

# SUNSHINE PRECIOUS METALS REFINERY

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## Big Creek Hydrometallurgical Complex:

### Three plants in one:

#### 1. Cobalt:

Acid pressure leach hydro-metallurgical plant will process cobalt concentrate from the Idaho Cobalt Project.

#### 2. Copper:

SX-EW copper refining facility to process secondary copper from the Idaho Cobalt Project.

#### 3. Precious Metals:

Silver and gold refinery for custom refining. Capable of producing 99.95% silver. Silver produced widely recognized as best quality available.



Pouring 1,000 Oz Silver Bars

### Idaho Cobalt Project

Primary high purity cobalt deposit in Idaho, USA

Over 1,500 tonnes high purity cobalt metal production per year

Bankable Feasibility Study, Final Environmental Impact Statement and positive Record of Decision received

Forecast to produce close to 15% of North American market demand

## Introduction

The unique 100% owned Big Creek Hydrometallurgical Complex (the "Complex"), which includes the Sunshine Precious Metals Refinery ([www.sunshinerefinery.com](http://www.sunshinerefinery.com)), is located in Idaho's Silver Valley. These processing facilities include hydrometallurgical leaching capabilities and separate silver and gold refining capabilities. Essential Metals Corporation® obtained the facility due to its ideal location and its hydrometallurgical equipment which can be modified to handle cobalt concentrate production from its 100% owned Idaho Cobalt Project. The cobalt concentrate will utilize the leaching process established at the plant, leaving the Sunshine Precious Metals Refining section open and available for processing.

## Background

Essential Metals Corporation® is wholly owned by Formation Capital Corporation, U.S. ("Formation"), a Salmon, Idaho based company, which is putting a primary cobalt deposit into production in Lemhi County, Idaho. Formation plans to retro-fit the Hydro-metallurgical Complex to accept Idaho Cobalt Project concentrate. Cobalt processing will run concurrent with existing precious metal refining operations. The Idaho Cobalt Project, located near Salmon, Idaho, a unique primary, high purity cobalt deposit, has received a Bankable Feasibility Study, a final Environmental Impact Statement, Section 401 Certification, and a positive Record of Decision from both the U.S. Forest Service and U.S. Environmental Protection Agency. The mine is forecast

to produce approximately 1,500 tonnes of high purity cobalt metal per year. This will make Formation the leading integrated primary producer of high purity cobalt metal suitable for critical application in North America, offering a reliable and stable source of cobalt to a growing industry with ever-increasing demands.



Big Creek Hydrometallurgical Complex

## Sunshine Precious Metals Refinery

The Sunshine Precious Metals Refinery is a zero discharge facility that continues to escalate production levels. The refining facility is currently best equipped to refine silver and gold doré and high grade silver residue utilizing state-of-the-art processes and equipment. Silver produced at the Sunshine Precious Metals Silver Refinery was widely recognized as the best quality available with assays consistently attaining purities of 99.95% silver or better. Silver produced at the refinery is currently accepted as good delivery on the Dubai Exchange.

## Silver

The plant is equipped to produce approximate bar sizes of 2 -5, 10, 100 and 1000 oz as well as various sized cylindrical billets and silver crystal. Specific requests for private label refined silver products can also be considered.

## Gold

Gold bullion is cast into approximate bar sizes of 2.5, 5, 10 and 1000 oz sizes. Other sizes per request.

## Management

Formation has retained the previous Sunshine Precious Metals Refinery operating management and we are employing an experienced core operating crew from the list of former Sunshine employees.

Mr. Michael Irish is VP Metallurgy, Formation Capital Corporation, and part of the Essential Metals Corporation® team. Mr. Irish was instrumental in the design, engineering, construction and start up of the Big Creek Hydrometallurgical Complex and Sunshine Silver Refinery in the mid-eighties.

Mr. Mike Perry, also a former employee of Sunshine Mining and Refining Company, is Comptroller for the Complex.

In addition, Mr. John L. Allen, former VP and Manager of Metallurgy for Sunshine Mining and Refining Company, acts as consultant for Essential Metals Corporation®.

Our goal is to establish long-term business relationships that provide the maximum amount of customer flexibility at a favorable overall refining cost.

## Sunshine Precious Metals Refinery Purity Report

BAR ID	FINENESS			IMPURITIES			
31.1233 kg	Au	Ag	Pb	Cu	Fe	Sb	Bi
J96154	N/D	99.99%	-1.0	18.73	2.61	-5.0	-3.0



**1,000 Oz, 999.9 Fineness  
Silver Bar**  
  
**Meeting the requirements of the  
Tokyo Exchange  
for good delivery**



**Silver Bars**  
  
**Refined  
at the  
Sunshine Precious Metals Refinery**

**Essential Metals Corporation®**

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