

Research Article

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Environmental Impact Assessment (EIA) of a gold mine tailing through the multi-criteria decision making tool

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Author(s): AK Darban*, RD Webster, HH Yarhosseini, B Malekmohammadi, AR Yavari and Arabyarmohammadi

Gold mine tailings dams are a high risk part of mining as they contain hazardous materials such as cyanide, mercury and arsenic from processing operations which present a risk to the public and to the environment. When tailing dams fail, the impact is disastrous for humans and the natural environment. The International Commission on Large Dams (ICOLD) collected 221 ca ...

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Sustainable water supply: Potential of recycling laundry wastewater for domestic use

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Author(s): Omolara Lade* and Zainab Gbagba

To reduce the consumption of freshwater in the laundry industry, a new trend of separating waste water has resulted in the reuse/recycling of water. In this study, the characteristics of domestic laundry wastewater was evaluated using wastewater samples from four selected laundries. The samples were analysed for the physicochemical and bacteriological characteristics ...

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Potentials of increasing levels of recycled waste plastic on the physical characteristics of concrete

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Author(s): Charles A Ogbu* and Abimbola Y Sangodoyin

This research focused on the integration of waste plastic into concrete in a bid to restrain water ingress when exposed to water. Polyethylene water sachet (PWS) was the source of waste plastic used. Waste plastic concrete treatments were designed and cast successfully with percentage waste plastic contents of 0, 0.25, 0.50, 0.75 and 1.00. It also involved a constant ...

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Optimal composition of plaster mortar reinforced with palm fibers

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Author(s): Rachedi Mokhtar*

The aim of this study is the use of local materials (plaster, sand dunes and date palm fiber) for the region of southern Algeria. By expand areas of the use of these materials in the field of construction. Despite the large ament of gypsum, its use is limited to some secondary operations like coatings and decorative elements. The sand dunes and palm fiber, its use in ...

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Experimental study on flocculation performance of Chitosan-Based Flocculant using a Novel Jar Tester

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Author(s): Kazuhiro Fujisaki*

The effectiveness of chitosan as a flocculant was tested with a novel experimental apparatus. Using a newly developed flocculation tester, a large number of flocculation rate processes were measured. The novel jar tester included a photocoupler and switching timer. Mixing was paused for a period and the floc-settling velocity and residual turbidity were measured durin ...

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Study on characteristic strength of partially replaced natural aggregates by flyash aggregates in concrete

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Author(s): Geena George* and Asha K

To explore more benefits of flyash in construction industry, a study has conducted on strength characteristics of M30 grade concrete using manufactured flyash coarse aggregate as a partial replacement of natural granite coarse aggregate. The aggregates were manufactured using cement in lesser quantities and flyash in excess quantity various trail mixes were conducted ...

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COMAMMOX - a new pathway in the nitrogen cycle in wastewater treatment plants

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Author(s): Sobotka D*, Kowal P, Zubrowska-Sudo M and Mkinia J

The complete nitrification process, i.e. complete oxidation of ammonia to nitrate (COMAMMOX), by only one microorganism was experimentally confirmed only two years ago. That discovery is now considered a real breakthrough in the nitrogen cycle in the environment and it opens new questions regarding the nitrogen metabolism by

microorganisms. Moreover, it also brings op ...

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