ENTRANS
POLICY RESEARCH GROUP

Revenues to Governments from the Canadian Mineral Sector 2002-2011

Prepared for the Mining Association of Canada
by
ENTRANS Policy Research Group Inc.

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A PERSONAL NOTE

Over the past several years, we have prepared a number of editions of this report as well as other studies for the Mining Association of Canada. On all these projects it was our considerable honour and pleasure to work for Paul Stothart. Paul's professionalism, his cheerfulness and his interest in and enthusiasm for the work were always a motivation for us. Paul passed away earlier this year after a heroic battle with cancer. Like everyone else who had the good fortune to work with Paul, we will miss him.

Bill Toms
Neil McIlveen

1. Introduction

This report has been prepared by ENTRANS Policy Research Group for the Mining Association of Canada (MAC). Its purpose is to quantify the revenues to federal and provincial governments from the Canadian mineral sector over the period 2002 to 2011. It is an update to earlier ENTRANS studies[1].

The report focuses on three principal sources of direct payments by mineral sector companies and their employees:

- royalties and mining taxes paid to provincial and federal governments by virtue of their ownership of the resources
- corporate income taxes paid by mineral sector companies to both the federal and provincial governments
- personal income taxes paid by employees of mineral sector companies on their employment earnings.

The report does not cover corporate income tax payments made by companies in industries that either supply services to the mining industry or are dependent upon the mineral sector for material inputs – these are reported in their respective industries. Similarly, it does not include the personal income taxes paid by employees of such companies. Taxes levied by municipalities, such as property taxes, are also not included, although the reason here is more a practical one of data availability. Scattered evidence, however, suggests that such tax payments may be substantial.[2]

The information on royalties/mining taxes, corporate income taxes and personal income taxes is derived from a variety of sources including Statistics Canada, the budget papers or public accounts of provincial governments, corporate financial statements and direct contacts with officials from provincial governments and industry associations. While royalties/mining taxes and corporate income taxes are, in most instances, reported directly, personal income taxes paid by employees of mineral sector employees are estimated using data on employment, average annual earnings and the effective tax rates faced by taxpayers in the relevant income range.

The definition of mineral sector used in this report covers both the extraction of minerals and their primary processing (e.g. smelting, upgrading and refining). This definition reflects both the general reliance of domestic smelting, upgrading and refining on the output of extraction activity and the fact that many of the companies involved in mining are integrated with both extraction and processing operations. In North American Industrial Classification System (NAICS) terms, the mineral sector as defined in this report covers mining and quarrying (industry 212), oil sands mining (a sub-set of industry 211114 – non-conventional oil extraction), industry 327 non-metallic mineral manufacturing (industry 327) and primary metal manufacturing (industry 331).[3]

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[1] This report is the sixth in a series of annual reports commissioned by Mining Association of Canada on royalty and tax payments by the mineral sector. The most recent is *Revenues to Governments from the Canadian Mineral Sector: 2002-2010*, July 2011 which is available on the MAC website. There is a summary of the report's results included in Mining Association of Canada, *F&F 2011-Facts and Figures of the Canadian Mining Industry* at : http://www.mining.ca/www/media_lib/MAC_Documents/F&F2011-English.pdf).

[2] See for example, Syncrude Sustainability Report, 2008/09. at http://www.syncrude.ca/pdf/Syncrude-SD-report.pdf . The Syncrude project reports roughly $100 million in municipal taxes payments annually.

[3] See Annex A for a description of the NAICS -defined industrial composition of the mineral sector.

For the three digit NAICS industries, data on corporate income taxes, financial position, employment and earnings are readily available from Statistics Canada sources. This is not the case for oil sands mining. Oil sands mining is a sub-set of non-conventional oil extraction (NAICS 211114) which, in turn, is a sub-set of the Oil and Gas Extraction Industry (NAICS 211). Statistics Canada does not publish any of the required information at this level of disaggregation. In the past, we have relied on a survey of members conducted by the Oil Sands Developers Group (OSDG) as our primary source of information on corporate taxes paid by and employment in the oil sands mining industry (royalty data are available from the Canadian Association of Petroleum Producers (CAPP)). Unfortunately, OSDG has decided to discontinue this survey. We have, as an alternative, utilized a mix of available public information on the four producing oil sands mining projects, an informal survey of MAC members involved in these projects and several assumptions to develop corporate income tax estimates for 2010 and 2011. While we believe the resulting estimates are reasonable, they are based on judgement and should be viewed more cautiously than the equivalent data on the other industry segments from Statistics Canada.

Following a brief context-setting overview of industry developments in 2011, the report discusses the results in each of the following sections:

- Royalties, Mining Taxes and Similar Payments to Governments
- Corporate Income Taxes Paid to Governments
- Personal Income Taxes Paid by Mineral Sector Employees
- Summary of Revenues to Governments

Annex A provides a description of the NAICS – defined industrial composition of the mineral sector. Annex B provides the full detail of and sources for the estimates of royalties/mining taxes, corporate income taxes and personal income taxes for the period 2002-2011. Finally Annex C offers an initial analysis of effective marginal and average royalty/mining tax rates by province.

2. Industry Developments in 2011

Royalties, taxes and similar payments to governments can be affected by policy changes to the fiscal terms and by changes in the economic environment in which the industry operates. On the policy side, there were relatively few changes in 2011. The most consequential was the previously-announced reduction in the federal corporate tax rate from 18 percent in 2010 to 16.5 percent in 2011.

On the economics side, 2011 continued the relatively strong recovery of the mineral sector which began in 2010. As shown in table 1, prices of several important Canadian minerals –gold, copper, potash and uranium – increased sharply in 2011. Potash and uranium, in particular were recovering from steep price declines in 2010. Nickel, coking coal, iron ore and zinc prices increased modestly. Scotiabank's Metals and Minerals Price Index suggests an overall increase in mineral prices of about 13 per cent.

Prices for Alberta light and medium crude were 21.7 percent higher in 2011 compared to 2010. Bitumen prices, however, rose by only 11.7 percent reflecting the increasing problems of transporting bitumen and synthetic crude to U.S. markets. Refined metal prices increased 8.5 percent partly on the strength of a 10 percent rise in aluminum prices.

GDP for the mineral sector excluding oil sands (a measure of real output) increased by only 3.5 percent in 2011. The largest gain – of just over 5 percent– was recorded in mining and quarrying – the extraction component of the sector. Based on data from the Alberta Energy Resources Conservation Board, mined bitumen production increased by only 4 percent in 2011.

For the mineral sector excluding oil sands, the combination of higher prices and expanding output resulted in a 21 percent increase in the value of Canadian mineral production in 2011 relative to 2010. Partly as a consequence, before-tax profits for the sector increased by almost 24 percent. Industry employment also increased modestly from 163.3 thousand to 167.9 thousand.

Table 1
Mining Industry Economic Indicators, 2011

Mineral Prices (percent change over 2010)			
Gold	28.1		
Nickel	5.0	Light & Medium Crude	21.7
Copper	17.0	Bitumen	11.7
Iron Ore	1.0	Aluminum	10.1
Zinc	1.0	Primary Metal Products	8.5
Potash	38.8	Scotiabank Metals and Minerals Price Index	12.9
Uranium	22.8		
Diamonds	16.1		
Coking Coal	7.8		

GDP/Production (percent change over 2010)	
• Mining and Quarrying	5.2
• Non-Metallic Mineral Products	1.3
• Primary Metal Manufacturing	3.1
• Total Mineral Sector	3.5
• Mined Bitumen Prod.	4.1

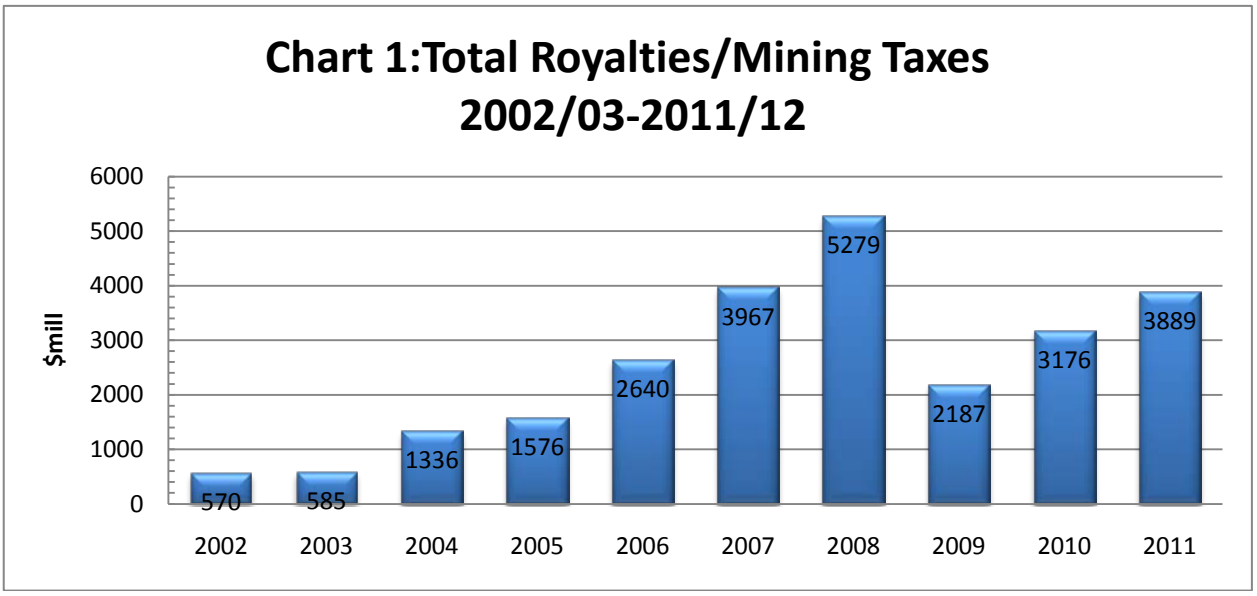
Value of Mineral Production	$ Billion	41.6 to 50.3 = 21.0%
Pre-Tax Operating Profits	$ Million	16000 to 19800 = 23.7%
Employment	000s	163.3 to 167.9 = 2.8%

Notes:
All percentage increases are, as far as possible, comparisons of the average value in 2011 to the average value in 2010. Values of mineral production, Pre-tax operating profit and employment data do not include oil sands mining.
Sources:
Mineral Prices – Statistics Canada for iron ore, aluminum and the primary metal products index; Natural Resources Canada for diamonds and potash; www.steelonthenet.com for coking coal; Alberta Energy Resources Conservation Board for light and medium crude oil and bitumen; all others, including the Metals and Minerals Price Index from Scotiabank Economics, in particular, its *Commodity Price Index Report*, February 28, 2012.
GDP/Production – Statistics Canada (http://www.statcan.gc.ca/pub/15-001-x/15-001-x2012003-eng.htm), Alberta Energy Resources Conservation Board.
Value of Mineral Production – Natural Resources Canada.
Pre-tax Operating Profits and Employment – Statistics Canada.

3. Royalties and Similar Payments to Governments

Canadian mineral producers pay royalties, mining taxes or similar charges to provincial and federal[4] governments in their capacity as owners of the mineral resource. Chart 1 below provides an overview of such payments for the fiscal years 2002/03 to 2011/12 (full details and sources by jurisdiction for Chart 1 and Table 2 are provided in Annex B).

The information available covers all mining activity in Canada including metallic minerals, non-metallic minerals (e.g. potash, gypsum), sand and aggregates and crude oil from oil sands mining operations. As noted earlier, the data reflect, as far as possible, payments made to governments in their role as resource owner. Excluded, in principle, from the revenues are payments such as licensing fees, lease acquisition and retention charges, rentals etc. Although provinces typically show such payments as revenue, they are made in return for a service for which the province must assign resources. Because of the way information is reported, however, it is sometimes not possible to separate the revenues from fees from those from royalties/mining taxes.



Between 2002/03 to 2008/09, royalty/mining tax payments increased almost tenfold - from $570 million in to $5.3 billion. This growth reflected a combination of higher commodity prices, higher effective royalty rates and, for some minerals, significant increases in production. Two jurisdictions – Alberta and Saskatchewan – were responsible for about three quarters of the increase.

The 2009/10 figure mirrors the international recession which began in late 2008 and the associated steep declines in most mineral prices. In 2009/10, overall royalty and mining tax payments to governments plummeted by over $3.5 billion or almost 60 percent compared to 2008/09. All jurisdictions except Quebec recorded reductions in royalties/mining tax receipts. For most, including

[4] The federal government is currently the resource owner in Nunavut and the North West Territories and, via Aboriginal Affairs and Northern Development Canada, receives royalties on mineral production in these territories.

Newfoundland and Labrador, New Brunswick, Ontario, Manitoba, Saskatchewan[5] and Alberta – the reductions were extremely steep.

Royalties and mining taxes began their recovery in 2010/11 increasing from $2.2 billion to $3.2 billion. They increased again by a further 22 percent in 2011/12 to $3.9 billion. The royalties and mining taxes paid this year were well above the 10 year average.

Table 2 below focuses more closely on the jurisdictional sources of the increases in royalties/mining taxes in recent years. Also included in Table 2 are an indication of the most important minerals by value in each jurisdiction and a noting of the legislation/regulations under which the payments are collected.

Table 2
Royalties, Mining Taxes and Similar Payments by Mineral Sector to Governments
(2009/10 to 2011/12)

	Major minerals[1]	Instrument	2009/10	2010/11	2011/12
Nfld. & Labrador	Iron ore, nickel	Mining and Mineral Rights Tax	**138.9**	**171.9**	**287.7**
Nova Scotia	Cement, stone, gypsum	Gypsum tax, coal royalties	**2.2**	**1.4**	**1.2**
New Brunswick	Zinc, silver, lead	Metallic Minerals Tax	**43.8**	**20.0**	**48.0**
Quebec	Gold, nickel	Mining Duties Act and Mining Act	**114.2**	**323.7**	**353.0**
Ontario[2]	Gold, nickel, copper	Mining Tax	**16.0**	**72.0**	**180.0**
Manitoba	Nickel, copper	Mining Tax	**10.0**	**21.0**	**35.0**
Saskatchewan	Potash, uranium	Potash, Uranium & Other Minerals Royalties plus mineral portion of Resource Surcharge	**86.5**	**649.9**	**829.3**
Alberta	Bitumen	Oil Sands Mining Royalties	**1366.0**	**1409.3**	**1637**
	Coal	Coal Royalties	**27.0**	**35.0**	**42.0**
British Columbia	Coal, copper	Mineral Tax and Mineral Land Tax	**292.1**	**363.9**	**357.7**
Yukon	Copper, gold	Land and Mineral Leases and Royalties	**0.3**	**0.3**	**0.2**
NWT and Nunavut[3]	Diamonds, gold	Royalties from Mineral Resources	**90.4**	**108.0**	**118**
Total Mineral Sector			**2187.4**	**3176.4**	**3889.1**

Notes:
1. Ranked by 2011 value of production from Natural Resources Canada
2. Diamond royalties from Ontario's only producing mine (the Victor Mine) are confidential and are not available to be included in Mining Tax revenues
3. Data for Nunavut and NWT are not provided separately to preserve confidentiality.
Sources: See Annex B, Table B1

Alberta and Saskatchewan account for a large portion of royalties/mining taxes – 64 percent in 2011/12 – so the results for these provinces strongly influence the total. The overall increase in royalties/mining taxes between 2010/11 and 2011/12 was $713 million (i.e. from $3176 million to $3889 million). The

[5] For Saskatchewan, the steep decline in 2009/10 in resource revenues was due to the collapse in both potash prices and volumes, exacerbated by a refund to producers of advanced royalty payments based on anticipated higher prices.

increase was shared fairly broadly by four provinces. Royalty/mining tax revenues were up substantially in Newfoundland and Labrador (almost 70 percent on the strength of higher iron ore and nickel prices and increased volumes from the Voisey's Bay operation. In Saskatchewan royalties increased almost 30 percent as a result of higher potash and uranium prices. Ontario's annual revenues more than doubled (from $72 million to $180 million) probably as a result of higher gold and copper prices.[6]

Finally, Alberta's oil sands mining royalties increased from 2010 to 2011 by about 16 percent (from $1409 million to $1637 million). This seems to be a relatively modest increase given the almost 22 percent increase in international crude prices in 2011. It is, however, slightly higher than the 12 percent increase in bitumen prices. The lower bitumen price increase reflects the increasing problems of exporting synthetic crude and bitumen to the United States. In addition, Canadian Natural Resources' Horizon Project suffered a fire in February 2011 and was shut down for almost six months.

Only Quebec and British Columbia did not experience a significant increase in royalty/mining tax receipts in 2011/12. For B.C., coal royalties increased but that was more than offset by a decline in other mineral taxes. For Quebec the reasons are less clear. Prices for both gold and nickel, the province's major minerals, increased significantly in 2011. Possibly, the relatively small increase in mining tax duties reflects the development of several major projects and the associated capital deductions.

4. Corporate Income Taxes Paid to Governments

Mineral sector companies pay corporate income taxes (CIT) to both the federal and provincial governments. Chart 2 shows trends in such payments over the past decade (for full detail on corporate income tax data, estimates and sources, see Annex B, Table B2).

Total corporate income taxes paid by the mineral sector tripled – from $1.4 billion to $4.2 billion - between 2002 and 2007 largely reflecting the profitability of the industry during the commodity price boom. CIT payments fell about $1 billion in 2008, then plummeted a further $2.2 billion in 2009 reaching a decade low of $1.1 billion as the financial crisis and associated collapse in mineral prices took hold. Reflecting the profit sensitive nature (and resulting volatility) of the CIT system, payments by the sector increased to $2.4 billion in 2010[7] and to an estimated $3.2 billion in 2011 (an increase of 32 percent over the previous year).

Over the decade the federal share of corporate income tax revenues has fallen from roughly 70 percent to about 60 percent of the total. Given the essentially similar definition of the tax base (except for Quebec), the trend in shares largely reflects changes in tax rates and selected tax credits. The reduction in the federal rate –from 19 percent in 2009 to 16 percent in 2011 is at least partly responsible for the downward trend in the federal share.[8]

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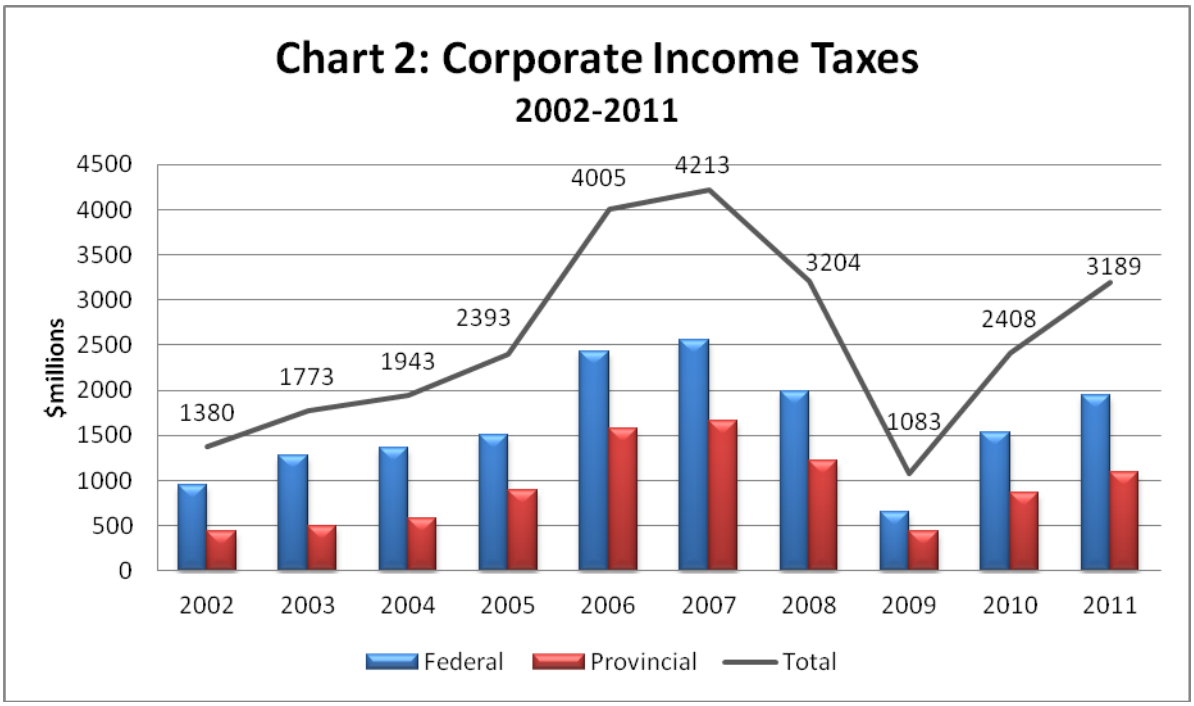
[6] The figures for Ontario are the highest reported in the last decade and would be even larger if public information were made available on the royalties paid by the new Victor diamond mine operated by DeBeers. The amounts paid by this operation are confidential and are not included in any of our historical data.

[7] It should be noted that in the report done last year by ENTRANS we had estimated that total CIT revenues for 2010 would be about $3.1 billion. With final tax data from Statistics Canada now available and other adjustments to the original CIT estimate for oil sands mining the total CIT paid in 2010 has now been reduced to $2.4 billion

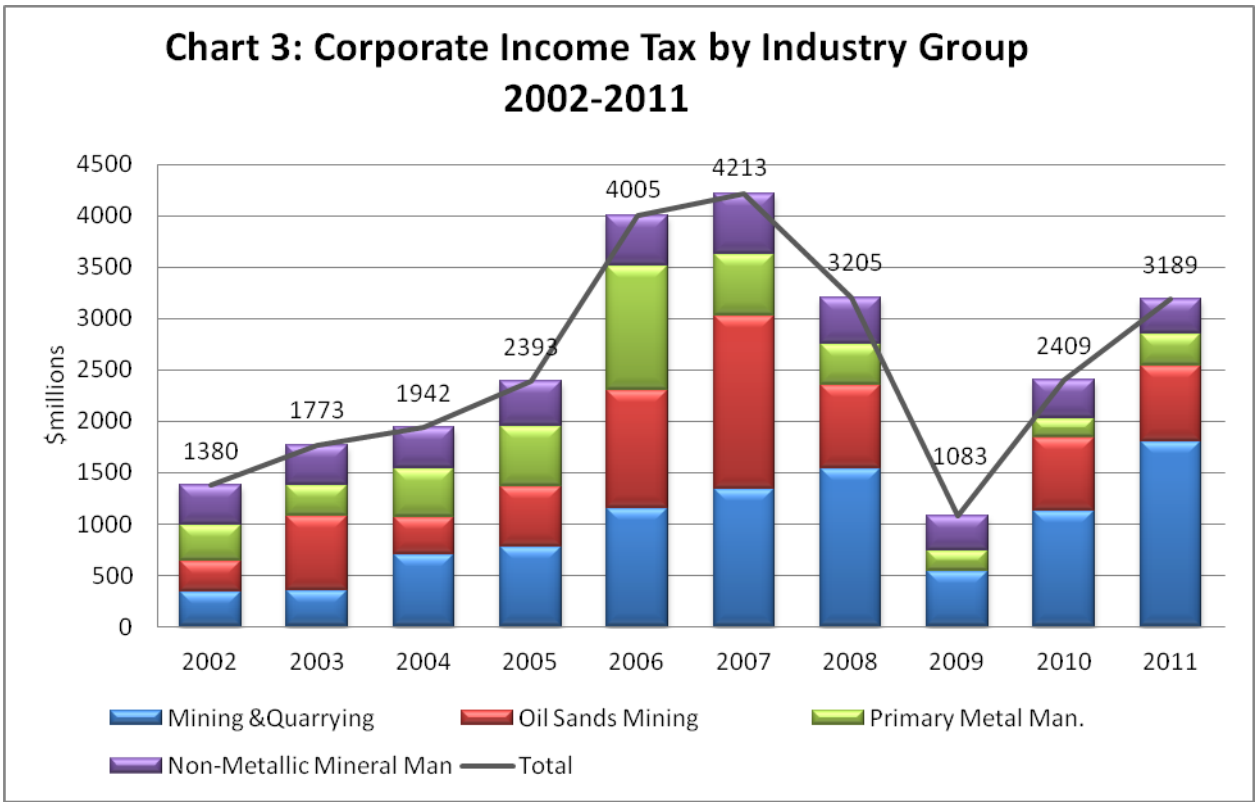
[8] However, the Ontario corporate income tax rate was also reduced over this period, from 14 percent in 2009 to 11.75 percent in 2011. Further reductions in the Ontario provincial CIT rates have been postponed.



To better understand the pattern of CIT payments by the mineral sector over the decade, Chart 3 below disaggregates the payments by component industry. Three caveats are in order before discussing this disaggregation. First, as noted earlier, the corporate income tax information for oil sands mining is less robust than that for the other component industries. For the years up to 2009 it is obtained from surveys and related analysis undertaken for the Oil Sands Developers Group (OSDG) or its predecessor organization the Athabasca Regional Issues Working Group. OSDG has decided to no longer undertake this survey. Therefore, for 2010 and 2011, the estimates are developed from a variety of publicly available information on the four producing oil sands mining projects, an informal survey of MAC members involved in these projects and several assumptions. The estimation process is described in Annex B in the notes to Table B2.

Second, there may be overlaps across the industry components. The tax and financial data published by Statistics Canada is derived from tax filer information as reported to the Canada Revenue Agency on a corporate legal entity basis. The reporting corporate entity is assigned to an industry on the basis of the activity that contributes the most to the firm's value added. Thus a corporation assigned to Primary Metal Manufacturing (NAICS 331) because the majority of its activity is smelting and refining may also have a mining operation as large, if not larger, than the firms assigned to Mining and Quarrying (NAICS 212).

Third, as indicated in the footnotes to Table B2, the 2011 values for mining and quarrying, non-metallic mineral products manufacturing and primary metals manufacturing are estimates derived from projecting the 2010 values forward using the 2010 to 2011 percentage change in the provision for current taxes from quarterly financial data. As estimates, they seem reasonably reliable. They are not, however, final recorded values compiled from tax returns. The final tax-return based data for 2011 will not be available until around March 2013.



With these cautions in mind, it is clear that the extractive components of the sector – mining and quarrying and oil sands mining – have been responsible both for most of the increase in CIT payments and for the volatility in such payments over the decade. In the early years, these two industries accounted for about 50-55 percent of total corporate income taxes paid. In the last two years the share has climbed to about 75 percent. The smaller contribution of the "downstream" components of the industry indicates the contraction in smelting and refining over the period.[9] The volatility is best seen in the results for 2009 during the financial crisis and the collapse of mineral prices. In that year, corporate tax payments from the mineral sector dropped $2.1 billion. Mining and Quarrying was responsible for 47 percent of that decrease with Oil Sands Mining accounting for a further 38 percent. According to the OSDG estimates, oil sands mining paid no corporate income tax in that year.

Turning to the 2011 results, we estimate that corporate income tax payments by the mineral sector increased by $731 million from 2010 (i.e. from $2408 million to $3189 million). Mining and quarrying was responsible for most of this increase ($664 million) reflecting both higher metals prices and increased production, followed by primary metal manufacturing ($127 million). CIT payments by the non-metallic mineral products component of the sector actually declined slightly. The absence of a significant increase in taxes paid by oil sands mining is related to several factors including the fire and subsequent six month shutdown of the Horizon project and Suncor not being in a cash tax position on its Canadian upstream operations.[10]

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[9] Both primary metals manufacturing and non-metallic mineral manufacturing have experienced a decline in output (as measured) by GDP over the past decade. See Statistics Canada, *Gross Domestic Product by Industry*, Cat 15-001X

[10] In the Annual Information Form dated March 1, 2012, Suncor indicates that "in 2011, Suncor --- was not cash taxable on the majority of its Canadian earnings". Based on projected future earnings, the company estimates that "it may be cash

5. Personal Income Taxes Paid by Mineral Sector Employees

This section provides annual estimates of the personal income taxes paid by mineral sector employees to both the federal and provincial governments for the 10 year period 2002-2011. Chart 4 shows PIT paid by employees of mining companies to both levels of government in Canada[11] while chart 5 dis-aggregates the estimates by component industry group. Full detail, methodology and data sources are provided in Annex B, Table B3.

It is important to note that the personal income tax numbers provided in this section are not reported directly. Rather they are estimates derived from statistical data. Unlike royalties and corporate income taxes, there is no reporting of the personal income tax paid by employees working in specific industries. To develop these estimates, it was necessary to combine calculated values of annual earnings, effective tax rates derived from tax filer data, and data on industry-level employment. Each of these components is grounded on solid, available data. However, several assumptions must be accepted in combining this information.[12]

The main data ingredients for the calculations and the results are shown in Annex B, Table B3. The computation begins with estimates, from Statistics Canada, of average annual earnings of employees in the four industry components of the mineral sector. For the period 2002-2011, average annual earnings were generally in the $40 000 to $50 000 range for non-metallic mineral product manufacturing (NMMP), in the upper $50 000 –lower $60 000 for primary metals manufacturing and $50 000 to mid - $70 000 for mineral extraction. Earnings increased significantly for oil sands mining workers, from $74 000 in 2002 to an estimated $115 000 in 2011.[13]

The Canada Revenue Agency (CRA) publishes annual information on employment and other income earned, deductions, credits and federal and provincial income tax paid by tax filers generally in income ranges of $10 000. Utilizing the relevant ranges, one can construct an approximate effective tax rate, defined as income tax paid as a percentage of total income, for both federal and provincial personal taxes. The assumption implicit in this approach is that an employee in each component of the mineral sector has the same "tax" characteristics – in terms of other income sources, RRSP contributions, personal deductions, etc - as all taxpayers in the relevant income range. The most recent CRA data on tax filers is for 2009. However, the calculations for the period 2002-2009 suggest that the effective rates for the various income ranges have not changed appreciably. Thus we have assumed in the calculations that the 2009 effective rates for given income ranges also apply to 2010 and 2011.

Applying these calculated average tax rates to average earnings yields estimates of federal and provincial tax payments per employee. Multiplying these estimates by the number of employees (also from Statistics Canada except for the estimates for oil sands mining) generates estimates of total personal income taxes paid by employees of companies in the mineral sector.

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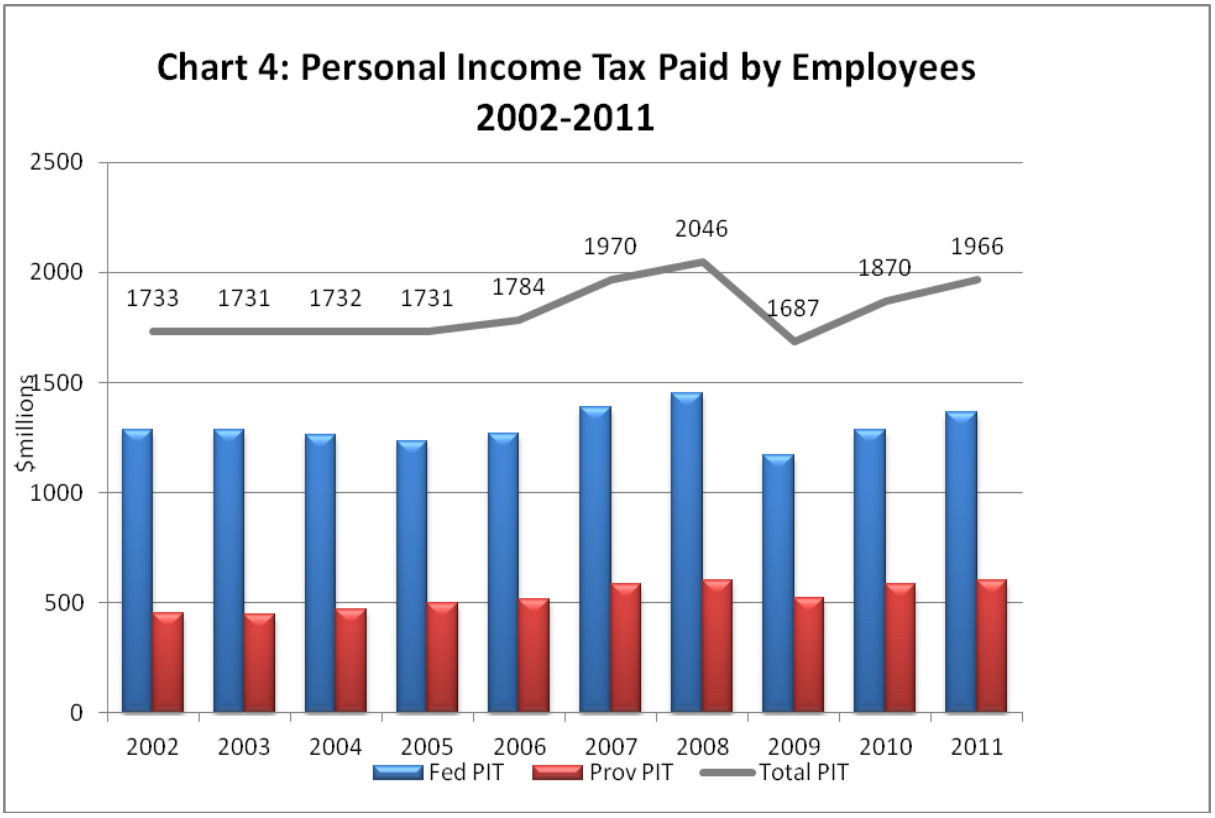
taxable in Canada by 2013". See Suncor Energy's *Annual Information Form Dated March 1, 2012* at http://www.suncor.com/pdf/Suncor_AIF_2012_en.pdf, page 47.

[11] As noted earlier these estimates do not include *employer* contributions to either EI or CPP/QPP

[12] A further caveat is that all of the PIT estimates relate only to employees who work for enterprises directly involved in the mineral sector. They do not include income taxes paid by employees from other companies providing goods or services to mining enterprises on a contract basis. Thus, for example, workers constructing mine shafts or removing overburden on a contract basis are not included in mining employment, but, rather are classified as employees of the construction industry.

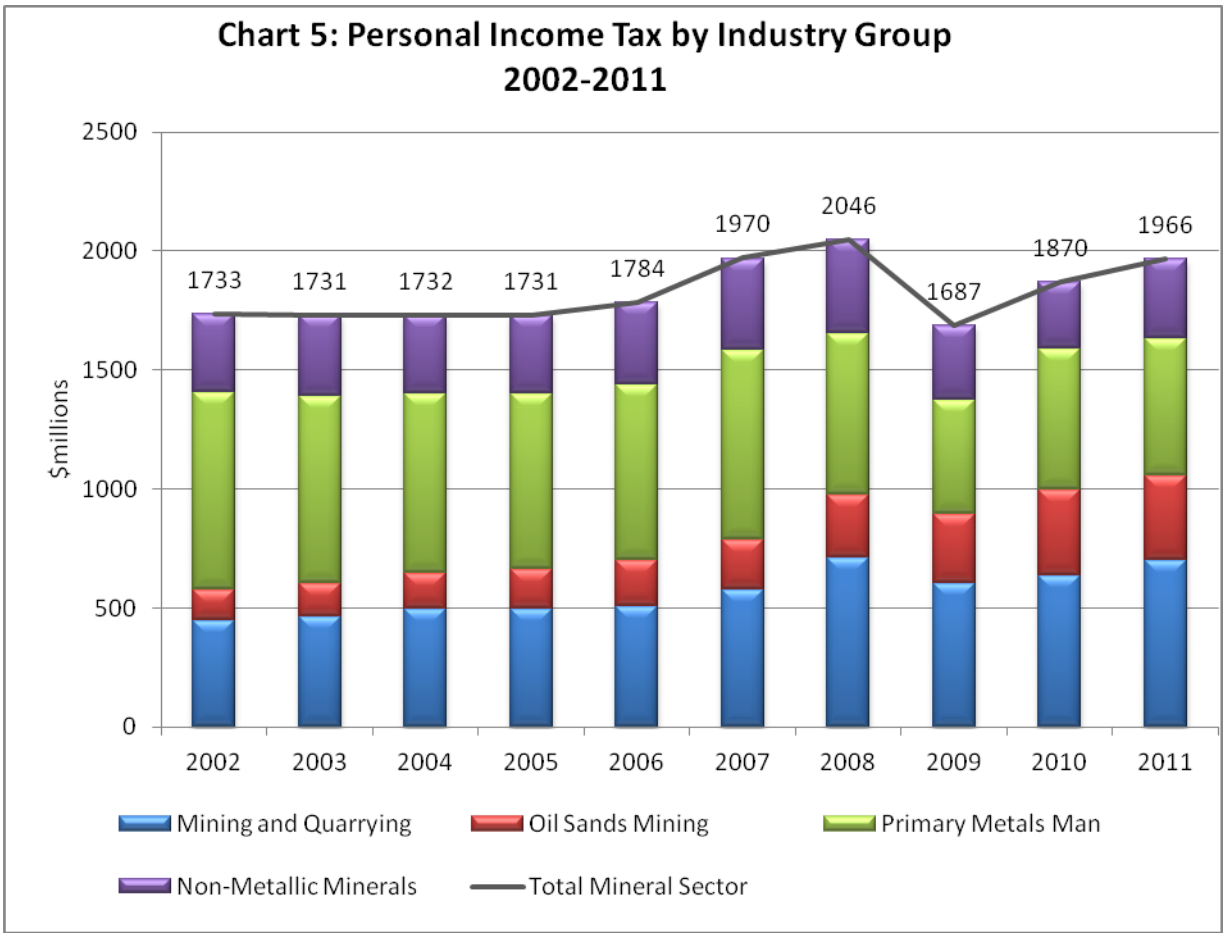
[13] These figures may be an underestimate for oil sands mining workers. In the absence of information on the earnings of these workers, we are using the earnings of all oil and gas industry workers in Alberta as a proxy. See the notes Table 4.



Focusing on Chart 4, income tax payments from mineral sector employees were essentially constant, at about $1.7 billion annually throughout the first half of the decade. They increased to $2.0 billion in 2008 before falling back to a little less than $1.7 billion during the economic troubles of 2009. Thereafter they have recovered somewhat to slightly under $2.0 billion in 2011 (a 5 percent increase over 2010). About 70 per cent of the payments go to the federal government reflecting, primarily, the difference in federal and provincial personal income tax rates.

The first observation is the relative stability of PIT revenue flows even during the downturn of 2008/09. While collections decreased during this time period due to the reduction in employment the reduction was much less than corporate income taxes and royalties. A second observation is the slight increase in the proportion of total personal income tax that is being collected by the provinces.

Chart 5 below shows the PIT collected by industry segment over the same time period. Although oil sands employees have higher earnings and their income tax paid has increased over the time period, it is the more numerous employees in the mineral extraction and primary metals industries that still contribute more through their PIT. It is also clear that the latter industry has been contributing a declining share over the decade reflecting its reduced economic contribution. The same is true of the smaller non-metallic minerals industry.



From Table B3 in Annex B, it is clear that the source of the 2009 decline in personal income tax collections is the significant reduction in employment. Overall in 2009 the sector lost over 20,000 jobs (down from 192 to 174 thousand). The reductions were particularly large in primary metal manufacturing accounting for almost half of the lost jobs. In both 2010 and 2011 the economic recovery resulted in more employment. There was a 2.6 percent increase in employment in both 2010 and 2011. This translates into about 4,500 new jobs in each of the two years. Most of the recovery has come in the mining and quarrying sector. While total personal income tax collected from the employees in the sector increased again in 2011 relative to 2010 levels, the level of personal income tax revenues is still below the estimated collections in 2008. One factor may be reductions in personal income tax rates in some jurisdictions.

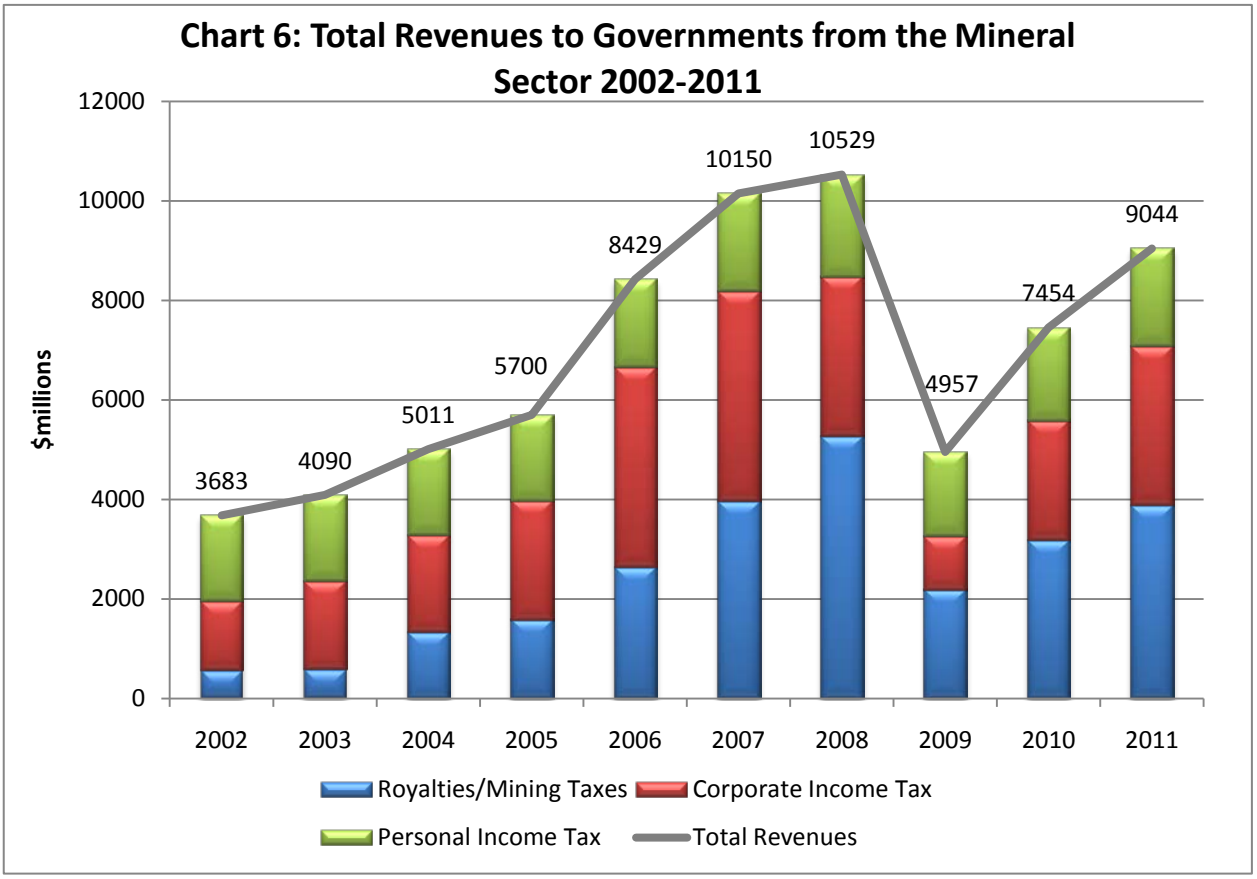
6. Summary of Revenues to Governments

This section aggregates the estimates from the previous sections to provide the total revenues received by governments from the mineral sector and its employees over the past decade from royalties and mining taxes, corporate income taxes (CIT) and personal income taxes (PIT). The information is provided in both graphical (Chart 6) and tabular form (Table 3). [14]

[14] Although it extends considerably beyond mineral processing, the Fabricated Metal Product Manufacturing Industry (FMPM -NAICS 332) can, for some purposes be included in the mineral sector (Natural Resources Canada refers to it as the quaternary segment of the mineral sector). Using the same approach and sources as in this report, total revenues to

Total mineral sector revenues to governments almost tripled from 2002 to 2008 reaching $10.5 billion in the latter year. About two-thirds of this increase was accounted for by increases in royalties/mining taxes with higher corporate taxes being responsible for most of the remainder.

In 2009, the situation changed dramatically. As a result of the U.S. financial crisis and generally collapsing metals, oil and potash prices, revenues to governments plummeted by more than one-half, to $4.9 billion in 2009 from $10.5 billion in 2008. A $3.1 billion drop in royalties/mining taxes accounted for about 60 percent of the overall reduction. However, corporate taxes also declined appreciably, by about $2.1 billion, and even personal income taxes fell by about 18 percent largely as a result of an employment contraction in the industry. However, the fact that royalty/mining taxes absorbed about 60 percent of this decrease underscores the profit-sensitive nature of most provincial royalty systems.



Total payments to governments recovered to $7.5 billion in 2010 and continued to increase to over $9.0 billion in 2011. The primary reasons for the increase in 2011 are economic. Buoyed by generally higher metals prices and increased production, the value of non-oil sands mineral production rose about 21 percent in 2011. Corporate pre-tax profits correspondingly increased about 24 percent. Slightly more than half of the 2011 increase in overall revenues was due to higher corporate taxes generated chiefly

governments from the FMPM in 2011 are about $2 billion, split evenly between CIT and PIT. The federal and provincial shares are $1.3 billion and $0.7 billion respectively

by the extractive (e.g. mining and quarrying) component of the sector. Royalty/mining tax payments increased by just over $700 million with most of the increase coming from Alberta (bitumen) Saskatchewan (potash), Newfoundland and Labrador (nickel, iron ore) and Ontario (gold).

Throughout the first part of the decade, personal income tax collections from mineral sector workers have been relatively flat at around $1.7 billion annually. They increased to about $2.0 billion in 2008 on the strength of increased employment, then fell back during the financial crisis. The recent increase to just under $2.0 billion appears to reflect higher total payroll earnings in the mineral extraction and non-metallic mineral manufacturing sectors.

Table 3 below also provides information on the changing federal-provincial distribution of mineral sector revenues. The provincial share of the revenues increased significantly from 39 percent of the total in 2002 to a peak of 66 percent in 2008. This increased provincial share is not surprising given the substantial increases in royalties over that period. In 2009, the provincial share fell to about 61 percent largely as a result of the collapse in potash and oil sands mining royalties. The provincial share has remained around this percentage in 2011 and 2012. This is despite the smaller federal share of corporate income tax revenues related to the reductions in the federal tax rate during these years.

Table 3: Total Revenues to Governments from the Mineral Sector
2002 - 2011

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
	$ millions										
Royalties/Mining Taxes	570	586	1336	1576	2640	3967	5279	2187	3176	3889	25206
Corporate Income Tax	1380	1773	1943	2393	4005	4213	3204	1083	2408	3189	25591
Personal Income Tax	1733	1732	1732	1731	1784	1970	2047	1687	1870	1966	18252
TOTAL	**3683**	**4090**	**5011**	**5700**	**8429**	**10150**	**10529**	**4951**	**7454**	**9044**	**69049**
-of which federal	2244	2609	2760	2799	3707	4005	3547	1905	2931	3420	29927
-of which provincial	1439	1481	2251	2901	4722	6145	6982	3046	4523	5624	39091
Provincial share (%)	39.1	36.2	44.9	50.9	56.0	60.5	66.3	61.5	60.6	62.1	56.6

Notes: Most royalty estimates are provided on a fiscal year basis while the estimates for corporate and personal income taxes are for calendar (taxation) years. The federal share includes federal corporate income and capital taxes, federal personal income taxes paid by mining employees and mining royalties generated in the Northwest Territories and Nunavut. The provincial share includes all royalties and mining taxes to provinces and to the Yukon, provincial corporate income and provincial personal income taxes paid by mining employees.
Sources: Annex B, Tables B1, B2, B3

Finally, we now have accumulated a ten-year data set on revenues to government. So, it may be appropriate to note in conclusion that the mineral sector has contributed about $69 billion to government treasuries over the past 10 years - $30 billion to federal and $39 billion to provincial coffers.[15] These are not insignificant sums representing, respectively, about 1.3 percent of federal and 1.9 percent of all own-source provincial revenues for the period.[16] For mineral-rich provinces, the percentage would likely be considerably higher.

[15] As noted earlier these estimates do not include the employer's portion of CPP/QPP and EI payments, excise taxes, any non-harmonized provincial sales taxes or other taxes on business inputs. The B.C. carbon tax is also not included.

[16] Federal and provincial revenues from Finance Canada, Fiscal Reference Tables, October 2011 and Fiscal Monitor, March 2012 available on the Finance Canada website (www.fin.gc.ca)

ANNEX A:

INDUSTRIAL COMPOSITION OF THE MINERAL SECTOR

For its corporate and personal tax estimates, this report relies heavily on financial and employment and earnings data generated by Statistics Canada. These data are organized by industry using the North American Industrial Classification System (NAICS). The objective of this annex is briefly to describe the NAICS industrial composition of the mineral sector as defined in this report. It also touches on the reasons for the somewhat different approaches to obtaining corporate and personal tax estimates for oil sands mining.

NAICS Background[17]

The NAICS system is organized as a numeric hierarchical code in which additional digits indicate further disaggregation. The one digit level – e.g. 3 for manufacturing, 4 for trade, 5 for a grouping of communications and financial services activities, is for highly aggregated information. The two digit level – e.g. 21 for mining, quarrying and oil and gas extraction industries, 31 to 33 for various broad categories of manufacturing, 61 for educational services – allows further disaggregation. Most familiar is the 3 digit level which, for example, breaks down manufacturing into 21 separate industries e.g.: Food Manufacturing (NAICS 311), Paper Manufacturing (NAICS 322), Computer and Electronics Manufacturing (NAICS 334). There are further dis-aggregations possible within the NAICS system to the 4^{th}, 5^{th} and for certain industries a 6^{th} digit. For example, Food Manufacturing (NAICS 311) is further divided, to the four digit level, into animal food manufacturing, grain and oilseed milling, sugar and confectioneries, fruit and vegetable processing, dairy products, meat and meat products, seafood products, bakeries and other.

The four and higher digit dis-aggregations are mostly for description. While some industrial data are available from various censuses (e.g. Census of Manufacturing) and specialty publications at the 4 digit level, annual time series data – in particular financial data – for industries are only reported at the 3 digit level.

As indicated in the text, our NAICS definition of the mineral sector comprises NAICS 212 –Mining and Quarrying, NAICS 327 -Non-Metallic Mineral Manufacturing and NAICS 331 – Primary Metal Manufacturing and the oil sands mining sub-set of NAICS 211114 – Non-conventional Oil Extraction As discussed below, however, oil sands mining is a subset of the oil and gas industry (NAICS 211) and the tax, employment and earnings data for this subset must be obtained by other means.

The definition of mineral sector captures both the extraction (NAICS 212) and the smelting, refining and processing of minerals (NAICS 331 for metals and NAICS 327 for non-metals). The definition also addresses the assignment issue for integrated companies. The statistical unit for the financial data is the enterprise. Within the context of this report, an enterprise may operate a mine and a smelter (and either as separate corporations or as establishments). Statistics Canada determines the NAICS category for each of these sub-entities, then assigns the reporting enterprise (and all of its data) to one industry based on the greatest value added – i.e. to NAICS 212 or NAICS 331/327 depending on whether the extraction or the smelting contributes more to net firm output.) Combining the extraction and

[17] For additional information on NAICS, see Statistics Canada, *North American Industrial Classification System 2007*, http://www.statcan.gc.ca/subjects-sujets/standard-norme/naics-scian/2007/list-liste-eng.htm

smelting/refining industries ensures (or, at least, makes much more likely) that all of the data for integrated mining minerals companies are included.

Table A1 below lists the 4 and 5 digit (and occasionally 6 digit) sub-components of, respectively, NAICS 212, NAICS 327, NAICS 331 and the oil sands mining subset of NAICS 211114. As can be seen, the mineral coverage of the NAICS extraction industry, which includes both established producers and junior exploration companies, is very complete. Similarly, the coverage of metal smelting and refining in NAICS 331 seems comprehensive. NAICS 327 (Non-Metallic Mineral Products Manufacturing) does appear to move somewhat far into fabrication and transformation (e.g. glass, clay products). It is, however, the smallest of the three industries and includes the important processing activity of cement and concrete products manufacturing.

One mineral activity not included in this definition is support activities to mining. NAICS separately identifies industry 213 – Support Activities for Mining and Oil and Gas Extraction. At the 5 and 6 digit level, NAICS 213 covers a number of activities – contract drilling (for. prospecting, testing, etc) for metals and non-metals, excavation, pumping, overburden removal on a contract basis – which logically are associated with mining. Statistics Canada, however, does not report financial and employment/earnings data for NAICS 213. Instead, it groups the information for NAICS 213 with NAICS 211 (Oil and Gas Extraction) presumably because the bulk of support activities are related to oil and natural gas.

As noted earlier, financial and employment/earnings data for oil sands mining are not available via Statistics Canada. Such data are provided only for the 3 digit industry Oil and Gas Extraction (NAICS 211 plus, as noted above, the support activities in NAICS 213). NAICS 211 is divided into only two sub-categories: conventional oil and gas extraction and non-conventional oil extraction. Oil sands mining is a subset of the latter, the other being in-situ extraction via (typically) drilling techniques (currently oil sands production is evenly split between mining and in-situ methods).

Because financial and employment/earnings data for oil sands mining are not available from Statistics Canada, we have used other sources to develop the estimates. As noted in the text (particularly the notes to the tables in Annex B), these included corporate financial reports, surveys and analysis carried out for the Oil Sands Developers Group and informal surveys of MAC members involved in oil sands mining.

TABLE A1:
SUB-COMPONENTS OF NAICS THREE DIGIT INDUSTRIES COMPRISING THE MINERAL SECTOR

NAICS 212: MINING AND QUARRYING (EXCEPT OIL AND GAS)

2121 Coal Mining (including Bituminous, Sub-bituminous, Lignite)
2122 Metal Ore Mining
- 21221 Iron Ore Mining
- 21222 Gold and Silver Ore Mining
- 21223 Copper, Nickel, Lead and Zinc Ore Mining
- 212291 Uranium Ore Mining
- 212299 All Other Metal Ore Mining

2123 Non-Metallic Mineral Mining and Quarrying
- 21231 Stone Mining and Quarrying
- 21232 Sand, Gravel, Clay and Ceramic and Refractory Mining and Quarrying
- 212392 Diamond Mining
- 212393 Salt Mining
- 212394 Asbestos Mining
- 212395 Gypsum Mining
- 212396 Potash Mining
- 212397 Peat Extraction
- 212398 All Other Non-Metallic Mineral Mining and Quarrying

SUBSET OF NAICS 211114 NON-CONVENTIONAL OIL EXTRACTION: Oil Sands Mining

NAICS 327: NON-METALLIC MINERAL PRODUCTS MANUFACTURING

3271 Clay Product and Refractory Manufacturing
- 32711 Pottery, Ceramics and Plumbing Fixture Manufacturing
- 32712 Clay Building Material and Refractory Manufacturing

3272 Glass and Glass Product Manufacturing
3273 Cement and Concrete Product Manufacturing
- 32731 Cement Manufacturing
- 32732 Ready-Mix Concrete Manufacturing
- 32733 Concrete Pipe, Brick and Block Manufacturing
- 32739 Other Concrete Product Manufacturing

3274 Lime and Gypsum Product Manufacturing
- 32741 Lime Manufacturing
- 32742 Gypsum Product Manufacturing

3279 Other Non-Metallic Mineral Product Manufacturing
- 32791 Abrasive Product Manufacturing
- 32799 All Other Non-Metallic Mineral Product Manufacturing

NAICS 331: PRIMARY METAL MANUFACTURING

3311 Iron and Steel Mills and Ferro-Alloy Manufacturing
3312 Steel Product Manufacturing from Purchased Steel
- 33121 Iron and Steel Pipes and Tubes Manufacturing from Purchased Steel
- 33122 Rolling and Drawing of Purchased Steel (includes cold-rolled steel shape manufacturing and steel wire drawing)

3313 Alumina and Aluminum Production and Processing
- 33131 Alumina and Aluminum Production and Processing (includes primary production, rolling, drawing, extruding and alloying)

3314 Non-Ferrous Metal (except Aluminum) Production and Processing
- 33141 Non-Ferrous Metal (except Aluminum) Smelting and Refining
- 33142 Copper Rolling, Drawing, Extruding and Alloying
- 33149 Non-Ferrous Metal (except Copper and Aluminum) Rolling, Drawing, Extruding and Alloying

3315 Foundries
- 33151 Ferrous Metal Foundries (includes both iron and steel)
- 33152 Non-Ferrous Metal Foundries (includes die-casting foundries

ANNEX B

FULL HISTORICAL DATA AND SOURCES
ROYALTIES/MINING TAXES, CORPORATE INCOME TAXES AND PERSONAL INCOME TAXES, 2002-2011

Table B1
Royalties, Mining Taxes and Similar Payments by Mineral Sector to Governments
(2002/03 to 2011/12)

		2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	10 Year Total
Newfoundland Labrador	Mining and Mineral Rights Tax	**17.3**	**16.0**	**14.4**	**21.0**	**53.1**	**276.6**	**302.7**	**138.9**	**171.9**	**287.7**	**1299.6**
Nova Scotia	Gypsum tax, coal royalties	**1.6**	**1.6**	**2.0**	**2.1**	**2.7**	**3.1**	**3.0**	**2.2**	**1.4**	**1.2**	**20.9**
New Brunswick	Metallic Minerals Tax	**5.7**	**2.2**	**2.8**	**10.5**	**120.2**	**119.7**	**137.7**	**43.8**	**20.0**	**48.0**	**510.6**
Quebec	Mining Duties Act and Mining Act	**28.8**	**13.5**	**26.1**	**55.3**	**55.7**	**102.1**	**31.3**	**114.2**	**323.7**	**353.0**	**1103.7**
Ontario	Mining Tax	**41.0**	**51.0**	**29.0**	**51.0**	**147.0**	**231.0**	**73.0**	**16.0**	**72.0**	**180.0**	**891.0**
Manitoba	Mining Tax	**18.2**	**17.7**	**57.9**	**57.9**	**41.1**	**107.1**	**65.0**	**10.0**	**21.0**	**35.0**	**430.9**
Sask	Potash, Uranium & Other Minerals Royalties plus mineral portion of Resource Surcharge	**315.6**	**242.6**	**442.3**	**482.0**	**328.8**	**518.9**	**1895.3**	**86.5**	**649.9**	**829.3**	**5791.2**
Alberta	Oil Sands Mining Royalties	**62.0**	**114.0**	**501.0**	**591.0**	**1563.0**	**2330.0**	**2302.9**	**1366.0**	**1409.3**	**1637**	**11876.2**
	Coal Royalties	**10.0**	**9.0**	**11.0**	**11.0**	**16.0**	**14.0**	**34.0**	**27.0**	**35.0**	**42.0**	**209.0**
British Columbia	Mineral Tax and Mineral Land Tax	**55.2**	**69.6**	**109.4**	**229.3**	**303.5**	**202.5**	**324.4**	**292.1**	**363.9**	**357.7**	**2307.6**
Yukon	Land and Mineral Leases and Royalties	**0.1**	**0.3**	**0.3**	**0.2**	**0.2**	**0.3**	**0.1**	**0.3**	**0.3**	**0.2**	**2.3**
NWT and Nunavut	Royalties from Mineral Resources	**14.8**	**47.9**	**139.6**	**64.3**	**8.6**	**61.9**	**110.0**	**90.4**	**108.0**	**118**	**763.5**
Total Mineral Sector		**570.3**	**585.4**	**1335.8**	**1575.6**	**2639.9**	**3967.2**	**5279.4**	**2187.4**	**3176.4**	**3889.1**	**25206.5**

Sources of Information for Table B1

Newfoundland and Labrador:
For 2002/03, R.J. Wardle, *The Minerals Industry in Newfoundland and Labrador: Its Development and Economic Contribution*, Government of Newfoundland and Labrador, Department of Natural Resources, 2004. (http://www.nr.gov.nl.ca/mines&en/geosurvey/publications/openfiles/OF_Nfld2889.pdf)
For 2003/04 to 2007/08, Government of Newfoundland and Labrador, Public Accounts, vol. 2 Consolidated Revenue Fund Financial Statement for the year ended March 31, 2008 (http://www.fin.gov.nl.ca/ComptrollerGeneral/pubaccounts/2008/VolumeII-2007-08.pdf). For 2008/09, 2009/10, and 2010/11 estimates are from Government of Newfoundland and Labrador, Budget, Estimates, Consolidated Revenue Fund, Statement II. See http://www.budget.gov.nl.ca/budget2011/ for the 2011 and earlier budgets. For 2011/12 refer to http://www.budget.gov.nl.ca/budget2012/estimates/estimates2012.pdf Figure includes Mining Tax and Royalties as well as Mining Permits and fees.

Nova Scotia:
Government of Nova Scotia, Budget 2009 Estimates page 2.10 Consolidated Funds: Ordinary Revenue Items 68-72 inclusive for 2007/08 to 2010/11 and same citation in earlier budgets for 2002/03 to 2006/07.
For the 2010/11 estimates see http://www.gov.ns.ca/finance/site-finance/media/finance/budget2011/Estimates_And_Supp_detail.pdf
For 2011/12 see http://www.novascotia.ca/finance/site-finance/media/finance/budget2012/Estimates_And_Supplementary_Detail.pdf

New Brunswick:
For 2002/03 to 2005/06 the information was from Government of New Brunswick, Office of the Comptroller, Public Accounts, Volume 2, Supplementary Information, Statement 14 (http://www.gnb.ca/0087/pubacct/PA06v2.pdf) . For 2006/07 and 2007/08, Office of the Comptroller, Public Accounts for the Year ended March 31, 2008, Volume 1, Financial Statements to 2008 (http://www.gnb.ca/0087/pubacct/PA08v1e.pdf). For 2008/09 , 2009/10 and 2010/11 estimates, Department of Finance, Budget , Main Estimates, Comparative Statement of Estimated Gross Revenue, p205. For 2010/11 see http://www.gnb.ca/0160/budget/buddoc2011/ME2011-12.pdf . See also http://www.gnb.ca/0024/Fiscal_Update_2010-e.pdf , http://www.gnb.ca/0024/Fiscal_Update_2011-e.pdf and http://www.gnb.ca/0160/budget/buddoc2010/ME2010-11 Final.pdf For revised 2011/12 estimate see http://www.gnb.ca/0160/budget/buddoc2012/ME2012-13.pdf

Quebec:
Government of Quebec revenues are from the Mining Duties Act (duties on sub-surface minerals) and the Mining Act (royalties on surface mineral substances) and associated revenues. The data in the table are final revised estimates provided in personal communication by the Direction de l'imposition minère, Ministère des ressources naturelles et faune.

Ontario:
Information is provided, via personal communication, by the Mines and Minerals Division, Ministry of Northern Development and Mines. The figure for 2011/12 is based on an estimate for 2011. The figure is for mining tax. It does not include royalties/mining taxes on diamonds. As there is only one diamond mine (Victor) operating in Ontario, the royalty/mining tax information is considered confidential.

Manitoba:
Information obtained from Government of Manitoba Budgets, various years. Data are typically found in Estimates of Expenditure and Revenue: Detailed Estimates of Revenue Table or Revenue Estimates for Core Government and are the forecast for the year just ending at the time the budget is brought down (e.g. forecast for 2011/12 as of 2012 budget brought down in April 2012) See http://www.gov.mb.ca/finance/provincialbudgets.html for access the individual budgets. For the most recent estimates see http://www.gov.mb.ca/finance/budget11/papers/r_and_e.pdf and http://www.gov.mb.ca/finance/budget12/papers/r_and_e.pdf

Saskatchewan:
The estimates in Table 2 cover both royalties on potash, uranium, coal and other (non-oil and gas) minerals and the portion of the Surcharge on Resource Corporations levied on these minerals. The Resource Surcharge is assessed on the sale value

of potash, uranium, coal, other non-oil and gas minerals, crude oil; and natural gas. The surcharge rate as applied to non-oil and natural gas sales was 3.6 percent of sales until 2005 declining to 3.0 percent by 2008 and remaining at the rate until the present. The amount of this resource surcharge attributed to potash, uranium and other non-petroleum resources was calculated based on applying these rates to the value of mineral sales from these non renewable resources in each year. The value of mineral sales was obtained from the Saskatchewan Bureau of Statistics, Provincial Accounts. For 2011/12, for example, royalties on potash, uranium, coal and non-oil and gas minerals were $581.7 million. The total resource surcharge was $455.4 million. The combined value of production of potash, uranium, coal, and other non-oil and gas minerals in that year was $8254 million. Multiplying that number by 0.03 yields the portion of the surcharge levied on potash, uranium, coal and other non-oil and gas production of $247.6 million for total mineral revenues to the Saskatchewan government of $829.3 million ($581.7 million + $247.6 million).
For the royalty and total resource surcharge data see Government of Saskatchewan, Provincial Budgets 2002-03 to 2011/12, Estimates for the Fiscal Year, Sources of Revenue for the (refer to http://www.gov.sk.ca/finance/budget).
The value of mineral sales data used to apportion the resource surcharge is from the Saskatchewan Bureau of Statistics (SBS), Provincial Accounts, Table 1 (see http://www.stats.gov.sk.ca/pea/) with preliminary 2011 data kindly provided by SBS.

Alberta:
Royalties for oil sands mining are from Canadian Association of Petroleum Producers (CAPP), *Statistical Handbook*, Canada Oil Sands Expenditures: 1997-2011, Table 4.16b (see http://www.capp.ca/GetDoc.aspx?DocId=184463&DT=NTV) and are for calendar years.
Coal royalties in Alberta are available in the Budget Fiscal Plan Revenue tables which can be accessed at http://www.finance.alberta.ca/publications/budget/estimates/est2010/energy.pdf and http://www.finance.alberta.ca/publications/budget/budget2011/fiscal-plan-revenue.pdf

British Columbia
Information obtained from the Government of British Columbia, Ministry of Revenue and Small Business, Minerals, Oil and Gas Revenue Branch.
(http://www.sbr.gov.bc.ca/business/Natural_Resources/Mineral_Tax/minrev_collected.pdf)
Note that starting in 2008/09 the data were adjusted to reflect the introduction of a three month instalment accrual system. The Mineral Tax accounts for almost all the revenues. Coal accounted for about 40 percent of annual Mineral Tax revenues in the early 2000s. Since 2008-09, however, it has dominated the tax revenues accounting for roughly 80 percent annually.

Yukon:
For 2002/03 and 2003/04, Yukon Government, Public Accounts, Comparative Schedule of Revenue, (http://www.finance.gov.yk.ca/ For 2004/05 to 2005/06, Yukon Government, Comparative Schedules of Revenues Schedule 2 for year ending March 31, 2006, page 2. See http://www.finance.gov.yk.ca/publications/budgets/budget05-06/2005-06pub_s01.pdf . For subsequent years see, Budgetary Income Summary by Source, Financial Information. Figures for 2009/10 are estimates and for 2010/11 are forecasts from Government of the Yukon, Budget 2010-2011, see http://www.finance.gov.yk.ca/pdf/budget/English_-_Financial_Information_2010-2011.pdf
For actual 2010/11 and estimates 2011/12 see http://www.finance.gov.yk.ca/pdf/budget/2012_2013_fininfo_e.pdf

Nunavut and NWT:
Information provided by Aboriginal Affairs and Northern Development Canada, Mineral Resources Directorate. Note that data for Nunavut and NWT are not provided separately to preserve confidentiality.

Table B2
Corporate Taxes Paid by the Mineral Sector to Federal and Provincial Governments
(2002-2011 $ millions)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011E	Total
Mining and Quarrying											
Federal Tax	245	268	495	536	806	866	909	321	637	*992*	*6075*
Provincial Tax	97	83	209	245	352	478	636	220	492	*811*	*3623*
Total Tax	342	351	703	781	1158	1344	1545	541	1129	*1803*	*9697*
Oil Sands Mining											
Federal Tax	203	529	278	280	476	887	550	0	563	*575*	*4341*
Provincial Tax	92	195	92	303	671	794	264	0	155	*166*	*2732*
Total Tax	295	724	370	583	1147	1681	814	0	718	*741*	*7073*
Primary Metal Manufacturing											
Federal Tax	241	213	318	395	822	414	245	121	109	*176*	*3054*
Provincial Tax	119	92	153	191	383	187	152	80	73	*133*	*1563*
Total Tax	360	305	471	586	1205	601	397	201	182	*309*	*4617*
Non-Metallic Mineral Manufacturing											
Federal Tax	258	268	269	291	326	389	285	206	228	*195*	*2715*
Provincial Tax	126	124	129	152	169	198	163	135	151	*141*	*1488*
Total Tax	383	393	398	443	495	587	449	341	380	*336*	*4205*
Total for Mineral Sector											
Federal Tax	**947**	**1278**	**1360**	**1502**	**2430**	**2556**	**1989**	**648**	**1537**	***1938***	***16185***
Provincial Tax	**434**	**494**	**583**	**891**	**1575**	**1657**	**1215**	**435**	**871**	***1251***	***9406***
Total Tax	**1380**	**1773**	**1943**	**2393**	**4005**	**4213**	**3204**	**1083**	**2408**	***3189***	***25591***

Notes

1. Federal Tax includes corporate income taxes and certain other direct taxes such as the Large Corporation Tax in applicable years. The Provincial Tax data cover only corporate income tax. They do not include provincial capital taxes.
2. Numbers in italics are estimates

Sources:

Non-Oil Sands Mining

For the years 2003 to 2010 Statistics Canada data used came from *Financial and Taxation Statistics for Enterprises 2010(61-219X*). For 2011, the estimates for total tax payable are derived by applying, for each industry segment, the percentage increase in current tax between 2010 and 2011 from Statistics Canada, *Quarterly Financial Statistics for Enterprises (61-008X),* to the total tax payable from 61-219X in 2010. The data from 61-008X for each industry segment – Mining and Quarrying (except oil and gas), Non-Metallic Mineral Products Manufacturing and Primary Metal Manufacturing - are obtained from special runs of the database purchased from Statistics Canada. The distribution between federal and provincial tax payable in 2011 is estimated by applying a slightly lower ratio of federal to total tax than that in 2010 reflecting the reduction in the federal corporate tax rate in 2011 compared to no or more modest reductions in the corresponding provincial rates.

Oil Sands Mining

For 2002 to 2009, the estimates for both federal and provincial corporate income tax (CIT) were provided by Oil Sands Developers Group (OSDG) previously known as the Athabasca Regional Issues Working Group (RIWG). The estimates are from a survey of members conducted by a consultant (Nichols Applied Management) for OSDG/RIWG. The survey results were used by the consultant to develop projections of oil sands production, revenue employment and fiscal payments to governments. See their surveys for various years on the OSDG website at (http://www.oilsandsdevelopers.ca/index.php/library/). OSDG decided in 2011 to discontinue this survey.

The estimates of corporate income tax from oil sands mining for 2010 and 2011 were developed by ENTRANS based on a variety of information sources related to the four producing oil sands mining projects. These include: Syncrude's 2012 Sustainability Report (forthcoming), Suncor's 2012 Sustainability Report (*Perspectives: Creating Our Energy Future Together* available at http://www.suncor.com/pdf/ROS12_E_final.pdf) and the annual reports and Annual Information Forms of several companies involved in oil sands mining. We also benefited from discussions with officials of MAC member companies involved in oil sands mining operations.

Essentially our approach was to apply the estimates of the tax position of the part of the industry for which we had information to the part for which we did not. For 2010 and 2011, the parts for which information was available accounted for about 70 percent of the industry measured by production of synthetic crude oil (SCO). The SCO data, which provide the weights, are from Alberta Energy Resources Conservation Board, Alberta *Mineable Oil Sands Plant Statistics, ST 39-2010 Monthly Supplement*, ercb.ca/data-and-publications/statistical-reports/st39. We also assumed that Canadian Natural Resources Limited was in a cash taxable position on its Horizon oil sands mining project in 2010 but not in 2011 owing to the fire and subsequent six month shut down of the plant.

Personal Income Taxes

The following table provides additional detail on the personal incomes taxes payments attributed to employees of mineral sector companies during the past decade. It shows the federal provincial sharing as well as the originating sector of the industry as well as employment.

Table B3:
Estimates of Personal Income Tax Revenues
Paid by Employees of Companies Involved in the Mineral Sector (2002-2011)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	10 year
Average Annual Wage ($)											
Mining & Quarrying	54143	57823	60388	60853	60210	67612	70656	71384	75132	76384	
Primary Metals Man.	53375	54006	56714	58039	57550	62780	61599	59100	64936	62459	
NMMP*	41282	43930	43376	46198	47068	50017	52441	50379	48019	50766	
Oil Sands Mining	74986	78950	81276	83364	88096	92176	98122	106143	116479	115469	
Federal Tax Rates (%)											
Mining & Quarrying	12.80	12.64	13.08	12.51	12.36	11.42	12.19	11.35	11.35	11.35	
Primary Metals Man.	12.80	12.64	12.21	11.50	11.29	11.42	11.31	9.14	10.42	10.42	
NMMP	11.47	11.32	10.82	10.03	9.73	10.18	10.06	9.14	7.58	9.14	
Oil Sands Mining	14.26	14.36	13.66	13.96	14.06	13.41	15.65	13.94	13.94	13.94	
Provincial Tax Rates (%)											
Mining & Quarrying	4.47	4.37	4.86	4.99	4.94	4.76	4.98	4.85	4.85	4.85	
Primary Metals Man.	4.47	4.37	4.50	4.62	4.56	4.76	4.60	4.04	4.60	4.60	
NMMP	3.84	3.76	3.97	3.98	3.90	4.29	4.14	4.04	3.48	4.04	
Oil Sands (Alberta)	6.11	6.20	5.98	6.18	6.29	5.94	7.01	6.50	6.50	6.50	
Employment											
Mining & Quarrying	47893	47391	45986	46689	48830	52877	58506	52429	52532	56669	
Primary Metals Man.	90322	85402	79703	78731	80681	78802	69107	59413	61098	61845	
NMMP	51423	51329	51403	51304	53701	52807	52707	48711	49687	49405	
Oil Sands	8374	8666	9286	9859	10863	11732	12000	13300	15000	15000	
Total	**198012**	**192788**	**186378**	**186583**	**194075**	**196218**	**192320**	**173853**	**178317**	**182919**	
Personal Income Taxes -Total Mineral Sector ($MM)											
Federal	**1282**	**1283**	**1260**	**1233**	**1268**	**1387**	**1448**	**1167**	**1286**	**1364**	**12978**
Provincial	**451**	**449**	**472**	**498**	**516**	**583**	**599**	**520**	**584**	**602**	**5274**
Total	**1733**	**1732**	**1732**	**1731**	**1784**	**1970**	**2047**	**1687**	**1870**	**1966**	**18252**
Personal Income Taxes -By Mineral Sector ($MM)											
Mining (excl O&G)	**448**	**466**	**498**	**497**	**509**	**578**	**710**	**606**	**639**	**701**	**5652**
Primary Metals Man.	**833**	**785**	**755**	**737**	**736**	**800**	**677**	**482**	**596**	**580**	**6981**
NMMP*	**325**	**340**	**330**	**332**	**345**	**382**	**392**	**310**	**277**	**331**	**3364**
Oil Sands Mining	**128**	**141**	**148**	**166**	**195**	**209**	**267**	**289**	**357**	**354**	**2256**
Total	**1733**	**1731**	**1732**	**1731**	**1784**	**1970**	**2046**	**1687**	**1870**	**1966**	**18252**

Notes and Data Sources for Table B3

- NMMP is an acronym for the Non-Metallic Mineral Products Manufacturing Industry (NAICS code 327).

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- Average weekly earnings and employment data (other than for oil sands), from Statistics Canada, *Employment, Earnings and Hours*, Cat 72-002 and Statistics Canada, CANSIM database, Tables 281-0024 and 281-0027. The employment and earnings data are for all employees and the earnings data include overtime. Annual average earnings are 52X average weekly earnings.
- Oil sands mining employment estimates to 2007 are from the Athabasca Regional Issues Working Group (RIWG) and, for 2008 to 2010, from the successor organization the Oil Sands Developers Group (OSDG). They reflect direct employment on oil sands projects in the Wood Buffalo Region (where all of the operational projects are located) Employment information at http://www.oilsandsdevelopers.ca/wp-content/uploads/2009/03/OSDG-Fact-Sheet-Social.pdf indicated that the forecast employment by 2010 was 15,000. This latter figure was used as our estimate for 2010 employment. A survey undertaken for OSDG indicated that ***direct employment*** in 2011 was about 12,000. One possible explanation for the difference is that the previous surveys may have over counted because they were estimated on a limited sample. Another is that perhaps more work is now being contracted out so that some workers are employed by contractors rather than the operating companies. We have chosen to keep the same 15,000 estimate for employment in 2011 pending further information.
  For average weekly earnings for oil sands workers, a proxy, average weekly earnings in the oil and gas industry in Alberta was used. This proxy is also obtained from Statistics Canada, CANSIM database, Table 281-0027.
- Effective tax rates are derived from Canada Revenue Agency (CRA), *Final Statistics for the 2002 to 2011 tax years*. See http://www.cra-arc.gc.ca/agency/stats/final-e.html . The effective tax rate is the ratio of net federal (or net provincial) taxes paid to total income assessed for the relevant income class. The income class is determined by the average annual earnings. Since the most recent CRA data only provides personal tax filer information for 2009 in consistent aggregations, the effective rates for 2010 and 2011 have been assumed to be the same as 2009 (although they have been adjusted upwards to reflect income categories where necessary). The 2010 tax filer data, which were released in 2012, are at http://www.cra-arc.gc.ca/gncy/stts/gb10/pst/ntrm/pdf/table2a-eng.pdf
- The tax data for Alberta was used for the calculation of PIT paid by Alberta oil sands mining employees. The Alberta tables are located at http://www.cra-arc.gc.ca/gncy/stts/gb08/pst/fnl/html/t02ab-eng.html
- The tax estimates in the lower panel are calculated by multiplying average annual earnings by the relevant tax rate for the specific tax bracket then multiplying that result by the number of employees. These results produce total tax paid for each mining industry segment. The figures are then summed across the industry segments to produce the estimates for total personal income taxes paid by employees of mining companies.

ANNEX C:
MARGINAL AND AVERAGE TAX RATES

Introduction

The provincial and territorial royalty and mining income tax systems generally are seen as having two purposes. The first is to collect a minimal return for the owners of the resources. Collecting this minimal return is also accomplished by both the royalties/ mining taxes as well various other fees and charges such as permits. The second purpose is to ensure that the owners of the resource also share in any cyclical profits or short term rents that would otherwise go completely to the corporate entities who are extracting the resource. This is accomplished primarily by systems that are "progressive" or sensitive to profitability.

Analysis: Average Rates

There are many different ways of evaluating the fiscal regimes and how well they may be accomplishing these two objectives. The Table C1 below is an additional analysis that is included for the first time in this year's report. The final column on the right is the average rate of royalties and mining taxes collected on the gross reported value of mineral production in each jurisdiction over the past two years. The average rate varies from virtually nil to as high as 9 percent with the median rate in the 4-5 percent range. The weighted Canada average is 5.5 percent. It should be noted that this average is calculated without any reference to operating costs and profitability. There is no agreement on what an appropriate minimum rate should be although the figure of 5 percent of gross income has historically often been used as being a reasonable rate for mineral production.

Analysis: Marginal Rates

The column labelled MERs (standing for "Marginal Effective Rates") is calculated as the change in overall provincial royalties and mining taxes relative to the change in the value of total mineral production in each province. For example in the first line for Newfoundland and Labrador the value of mineral production increased by 13.2 percent between 2010 and 2011. During the same period revenues to the provincial royalties and mining taxes increased by 67 percent. The Marginal Effective Rate (MER) on the incremental income is defined simply as the ratio of the additional royalties to the total additional income. In the case of Newfoundland it is calculated at 19.1 percent (i.e. $115.8 million in additional payments to the province divided by $607 million in additional production).

There is considerable variation between provinces. New Brunswick followed by Newfoundland have the highest MERs so arguably their overall royalty regimes that are collecting the largest proportions of incremental revenues. Most other provinces with positive MERs have MERs that are close to the average rate for the two year period. The existing data allowed us to break down the Alberta MERs into two categories. Not unexpectedly the MERs and average rates for oil sands mining are both much higher than those for the remainder of the minerals produced in the province. This of course suggests that some caution should be used in interpreting and comparing these overall provincial MERs. The calculated MERs in this table reflect the actual composition of various mineral commodities produced within each provincial jurisdiction. Nevertheless the overall MER does provide at least some insight for developing inter-provincial comparisons. Another caution is that the MERs for provinces with low overall revenues and who may have experienced declines may not be a very useful indicator. This is because the smaller numbers may be more volatile simply since the incremental amounts themselves are too small to represent a useful benchmark. Another factor is to consider the relatives sizes of the margins since the methodology adopted simply looks at the actual changes in each province in the benchmark years rather than the same amount.

A more fulsome inter-provincial comparison would require additional disaggregation of royalties and mining taxes into individual mineral commodities or groups of related commodities. The analysis should also be made multi-year as well in order to remove special circumstances within a single province. The ten years of fiscal data contained in this report could be starting point for such a calculation.

Table C1: Marginal and Average Royalty and Mining Taxes
($ millions and %)

Province	Principal Minerals	Value of Production				Royalties/Mining Taxes				MER	Average Two years
		2010	2011	Change	%	2010	2011	Change	%	%	%
Newfoundland & Labrador	Iron ore, nickel, copper	4583	5190	607	13.2%	171.9	287.7	115.8	67.4%	19.1%	4.7%
Nova Scotia	Stone, gypsum cement, salt	241	247	6	2.5%	1.4	1.2	-0.2	-14.3%	-3.3%	0.5%
New Brunswick	Zinc, silver, lead, potash, copper	1211	1308	97	8.0%	20	48	28	140.0%	28.9%	2.7%
Quebec	Gold, nickel, stone, zinc, cement, copper	7140	7750	610	8.5%	323.7	353	29.3	9.1%	4.8%	4.5%
Ontario	Gold, nickel, copper, stone, cement, salt, sand & gravel,	7780	10210	2430	31.2%	72	180	108	150.0%	4.4%	1.4%
Manitoba	Nickel, copper, gold, zinc	1675	1835	160	9.6%	21	35	14	66.7%	8.8%	1.6%
Saskatchewan	Potash, uranium, coal	6488	9214	2726	42.0%	649.9	829.3	179.4	27.6%	6.6%	9.4%
Alberta	Coal, cement, sand & gravel	2304	2587	283	12.3%	35	42	7	20.0%	2.5%	1.6%
Alberta	Oil Sands Mining	18479	21489	3010	16.3%	1409	1637	228	16.1%	7.6%	7.6%
British Columbia	Coal, copper, sand & gravel, gold	7166	8592	1426	19.9%	363.9	357.7	-6.2	-1.7%	-0.4%	4.6%
Yukon	Copper, gold, silver	299	402	103	34.4%	0.3	0.2	-0.1	-33.3%	-0.1%	0.1%
NWT and Nunavut	Diamonds, tungsten, gold	2362	2558	196	8.3%	108	118	10	9.3%	5.1%	4.6%
CANADA		**59728**	**71382**	**11654**	**19.5%**	**3176**	**3889**	**713**	**22.4%**	**6.1%**	**5.4%**

Sources:
Value of Production: for other than oil sands mining, Natural Resources Canada, *Preliminary Estimates of the Mineral Production of Canada by Province, 2011 and 2010* (http://mmsd.mms.nrcan.gc.ca/stat-stat/prod-prod/PDF/2011P%20Mineral%20Production.pdf). Ontario data do not include value of diamond production. For oil sands mining, production from Alberta Energy Resources Conservation Board (AERCB), *Alberta Mineable Oil Sands Plant Statistics* (http://www.ercb.ca/data-and-publications/statistical-reports/st39) and prices from AERCB, *Statistical Data and Prices by Product* (http://www.ercb.ca/data-and-publications/statistical-reports/st3).
Royalty and Mining Taxes are from Table B1.