Tax Cost to the federal Treasury related to super flow-through financing in the mining industry

A study prepared by Deloitte commissioned and fully funded by PearTree Securities Ltd.

We are very pleased to present this study examining the tax costs to the federal treasury and the direct tax recoupments as flow-through funds are spent by the exploration issuers. The genesis of this report goes back to a dinner conversation with Jim Flaherty during Christmas break December 2013 in which he voiced his policy angst about competing views associated with the flow-through regime (the "**Regime**"). In his very direct manner, he queried why so many really smart folks he knew were so passionate about promoting and expanding the Regime in contrast to his department's equally persuasive assessment that the Regime is an antiquated and unnecessary tax cost incenting mostly failed investment behaviour.

We soon recognized that what we hoped to deliver as a White Paper discussion would not be compelling or substantive without investment in data mining and analysis. As far back as our June 2011 submissions to the federal Department of Finance and our November 2013 pre-budget submission to the House of Commons Standing Committee on Finance, we had recommended: (1) the permanent inclusion of the Mineral Exploration Tax Credit ("**METC**") and (2) a government study on a fully integrated basis tracking both the tax costs and direct tax benefits (recoupments) of the Regime.

The following is an excerpt from Report of the Standing Committee on Finance, December 2013.

In commenting that the Mineral Exploration Tax Credit (METC) leads to investments in mining projects in rural and remote communities, PearTree Financial Services argued that the METC should be made permanent and expanded to other sectors. Moreover, it proposed that the federal government undertake an evaluation of the fiscal impact of the tax incentives provided through flow-through shares and the METC to determine whether the measures increase net federal revenue.

While the Commons Standing Committee accepted our recommendation for the permanent inclusion of METC in its pre-2014 budget recommendations, it was silent on our submission about a tightly focused direct tax cost / direct tax benefit analysis also characterized by us the debit credit study.

It is our hope that the Deloitte report precipitates government examination of both tax costs and tax benefits and in doing so likely concludes that the Regime is tax revenue positive (without reference to downstream benefits), and a construct to be judiciously expanded to include resource and other activities in northern and remote communities.

We encourage industry and government comment and suggestions.

What you should know about the Deloitte study:

- Deloitte's mandate was to exclusively focus on what was directly quantifiable
- Most exploration expenses are incurred in drilling programs. Deloitte examined the cost accounting of drilling company expenditures provided to Deloitte under confidentiality
- Deloitte concluded that the net tax cost to the federal treasury per $1,000 of capital raised under the Regime including the Mineral Exploration Tax Credit (super flow-through) is $114 per $1,000 of flow-through issuance
- Deloitte concluded that the cost to the federal treasury of non-super flow-through (no METC) is $34 per $1,000 of flow-through issuance
- However, since the mandate was to report on what was demonstrable, in reviewing the cost accounting and financial statements of the drilling services companies, (and limited by budget and access to information) Deloitte was able to match and therefore only consider in its report $360 of expenditures per $1,000 of capital raised under the Regime. in the analysis $640 per $1,000 of expenditures raised under the Regime were not tracked and accounted for
- For example, the reported tax cost of the Regime did not consider drilling company corporate head office payroll tax or any tax recouped when subcontractors provided transportation, lodging, equipment maintenance or other services including fuel costs and tax recouped as part of those services
- Deloitte did not consider provincial taxes lost or recouped. However, in our view one provincial tax recoupment ought to be included in the calculation. METC is a 15% tax credit against federal tax otherwise payable. A $100,000 super flow-through subscription results in the investor reducing his \ her federal tax by $15,000 in the year of investment and not against any provincial taxes otherwise payable. In the year following the investment, the 15% credit is added back to the income of the taxpayer - in this example $15,000 - and taxed by both the federal and provincial governments. In most provinces the amount collected provincially is not less than $3,000 (per $15,000). As a matter of policy the federal government could have recouped all of the inclusion against federal taxes, instead allowing the provincial governments to levy tax with respect to a federal tax loss. It can only be assumed that the federal / provincial transfer payment framework includes this recouped tax in its accounting
- Thus the $114 federal tax cost should be reduced by this indirect transfer payment of about $30 in most provinces resulting in an $84 cost to the federal fiscal authority; and without reference to the tax otherwise recouped on $640 of expenditures of per $1,000 of capital raised under the Regime.

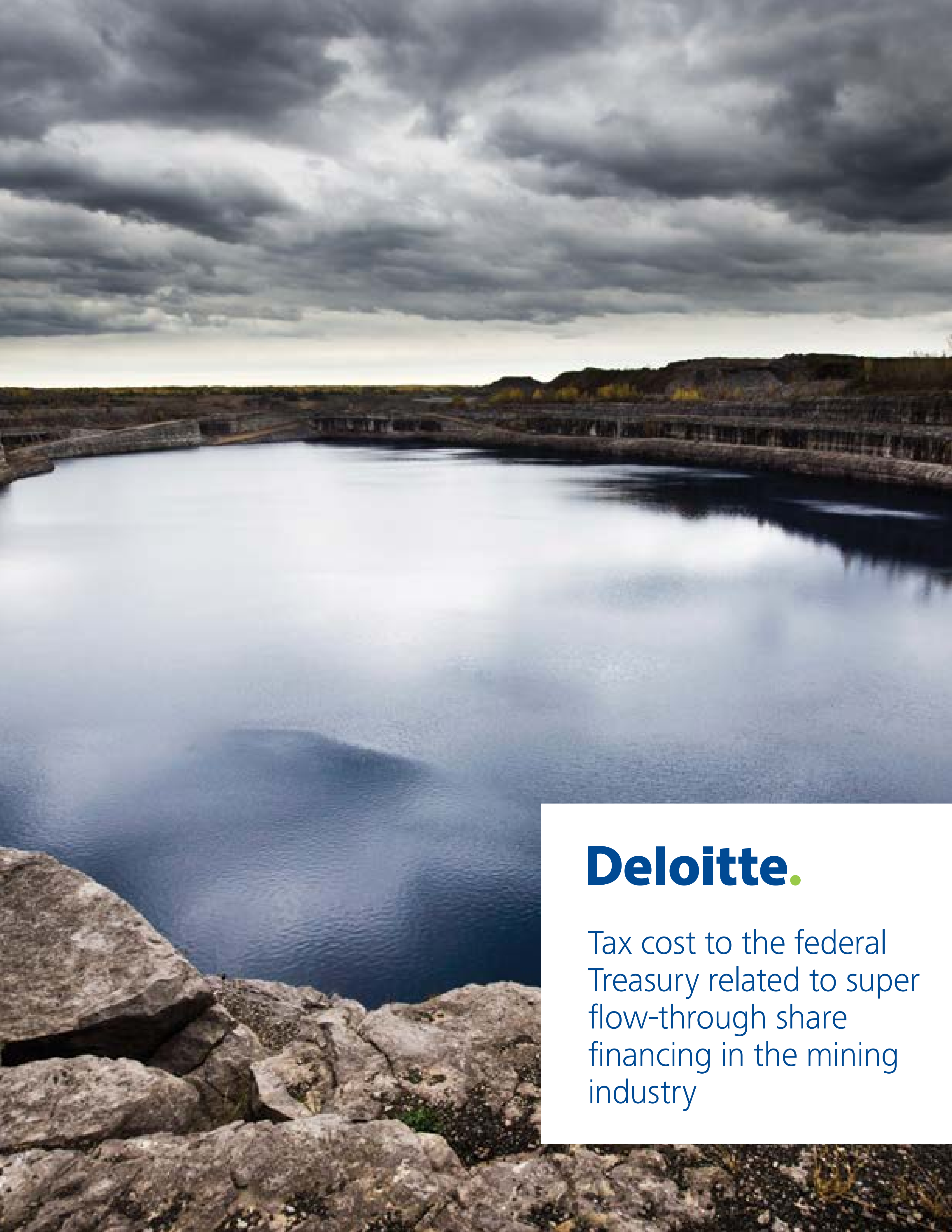
What you might consider about the flow-through Regime:

In support of exploration investment, almost forty years ago Canada introduced a tax Regime that reduces the after tax risk of exploration and development for Canadian taxpaying investors. The tax Regime known as the Flow-through Share arrangement is a remarkably efficient and elegantly simple hybrid instrument.

For tax purposes the issuance of flow-through shares by private or public resource companies behaves in the same manner as a partnership. Share subscribers are entitled to deduct for tax purposes in their own hands, the exploration expenses incurred by the issuer funded by the issuance of the flow-through shares. For securities purposes the issued flow-through shares are simply common shares of the company and not a separately listed class of shares.

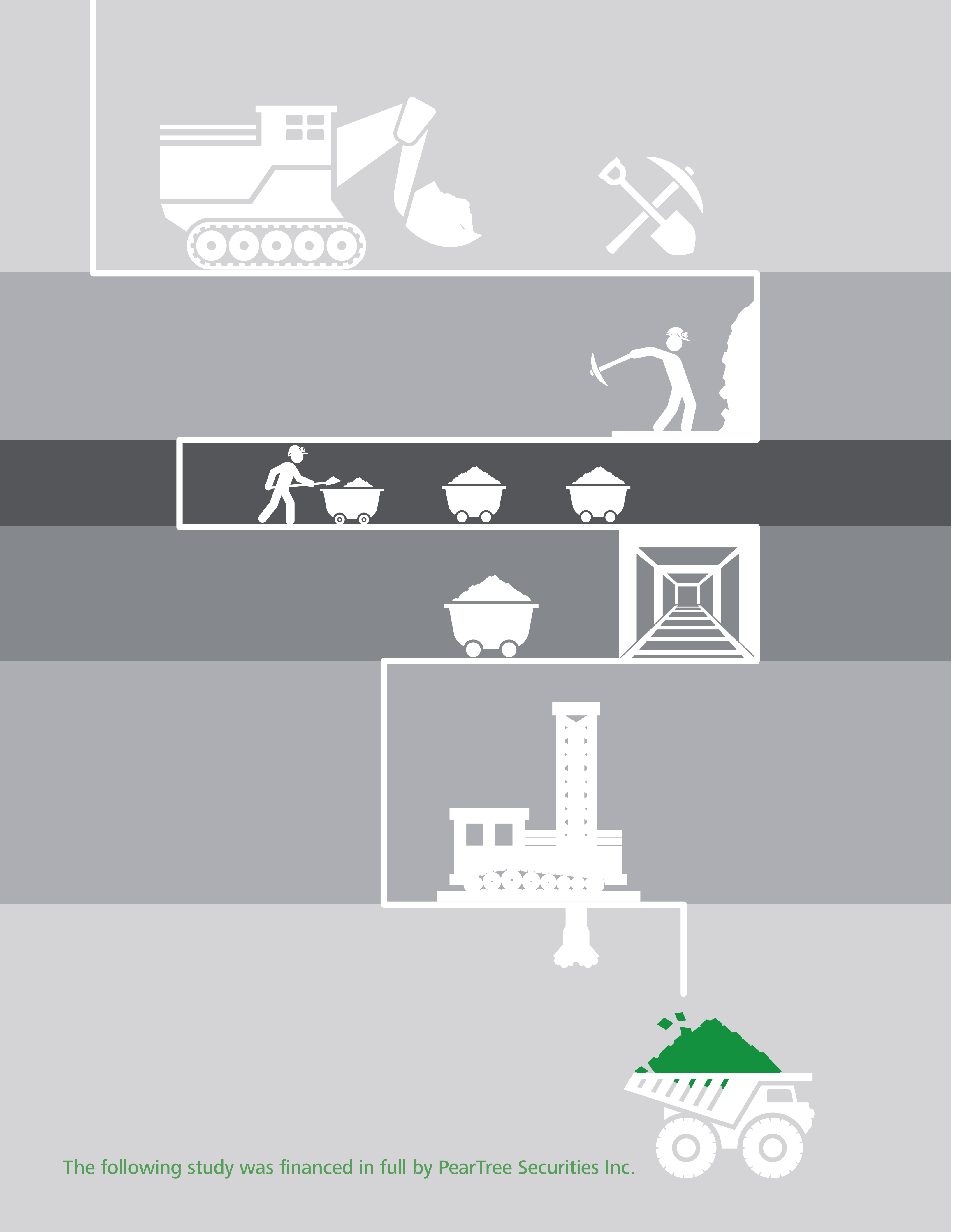
See the PearTree website for copies of:

- Submission brief to Standing Committee on Finance
- Standing Committee recommendations



Deloitte.

Tax cost to the federal Treasury related to super flow-through share financing in the mining industry



The following study was financed in full by PearTree Securities Inc.

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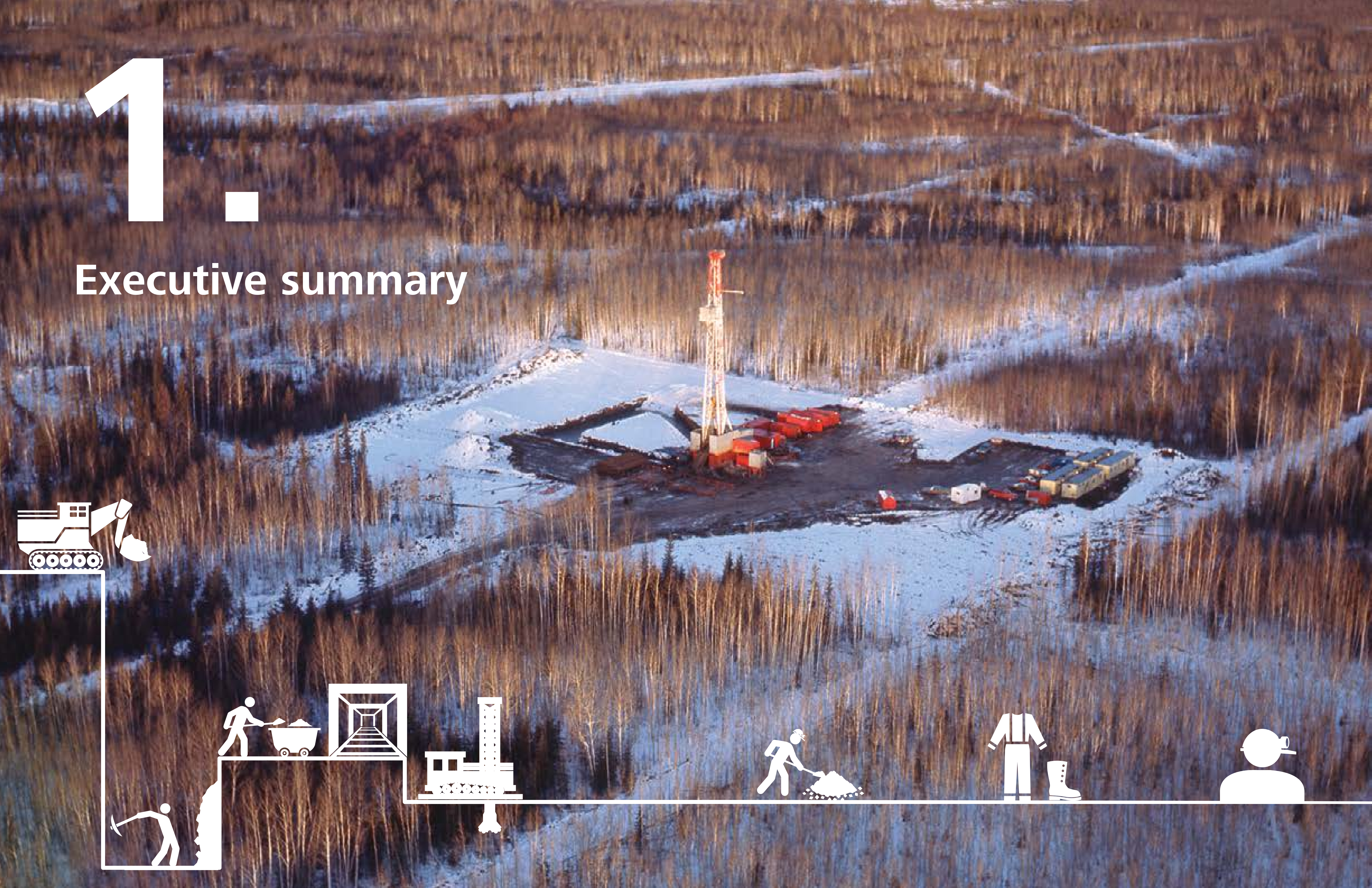
1.

Executive summary



The flow-through regime is crucial to the mining exploration industry. Over the past decades,[1] flow-through shares have supported exploration activities and assisted junior mining exploration companies by providing them with the necessary venture capital. In this context, the flow-through regime allows investors and junior mining companies to exchange “assets”, i.e. capital funding vs. tax incentives, in a commercially effective and mutually beneficial manner.

The benefits resulting from the flow-through regime are significant. Since exploration activities are often conducted in rural and remote communities, the flow-through regime contributes directly to the economic and social development of these regions. The impacts of such development are exponential.

In fact, the immediate effect of an increase of exploration activities can be noticed in employment and training of the workforce.

Furthermore, the support provided to the exploration industry naturally overflows to interrelated industries.

The economic activity of suppliers and contractors offering goods and services to exploration companies indirectly benefit from this support. These interrelated industries include companies offering drilling services, transportation services, equipment, laboratory analysis services, research and development, production of seismic and geological studies, etc.

While not within the ambit of this study, it is generally accepted that a multiplier effect naturally takes place where every dollar injected in the economy through exploration activities leads to more spending, which creates more income, and so on, creating as many taxable events as there are expenditures incurred and income generated.

Surely, the fact that Canada is now home to more than 50% of the world’s publicly listed exploration and mining companies[2] may be linked to the fact that the Canadian federal government has taken measures to ensure the Canadian economy was adapted to the particularities of the mining industry.

For the aforementioned reasons, any decision making with respect to the underlying policy of the flow-through regime, must consider the economic and social benefits of the regime, and not only the forgone revenues. Based on a notional $1,000 flow-through financing, the cost of the regime to the federal Treasury resulted in the following:

Original Cost	Taxes generated	Net Cost
$ 203	**$ 88**	**$ 115**

2.

Introduction

The Canadian federal government supports the exploration of Canada's mineral resources. This support is provided by introducing and maintaining favorable tax measures pertaining to alternative financing instruments available to the mining industry, such as flow-through shares. The Flow-Through Share Regime (hereafter, the "Regime") assists, amongst others, corporations whose principal business is either mining or exploring for minerals or the processing of mineral ores[3] (also referred to as a "principal-business corporation") by allowing them to issue flow-through shares. One of the important features of these shares is that they entitle the investing shareholder to certain tax incentives such as the deduction of development and exploration expenses incurred by the corporation issuing the shares, pursuant to an agreement by which the corporation renounces its right to claim these expenses. Thus, the Regime increases the accessibility of capital in an industry that heavily relies on financing through share issuances.[4]

The Regime may also apply to corporations operating in the oil and gas industry. However, this report is strictly focused on the economic impacts of the Regime as it applies to the mining industry and, more specifically, to flow-through shares commonly known as "super flow-through shares." In addition to the eligible expenses that may be deducted by the shareholder, a super flow-through share entitles a shareholder that is an individual[5] to a 15% non-refundable investment tax credit.

Based on the parameters described above, the objective of the study was to calculate the net cost to the federal Treasury of the Regime applicable to super flow-through shares. The net cost would take into account the tax revenues generated by principal-business corporations' direct economic activity that is financially supported by the issuance of super flow-through shares. To calculate the net cost, a model quantifying the use of funds raised through the issuance of super flow-through shares was developed (hereafter, the "Model"). The methodology used in the Model and the results produced are detailed below.

The results of the Model show that, when taken into consideration, the direct tax revenues generated through the mining exploration activities supported by the Canadian federal government reduce the Regime's cost from $420 (cost of the investment tax credit and reduction of tax due to deduction granted to investors) to a net cost of $115 per $1,000 invested by an individual through the subscription of super flow-through shares.

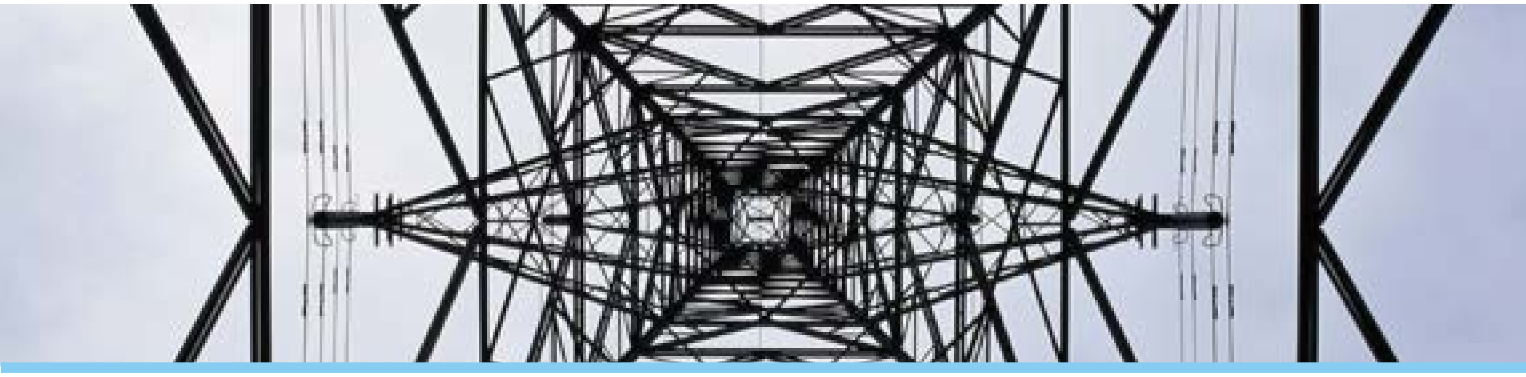
Net cost of the Regime per $1,000 invested in super flow-through shares

Cost of the Program to the federal Treasury	
Reduction of income tax of individual investors	$280
Mineral exploration tax credit	$140
Subtotal	**$420**
Taxation of METC and provincial exploration credit	($59)
Tax payable upon disposition	($112)
Cost of opportunity to the issuer	($46)
Total cost	**$203**

Revenues to the federal Treasury	
Income tax on salaries	$77
Corporate income tax	$8
Part XII.6 tax	$3
Total revenues	**$88**
Net Cost	**$115**

3.

3.Overview of the Flow-Through Share Regime for the mining industry



a) Financing of the mineral exploration industry

As mineral exploration corporations are in constant need of financing, the Regime plays a significant role in stimulating the exploration and development of natural resources in Canada. The Department of Finance Canada states, in Tax Expenditures and Evaluations 2013, that reliance on flow-through shares is higher in the mining sector.[6] In fact, flow-through shares financed on average 28% of Canadian exploration expenses incurred from 2007 to 2012 compared to only 16% in the oil and gas sector.[7]

As the Prospectors and Developers Association of Canada ("PDAC") explains, additional support to ease the financing of mineral exploration corporations is made necessary because:

> As the 'research and development' branch of the mining sector, exploration companies do not have production revenue and, therefore, must rely on investors who are prepared to support high-risk activities. Global financial uncertainty and the drop in commodity prices have had dramatic and negative effects on the exploration sector. Reduced investment in companies leads to fewer drilling programs and impacts negatively on regional employment and income, particularly in rural, northern and Aboriginal communities.[8]

Under the Regime, a principal-business corporation renounces the benefit of eligible exploration expenses that it could deduct from its income once it becomes profitable and agrees, instead, to pass these expenses on to the flow-through shareholder. Nevertheless, the Regime benefits the issuing corporation by enhancing the value of its share issuance, thereby giving it the opportunity to attract and raise the necessary capital to pursue exploration activities.

The Canadian federal government described the role and importance of the Regime in the following words:

> Flow-through shares occupy an important place in equity financing in Canada: from 2007 to 2012, approximately $1.4 billion per year in public equity for the oil and gas, mining and clean energy sectors was raised via flow-through shares. While they are available to all corporations incurring eligible expenses, flow-through shares assist primarily junior exploration companies whose access to other sources of financing may be limited.[9]

b) Components of the Flow-Through Share Regime

The benefits of the Regime can be divided in two categories depending on the nature of the eligible expenses renounced to the investing shareholder. The first category of shareholder benefits consists of the deductibility of eligible expenses incurred by the issuing corporation ("regular" flow-through shares). The second category of benefits consists of the investment tax credit, which may be available in addition to the deduction but only in regards to specific exploration expenses, as described below, and only to shareholders who are individuals. Flow-through shares that give rise to this credit are often referred to as "super" flow-through shares.

i) General rules applicable to the Flow-Through Share Regime

The Regime allows a principal-business corporation to issue flow-through shares pursuant to an agreement where the issuing corporation agrees to incur eligible expenses that it will renounce to the investing shareholder.[10] Because of the tax incentives that it carries for the investor, the flow-through shares may be sold for a premium over the market price of the corporation's common shares.[11] When calculating its taxable income, the investor may then deduct the eligible expenses against any source of income up to the price paid for the share.[12] By renouncing to the shareholder the eligible expenses it incurred, the principal-business corporation abandons the possibility of ever deducting these expenses itself. In fact, the expenses are then deemed to have been incurred by the shareholder instead of the issuing corporation.[13] Consequently, if the corporation does become profitable, its tax burden will be higher than it would have been had it not renounced these expenses to the investing shareholder.[14]

Eligible expenses are comprised of Canadian exploration expenses (also referred to as "CEE") and Canadian development expenses (also referred to as "CDE").[15] The former includes "grass-roots" expenditures that are incurred to determine the existence, location, extent or quality of a mineral deposit in Canada, as well as certain pre-production expenditures incurred for the purpose of bringing a new mine in Canada into production.[16] The latter consists mainly of pre-production expenditures incurred to bring a new mine in Canada into production that do not qualify as CEE.[17] At the end of the year, the taxpayer may deduct 100%[18] of its cumulative CEE and generally up to 30% of its cumulative CDE.[19]

As previously mentioned, this report solely focuses on the exploration expenses that entitle the investing shareholder to a 15% investment tax credit (super flow-through shares), namely flow-through mining expenditures. Flow-through mining expenditures are CEE that exclusively consist of grass-root expenses incurred in conducting mining exploration activity from or above the surface of the earth (hereafter referred to as «flow-through mining expenditures»).[20]

ii) Super flow-through shares and the Mineral Exploration Tax Credit

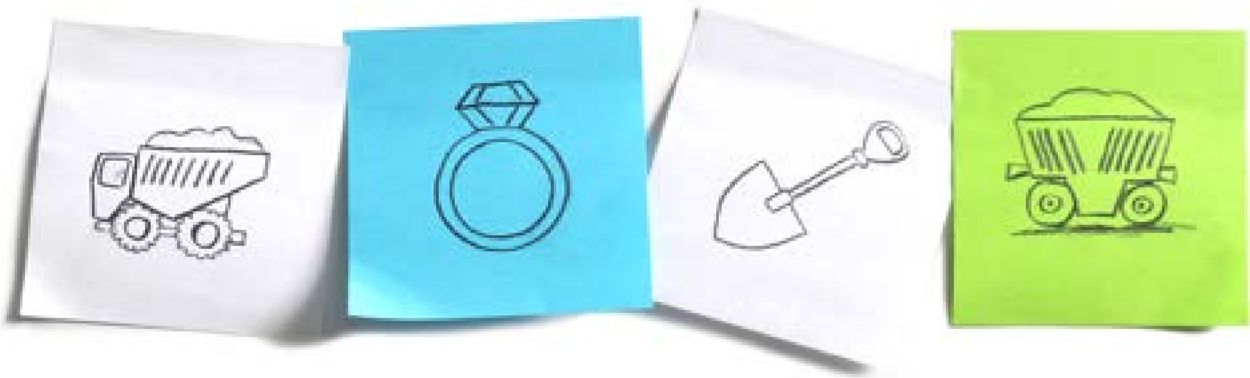
In addition to the deduction of eligible expenses, a super flow-through share provides an individual shareholder[21] with an additional 15% non-refundable investment tax credit (hereafter, the «Mineral Exploration Tax Credit» or the «METC») calculated in regards to the shareholder's flow-through mining expenditures,[22] making the advantages of the Regime applicable to super flow-through shares twofold.

As the present study is focused on analyzing the net cost supported by the federal Treasury in maintaining the Regime, specific components of the different Canadian provincial taxation regimes had to be considered. When the exploration activities are conducted in a province that entitles the investors to a provincial exploration credit, such as Manitoba, British Columbia, Saskatchewan or Ontario,[23] the effective rate of the federal METC is reduced due to the fact that the provincial exploration credit reduces the eligible expenditures.

The provincial exploration credit is first calculated as a percentage of the flow-through mining expenditures renounced and the amount of credit granted by the province then reduces the total amount of flow-through mining expenditures renounced that is used to calculate the federal METC.

For example, considering a shareholder's investment of $1,000 in super flow-through shares for which the principal-business corporation has renounced to $1,000 of flow-through mining expenses incurred in Ontario. The Ontario Government grants a 5% credit on such expenses, thus granting the shareholder with a $50 provincial exploration tax credit. Consequently, the pool of flow-through mining expenses used to calculate the METC will be reduced by $50. It originally totaled $1,000, but for the purpose of the METC calculations, it will be reduced to $950. At 15% of $950, the METC granted to the shareholder would total $142.50, bringing the effective rate of the federal METC down to 14.25%.

The provincial exploration credits were considered because they directly affect the cost of the METC supported by the federal Treasury by reducing the pool of expenses used to calculate the METC. As further described in the specific assumptions presented under Section 4, we computed a weighted average of the provincial exploration credits of 7%, based on the geographic distribution of the exploration activities in Canada for 2014, bringing the effective rate of the federal METC used in the Model to 13.95%.



Furthermore, one should note that the cost incurred by the federal Treasury with respect to the METC is partially recaptured over time since the value of the METC claimed by the taxpayer in the year (year 1) is generally included in the taxpayer's income in the following year (year 2).[24] Likewise, the provincial exploration tax credit claimed is included in the taxpayer's income for federal tax purposes in the same year it is claimed, thus increasing the revenues to the federal Treasury.[25] A provincial exploration credit of 7%, as described above, was also considered when estimating the year 2 income taxes paid.

Summary of the Flow-Through Share Regime

	Components of "regular" flow-through shares	Components of "super" flow-through shares
Eligible expenses	• CEE • CDE	Idem
Maximum deduction for eligible expenses renounced in favour of the investors	• 100% of CEE • 30% of CDE annually	Idem
Eligibility for the non-refundable Mineral Exploration Tax Credit for individuals	NO	YES, on flow-through mining expenditures (i.e. CEE incurred in respect of surface exploration)

c) Budget constraints: Annual renewals

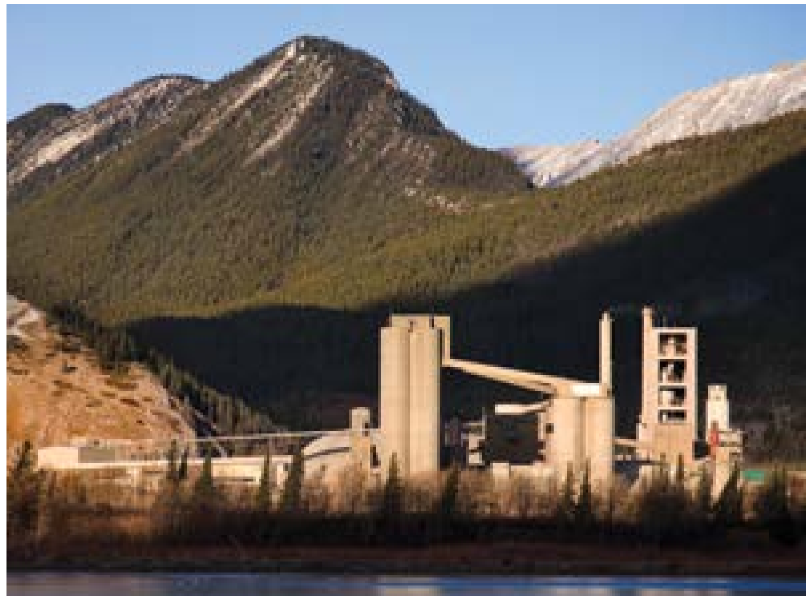
The Canadian federal government describes the contribution of the METC to the mining exploration industry as follows:

> Since 2006, the Mineral Exploration Tax Credit has helped junior mining companies raise over $5 billion for exploration. In 2012, over 350 companies issued flow-through shares with the benefit of the credit to more than 30,000 individual investors.[26]

However, the METC has been subject to annual one-year extensions since the 2007 budget, the last extension being part of the 2014 budget, where the Government of Canada announced that it would extend the METC over one year only, until March 31, 2015:[27]

> The credit was scheduled to expire on March 31, 2014. However, to support the mineral exploration efforts of junior exploration companies in a context of continued economic global uncertainty, Economic Action Plan 2014 proposed to extend the credit for an additional year, to flow-through share agreements entered into on or before March 31, 2015.[28]

By only renewing the METC for such short periods of time (i.e. over one year), the federal government contributes to creating economic uncertainty within the mining exploration industry, which may discourage long-term investments.
In this context, the Prospectors and Developers Association of Canada ("PDAC") recommended that the 15% METC be made a permanent feature of the federal income tax system in order to ensure that mineral exploration companies contribute to Canada's economic recovery.[29] According to the PDAC, this would ensure longer-term investment in Canada and allow exploration companies to plan for the future.[30] The PDAC also recommended increasing the METC from the current 15% rate to 30% for a two-year period, which would encourage investment in Canadian projects.[31]



4.

The practical model

The objective of the study presented in this report was to establish the net cost to the federal Treasury of the Regime applicable to super flow-through shares (hereafter referred to as the «Program»). The premise supporting the study is that the Program's cost to the federal Treasury includes the cost of both the deduction of exploration expenses and the METC. On the other hand, this cost can be reduced when the following elements are considered:

- In the event that a principal-business corporation becomes profitable, it will be ineligible to use the flow-through mining expenses previously renounced in favor of the investing shareholder. Consequently, the tax burden of the exploration corporation will be higher than it would have been without the Program. Inversely, without the Program, the deduction of the eligible expenses would be available to the mining exploration corporation as soon as it becomes profitable. Therefore, a portion of the cost to the federal Treasury of this deduction should not be considered in the cost of the Program because the federal Treasury will incur a cost whether the deduction is used by the flow-through shareholder or the mining exploration corporation itself.
- The METC is partially recaptured over time. In fact, the value of any applicable investment tax credit that the individual taxpayer benefitted from during the year is generally included in the taxpayer's income.[32]
- When the investing shareholder disposes of a super flow-through share, the proceeds of disposition are entirely recognized as a capital gain as opposed to the strict appreciation in share value because the adjusted cost base of the share is deemed to be nil.[33]
- The availability of the Program encourages and stimulates mining exploration activities that incidentally create economic spinoffs. In fact, the principal-business corporations finance various drilling campaigns to pursue their exploration projects. The economic activity created by these drilling campaigns generates tax revenues to the federal Treasury that may not have been generated without the financial support provided by the Program.

The chart below summarizes the various components that have been considered in the Model and that will be explained in further detail as part of the following section:

Elements considered in the net cost analysis

Costs for the federal Treasury	Revenues or cost reductions for the federal Treasury
Reduction of taxes for the investing shareholder benefiting from the deduction of the flow-through mining expenses renounced by the issuer	Reduction of the deduction of flow-through mining expenses available to the issuer once it becomes profitable
Reduction of taxes for the investor benefiting from the METC on the flow-through mining expenditures renounced by the issuer	Taxation of the METC and of the provincial exploration credit included in the individual investing shareholder's income
	Taxes paid by the recipients (and their employees) of the flow-through mining expenditures financed by the super flow-through shares issuance, considering that most of the expenditures would not exist if it were not for the Flow-Through Share Regime applicable to super flow-through shares
	Tax paid on the capital gains realized by the shareholder upon disposition of the super flow-through shares due to those shares having a "nil" tax cost
	Taxes paid by the issuers to benefit from the "look-back rules" which essentially allows them to renounce to expenditures before they are actually incurred

Therefore, in order to quantify the net cost described above, the Model first quantified the costs of the Program for the federal Treasury. As a second step, the Model quantified the tax revenues generated through the economic activity of drilling campaigns financed by principal-business corporations who benefit from the support of the Program.

The Model was able to quantify such costs and revenues by establishing a series of assumptions that will be further detailed below. In that regard, an investigation into the practices of the mining exploration industry as well as the analysis of data on actual drilling campaigns provided by the industry helped us validate and adjust certain assumptions that were relied upon.

Summary of the results

The cost for the federal Treasury of the Program was estimated at $203 for every $1,000 invested by shareholders that are individuals. It was further established that the taxes generated to the federal Treasury amounted to $88 per $1,000 invested. These revenues consequently reduced the overall cost of the Program to a net cost of $115 per $1,000 invested.

Summary of the net cost analysis

Flow-through share proceeds used for grass-roots surface exploration	Percentage of the total issuance
Net outflows	20.3%
Inflows	8.8%
Net cost	11.5%

These results were achieved by measuring debits and credits to the federal Treasury.

Debits to the federal Treasury consist of the total amount of net tax debited to the federal Treasury as a consequence of the deductibility of flow-through mining expenses renounced to shareholders and the availability of the METC.

Credits to the federal Treasury consist of the sum of the main taxes associated with the flow-through mining expenditures incurred by principal-business corporations and funded by the capital raised through the Program.

a) General assumptions

General assumptions, presented below, were made in order to develop the Model:

- Without the Program, principal-business corporations would not receive the necessary capital to pursue their exploration activities. Consequently, it is assumed that the proceeds from the super flow-through share issuances result in incremental exploration expenses that generate taxes (through expenditures), which would not otherwise be generated.
- If the super flow-through share issuer does not incur flow-through mining expenses equal to the subscription proceeds, the amount renounced to the investor will be less than the subscription proceeds.[34] The Model assumes that all proceeds gathered through the subscription of super flow-through shares have been used for flow-through mining expenditures, which give rise to both the METC and the equivalent provincial exploration credit (in provinces where applicable), in addition to the deduction.
- Although flow-through mining expenses could be composed of a wide range of expenses, we understand that the proceeds gathered through the issuance of super flow-through shares are mainly spent on drilling campaigns.[35] For this reason, our study focused on the drilling campaigns and financial data relating to drilling campaigns financed by super flow-through shares was used to quantify the tax revenues associated with the share issuances.
- Super flow-through shares are held by an investor who resides in the same province where the funds raised are expended.
- Super flow-through shares are held as capital property by the investor and not as inventory.
- Super flow-through shares are purchased by taxable individuals that may get an immediate benefit from the non-refundable METC,[36] reducing their current tax liability.
- Only Federal tax was considered, except for where specifically noted, using the rates applicable in 2015.

b) Specific assumptions

More specific assumptions were used to quantify the cost of the Program and the revenues generated. These assumptions are presented below. It should be noted that the assumptions relating to the revenues generated through the Program, more specifically those relating to the various expenditures incurred in the course of a drilling campaign (i.e. payroll expenditures, salaries as well as the estimated net profit margin), are inferred from data on actual drilling campaigns provided by the industry.

With regards to the costs of the Program:

- The weighted average of the provincial exploration tax credit is 7%. This average was calculated based on data that was provided on Canadian flow-through shares issuances that occurred in 2014 per province or region.[37] The weighted average considered both the proportion of exploration activities per province and the provinces respective exploration tax credit rates:

Provincial exploration tax credit weighted average

	Canadian exploration activities per province	Provincial exploration tax credit	Weighted average of provincial exploration tax credit
Ontario	24%	5%	1%
Saskatchewan	16%	10%	2%
British Columbia	21%	20%	4%
Atlantic Canada	4%	0%	0%
Yukon	6%	0%	0%
Manitoba	1%	30%	0%
Northwest Territories	4%	0%	0%
Nunavut	1%	0%	0%
Quebec	23%	0%	0%
Total	**100%**	**---**	**7%**

- The investor is considered as being subject to the highest federal marginal tax rate. However, in order to take into account the distribution of investors throughout the Canadian provinces and regions, proportionately to the provincial issuances, the weighted average of the highest federal marginal tax rate was established at 28%, as follow:

Weighted average of the highest federal marginal tax rate

	Canadian exploration activities per province	Highest Federal Marginal tax rate	Weighted average of Federal Marginal tax rate
Ontario	24%	29%	7%
Saskatchewan	16%	29%	5%
British Columbia	21%	29%	6%
Atlantic Canada	4%	29%	1%
Yukon	6%	29%	2%
Manitoba	1%	29%	0%
Northwest Territories	4%	29%	1%
Nunavut	1%	29%	0%
Quebec	23%	24.22% [38]	6%
Total	**100%**	**---**	**28%**

- Super flow-through shares are purchased at an over-the-market price, including a 25% premium. Therefore, the market value of a regular flow-through share is established at $800 to which was added a $200 premium, bringing the market value of a super flow-through share to $1,000.
- Super flow-through shares are sold in the same year they are purchased.
- The common shares of the principal-business corporation will maintain their value through time. Consequently, when the shareholder disposes of the shares, the proceeds of disposition will be equivalent to the fair market value of the shares at the moment of subscription (net of the amount of the premium).
- To quantify the cost of opportunity, it was determined that there was a 40% chance that the issuer may have benefitted from the flow-through mining expenditures, 10 years after the super flow-through shares were issued.

With regards to the revenues generated by the Program:

- Drilling campaigns are financed by principal-business corporations that raise the necessary funds through the Program.
- 31% of the funds invested in a drilling campaign is allocated to employee remuneration.[39]
- Employees working on drilling campaigns are assumed to be resident of the province in which the funds were spent.
- Employees working on drilling campaigns earn, on average, an annual salary of $102,000 and are subject to an effective tax rate of 19% based on the 2015 federal tax rates. Based on the previous assumptions, the effective tax rate was calculated while considering 23% of the employees are Quebec residents subject to a lower federal marginal tax rate.
- Employees working on drilling campaigns will have reached the maximum contributions for employment insurance[40] and the Canada Pension Plan.[41]
- The net average profit margin before tax of a drilling services company is estimated to be of 5%. We have assumed that this profit margin would generate net revenues to the federal Treasury, whether it would trigger immediate taxes or it would consume tax attributes otherwise available to the drilling company.
- The profit a drilling services company derives from its activities is reinvested in the company (rather than distributed as a dividend to shareholders).
- The federal tax rate for corporate taxpayers is 15%.[42]
- The funds collected during the third and fourth quarter of the year through super flow-through share issuances are assumed to be entirely spent throughout the following calendar year.[43]
- The funds raised during the third and fourth quarter represent 67% of the total amount of funds raised in a calendar year.
- For the purpose of calculating Part XII.6 tax, it is assumed that a total of $670 were raised in the third and fourth quarter of the calendar year (from July to December) and this amount is expended uniformly throughout year 2, representing a monthly amount of expenditure of $56.

c) Calculation of the costs for the federal Treasury

The Model quantified the cost of the Program for the federal Treasury at $203 per $1,000 of investment in super flow-through shares by individuals.

This amount first took into account the cost for the federal Treasury of the investor's reduction of income tax that results from the deduction of flow-through mining expenses granted by the principal-business corporation. Effectively, the renunciation of $1,000 of flow-through mining expenditures by the corporation translates into a dollar-for-dollar deduction for the investing shareholder. Based on the assumptions previously described, the Model evaluated the cost of this $1,000 deduction at $280, considering a weighted average highest federal marginal tax rate for 2015 of 28%.

Secondly, the cost for the federal Treasury of the METC was added to the overall cost of the Program. The METC is calculated on the total amount of flow-through mining expenditures renounced. This total amount of expenditures is reduced by the amount of provincial exploration tax credit granted to the shareholder. Considering a weighted average provincial exploration tax credit of 7%, the amount of the provincial credit granted to the shareholder would total $70, thus reducing from the same amount the total amount of flow-through mining expenditures used to calculate the METC. The expenses eligible to the 15% tax credit on renounced flow-through mining expenditures is therefore reduced to $930 and the cost of the METC amounts to $140 per $1,000 of investment in super flow-through shares. Adding the deduction and the METC, the direct cost of the Program to the federal Treasury was established at $420 per $1,000 investment.

Direct cost of the Program for the federal Treasury per $1,000 of super flow-through share issuance		
Reduction of income tax of individual investors	$280	28%
METC	$140	14%
Total	**$420**	**42%**

The direct cost of $420 was then reduced to $203 for the following considerations:

- •An amount is recaptured through the inclusion of the METC and of the provincial exploration tax credit in the income of the taxpayer;
- An amount of tax is generated on disposition of the super flow-through share purchased; and
- There is a cost of opportunity to the principal-business corporation.

First, the value of both the provincial exploration tax credit and the METC claimed in a given year are included in the taxpayer's income, the former in the given year, the latter in the following year. In other words, the $70 provincial exploration tax credit claimed by the taxpayer in year 1 will be added to the taxpayer's income in the same year. The $140 METC claimed by the taxpayer in year 1 will be added to the taxpayer's income in year 2. Both will be subject to federal personal income tax respectively in year 1 and year 2. Assuming that the individual taxpayer is subject to the weighted average highest marginal tax rate of 28%, the value of the total $210 federal and provincial tax credit should generate income to the federal Treasury of $20 in year 1 and 39$ in year 2, for a total of $59.

Second, the tax cost of the super flow-through shares held by the shareholder is nil, notwithstanding the amount invested. Assuming that the shares maintain their value, the shareholder will realize a capital gain upon disposition. Calculations were based on the assumption that the flow-through shares with no tax basis would be sold in the same year they were purchased. The proceeds of disposition would represent the fair market value of the flow-through shares at issuance, net of the 25% premium paid on purchase, thus reducing the sale price to $800.[44] If the investing shareholder is subject to a 28% tax rate, the disposition of the super flow-through shares would generate tax revenues on a capital gain of $112.

Third, the principal-business corporation's renounced deductions are often considered to be of limited value to the corporation itself because the moment when they use the deductions is either uncertain or in a distant future. However, the issuer of super flow-through shares foregoes a potential future benefit. In other words, the cost of the Program should be reduced by the cost that would nevertheless have been assumed by the federal Treasury had the Program not existed. This cost is represented by the future possibility of the principal-business corporation deducting from its own income the flow-through mining expenses that it agreed to renounce under the Program. The cost of the Program should therefore be adjusted to reflect the fact that the issuer had to forgo this potential future reduction in taxes.

The Model quantified the cost of this lost opportunity and established that there is a 40% chance that, 10 years after the issuance of the super flow-through shares, the flow-through mining expenses may have benefitted the issuing corporation. Given a corporate tax rate of 15% and a discount rate of 2.59%, the cost of this opportunity was estimated to be $46 per $1,000 renounced under the Flow-Through Share Program.

The three previous considerations reduced the direct cost of the Program to $203 per $1,000 invested.

Cost of the Program to the federal Treasury		
Reduction of income tax of individual investors	$280	28%
METC	$140	14%
Taxation of METC and provincial exploration credit	($59)	(6%)
Tax payable upon disposition	($112)	(11%)
Cost of opportunity to the issuer	($46)	(5%)
Total	**$203**	**20%**

d) Tax revenues generated

As previously mentioned, the Model was developed based on the assumption that all of the funds raised through the Program were used to finance incremental drilling campaigns that would not have taken place without the Program. More specifically, the Model analyzed how the funds received by a principal-business mining corporation were spent on drilling campaigns that led to other expenses such as payroll. The net income stream of drilling services companies is known to generate taxes, namely income taxes (personal and corporate), payroll contributions and Part XII.6 tax, which constitute revenues for the federal Treasury. Such revenues are generated by funds initially raised through the Program and injected into the Canadian economy through exploration activities.

i) Payroll expenditures

In order to calculate the tax revenues generated through the salaries paid, the Model based its calculations on the assumption that 31% of the funds raised through the Program and invested in drilling campaigns are dedicated to paying salaries of employees of the drilling services companies.[45] Consequently, for every $1,000 raised, $310 of incremental employment income is generated.

The Model further calculated, based on the 2015 rates for both Employment Insurance contributions and Canada Pension Plan contributions, that an amount of $310 in salaries paid generated a total of $77 of additional revenues for the government. It was also assumed that the salaries were paid to employees subject to an effective tax rate of 19% 2015.

Taxes generated through salaries paid – based on $310 of payroll[46]		
Employment insurance premium		
Employee	1.88%	$3
Employer	2.63%	$4
Canada Pension Plan		
Employee	4.95% [47]	$6
Employer	4.95%	$6
Income tax	19%	$58
Total		**$77**

ii) Corporate taxes

When considering the drilling companies as a whole, including the overhead and other costs, the net average profit margin before tax was 5%.[48] In other words, 95% of every $1,000 raised through the Program and spent by a mining exploration company on a drilling campaign is further expended by a drilling services company on various direct costs such as payroll, supplies, administrative costs and more.

Therefore, the Model established that the net taxable income of a drilling services company for every $1,000 raised through the Program was $50. Considering a Federal tax rate of 15% in 2015,[49] the Model calculated that the Program should generate approximately $8 of corporate tax.

iii) Part XII.6 Tax

Based on market practices, it was assumed that 67% of the funds raised in a year through the issuance of super flow-through shares were raised in the two last quarters of the calendar year, between July and December. It was further assumed that these funds were renounced to the shareholder in the year of their issuance, but actually spent in the following year, thus triggering Part XII.6 tax. In order to calculate the impact of Part XII.6 tax, it was also assumed that the amount of $670 raised in the last quarters was spent throughout the following year at a uniform pace of $56 per month, from January until December of year 2.

Generally, a principal-business corporation may only renounce to expenditures that it has incurred on or before the day of the renunciation. In other words, expenses may not be renounced until they are actually incurred by the principal-business corporation.

However, the "look-back" rule is an exception that allows the principal-business corporation to renounce, in January, February or March of a particular year, to the flow-through mining expenditures that it has not yet incurred.[50] The corporation will then be deemed to have incurred the said expenses the last day of the preceding year.

Since 1997, Part XII.6 tax is applied where a principal-business corporation chooses to renounce to flow-through mining expenditures that have not yet been incurred.[51] This special tax is composed of two elements: a monthly component and a compensatory component:[52]

- The monthly component is calculated from February to December 31 of the year in which the expenditures are renounced.[53] The prescribed yearly rate of 1% is applied to the unspent amounts at the end of each month (i.e. 1%/12 each month).[54] The total of the monthly calculations is then used to compute Part XII.6 tax.
- An additional tax of 10% is imposed if the funds renounced have not been spent by the end of the year in which they were renounced.

Based on the previously stated assumptions, the Model established the amount of Part XII.6 tax payable by the principal-business corporation to be $3. No additional 10% tax was calculated given the entire $1,000 raised was considered spent by the end of December of year 2.

The special tax imposed under Part XII.6 in respect of the year may be deducted in computing the corporation's income for the year.[55] However, these corporations rarely generate sufficient income to make use of this deduction.

Revenues to the federal Treasury	
Income tax on salaries	$77
Corporate income tax	$8
Part XII.6 Tax	$3
Total	**$88**

e) Limitations of the Model

The Model presented contains certain limitations that may affect the results generated. This situation may be due to various issues, namely, the difficulty to find specific data or the need to set clear limits and significant assumptions in order to quantify the net cost of the Program. The actual net cost of the Program may vary from the outcome of the Model.

i) General limitations that may cause the net cost to be overstated or understated

It was assumed that all proceeds gathered through the issuance of the super flow-through shares are spent on drilling campaigns. However, the everyday operations of a principal-business corporation financed through super flow-through shares issuances vary from this assumption. In fact, junior mining corporations incur other expenses such as transportation, seismic studies, geology, laboratory analysis of minerals, etc. These other expense items also generate income, but not necessarily in the same proportions as those established for a drilling campaign. For this reason, by assuming all of the funds raised through the Program are injected back into the Canadian economy through drilling campaigns, we omitted to take into account the particularities of other economic activities that are indirectly financed through the Program. Our assumption, however, was based on the premise that drilling campaigns represent the largest expense item for junior mining corporations.

Also, the Model was based on the assumption that a drilling services company would generate a net average profit margin of 5% and would allocate 31% of its funds to payroll (i.e. equal to $50 and $310 respectively per $1,000 of funds raised through the Program). The corporate and personal taxes calculated and added to the revenues generated by the Program are highly dependent on these assumptions, which are subject to variations. In addition, revenues directly attributable to the use of the remaining funds by the drilling services companies (i.e. subcontractors, acquisition of assets, etc.) were not considered.[56]

Another limitation lies in the selling price considered for the super flow-through share. It was considered that the shares would be sold for their issuance price, net of a 25% premium at issuance. The percentage of the premium was estimated based on publicly available data collected and, had it been lower, the cost for the federal Treasury would have been correspondingly increased.

It was further assumed that the super flow-through shares maintained their value until disposition. However, the Canadian junior mining resource market is very volatile. The instability makes it very difficult to predict the market price, highly dependent on the price of the resources and, in the long term, the outcome of the projects undertaken by the principal-business corporations.

The Model does not take into account any governmental cost supported by or revenues generated for any provincial or territorial government. Subject to some differences in the applicable provincial tax legislation, it could be assumed that the net cost to the provinces should follow a similar pattern to the one developed in the Model. To estimate the actual amount for each province, a separate study would be required.

ii) Limitations that may cause the net cost to be overstated

The drilling services companies conducting drilling campaign also incur overhead expenses which include an important part of salaries that could not be considered in the Model because of the absence of sufficient specific data available regarding the composition of general and administrative expenses incurred. If these salaries were accounted for, the revenues generated through the Program would increase and consequently, the net cost to the federal Treasury would be reduced.

The Model also assumed that any profits generated by a drilling services company are reinvested in the company, therefore omitting to consider the possibility that any dividend may be paid to shareholders who would then be subject to additional federal tax.

The Model was focused on establishing the net cost of the Program, i.e. the Regime applicable to super flow-through shares specifically. This cost included the cost of the METC, which is only available to investors who are individuals. Had the Model considered regular flow-through shares, which may be purchased by individuals or corporate investors, the direct cost for the federal Treasury would have been lower, mainly due to the fact that the cost of the METC would not have been included.

The Model did not consider any fuel tax expenditure. Upon discussion with industry leaders it was determined that the fuel is often paid for by the mining company itself and not by the drilling services company. Moreover, the important variations in terms of type of energy available from one province to another as well as the difficulty to find significant and consistent data on fuel consumption bring us to the conclusion that the true revenues generated for the federal Treasury from fuel taxes were not captured in the Model.

Furthermore, the Model's calculations only go as far as the first level of service provider. The Model only considered the impacts of the economic activity of drilling campaigns, but overlooked the impacts of the drilling activities on the related economic activities of its suppliers and contractors. Where every dollar injected in the exploration activity creates an equivalent expense which is someone else's income. Had this circularity, which is often referred to as the multiplier effect, been taken into account, the results could have demonstrated a considerably greater impact in terms of revenues to the federal Treasury and would have equally reduced the net cost of the Program.

iii) Limitations that may cause the net cost to be understated

The Model considers the personal income taxes paid by the employees of the drilling companies, inferring that these taxes would not be perceived if it were for the Program. With a lack of employment opportunities in this specific area, it is probable that these employees would be unemployed for a certain period, but also possible that they would find an alternative source of revenues which may, or may not, trigger equivalent revenues for the federal Treasury. By assuming that the investments in junior mining companies create new jobs and therefore incremental revenues for the federal Treasury, without specifically demonstrating that these individuals would otherwise be unemployed, the net cost may be understated.

The Model also considers that EI and CPP contributions by both the employees and the employers are additional income to the federal Treasury. One may argue that these funds should not generally be available to the government to spend without restrictions but rather contributed to specific programs that are conceived to be self-sustaining. The net cost of the Model would be understated under a theory that additional contributions to these programs would automatically lead to additional future expenses under these programs.

Conclusion

Advocates for the flow-through regime point out that an investment of $1,000 made by Canadians living in urban areas funds $1,000 of jobs and other taxable expenditures in remote and rural areas, where the exploration activity is undertaken.

It is relatively easy to determine the taxes that the federal Treasury loses from an investment in super flow-through shares. The results of our study show that $1,000 invested in super flow-through shares result in the federal Treasury losing $420 in tax revenues. What is considerably more difficult is quantifying all the taxable activities and taxes earned by the federal Treasury as a result of the $1,000 investment.

This report looked at the taxes lost and the taxes recouped to the extent of the available and quantifiable information gathered. We concluded that for every $1,000 of super flow-through share investment, the federal Treasury lost $115 of tax revenues. A large portion of this loss is attributable to the fact that the study specifically focused on the impacts of super flow-through shares issuances. Had the impacts of regular flow-through shares issuances been analyzed instead, the losses to the federal Treasury would be significantly diminished by the unavailability of the METC. Without the cost related to the METC, the net cost of the flow-through regime would amount to only $34 instead of $115.

Furthermore, books and records of drilling campaigns were analyzed to support our calculations and help determine the tax revenues. Equally important are the items that were reviewed but not included in the revenues. We did not look beyond the services provided by the drilling companies nor did we extrapolate the amount of taxes recouped where the data was not directly available.

For a total of $1,000 made available to a drilling services company to undertake drilling activities, we only considered $310 allocated to employee remuneration and $50 of net profits before tax, for a total of $360. An amount of $640 was thus not accounted for, including corporate head office salaries, the full extent of fuel taxes, equipment import duties and other taxes and duties. Although such revenues are very relevant to a full and comprehensive tax cost-benefit analysis of the Program, they were outside the scope of our study or unavailable.

In a broader more comprehensive study with more ample data provided by the industry and by the government, we can surely expect the net tax cost to the federal Treasury of $115 for super flow-through share financing and $34 for regular flow-through share to be significantly lower.

Certainly, our study is simply a beginning in exploring how the flow-through regime operates within the Canadian economy, much more remains to be studied. It would certainly be helpful that a broader, more comprehensive, multi-tier study be performed to determine the tax costs and the tax benefits of the flow-through regime.

5.

Glossary

Canadian development expenses (CDE)	Expenses that include pre-production expenditures that do not qualify for CEE, incurred to bring a new mine in Canada into production
Canadian exploration expenses (or "CEE")	Expenses, including "grass-roots" expenditures that are incurred to determine the existence, location, extent or quality of a mineral deposit in Canada, as well as certain expenditures incurred for the purpose of bringing a new mine in Canada into production
Flow-through mining expenditures	CEE incurred in conducting mining exploration activity from or above the surface of the earth
Mineral Exploration Tax Credit (METC)	Non-refundable investment tax credit applicable to an individual taxpayer, other than a trust, in an amount representing 15% of the taxpayer's flow-through mining expenditures for the year
Model	Financial model quantifying the net cost to the federal Treasury of the Flow-Through Share Regime applicable to super flow-through shares by taking into consideration the tax revenues generated by drilling campaigns financed by the governmental support
PDAC	Prospectors and Developers Association of Canada
Principal-business corporation	Issuing corporation whose principal business is either mining or exploration for minerals or the processing of mineral ores
Program	The Flow-Through Share Regime applicable to super flow-through shares
Regime	The Flow-Through Share Regime

1 Department of Finance Canada, Tax Expenditures and Evaluations 2013, (Ottawa: 2014), p. 32 [Finance Canada, Tax Expenditures].

2 Foreign Affairs, Trade and Development Canada, Canada's Enhanced Corporate Social Responsibility Strategy to Strengthen Canada's Extractive Sector Abroad, (Ottawa: 2014), p. 2.

3 Income Tax Act, R.S.C. 1985, c. 1 (5th Supp.), s. 66(15) "principal-business corporation" [ITA].

4 Finance Canada, Tax Expenditures, supra note 1, p. 32.

5 This credit is only available to individuals other than trusts. Throughout the present report, references to individual shareholders entitled to the 15% non-refundable investment tax credit always refer to individuals other than trusts.

6 Finance Canada, Tax Expenditures, supra note 1, p. 36, Table 1.

7 Ibid.

8 Prospectors and Developers Association of Canada, «Measures to encourage mineral exploration in Canada,» Finance and Taxation (May 2010), online: PDAC <http://www.pdac.ca/docs/default-source/public-affairs/fact-sheet-finance-taxation.pdf?sfvrsn=6> [PDAC].

9 Finance Canada, Tax Expenditures, supra note 1, p. 32.

10 ITA, supra note 3, subs. 66(15) "flow-through share".

11 Finance Canada, Tax Expenditures, supra note 1, p. 31.

12 ITA, supra note 3, subs. 66.1(3) and subpara. 66(15) "flow-through share".

13 Ibid., subs. 66(12.61).

14 Finance Canada, Tax Expenditures, supra note 1, p. 32.

15 ITA, supra note 3, ss. 66(12.6) and 66(12.62).

16 Ibid., subs. 66.1(6) "Canadian exploration expense".

17 Ibid., subs. 66.2(5) "Canadian development expense".

18 Ibid., subs. 66.1(2).

19 Ibid., subs. 66.2(2).

20 Ibid., subs. 127(9) "flow-through mining expenditure".

21 Other than a trust.

22 ITA, supra note 3, ss. 127(5) and 127(9) "investment tax credit".

23 The provincial exploration credit rates are: Manitoba: 30%; British Columbia: 20%; Saskatchewan: 10%; Ontario: 5%.

24 Finance Canada, Tax Expenditures, supra note 1, p. 32;

25 ITA, supra note 3, subs. 66.1(6) "cumulative Canadian exploration expense", element J.

26 Canada, Canada's Economic Action Plan, Junior Mineral Exploration, online: Canada's Economic Action Plan <http://actionplan.gc.ca/en/initiative/junior-mineral-exploration> [Canada's Action Plan].

27 This measure was included in Bill C-31, the Economic Action Plan 2014 Act, No. 1, which received Royal Assent on June 19, 2014.

28 Canada's Action Plan, supra note 26.

29 Ibid.

29 Canada, House of Commons, Report of the Standing Committee on Finance, 41st Parl, 2nd Sess, pp. 49-50; and, PDAC, supra note 8.

30 PDAC, supra note 8.

31 Ibid. It should be noted that PearTree Securities Inc. made similar submissions to the Commons Standing Committee on Finance in November 2013.

32 ITA, supra note 3, s. 66.1 "cumulative Canadian exploration expense", elements J and L.

33 Ibid., subs. 66.3(3).

34 Subject to penalties for the issuer pursuant to ITA, Ibid., subs. 66(12.74) and 66(12.75).

35 Department of Finance Canada, Flow-Through Shares: An Evaluation Report; Executive Summary (Ottawa: October 1994), p. 1. One of the findings of Finance Canada was that Flow-Through Shares resulted in "significant incremental exploration drilling activity".

36 And provincial equivalent exploration tax credit.

37 Data provided by Oreninc. Oreninc functions as a merchant bank that produces research on the junior commodity financing market.

38 In Quebec, the federal tax otherwise calculated is reduced by 16.5% to account for the provincial abatement.

39 This percentage represents an average of the remuneration quantum of all drilling campaigns' financial data obtained as part of the present study.

40 Maximum income for Employment insurance contribution is $49,500, and the maximum contribution is $930.60.

41 Maximum income for Canada's Pension Plan contribution is $53,600, and the maximum contribution is $2,479.95 considering a basic exemption amount for 2015 of $3,500.

42 We did not consider corporate tax rate reductions that may apply to Canadian controlled private corporations in certain circumstances.

43 Based on data provided by Oreninc.

44 Assuming a purchase price of $1,000 includes a $200 premium and $800 intrinsic fair value of the share.

45 This assumption was inferred from data on actual drilling campaigns provided by the industry.

46 Assuming the rates applicable when in the province of Quebec do not apply.

47 See supra note 41.

48 The 5% is based on a summary analysis of the profit margin of 5 public drilling corporations, considering the results presented in the financial statements of these corporations over 2-3 years. Impairment and restructuring expenses were taken out of the equation in order to remain closer to the realities of the market.

49 Canada Revenue Agency, Corporate tax rates; Federal rates, online: <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/crprtns/rts-eng.html>.

50 ITA, supra note 3, subs. 66(12.66).

51 Ibid., s. 211.91.

52 Ibid., subs. 211.91(1).

53 Generally benefiting the individual shareholder for the preceding calendar year.

54 Canada Revenue Agency, Prescribed interest rates, online: <http://www.cra-arc.gc.ca/tx/fq/ntrst_rts/menu-eng.html>.

55 ITA, supra note 3, para. 20(1)(nn).

56 The Model is based on the analysis of only one level of supplier. Considering suppliers of suppliers would exponentially affect the results.

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