Challenge of Bauxite Logistics

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ABSTRACT

Bauxite industry has growth rapidly. This global sourcing or world cargo has increased the risks toward the bauxite industry especially in the transportation of the bauxite mining. The associated risks include of the loss of high profit bauxite through transportation, the destructive of the environment, compensation toward the communities and forth. Therefore, this note highlights that a security management system is typically required to secure the logistics and supply chain from the risk and reduce the impact on the communities and environment.

KEYWORDS: Mining; Bauxite Industry; Logistics Risk

A SHORT NOTE

Malaysia bauxite mining industry boomed up since Indonesia started to ban bauxite export in January 2014. Malaysia, therefore, becomes the world's largest bauxite producer and contributed nearly half of the supply to China aluminum industry [1]. Bauxite industry in Malaysia mainly based in the capital of Pahang – Kuantan where increasingly of company penetrate to this new business of higher return. According to the BBC News [2], Malaysia bauxite output shown the tremendous increased from 2013 to 2015 which reflected the amount of 200, 000 tons in 2013 and 20 million tons in 2015.

The tremendous growth of the bauxite industry in Malaysia has contributed to the economy growth of the country; however, it has brought the tedious impact to the environment and caused health problem. For instances, the transportation of the bauxite spreaded the toxic dust over the cities caused the road to be polluted and air contaminated with the heavy metal laden dust that form haze in the cities. The continuous growth of the Malaysia bauxite mining industry without appropriate regulation bring the circumstances such as the generation of cancer-ridden communities, extinction of the aquatic population, loss of the topsoil, mudslide, and environment destruction. Therefore, these impact toward the environmental and communities should be well-considered in bauxite logistics and supply chain risk management in order to clearly identify the potential threat and impact that would causes the high public health compensation and environment repairmen at the same time to gain the confident to the investor, stakeholder and ultimate customer.

Other than that, the incident that resulted from the extensive developed in bauxite industry had turned the water and sea into reddish has raised the anger of the residents in the bauxite hotspot.

According to Clean Malaysia [3], there are 2400 residents in the bauxite hotpot as well the port town Kuantan had signed the petition to attract the attention of the government for a better bauxite regulation to secure the residents benefits. They had burned five trucks that transporting the bauxite mining across the town to gain the attention of the government. This often recognize as a risk that encountered by the bauxite industry in the logistics and supply chain where the damage of the truck, medical compensation for the truck driver, and the loss of the costly bauxite mining are highly associated.

Undeniably, bauxite mining industrial expose to the high risk/ challenges in the logistics and supply chain from production to the export of the bauxite mining where all the activities involve closely in the supply chain should be well-access/ identify in order to achieve the win-win situation as toward their-self and toward the communities as well the environment.

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REFERENCES

[1] Reuters: Malaysia likely to extend bauxite mining ban for three months or more (Online). 2017, Available: https://www.reuters.com/article/malaysia-bauxite/malaysia-likely-to-extend-bauxite-mining-ban-for-three-months-or-more-idUSL3N1GK3EI. (8 Oct 2017).

[2] BBC News: Bauxite in Malaysia: The Environmental cost of mining (Online), 2017, Available: http://www.bbc.com/news/world-asia-35340528. (8 Oct 2017)

[3] Clean Malaysia: Five Bauxite Lorries Burned by an Angry Malaysian Public (Online), 2015, Available: http://cleanmalaysia.com/2015/12/18/five-bauxite-lorries-burned-by-an-angry-malaysian-public/. (8 Oct 2017).

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[5] Aminaton Marto, Nima Latifi, Razieh Moradi, Mohsen Oghabi, and Sayyed Yaghoub Zolfeghari: "Shear Properties of Sand – Tire Chips Mixtures" *Electronic Journal of Geotechnical Engineering*, 2005 (Vol.10), pp 325-334. Available at ejge.com.

[6] Jianxiong Yang, Xiangyu Wang, Yu Bai: "Mechanisms and Application ofRoadside Soft Medium Connecting the Roof in Gob-side Entry Retaining" *Electronic Journal of Geotechnical Engineering*, 2016 (21.12), pp 4519-4529. Available at ejge.com.

[7] Jing Qi, Haibo Bai, Yaojie Chen, Kang Wang, and Hongwei Qian: "Roadway Layout and Water Prevention of Deep Mining in Longgu Mine" *Electronic Journal of Geotechnical Engineering*, 2014 (19.S), pp 4407-4415. Available at ejge.com.

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[9] Edy Tonnizam Mohamad and Seyed Vahid Alavi Nezhad Khaili Abad: "Assessment on Blasting–Induced Rock Slope Instability at Johor, Malaysia" [J] *Electronic Journal of Geotechnical Engineering*, 2011(16D): 357-734. Available at ejge.com.

[10] Muhammad Azrief bin Azahar, Qusanssori Noor bin Rusli, Moh'd Azwan Salleh, Nick Farhan Zakiran Mahadi: "The Use of Non-Invasive Geophysical Techniques in Detecting of Boulder and Bedrock at Pulau Pangkor, Perak, Malaysia" Electronic Journal of Geotechnical Engineering, 2018 (23.03), pp 537-544. Available at ejge.com

[11] Low Tian Huat, Faisal Ali, and Ahmad Shuhaimi Ibrahim: "An Investigation on One of the Rainfall-Induced Landslides in Malaysia" *Electronic Journal of Geotechnical Engineering*, 2011(16.U): 435-449. Available at ejge.com.

[12] Low Tian Huat, Faisal Ali, and Ahmad Shuhaimi Ibrahim: "An Investigation on One of the Rainfall-Induced Landslides in Malaysia" *Electronic Journal of Geotechnical Engineering*, 2011(16.U): 435-449. Available at ejge.com.

[13] Mark Jinmin, Dr. Rosli Saad, Dr. M. Mokhtar Saidin, and Nur Azwin Ismail: "The Bukit Bunuh Possible Meteorite Impact, Malaysia: Final Stage Results of Impact Crater from 2-D Electrical Resistivity Tomography Survey" *Electronic Journal of Geotechnical Engineering*, 2014(19.F): 1499-1504. Available at ejge.com.

[14] Ng Wei Jade and Nur Irfah Mohd Pauzi: "Assessment of Long-term Settlement Model for Open Dumping Area in Malaysia – A Review" *Electronic Journal of Geotechnical Engineering*, 2017(22.7): 2579-2598. Available at ejge.com.

[15] Goh Thian Lai, Ailie Sofyiana Serasa, Abdul Ghani Rafek, Norbert Simon, Azimah Hussin, Tuan Rosli Tuan Mohamed, and Lee Khai Ern.: "Rockfall Zoning Using Rock Fall Simulation at Gua Damai, Selangor, Malaysia" *Electronic Journal of Geotechnical Engineering*, 2017(22.7): 2579-2598. Available at ejge.com.

[16] Harwant Singh, Bujang B.K. Huat, Suhaimi Jamaludin: "Slope Assessment Systems: A Review and Evaluation of Current Techniques Used for Cut Slopes in the Mountainous Terrain of West Malaysia" *Electronic Journal of Geotechnical Engineering*, 2008(13.E): 1-24. Available at ejge.com.

[17] Nima Latifi, Aminaton Marto, and Amin Eisazadeh: "Structural Characteristics of Laterite Soil Treated by SH-85 and TX-85 (NonTraditional) Stabilizers" *Electronic Journal of Geotechnical Engineering*, 2013(18.H): 1707-1718. Available at ejge.com

[18] Adnan Zainorabidin and Habib Musa Mohamad: "Engineering Properties of Integrated Tropical Peat Soil in Malaysia" *Electronic Journal of Geotechnical Engineering*, 2017 (22.02), pp 457-466. Available at ejge.com.

[19] Dr. Rosli Saad, Dr. Mokhtar Saidin, Y.C. Kiu, Nisa' Ali, A.H.A. Teh Saufia: "Regional Magnetic Residual Subsurface Mapping in Bukit Bunuh, Perak, Malaysia For Potential Terrestrial Meteorite Impact Structure" *Electronic Journal of Geotechnical Engineering*, 2012 (17.X), pp 3599-3604. Available at ejge.com.

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