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# Philippines targeting unconventional sources for uranium

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The quest for uranium in the Philippines dates back in the mid–1950s and to date about 70% of the Country has been systematically explored, from reconnaissance to some detailed level using the combined radiometric and geochemical survey methods. However, no major uranium deposit has been discovered so far, only some minor mineralization. Also, there is a general view that the geological environment of the Philippines is unfavourable for uranium based on the lack of similarity between the geological features of known uranium–producing districts around the world and that of the country. It is in this light that the search for uranium in the country shifted to unconventional sources.

The first unconventional source of uranium (U) that is being looked into is from rare earth elements (REE)–thorium (Th) minerals. Radiometric measurements along the beaches in northern Palawan identified major REE–Th and minor U potential areas. Heavy beach and stream panned concentrate gave high values of REE and Th, including U within the Ombo and Erawan coastal areas. Preliminary evaluation conducted in these two prospective areas indicated; 1) in Ombo area, an estimated reserve of 750 tons of Th, 30,450 tons of REE and 80 tons of U contained in about 540,000 tons of beach sand with a respective average grade of 0.14% Th, 5.64% REE and 0.015% U, and 2) in Erawan area, an estimated total reserve of 2,200 tons of Th, 113,430 tons of REE and 150 tons U contained in 2,450,00 tons of beach sand with an average grade of 0.09% Th, 4.63% REE and 0.006% U, respectively. Major allanite and minor monazite are the minerals identified and the source of these heavy minerals is the Tertiary Kapoas granitic intrusive rocks.

Another unconventional source is a base metal zone with numerous occurrences containing complex assemblages of Cu–Mo–U within the Larap–Paracale mineralized district in Camarines Norte province, in which uranium may be produced as a by–product. A private mining company conducted drilling operations within their 333–hectare block exploration area in this mineralized district for iron, copper, gold, molybdenum and uranium deposits. This company entered into a Memorandum of Agreement with the Philippine Nuclear Research Institute (PNRI) to assess their eight (8) initial exploratory drill holes for abnormal radioactivity and possibly uranium potential. A total of 530 meters of core samples were scanned with the use of SPP–2NF scintillometer and those exhibiting greater than 40 counts per second (cps) were measured for uranium with the use of GR256 gamma ray spectrometer. Significant radioactive sections were detected in the core samples of 3 drill holes: 1). 884 –1450 cps equivalent to 93.8 –224.8 ppm U at 82.75 –88.50 m, 2). 900 –1200 cps equivalent to 94.8 –144.2 ppm U at 97.15 –102.05 m, and 3). 1250 –2500 cps = 149.1 –220.8 ppm U at 86.2 –91.7 m.

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