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Regulatory Framework Analysis of Brazil's Mining Sector for Rock Salt Exploration: Regulatory Proposals Considering Maceió City and Itaparica Island Case Studies

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Abstract

The aim of this work is to analyze the regulatory framework for rock salt production applied in the mining process in Maceió City, Alagoas state and Itaparica island, Bahia state – Brazil. Currently, there are only two regions in Brazil where rock salt is commercially explored through the method of mining by dissolution and the extracted raw materials are being used for the production of caustic soda, chlorine-soda and other industrial inputs. However, these two exploration areas are facing surface problems, for example, in Maceió City, where seismic events occurred in 2018 in three different residential neighborhoods, forcing people out of their homes and in 2019, a report from Geological Survey of Brazil affirmed that these seismic events arose from the rock salt mining. Another example is in Itaparica island, where a sinkhole currently with more than 77 meters (252 ft) long, 33 meters (108 ft) wide and 44 meters (144ft) deep appeared in the exploration area in 2018. Conclusive studies will still be presented by the company to determine the reason for the appearance of the sinkhole. Therefore, to analyze the regulatory framework, considering these two case studies, the research focused on literature review, Brazilian legislation analysis and institutional documents such as reports, studies, and project documents. The analysis result shows that Brazil is lacking a specific regulation for rock salt mining and the recommendations for a specific legislation is expressed in this work, including the need for providing, regularly, technical information for the regulatory agency, which today are only mandatory in case of events that were not foreseen in the initial report presented to the regulatory agency, called Economic Exploration Plan (*Plano de Aproveitamento Econômico*).

Key words: Salt caverns, Regulations, Brazil

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