LDM PARTICLE SEPARATION TECHNOLOGY PROCESSES AND BENEFITS

LDM CONCENTRATION TECHNOLOGY	SUSTAINABLE AND OPERATIONAL BENEFFITS
Processes	Environmental, Climate Change, and Tailings Management
SULFIDE ORE - GOLD, SILVER, COPPER	Metal separation at the crusher results in significant reduction of haul truck loads trucked to final metal recovery process facility.
Process: Particle Separation of sulfide bearing ore from non-sulfide "waste" rock.	Fewer truckloads results in reduction of GHG's emissions.
	Concentrated tonnage of ore to final processing reduces the volume of water needed for processing.
OXIDE ORE - GOLD, SILVER, COPPER Process: Particle separation of non-sulfide (oxide) ore from	Concentrated tonnage of ore to final processing reduces the amount of chemical required for metal leaching.
CARBONACEOUS (LIMESTONE) ORE	By separating the "waste" rock from the ore rock significantly limits the tonnage of tails going to the tailings impoundment.
	By separating the "waste" rock from the ore rock significantly limits the volume of water going to the tailings impoundment.
Process: Particle separation of limestone "waste" rock from siliceous ore rock.	"Clean" waste rock is available for operational uses such as haul roads, pit backfill, remediation efforts, etc.
	Limestone waste rock is already crushed to a size fraction that will be beneficial for use as acid mine drainage and tailings water re- mediation.
REPROCESSED TAILS Process: Particle separation of tails from a tailings impoundment adds a revenue source.	Crushed limestone waste rock can be marketed to others as a re- mediation material.
	Re-processed tails allows for an additional revenue source.
THERMAL COAL Process: Separation of coal fines from thermal coal products.	Separation of fines reduces ash problems associated with thermal coal products. Fines result from the increase in mechanization of coal production.
	"Dry" separation of fines eliminates the need to use wet flotation to remove the fines.
THERMAL COAL - RARE EARTH ELEMENTS Process: Separation of rare earth elements from thermal coal mine tonnage.	Separation of coal fines produces a higher thermal grade coal product and lessens ash issues.
	Separated fines allows for the production of additonal marketable coal products from the fines.
METALLURGICAL (COKE) COAL Process: Separation of coal fines and non-metallurgical coal materials resulting in concentration of coke coal products.	Dry separation of REE from coal materials is currently not an option for thermal coal producers. Coal producers need s significant boost from other revenue sources in the current coal energy market.

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