

## Studi pra-feasibilitas desain sirkuit benefisiasi logam tanah jarang berbasis pasir monazite = Circuit design pre-feasibility study of beneficiation rare earth metals bases on monazite sand

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### Abstrak

Penelitian ini dilakukan dengan menggunakan metode adopsi dengan mengambil data-data sekunder dari perusahaan-perusahaan yang sudah terbukti dalam menghasilkan logam tanah jarang di beberapa negara seperti Australia, Amerika Serikat, India, Kanada dan Malaysia. Sehingga dengan menggunakan metode tersebut akan dibuat desain sirkuit benefisiasi logam tanah jarang yang diharapkan mampu meningkatkan nilai ekonomis. Dengan umpan yang diambil adalah *monazite high grade* 78,31% (dengan kadar REO 65,71%) dan *monazite lower grade* 35,09% (dengan kadar REO 62,10%) dari Kepulauan Bangka-Belitung. Tahapan-tahapan prosesnya meliputi pengolahan mineral mulai dari *ore dressing, sizing, screening, separation*. Dan tahapan benefisiasi mineral yang meliputi *material handling, milling, digesting, neutralizing, solvent extraction*, dan *concentrating*.

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This research done by using adoption method by taking secondary data from proven have been companies in yielding rare earth metal in some states like Australia, United States, India, Canada and Malaysia. So by using the method will be made circuit design of beneficiation rare earth metal expected can increase economic value. With feed ore taken is *monazite high grade* 78.31% ( REO grade is 65.71%) and *monazite lower grade* 35.09% ( REO grade is 62.10%) from Bangka-Belitung archipelago. The process steps covering beneficiation to start from *ore dressing, sizing, screening as of separation*. And step beneficiation mineral covering *material handling, milling, digesting, neutralizing, solvent extraction, ion exchange and concentrating*.