Study of lithium potential in Razavi Khorasan province, northeast Iran

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Lithium exploration in Iran date back at least two decades. A primary study on brine was Lithium conducted by Torshizian (1998) in central Iran. In addition, Saadati et al (2012) were the first to investigate on Lithium of clay origins. Up to now, all three Lithium deposits including granite-pegmatite, clay, and brine have been identified in Iran. This study introduces Lithium potentials in eastern Iran. All of the areas containing the mentioned lithology were identified and characterised using arc-gis and Iranians geological maps. The information show a precise and realistic measurements regarding the volume and distribution of exploration conducted in the desert.Based on the gathered information, granite-pegmatite outcrop area was approximately 504 km/m^2 equal to 3.7% of the total similar outcrop in Iran. The central concentration is northeast khorasan and southern Mashad areas. Furthermore, the outcrop areas of clay rocks, which date back to neogen age, were measured as 22570 km/m^2 equal to 7.3% of the total outcrops in Iran. The main concentration was related to south and south-west areas of khorasan razavi province which is near to the southern area of fault. The area of the existing playas in this region is approximately 14530 km/m^2 with almost 400 km/m^2 rocky zones. In other words, the playa has an area of approximately 8.8% of the total playas in Iran.