of responsibility and wisdom. (Muhammad Fadil & Chepi Ali Firman, 2022)

The division of authority over environmental supervision over nickel mining business activities is a response to the spirit of decentralization and the power of Regional Autonomy after the enactment of Law Number 23 of 2014 concerning Regional Government. This is illustrated in the Law concerning the Division of Government Affairs in the Environmental Sector. Guidance and supervision of businesses and/or activities for which the Regency/City Government issues Environmental Permits and PPLH permits. So that the power of the Regional Government in carrying out environmental supervision of mineral mining after the enactment of Law no. 23 of 2014 concerning the Regional Government still has a role in the mining sector in terms of granting environmental permits to mining companies.

The Government’s authority over environmental management is stated in the explanation of Law Number 23 of 2014 concerning Regional Government in the division of government affairs in the Environmental Sector.

Table 1. The pattern of the Division of Government Affairs in the Environmental Sector

NO	SUB FIELD	CENTRAL GOVERNMENT	PROVINCIAL REGION	REGENCY AND CITY AREA
1	Environmental Planning	National Environmental Protection and Management Plan (RPPLH).	Provincial RPPLH	Regency/City RPPLH
2	Strategic Environmental Studies (KLHS)	KLHS for National Plan and/or Program (KRP) Policy.	KLHS for Provincial PPP	KLHS for Regency/City.
3	Control of Environmental Pollution and/or Damage	Prevention of prevention and recovery of pollution and/or environmental damage across	Prevention and recovery of pollution and/or environmental damage across	Prevention of control and recovery of pollution and/or environmental damage in the

		Provinces and/or across national borders	regions. Regency/City in 1 (one) Province	Regency/City Area.
4	Guidance and supervision of environmental permits and environmental protection and management permits (PPLH)	Guidance and supervision of businesses and/or activities for which the Central Government issues environmental permits and PPLH permits.	Guidance and supervision of businesses and/or activities for which the Provincial Government issues environmental permits and PPLH permits.	Guidance and supervision of businesses and/or activities for which the Regency/Municipal Government issues environmental and PPLH permits.

In supervising mineral mining activities, the Government intervenes in mining management. Emil Salim said that the Government needs to intervene because natural mining resources are non-renewable. In this case, the Government plays a role in regulating the use of revenues derived from mining, which should be used to diversify economic activities that rely on renewable natural resources so that the implementation of the Government's responsibility in monitoring the environment for nickel mineral mining is the obligation of the Government and the Regional Government to supervise the obedience of the person in charge of mining business activities so that the implementation remains in good mining principles. As stated in Law no. 32 of 2009 concerning PPLH Article 71 Paragraph (1) that "Ministers, Governors, or Regents/Mayors following their respective authorities are obliged to supervise the compliance of the person in charge and/or activities to the provisions stipulated in the legislation in the field of environmental protection and management."

In implementing Government affairs in the environmental sector, the Minister deems it necessary to organize a deconcentration in the environmental sector to the Governor as the Government Representative. (Mangala & Irwansyah, 2017) The deconcentration of the environmental sector is expected to increase regional capacity in ecological management and uphold the achievement of national priority targets contained in the natural resource management program and the environment as measured by key performance indicators, increasing supervision of compliance with wastewater pollution control and emissions, decreasing environmental air pollution in the Watershed (DAS) the availability of policies in the field of atmosphere protection and control of the impact of climate change and increasing capacity for natural resource management and the environment.

The implementation of environmental supervision is carried out by deconcentration, which is carried out by the Governor and the Regent/Mayor following their authority, namely the Regional Environmental Service, to supervise the obedience of the person in charge of the business and/or activity. The Regional Environmental Service oversees the compliance of UPL-UKL and PPLH Permits for every company that is active in conducting business activities. As in George R. Terry's theory, supervision is intended to determine what has been achieved and evaluate and implement corrective actions if necessary to ensure the results follow the plan. (Siswayanti, 2013) The implementation of supervision carried out by the Regional Government following the authority, namely the Environmental Service

for Mineral Mining, namely (a) monitoring, (b) requesting information, (c) making copies of documents or making necessary records, (d) entering certain places, (e) photographing (f) making audio-visual recordings, (g) taking samples, (h) inspecting equipment, (i) inspecting installations and means of transportation, (j) stopping certain violations.

The mechanism for implementing supervision over mineral mining is seen from the activity process, compliance with regulations and requirements or obligations listed in the permit, and evaluation of environmental management methods.

a) Preliminary Meeting

A meeting with the party in charge of the business and/or activity to discuss the aims and objectives of implementing the supervision of the parties to be contacted by the object to be visited. Data/documents must be completed.

Data that must be completed:

- General business and/or activity information
- Identity of the person in charge
- Wastewater inspection reporting documents
- Air and ambient emission inspection reporting documents
- AMDAL/UKL/UPL Documents
- Permissions

b) Observation of the activity process

Checks for:

- Layout, area
- Drainage maps, piping systems
- Type and amount of waste (liquid, solid, gas)
- Flow meter, water balance
- Energy use and its sources
- Possible bypass
- Waste minimization efforts/waste recycling process technology

c) Observation of the wastewater management industry (IPAL)

Checks for:

- Wastewater sources and capacity
- Applied wastewater management and technology
- Types and quantities of chemicals used in wastewater treatment
- The physical condition of WWTP (permanent, watertight)
- WWTP performance conditions (equipment not working, damaged, poor operation)
- Wastewater management techniques used and the WWTP operational system (batch/continue)
- WWTP scheme/layout
- The capacity of waste generated from each work unit
- WWTP inlet and outlet wastewater discharge
- Sewerage (mixed with rainwater, bypass)
- Wastewater flow meter
- Use of raw water
- Data self-monitoring of wastewater analysis
- IPAL Sludge Management

- Waste water utilization efforts (reuse, recycle, reduce)
- d) Observation of emission sources and PPU facilities
Checks for:
 - Emission sources
 - Data self-monitoring of stack emissions and ambient air quality (inspection period, test location, and laboratory accreditation)
 - Efforts to control air pollution (techniques/tools used)
 - Chimney emission test facility Type of fuel
 - Public complaints/air quality disturbances that occur
 - Noise, vibration, and odor control measures
- e) Observation of Hazardous Waste Storage Places (TPS).
Checks for:
 - *Checklist of hazardous waste TPS evaluation forms:*
 - Inspection of the building: design and construction according to the type, characteristics, and amount of hazardous waste generated; protected from rainwater, has adequate air ventilation and lighting systems, watertight floors, 1% slope towards the reservoir, storage markings/symbols;
 - Inspection of other available facilities: fire fighting system equipment, security fences, first aid facilities, emergency exits, alarms;
 - Inspection of packaging: good condition, not damaged, not rust and not leaking; the shape, size, and packaging materials are compatible with hazardous waste;
 - Packaging inspection: packaging compatibility, inspection, and installation of symbols and labels;
 - Inspection of hazardous waste containers in tanks: design, facilities, and systems;
 - Supports meet the requirements, hazardous waste is stored appropriately, has a secondary storage, is checked every day, countermeasures in case of leakage or disturbance;
 - Inspection of hazardous waste storage methods: the packaging is made of a block system, the width of the aisle meets the requirements, the stacking of the packaging is stable, the stack is a maximum of 3 (three) layers and uses pallets, the distance from the roof and walls is at least 1 meter.
 - Inspection of storage with tanks: have dams, drains and storage tanks (watertight and 110% capacity of the tank capacity), protected from direct sunlight and rainwater.
 - Hazardous waste storage permit
 - Records for storing hazardous waste (source of hazardous waste, type of hazardous waste, date of entry, date of exit, amount of hazardous waste, hazardous waste balance)
 - Hazardous waste storage time (> 90 days or not)
 - Hazardous waste storage reporting
- f) Preparation of Record of Preparation (BAP)
Discussed in the discussion of the supervision report format.

2. The Effectiveness of Environmental Monitoring of Mineral Mining

The role of the Government is to establish policies and regulations, provide guidance, and jointly carry out supervision. Meanwhile, business actors are obliged to comply with the provisions of environmental legislation stipulated in Law number 32 of 2009 concerning Environmental Protection and Management and its derivative regulations. Environmental supervision can be said to be effective if a bureaucracy or institution authorized to carry out an activity following its duties and responsibilities as the executor of the task to carry out environmental supervision of nickel mineral mining both during mining management and production to prevent environmental damage or pollution so the Government, especially the Regional Government, supervises mining in order to be able to cope with and restore the environment that has been damaged by mining. In the theory of legal effectiveness, according to Soerjono Soekanto is that whether or not a law is effective is determined by 5 (five) factors, namely: (Soerjono Soekanto, 2008)

1. The legal factor itself (law).
2. Law enforcement factors, namely the parties that form and apply the law.
3. Factors of facilities or facilities that support law enforcement.
4. Community factors, namely the environment in which the law applies or is stipulated.
5. Cultural factors result from work, creativity, and taste based on the human initiative in social life.

According to Robert B. Seidman, quoted by Satjipto Rahardjo, the operation of the law is strongly influenced by social and personal forces or factors. Social and personal factors do not only affect the people as targets regulated by law. According to Soerjono Soekanto, the implementation of law enforcement requires four conditions: the existence of rules, the existence of institutions that will carry out the regulations, the facilities to support the implementation of the regulations, and the existence of legal awareness of the people affected by the regulations. Satjipto Rahardjo said there is no eternal law because the law is a definite formulation, while he has to deal with constantly changing life. Laws that are pegged to the formulation of these words will always lag behind the changes that occur in society, which must be controlled or controlled. This is what is called *de wet hinkt achter de feite*. (HR, 2021)

According to Achmad Ali, effectiveness in the field of law argues that when we want to know the extent of the effectiveness of the law, we must first be able to measure the extent to which the rule of law is obeyed or not. Then Achmad Ali continued that, in general, the factors that significantly affect the effectiveness of legislation are professional and optimal implementation of the roles, authorities, and functions of law enforcement, both in explaining the tasks assigned to them and in enforcing the legislation. (Achmad Ali, 2010)

The Regional Government, through the Environmental Service, supervises the company on compliance with environmental management, while the implementation of reclamation and post-mining supervision is under the authority of the Provincial Government through the Energy and Mineral Resources Office. In contrast, in the implementation of environmental management supervision in nickel mining companies, the Regency/City environmental service carries out routine supervision following the provisions of the legislation, namely 1 (one) time in a

semester or 1 (one) time for 6 (six) months under the environmental permit issued by the Regency/City government. Meanwhile, the implementation of supervision is carried out by the Department of Energy and Mineral Resources (ESDM); first, monitoring the periodic reporting of companies holding IUPs. Second, evaluate the results of compliance with environmental laws and environmental regulations, including reclamation and post-mining guarantees. Third, assess the successful implementation of reclamation carried out by IUP holders. From the results of supervision carried out by the Mining Inspector, compiling and submitting reports on the results of inspections, investigations, and tests to the Chief Inspector of Mines.

The effectiveness of the supervision carried out by the Regional Government after the enactment of Law Number 23 of 2014 concerning Regional Government based on legal factors that affect the effectiveness of the implementation of the law in carrying out the supervision of the management of the mining environment severely limits the authority of the Regency/City Government over the management of its natural resources, so the control of the observance of nickel mining business activities is not carried out thoroughly by the Regency/Municipal Government, in terms of supervision of environmental management, as well as the implementation of reclamation and post-mining. The Provincial Government implements reclamation and post-mining through the Department of Energy and Mineral Resources, which the Mining Inspector carries out. So that the effectiveness of monitoring the management of the mining environment has not been maximized to implement regulations regarding the management of the mining environment; it can be seen that the facilities and infrastructure factors have not been fulfilled optimally, especially the adequate Mining Inspector personnel, only 53 people including 5 (five) experts, while the IUP holder companies who located in Kolaka Regency totaling 19 IUPs and 1 Contract of work actively conducting mining business activities. The nickel mining area in Kolaka Regency reaches 42,377.70 hectares and can be managed by IUP holders is 514,263 hectares. Meanwhile, the mining area that has done reclamation so far in 2019 is 83,335.38 hectares, a reclamation and post-mining guarantee carried out by IUP holders.

The Regional Environmental Service conducted the monitoring evaluation at the Nickel Mining Company in Kolaka Regency in 2019.

Table 2. Schedule Monitoring and Supervision of the Regional Environmental Service on RKL-RPL and PPLH Permits at Nickel Mineral Mining companies in Kolaka Regency.

NO	COMPANY NAME	TYPE OF ACTIVITY	IMPLEMENTATION DATE	LOCATION	DESCRIPTION
1	PT. Pernick Sultra	Nickel ore mining	Tuesday, 22 January 2019	Tanggetada and Pomalaa Districts	Recommended improvement of findings

2	PT. Antam Tbk UBPN Sultra	Nickel Ore Plant	Thursday, 17 January 2019	Pomalaa Districts	Good
3	PT. CERIA Indotama Nugraha	Nickel ore mining	Tuesday, 12 January 2019	Wolo Districts	Recommended improvement of findings
4	PD. Aneka Usaha	Nickel ore mining	Thursday, 31 January 2019	Pomalaa Districts	Recommended improvement of findings
5	PT. Putra Mekongga Sejahtera	Nickel ore mining	Thursday, 07 February 2019	Pomalaa Districts	Recommended improvement of findings
6	PT. Sumber Sedia Budi	Nickel ore mining	Monday, 02 February 2019	Pomalaa Districts	Recommended improvement of findings
7	PT.Akar Mas Internasional	Nickel ore mining	Thursday, 14 February 2019	Pomalaa Districts	Recommended improvement of findings
8	PT. Tosida Indonesia	Nickel ore mining	Thursday, 28 February 2019	Tanggetada Districts	Recommended improvement of findings
9	PT.Bola Dunia Mandiri	Nickel ore mining	Not implemented yet	Pomalaa Districts	
10	PT.ASIA Mineral Mining	Nickel Ore Management Plant	Not implemented yet	Pomalaa Districts	
11	PT.Mapan Asia Sejahtera	Nickel Ore Management Plant	Not implemented yet	Pomalaa Districts	
12	PT.Waja Inti Mulia	Nickel ore mining	Not implemented yet	Wolo Districts	
13	PT. Tambang Rejeki Kolaka	Nickel ore mining	Not implemented yet	Pomalaa Districts	

Of the 13 companies with RKL-RPL and PPLH Permits, the Regional Environmental Service of Kolaka Regency supervises compliance with environmental permits, and most mining companies experience problems with environmental management. Hence, the Environmental Service provides recommendations for improvements to the findings, so the management of mining activities continues to run according to the target. Then some companies have not carried out environmental permit monitoring because the mining companies have not reported their permanent office addresses, and some companies are temporarily not operating, so the Environmental Service does not carry out environmental monitoring of these companies.

D. Closing

Implementation of Regional Environmental Service Supervision on Nickel Mineral Mining. Focusing on environmental permits issued to carry out environmental supervision on the compliance of the person in charge of the Nickel mineral mining business, on the other hand, the Regional Government Authority as the executor of Regional Autonomy powers as part of deconcentration on environmental management

supervision. Based on Law number 23 of 2014 concerning Regional Government, it can be concluded that the principle of Regional Autonomy is to provide the broadest possible terms of the authority to administer and regulate all Government affairs outside those under the authority of the Central Government.

To ensure accountability for the implementation of supervision carried out by the Regional Government, it is necessary to have supervision in the form of coordination with relevant agencies so that the implementation of supervision can be carried out effectively on mineral mining business activities so that environmental management and the implementation of post-mining reclamation can be carried out. Therefore, it is necessary to have a legal norm that strictly regulates the authority of each relevant agency to form an integrated supervisory team to monitor the compliance of the person in charge of the nickel mining business.

REFERENCES

Book:

- Abrar Saleng. (2004). *Hukum Pertambangan*. Uii Press.
- Achmad Ali. (2010). *Menguat Teori Hukum Dan Teori Peradilan*. Kencana.
- Jimly Asshiddiqie. (2009). *Green Constitution: Nuansa Hijau Uu Dasar Negara Republik Indonesia Tahun 1945*. Rajawali Pers.
- Mas Achmad Sentosa. (2016). *Alam Pun Butuh Hukum Dan Keadilan*. Prima Pustaka.
- Soerjono Soekanto. (2008). *Faktor-Faktor Yang Mempengaruhi Penegakan Hukum*. Raja Grafindo Persada.
- St. Munadjat Danusaputro. (1985). *Hukum Lingkungan Buku Ii Nasional*. Binacipta.
- Yunus Wahid. (2014). *Pengantar Hukum Lingkungan*. Arus Timur.

Journal:

- Hardiman, Y., Kotijah, S., & Sina, L. (2019). Restorative Justice Terhadap Pelaku Tindak Pidana Ringan Yang Telah Diberi Sanksi Adat. *Mulawarman Law Review*. <https://doi.org/10.30872/Mulrev.V4i1.48>
- Hr, M. A. (2021). Lemahnya Penegakan Hukum Di Indonesia. *Jish: Jurnal Ilmu Syariah Dan Hukum*. <https://doi.org/10.36915/Jish.V3i1.16>
- Mangala, G., & Irwansyah, H. P. (2017). Efektivitas Fungsi Badan Lingkungan Hidup Daerah Terhadap Pemberian Proper Di Bidang Pertambangan. *Pagaruyuang Law Journal*. <https://doi.org/10.20956/Halrev.V1i1.215>
- Muhammad Fadil, A., & Chepi Ali Firman. (2022). Penegakan Hukum Terhadap Penjualan Hewan Yang Dilindungi Berdasarkan Undang-Undang Nomor 5 Tahun 1990 Tentang Konservasi Sumber Daya Alam Dan Ekosistemnya. *Bandung Conference Series: Law Studies*. <https://doi.org/10.29313/Bcsls.V2i1.798>
- Nambo, A., & Puluhuluwa, M. (2005). Memahami Tentang Beberapa Konsep Politik (Suatu Telaah Dari Sistem Politik). *Mimbar : Jurnal Sosial Dan Pembangunan*.
- Nurlani, M. (2019). Pengaruh Pembaharuan Hukum Agraria Nasional Terhadap Politik Hukum Di Indonesia. *Jurnal Thengkyang*.
- Siswayanti, N. (2013). Review Buku: Syarah Konstitusi Uud 1945 Dalam Perspektif Islam. *Hunafa: Jurnal Studia Islamika*. <https://doi.org/10.24239/Jsi.V10i2.37.381-398>
- Situmeang, S. M. T. (2020). Hukum Lingkungan Efektivitas Sanksi Pidana Dalam

- Penegakan Hukum Lingkungan. *Res Nullius Law Journal*.
<https://doi.org/10.34010/Rnlj.V1i2.2648>
- Sufianto, D. (2020). Pasang Surut Otonomi Daerah Di Indonesia. *Jurnal Academia Praja*. <https://doi.org/10.36859/Jap.V3i2.185>
- Susilowati, N. (2020). *Gambaran Nilai Tradisi Austronesia Pada Masyarakat Minangkabau Di Salimpaung, Kabupaten Tanah Datar, Provinsi Sumatera Barat*. <https://doi.org/10.24164/Prosiding.V3i1.8>