Waste Management in Mining Industries – An overview

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Mining Waste

Heterogeneous geological material

May consist of sedimentary, metamorphic or igneous rock, soil and loose sediments

Water, chemical, inorganic and organic additives

Mine wastes are problematic because they contain hazardous substances that can be (or are) released into the environment around the mine – heavy metals, radioactive elements, acids, process chemicals – and therefore require treatment, secure disposal, and monitoring.

Wastes are not only produced during mining, but also at mineral processing plants and smelter sites and include effluents, sludges, leached ore residues, slags, furnace dusts, filter cakes and smelting residues.

Mine wastes may be in the form of: solid waste, water waste, or gaseous waste.
Tailings

Different Stages of Production of Mining Wastes
Tailings
Hazardous waste management

Leak proof containers for storage and transportation of oils & lubricants

Oil separators to separate the oil from water

Used oil can be collected and stored in covered shed and sold to genuine re-processors.

Used batteries stored in a separate chamber in the workshop

The sewage water generated drained by underground impervious drains, and treated in sewage treatment plants.
CONCLUSION

Waste by-products of mining activities can have environmental, social and economic impacts.

Elevated concentrations of heavy metals and acid generating tailings leave an environmental footprint on active mine sites and destruction of surrounding ecosystems.

Toxic and sometimes radioactive wastes can pose immediate health risks to nearby communities through dust dispersal and surface and groundwater contamination.

Better planning of reclamation/restoration system to bring back the derelict land in short time for use.

Mining industry, Government and the local people must work together to care for future generations.
Thank You

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