

AMAZON BASIN POTASH PERSPECTIVES

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RESUMO: The Amazon Potash Basin is estimated to contain a potential of some 30 billion tons. To date, only some 1.1 billion tons of potash resources were identified and measured in the Amazon Potash Basin, strongly suggesting that a vast potash potential remains to be discovered. Due to the increasing world demand for fertilizers by the agribusiness sector and especially for potash, major and junior multinational exploration and mining companies began staking ground for potash in the Amazon Potash Basin since 2004, which escalated during 2007 and 2008 when the price of potash increased considerably. The 500,000 Km² Amazon Sedimentary Basin comprises a 120,000 Km² Salt Basin which in its central portion incorporates the 80,000 Km² Potash Basin. The Itaituba and Nova Olinda formations record one major evaporite cycle consisting of eleven secondary cycles and many minor cycles, beginning with continental (shale, siltstone or sandstone) beds at the base, overlain by limestone and ending with salt beds, covered by continental beds of the succeeding cycle. Only cycle VII, upper portion of subcycle 12 within the Nova Olinda Formation, ended with sylvinite (= sylvite [KCl] + halite [NaCl]), recording the maximum dryness ever attained in the area. As proposed by Szatmari et al. (1975), the local appearance of high-bromine, fine halite and sylvinite in the seventh cycle reflects the temporary disintegration of this lagoon into two large hypersaline lakes (Urariá, in the western part of the basin, and Faro, in the north central area), surrounded by salt flats. Of the 54 wells drilled by Petrobras in the Amazon Potash Basin since 1954, 15 wells (including the two Fazendinha and Arari discovery wells), or 28% of the total, have reached the potash horizon. Based on this data, a new geological model, different from Szatmari et al.'s (1975) one, is now being proposed by the author, who recognizes the former existence of only one single, giant potash lake. According to this new model, the original accumulation of sylvinite beds was widespread and continuous throughout the basin, but partial dissolution along river valleys created many sylvinite islands or plateaus within the Amazon Potash Basin. Broad valleys carved into the sylvinite section were filled with halite crystals, greatly reducing the original sylvinite area, but this new sylvinite distribution is larger than previously considered. A more complete study of the Amazon Potash Basin would possibly permit the discovery of additional significant potash deposits.

PALAVRAS-CHAVE: POTASH DEPOSITS; AMAZON BASIN; PROSPECTS.