

Contents

```
Executive summary / i

Introduction / 1

Permits, Competitiveness, and Investment / 3

Survey Design / 10

Results / 14

Conclusions / 20

References / 21

About the authors / 24

Acknowledgments / 24

Publishing information / 25

Supporting the Fraser Institute / 26

Purpose, funding, and independence / 26

About the Fraser Institute / 27

Editorial Advisory Board / 28
```

Executive summary

Since 1997, the Fraser Institute has collected information from mining company executives around the world, who evaluate mining policies in jurisdictions worldwide. One theme that regularly appears in the comments we receive as part of that survey is a perception that permit-times—the length of time it takes to get approval for mining exploration—has grown longer and more onerous over time. In our 2015 survey, we added supplementary questions to explore this question. In this first study, they were limited to Canadian jurisdictions.

In general, based on the perceptions of respondents, there is room for improvement across Canada. Ontario appears to be a laggard. Respondents indicated that not only were they waiting longer to receive their permits there than in competing provinces such as British Columbia and Quebec, but Ontario also offered less transparency and certainty throughout the permitting process. Northwest Territories and Nunavut also need to improve. At the other end of the scale is Saskatchewan, which tended to perform relatively well when it comes to limiting the time it takes to receive permits, as well as ensuring that the process is highly transparent.

On one aspect of permit-times that we asked respondents to assess—how long it takes to receive the necessary permits—Saskatchewan performed particularly well; 87 percent of respondents answered that they received the necessary permits in six months or less. This compares to 80 percent of respondents in British Columbia, 76 percent of respondents in Quebec, and only 64 percent of respondents in Ontario.

Saskatchewan also had a relatively low percentage of respondents who said that permit approvals had either lengthened somewhat or considerably over the last 10 years. Ontario had the highest percentage of respondents, at 25 percent, who found that the time to permit approval had lengthened considerably, with an additional 43 percent of respondents who found that the times and lengthened somewhat. Ontario's 68 percent of respondents who said that permit times had lengthened was much greater than the 52 percent of Quebec respondents and 40 percent of British Columbia respondents who noted that permits times had lengthened in those provinces.

Respondents were also asked to indicate how often governments met their own established timelines/milestones for permit approval decisions. Fifty-three percent of respondents in Saskatchewan reported that government met its approval timelines more than 80 percent of the time. This compares to 38 percent in British Columbia, 28 percent in Quebec, and 22 percent in Ontario.

When asked whether transparency in the permitting process was either an encouragement or a deterrent to investment, 90 percent of respondents for Saskatchewan found the level of transparency to either be encouraging investment or at least not deterring it, compared with 71 percent of respondents in Quebec, 60 percent in British Columbia, 57 percent in Ontario.

Saskatchewan was the highest ranked province or territory when it came to the level of confidence that mining executives had that they would eventually be granted the necessary permits. Ontario performed poorly on this measure, with just 29 percent of the province's respondents saying that they either had low confidence or were not at all confident that they would be granted the necessary permits. Only the Northwest Territories had a poorer showing on this measure.

Based on the evidence from the survey, there is certainly room for improvement in Canada's provinces and territories when it comes to the exploration permitting process. Policy reform in these areas may help Canada's provinces and territories unlock their considerable mineral potential.

Introduction

A well-developed mining sector can produce great economic and community benefits. In Canada—one of the world's largest mining jurisdictions—mineral exports amounted to \$92.4 billion in 2012, and in 2011 mining and mineral processing industries provided \$7.1 billion in corporate taxes and royalties, \$17 billion in capital investment, and \$63 billion in nominal GDP (NRCAN, 2013), all while contributing 383,000 jobs to the economy (NRCAN, 2014).

Such economic benefits from mining are well known, and many jurisdictions eagerly pursue attractive policies that encourage investment. But as with many private sector activities, the mining sector is competitive and capital is mobile. To encourage robust development of the industry, governments need to put forth attractive and competitive policies.

This is particularly true for the exploration component of mining. Without exploration activities, the eventual development and extraction of minerals would not take place. Exploration is the process of gathering information and discovering deposits suitable for mining. The task is complex and can involve the use of geological studies of the area, sometimes conducted by aircraft and satellites, to search for above-ground deposits and geochemical anomalies (Rankin, 2011; Moon, Whateley, and Evans, 2006). In Canada, exploration is undertaken primarily by major mining companies (who tend to focus on brownfields exploration, near existing mine sites), and by junior exploration companies, who usually hope to sell their discoveries to larger companies that will develop and administer a producing mine.

Exploration comes with considerable risk. To put this risk into perspective, one rough evaluation holds that "[i]t sometimes... takes 500–1,000 grassroots exploration projects to identify 100 targets for advanced exploration, which in turn lead to 10 development projects, [one] of which becomes a profitable mine" (Eggert, 2010: 4). Another general statistic is that the success rate for exploration is less than a tenth of a percent (Moon, Whateley, and Evans, 2006).

In such a risky environment, particularly when prices are low and the market is uncertain as is the case now (see figure 1), onerous costs and

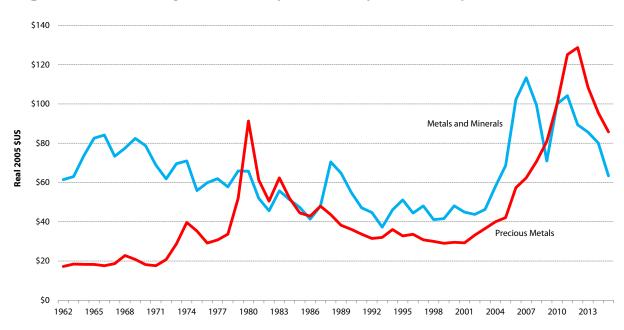


Figure 1: Commodity Price Index, 2010=100, 1960-2015, Real 2005 US\$

Source: World Bank (2016).

uncompetitive policies can discourage investment in exploration endeavours, thereby diminishing the chances that a viable deposit will be found and eventually developed into a producing mine.

Some recent evidence suggests that the permitting processes for exploration activities may be imposing such costs and acting as a deterrent to investment. In a recent survey of 34 junior and mid-tier mining firms operating all around the world, conducted between May and August 2015, slow permit approvals and misaligned permit renewals were seen as being one of the greatest challenges facing firms (PDAC, 2015). Within Canada, concerns have also been raised about the consistency and transparency of the permitting process for explorers and the affect that this may have on the ability of jurisdictions to attract exploration investment (AME BC, 2014, 2015).

As a first step to assessing the exploration permitting process and its potential effects, a survey of mining executives who have recently applied for exploration permits in Canada's provinces and territories was undertaken to get a better understanding of how permit approval timelines, transparency, and other issues regarding the permit approval process differ within Canada. The results of this survey will allow for a better understanding of how provinces and territories perform in this area and will serve as a starting point for future research aimed at identifying best practices for exploration permitting.

Permits, Competitiveness, and Investment

After a claim has been staked, and before exploration activities can begin in Canada's provinces and territories, firms must apply for the necessary regulatory approvals, such as permits, licences, notices of work, etc.¹ These permits allow an exploration or prospecting firm to explore for mineral deposits in the hopes of making a discovery. The permits are intended to ensure that the exploration activities will not pose a significant or unnecessary threat to the environment, and to allow for consultation with Aboriginal communities on potential impacts on their rights.

The permitting process is costly for firms, as they must invest time and resources to comply with the permit's requirements. These costs can rise when the process lacks transparency or is uncertain, adding additional risk to firms and reducing a jurisdiction's competitiveness.

In an environment where capital is highly mobile, it might be expected that jurisdictions offering low-cost and competitive policies would be seen as more attractive to investment. Indeed, policies do matter when it comes to attracting investment and developing mineral resources (David and Wright, 1997). An early study by Tilton (1983) found that 31 to 94 percent of differences in mineral output in Western countries could be accounted for by mineral endowments. Respondents to the Fraser Institute's *Survey of Mining Companies* consistently report that about 60 percent of their decisions on whether to invest or not come from a jurisdiction's pure mineral potential. However, the other 40 percent of the decision comes from policy related factors (Jackson and Green, 2015).

Competitive policies are those that impose low costs on firms while effectively addressing non-economic policy goals, such as environmental responsibility (Tilton, 1992). When policies are unclear and uncertain they can increase the compliance costs for firms wishing to explore. Thus, jurisdictions that keep costs low give themselves a competitive advantage when it comes to attracting investment.

¹ The name or type of permit needed varies greatly between the provinces and territories. "Permit" will be used as a general term for the varieties of different requirements in each province and territory.

Permits, particularly for exploration, are one area of mining policy that has received little attention in either policy or academic literature. One recent study noted that permits can increase the "time, costs, and risks" associated with mining, potentially leading to lower levels of investment and lost economic opportunities (Söderholm et al., 2015: 130). Another study found that while permits can cause delays and increase uncertainty, responses to a survey by Australian and Canadian mining executives suggest that permits do not always impede investment. That being said, a much larger percentage of Canadian executives noted that environmental permits and assessments acted as a deterrent to investment than did their Australian counterparts, suggesting that perhaps policies in Canada are imposing larger costs on firms (Annandale and Taplin, 2003).

Wilson, McMahon, and Minardi (2013) point out that regulations (i.e., permits) can affect the allocation of mining investment by contributing to inconsistency in decisions and a lengthy regulatory process. The authors state that, "[w]here the process is unclear, fluctuating, or subject to change, miners may be reluctant to invest due to additional costs, regulatory requirements, or new processes that can significantly add costs and delays to projects" (p. 23).

Recent evidence suggests that permitting processes may indeed be placing higher costs and uncertainty on the exploration industry. In the Fraser Institute's *Survey of Mining Companies*, 2014² respondents from around the world were asked to assess the extent to which the time it takes to get a permit approved has changed over the last 10 years.³ Approximately 65 percent of respondents indicated that the time for permit approval has increased over the decade. Thirty-nine percent of respondents indicated that the time has lengthened considerably (Jackson and Green, 2014). While work done by Richard Schodde suggests that Canada is still moving projects into production faster than the global average (Tarikh, 2014, Mar. 12), his analysis also suggests that the time between a discovery and production is rising in Canada. One of the reasons given for this trend is the lengthening of permit times (Keen, 2013, Nov. 23).

² Respondents to the Survey of Mining Companies evaluate jurisdictions on 15 policy variables that aim to capture whether policy-related areas such as taxation, regulation, land use, security, etc. either attract or deter investment. Respondents also asses the pure mineral potential of each jurisdiction. For more on the specifics of the survey and its methodology, see Jackson and Green (2015).

 $^{^3}$ Mining and exploration companies operating around the world respond to the *Survey of Mining Companies*. Note that the statistics discussed here reflect the broader worldwide view and are not specifically for Canada.

Lengthened Considerably Lengthened Somewhat Stayed the Same **Shortened Somewhat Shortened Considerably** 10% 15% 20% 25% 45%

Figure 2: Changes in the Time to Permit Approval over the Last 10 Years

Source: Jackson and Green (2015). Survey of Mining Companies 2014.

The Fraser Institute mining survey examines the extent to which uncertainty in three areas of regulation acts as a deterrent to investment in Canada, including uncertainty related to:

- the administration, interpretation, and enforcement of existing regulations
- environmental regulations
- regulatory duplication and inconsistencies (includes federal/ provincial, federal/state, inter-departmental overlap, etc.)

As figure 3 indicates, three regulation questions are all in the top five barriers to investment in Canada.4

Investors' views of permitting likely affect their responses to two of the regulation questions on the survey—uncertainty concerning the administration, interpretation, and enforcement of existing regulations and regulatory duplication and inconsistencies. Investors have perceived barriers in these two areas to be increasing over the last few years. For example, as figure 4 shows, after declining in the mid- to late-2000s, the median percentage of respondents who viewed uncertainty in the administration, interpretation, and enforcement of existing regulations as a

⁴ *The Survey of Mining Companies* breaks Canada up into 12 provinces and territories (PEI is excluded). The median score of the 12 Canadian provinces and territories is used to analyze broader Canadian trends.

Security **Trade Barriers** Geological Database **Political Stability Labour Regulations** Legal System Availability Skills/Labour Taxation Socioeconomic Agreements Infrastructure Administration of Regulations **Regulatory Duplication** Land Claims **Environmental Regulations** Protected Land 40% 50% 20%

Figure 3: Barriers to Investment in Canada, Median Deterrent to Investment Scores, 2014

The percent refers to the median percentage of respondents for Canadian jurisdictions who viewed each policy as being either a mild or strong deterrent to investment or that they would not invest all together because of concerns over this area of policy.

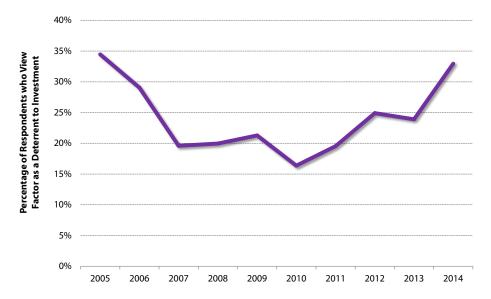
Source: Jackson and Green (2015). Survey of Mining Companies 2014.

deterrent to investment in Canada increased from 16 percent in 2010 to 33 percent in 2014.

The result is similar for regulatory duplication and inconsistencies. After the median Canadian response reached a low in 2007 of 23 percent of respondents viewing regulatory duplication and inconsistencies as a deterrent to investment, that percentage rose in 2014 to 38 percent.

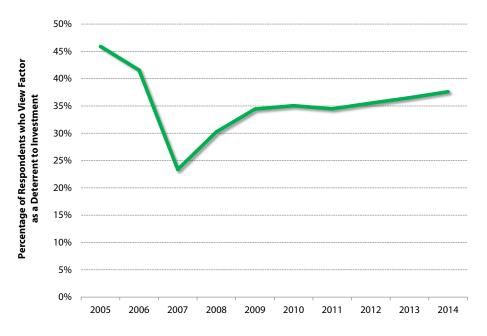
As figures 6 and 7 indicate, in 2014 concerns about the enforcement of existing regulations and regulatory duplication appear to be greatest in British Columbia, Ontario, the Northwest Territories, and Nunavut. In 2014, 58 percent of respondents in British Columbia and 49 percent of those in Ontario viewed uncertainty concerning the administration, interpretation, and enforcement of existing regulations as presenting some form of a deterrent to investment. For regulatory duplication and inconsistencies, in the same two provinces 58 percent of respondents for BC

Figure 4: Ten Year Median Canadian Score Trend for Uncertainty Regarding the Administration, Interpretation, and Enforcement of Existing Regulations



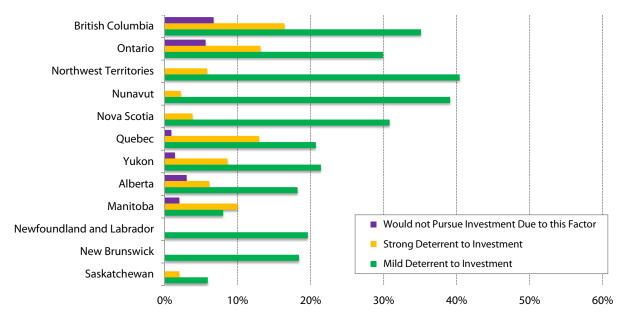
Source: Fraser Institute Annual Survey of Mining Companies (2005/2006 - 2014).

Figure 5: Ten Year Median Canadian Score Trend for Regulatory Duplication and Inconsistencies (includes federal/provincial, federal/state, interdepartmental overlap, etc.)



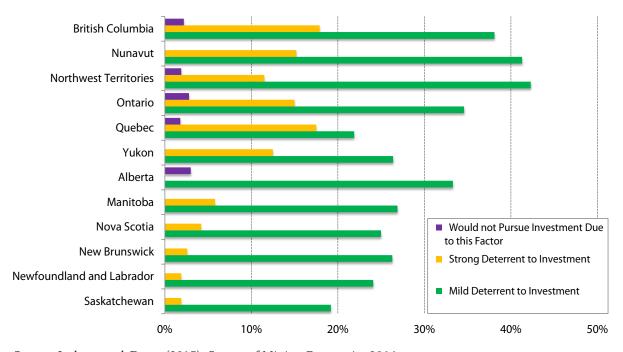
Source: Fraser Institute Annual Survey of Mining Companies (2005/2006 - 2014).

Figure 6: Percentage of Respondents Viewing Uncertainty Regarding the Administration, Interpretation, and Enforcement of Existing Regulations as a Deterrent to Investment in Canada, 2014



Source: Jackson and Green (2015). Survey of Mining Companies 2014.

Figure 7: Percentage of Respondents Viewing Regulatory Duplication and Inconsistencies as a Deterrent to Investment in Canada, 2014



Source: Jackson and Green (2015). Survey of Mining Companies 2014.

viewed this issue as presenting a deterrent to investment, as did 52 percent in Ontario.

The growing concerns around the uncertainty posed by regulatory policies in Canada and the effect that such uncertainty and its costs can have on a jurisdiction's attractiveness to investment served as the impetus to try to measure how costs and uncertainty in the permitting process varies between Canada's provinces and territories.

Survey Design

To assess how the time, transparency, and (un)certainty of the permitting process differs among Canada's provinces and territories, we conducted a permit-time sub-survey of mining executives in conjunction with the broader 2015 Survey of Mining Companies (Jackson and Green, forthcoming).

The sub-survey is designed to identify the provinces and territories that have the most attractive permitting policies. Those attractive policies can help encourage and retain mining exploration investment. Jurisdictions that investors assessed as relatively unattractive may wish to consider reforms so that they can themselves attract more exploration investment.

The broader 2015 Survey of Mining Companies, of which the survey on Canadian exploration permits was a subsection, was sent to approximately 3,800 managers and executives around the world, in companies involved in mining exploration, development, and other related activities. To help ensure that only individuals with knowledge of mining exploration in Canada answered the permit-time sub-survey, only those who included Canadian provinces and territories in their broader survey responses were able to access the exploration permit survey. This modification resulted in approximately 210 eligible respondents. However, only respondents who had applied for an exploration permit, license, notice of work, etc., within the last two years were asked to respond to the survey to help ensure that only those with the most recent and relevant experience answered the questions. This resulted in 122 executives and managers taking the permittime sub-survey.

As figure 8 illustrates, over half (57 percent) of respondents to the Canadian exploration permit sub-survey were company presidents. A further 28 percent of respondents were either company vice-presidents or managers.

Figure 9 shows that the majority of respondents, 65 percent, were from exploration companies. An additional 26 percent of responses came from producer companies that are also involved in exploration activities.

Figure 8: The Position Survey Respondents Hold in Their Company

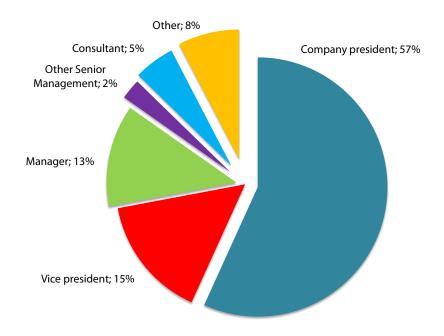
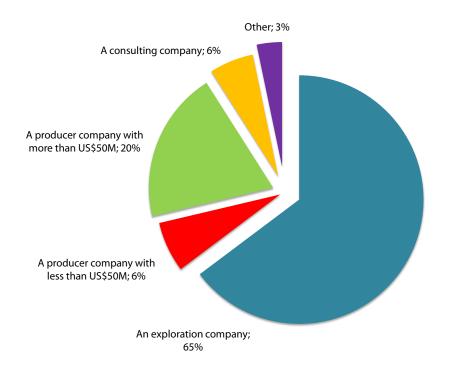


Figure 9: Company Focus as Indicated by Respondents



Survey questionnaire

The survey is designed to capture the experiences of executives and others involved in exploration activities across Canada. Their responses will provide valuable insights into the differences in time, cost, and uncertainty that exist in the exploration permitting process among Canada's provinces and territories.

In total, respondents were asked to answer five questions:

- 1. Approximately how much TIME do you expect to spend getting the permits, licences, or notices of work, etc. to conduct exploration activities in each jurisdiction? Please estimate from the time you apply at the first stage of the approval process until the initiation of exploration activities.
 - a. 2 months or less
 - b. 3 to 6 months
 - c. 7 to 10 months
 - d. 11 to 14 months
 - e. 15 to 18 months
 - f. 19 to 23 months
 - g. 24 months or more
- 2. Over the last 10 years, please estimate the amount that your "TIME TO PERMIT APPROVAL" has changed in each jurisdiction?
 - a. Shortened considerably
 - b. Shortened somewhat
 - c. Stayed the same
 - d. Lengthened somewhat
 - e. Lengthened considerably
- 3. Prior to deciding where to explore, all other factors being equal, what level of CONFIDENCE do you have that you will eventually be granted a permit?
 - a. High confidence
 - b. Confident
 - c. Low confidence
 - d. Not at all confident
- 4. Prior to deciding where to explore, all other factors being equal, how does the level of TRANSPARENCY in the permitting process affect exploration in each province or territory?

- a. Encourages exploration investment
- b. Not a deterrent to exploration investment
- c. Is a mild deterrent to exploration investment
- d. Is a strong deterrent to exploration investment
- e. Would not pursue exploration investment in this province or territory due to this factor
- 5. Throughout the permitting process, how often did the jurisdiction meet its own established timelines/milestones for permit approval decisions?
 - a. Most of the time (80 to 100%)
 - b. Some of the time (60 to 80%)
 - c. About half the time (40 to 60%)
 - d. Less than half the time (20 to 40%)
 - e. Rarely met own timelines (0 to 20%)

Below the results of the survey are presented and discussed.

Results

The results of the survey have been broken into three general areas of concern: the length of time it takes to get approved for the necessary permits, the transparency of the permitting process, and the certainty of the permitting process. Provinces and territories that received less than five responses were dropped from the analysis, while those with between five and nine responses have been noted in all the subsequent tables.

Time

To assess how the length of the permitting process differs between provinces and territories, the sub-survey asked three questions. The first (table 1) asked respondents to indicate how long they expected to spend acquiring the necessary permits to conduct exploration activities. In all provinces and territories, the majority of respondents could acquire the necessary permits within six months. However, there are some notable differences between various jurisdictions.

One difference is between Canada's territories and provinces, as it appears that explorers are waiting much longer for permits in the territories than in competing provinces. In the Yukon, Northwest Territories, and Nunavut, only 23 percent, 0 percent, and 7 percent of respondents, respectively, were able to acquire the necessary permits for exploration in two months or less. The Northwest Territories and Nunavut also have the two lowest percentages of respondents who acquired permits in six months or less, at 62 percent and 57 percent, respectively. This compares poorly to other provinces, such as Ontario and Quebec, which attract exploration investment for similar types of commodities as those present in the Territories (NRCAN, 2015). For example, 32 percent of respondents in Ontario and 39 percent of those in Quebec acquired their necessary exploration permits in two months or less.

Amongst the three provinces that attract the majority of Canadian exploration spending on base metals and precious metals—British Columbia, Ontario, and Quebec—the results are mixed. Higher percentages

Table 1: The Amount of Time Respondents Expected to Spend Getting the Permits, Licences, or Notices of Work, etc. to Conduct Exploration Activities

	2 months or less		7 to 10 months	11 to 14 months	15 to 18 months	19 to 23 months	24 months or more
British Columbia	24%	56%	13%	2%	2%	0%	2%
Manitoba*	33%	50%	0%	0%	0%	0%	17%
New Brunswick*	67%	33%	0%	0%	0%	0%	0%
Newfoundland & Labrador	33%	67%	0%	0%	0%	0%	0%
Northwest Territories	0%	62%	0%	15%	0%	15%	8%
Nunavut	7%	50%	14%	21%	7%	0%	0%
Ontario	32%	32%	14%	14%	0%	0%	7%
Quebec	39%	36%	18%	3%	0%	0%	3%
Saskatchewan	40%	47%	13%	0%	0%	0%	0%
Yukon	23%	64%	14%	0%	0%	0%	0%

^{*}Between 5 and 9 responses.

Table 2: Changes in the Time to Permit Approval Over the Last 10 Years

	Shortened Considerably	Shortened Somewhat	Stayed the Same	Lengthened Somewhat	Lengthened Considerably
British Columbia	7%	22%	31%	18%	22%
Manitoba*	17%	17%	17%	33%	17%
New Brunswick*	17%	0%	50%	17%	17%
Newfoundland & Labrador	0%	0%	56%	33%	11%
Northwest Territories	0%	15%	15%	46%	23%
Nunavut	0%	7%	50%	21%	21%
Ontario	0%	14%	18%	43%	25%
Quebec	3%	9%	36%	30%	21%
Saskatchewan	7%	20%	47%	20%	7%
Yukon	9%	23%	14%	32%	23%

^{*}Between 5 and 9 responses

of respondents in Ontario and Quebec indicated that they expected it to take two months or less to acquire necessary exploration permits. However, when considered in total, British Columbia performs much better. The highest percentage of respondents in that province indicated that they expected to spend 6 months or less acquiring the necessary permits. Indeed, between British Columbia, Ontario, and Quebec, Ontario's results are the most concerning. Fourteen percent of respondents indicated that they expected to spend between 11 and 14 months to get exploration permits in Ontario, compared to 2 percent in British Columbia and 3 percent in Quebec. Ontario also had one of the highest percentages of respondents indicating that they were expecting to spend 24 months or more just acquiring their exploration permits, again compared to 2 percent in British Columbia and 3 percent in Quebec.

We also assessed how the length of time explorers expected to spend getting their permit approvals had changed over the last 10 years. The results indicate that in general, permit approval times are lengthening in Canada. In five out of 10 provinces and territories included, 50 percent of respondents or more said that the time to permit approval had lengthened. In no cases did the majority of respondents indicate that permit approval times had shortened.

Overall, Saskatchewan had the smallest percentage of respondents—27 percent—indicating that the time to permit approval had either lengthened somewhat or considerably. Of the three provinces attracting the bulk of Canada's exploration spending discussed above, British Colombia had a much lower percentage of respondents indicating that the time to permit approval had either lengthened somewhat or considerably, compared to 52 percent in Quebec and 68 percent in Ontario. Ontario also had the highest percentage of respondents (25 percent) across all Canadian provinces and territories included in the study indicating that the time to permit approval had lengthened considerably.

While British Columbia performed better in comparison to Quebec and Ontario, the province still saw 40 percent of respondents indicating that the time to permit approval had lengthened in some manner. In fact, in all provinces and territories a number of respondents indicated that permit times had lengthened. Indeed, it appears that all Canadian jurisdictions in the survey could benefit from stemming and mitigating lengthening exploration permit times.

Another aspect of permit approval times is certainty about the timelines provided by the permit granting organizations. If these organizations are unable to meet their timelines, the time it takes to get a permit is extended, thereby placing additional costs and risks on firms, potentially acting as a deterrent to investment.

Table 3: How Often Did the Jurisdiction Meet its Own Established Timelines/Milestones for Permit Approval Decisions?

	Most of the time (80 to 100%)	Some of the time (60 to 80%)	About half the time (40 to 60%)	Less than half the time (20 to 40%)	Rarely met own timelines (0 to 20%)
British Columbia	38%	22%	11%	16%	13%
Manitoba*	67%	17%	0%	0%	17%
New Brunswick*	60%	0%	40%	0%	0%
Newfoundland & Labrador	33%	22%	22%	11%	11%
Northwest Territories	23%	15%	31%	23%	8%
Nunavut	0%	43%	29%	21%	7%
Ontario	22%	33%	19%	15%	11%
Quebec	28%	47%	3%	9%	13%
Saskatchewan	53%	13%	20%	7%	7%
Yukon	41%	36%	9%	5%	9%

^{*}Between 5 and 9 responses.

Table 4: How Does the Level of Transparency in the Permitting Process Affect Exploration Investment?

	-	deterrent to exploration		Is a strong deterrent to exploration investment	Would not pursue exploration investment due to this factor
British Columbia	22%	38%	27%	13%	0%
Manitoba*	50%	17%	17%	0%	17%
New Brunswick*	33%	50%	0%	17%	0%
Newfoundland & Labrador	11%	67%	11%	11%	0%
Northwest Territories	0%	31%	39%	23%	8%
Nunavut	0%	50%	36%	14%	0%
Ontario	21%	36%	18%	25%	0%
Quebec	16%	55%	19%	7%	3%
Saskatchewan	47%	47%	7%	0%	0%
Yukon	23%	36%	41%	0%	0%

^{*}Between 5 and 9 responses.

Of the jurisdictions that received 10 or more responses about permitting time certainty, Yukon and Quebec had the lowest percentages of respondents indicating that the permitting authority met its own established timelines/milestones about half the time or less, at 23 and 25 percent of the time, respectively, indicating that they had a relatively high degree of timeline certainty. British Columbia and Ontario appear to offer less timeline certainty, with 40 and 44 percent of respondents, respectively, noting that those provinces were meeting their established timelines about half the time or less.

Transparency

Another critical issue in the permitting process is transparency. When explorers do not understand what the rules are or how they are applied, the result can be a deterrent to investment. In this area, again, Saskatchewan continues to perform far better than the other Canadian provinces and territories included in the study. Only 7 percent of respondents reported that transparency in the permitting process was a deterrent to investment—and all of the deterrent rankings were "mild"—a performance unmatched by any other Canadian jurisdiction.

Out of the three territories, Yukon performed much better on transparency than did the Northwest Territories or Nunavut. Forty-one percent of respondents for Yukon rated transparency as a mild deterrent to exploration investment with none reporting that it is a strong deterrent or that they would not pursue investment in the territory due to a lack of transparency. The feedback was worse for Northwest Territories and Nunavut. At 69 percent, Northwest Territories had the highest percentage of respondents reporting that transparency in the exploration permit process was a deterrent to investment. Perhaps even more significantly, 31 percent of respondents for the Northwest Territories rated transparency as a strong or greater deterrent to investment. Nunavut fared slightly better than Northwest Territories, although a large number of respondents, 50 percent, still found transparency there to be a deterrent to investment. As a group, the territories' performance on transparency was poorer than that of any of the provinces, suggesting that this issue needs improvement.

Amongst the three provinces that attract the majority of Canadian exploration spending, Quebec performed the best. In that jurisdiction, 29 percent of respondents indicated that transparency in the exploration permitting process was a deterrent to investment, followed by British Columbia at 40 percent, and Ontario 43 percent.

Certainty

The final area of the exploration permitting process on which we sought feedback was policy certainty. If firms are not confident that they will be able to acquire the necessary permits to carry out exploration activities once they have met regulatory requirements, it is unlikely that they will consider investing in the given province or territory.

When asked about how confident they were that the necessary permits would eventually be granted, most respondents rated the Canadian provinces and territories quite highly. Saskatchewan performed the best: 100 percent of the province's respondents reported that they were either highly confident or confident that they would receive their permits. Only in Ontario and Northwest Territories did less than 80 percent of respondents indicate that they were highly confident or confident that they would be granted the necessary permits. In particular, in Ontario, 18 percent of respondents were not confident at all that they would receive the necessary exploration permits.

Table 5: Confidence Level of Respondents that They Will Eventually be **Granted the Necessary Permit(s)**

	High Confidence	Confident	Low Confidence	Not at all Confident
British Columbia	27%	58%	11%	4%
Manitoba*	33%	50%	17%	0%
New Brunswick*	33%	50%	17%	0%
Newfoundland & Labrador	33%	56%	0%	11%
Northwest Territories	23%	46%	23%	8%
Nunavut	7%	86%	7%	0%
Ontario	21%	50%	11%	18%
Quebec	30%	61%	0%	9%
Saskatchewan	67%	33%	0%	0%
Yukon	33%	52%	14%	0%

^{*}Between 5 and 9 responses

Conclusion

Competitive public policies for mining place comparably low costs on firms. The permitting process for mining exploration is often overlooked in broader policy debates on mining. Yet uncompetitive policies in this area can increase the time, costs, and risks associated with exploration, potentially leading to reduced investment and decreasing the chances that a viable deposit will be found and eventually developed into a mine.

Based on the evidence presented above, the exploration permitting process in Canada's provinces and territories could certainly be improved. Policy reform in this area may help Canada's provinces and territories unlock their considerable mineral potential.

Table 6: Relative Ranking of Provincial and Territorial Performance on Areas of the Permitting Process

Prov/ Terr		Time	Transparency	Certainty	
	Percentage of respondents receiving necessary permits in 6 months or less	Percentage of respondents indicating that times to permit approval had lengthened over the previous 10 years	Percentage of respondents indicating that timeliness/ milestones were met more than 60 percent of the time	Percentage of respondents indicating trans- parency was not a deterrent to investment or better	Percentage of respondents who were highly confident or confident that they would receive necessary permits
ВС	6th	$3^{ m rd}$	$5^{ m th}$	6 th	6 th
MB*	5 th	6^{th}	$1^{ m st}$	5 th	7 th
NB*	1 st	2^{nd}	$5^{ m th}$	$2^{\rm nd}$	7 th
NL	1 st	$5^{ m th}$	7^{th}	3^{rd}	4 th
NT	9 th	10^{th}	10^{th}	10 th	10 th
NU	10 th	$4^{ m th}$	9^{th}	9 th	2 nd
ON	8 th	$9^{ m th}$	7^{th}	8 th	9 th
QC	7 th	7^{th}	$3^{ m rd}$	$4^{ m th}$	$3^{ m rd}$
SK	3^{rd}	$1^{ m st}$	$4^{ m th}$	$1^{ m st}$	$1^{ m st}$
YK	4 th	8 th	$2^{ m nd}$	7 th	5 th

^{*}Between 5 and 9 responses

References

Annandale, David, and Ross Taplin (2003). Is Environmental Impact Assessment Regulation a 'Burden' to Private Firms? Environmental Impact Assessment Review 23: 383-397.

Association for Mineral Exploration British Columbia [AME BC] (2014). AME BC's Recommendations re Proposed Mines Act Permit Fees. http:// www.amebc.ca/docs/default-source/Policy/ame-bc-recommendations-reproposed-mines-act-permit-fees---march-31-2014.pdf?sfvrsn=2>, as of December 16, 2015.

Association for Mineral Exploration British Columbia [AME BC] (2015). *AME BC's Top Policy Issues & Recommendations, 2015.* , as of December 16, 2015.

David, Paul A., and Gavin Wright (1997). Increasing Returns and the Genesis of American Resource Abundance. Industrial and Corporate Change 6, 2: 203-245.

Eggert, Roderick G. (2010). *Mineral Exploration and Development: Risk* and Reward. Speech given at the International Conference on Mining, Staking a Claim for Cambodia, Phnom Penh, Cambodia, May 26–27, 2010. http://www.miningnorth.com/ rsc/site-content/library/education/ Mineral Exploration & Development Roderick Eggert Eng.pdf>, as of December 16, 2015.

Fraser Institute (various authors) (2005/2006–2014). Fraser Institute Annual Survey of Mining Companies. Fraser Institute.

Jackson, Taylor, and Kenneth P. Green (2015). Survey of Mining Companies 2014. Fraser Institute.

Jackson, Taylor, and Kenneth P. Green (forthcoming). Survey of Mining Companies 2015. Fraser Institute.

Keen, Kip (2013, November 23). Shrinking metals reserves puts Canada in precarious position. *Agoracom*. http://www2.agoracom.com/ir/KWG/forums/discussion/topics/593687-shrinking-metal-reserves-puts-pressure-on-canada/messages/1862881, as of January 29, 2016.

Moon, Charles J., Michael E. G. Whateley, and Anthony M. Evans (ed.) (2006). *Introduction to Mineral Exploration*. Blackwell.

Natural Resources Canada [NRCAN] (2013). *Canada is a Global Mineral Exploration and Mining Giant.* < http://www.nrcan.gc.ca/media-room/backgrounders/2013/1851>, as of December 17, 2015.

Natural Resources Canada [NRCAN] (2014). *Mineral Industry Employment: Information Bulletin, August 2014.* http://www.nrcan.gc.ca/mining-materials/publications/16739, as of December 17, 2015.

Natural Resources Canada [NRCAN] (2015). *Exploration Plus Deposit Appraisal Expenditures, by Province and Territory, by Mineral Commodity Sought, 2014.* Web table. Government of Canada. http://sead.nrcan.gc.ca/expl-expl-ExploTable.aspx?FileT=29&Lang=en>, as of January 4, 2016.

Prospectors and Developers Association of Canada [PDAC] (2015). *Supporting Responsible Exploration Globally: Feedback from Companies*. http://www.pdac.ca/pdf-viewer?doc=/docs/default-source/e3-plus---common/supporting-responsible-exploration-globally.pdf>, as of December 16, 2015.

Rankin, W.J. (2011). *Minerals, Metals and Sustainability: Meeting Future Material Needs.* CSIRO Publishing.

Söderholm, Kristina, Patrik Söderholm, Heidi Helenius, Maria Pettersson, Roine Viklund, Vladimir Masloboev, Tatiana Mingaleva, and Viktor Petrov (2015). Environmental Regulation and Competitiveness in the Mining Industry: Permitting Processes with Special Focus on Finland, Sweden, and Russia. *Resources Policy* 43: 130–142.

Tarikh, Salma (2014, March 12). PDAC: What turns a discovery into a mine? *The Northern Miner*. http://www.northernminer.com/news/pdac-factors-that-affect-whether-a-discovery-turns-into-a-mine/1002948132/, as of January 29, 2016.

Tilton, John E. (1983). *Comparative Advantage in Mining*. Unpublished Working Paper, International Institute for Applied Systems Analysis, Lax-

enburg, Austria. As cited in Tilton, John E. (1992). Mineral Endowment, Public Policy and Competitiveness: A survey of issues. Resources Policy 18, 4: 237-249.

Tilton, John E. (1992). Mineral endowment, public policy and competitiveness: A survey of issues. Resources Policy 18, 4: 237–249.

Wilson, Alana, Fred McMahon, and Jean-François Minardi (2013). British Columbia's Mining Policy Performance: Improving BC's Attractiveness to Mining Investment. Fraser Institute.

World Bank (2016). *World Bank Commodity Price Data*. http://www. worldbank.org/en/research/commodity-markets>, as of January 19, 2016.

About the authors

Kenneth P. Green

Kenneth P. Green is Senior Director of Natural Resources at the Fraser Institute. He received his doctorate in Environmental Science and Engineering from the University of California, Los Angeles (UCLA), an MS in Molecular Genetics from San Diego State University, and a BS Biology from UCLA. Dr. Green has studied public policy involving risk, regulation, and the environment for more than 17 years at public policy research institutions across North America. He has an extensive publication list of policy studies, magazine articles, opinion columns, book and encyclopedia chapters, and two supplementary text books on climate change and energy policy. Ken's writing has appeared in major news papers across the US and Canada, and he is a regular presence on both Canadian and American radio and television.

Taylor Jackson

Taylor Jackson is a Policy Analyst at the Fraser Institute. He holds a BA in Political Science and an MA from Simon Fraser University. Mr. Jackson is the coauthor of a number of Fraser Institute studies, including Safety in the Transportation of Oil and Gas: Pipelines or Rail?, and the Fraser Institute's annual Global Petroleum Survey, and Survey of Mining Companies. He is also the coauthor of a book chapter on the past, present, and future of Canadian-American relations with Professor Alexander Moens. Mr Jackson's work has been covered in the media all around the world and his commentaries have appeared in the National Post, Financial Post, and Washington Times, as well as other newspapers across Canada.

Acknowledgments

The authors would like to thank the members of the mining community who responded to the Mining Survey from which the data for this paper were gathered and to anonymous reviewers whose comments helped improve this paper. Any remaining errors or oversights are the sole responsibility of the authors. As the researchers have worked independently, the views and conclusions expressed in this paper do not necessarily reflect those of the Board of Directors of the Fraser Institute, the staff, or supporters.

Publishing information

Distribution

These publications are available from http://www.fraserinstitute.org in Portable Document Format (PDF) and can be read with Adobe Acrobat® or Adobe Reader®, versions 7 or later. Adobe Reader® XI, the most recent version, is available free of charge from Adobe Systems Inc. at http://get. adobe.com/reader/>. Readers having trouble viewing or printing our PDF files using applications from other manufacturers (e.g., Apple's Preview) should use Reader® or Acrobat®.

Ordering publications

To order printed publications from the Fraser Institute, please contact:

- e-mail: sales@fraserinstitute.org
- telephone: 604.688.0221 ext. 580 or, toll free, 1.800.665.3558 ext. 580
- fax: 604.688.8539.

Media

For media enquiries, please contact our Communications Department:

- 604.714.4582
- e-mail: communications@fraserinstitute.org.

Copyright

Copyright © 2016 by the Fraser Institute. All rights reserved. No part of this publication may be reproduced in any manner whatsoever without written permission except in the case of brief passages quoted in critical articles and reviews.

Date of issue

February 2016

ISBN

978-0-88975-389-1

Citation

Kenneth P. Green and Taylor Jackson (2016). Permit Times for serinstitute.org>.

Supporting the Fraser Institute

To learn how to support the Fraser Institute, please contact

- Development Department, Fraser Institute Fourth Floor, 1770 Burrard Street Vancouver, British Columbia, V6J 3G7 Canada
- telephone, toll-free: 1.800.665.3558 ext. 548
- e-mail: development@fraserinstitute.org
- website: http://www.fraserinstitute.org/donate

Purpose, funding, and independence

The Fraser Institute provides a useful public service. We report objective information about the economic and social effects of current public policies, and we offer evidence-based research and education about policy options that can improve the quality of life.

The Institute is a non-profit organization. Our activities are funded by charitable donations, unrestricted grants, ticket sales, and sponsorships from events, the licensing of products for public distribution, and the sale of publications.

All research is subject to rigorous review by external experts, and is conducted and published separately from the Institute's Board of Trustees and its donors.

The opinions expressed by authors are their own, and do not necessarily reflect those of the Institute, its Board of Trustees, its donors and supporters, or its staff. This publication in no way implies that the Fraser Institute, its trustees, or staff are in favour of, or oppose the passage of, any bill; or that they support or oppose any particular political party or candidate.

As a healthy part of public discussion among fellow citizens who desire to improve the lives of people through better public policy, the Institute welcomes evidence-focused scrutiny of the research we publish, including verification of data sources, replication of analytical methods, and intelligent debate about the practical effects of policy recommendations.

About the Fraser Institute

Our mission is to improve the quality of life for Canadians, their families, and future generations by studying, measuring, and broadly communicating the effects of government policies, entrepreneurship, and choice on their well-being.

Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.

Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

Editorial Advisory Board

Members

Prof. Terry L. Anderson Prof. Herbert G. Grubel

Prof. Robert Barro Prof. James Gwartney

Prof. Michael Bliss Prof. Ronald W. Jones

Prof. Jean-Pierre Centi Dr. Jerry Jordan

Prof. John Chant Prof. Ross McKitrick

Prof. Bev Dahlby Prof. Michael Parkin

Prof. Erwin Diewert Prof. Friedrich Schneider

Prof. Stephen Easton Prof. Lawrence B. Smith

Prof. J.C. Herbert Emery Dr. Vito Tanzi

Past members

Prof. Armen Alchian*

Prof. Jack L. Granatstein

Prof. James M. Buchanan*†

Prof. Friedrich A. Hayek*†

Prof. H.G. Johnson*

Prof. F.G. Pennance*

Prof. George Stigler*†

Sir Alan Walters*

Prof. Edwin G. West*

^{*} deceased; † Nobel Laureate