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PRINCIPAL ISSUES:What are the types of expenses that would normally qualify as exploration costs under paragraph (f) of the definition of "Canadian exploration expense" in subsection 66.1(6) in the context of a mining project?
POSITION: See attached table.
REASONS: See attached table.

February 21, 2019

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Mining Expenditure Review Table

Further to our discussions with Industry Specialist Services and Natural Resources Canada, I am attaching a copy of the mining expenditure review table that describes expenditures that would normally qualify as exploration costs under paragraph (f) of the definition of Canadian exploration expense (CEE) in subsection 66.1(6) of the Income Tax Act (Canada). The table is intended as a guide only. The actual treatment of a particular expense incurred by a taxpayer will depend on the facts relevant to the particular situation and, therefore, may differ from that outlined in this table.

Yours truly,

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# MINING EXPENDITURE REVIEW TABLE

The purpose of this table is to describe expenditures normally qualifying as exploration costs under paragraph (f) of the definition of Canadian exploration expense (CEE).[1,2]

This table is intended as a guide only. The actual treatment of a particular expense incurred by a taxpayer will depend on the facts relevant to the particular situation and, therefore, may differ from that outlined in this table.

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Preliminary planning for a potential exploration activity to be undertaken** | | Expenditures incurred prior to carrying out a specific exploration activity would not meet the purpose test in paragraph (f) of the definition of CEE. | Section 9 current expense |
| **Area selection and review of existing data** | The review is done by geologists and would include subsurface mapping and identification of an area of interest. The data is also used to map and identify further exploration work that needs to be done. | | Para. (f) of the definition of CEE |
| **Airborne survey/satellite survey** | These surveys identify anomalies and reveal geological structures and/or lithologies associated with potential mineralization. They are used to identify targets for exploration and/or geological mapping. Airborne surveys at the preliminary stage are not for site survey. | They are to identify targets for further investigation for potential mineral deposits (existence and location). | Para. (f) of the definition of CEE |
| **Prospecting** | Locate and document anomalies and outcrops (showings). It helps determine the existence and location of mineral resource. | This activity is specifically enumerated in paragraph (f). | Para. (f) of the definition of CEE |

[1] All references to statutory provisions are to the Income Tax Act (Canada) (the Act).

[2] The definition of CEE is found in subsection 66.1(6) of the Act. In order to qualify as CEE, a mining expense must satisfy the purpose test stated in paragraph (f), i.e. the expense must be incurred "for the purpose of determining the existence, location, extent or quality of a mineral resource in Canada". Subparagraph (f)(vi) excludes any expense related to a mine that has come into production in reasonable commercial quantities or an extension of the mine.

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Environmental studies** | Environmental studies required to obtain exploration permits or conducted in relation to an exploration activity. | Before February 2015, expenses incurred for studies that were required to obtain exploration rights were treated as Canadian development expense (CDE)[3] under paragraph (e) of the definition of CDE. These studies are now specifically included in paragraph (f) with effect after February 2015.<br><br>See guidelines shared with the industry (document 2016-067590217 (E)) for further details. | Para. (f) of the definition of CEE |
| **Community consultations** | Community consultations required to obtain exploration permits, including public hearings and information sessions. | Before February 2015, expenses incurred for consultations that were required to obtain exploration rights were treated as CDE under paragraph (e) of the definition of CDE. These consultations are now specifically included in paragraph (f) with effect after February 2015.<br><br>See guidelines shared with the industry (document 2016-067590217 (E)) for further details. | Para. (f) of the definition of CEE |
| **Mining claims** | Once a claim has been staked, it must be registered with the mining registrar. | Mineral rights are Canadian resource property. They are treated as CDE under paragraph (e) of the definition of CDE. | Para. (e) of the definition of CDE |
| **Exploration permits** | Permits for exploration work must be obtained from the relevant province or territory. | | Para. (e) of the definition of CDE |

[3] The definition of CDE is found in subsection 66.2(5) of the Act.

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Geophysical surveys** | If undertaken during the time range of activities from prospecting to preliminary sampling[4]. | The purpose is to determine the existence, extent and location of a mineral resource. | Para. (f) of the definition of CEE |
| **Geochemical surveys** | If undertaken during the time range of activities from prospecting to preliminary sampling. | The purpose is to determine the existence, extent and location of a mineral resource. | Para. (f) of the definition of CEE |
| **Geophysical/geochemical interpretation, geological mapping and modeling** | If undertaken during the time range of activities from prospecting to preliminary sampling. | The purpose is to determine the existence, extent and location of a mineral resource. | Para. (f) of the definition of CEE |
| **Soil sampling** | Usually first step of preliminary sampling (soil samples, rock chip samples), preceding trenching and exploration drilling. | Samples are analysed to determine the quality of a mineral resource. | Para. (f) of the definition of CEE |
| **Trenching** | Trenches are dug to expose plunging bedrock from which samples are taken. | Samples are analysed to determine the quality of a mineral resource. This activity is specifically enumerated in the definition of CEE. | Para. (f) of the definition of CEE |
| **Digging test pits** | Same as trenching but in shallow and flat-lying mineralization. | Samples are analysed to determine the quality of a mineral resource. This activity is specifically enumerated in the definition of CEE. | Para. (f) of the definition of CEE |
| **Exploration drilling by different methods (diamond, percussion, rotary, reverse circulation, etc.)** | Drilling for exploration purposes to obtain samples, including site preparation. | The analysis of samples would indicate the existence, location, extent and quality of a mineral resource. | Para. (f) of the definition of CEE |

[4] Sampling procedures occur from discovery to end of mine production. Preliminary sampling under paragraph (f) of the definition of CEE refers to the collection and analysis of mineral samples undertaken for exploration purposes and normally carried out prior to a decision to bring a mine in production. However, in certain circumstances, preliminary sampling eligible under paragraph (f) could extend up to the commencement of commercial production if it is done for defining the mineral resource. If the sampling is done to help evaluating the economic viability or technical feasibility of a project, it is not eligible.

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| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Definition or infill drilling** | Drilling to confirm the presence of mineralization between exploration drill holes. | Drilling holes closer together helps determine the location and extent of a mineral resource and increase the level of geological confidence into inferred, indicated or measured resources.<br><br>Drilling into ore reserves after exploration to fine-tune the mining process or to help production planning would not be eligible. | Para. (f) of the definition of CEE if the purpose test is satisfied. |
| **Bulk sampling (reasonable sizes)** | Purpose:<br>- determine the effective grade (dilution)<br>- perform grinding tests<br>- determine whether any separation process (e.g. flotation or solvent extraction) allows minimum quality specifications | Part of preliminary sampling if it is not related to an existing mine or the extension of an existing mine. | Qualifies under para. (f) of the definition of CEE if the purpose is to test the physical and chemical characteristics (see Rulings 2006-0211941R3 (E)). However, if the purpose is to evaluate the optimal processing method, it will not qualify. |
| **Mineralogical analysis and assays** | Tests associated with the deposit in the ground. Samples are tested for elemental and mineralogical composition by microscope analysis, x-ray diffraction, fire assays, spectrometry, etc. | Tests associated with the initial assessment of the quality of a mineral resource, using samples. | Para. (f) of the definition of CEE |
| **Laboratory testing of drilling cores, including testing for trace elements** | Tests associated with the deposit to determine the grade and mineralogical composition of the mineral resource. | These tests only qualify if they are undertaken during the time range of activities from prospecting to preliminary sampling. | Para. (f) of the definition of CEE |
| **Resource estimation and deposit delineation** | Tests and analysis associated with the definition of the deposit in the ground. | Used to determine the location, spatial distribution, extent and quantity of the mineral resource.<br><br>Activities for reserve estimation are not eligible. Reserve estimation involves factors, such as processing, economic or social factors, to convert mineral resources into the mineral reserves. | Para. (f) of the definition of CEE |

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Deposit modelling and estimates of cut-off grade and estimation of geological continuity at the selected cut-off** | 3-D computer modelling uses data obtained from sampling activities to determine orientation, configuration and spatial distribution of a mineral deposit.<br><br>Serves to calculate quantity of resources for evaluation purposes. | Determination of configuration and continuity of deposit is an essential component of the determination of the location, extent and quality of a mineral resource.<br><br>Identification of location and configuration of parts of the deposit that meet minimum cut-off grade criterion helps determine extent and quality of the resource. | Para. (f) of the definition of CEE or section 9, current expense.<br><br>Work undertaken to determine the extent and quantity of the mineral resource would be CEE. |
| **Testing of ore and host rock stability/mechanical properties** | Testing (on or off site) of the mechanical properties of the ore and host rocks. This includes evaluation of strength and porosity of the ore. | Assessment of mechanical properties determines if mining is technically feasible. Geotechnical drilling to determine the location of a processing plant or tailing ponds does not qualify.<br><br>These tests only qualify if undertaken during the time range of activities from prospecting to preliminary sampling. | Para. (f) of the definition of CEE |
| **Testing of ore dilution** | Dilution is the amount of waste that will be mixed with ore as a result of extraction. | Testing of the physical material extracted from the sample, on or off site, is needed to determine the actual grade of ore.<br><br>These tests only qualify if undertaken during the time range of activities from prospecting to preliminary sampling. | Para. (f) of the definition of CEE |
| **Metallurgical testing – Grinding tests performed on core sample and/or bulk sample** | Testing of the physical material of the deposit, on or off site. Grinding tests evaluate ore breakability and hardness, and determine particle liberation size. | This serves to determine how difficult it will be to separate pay minerals from waste or contaminants, which is another component of the determination of the quality of the ore.<br><br>These tests only qualify if undertaken during the time range of activities from prospecting to preliminary sampling. | Para. (f) of the definition of CEE |

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Metallurgical testing performed on core sample and/or bulk sample (e.g., cyclone separation, gravity, flotation, cyanidation, solvent extraction, electro-winning, calcination, roasting) to determine recovery rate from separation** | Samples are tested, on or off site, to determine the physical and chemical properties of the resource. Metallurgical testing by separation processes is required to determine actual percentage of mineral contained in the ore that can be recovered. | Core and other samples are tested to determine the quantity and quality of the mineral resource.<br><br>Determination of the recovery rate evaluates the actual losses of pay material that are inherent with the separation process. Losses could occur as a result of the inability to separate pay minerals from contaminants or waste material. As such, it is a component of the determination of the quality of the mineral resource.<br><br>See Ruling 2014-0534121R3 (E). | Para. (f) of the definition of CEE.<br><br>Metallurgical testing will be allowed under para. (f) if it is undertaken for determining whether any processing method is feasible for separating the pay minerals/metals from the resource. If the testing is performed for determining an optimal method of separation (how to maximize value from processing), it will not be allowed.[5]<br><br>The allowable testing is included in para. (f) if undertaken during the time range of activities from prospecting to preliminary sampling. |
| **Pre-feasibility studies and feasibility studies** | These studies are defined by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM)[6]. CIM definitions are incorporated, by reference, into National Instrument 43-101, Standards of Disclosure for Mineral Projects (NI 43-101). Studies disclosed to shareholders must follow NI 43-101 and CIM standards. | These studies review a range of options for the technical and economic viability of a mineral project and would generally not meet the purpose test of paragraph (f).<br><br>Various types of feasibility studies may be prepared to enable the decision making process. Components of such studies would meet the purpose test where the costs are for the planning of exploration work, mineral resource estimation or the assessment of the physical and chemical characteristics of a deposit.<br><br>See guidelines shared with the industry (document 2016-067590217 (E)) for further detail on feasibility studies generally. | Generally an operating expense under section 9.<br><br>Para. (f) of the definition of CEE if the purpose test is met. |

[5] Usually pilot plant testing will not qualify under paragraph (f).

[6] The CIM Definition Standards for Mineral Resources & Mineral Reserves 2014 are available at: https://mrmr.cim.org/en/standards/canadian-mineral-resource-and-mineral-reserve-definitions.

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Preliminary economic assessment (scoping study)** | This study is defined in NI 43-101 as a study, other than a pre-feasibility or feasibility study, that includes an economic analysis of the potential viability of mineral resources. | The preparation of economic analyses does not meet the purpose test of paragraph (f).<br><br>Unless the costs are for the planning of exploration work, mineral resource estimation or the assessment of the physical and chemical characteristics of a deposit, these studies would not meet the purpose test of paragraph (f).<br><br>See guidelines shared with the industry (document 2016-067590217 (E)) for further detail on feasibility studies generally. | Generally an operating expense under section 9.<br><br>Para. (f) of the definition of CEE if the purpose test is met. |
| **Mine design studies/mine development studies** | Development of technical specifications of the different components of the mine workings and equipment and related infrastructures. | Assessment of mine development options and/or profitability of developing the deposit into a mine goes beyond the determination of the quality of a mineral resource.<br><br>Expense is normally part of the feasibility studies. | The expenditure would not meet the purpose test in paragraph (f) of the definition of CEE.<br><br>The cost could be:<br>- an operating expense under section 9 (for example, if incurred before a decision is made to bring the mine into production)<br>- CDE under paragraph (c.2) of that definition, i.e. an expense for the purpose of bringing a new mine into production (formerly paragraph (g) of the definition of CEE)<br>- Class 41 or 41.2 asset<br>- eligible capital expenditure (ECE) if the project does not go ahead |

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Evaluation of different technically feasible options for processing methods** | Evaluation of various milling methods to identify the optimal method. Metallurgical testing undertaken for determining an optimal method of separation (how to maximize separation). | Goes beyond the determination of the quality of a mineral resource.<br><br>Most evaluations are for the purpose of determining the economic viability/profitability of the project so these costs would be incurred before a decision to bring the mine into production has been made. | The expenditure would not meet the purpose test in paragraph (f) of the definition of CEE.<br><br>The cost could be:<br>- an operating expense under section 9 (incurred before a decision is made to bring the mine into production)<br>- Class 41 or 41.2 asset (e.g., detailed engineering of a particular method could be included in the cost of the asset).<br>- ECE if the project does not go ahead |
| **Process engineering studies (detailed separation process flow sheets, schedules to bring the ore to marketable product stage)** | Elaboration of detailed process flow sheets, construction schedules, etc., for costing purposes. | The activities are for the development of the processing and production method and do not meet the purpose test in paragraph (f). | The expenditure would not meet the purpose test in paragraph (f) of the definition of CEE.<br><br>The cost could be:<br>- an operating expense under section 9 if for determining economic viability<br>- Class 41 or 41.2 asset<br>- ECE if the project does not go ahead |
| **Mining engineer's costs to help establish unit cost of mining and processing** | Costing studies to assess the economic viability of the project or prepare shareholder information. | Goes beyond the determination of the quality of a mineral resource. The result of the work is an economic analysis and a report for management. | Generally an operating expense under section 9. |

# MINING EXPENDITURE REVIEW TABLE

| Expenditure | Description of what the expenditure is for | Additional explanation | How should it be classified under current legislation |
|---|---|---|---|
| **Financial estimates of capital and operating costs of the mine** | Costing studies to assess mine development options and/or profitability of developing the deposit into a mine. The detailed engineering work involved may relate to mine or equipment design. | Does not directly relate to work on the mineral resource itself or for determination of physical or chemical characteristics of the resource. | The expenditure would not meet the purpose test in paragraph (f) of the definition of CEE.<br><br>The cost could be:<br>- an operating expense under section 9 if for determining economic viability or reporting<br>- CDE under paragraph (c.2) of that definition, i.e. an expense for the purpose of bringing a new mine into production (formerly paragraph (g) of the definition of CEE)<br>- Class 41 or 41.2 asset<br>- ECE if the project does not go ahead |
| **Evaluation of transportation from the mine to the processing plant** | Identification and evaluations of transportation methods; estimate of capital and operating costs for each method. | Goes beyond the determination of the quality of a mineral resource. | The expenditure would not meet the purpose test in paragraph (f) of the definition of CEE.<br><br>The cost could be:<br>- an operating expense under section 9 if for determining economic viability<br>- depreciable property of a prescribed class<br>- ECE if the project does not go ahead |