

PROJECT TITLE -					
PROJECT OVERVIEW					
Sorting Sooner and Better					
PROJECT DESCRIPTION					
Development of a toolkit: Review technologies of ore sorting to applicability for different mining operations (design or operation, disseminated, hard rock, potash, etc), such as bulk sorting and particle sorting. Help to identify opportunities for applications and include life cycle cost methodology for holistic evaluation. Include sensor reviews to characterize and identify waste as early as possible (including current and future such as genomics). Include other preconcentration technologies (DMS, jigs etc) and their applicability. Including all sensors (including genomics) and deployment strategies to modelling software and assays to real time mine operations. Possible use in abandoned mine waste rock or waste					
PROJECT STATUS			PARTICIPANTS		
Technology scans/Feasibility studies for water/open pit			NRC, SRC (sensor and minerals processing), SGS, Ore sorter suppliers (TOMRA, Steinhart), CanMet, Mining company, University Of Toronto (other academic institutions for sensors), Mine Sense?		
METHODOLOGY					
Phase	Project Tasks	Timing (Q/Y)	Budget (\$\$)	Resources Required	Outputs
1	Phase 1: Review				
1.1	Find participants who know about sensors				
1.2	Review sensors potentially applicable (current and future)				
1.3	Review unit operations (eg ore sorter) and applicability				
1.4	Review of conveying, transport, haulage operations				
1.5	Develop mining op categories (place in mine cycle, type of mining operation, type of process, mineralogy, commodity)				
2	Phase 2: Applicability Guide				
2.1	Applicability of sensors in mine production cycle (current and future)				
2.2	Applicability of all preconcentration technologies unit operations (eg DMS, ore sorter)				
2.3	Applicability of haulage technologies and machine learning strategies				
2.4	Methodology for life cycle costing of technologies				
3	Phase 3: Execute Case Studies/Demonstration				
3.1	Increasing efficiency of waste rejection at earliest possible stage on mine production line				
3.2	Brownfields or Greenfields application including life cycle costing				
3.3	Waste Dumps (AMD liable) application to generate clean waste and some metal value				
3.4	Creation of automated conveying system (ICT) utilizing ore sorting technologies				
ENVIRONMENTAL IMPACTS			DOWNSTREAM IMPACTS		
New projects: reduced footprint, lower water and all other operating costs, lower tailings times, Operators: lower per unit metal, then earlier possible savings on haulage, lower water, For legacy sites: possible remediation offsetting with production			Less waste treatment (water, mine, slurry), higher production, lower operations per unit metal, lower cut-off grade		
UPTAKE POTENTIAL AND SCALABILITY			THE INNOVATION CASE		
ECONOMIC AND/OR SOCIAL IMPACTS			HUMAN IMPACTS		