

3rd Annual Congress on**Pollution and Global Warming**

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4th International Conference on**Past and Present Research Systems of Green Chemistry**

October 16-18, 2017 Atlanta, USA

Role of V V mineral in reducing global warming through green mining technology of garnet

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According to EPA, 21% of global greenhouse gas emission is from industry sector and mining sector is one of the major emitters of greenhouse gases. Scientists are certain that climate change effects are expected to increase in the coming decades and urge nations to implement mitigation measures. Implementation of green technology at industrial level reduces global warming, greenhouse effect, pollution and climate change. Present study aims to explore the importance of green mining of garnet and garnet based abrasive water jet cutting in reducing greenhouse gas emission and climate change effects. M/s V.V. Mineral implemented two common sense steps manual mining and solar drying to address the challenge of climate change in mining and beneficiation of garnet. The case study finding shows manual mining operation adopted by M/s V.V. Mineral for garnet sand mining is green and completely reduced the emission of 0.893-1.19 kg CO₂/ton sand, normally emitted through mechanized mining process practiced in the area. Implementation of solar drying in the beneficiation process results in elimination of 29.67-32.36 Kg CO₂ emission by every ton of sand dried in fossil fuel based driers. Garnet is the commonly used abrasive around the world. Garnet based abrasive water jet cutting is an environment friendly green process. Since it is a cold process, all materials can cut without fuel combustion and heat generation process. This paper highlights the advantages of replacing thermal cutting process by garnet based abrasive water jet cutting in mineral fabrication sector to reduce air pollution in the form of fumes and gases and reduces CO₂ emission and global warming.

Biography

T Anitha holds Doctorate degree in Environment Biotechnology from Manonmaniam Sundaranar University, India. She has worked for baseline data collection studies in the coastal environment of Koodankulam in association with board of research in nuclear science, Department of Atomic Energy, India. Currently she is In-Charge, Environment Lab of V V Mineral. She has her expertise in environment monitoring and management after serving for about 15 years in V V Mineral Environment Lab

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