SOMERSET INTERNATIONAL

PLATINUM GROUP METALS

Processing Enhancement: Faster Kinetics, Higher Grade/Recovery, and Improved Rheology

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INNOVATION IN RESOURCE AND TAILINGS MANAGEMENT

Somerset International develops and applies innovative technologies to enhance efficiency and sustainability in the mining sector. Specializing in mineral processing and resource recovery, Somerset employs advanced methods to maximize mineral extraction and recovery while minimizing waste and environmental impact. Somerset's world-leading expertise in tailings dewatering and management delivers responsible handling of mining by-products, reducing waste and ecological risks. Somerset enhances operational efficiency, reduces costs, and boosts productivity through tailored, performance-driven solutions. Somerset offers comprehensive services incorporating design, installation, operation, and maintenance delivering long-term value for our valued customers globally.

CLASSIFICATION TECHNOLOGY

Somerset's patent-pending SUB325® classification system significantly enhances mineral processing recovery through precise particle size classification down to < 4 µm. This advanced technology can be utilized to remove unwanted gangue material, thereby enhancing plant beneficiation, and to recover ultra-fine valuable resources and minerals that are typically discarded with tailings.

TAILINGS MANAGEMENT SYSTEM

Somerset's SUB325® Tailings Management System revolutionizes tailings management by maximizing resource recovery and minimizing environmental impact. Somerset's patented solid bowl centrifuge technology enables efficient solid-liquid separation, water recovery, and dry tailings disposal. The system's modular design can be readily applied to meet specific tailings duties across different sites, reducing or removing the need for traditional, environmentally risky wet tailings dams. With ongoing process development, the system is adaptable to a range of minerals, such as coal, phosphate, iron ore, copper, PGMs and gold.

SOMERSET OPERATIONS

Somerset operates and maintains resource recovery and Tailings Management Systems globally with > 95% availability for reliable performance. The modular design allows for cost-effective solutions which can be readily adapted to meet plant requirements and expanded as needed. Somerset's systems, produce low moisture cake with excellent handling properties. Somerset's Tailings Management System provides significant savings in capital expenditure (CAPEX), operational expenditure (OPEX), and footprint compared to conventional dewatering methods. With decades of experience in the mining industry, Somerset's team maintains an exemplary safety record at all locations. Somerset offers innovative and flexible commercial arrangements including investing in, operating, and maintaining systems under performance-based service agreements to meet our customers' requirements.

CHALLENGES IN PGM PROCESSING

- Rheological issues and slimes coating in PGM flotation arise from the generation of ultra-fine phyllosilicate particles, such as serpentine, talc, and chlorite, during grinding.
- Surface coatings of gangue slimes on valuable minerals can reduce flotation recovery, especially for fine particles.
- Ultra-fine particles reduce flotation performance, decrease recovery, and increase losses to tailings.
- Merensky, UG2 and Platreef ores contain a high proportion of fine-grained PGMs associated with gangue minerals, often less than 10 µm in size.

Somerset's technology removes ultra-fine slimes, improving flotation kinetics, recovery, and grades. It enhances mineral recovery, produces higher-grade concentrates, and reduces reagent use, making operations more efficient and sustainable.

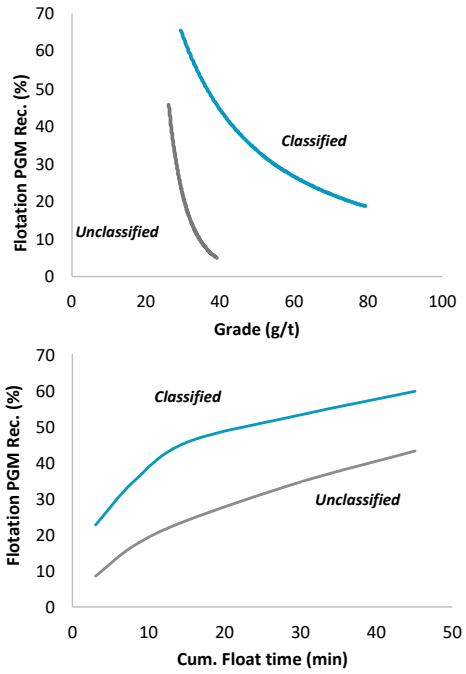
TECHNICAL SOLUTION

Enhanced recovery of PGMs in the sulfide flotation circuit.

- The Somerset classification system effectively rejects ultra-fine talc (< 3 µm), ensuring higher purity.
- Rejecting ultra-fine talc before flotation reduces feed viscosity, facilitating increased PGM recovery.

Results from a campaign confirmed a significant uplift in PGM processing and recovery:

- Anticipated increase of over 30% in slurry throughput capacity (higher % solids).
- Potential for flotation recovery improvement exceeding 15% (accelerated flotation kinetics).
- Notable enhancement in cleaner product grade, reducing downstream refining costs.



CASE STUDY

Somerset's classification system has the potential to deliver the following benefits to a high talc PGM operation.

Production	Units	High talc PGM feed stock	Somerset Technology Potential
PGM Plant Feed Tons	T	1,500,000	
PGM Plant Feed Grade	g/t	3.0	
4E Basket Price	$/Oz	1300	
PGM Plant Recovery	%	55%	65% - 70%
Production 4E PGMs	Oz	79,573	94,041 - 101,275
Revenue	M US$	103	122 - 132
Final Conc 4E PGM Grade	g/ton	120	168 - 235
Final Concentrate	T	20,625	17,411 - 13,393

- 10% PGM recovery increase resulting in an additional >14,000 ounces annually.
- 40% increase in final concentrate grade, reducing downstream refining costs or enabling further recovery throughout the plant.
- Incremental PGM ounces delivered at a lower cost.
- The direct revenue uplift is estimated at US$15-20 million annually.
- Potential for further benefit from enhanced flotation capacity by lowering slurry viscosity.
- Enables cost-effective processing of high-talc plant feed, optimizing resources and reducing costs.