

SASKATCHEWAN METALS PROCESSING PLANT PROCESSING

BISMUTH PROCESSING

1. Bulk rougher concentrate reground to (14µm) & subjected to secondary flotation to produce gold-bearing cobalt & bismuth concentrates
2. Bismuth concentrate fed to 2-stage countercurrent leaching circuit where salt & sulphuric acid produce hydrochloric acid to dissolve bismuth
3. Bismuth recovered from solution by electro-metallurgical process with continuous recovery of bismuth as cathode powder (99.5%)
4. Cathode powder dewatered & dried, impurities removed by fluxing during smelting (induction furnace) to pour 99.99% ingot or needles
5. A portion of bismuth ingot production will be used to produce Bismuth oxide in an oxidation chamber, collected and bagged
6. Bismuth leach residue fed to autoclave for recovery of gold from cobalt circuit

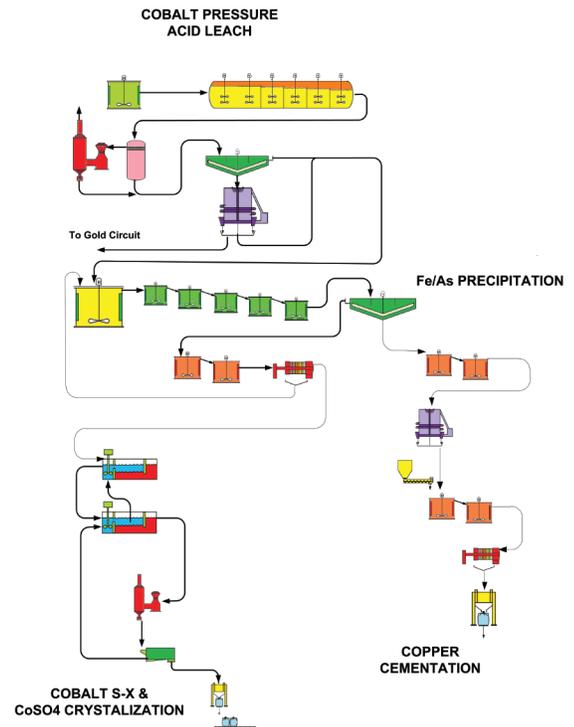
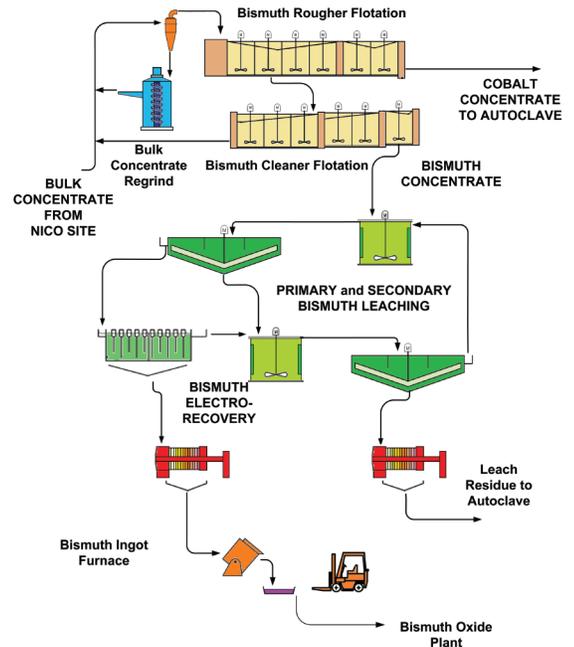
COBALT PROCESSING

1. Cobalt concentrate treated under pressure & temperature (180° C) in autoclave with oxygen
2. Cobalt sulphide dissolves into solution in autoclave
3. Residual solids fed to cyanidation & (Merrill-Crowe) gold recovery after thickening & filtration
4. Iron & arsenic precipitated from cobalt solution by sequential neutralization with lime & then copper precipitated with Na₂CO₃
5. Copper recovered from precipitate by re-leaching & Iron powder cementation to produce 90% metal precipitate
6. Cobalt Sulphate Circuit option uses S-X (Cyanex 272), sequential stripping, solution evaporation & crystallization to 20.9% CoSO₄·7H₂O

PROCESS RESIDUE

1. Arsenic in the process residue will be in the form of scorodite, a stable compound that is formed under the high temperature & pressure of the autoclave during the refining process. The other main component of the process residue is gypsum.
2. The process residue will be placed in a lined Process Residue Storage Facility designed to minimize exposure to water & air & leak detection to provide secure long term storage for solid waste that can be reclaimed for agricultural or recreational uses

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CYANIDE USE

Bans on the use of cyanide in mining have come primarily as a result of poor mining practices with respect to heap leach pads or breaches/spills from tailings impoundments that were used to degrade cyanide with sunlight. Neither of these practices are applicable to the cyanide use at the Saskatchewan Metals Processing Plant. Cyanide is used in two processes in the plant.

Cyanide is used in the flotation circuit to allow the bismuth minerals to float by cyanide attaching to the arsenopyrite minerals. The required cyanide dosage is small and calculated, and all of the cyanide attaches to the mineral solids resulting in no residual cyanide being left in solution. The cyanide solids then report to the next process step: the high pressure autoclave. In the autoclave, the triple bond between carbon and nitrogen (which make up the cyanide) are broken down to carbon dioxide and nitrogen as the end products. These end products are exhausted from the autoclave into a stepdown chamber and the gasses are then scrubbed prior to release to the atmosphere.

The second cyanide process use is in the gold recovery circuit where a cyanide solution is mixed with the gold bearing residual solids from the autoclave. The autoclave solids are mixed about 50% by weight solution containing cyanide. Cyanide dissolves the gold and other precious metals but not the rest of the solids. Once dissolved, the gold bearing solution is filtered to remove the solids and this solution is mixed with zinc. The gold is plated out on the zinc. The cyanide solution is then recycled in the process. To maintain the water balance, some of the recycled solution has to be removed from the circuit through the bleed stream. The bleed stream is treated with hydrogen peroxide to break down the cyanide to carbon dioxide and nitrogen. No detectible cyanide remains in solution.

Cyanide is purchased as a soluble sodium salt (NaCN). There will only be four trucks a year transporting cyanide. They will use highway 305 and not pass through the communities. The manufacturer generally sells this product as small bricks reducing the potential for dust when handling the dry product. When the product is shipped it comes in a crate with a plastic bag wrapped around another tote type bag for handling. The packaging prevents exposing cyanide in the case of a spill, and cyanide is generally stored in the packaging until right before mixing. For this reason, safety systems to prevent any accidental release of any hazardous chemicals, including cyanide will be incorporated. The company will also implement the International Cyanide Management Code.

This document contains forward-looking information. This forward-looking information includes statements with respect to, among other things, the proposed development of the NICO project and the SMPP, the permitting process for the NICO project and the SMPP, the anticipated capital and maintenance costs of the SMPP, the anticipated production from the SMPP, the number of employees expected to be employed at the SMPP and the wages expected to be paid to such employees, the possibility that the SMPP may be able to source materials from other projects, the anticipated impact of the SMPP on the environment and the measures expected to be taken by the Company to mitigate such impact. Forward-looking information is based on the opinions and estimates of management as well as certain assumptions at the date the information is given (including, in respect of the forward-looking information contained in this press release, assumptions regarding the Company's ability to arrange necessary financing for the NICO project and the SMPP, obtain all necessary permits for the NICO project and the SMPP and negotiate an Impact and Benefit Agreement with the Th cho Government and assumptions regarding the capital and maintenance costs of the SMPP, the production from the SMPP, the number of employees to be employed at the SMPP and the wages expected to be paid to such employees and the impact of the SMPP on the environment. However, such forward-looking information is subject to a variety of risks and uncertainties and other factors that could cause actual events or results to differ materially from those projected in the forward-looking information. These factors include the inherent risks involved in the exploration and development of mineral properties, the risk that the Company may not be able to arrange the necessary financing to construct and operate the NICO mine or the SMPP, uncertainties with respect to the receipt or timing of required permits for the development of the NICO project or the SMPP, the risk that the Company may not be able to negotiate an Impact and Benefit Agreement with the Th cho Government, the possibility of delays in the commencement of production from the NICO project or construction of the SMPP, the risk of capital or maintenance cost overruns, the risk that the Company may not be able to source materials for the SMPP from other projects, the risk that the environmental impact of the SMPP may be greater than anticipated and other factors. Readers are cautioned to not place undue reliance on forward-looking information because it is possible that predictions, forecasts, projections and other forms of forward-looking information will not be achieved by the Company. The forward-looking information contained herein is made as of the date hereof and the Company assumes no responsibility to update or revise it to reflect new events or circumstances, except as required by law. The disclosure of scientific and technical information contained in this document has been approved by Robin Goad, M.Sc., P.Geol., President and CEO of the Company, who is a "qualified person" under National Instrument 43-101.



**FORTUNE
MINERALS LIMITED**

148 Fullarton Street, Suite 1600, London, ON N6A 5P3 tel:(519) 858-8188 | info@fortuneminerals.com

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