

GNWT  
Mineral  
Royalties

# Financial Modeling in Support of Revising the Royalty Regime of Mining in the NWT

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# Royalty Collection is a Balancing Act

While the approach to taxing mineral production varies widely across jurisdictions, the policy objective should always be to find the balance between collecting a reasonable share of mineral value for the state while leaving sufficient value for corporations to be incentivized to spend the time and money required to find, delineate, and develop new mines.

Or, as put by Jean Baptise Colbert (“Finance Minister” to Louis XIV);

The art of taxation consists in so plucking the goose as to obtain the largest amount of feathers with the least possible amount of hissing.

# Existing Royalty System

- 1 Physical Ore Processed
- 2 Gross Value of Saleable Commodities
  - Downstream Deductions
- 3 Net Smelter Revenue
  - Minesite Costs
- 4 Net Operating Income or Net Proceeds
  - Allowances for Capital Expenditures
- 5 Net Profit

# Existing Royalty System

## What's to like?

- ✓ As per the PWC study completed in 2020, the existing NWT royalty is competitive with other Canadian and most international jurisdictions
- ✓ A graduated royalty structure is fair to smaller producers
- ✓ No revenue-based taxes
- ✓ Not regressive – no project that is economic pre-tax will be rendered uneconomic by the royalty system
- ✓ Does not dissuade investment in the NWT mining sector

# Existing Royalty System

## What could be done differently?

- ✓ Recent changes to international royalty systems tend toward a higher average effective rate of tax (AERT).
- ✓ Little to no royalty is collected on most mines in the first several years of production or if the mine is never profitable.
- ✓ Little to no minimum tax is collected. Other Canadian jurisdictions (B.C., Quebec) have introduced versions of minimum tax.
- ✓ Does not necessarily encourage investment in the NWT mining sector.

# Realistic Deposit Models

- One of the challenges of comparative tax studies is that jurisdictions often contain fundamentally different geology and associated deposit types. Comparing taxation of giant copper projects in Chile with the NWT is not particularly instructive. Likewise comparing royalties on diamond mines in the NWT with Peru is not overly useful.
- To assess the impact of the royalty structure in the NWT, we need to start with deposit models that reflect the types of deposits that are likely to be found and the costs associated with developing and operating in the North.
- We have built realistic deposit models for base metals, diamonds and gold. We will use the base metal case deposit as the case study for this presentation and look at the royalties and taxes payable under the existing system.
- We will then consider the impact on royalty and tax payments if the current system is modified in various ways.

# Model Economic and Tax Metrics

Deposit Type		Base Metals			
		Economic Values		AERT	
		Pre-Tax	Post-Tax	Cash Basis	NPV Basis
<b>Taxes Collected</b>					
<b>NWT - Royalty</b>	\$M CAD		\$585	12.3%	13.0%
<b>FCIT</b>	\$M CAD		\$597	12.4%	13.9%
<b>TCIT</b>	\$M CAD		\$458	9.5%	10.7%
<b>Total</b>	\$M CAD		\$1,640	34.2%	37.6%
<b>LOM Cash Flow</b>	\$M CAD	\$4,806	\$3,166		
<b>NPV8</b>	\$M CAD	\$1,315	\$821		
<b>IRR</b>	%	24%	20%		

# Changing the Status Quo

We have built a model that allows us to capture wholesale changes, moderate changes, and small tweaks to the status quo.

Wholesale changes would include:

- Replacing the current profit-based system with one based on some earlier stage of value for the project/company.

Moderate changes would include:

- Hybrid systems that are primarily profit-based but with a smaller revenue-based royalty that would act as a minimum tax.

Small tweaks could include:

- Changes to the brackets for the sliding scale royalty
- Changes to the 13% base rate for comparison with the sliding scale payments.



# Wholesale Changes

For example, the existing royalty structure could be replaced with either a flat or sliding scale rate that would apply at line 2, line 3, or line 4 in our valuation diagram.

Many royalty systems around the world apply rates at one of these points in the valuation diagram.

The earlier you apply the royalty, the larger the royalty base and the lower the rate required to capture an equal amount of royalty.

In our base metal example, the following equivalent rates would be applicable.

# Equivalent Royalty Rates

					<b>Rate</b>	<b>Royalty (\$M)</b>
<b>1</b>	<b>Physical Ore Processed</b>				<b>\$15/t</b>	<b>\$585</b>
<b>2</b>	<b>Gross Value of Saleable Commodities</b>				<b>4%</b>	<b>\$585</b>
<b>-</b>	<b>Downstream Deductions</b>					
<b>3</b>	<b>Net Smelter Revenue</b>				<b>6%</b>	<b>\$585</b>
<b>-</b>	<b>Minesite Costs</b>					
<b>4</b>	<b>Net Operating Income</b>				<b>10%</b>	<b>\$585</b>
<b>-</b>	<b>Allowances for Capital Expenditures</b>					
<b>5</b>	<b>Net Profit</b>				<b>13%</b>	<b>\$585</b>

# Wholesale Changes to Royalty Payments

## Pros

- Much easier to calculate. No need to deal with depreciation. Might be required to allow carried losses on operating profit (sort of like oil and gas royalties).
- Would align with the way much of the world applies mineral royalties including sliding scale rates.
- Would provide a minimum tax from the beginning of production.

## Cons

- Would diverge from the traditional approach to royalty determination in other Canadian jurisdictions.
- Could impact the balance between royalties and corporate income taxes collected.
- Would not be well received by the mining industry.

# Moderate Changes – Hybrid Systems

In most jurisdictions, governments tax corporations on their income or profit regardless of what their business happens to be. When corporate income taxes are charged in addition to mining specific royalties, a hybrid tax system results in many cases.

For example, in Chile there is a Net Operating Royalty for mining production and a net profit tax for all companies. In Australia, state mining royalties are usually charged on a net smelter or gross value basis whereas federal tax is charged on a net profit basis. In the NWT, three levels of taxes are all based on some version of net profit.

# Hybrids as Minimum Taxes

Profit-based taxes/royalties often result in a period of little to no royalty payment in the initial years of production.

In the case of the NWT mineral royalty, allowable deductions (both pooled and non-pooled) result in royalty avoidance in the initial years of production.

Only the implementation of the processing allowance provides some minor royalty payment.

Our model allows minimum taxes to be treated in two ways:

- As a minimum that is paid if profit-based royalties are exceeded.
- As a minimum that is carried forward and deducted against future royalty payments (as in B.C.).

# Hybrids as Minimum Taxes

The argument against a minimum tax is that companies should recover their investment before paying royalties and taxes.

The case for a minimum tax is that government should collect some royalty each year that a mine is in operation.

Consider mineral royalties and total tax payments over life and in the first four years of production for our base metal deposit:

		<b>LOM(\$M)</b>	<b>Yrs 1-4 (\$M)</b>
<b>NWT Royalty</b>		<b>\$604</b>	<b>\$3</b>
<b>FCIT</b>		<b>\$599</b>	<b>\$38</b>
<b>TCIT</b>		<b>\$460</b>	<b>\$29</b>
<b>Total</b>		<b>\$1,663</b>	<b>\$70</b>

# Hybrids as Minimum Taxes

## Pros

- Guarantees some flow of royalty payments from the first year of production.
- If not carried forward, would increase the overall tax take of the GNWT.
- On a present value or discounted basis, the value of the royalty payments would increase regardless of carry forward.

## Cons

- Would decrease the IRR and NPV of the project to the corporate owners on a post-tax basis.
- Adds a level of complication to the determination of royalty payments on an annual basis.
- Could be interpreted as a “tax grab” by industry – especially if no carry forward.

# Summary

In the tax business, governments will never please all of the people all of the time. Stakeholders have competing interests in the amount and method of royalty collection.

The model developed for this royalty review is meant as a tool to examine the implications for government and companies of modifying the existing royalty system.

Minor changes to the GNWT mineral royalty structure are unlikely to alter the competitive position of the NWT for mining investment. For example, the imposition of a minimum tax would change early mine life royalties but not unduly impact on project economics.

The determination of what is a “fair share” of project value to capture in royalties and taxes needs to be addressed in terms of both current operations and potential future mines. A short-term focus to capture more value now may result in less value in the longer term as exploration investment is discouraged.