

# OTTAWA RIVER PROJECT



**JULY 2022**

CSE: ESAU | OTC: ESAUZF | FSE: N4UP  
[esgold.ca](http://esgold.ca)

# PARTNERSHIP & OBJECTIVES

- ESGold established a 50/50 partnership with Nepean Bay Joint Venture (NBJV) to evaluate the economic value of the waste material on the riverbed of the Ottawa River in front of the Royal Canadian Mint. NBJV has the authority and the exclusive rights to explore and recover this material from the riverbed.
- Combine the historical work and progress achievements of the last 20+ years with the newest technology and a highly qualified and independent geological team to demonstrate the presence of high precious metal content in the river.
- The main objective is to develop a model that will clearly identify zones containing potential economical material followed by a recovery process starting as early as this summer.
- The clean-up of sections of the river would be achieved simultaneously with the extraction process in accordance with ESGold environmental guidelines.
- Following a successful first phase the data obtained will serve to produce a resource calculation that will be employed to prepare the next phase to be implemented in the summer of 2023.

# HISTORY OF THE ROYAL CANADIAN MINT

- From 1908 until 1975 and through regular process, Mint Canada discarded gold and other metals from its operations directly into the Ottawa River (material discarded was gravity fed into drains leading directly into the river).
- As of 1975, Mint Canada stopped discarding precious metals into the river because new governmental laws prohibited them to do so.
- Over the years, Mint Canada has produced/processed +300,000,000 oz Au from its facilities in Ottawa, Ontario Canada.



# HISTORY OF THE ROYAL CANADIAN MINT

## THE GOLD RUSH

**1908**

Ottawa Branch of the Royal Mint completed, for the minting of coins

**1911**

Mint officially opened gold refinery, expanded in 1914, and again in 1916

**1916-1918**

Over **19M ounces of gold** was refined at the Mint, the “go to” location

**1934**

Significant inefficiencies at the Mint (loss of metal), new refinery planned

**1938**

New refinery completed

**1936-1976**

An estimated **120M ounces** was refined over this 39-year period

■ British Government sent **17M oz** of newly-mined gold from South African mines

■ Gold refined rose significantly, at one-point the Mint refined **1M oz / month**



HISTORICAL IMAGE OF THE ROYAL MINT



HISTORICAL IMAGE OF THE CHLORINATION ROOM

# HOW MUCH GOLD WAS LOST?

## ■ Loss of gold occurs during the weighing process, example:

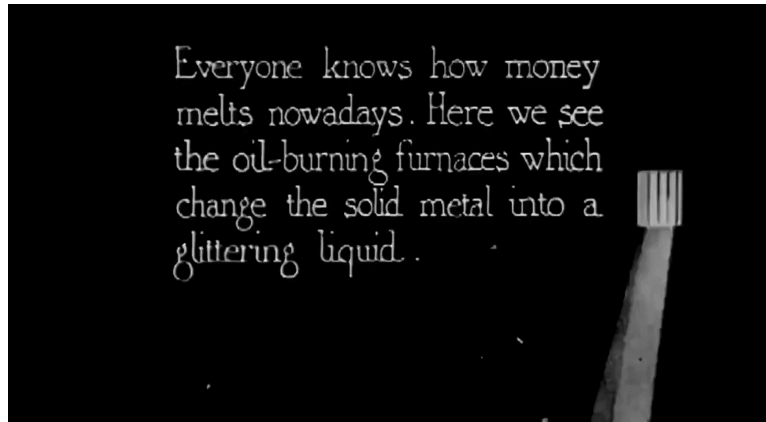
- ❑ UK Mint, George Ansell discovered that the weighing of metals was extremely loose. Workers weighed silver to within 0.5 ounces and gold to 0.05 ounces. Ansell delivered 7920 ounces of gold to the mint where it was weighed at 7918.15 ounces, a difference of 1.85 ounces.

## ■ Loss of gold occurs during the refining process :

- ❑ Ansell found that 15-20 ounces could be recovered through the “sweep”, which is leftover materials (slag, fine particles etc.) from the refining process.



ROYAL MINT FURNACES



HISTORICAL VIDEO OF GOLD BEING REFINED

# ROYAL MINT GOLD REFINED

## 1908 - 1956 REFINED GOLD STATS

Summary of Transactions in GOLD BULLION of the Ottawa Branch of the Royal Mint from its opening on January 2, 1908, to its disestablishment on November 30, 1931, and of the Royal Canadian Mint from December 1, 1931, to December 31, 1956.

YEAR	GOLD RECEIVED		GOLD ISSUED	
	Gross Weight	Fine Gold	Coin	Bullion
	Ounces	Ounces	Ounces Fine	Ounces Fine
1908 to 1946.....	103,521,792.248	83,591,838.971	383,319.096	83,128,373.375
1947.....	3,559,496.703	2,868,469.014	.....	2,859,084.218
1948.....	4,252,389.454	3,401,991.441	.....	3,405,073.335
1949.....	4,941,749.248	3,925,617.709	.....	3,865,296.377
1950.....	5,485,956.751	4,422,968.129	.....	4,347,961.898
1951.....	5,246,758.942	4,169,479.513	.....	4,167,485.874
1952.....	4,848,048.381	3,953,158.154	.....	4,031,068.071
1953.....	4,642,410.478	3,684,073.637	.....	3,626,496.738
1954.....	4,768,451.365	3,829,430.609	.....	3,998,835.566
1955.....	4,878,918.379	3,947,636.509	.....	3,952,764.485
1956.....	4,693,484.529	3,801,788.815	.....	3,774,599.457
	150,839,456.478	121,596,452.501	383,319.096	121,157,039.394

# ROYAL MINT GOLD REFINED +225M OZ REFINED – HOW MUCH WAS RELEASED?

- Exact ounces of gold refined unknown, but archives indicate **225M oz** from 1908-1976.
- Recovery unknown. However, “sweeps” (slag, fine particles, tails etc.) from refining process **directly discarded**.
- Sweep material discarded was **gravity fed** into two drain systems that lead directly into the Ottawa River. **Estimated 2.5-3% Gold Loss, most in the “sweeps”**.
- Royal Mint **has not investigated historic losses**, hence NBJV involvement in the project.
- NBJV has negotiated the authority and the exclusive rights to explore and recover this material from the Ottawa River, and **much progress has been made**.



GOLD



GOLD  
POUR

# ROYAL MINT GOLD REFINED

## ESTIMATED UNRECOVERED GOLD / LOST GOLD

FROM	TO	GROSS WEIGHT	EST. LOSSES	OUNCES LOST
1908	1946	103,521,792	3.00%	3,105,654
1946	1947	3,559,496	2.00%	71,190
1947	1948	4,252,389	2.00%	85,048
1948	1949	4,941,749	2.00%	98,835
1949	1950	5,485,956	2.00%	109,719
1950	1951	5,246,758	2.00%	104,935
1951	1952	4,848,048	2.00%	96,961
1952	1953	4,642,410	2.00%	92,848
1953	1954	4,768,451	2.00%	95,369
1954	1955	4,878,918	2.00%	97,578
1955	1956	4,693,484	2.00%	93,870
		<b>Total Estimated Gold Loss (oz)</b>		<b>4,052,007</b>
		<b>In CAD Dollars</b>		<b>\$9,319,616,100</b>



# LAND USE PERMIT

- The partnership between ESGold and NBJV has the authority and exclusive rights to explore and recover minerals (Gold, Copper, Silver, Platinum, Palladium) from the Ottawa River.
- Rights to explore and recover metal along the Ottawa River and between Macdonald-Cartier Bridge and Alexandra Bridge.
- Studies indicate gold and metals are concentrated in 3 sites at depths ranging from between 35' to 75'.



**NBJV BARGE (50' X 30'), FULLY EQUIPPED**

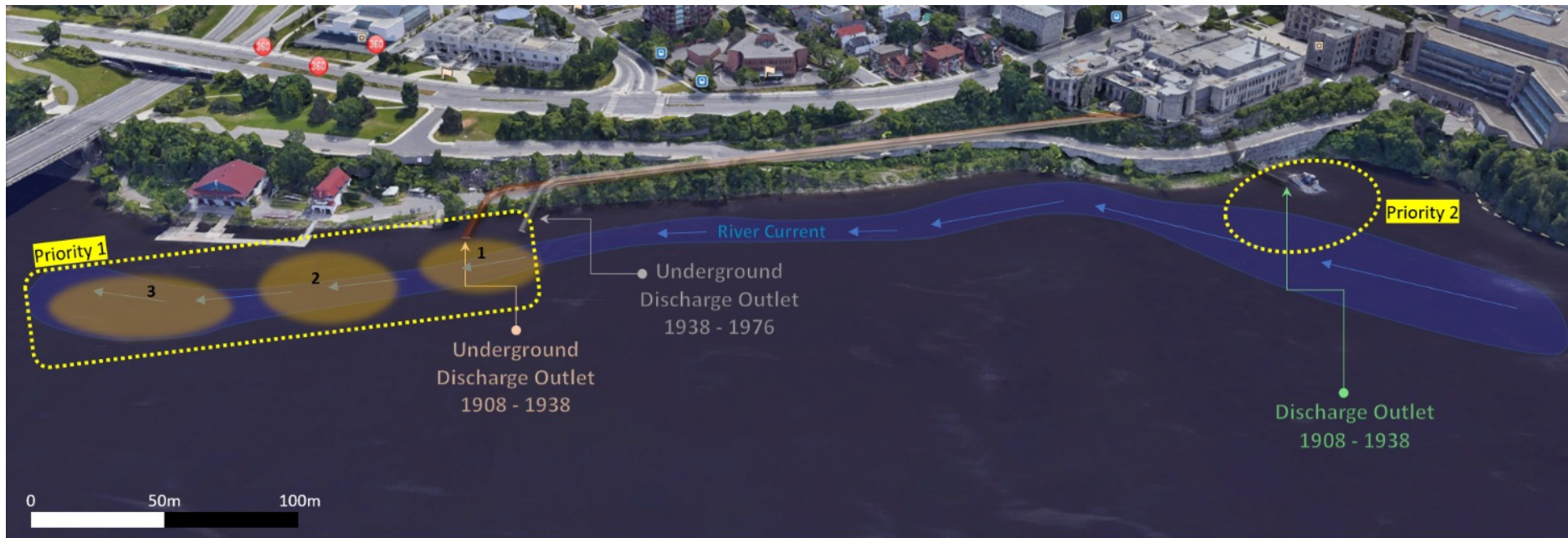


**MATERIAL SEPARATED  
INTO DIFFERENT SIZE  
FRACTIONS**



**BARGE IS FULLY  
FUNCTIONAL WITH  
CRANE, MONITORING  
ROOM, PUMPS ETC.**

# CONFIRMED THREE TARGET AREAS



- An updated bathymetric survey of the riverbed enabling us to measure the water depth as well as map the underwater features and river bottom.
- Two priority areas defined, and three high value targets have been identified in Priority Area 1.

# PREPARATORY WORK COMPLETED TO DATE

- Work on perfecting the proprietary ability to recover the material from the riverbed.
- Use of commercial divers and “airlift” technology, **environmentally responsible**.
- **Collection of 20t of material** from various locations, including high priority areas.
- **Completed a Bathymetry survey** and incorporated data into 3D.
- **Identified three target areas** for immediate survey.



**METAL DETECTOR AND NB JV DIVER**



**RECOVERED GOLD FROM PROSPECTING**

# OTTAWA RIVER PROJECT

Over the years, many stories have been written and told about the 'elusive' treasure lying on the bottom of the Ottawa River.

## Myth or reality?

ESGold is steadfast in its commitment of recovering the most valuable waste on earth all while doing its part in helping to clean one of the greatest known rivers in Canada.

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