

## About The Fraser Institute

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The Fraser Institute is an independent Canadian economic and social research and educational organization. It has as its objective the redirection of public attention to the role of competitive markets in providing for the well-being of Canadians. Where markets work, the Institute's interest lies in trying to discover prospects for improvement. Where markets do not work, its interest lies in finding the reasons. Where competitive markets have been replaced by government control, the interest of the Institute lies in documenting objectively the nature of the improvement or deterioration resulting from government intervention. The Fraser Institute is a national, federally chartered non-profit organization financed by the sale of its publications and the contributions of its members, foundations, and other supporters.

## Acknowledgements

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We would like to thank Laura Jones for conceptualizing the project seven years ago, and Fred McMahon, Director of the Centre for Trade and Globalization Studies at The Fraser Institute for his direction and suggestions for improving the survey.

The Prospectors and Developers Association of Canada (PDAC), whose generous financial support made this year's survey possible, deserve a special thank you. Their support provided the necessary resources to develop and expand the "Objective Index" introduced last year. We are grateful to the PDAC for their suggestion to include measurable parameters and data by which to compare the Canadian jurisdictions, and for their assistance with the development of the parameters.

We would also like to thank James Otto, Deputy Director of the Institute for Global Resources Policy and Management at the Colorado School of Mines for helping with the methodology of the Objective Index, and Sharon Prager for her help redesigning the survey and adding US jurisdictions four years ago.

Finally, we would like to thank all the companies who took the time to participate in *The Fraser Institute's Annual Survey of Mining Companies 2003/2004*. Your continued encouragement and participation have made the survey the success it is today.

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## **Survey Information**

The Fraser Institute Annual Survey of Mining Companies 2003/2004 was sent to 1,012 senior and junior mining companies around the world. The survey represents responses from 16 percent (159) of those companies, comprising 132 junior companies and 27 senior companies (junior companies tend to be smaller, actively engaging in exploration, whereas senior companies are larger, normally with producing mines). The companies participating in the survey account for exploration budgets totaling US\$642.4 million (2002). They represent over 70 percent (US\$240.7 million) of the total mineral exploration expenditure in Canada in 2002 (US\$340.3 million) as estimated by Natural Resources Canada. This survey further represents about 26 percent (US\$36.5 million) of the exploration expenditures in the United States in 2002 (US\$139.1 million), and 22 percent (US\$73.5 million) of the exploration expenditures in Australia in 2002 (US\$338.2 million) as estimated by the Metals Economics Group.

## Executive Summary—2003/2004 Mining Survey

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Since 1997, The Fraser Institute has conducted an annual survey of metal mining and exploration companies to assess how mineral endowments and public policy factors such as taxation and regulation affect exploration investment. Survey results represent the opinions of exploration managers in mining companies operating around the world. As the popularity of the survey has grown, we have expanded it to include more jurisdictions. We now ask companies to give us their opinions about the investment attractiveness of 53 jurisdictions including the Canadian provinces and territories (except Prince Edward Island), the Australian states, selected US states (this year Alaska, Arizona, California, Colorado, Idaho, Minnesota, Montana, Nevada, New Mexico, South Dakota, Utah, Washington, Wisconsin, and Wyoming), Argentina, Bolivia, Brazil, Chile, China, the Democratic Republic of Congo, Ghana, India, Indonesia, Ireland, Kazakhstan, Mexico, New Zealand, Peru, Philippines, Russia, South Africa, Turkey, Venezuela, and Zimbabwe. We look forward to including other jurisdictions of interest to the mining sector to further reflect the globalization of mining in the years to come.

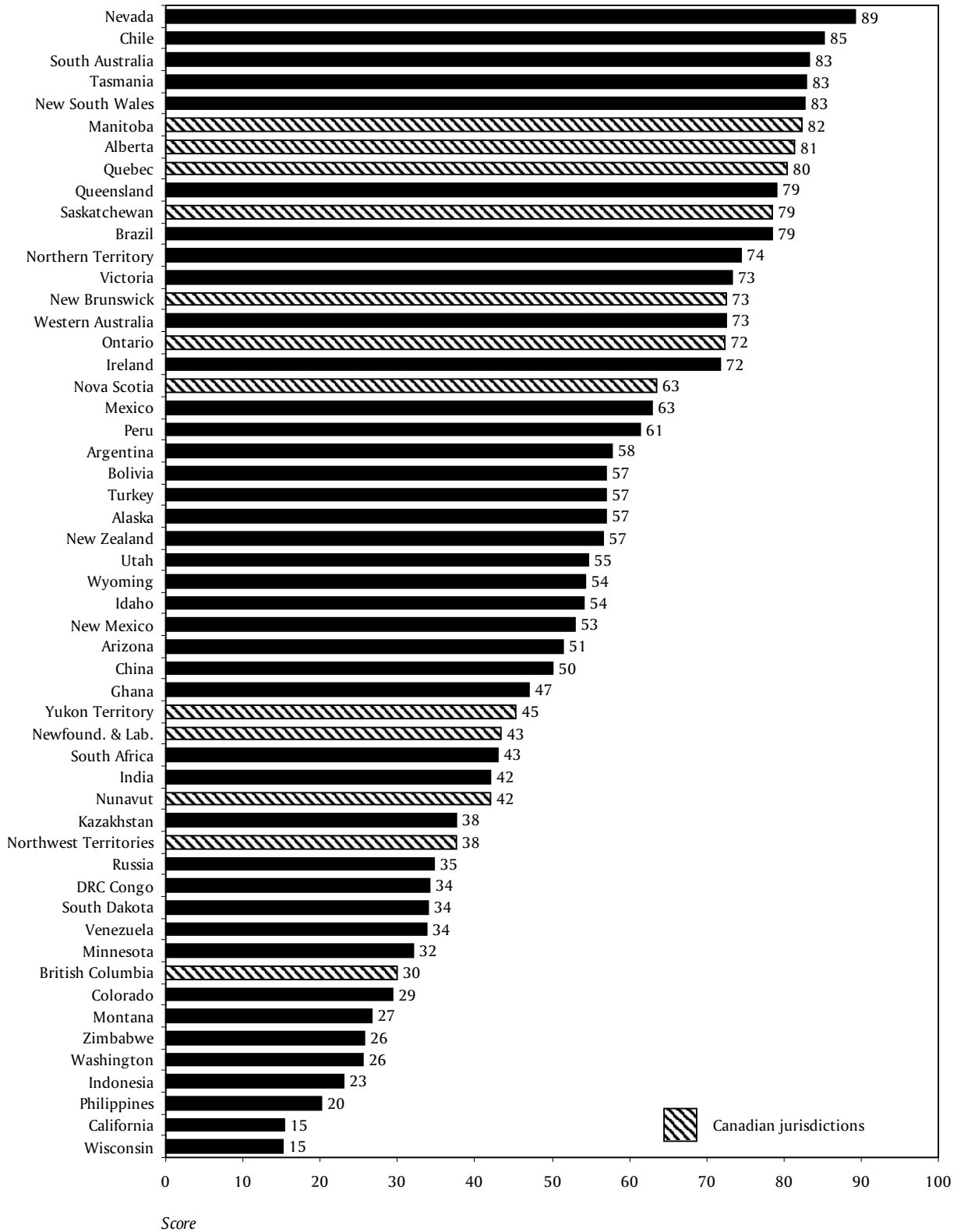
### **Policy Potential Index: A “Report Card” to Governments on the Attractiveness of their Mining Policies**

While geologic and economic evaluations are always requirements for exploration, in today’s globally competitive economy where mining companies may be examining properties located on different continents, a region’s policy climate has taken on increased importance in attracting and winning investment. The policy potential opinion index serves as a report card to governments on how attractive their policies are from the point of view of an exploration manager.

The Policy Potential Index is a composite index that measures the effects on exploration of government policies including uncertainty concerning the administration, interpretation, and enforcement of existing regulations, environmental regulations, regulatory duplication and inconsistencies, taxation, uncertainty concerning native land claims and protected areas, infrastructure, socioeconomic agreements, political stability, labour issues, and geological database.

The highest possible score on this index is 100. In the 2003/2004 survey, Nevada takes top place on the Policy Potential Index with a score of 89 (see figure 1). This is Nevada’s fourth straight year for being rated to have the best mineral policies. Nevada tied with Alberta for first place last year, tied with Chile the year before, and was alone at first place in 2000/2001. Other top-rated jurisdictions include Chile (85), South Australia, Tasmania, and New South Wales (tied with 83), Manitoba (82), Alberta (81), Quebec (80), and Queensland, Saskatchewan, and Brazil (tied with 79). While Nevada and Chile consistently perform well on the Policy Potential Index, this year’s decision to examine Australia as individual states pushed last year’s solid performers Ontario and New Brunswick out of the top 10. New Zealand dramatically improved its ranking from thirty-fifth last year to twenty-first

**Figure I: Policy Potential Index**



**Table I: Policy Potential Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Alberta	81	87	82	7/53	1/47	3/45	▼
British Columbia	30	23	14	45/53	44/47	45/45	▲
Manitoba	82	81	74	6/53	4/47	9/45	▲
New Brunswick	73	79	66	13/53	5/47	12/45	—
Nfld./Lab.	43	56	39	34/53	20/47	31/45	▲
NWT	38	49	40	38/53	24/47	30/45	▼
Nova Scotia	63	56	59	18/53	20/47	20/45	▲
Nunavut	42	44	33	36/53	31/47	33/45	▲
Ontario	72	76	78	16/53	8/47	5/45	▼
Quebec	80	77	76	8/53	7/47	6/45	—
Saskatchewan	79	74	65	9/53	10/47	14/47	▲
Yukon	45	48	32	33/53	27/47	35/45	▲
Alaska	57	50	64	22/53	23/47	16/45	▼
Arizona	51	71	80	30/53	11/47	4/45	▼
California	15	29	24	52/53	37/47	41/45	▼
Colorado	29	49	36	46/53	24/47	32/45	▼
Idaho	54	60	66	27/53	18/47	12/45	▼
Minnesota	32	43	56	44/53	33/47	22/45	▼
Montana	27	46	44	47/53	29/47	29/45	▼
Nevada	89	87	85	1/53	1/47	1/45	—
New Mexico	53	75	57	29/53	9/47	21/45	▼
South Dakota	34	66	50	41/53	16/47	24/45	▼
Utah	55	69	60	26/53	14/47	19/45	▼
Washington	26	29	27	48/53	37/47	39/45	—
Wisconsin	15	26	30	52/53	40/47	37/45	▼
Wyoming	54	58	64	27/53	19/47	16/45	▼
Australia	*	78	75	*	6/47	7/45	—
New South Wales	83	*	*	3/53	*	*	N/A
Northern Terr.	74	*	*	12/53	*	*	N/A
Queensland	79	*	*	9/53	*	*	N/A
South Australia	83	*	*	3/53	*	*	N/A

**Table I: Policy Potential Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Tasmania	83	*	*	3/53	*	*	N/A
Victoria	73	*	*	13/53	*	*	N/A
Western Aus.	73	*	*	13/53	*	*	N/A
Argentina	58	54	65	21/53	22/47	14/45	▼
Bolivia	57	70	64	22/53	13/47	16/45	▼
Brazil	79	64	75	9/53	17/47	7/45	—
Chile	85	85	85	2/53	3/47	1/45	—
Mexico	63	71	70	18/53	11/47	10/45	▼
Peru	61	67	69	20/53	15/47	11/45	▼
Venezuela	34	44	50	41/53	31/47	24/45	▼
Indonesia	23	19	27	50/53	47/47	39/45	▼
New Zealand	57	42	*	22/53	35/47	*	▲
Philippines	20	29	33	51/53	37/47	33/45	▼
DRC (Congo)	34	*	*	41/53	*	*	N/A
Ghana	47	45	49	32/53	30/47	27/45	—
South Africa	43	47	45	34/53	28/47	28/45	—
Zimbabwe	26	20	22	48/53	46/47	42/45	—
China	50	38	28	31/53	36/47	38/45	▲
India	42	26	*	36/53	40/47	*	▲
Ireland	72	*	*	16/53	*	*	N/A
Kazakhstan	38	24	21	38/53	43/47	43/45	▲
Russia	35	23	20	40/53	44/47	44/45	▲
Turkey	57	*	*	22/53	*	*	N/A

\*Data not gathered for jurisdiction this year.

this year as a result of improved perceptions about its taxation regime, and slight improvements to its ratings in uncertainty about both land claims and protected areas. South Africa's drop from twenty-eighth to thirty-fourth might be the result of impacts of the Mining Charter recently passed in that country. The worst performing jurisdictions, based on policy, are Wisconsin and California (tied at 15), the Philippines (20), Indonesia (23), Washington and Zimbabwe (tied at 26), Montana (27), Colorado (29), British Columbia (30), and Minnesota (32). California received its poor ratings

as a result of environmental regulations and local opposition to mining. Wisconsin performs poorly as a result of stringent regulations including the Mining Moratorium Act. Also worth noting is the fact that, despite recent policy changes, for the seven years that the survey has been conducted, British Columbia has continually been rated last in Canada for its mining policies.

Table 1 illustrates in greater detail the shifts in relative ranking of the policy potential of the jurisdictions surveyed. The first three columns provide the score each jurisdiction received on the Policy Potential Index (out of a best possible of 100) in this year's survey, and the two surveys before. The next three columns show the relative ranking assigned in each year. The last column indicates whether the jurisdiction is improving (▲), declining (▼), or remaining stable (—) relative to the other jurisdictions in the three years of data presented.

### **The Mineral Potential Index**

The Mineral Potential Index rates a region's attractiveness based on mining company executives' perceptions of geology. Survey respondents were asked to rate the mineral potential of each region with which they were familiar assuming no land use restrictions in place, but further assuming that any mine would operate to industry "best practice" standards. In other words, respondents were asked to rate the attractiveness of the region's mineral potential independent of any policy restrictions. The index ranks the jurisdictions based on which regions' geology "encourages exploration investment." This year, Russia is in first place with a score of 100 (see figure 2). Western Australia comes in a close second with 98. Peru and Chile tie for third with a score of 96, and Nevada rounds out the top five with a score of 92. Other top-ranked jurisdictions include Indonesia (91), Quebec (89), Ontario (87), and the Northwest Territories and Brazil (tied with 83). The lowest-rated jurisdictions on this index include Washington (2), Ireland, Wyoming, and New Zealand (tied at 8), and California (9).

Table 2 details the relative improvement or deterioration of each jurisdiction surveyed in terms of their performance on the Mineral Potential Index.

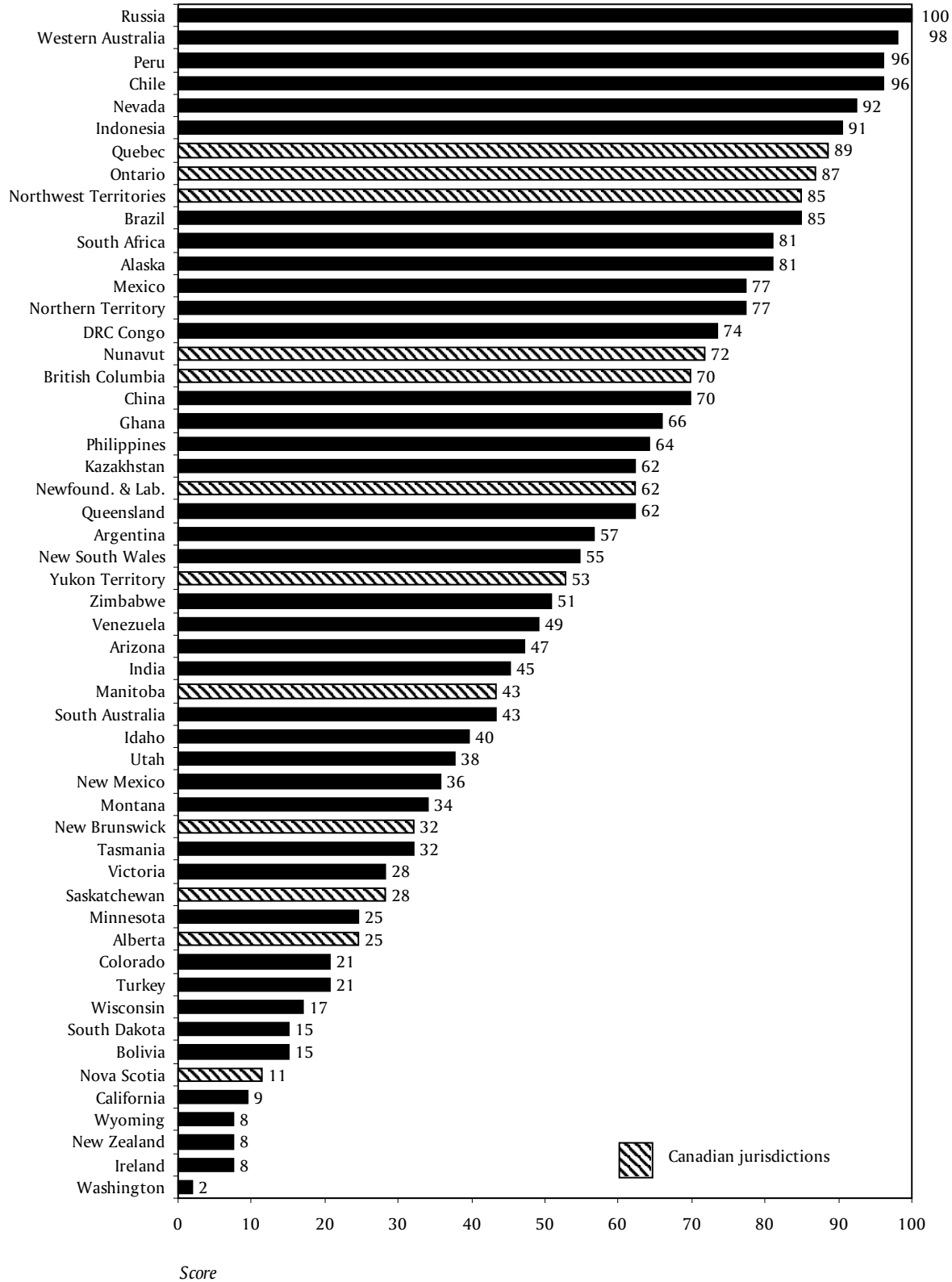
### **The Investment Attractiveness Index takes both Mineral and Policy Potential into Consideration**

An overall Investment Attractiveness Index is constructed by combining the mineral potential index, which rates regions based on geologic attractiveness, and the policy potential index, a composite index that measures the effects of government policy on attitudes toward exploration investment. In an effort to determine a weighting with which the industry agrees, we ask survey respondents what weights they would place on policy and mineral potential to determine the weighting we should accord the mineral and policy scores when compiling the Investment Attractiveness Index. The median result of the findings this year was to put a 60 percent weight on mineral potential and a 40 percent weight on policy.

Chile is the top-rated jurisdiction for investment attractiveness for the second year with a score of 92 out of 100 (see figure 3). Nevada comes in a close second this year with 91, followed by Western Aus-



**Figure 2: Mineral Potential Index**



**Table 2: Mineral Potential Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Alberta	25	6	11	41/53	45/47	41/45	▲
British Columbia	70	74	91	17/53	13/47	5/45	▼
Manitoba	43	47	62	31/53	26/47	18/45	▼
New Brunswick	32	23	18	37/53	37/47	38/45	▲
Nfld./Lab.	62	28	47	21/53	35/47	25/45	▲
NWT	85	81	80	9/53	10/47	10/45	▲
Nova Scotia	11	2	2	48/53	47/47	45/45	▲
Nunavut	72	83	73	16/53	9/47	13/45	—
Ontario	87	87	98	8/53	7/47	2/45	▼
Quebec	89	98	100	7/53	2/47	1/45	▼
Saskatchewan	28	19	24	39/53	39/47	35/45	▲
Yukon	53	66	64	26/53	17/47	17/45	▼
Alaska	81	70	91	11/53	15/47	5/45	▼
Arizona	47	45	49	29/53	27/47	24/45	—
California	9	40	42	49/53	29/47	27/45	▼
Colorado	21	40	31	43/53	29/47	32/45	▼
Idaho	40	34	36	33/53	32/47	30/45	▲
Minnesota	25	13	27	41/53	42/47	34/45	—
Montana	34	53	53	36/53	23/47	22/45	▼
Nevada	92	85	82	5/53	8/47	9/45	▲
New Mexico	36	26	40	35/53	36/47	28/45	—
South Dakota	15	17	4	46/53	40/47	44/45	▲
Utah	38	34	13	34/53	32/47	40/45	▲
Washington	2	17	7	53/53	40/47	43/45	▼
Wisconsin	17	4	9	45/53	46/47	42/45	▲
Wyoming	8	13	16	50/53	42/47	39/45	▼
Australia	*	96	96	*	3/47	3/45	—
New South Wales	55	*	*	25/53	*	*	N/A
Northern Terr.	77	*	*	13/53	*	*	N/A
Queensland	62	*	*	21/53	*	*	N/A
South Australia	43	*	*	31/53	*	*	N/A

**Table 2: Mineral Potential Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Tasmania	32	*	*	37/53	*	*	N/A
Victoria	28	*	*	39/53	*	*	N/A
Western Aus.	98	*	*	2/53	*	*	N/A
Argentina	57	66	58	24/53	17/47	20/45	—
Bolivia	15	66	56	46/53	17/47	21/45	▼
Brazil	85	96	93	9/53	3/47	4/45	▼
Chile	96	100	85	3/53	1/47	7/45	▲
Mexico	77	77	67	13/53	12/47	16/45	▲
Peru	96	96	76	3/53	3/47	12/45	▲
Venezuela	49	51	38	28/53	24/47	29/45	▲
Indonesia	91	68	69	6/53	16/47	15/45	▲
New Zealand	8	9	*	50/53	44/47	*	—
Philippines	64	34	20	20/53	32/47	37/45	▲
DRC (Congo)	74	*	*	15/53	*	*	N/A
Ghana	66	49	44	19/53	25/47	26/45	▲
South Africa	81	74	71	11/53	13/47	14/45	▲
Zimbabwe	51	40	29	27/53	29/47	33/45	▲
China	70	81	78	17/53	10/47	11/45	▼
India	45	23	*	30/53	37/47	*	▲
Ireland	8	*	*	50/53	*	*	N/A
Kazakhstan	62	66	51	21/53	17/47	23/45	▲
Russia	100	89	84	1/53	6/47	8/45	▲
Turkey	21	*	*	43/53	*	*	N/A

\*Data not gathered for jurisdiction this year.

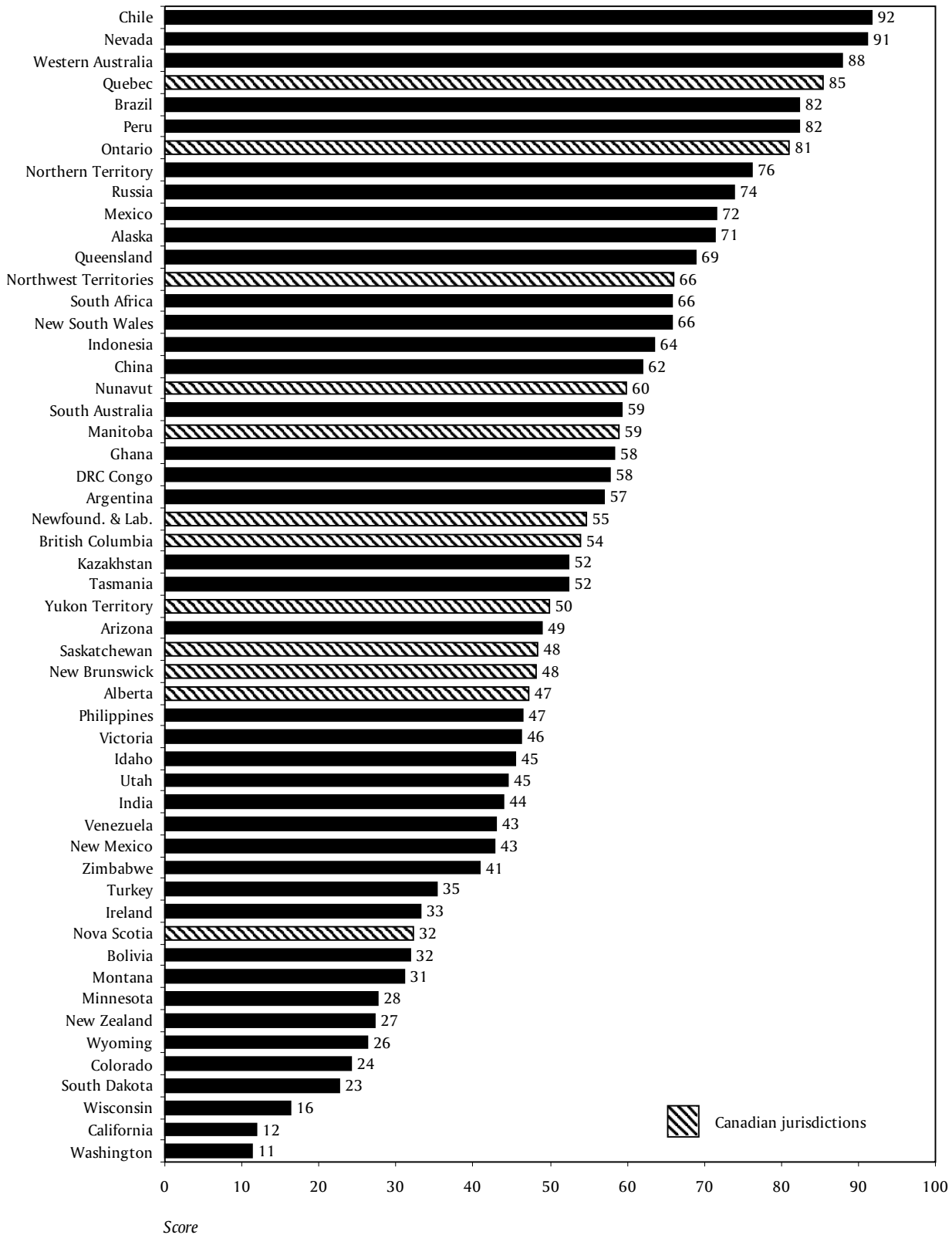
tralia, which comes third (88). Quebec (85) and Brazil and Peru (tied for 82) round out the top five positions. Other highly ranked jurisdictions include Ontario (81), Australia's Northern Territory (76), Russia (74), and Mexico (72). The lowest-rated jurisdictions on the investment attractiveness index, with low ratings on both the policy and mineral potential indices include Washington (11), California (12), Wisconsin (16), South Dakota (23), Colorado (24), Wyoming (26), New Zealand (27), Minnesota (28), Montana (31), and Nova Scotia and Bolivia (tied at 32).

The relative trends observed over the last three years for the performance of each of the jurisdictions on the overall Investment Attractiveness Index are detailed in table 3.

### **The Objective Index Complements Our Opinion Survey by Comparing Selected Policy Features of Canadian Jurisdictions**

For the third year we have provided readers with more information about the differences between policies in different regions by including a section that compares Canadian provinces and territories using available data. These data may provide some insight into what is causing some regions to score well and others poorly on the opinion survey. It has been suggested by survey respondents and policy makers alike that poor ratings for certain jurisdictions may be a result of misperceptions about the realities of operating in a jurisdiction. Assessing the differences in policy by comparing the data may help determine whether this is the case, although relevant data are often limited. Further, data alone cannot fully capture the investment climate, which is also affected by the personalities and biases of all stakeholders, whether they be the makers of policy, the administrators of policy, or the individuals and groups who care deeply about land use decisions, and feel that their concerns must also be heard. Therefore, this information should be considered only as a complement to the survey data presented in the body of the report. For these reasons, these data are not included when determining the Policy Potential, Mineral Potential, or Investment Attractiveness indices.

**Figure 3: Investment Attractiveness Index**



**Table 3: Investment Attractiveness Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Alberta	47	39	40	32/53	35/47	31/45	▲
British Columbia	54	54	60	25/53	20/47	15/45	▼
Manitoba	59	60	67	19/53	17/47	10/45	▼
New Brunswick	48	46	37	30/53	29/47	34/45	▲
Nfld./Lab.	55	39	44	24/53	35/47	27/45	▲
NWT	66	68	64	13/53	9/47	11/45	—
Nova Scotia	32	24	25	43/53	43/47	41/45	▲
Nunavut	60	67	57	18/53	11/47	19/45	▲
Ontario	81	83	90	7/53	6/47	1/45	▼
Quebec	85	90	90	4/53	2/47	1/45	▼
Saskatchewan	48	41	41	30/53	34/47	29/45	▲
Yukon	50	59	51	28/53	18/47	21/45	▼
Alaska	71	62	80	11/53	15/47	7/45	▼
Arizona	49	55	61	29/53	19/47	12/45	▼
California	12	36	35	52/53	38/47	35/45	▼
Colorado	24	44	33	49/53	32/47	38/45	▼
Idaho	45	44	48	35/53	32/47	24/45	▼
Minnesota	28	25	38	46/53	42/47	33/45	▼
Montana	31	50	50	45/53	21/47	22/45	▼
Nevada	91	86	83	2/53	4/47	6/45	▲
New Mexico	43	45	47	38/53	31/47	25/45	▼
South Dakota	23	37	23	50/53	37/47	43/45	—
Utah	45	48	32	35/53	26/47	39/45	▲
Washington	11	22	15	53/53	45/47	45/45	—
Wisconsin	16	13	17	51/53	47/47	44/45	—
Wyoming	26	31	35	48/53	41/47	35/45	▼
Australia	*	89	87	*	Mar-47	Mar-45	—
New South Wales	66	*	*	13/53	*	*	N/A
Northern Terr.	76	*	*	8/53	*	*	N/A
Queensland	69	*	*	12/53	*	*	N/A
South Australia	59	*	*	19/53	*	*	N/A

**Table 3: Investment Attractiveness Trends**

Jurisdiction	Score			Rank			Trend
	2003/ 2004	2002/ 2003	2001/ 2002	2003/ 2004	2002/ 2003	2001/ 2002	
Tasmania	52	*	*	26/53	*	*	N/A
Victoria	46	*	*	34/53	*	*	N/A
Western Aus.	88	*	*	3/53	*	*	N/A
Argentina	57	61	61	23/53	16/47	12/45	▼
Bolivia	32	69	59	43/53	9/47	16/45	▼
Brazil	82	83	86	5/53	6/47	4/45	—
Chile	92	94	86	1/53	1/47	4/45	▲
Mexico	72	74	68	10/53	8/47	9/45	—
Peru	82	84	73	5/53	5/47	8/45	▲
Venezuela	43	48	43	38/53	26/47	28/45	▼
Indonesia	64	49	52	16/53	24/47	20/45	—
New Zealand	27	22	*	47/53	45/47	*	—
Philippines	47	32	25	32/53	39/47	41/45	—
DRC (Congo)	58	*	*	21/53	*	*	N/A
Ghana	58	47	46	21/53	28/47	26/45	▲
South Africa	66	64	61	13/53	12/47	12/45	—
Zimbabwe	41	32	26	40/53	39/47	40/45	▲
China	62	64	58	17/53	12/47	18/45	▲
India	44	24	*	37/53	43/47	*	▲
Ireland	33	*	*	42/53	*	*	N/A
Kazakhstan	52	49	39	26/53	24/47	32/45	▲
Russia	74	63	59	9/53	14/47	16/45	▲
Turkey	35	*	*	41/53	*	*	N/A

\*Data not gathered for jurisdiction this year.

## Survey Background

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The idea to survey mining companies about how government policies and mineral potential affect new exploration investment came from a Fraser Institute conference on mining held in Vancouver, Canada, in the fall of 1996. The comments and feedback from the conference showed that the mining industry was dissatisfied with government policies that deterred exploration investment within the mineral-rich province of British Columbia. Since many regions around the world have attractive geology and competitive policies, and given the increasing opportunities to pursue business ventures globally, many conference participants expressed the view that it was easier to explore in jurisdictions with attractive policies than to fight for better policies elsewhere. The Fraser Institute launched the survey to examine which jurisdictions are providing the most favourable business climates for the industry, and in which areas certain jurisdictions need to improve.

The effects of increasingly onerous, seemingly capricious regulations, uncertainty about land use, higher levels of taxation, and other policies that interfere with market conditions are rarely felt immediately, as they are more likely to deter companies looking for new projects than they are to shut down existing operations. We felt that the lack of accountability that stems from 1) the lag time between when policy changes are implemented and when economic activity is impeded and job losses occur and 2) industry's reluctance to be publicly critical of politicians and civil servants, needed to be addressed.

In order to address this problem and assess how various public policy factors influence companies' decisions to invest in different regions, The Fraser Institute began conducting an anonymous survey of senior and junior companies in 1997. The first survey included all Canadian provinces and territories. The second survey, conducted in 1998, added 17 US states, Mexico, and for comparison with North American jurisdictions, Chile. The third survey, conducted in 1999, was further expanded to include Argentina, Australia, Peru, and Nunavut. The fourth survey looked at the Canadian provinces and territories (except for Prince Edward Island, which was removed due to its lack of mineral potential), 14 US states, Australia, Argentina, Chile, Mexico, Peru, as well as Brazil, Indonesia, Papua New Guinea, and South Africa. Additions continued through following editions, and in this, the seventh survey, we have included Russia, Kazakhstan, Venezuela, China, Philippines, New Zealand, Ghana, Zimbabwe, Turkey, and the Democratic Republic of the Congo. We have further divided Australia into states to compare regional policy differences.

We add countries to the list based on the interests expressed by survey respondents, and have noticed that these interests are becoming increasingly global. In recognition of the fact that jurisdictions are no longer competing only with the policy climates of their immediate neighbours, but with jurisdictions around the world, we think it is important to continue publishing and publicizing the results of the survey annually, and to make the results available and accessible to an increasingly global audience.



## Survey Results

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### Section I: Investment Climate Ratings

#### Methodology

The following section provides an analysis of 13 factors that contribute to the ability of jurisdictions to attract exploration investment. Companies were asked to rate for each jurisdiction the following factors on a scale of 1 to 5 (with 6 as a “do not know” option):

- Uncertainty concerning the administration, interpretation, and enforcement of existing regulations
- Environmental regulations
- Regulatory duplication and inconsistencies (including federal/provincial or federal/state and interdepartmental overlap)
- Taxation regime (including personal, corporate, payroll, capital taxes, and the complexity associated with tax compliance)
- Uncertainty concerning native land claims
- Uncertainty concerning which areas will be protected as wilderness or parks
- Infrastructure
- Socioeconomic agreements
- Political stability
- Labour regulation/employment agreements
- Geological database (including quality and scale of maps and ease of access to information)
- Mineral potential assuming current regulation and land use restrictions
- Mineral potential assuming no regulation or land restrictions (but further assuming industry “best practice” standards)

#### Scale

1 = encourages exploration investment

2 = not a deterrent to exploration investment

3 = mild deterrent to exploration investment

4 = strong deterrent to exploration investment

5 = would not pursue exploration investment in this region due to this factor

6 = do not know

Figures 4 through 13 show the percentage of respondents who rate various policy factors as strong deterrents to exploration investment in each jurisdiction. This includes survey respondents who either consider the factor a “strong deterrent to exploration investment” or “would not pursue exploration investment in this region due to this factor” (a “4” or a “5” on the scale above). We have highlighted Canadian jurisdictions for ease of comparison. On the pages opposite these graphs, we have included quotes from survey respondents that help illustrate their feelings about operating in different regions. Figures 14 through 16 show the percentage of respondents who say that the geological database or mineral potential of each jurisdiction either “encourages exploration investment” or is “not a deterrent to exploration investment” (a “1” or a “2” on the scale above). Figures 1, 2, and 3, shown in the executive summary, give the composite rates for policy potential, mineral potential, and overall investment attractiveness. The mineral potential index was created by indexing jurisdictions according to the number of “1s” they received on the above scale. Tables 4 and 5 summarize the survey results. Table 6 shows the number of companies who indicate that a jurisdiction has the most/least favourable policies toward mining. Section II provides an overview of where the companies surveyed invested their exploration budgets, including separation of seniors from juniors and recent trends.



## **Graphical Results**

## **Uncertainty Concerning the Administration, Interpretation, and Enforcement of Existing Regulations**

In Australia “with the exception of Native Title, most states actively support mineral exploration and mineral development and are continuing to modify legislation to improve this.”

—Exploration Manager, junior mining company

The problem in Mexico is “the corruption, especially in government circles. I would make the regulations less subjective and fire a number of senior officials. If anyone is in a [position] to remove these individuals I would gladly provide a list.”

—President, junior mining company

“The new government in BC is a big joke. Government layoffs have resulted in lack of staff. We have been waiting for a simple water license for one year and we will probably have to wait another two. I could go on and on...”

—Chief Operating Officer, junior mining company

“Our experience of conducting exploration in BC has been first rate despite the poor rating given BC by other mining executives. Are they actually working in BC??”

—President & CEO, junior mining company

“Nevada [rewards] self initiation, [and has] cooperative government attitude; reasonable regulations.”

—President/CEO, senior mining company

“Chile [has] stable politics, taxes, fair and fast administration and enforcement of environmental regulations.”

—President, junior mining company

Ontario has: “Minimal environmental permitting, quick turnaround of permits, limited regulations, no significant land claims, super-flow shares... Our work in Ontario has been very straightforward with no delays in 5 years of work and very limited government involvement.”

—Exploration Manager, junior mining company

“Ghana [has] good potential combined with transparent rules.”

—Company Secretary, junior mining company

The deterrents to mining in “India [include] monopoly control and bureaucratic impediments to exploration and development. [They should establish] fair laws governing foreign investment and development.”

—Managing Director, junior mining company

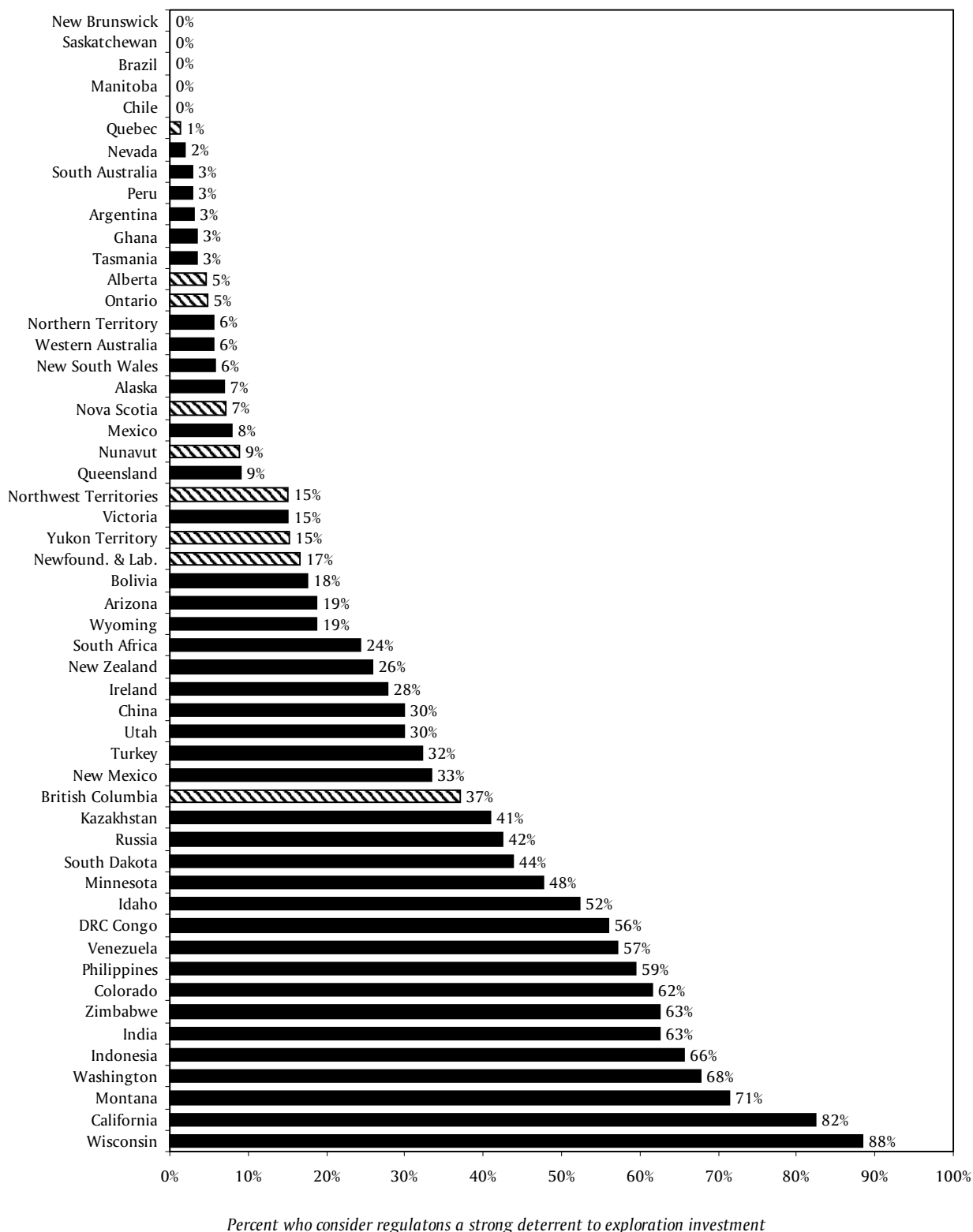
“Turkey [is] exemplary in clear rules for permitting drilling. [They] walk [companies] through defined steps.”

—Manager—Continent/Global Assessment, senior mining company

“Sweden [has a policy of] changing regulations to suit conditions. [The] government of Sweden requested that a tenement boundary be moved 1,000 km to the east to allow the government-owned mine to continue to develop the orebody at depth.”

—Chief Financial Officer, junior mining company

**Figure 4: Uncertainty Concerning the Administration, Interpretation, and Enforcement of Existing Regulations**



## Environmental Regulations

*The “USA and New Zealand [are] heavily over-regulated and distinctly green. In New Zealand [they should] give less control in policy-making to the conservation lobby.”*

—Exploration Manager, junior mining company

*“Most states of USA [have a] NIMBY attitude. Largest consumers but they don’t want environmental problems in their backyard.”*

—President, junior mining company

*“Chile [has] stable, reasonable environmental regulations.”*

—Evaluations Manager, senior mining company

*In the Yukon “—former mining-friendly territory—...a tracked vehicle (bulldozer) was used to mobilize a drill rig over a distance of about 1500 meters. A land-use inspector has ruled that the cat-tracks be filled (by hand) with peat moss. ‘By hand’ because no further vehicle access will be allowed.”*

—President, junior mining company

*“Mobilizing a helicopter... to move drill rig: Alaska Department of Fish & Game withheld permit because they feared that we would ‘bother the goats,’ due to pressure from local environmental group. Discussions with ‘stakeholders,’ greenies, and ADFG resulted in their recommendation to ‘study’ whether or not our activities would bother goats in their habitat by—you guessed it—using helicopters to dart/tag the goats in order to install collars for tracking. Statistically this would have resulted in several goat deaths since darting goats on steep mountain ledges generally results in 1 out of 10 goats falling to their deaths. As far as I know, moving a drill rig never killed any goats. Utterly ridiculous, overzealous bureaucrats!”*

—President, junior mining company

*Unfavourable mining policies include: “Laws against cyanide in Montana and Oregon, [and] excessive environmental zeal/regulations in California, Wisconsin, and Colorado.”*

—President, junior mining company

*In the “USA [the] environmental approval process is too cumbersome.”*

—CFO, junior mining company

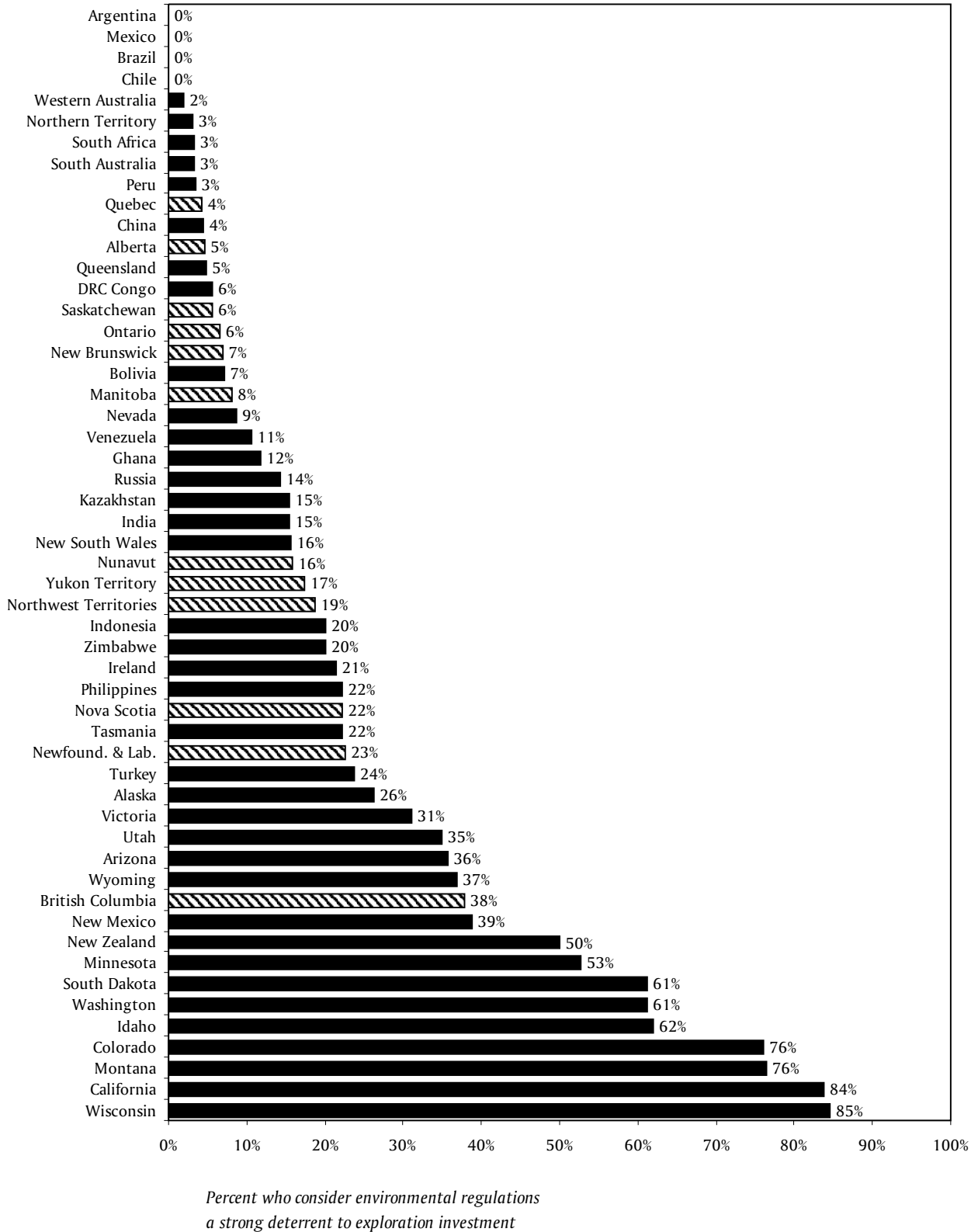
*“Chile actively encourages exploration and mining. No known issues regarding environment or native title.”*

—Controller/Vice President Exploration, junior mining company

*“My only comment on this is that regulations should consider, primarily, the geochemical aspects of a mine before all else. Location, etc. are non issues when weighed against the potential for geochemical contamination of the environment. Regulations should focus in this area and leave the other, minor, often obstructive issues such as access, power, camp, archaeology, wildlife, terrestrial ecosystem, fish, and other issues as ancillary to the geochemical issue.”*

—CEO, junior mining company

**Figure 5: Environmental Regulations**





## Uncertainty Concerning Regulatory Duplication and Inconsistencies

In the Northwest Territories, “28 months ago applied for permit to decline and pilot plant. 14 months ago permits cleared environmental review. 6 months later sent back for review by Minister. At 25 months, cleared review again, still no timetable for permits for this advanced exploration activity. No accountability to anybody.”

—President and CEO, junior mining company

“In Saskatchewan there are 3 agencies responsible for all water crossings: the provincial Saskatchewan Environment, the federal Fisheries, and the federal Coast Guard. Although the federal departments operate out of the same office they do not exchange files.”

—Director, junior mining company

In Western Australia: “Despite perceived difficulties with native title the lead time from discovery to production can still be very fast... [One] gold discovery (2m oz)... 3 years from discovery hole to first gold pour at stand-alone operation.”

—Managing Director, junior mining company

In “Nunavut and to some degree NWT and Yukon... land claims issues while somewhat resolved have created numerous governing boards and new regulations that make it very cumbersome to conduct exploration programs (lots of overlap). [They should:] Simplify regulations, eliminate boards, and allow qualified government officials to review project proposals and provide required permits.”

—Director and Geologist, junior exploration company

India’s problems lie in: “Bureaucracy, corruption, socialist policy. [They should] dismantle 19<sup>th</sup> century British administrative system.”

—Managing Director, junior mining company

“BC and Wisconsin [have problems with] over-regulation, uncertainty/multiple and lengthy permitting delays, [and] too many environmental restrictions on early stage work.”

—Exploration Manager, junior mining company

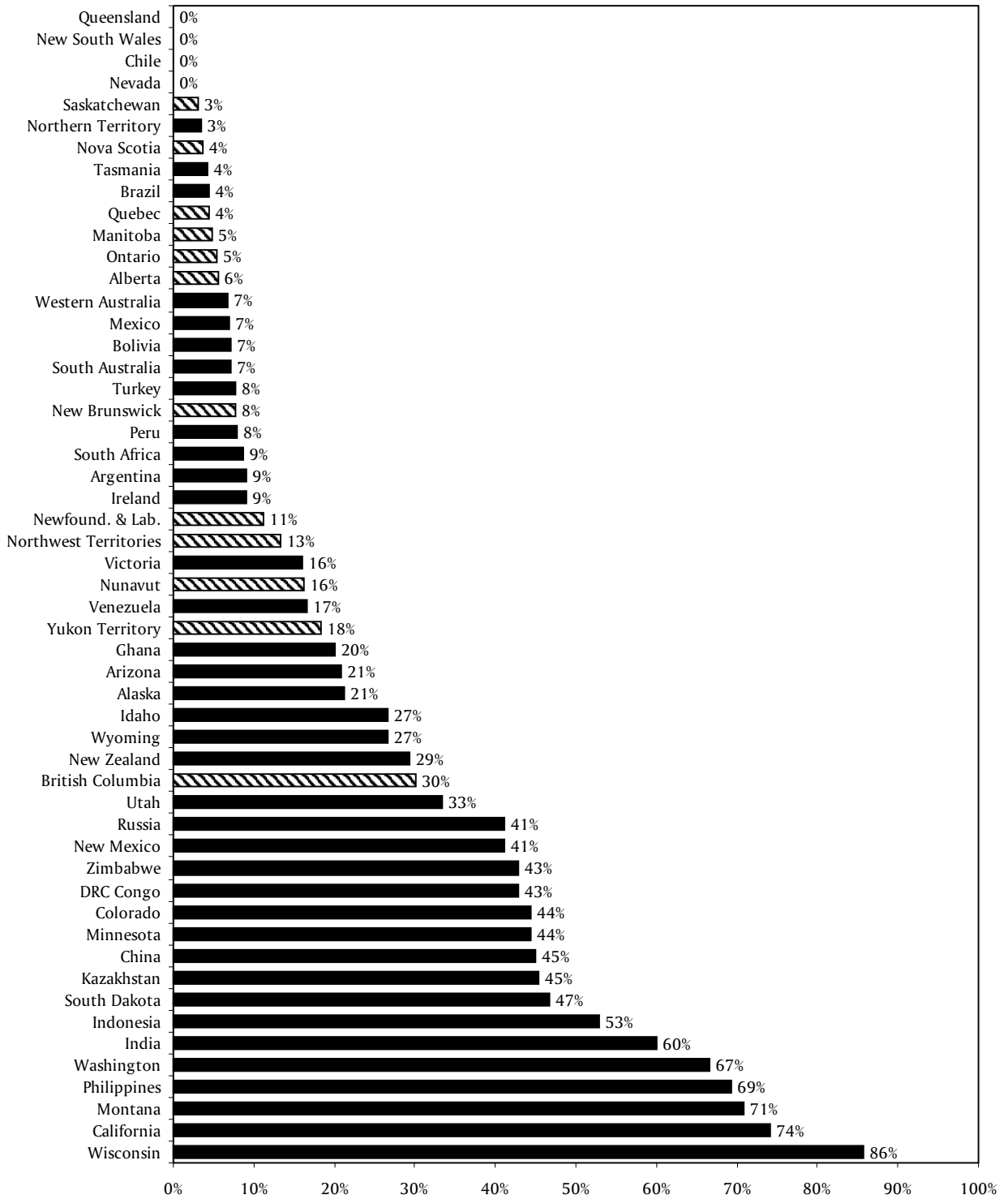
“Infighting between federal departments [in Canada] as to who should be lead responsible authority for environmental assessment for CEAA [Canadian Environmental Assessment Act]. After 13 weeks all involved still passing the buck.”

—Vice President, senior mining company

“In India, the lack of application of the ‘first come, first served’ principle for allocation of exploration licenses is a regulatory challenge. The lack of transparency when dealing with some State Governments such as Orissa and Chhattisgarh is a ‘horror story.’ The irregularity between states’ interpretation of the same federal policy is a strong deterrent to exploration investment.”

—Exploration Manager, senior mining company

**Figure 6: Regulatory Duplication and Inconsistencies**



*Percent who consider regulatory duplication and inconsistencies a strong deterrent to exploration investment*

## Taxation Regime

*“Quebec [is] very open to exploration and mining. System in place functions well. Pro mining attitude. Good benefits for exploration companies. Reasonable tax laws... Quebec moved right in when things got rough for exploration and mining (tax adjustments, grants, tax incentives, etc.).”*

—President, junior mining company

*“Flow-through share scheme implemented by Canada has demonstrated the benefits that accrue to companies, industry in general, and national economy if bureaucrats and politicians show some foresight—current Canadian diamond boom led by junior explorers. Such a scheme desperately needed in Australia!”*

—Chief Geologist, Australian junior mining company

*“Quebec [is favourable because of] mineral potential combined with aggressive government support: tax base, incentives, financing.”*

—Executive, senior mining company

*“Canada [has favourable policies regarding] taxation and other government-based encouragement and exploration funding.”*

—Managing Director, junior mining company

*“Peru [has an] aggressive tax structure, reasonable environmental process, good mineral potential.”*

—CFO, junior mining company

*“South Africa is in the process of introducing new mineral legislation which is likely to: a) alienate existing ownership rights; and b) impose punitive royalty payments.”*

—Company Secretary, senior mining company

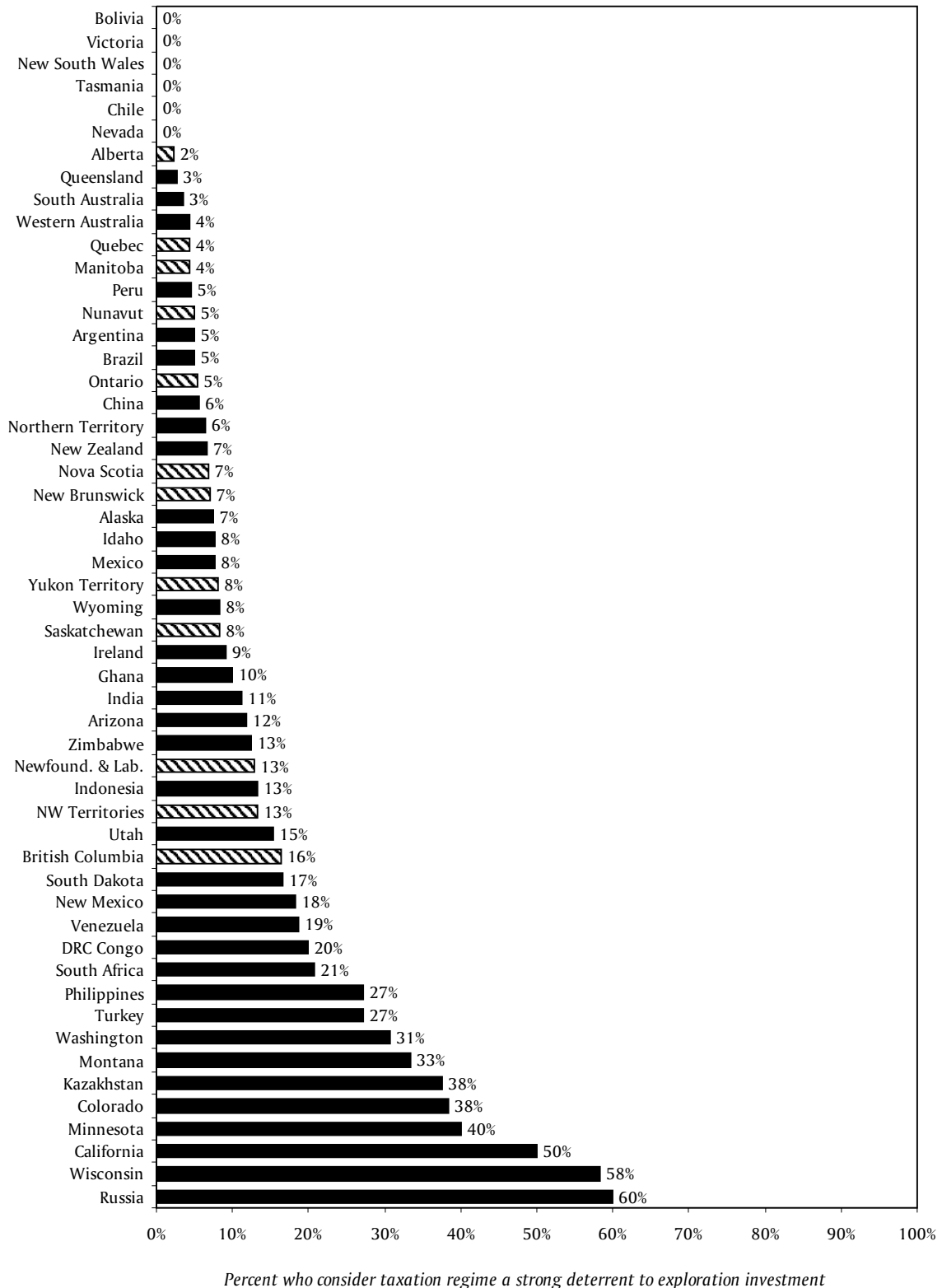
In *“Western Australia tax and government costs and royalties are out of control, [as are] native title and environmental regulations.”*

—CEO, junior mining company

In *“Russia [there is an] inability of government or courts to guarantee mineral rights. [There are problems with] unstable, inconsistent taxation/royalties.”*

—Evaluations Manager, junior mining company

**Figure 7: Taxation Regime**



## Uncertainty Concerning Native Land Claims

*“Yukon [has a] lack of co-ordination between territorial and federal jurisdictions and aboriginal interests. [They need a] clear definition of land use policy.”*

—President, junior mining company

*In Northern Territory, Australia: “Land titles expire due to lack of cooperation/ coordination between levels of government; process of negotiation with aboriginal land council completely co-opted by non-aboriginals with no interest in improving quality of life—a situation tolerated by all levels of government.”*

—President & CEO, senior mining company

*“In the ‘developed’ world, BC and Yukon continue to rank very high on the avoidance list of many explorers due to unsettled land claims and unreasonable permitting requirements even for ‘grass roots’ exploration programs.”*

—President, junior mining company

*“Queensland Standard Story: Can’t explore on granted mining leases due to uncertainty of native title. Can’t get mining leases renewed due to native title uncertainty. Don’t bother to apply for exploration permits over native title claimable ground due to complexity, delays, costs, and uncertainty of native title process. Hearsay stories of extortionate requirements by native title claimants on major projects.”*

—Exploration Manager, junior mining company

*“Ontario government does not give any help when natives confront mining companies. Not pro mining or pro development in the North. [They should establish:] Better working relationships between native groups and mining companies. If natives won’t negotiate they lose any input.”*

—CEO, junior mining company

*“Regulations are excessive and the lack of treaties make for uncertainties [in BC]. Environmental movement historically carries too much weight. [They should] create certainty when making investments in BC.”*

—President, junior mining company

*“Uncertainty over native land claims settlements increases risk. [British Columbia should] move to quickly solve native land claims issues.”*

—President, junior mining company

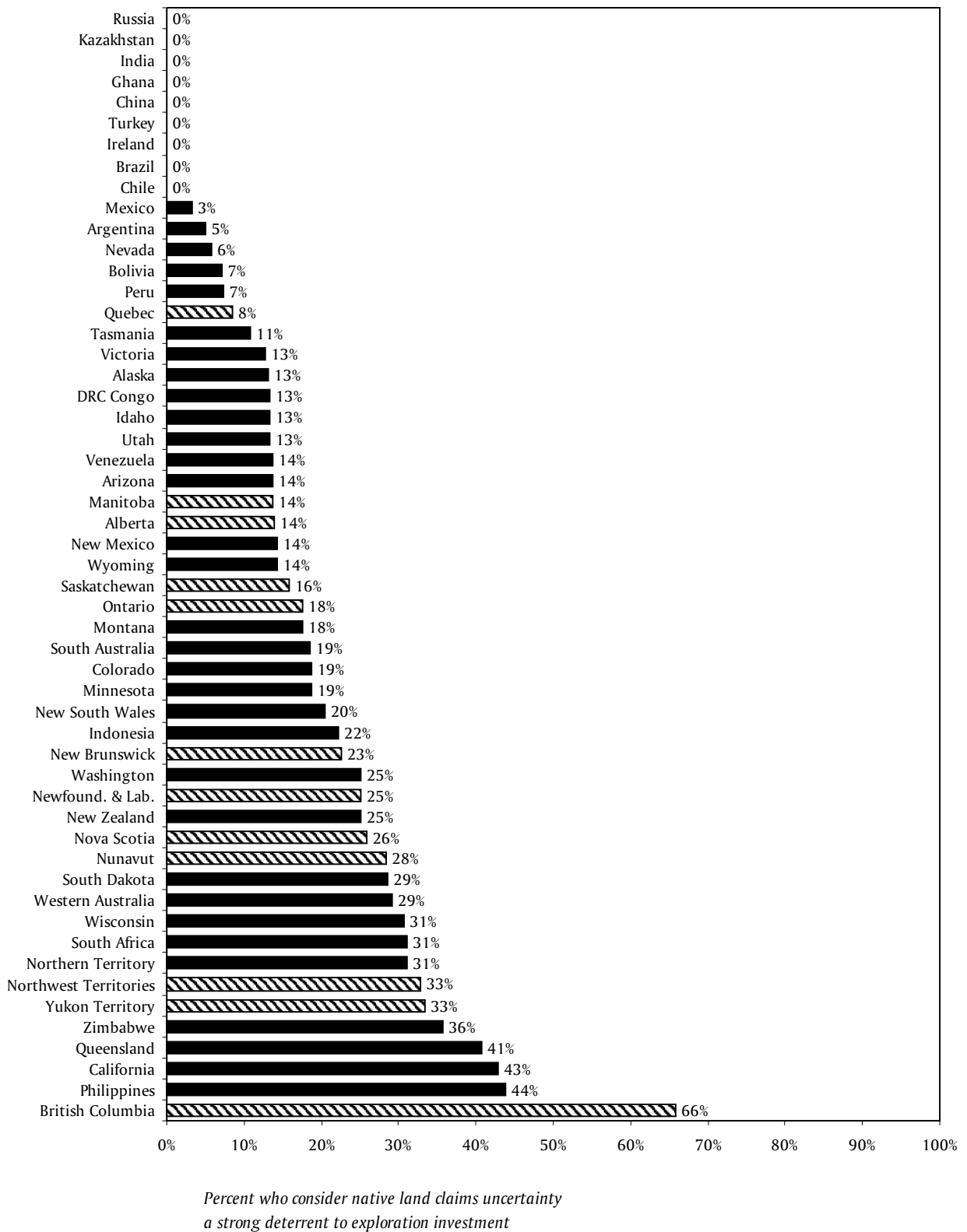
*“Zimbabwe and South Africa [have unfavourable] indigenization [aboriginal claim] policies.”*

—Vice President Exploration, junior mining company

*“Australia [has favourable policies] except tax and native title. Intent is there but completely [messed] up by politicians and lawyers. Native title can be simple but it is an industry on its own at present. [They should] revert to Aboriginal Heritage Act (former) and enforce it by government funding site clearance done by them nationwide. Mining should not have to negotiate and clear on heritage areas.”*

—Director, unlisted mining company

**Figure 8: Uncertainty Concerning Native Land Claims**



## **Uncertainty Concerning which Areas will be Protected as Wilderness or Parks**

*“Ontario would be top [mining] jurisdiction based on [mineral] potential. However, growing aboriginal, ‘Lands for Life,’ government regulation, and government lack of commitment make Ontario in major decline in my books.”*

—Executive, senior mining company

*“The whole story involved with Tatshenshini [expropriation in BC]. A change of government policy can create a huge negative impact within an industry sector. Investors have long memories.”*

—President, junior mining company

*“Mining is probably the most misunderstood industry in the world! All forms of government should be promoting mining instead of shooting it down. BC has an excellent mineral database and a terrific mineral potential, however politicians support parks, outdoor recreation, Indian land claims, environmentalists (many pay no taxes), etc... After 50 years of prospecting in BC I have never seen things so bad! The present [government] don’t seem to recognize the impact of their policies.”*

—Prospector, fifty years of experience

*In New Zealand: “Large amounts of land where the mineral potential lies is locked up in a conservation estate administered by the government. When combined with land claims, Kyoto Protocol, and environmental difficulties in obtaining consents, the overall landscape is terrible for mining. [There should be:] Consideration of socio-economic issues, not solely conservation, when attempting to obtain mining rights in respect of conservation estate.”*

—Project Manager, junior mining company

*“Native land claims coupled with government lack of decisive action is a major concern along with land use policies—park establishment over areas of mineral exploration potential. Reduced budgets (MNDM [Ministry of Northern Development and Mines]) is resulting in steadily declining product quality in Ontario (other than claim maps).”*

—Senior exploration geologist, junior mining company

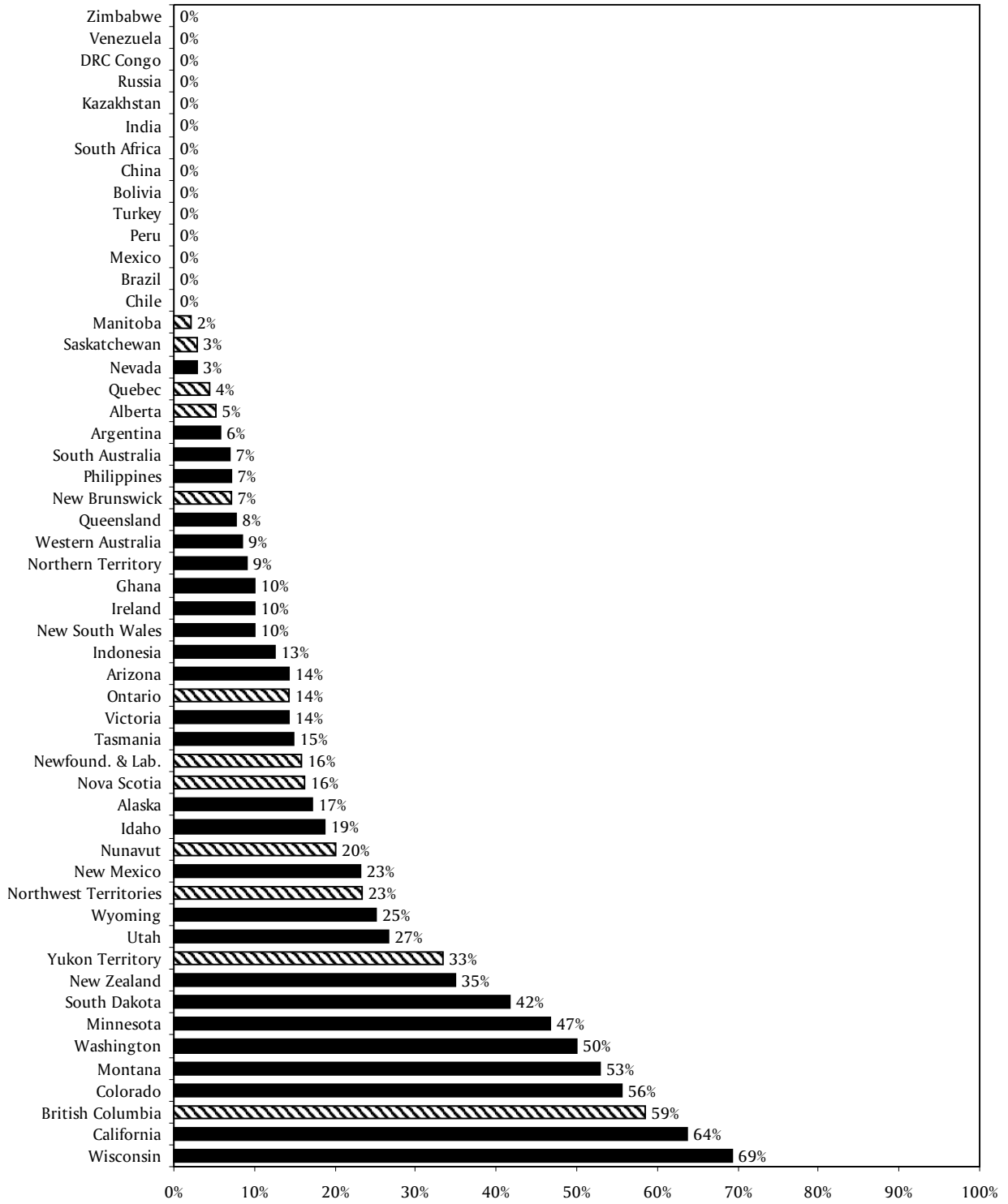
*The “Windy Craggy and Tulsequah [Chief in BC] come to mind.”*

—President, junior mining company

*In Australia “Lake Cowal [in New South Wales and] Coronation Hill [in the Northern Territory are] both examples of populist government caving in to spurious environmental (+/- native title) demands.”*

—Vice President Exploration, junior mining company

**Figure 9: Uncertainty Concerning which Areas will be Protected as Wilderness or Parks**



*Percent who consider protected areas uncertainty a strong deterrent to exploration investment*



## Infrastructure

In Quebec: *“There is a favourable bias towards mining and exploration. Institutions work with industry to resolve problems, if any.”*

—President and CEO, junior mining company

*“Canada or nothing! Uncertainty prevails everywhere! I only explore in good infrastructure—why go anywhere else? The potential is the same (most geologists don’t realize this!)”*

—President and Chief Explorationist, junior mining company

China has a *“complicated political/permitting system. [It is] difficult to obtain locally or import modern equipment, airborne geophysics, drills, etc.”*

—President, junior mining company

*“Quebec [has] set up excellent internet claim staking system, encourages exploration with significant investment tax credits, [and] provides excellent financing for exploration companies... Regulations/land use not a deterrent.”*

—President, junior mining company

In *“Zimbabwe [the] rules can change overnight—social chaos, lack of infrastructure, and necessities.”*

—Company Secretary, junior mining company

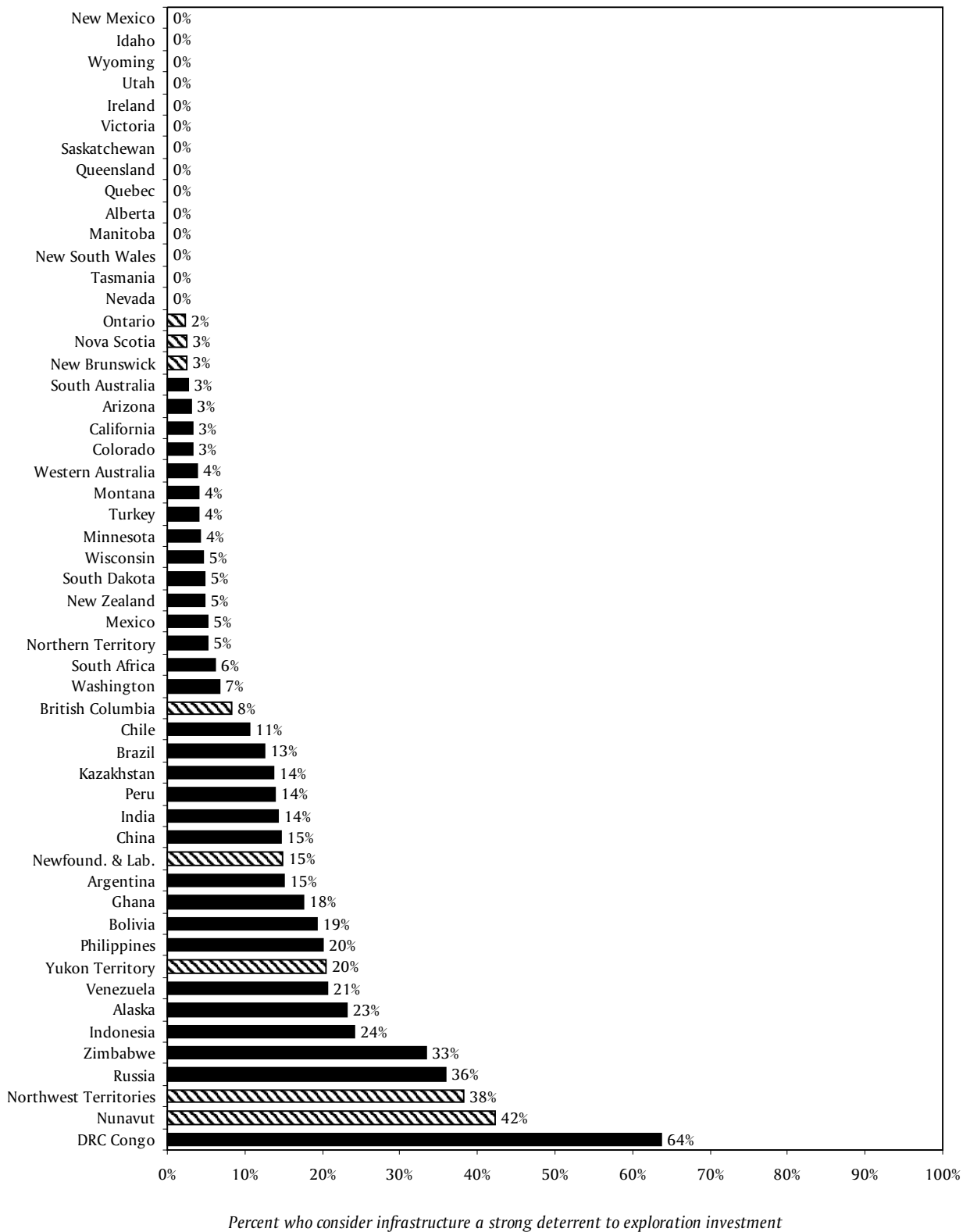
*“Australia [has a] historical mining culture, generally good regulatory environment—notwithstanding backlog of tenement applications held up by native title claims—good infrastructure, [and] good public domain databases... If Australia could clear backlog of titles applications held up by native title claims and introduce flow-through shares system, it would be as close as you’d hope to get to an exemplary policy climate.”*

—Chief Geologist, junior mining company

*“Chile, then Australia, then Quebec [have the most favourable policies]. A major advantage that Chile has is that most mine development is in the north of the country, in a dry desert environment, with little population present. Also the people of the country are generally supportive of mining.”*

—Director—Geology and Geochemistry, senior mining company

**Figure 10: Infrastructure**



## Socioeconomic Agreements

*“Quebec constantly finds ways to say yes, re-invent itself, high geological potential. Ontario [is] similar, but still more cumbersome.”*

—President, junior mining company

In the Northwest Territories: *“The requirement for community consultation for exploration is onerous and impractical. The (de facto) requirement for Impact and Benefits Agreements with native groups prior to receiving mining permits adds very significant costs to mining project.”* Solution: *“Eliminate the need for Impact and Benefits Agreements.”*

—President, junior mining company

In the Northwest Territories there is *“uncertainty regarding the regulatory environment and no clear formula for Impact Benefit Agreements. [They should] add more technical and business expertise to the Mackenzie Valley Review Board.”*

—Vice President Exploration, junior mining company

*“Brazil [is] exemplary: minerals are under federal control, strong incentives for mining projects, [and] stable political climate.”*

—Manager, International Exploration, senior mining company

In *“South Africa, mining title [is] unsure, empowerment, excessive royalties, [and] game rules changing. [They should] revert to the position that resulted in South Africa being an attractive mining investment country.”*

—CEO, junior mining company

*“Ontario, Quebec, [and] Nevada [have] strong mining history [and] good government policies.”*

—Director and Geologist, junior mining company

In California: *“State legislators and public don’t want mining in their state.”*

—Executive, senior mining company

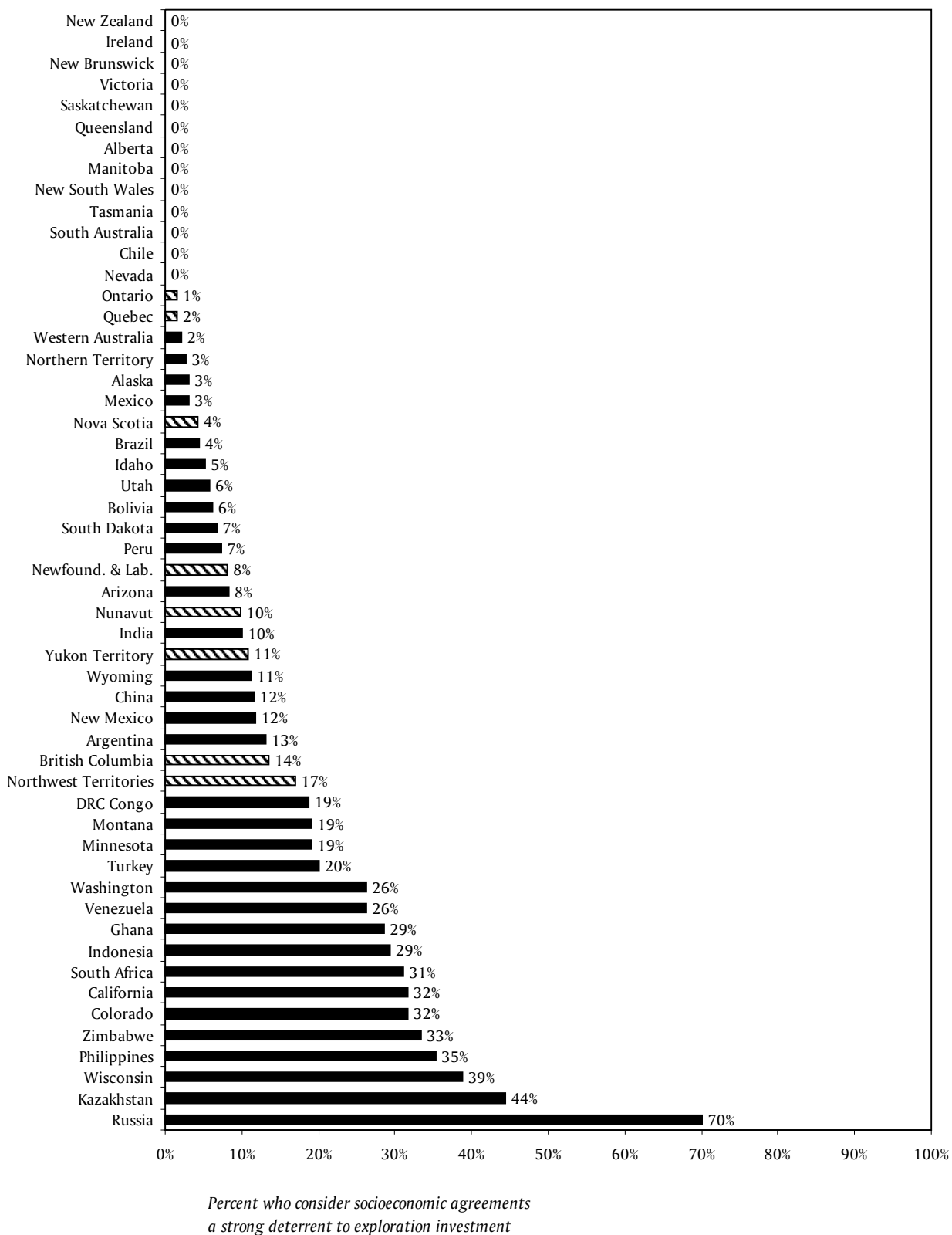
*“South Africa [has an unfavourable policy]: The Mining Charter—although the motives are correct, the implementation will be full of uncertainty, add in the new Royalty Bill and you have a toxic mix.”*

—President and CEO, junior mining company

*“Quebec [is] pro development. If you find something, you can develop it.”*

—CEO, junior mining company

**Figure I I: Socioeconomic Agreements**



## Political Stability

*“DRC (Congo) [has] fantastic mineral endowment but political risk is unacceptable.”*

—Managing Director, junior mining company

*“In December 2000, a new state was created from the original state of Madhya Pradesh, central India. Our prospecting licence was issued by the government of Madhya Pradesh in December 1999. Under the constitution, our P/L was supposed to automatically be assigned to the new state government of Chhattisgarh (formerly the eastern sector of Madhya Pradesh). We are still endeavouring to have the P/L and its associated permits re-activated by the Chhattisgarh state government and we have been prevented from continuing any fieldwork since the first quarter of 2001.”*

—Managing Director, junior mining company

In *“Russia/Central Asian countries [there is] no confidence in governments honouring policies/commitments.”*

—President, junior mining company

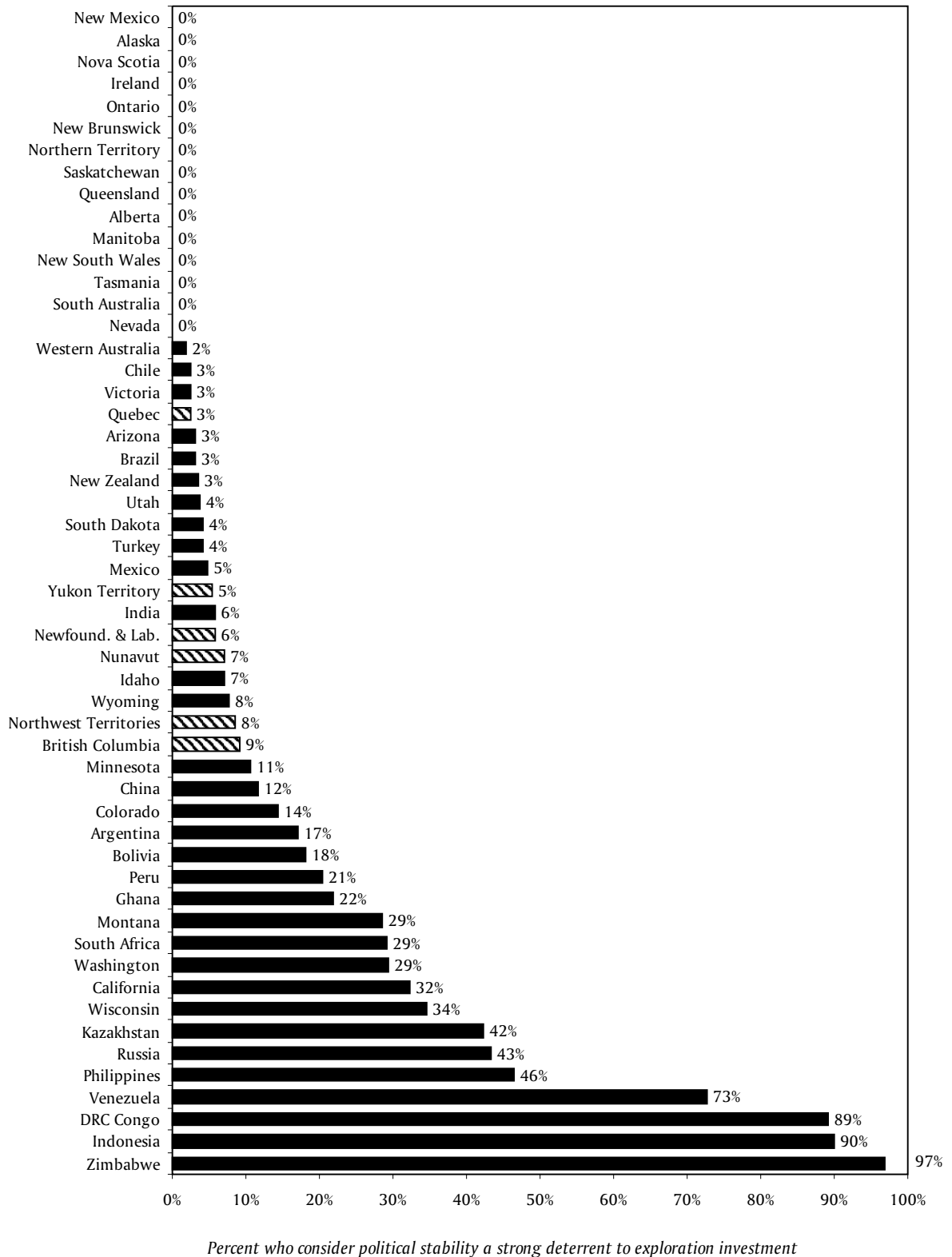
*“The global reality of instability when added to Canada’s favourable political regime has caused us to retrench and decide to stay in Canada. The cost of exploration is far less and dollars go farther. BC seems like a land of opportunity as it has received so little attention and the government wants us back.”*

—President, junior mining company

*“BC [needs] a clearly defined mining policy that can be depended on over time. Mining exploration and mining is high risk enough without the uncertainty of the province or country’s politics.”*

—Director, junior mining company

**Figure 12: Political Stability**



## Labour Regulation / Employment Agreements

*“Labour rules keep changing [in Ontario]; no alignment of provincial and federal environmental assessments, growing first nation issues hampering access to ground.”*

—Vice President, senior mining company

*“We are operating in Quebec only. We have disposed of interests in Mexico and Panama in recent years... because of [their] negative investment climate[s].”*

—President and CEO, junior mining company

In “Myanmar [the] government will accommodate any reasonable labour, environmental tax, or other regulations necessary.”

—President, junior mining company

In Newfoundland: *“Government officials [are] very helpful, local people very encouraging.”*

—Vice President Corporate Development, junior mining company

*“Australia [has a] good regulatory regime, open file data, reasonable access to land, [and a] good level of skill available.”*

—Exploration Manager, senior mining company

*“The mining charter is not very well constructed [in South Africa]; obtaining prospecting licenses is virtually impossible; black empowerment is not clear-cut; employment equity goal posts are changing regularly; proposed royalty bill is discriminatory and outdated; corruption in provincial and national departments.”*

—Exploration Manager, senior mining company

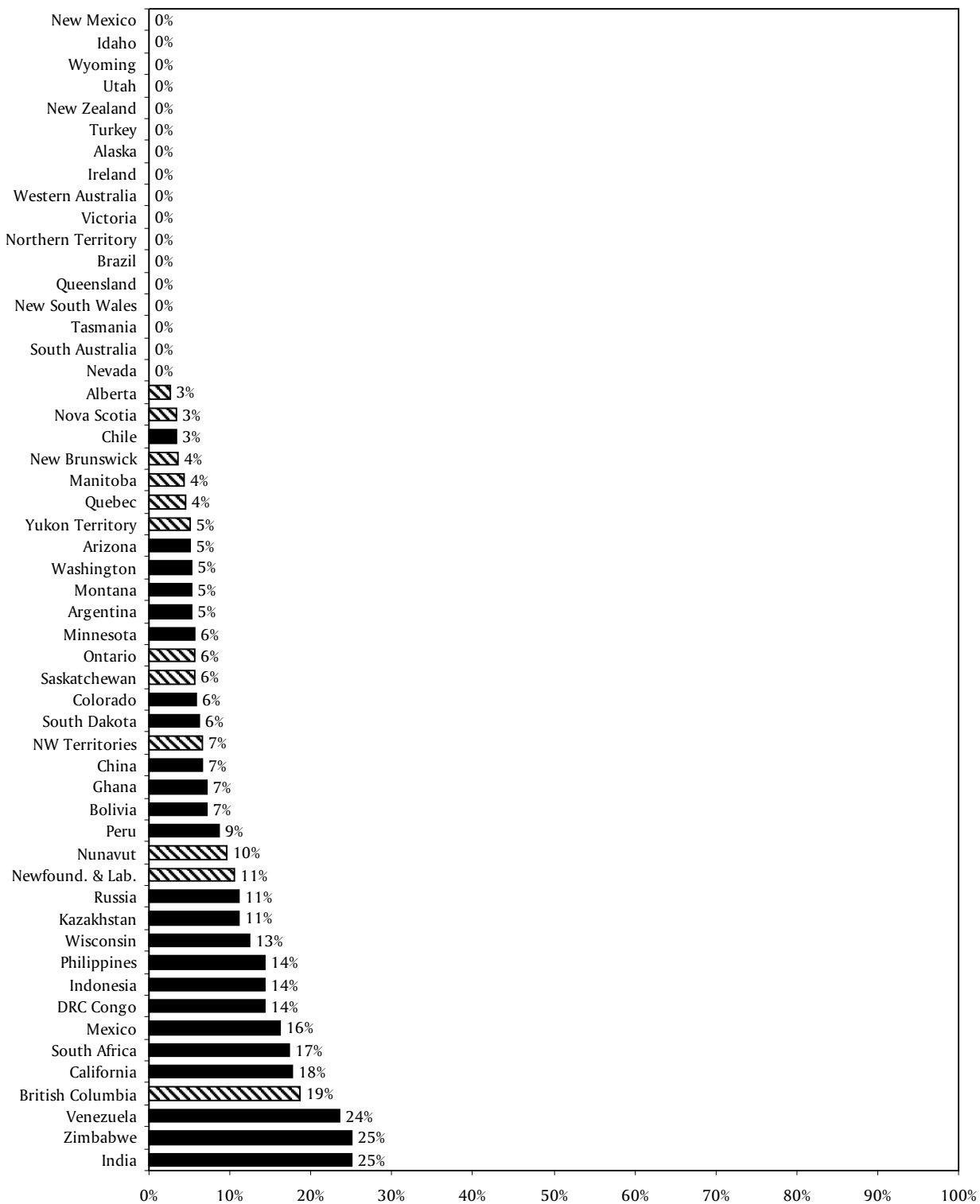
In Quebec: *“They seem to look at mining as being an integral part of their culture because a lot of communities were founded on it. They see mining as a realistic way to develop remote regions.”*

—Vice President Exploration, junior mining company

*“[Labour regulation] has little influence on whether we’d explore in a country.”*

—Executive, senior mining company

**Figure 13: Labour Regulation / Employment Agreements**



*Percent who consider labour regulation and employment agreements a strong deterrent to exploration investment*



## Geological Database

In Quebec: *“[The] government is very pro-mining—top geological database. Exceptional potential and relatively unexplored. A pro-mining jurisdiction [with] incentive programs [and] agreements with First Nations.”*  
—President, junior mining company

Ontario has *“very good records and dispute resolution facilities. Good regional mapping and geological surveys.”*  
—President, junior mining company

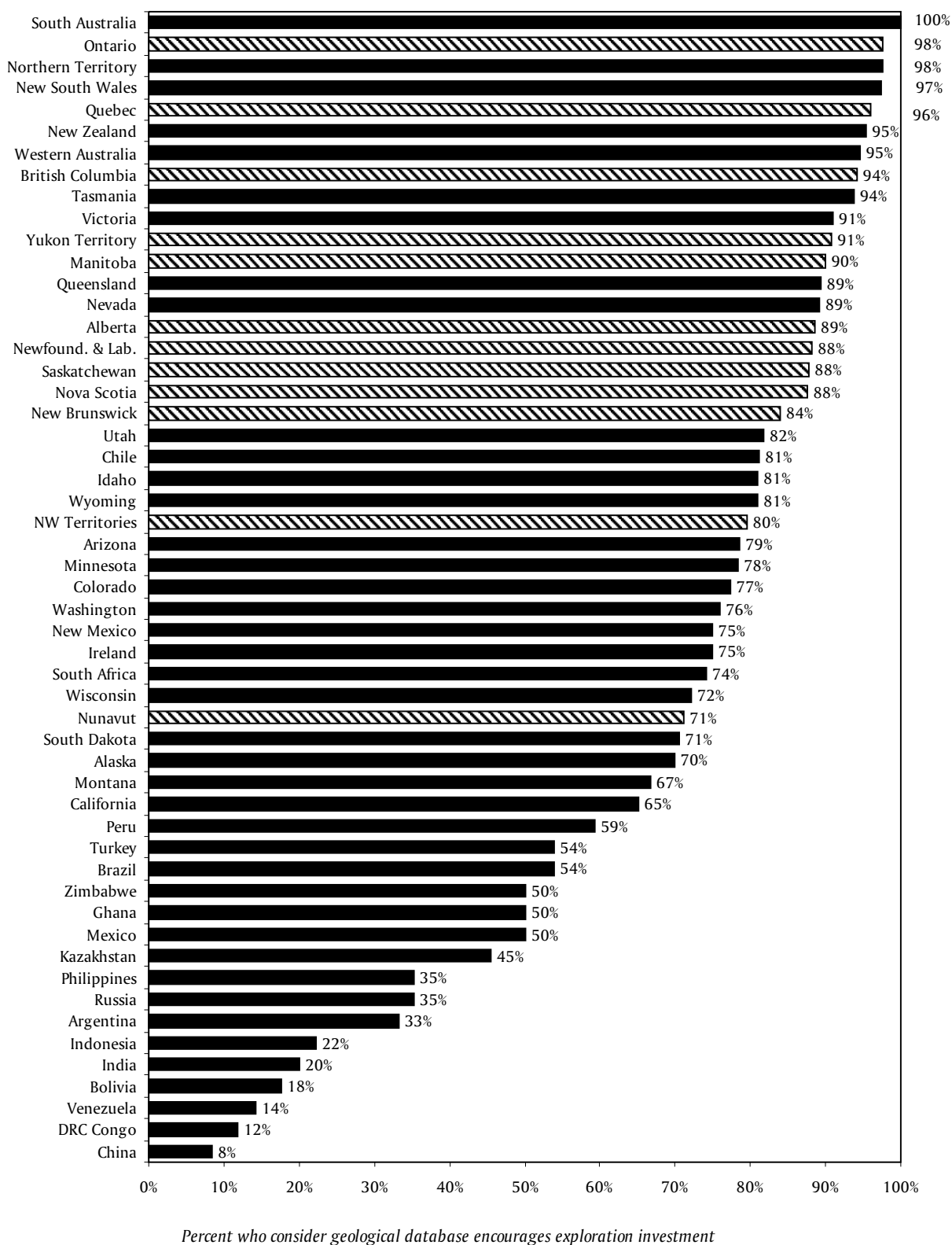
In Nevada: *“A sustained 7 to 8 million ounce gold production annually is a record no other jurisdiction can match.”*  
—President, junior mining company

Canada and Australia: *“Political stability, history of modern mining endeavours, great geological data (publicly available), safe to work, decent infrastructure and local expertise.”*  
—President & CEO, junior mining company

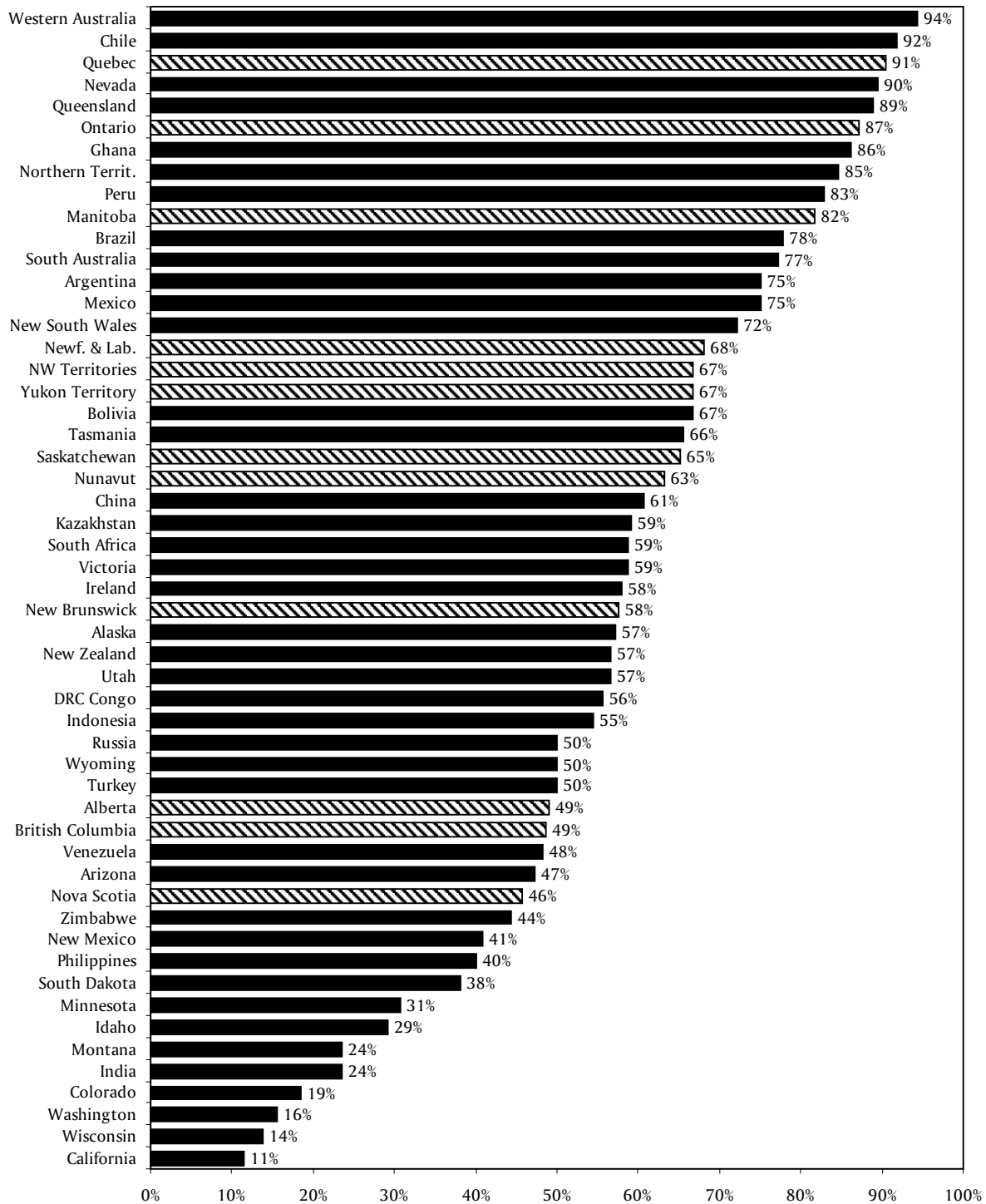
*“Wisconsin enacted laws which by USGS [United States Geological Survey] effectively ban sulphide mining. Wisconsin has been ranked as having highest potential for discovery of iron ores in the continental US. There are over 500 high priority C-M conductors in Wisconsin magnetic terrain that have never been drilled. The state supports dairy farming, which has a much greater negative environmental impact on the state’s water and air than mining would. Turn farmers into miners and watch the quality of life improve for everyone!”*  
—President, junior mining company

The most favourable policies are demonstrated by: *“Continued exploration and expansion [of] existing operations in Nevada, [and in] Peru, continued explorations at grass roots level plus mine site expansion.”*  
—Exploration/Land Manager, junior mining company

**Figure 14: Geological Database**

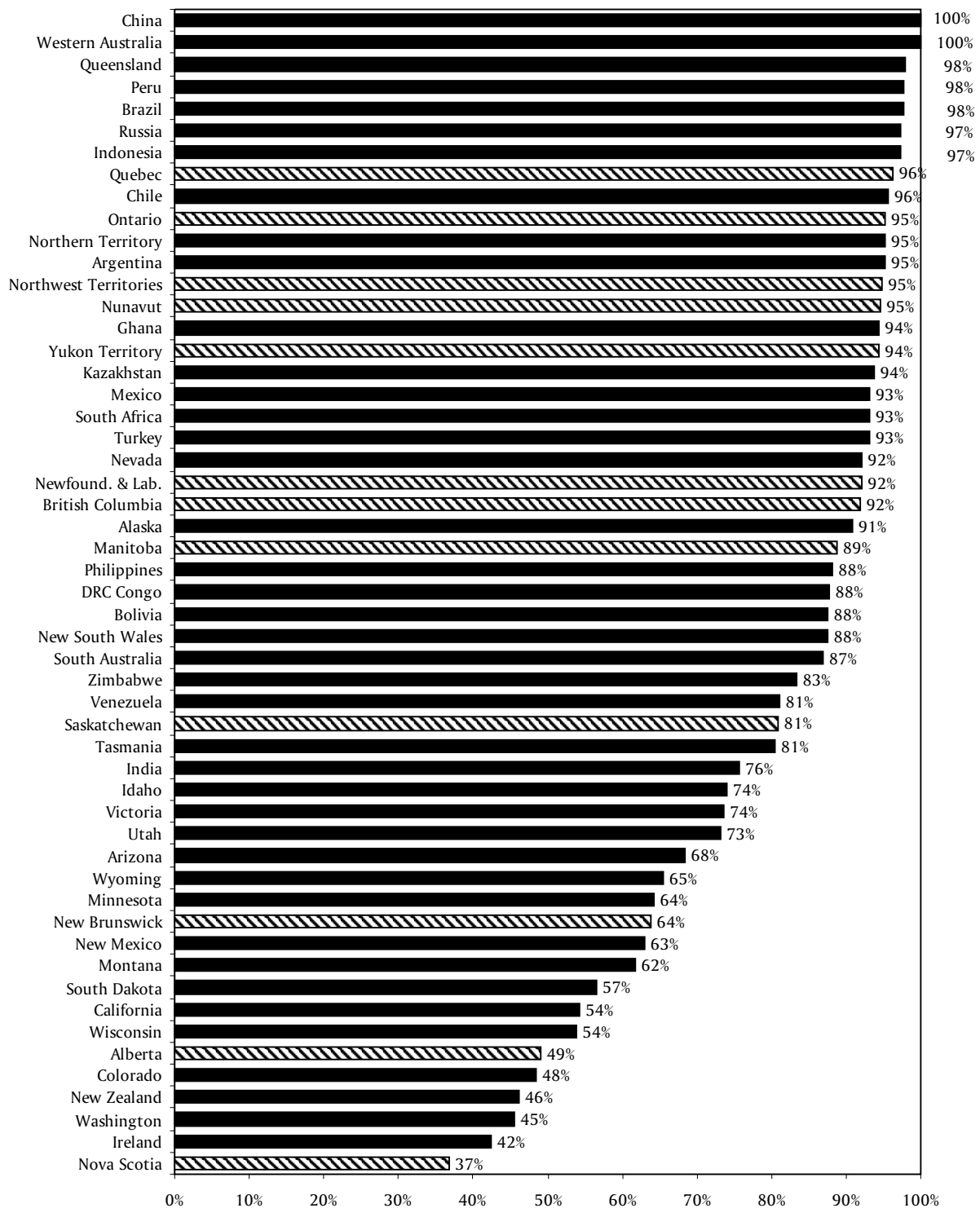


**Figure 15: Mineral Potential Assuming Current Regulation/Land Use Policies**



*Percent who indicate that mineral potential assuming current land use polices encourages exploration investment*

**Figure 16: Mineral Potential Assuming NO Land Use Restrictions in Place, and Further Assuming Industry “Best Practice” Standards**



*Percent who indicate that mineral potential assuming no land use restrictions encourages exploration investment*



## **Tabular Material**

**Table 4a: Percentage of Respondents who Indicate Factors Encourage Exploration Investment**

Country/ Region	Jurisdiction	Regula- tory Uncer- tainty	Environ- mental Regula- tions	Regula- tory Duplica- tion	Taxation Regime	Land Claims Uncer- tainty	Pro- tected Areas Uncer- tainty	Infra- structure
Canada	Alberta	84%	68%	75%	86%	58%	56%	89%
	British Columbia	22%	19%	29%	59%	5%	10%	60%
	Manitoba	89%	76%	73%	78%	55%	67%	62%
	New Brunswick	82%	66%	62%	68%	52%	71%	85%
	Newfoundland & Labrador	64%	65%	61%	62%	23%	37%	51%
	NWT	51%	35%	38%	67%	25%	32%	20%
	Nova Scotia	75%	44%	54%	55%	58%	42%	83%
	Nunavut	51%	34%	40%	65%	34%	38%	12%
	Ontario	77%	66%	76%	74%	36%	42%	78%
	Quebec	91%	86%	84%	83%	61%	60%	76%
	Saskatchewan	79%	72%	69%	72%	61%	60%	63%
Yukon	54%	35%	39%	65%	17%	14%	24%	
USA	Alaska	35%	14%	24%	52%	76%	26%	26%
	Arizona	34%	29%	38%	53%	59%	48%	82%
	California	9%	3%	7%	25%	57%	5%	70%
	Colorado	4%	4%	11%	38%	50%	17%	70%
	Idaho	24%	24%	33%	69%	47%	19%	83%
	Minnesota	29%	16%	22%	27%	69%	40%	83%
	Montana	9%	9%	17%	40%	59%	24%	80%
	Nevada	87%	72%	85%	91%	69%	80%	98%
	New Mexico	17%	28%	24%	45%	57%	15%	86%
	South Dakota	31%	11%	33%	50%	50%	0%	90%
	Utah	45%	25%	40%	69%	80%	33%	87%
	Washington	10%	6%	25%	31%	56%	22%	63%
	Wisconsin	8%	8%	10%	25%	62%	15%	77%
Wyoming	50%	32%	40%	83%	71%	42%	88%	

**Table 4b: Percentage of Respondents who Indicate Factors Encourage Exploration Investment**

Country/ Region	Jurisdiction	Socio- eco- nomic Agree- ments	Political Stability	Labour Regula- tion	Geologi- cal Data- base	Mineral Potential With Current Land Use Regula- tion	Mineral Potential Assuming NO Land Use Regulation	
							Encour- age (1+2)	Encour- age Strongly (1)—For Index
Canada	Alberta	88%	100%	81%	89%	49%	49%	25%
	British Columbia	54%	62%	46%	94%	49%	92%	58%
	Manitoba	87%	97%	72%	90%	82%	89%	34%
	New Brunswick	78%	96%	71%	84%	58%	64%	28%
	Nfld. & Labrador	68%	78%	71%	88%	68%	92%	50%
	NWT	34%	80%	74%	80%	67%	95%	67%
	Nova Scotia	75%	96%	57%	88%	46%	37%	21%
	Nunavut	37%	75%	62%	71%	63%	95%	59%
	Ontario	81%	98%	76%	98%	87%	95%	68%
	Quebec	85%	91%	73%	96%	91%	96%	72%
	Saskatchewan	79%	94%	74%	88%	65%	81%	26%
	Yukon	51%	73%	78%	91%	67%	94%	43%
USA	Alaska	73%	73%	61%	70%	57%	91%	66%
	Arizona	71%	76%	90%	79%	47%	68%	37%
	California	53%	50%	59%	65%	11%	54%	17%
	Colorado	58%	68%	71%	77%	19%	48%	24%
	Idaho	68%	75%	94%	81%	29%	74%	33%
	Minnesota	67%	71%	78%	78%	31%	64%	25%
	Montana	67%	57%	79%	67%	24%	62%	29%
	Nevada	94%	89%	94%	89%	90%	92%	80%
	New Mexico	71%	84%	88%	75%	41%	63%	30%
	South Dakota	73%	71%	88%	71%	38%	57%	22%
	Utah	76%	81%	88%	82%	57%	73%	31%
	Washington	68%	56%	79%	76%	16%	45%	9%
	Wisconsin	61%	52%	75%	72%	14%	54%	23%
	Wyoming	78%	77%	88%	81%	50%	65%	15%



**Table 4c: Percentage of Respondents who Indicate Factors Encourage Exploration Investment**

Country/ Jurisdiction Region	Regula- tory Uncer- tainty	Environ- mental Regula- tions	Regula- tory Duplica- tion	Taxation Regime	Land Claims Uncer- tainty	Pro- tected Areas Uncer- tainty	Infra- struc- ture	
Australia	New South Wales	63%	53%	79%	47%	20%	57%	97%
	Northern Territory	72%	73%	79%	48%	13%	61%	56%
	Queensland	70%	71%	76%	58%	4%	62%	84%
	South Australia	74%	65%	89%	48%	26%	62%	70%
	Tasmania	76%	41%	79%	46%	41%	44%	86%
	Victoria	55%	38%	68%	43%	21%	46%	97%
	Western Australia	81%	75%	82%	50%	15%	64%	83%
Oceania	Indonesia	11%	60%	6%	27%	44%	50%	7%
	New Zealand	32%	21%	41%	47%	40%	20%	81%
	Philippines	13%	50%	8%	27%	13%	71%	16%
Latin America	Argentina	61%	84%	59%	65%	70%	76%	52%
	Bolivia	71%	86%	86%	64%	64%	82%	15%
	Brazil	84%	85%	61%	50%	43%	62%	34%
	Chile	98%	97%	96%	97%	93%	92%	61%
	Mexico	76%	90%	66%	58%	48%	72%	62%
	Peru	76%	86%	72%	68%	37%	76%	33%
	Venezuela	18%	74%	22%	31%	36%	33%	28%
Africa	DRC (Congo)	24%	94%	36%	20%	80%	100%	18%
	Ghana	79%	65%	50%	70%	85%	70%	41%
	South Africa	30%	77%	52%	38%	41%	71%	91%
	Zimbabwe	29%	80%	50%	50%	36%	88%	53%
Eurasia	China	20%	78%	10%	39%	82%	76%	24%
	India	6%	54%	0%	0%	44%	63%	21%
	Ireland	44%	29%	45%	55%	89%	50%	88%
	Kazakhstan	27%	69%	27%	38%	88%	100%	14%
	Russia	12%	76%	6%	20%	86%	80%	4%
	Turkey	39%	43%	23%	64%	89%	89%	88%

**Table 4d: Percentage of Respondents who Indicate Factors Encourage Exploration Investment**

Country/ Region	Jurisdiction	Socio- economic Agree- ments	Political Stability	Labour Regula- tion	Geologi- cal Data- base	Mineral Potential With Current Land Use Regula- tion	Mineral Potential Assuming NO Land Use Regulation	
							Encour- age (1+2)	Encour- age Strongly (1)—For Index
Australia	New South Wales	85%	98%	88%	97%	72%	88%	48%
	Northern Territory	72%	98%	88%	98%	85%	95%	64%
	Queensland	81%	98%	90%	89%	89%	98%	50%
	South Australia	88%	97%	84%	100%	77%	87%	34%
	Tasmania	80%	97%	77%	94%	66%	81%	28%
	Victoria	72%	95%	76%	91%	59%	74%	26%
	Western Australia	88%	96%	87%	95%	94%	100%	84%
Oceania	Indonesia	18%	7%	36%	22%	55%	97%	75%
	New Zealand	88%	76%	65%	95%	57%	46%	15%
	Philippines	24%	0%	43%	35%	40%	88%	53%
Latin America	Argentina	57%	29%	68%	33%	75%	95%	49%
	Bolivia	44%	32%	57%	18%	67%	88%	22%
	Brazil	61%	56%	40%	54%	78%	98%	67%
	Chile	90%	88%	83%	81%	92%	96%	82%
	Mexico	63%	59%	61%	50%	75%	93%	64%
	Peru	48%	15%	65%	59%	83%	98%	82%
	Venezuela	32%	9%	29%	14%	48%	81%	38%
Africa	DRC (Congo)	56%	0%	57%	12%	56%	88%	61%
	Ghana	36%	53%	71%	50%	86%	94%	56%
	South Africa	31%	34%	45%	74%	59%	93%	66%
	Zimbabwe	42%	0%	33%	50%	44%	83%	39%
Eurasia	China	58%	32%	67%	8%	61%	100%	58%
	India	30%	29%	38%	20%	24%	76%	36%
	Ireland	60%	90%	50%	75%	58%	42%	15%
	Kazakhstan	22%	8%	56%	45%	59%	94%	50%
	Russia	20%	0%	56%	35%	50%	97%	86%
	Turkey	70%	25%	69%	54%	50%	93%	24%

**Table 5a: Percentage of Respondents who Indicate Factors Discourage Exploration Investment**

Country/ Region	Jurisdiction	Regulatory Uncertainty	Environmental Regulations	Regulatory Duplication	Taxation Regime	Land Claims Uncertainty	Protected Areas Uncertainty	Infra- structure
Canada	Alberta	5%	5%	6%	2%	14%	5%	0%
	British Columbia	37%	38%	30%	16%	66%	59%	8%
	Manitoba	0%	8%	5%	4%	14%	2%	0%
	New Brunswick	0%	7%	8%	7%	23%	7%	3%
	Nfld. & Labrador	17%	23%	11%	13%	25%	16%	15%
	NWT	15%	19%	13%	13%	33%	23%	38%
	Nova Scotia	7%	22%	4%	7%	26%	16%	3%
	Nunavut	9%	16%	16%	5%	28%	20%	42%
	Ontario	5%	6%	5%	5%	18%	14%	2%
	Quebec	1%	4%	4%	4%	8%	4%	0%
	Saskatchewan	0%	6%	3%	8%	16%	3%	0%
	Yukon	15%	17%	18%	8%	33%	33%	20%
USA	Alaska	7%	26%	21%	7%	13%	17%	23%
	Arizona	19%	36%	21%	12%	14%	14%	3%
	California	82%	84%	74%	50%	43%	64%	3%
	Colorado	62%	76%	44%	38%	19%	56%	3%
	Idaho	52%	62%	27%	8%	13%	19%	0%
	Minnesota	48%	53%	44%	40%	19%	47%	4%
	Montana	71%	76%	71%	33%	18%	53%	4%
	Nevada	2%	9%	0%	0%	6%	3%	0%
	New Mexico	33%	39%	41%	18%	14%	23%	0%
	South Dakota	44%	61%	47%	17%	29%	42%	5%
	Utah	30%	35%	33%	15%	13%	27%	0%
	Washington	68%	61%	67%	31%	25%	50%	7%
	Wisconsin	88%	85%	86%	58%	31%	69%	5%
	Wyoming	19%	37%	27%	8%	14%	25%	0%

**Table 5b: Percentage of Respondents who Indicate Factors Discourage Exploration Investment**

Country/ Region	Jurisdiction	Socio- economic Agree- ments	Political Stability	Labour Regula- tion	Geologi- cal Data- base	Mineral Potential With Current Land Use Regula- tion	Mineral Potential Assuming NO Land Use Regula- tion
Canada	Alberta	0%	0%	3%	0%	11%	20%
	British Columbia	14%	9%	19%	3%	19%	3%
	Manitoba	0%	0%	4%	0%	2%	2%
	New Brunswick	0%	0%	4%	0%	9%	11%
	Nfld. & Labrador	8%	6%	11%	2%	9%	2%
	NWT	17%	8%	7%	6%	9%	4%
	Nova Scotia	4%	0%	3%	0%	14%	18%
	Nunavut	10%	7%	10%	7%	6%	4%
	Ontario	1%	0%	6%	0%	1%	1%
	Quebec	2%	3%	4%	0%	0%	1%
	Saskatchewan	0%	0%	6%	0%	2%	6%
	Yukon	11%	5%	5%	2%	4%	4%
USA	Alaska	3%	0%	0%	3%	7%	5%
	Arizona	8%	3%	5%	4%	19%	8%
	California	32%	32%	18%	9%	71%	14%
	Colorado	32%	14%	6%	5%	44%	12%
	Idaho	5%	7%	0%	0%	33%	4%
	Minnesota	19%	11%	6%	4%	38%	14%
	Montana	19%	29%	5%	4%	53%	9%
	Nevada	0%	0%	0%	0%	2%	2%
	New Mexico	12%	0%	0%	0%	18%	7%
	South Dakota	7%	4%	6%	6%	33%	17%
	Utah	6%	4%	0%	0%	26%	8%
	Washington	26%	29%	5%	8%	53%	12%
	Wisconsin	39%	34%	13%	11%	79%	12%
	Wyoming	11%	8%	0%	0%	25%	12%

**Table 5c: Percentage of Respondents who Indicate Factors Discourage Exploration Investment**

Country/ Region	Jurisdiction	Regulatory Uncertainty	Environmental Regulations	Regulatory Duplication	Taxation Regime	Land Claims Uncertainty	Protected Areas Uncertainty	Infra- structure
Australia	New South Wales	6%	16%	0%	0%	20%	10%	0%
	Northern Territory	6%	3%	3%	6%	31%	9%	5%
	Queensland	9%	5%	0%	3%	41%	8%	0%
	South Australia	3%	3%	7%	3%	19%	7%	3%
	Tasmania	3%	22%	4%	0%	11%	15%	0%
	Victoria	15%	31%	16%	0%	13%	14%	0%
	Western Australia	6%	2%	7%	4%	29%	9%	4%
Oceania	Indonesia	66%	20%	53%	13%	22%	13%	24%
	New Zealand	26%	50%	29%	7%	25%	35%	5%
	Philippines	59%	22%	69%	27%	44%	7%	20%
Latin America	Argentina	3%	0%	9%	5%	5%	6%	15%
	Bolivia	18%	7%	7%	0%	7%	0%	19%
	Brazil	0%	0%	4%	5%	0%	0%	13%
	Chile	0%	0%	0%	0%	0%	0%	11%
	Mexico	8%	0%	7%	8%	3%	0%	5%
	Peru	3%	3%	8%	5%	7%	0%	14%
	Venezuela	57%	11%	17%	19%	14%	0%	21%
Africa	DRC (Congo)	56%	6%	43%	20%	13%	0%	64%
	Ghana	3%	12%	20%	10%	0%	10%	18%
	South Africa	24%	3%	9%	21%	31%	0%	6%
	Zimbabwe	63%	20%	43%	13%	36%	0%	33%
Eurasia	China	30%	4%	45%	6%	0%	0%	15%
	India	63%	15%	60%	11%	0%	0%	14%
	Ireland	28%	21%	9%	9%	0%	10%	0%
	Kazakhstan	41%	15%	45%	38%	0%	0%	14%
	Russia	42%	14%	41%	60%	0%	0%	36%
	Turkey	32%	24%	8%	27%	0%	0%	4%

**Table 5d: Percentage of Respondents who Indicate Factors Discourage Exploration Investment**

Country/ Region	Jurisdiction	Socio- economic Agree- ments	Political Stability	Labour Regula- tion	Geo- logical Data- base	Mineral Potential With Current Land Use Regula- tion	Mineral Potential Assuming NO Land Use Regula- tion
Australia	New South Wales	0%	0%	0%	0%	6%	5%
	Northern Territory	3%	0%	0%	0%	5%	0%
	Queensland	0%	0%	0%	0%	4%	0%
	South Australia	0%	0%	0%	0%	0%	0%
	Tasmania	0%	0%	0%	0%	13%	8%
	Victoria	0%	3%	0%	0%	15%	11%
	Western Australia	2%	2%	0%	2%	2%	0%
Oceania	Indonesia	29%	90%	14%	39%	36%	0%
	New Zealand	0%	3%	0%	5%	17%	10%
	Philippines	35%	46%	14%	29%	37%	6%
Latin America	Argentina	13%	17%	5%	13%	0%	0%
	Bolivia	6%	18%	7%	24%	0%	0%
	Brazil	4%	3%	0%	4%	0%	0%
	Chile	0%	3%	3%	0%	0%	0%
	Mexico	3%	5%	16%	6%	6%	2%
	Peru	7%	21%	9%	6%	0%	0%
	Venezuela	26%	73%	24%	24%	14%	3%
Africa	DRC (Congo)	19%	89%	14%	47%	30%	2%
	Ghana	29%	22%	7%	21%	7%	3%
	South Africa	31%	29%	17%	6%	21%	2%
	Zimbabwe	33%	97%	25%	25%	44%	11%
Eurasia	China	12%	12%	7%	50%	9%	0%
	India	10%	6%	25%	40%	24%	0%
	Ireland	0%	0%	0%	8%	5%	12%
	Kazakhstan	44%	42%	11%	36%	9%	0%
	Russia	70%	43%	11%	41%	19%	0%
	Turkey	20%	4%	0%	8%	0%	3%

**Table 6: Number of Companies Indicating a Jurisdiction has the Most/Least Favourable Policies Toward Mining**

<b>Jurisdiction</b>	<b>Best</b>	<b>Worst</b>	<b>Jurisdiction</b>	<b>Best</b>	<b>Worst</b>
Quebec	37	0	New Brunswick	0	1
Australia	28	4	South Dakota	0	1
Chile	23	0	Sweden	0	1
Canada	18	6	Greece	0	1
Nevada	12	0	Yukon Territory	1	3
Ontario	13	3	Colorado	0	2
Peru	7	0	Nunavut	0	2
Manitoba	4	1	Venezuela	0	2
Mexico	4	1	Oregon	0	2
Alberta	3	0	India	0	3
Argentina	2	0	New Zealand	0	3
South America	2	0	Philippines	0	3
Newfoundland and Labrador	2	1	Washington	0	3
Bolivia	1	0	Zimbabwe	2	6
Brazil	1	0	Indonesia	0	4
Ghana	1	0	Russia	0	4
Greenland	1	0	South Africa	1	6
Papua New Guinea	1	0	Northwest Territories	0	5
Zambia	1	0	Wisconsin	0	8
Myanmar	1	0	California	1	12
China	2	2	British Columbia	1	18
Africa	0	1	USA	0	24
Alaska	0	1	<p>Note: Table sorted by jurisdictions receiving greatest net total of favourable votes through to jurisdictions receiving greatest net total of unfavourable votes.</p>		
Colombia	0	1			
Congo (DRC)	0	2			
Montana	0	1			

## Section II: Investment Overview

Figures 17 and 18 show where the companies responding to our survey are spending their exploration budgets. Tables 7 and 8 show the changes in investment allocation between 1999 and 2002. Figures 19 through 35 show the changes in proportional exploration investment over the last five years as indicated by the companies investing in the stated jurisdictions. Figure 36 shows the impact of recent acts and threats of terrorism in various jurisdictions on exploration investment decisions.

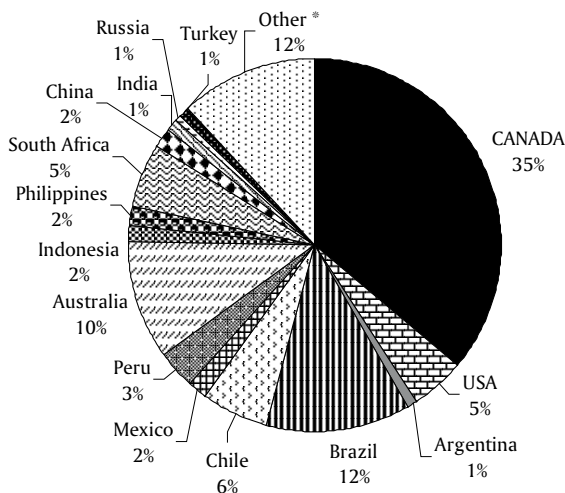
### Senior Mining Companies Look to Canada

In 2002, senior mining companies representing exploration budgets totaling over US\$480 million spent 35 percent of their budgets Canada, up from 24 percent last year (see figure 17). The remaining two-thirds of the budgets of the senior mining companies surveyed was spent exploring around the rest of the world, including 12 percent spent in Brazil, 10 percent spent in Australia, 6 percent spent in Chile, and 5 percent spent in each of South Africa and the United States.

### Junior Mining Companies Stay Close to Home

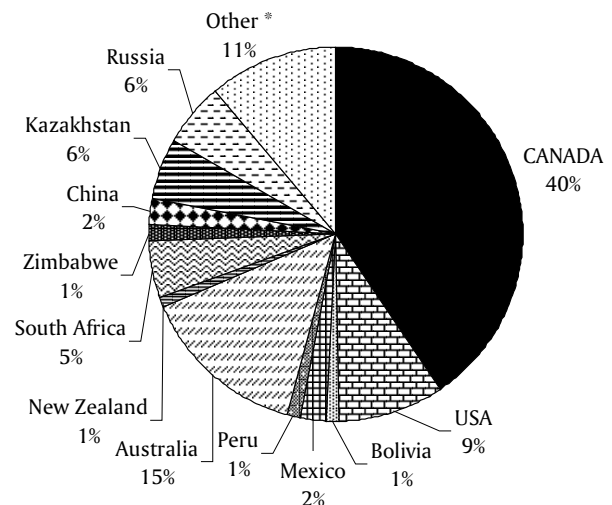
The junior mining companies who responded to this survey represent exploration expenditures of US\$162 million. They invested half of those exploration budgets in North America in 2002 (see figure 18). They spent 40 percent in Canada, 9 percent in the United States, and 2 percent in Mexico, which is similar to last year's results. They also invested 15 percent of their budgets in Australia, and 6 percent in each of Russia and Kazakhstan.

**Figure 17: Senior Exploration Investment in 2002**  
(total: \$US480.2 million)



\*Includes Bolivia, DRC (Congo), Ghana, Zimbabwe, Ireland, Kazakhstan, and countries not included in the survey.

**Figure 18: Junior Exploration Investment in 2002**  
(total: \$US162.2 million)



\*Includes Chile, Venezuela, Indonesia, DRC (Congo), Ghana, India, Ireland, and countries not included in the survey.



## **Exploration Investment Trends**

Tables 7 and 8 show in greater detail where the companies responding to our survey are spending their exploration budgets, and are beginning to show trends over time. The results for this year show the senior mining companies investing 36 percent of their exploration budgets in Canada, a high for the survey compared to other years (see table 7). Levels of US and Latin American investment represented have declined since 1999, but investment by surveyed companies in Brazil and South Africa has increased steadily since the survey began.

The junior companies responding to this survey seem to be slowly pulling their exploration dollars out of the United States (table 8). The proportion of spending in Canada over the last three years has remained steadily high, and the proportion of junior exploration investment in Australia in 2002 almost tripled since last year. Interestingly, the survey seems to be doing a better job than previous years of identifying where the juniors are spending their exploration budgets as demonstrated by the decrease to 10 percent in the proportion of budgets spent in “Other” jurisdictions.

## **Mining Companies Resume Investing in Exploration**

Overall, 68 percent of companies surveyed indicated that their worldwide exploration budgets have increased (40 percent) or stayed the same (28 percent) over the last five years (see figure 19). Only 32 percent indicated that their budgets had decreased (down from 49 percent last year).

Many mining companies are decreasing the proportion of their budgets they spend in Argentina, Brazil, Chile, Indonesia, and Ghana. They are increasing the proportion of their exploration budgets they spend in the other countries, especially South Africa, China, Peru, and Russia, and Kazakhstan.

Eighty-six percent of the companies that had invested in Canada during the last five years indicated that their exploration budgets had either remained constant (52 percent) or increased (34 percent). Only 14 percent indicated a decrease. In the US, on the other hand, 53 percent of the companies surveyed indicated that the proportion of their budgets invested in exploring in the United States had decreased over the last five years. Only 26 percent indicated that, as a proportion of their overall spending, their American spending had increased, and 21 percent indicated no change.

## **Terrorism has Some Impact on the Industry**

To explore the impact of international terrorism on the mining industry, respondents were asked “To what extent have recent acts and threats of terrorism had an impact on your exploration investment plans?”

Although 63 percent of respondents indicated that the question was inapplicable, given that their areas of exploration interest were not presently targets of terrorism, of those affected, 70 percent indicated that terrorist activities had had little (35 percent) or no (35 percent) impact on their exploration investment decisions (figure 36). Seventeen percent of respondents indicated that there had been some impact, meaning that their companies would spend less than planned in jurisdictions

**Table 7: Senior Mining Company Exploration Expenditures, 1999-2002**

Jurisdiction	1999		2000		2001		2002	
	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported
Canada	93.0	26.2%	107.8	16.6%	143.2	23.8%	174.6	36.4%
US	52.2	14.7%	45.7	7.0%	42.5	7.1%	21.8	4.5%
Argentina	4.6	1.3%	34.7	5.3%	36.1	6.0%	4.9	1.0%
Australia	46.4	13.1%	87.2	13.4%	52.2	8.7%	49.8	10.4%
Bolivia	*	*	*	*	0.0	0.0%	0.4	0.1%
Brazil	31.0	8.7%	69.8	10.7%	73.2	12.2%	59.2	12.3%
Chile	19.1	5.4%	73.3	11.3%	56.5	9.4%	28.3	5.9%
Indonesia	5.7	1.6%	5.6	0.9%	25.2	4.2%	7.4	1.5%
Mexico	19.7	5.6%	14.1	2.2%	18.7	3.1%	8.7	1.8%
Papua New Guinea	1.0	0.3%	0	0.0%	0.0	0.0%	*	*
Peru	11.6	3.3%	28.6	4.4%	26.2	4.4%	15.1	3.1%
South Africa	7.4	2.1%	15.3	2.4%	18.8	3.1%	26.0	5.4%
Ecuador	*	*	6.3	1.0%	3.5	0.6%	*	*
Russia	*	*	3.4	0.5%	5.3	0.9%	3.2	0.7%
China	*	*	*	*	1.0	0.2%	8.2	1.7%
Colombia	*	*	*	*	0.2	0.0%	*	*
Ghana	*	*	*	*	1.6	0.3%	2.2	0.5%
India	*	*	*	*	2.5	0.4%	5.6	1.2%
Kazakhstan	*	*	*	*	0.5	0.1%	0.8	0.2%
New Zealand	*	*	*	*	3.0	0.5%	0.0	0.0%
Philippines	*	*	*	*	0.2	0.0%	7.8	1.6%
Venezuela	*	*	*	*	2.9	0.5%	0.0	0.0%
Zimbabwe	*	*	*	*	1.0	0.2%	2.7	0.6%
DRC (Congo)	*	*	*	*	*	*	2.5	0.5%
Ireland	*	*	*	*	*	*	1.8	0.4%
Turkey	*	*	*	*	*	*	3.2	0.7%
Other	62.8	17.7%	157.7	24.3%	86.5	14.4%	46.1	9.6%
Total	354.5	100%	649.7	100%	600.8	100%	480.2	100%

\*Data were not collected for this jurisdiction in this year.

that had become targets of terrorism, and 13 percent indicated that their companies had cancelled plans to invest in jurisdictions because of terrorist activities.

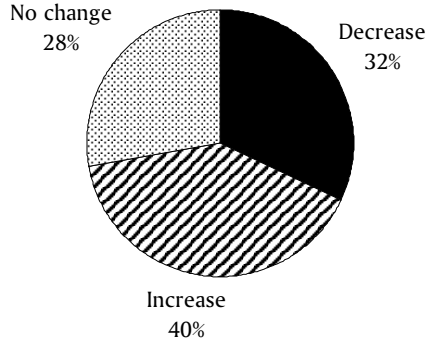
**Table 8: Junior Mining Company Exploration Expenditures, 1999-2002**

Jurisdiction	1999		2000		2001		2002	
	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported	US\$ (millions)	Percent of total reported
Canada	74.3	20.0%	54.2	40.9%	47.7	34.8%	66.1	40.8%
US	56.7	15.3%	11.5	8.7%	13.5	9.8%	14.7	9.1%
Argentina	17.4	4.7%	1.2	0.9%	5.3	3.9%	0.0	0.0%
Australia	44.3	11.9%	4.5	3.4%	7.4	5.4%	23.7	14.6%
Brazil	66.2	17.8%	4.0	3.0%	3.1	2.3%	0.0	0.0%
Chile	10.7	2.9%	0.1	0.1%	4.0	2.9%	0.1	0.1%
Indonesia	3.7	1.0%	2.2	1.7%	0.5	0.4%	0.3	0.2%
Mexico	12.6	3.4%	7.6	5.7%	4.2	3.0%	3.7	2.3%
Papua New Guinea	5.8	1.6%	0.1	0.1%	0.2	0.1%	*	*
Peru	8.7	2.3%	8.3	6.3%	1.2	0.9%	1.6	1.0%
South Africa	3.6	1.0%	2.1	1.6%	1.0	0.8%	8.2	5.0%
Bolivia	*	*	2.1	1.6%	0.2	0.1%	2.1	1.3%
Ecuador	*	*	2.6	2.0%	0.0	0.0%	*	*
Philippines	*	*	3.7	2.8%	0.1	0.1%	0.0	0.0%
Kazakhstan	*	*	*	*	0.0	0.0%	9.0	5.5%
Russia	*	*	2.1	1.6%	0.7	0.5%	9.0	5.5%
Venezuela	*	*	1.0	0.8%	0.6	0.5%	0.3	0.2%
China	*	*	*	*	0.1	0.1%	3.6	2.2%
Colombia	*	*	*	*	0.6	0.4%	*	*
Ghana	*	*	*	*	3.0	2.2%	0.6	0.4%
India	*	*	*	*	1.6	1.2%	0.2	0.1%
New Zealand	*	*	*	*	0.4	0.3%	1.3	0.8%
Zimbabwe	*	*	*	*	0.0	0.0%	2.0	1.2%
Ireland	*	*	*	*	*	*	0.4	0.2%
Other	67.4	18.1%	25.1	18.9%	41.7	30.4%	15.4	9.5%
<b>TOTAL</b>	<b>371.4</b>	<b>100%</b>	<b>132.5</b>	<b>100%</b>	<b>137.1</b>	<b>100%</b>	<b>162.2</b>	<b>100%</b>

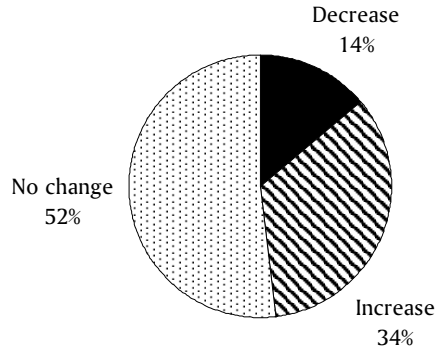
\*Data were not collected for this jurisdiction in this year.

## Change in Exploration Budgets Between 1998 and 2002

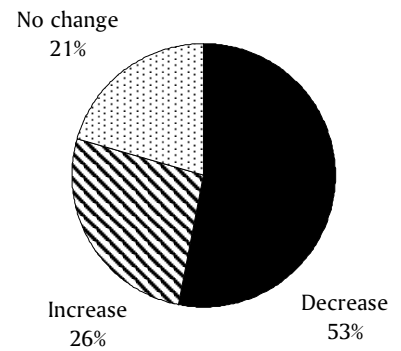
**Figure 19: Worldwide**



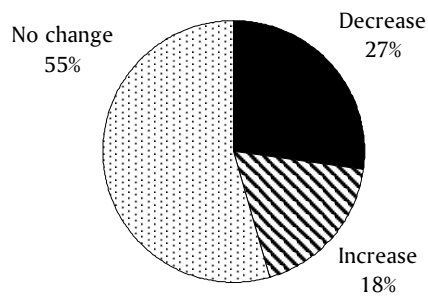
**Figure 20: In Canada**



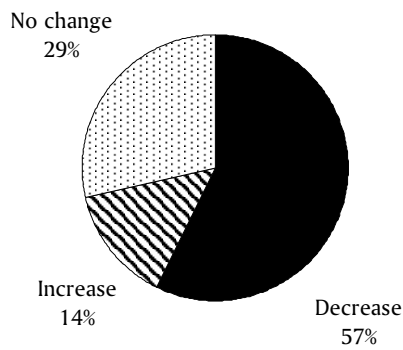
**Figure 21: In USA**



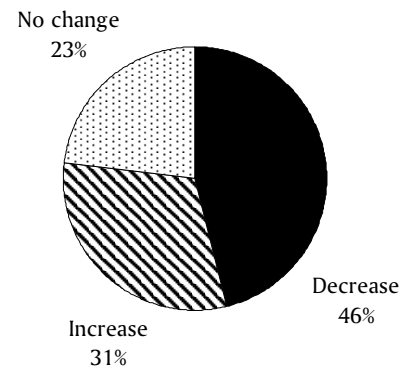
**Figure 22: In Australia**



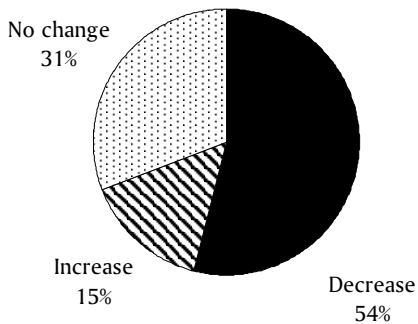
**Figure 23: In Argentina**



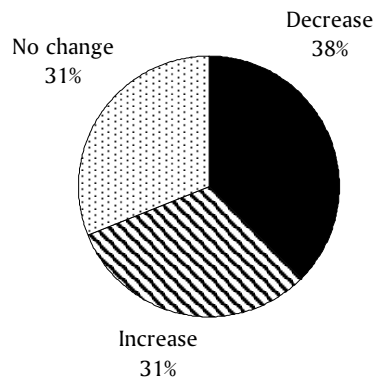
**Figure 24: In Brazil**



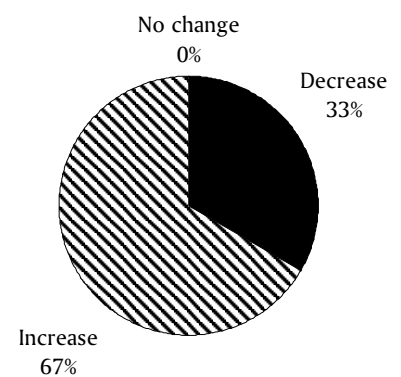
**Figure 25: In Chile**



**Figure 26: In Mexico**

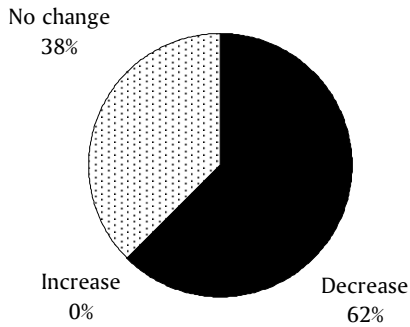


**Figure 27: In Peru**

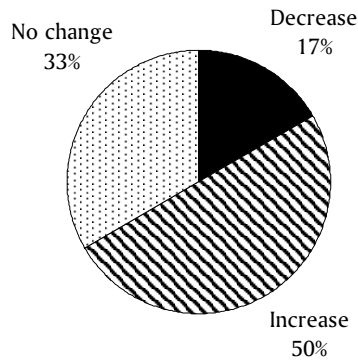


## Change in Exploration Budgets Between 1998 and 2002

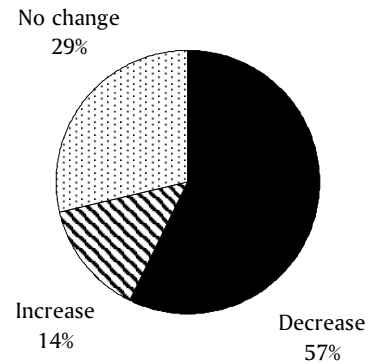
**Figure 28: In Bolivia and Venezuela**



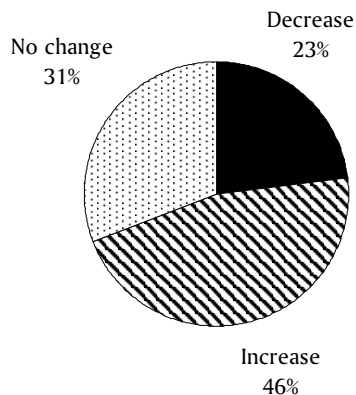
**Figure 29: In Democratic Republic of Congo (DRC)**



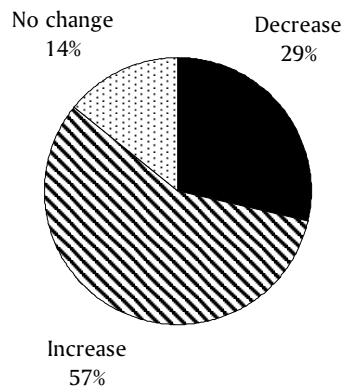
**Figure 30: In Ghana**



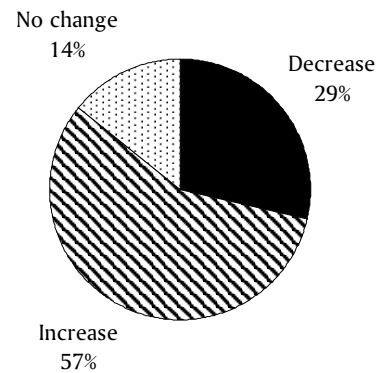
**Figure 31: In South Africa**



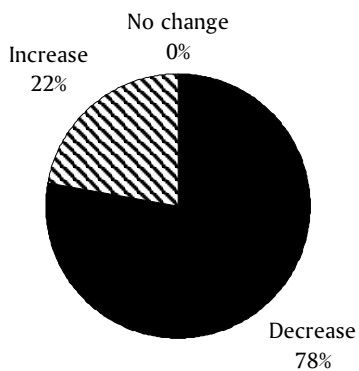
**Figure 32: In Russia and Kazakhstan**



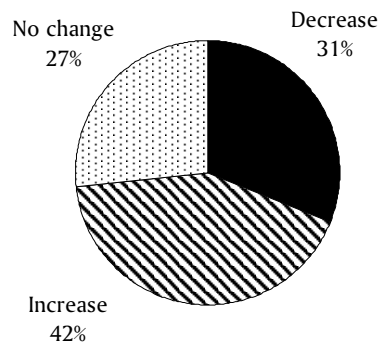
**Figure 33: In China**



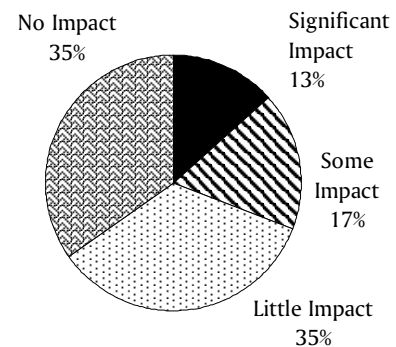
**Figure 34: In Indonesia**



**Figure 35: In All Other Jurisdictions\***



**Figure 36: Impact of Terrorism**



\*Includes jurisdictions that were not specifically mentioned in the questionnaire, and jurisdictions that received fewer total responses including Ireland, India, Philippines, Spain, Turkey, and Zimbabwe.

## A Comparison of Selected Policy Features in Canadian Jurisdictions

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As a complement to the survey opinions presented in the first section of the report, this section has been added to include data on factors such as taxation and labour with which to compare the attractiveness to the mining industry of the business climates of the Canadian provinces and territories. While including such data is a logical extension of the more subjective survey component of the report, the opinion survey remains the focus of the report because of the importance of opinions and attitudes in determining where exploration investment dollars are spent. While the information included in this section may provide some insight into what is causing some regions to score well and others poorly on the Investment Attractiveness Index presented in the main body of the report, it is important to realize that the intent of the *Annual Survey of Mining Companies* is to focus more on how regulations are applied, not written, and on how taxes are perceived, not posted, and so on, since interpretation and exemptions can change the impact of such rules. Therefore, these data are not included when determining the Policy Potential, Mineral Potential, or Investment Attractiveness indices.

Finding measurable indicators to compare with the subjective questions asked in the opinion section of the report has not been easy. In many cases, data were unavailable. In other cases, available data were limited. For example, in the taxation category we considered the tax burden on a hypothetical mine, for which only one model was available. In other cases, such as regulatory delays, good measures continue to prove elusive. In still other cases, measures such as government subsidies may make jurisdictions more attractive to mining companies, but they may also create problems elsewhere in the economy that affect their apparent benefit to mining companies. Finally, factors that survey respondents say are important, such as “the attitude of the regulators,” are virtually impossible to measure objectively. The data presented in this section should, therefore, be seen as a complement rather than a substitute for the data presented in the first part of the report.

In order to identify policy differences between Canadian jurisdictions, we looked at 21 variables in 5 different categories: taxation, regulation, labour, land access, and infrastructure. Available data in each category are described below. While recognizing that available data do not completely describe the important characteristics of operating in different jurisdictions, and realizing that the structure of existing policies cannot capture the often more subjective implementation of those policies, this section does provide a starting place for comparing the policies in regions across Canada. The Objective Index continues to be a work in progress, and your suggestions, which have been most helpful in the past, continue to be welcome.

### Taxation

The taxation category contains three variables (see table 9). The first is the total taxes paid over the 13-year lifetime of a hypothetical gold mine. These numbers come from the

PricewaterhouseCoopers report, *Canadian Mining Taxation*, 2003 edition. The tax burden includes federal taxes, provincial income and capital taxes, and provincial mining taxes. The second taxation indicator isolates capital taxes. All else being equal, those jurisdictions with capital taxes are considered less attractive than those without capital taxes. The final variable is the word count for the statutes that regulate the taxation of mining in each jurisdiction. This figure is used as a proxy for determining the complexity of the taxation regime.

**Table 9: Taxation**

	NL	NS	NB	QC	ON	MB	SK	AB	BC	YK	NWT	NU
Tax burden on a hypothetical mine (%)	37.5%	42.3%	45.1%	39.7%	35.4%	41.7%	41.8%	33.9%	43.1%	34.8%	35.4%	35.4%
Provincial capital tax	No	Yes*	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Word count for mining taxation statutes	9,374	7,992	9,736	25,046	17,946	16,407	11,396	2,690	12,060	27,349	3,401	3,401

\*Nova Scotia's provincial capital tax is scheduled for repeal effective April 1, 2006.

## Regulation

The regulation category includes 9 variables (see table 10). The first indicator measures the costs of environmental regulation in a jurisdiction by measuring the percentage of exploration and deposit appraisal expenditures (averaged over the five years 1998 to 2002) spent on environmental compliance. The next eight variables apply to regulations and permitting procedures specific to the mining industry. The first of these seven is the word count of the main mining statutes in each jurisdiction, used a proxy for the complexity of mining regulation in each regime. The assumption is that a higher word count indicates greater complexity of policies. The next two variables measure the initial term granted for a mineral claim (exploration phase) and mining lease (mining phase) with the assumption that longer terms are more attractive. We next looked at the maximum area granted for a mineral claim and mining lease, assuming that a larger area was more attractive. We also looked at the way reclamation bond requirements are administered in each jurisdiction. Although there appears to be some variation within jurisdictions, some tend to allow bonding requirements to be met over time, while in others the bond must be posted up front. The assumption is that meeting the requirement over time is preferable. Finally, we looked at the annual expenditure obligation per hectare, first as just the initial year's expenditure, and then averaging it over the first 10-year period. For these indicators, a lower financial obligation was deemed to be preferable.

Delays in regulatory permits almost certainly play a role in the subjective evaluation of the jurisdictions. However, we have not yet determined a satisfactory indicator for this variable. Another important regulatory indicator, the attitude of the regulators, is virtually impossible to measure, and therefore is not captured in the data.

**Table 10: Regulation**

	NL	NS	NB	QC	ON	MB	SK	AB	BC	YK	NWT	NU
Percent of exploration and deposit appraisal expenditures (averaged over 1998-2002) spent on environmental compliance (%)	4.06%	7.76%	0.41%	1.53%	0.63%	0.39%	2.33%	11.49%	4.89%	4.31%	6.27%	6.27%*
Word count of mining statutes	15,029	24,926	23,659	41,190	49,019	40,608	15,256	26,982	21,014	17,527	3,401	3,401
Initial term granted for mineral claim (years)	5	1	1	2	1	2	2	10	1	1	2	2
Initial term granted for mining lease (years)	25	20	20	20	21	21	10	15	30	21	21	21
Maximum area granted for mineral claim (ha)	25	16.19	16	Variable	256	256	6,000	9,216	500	20.9	1,045	1,045
Maximum area granted for mining lease (ha)	No max	No max	No max	100	No max	800	6,000	2,304	No max	20.9	1,045	1,045
Reclamation bond requirements	Cumulative	Up front	Up front	Cumulative	Cumulative	Cumulative	Up front	Cumulative	Cumulative	Cumulative	Cumulative	Cumulative
First year expenditure obligation (\$/ha)	\$8.00	\$12.35	\$6.25	\$15.62	\$0.00	\$0.00	\$0.00	\$2.50	\$4.00	\$4.78	\$0.00	\$0.00
Annual expenditure obligation (average \$/ha over ten years)	\$18.00	\$12.35	\$15.63	\$18.75	\$22.50	\$11.25	\$10.80	\$5.50	\$6.80	\$4.78	\$4.45	\$4.45

\*Until five years of data are available for Nunavut, calculations will be made using data for the Northwest Territories.



## Labour

The labour category (see table 3) contains two indicators: the extent of unionization of the general labour force, and, to get a rough indication of the volatility of the labour situation in each region, the number of labour disputes that have occurred in the mining sector in the past decade (1993 to 2002). To put this number in perspective, we have also included the number of mines that were operating in that region on January 1, 2003. The data for strikes and lockouts come from the Human Resources Development Canada Workplace Information Directorate. The number of mines operating in each jurisdiction comes from Natural Resources Canada, while the unionization data come from Statistics Canada.

**Table 11: Labour**

	NL	NS	NB	QC	ON	MB	SK	AB	BC	YK	NWT	NU
Unionization (%)	39.1%	28.0%	28.1%	40.4%	28.1%	36.1%	35.8%	24.5%	34.7%			
Number of producing mining establishments in operation January 1, 2003	17	29	44	187	274	29	46	84	78	1	3	1
Number of labour disputes in mining sector in last ten years (1993-2002)	1	4	1	23	12	2	2	0	2	0	2	0

## Uncertainty/Unavailability of Access to Land

The land access category (see table 12) contains three variables. First, the index uses data from Indian and Northern Affairs Canada to determine the percentage of land claims that remain unsettled in each province. A better indicator might be the percentage of the land base that is covered by land

**Table 12: Uncertainty/Unavailability of Access to Land**

	NL	NS	NB	QC	ON	MB	SK	AB	BC	YK	NWT	NU
Percent of native land claims that remain unsettled (%)	n/a	40.7%	64.5%	66.0%	76.4%	49.4%	47.2%	45.6%	72.7%	n/a	n/a	n/a
Percent of land protected (%)	4.60%	11.50%	5.80%	n/a	9.70%	14.90%	10.50%	16.90%	16.10%	13.80%	19.50%	15.80%
Protected area growth (change in area protected from 1997 to 2002)	150%*	n/a	n/a	n/a	<1%	14%	18%	26%	19%	13%	9%	n/a

\*Includes Torngat Mountains Special Park Management Area, 945,000 hectares, designated in 2000.

claims, but data are unavailable. The second variable is the percentage of the land base in a jurisdiction that is officially protected. The final variable, which is used to assess uncertainty concerning new land to be set aside, looks at how much growth there has been in protected areas in the last five years. Data on protected areas come from the Canadian Conservation Areas Database, which, at the time of publication, had not yet been updated for Quebec, Nova Scotia, New Brunswick, or Nunavut.

## Infrastructure

There are four indicators in the infrastructure category this year (see table 13): railway and road density (provided by Transport Canada), geoscience availability (provided by the respective branches of the Geological Survey), and the percent of exploration and deposit appraisal expenditures (averaged over five years, 1998 to 2002) spent on land access. There are a number of other indicators that could be added to this category in the future, including further information about geologic data such as the ease of access to geologic and infrastructure data. For example, how readily available are area maps, at what cost, and how much information is available on-line?

**Table 13: Infrastructure**

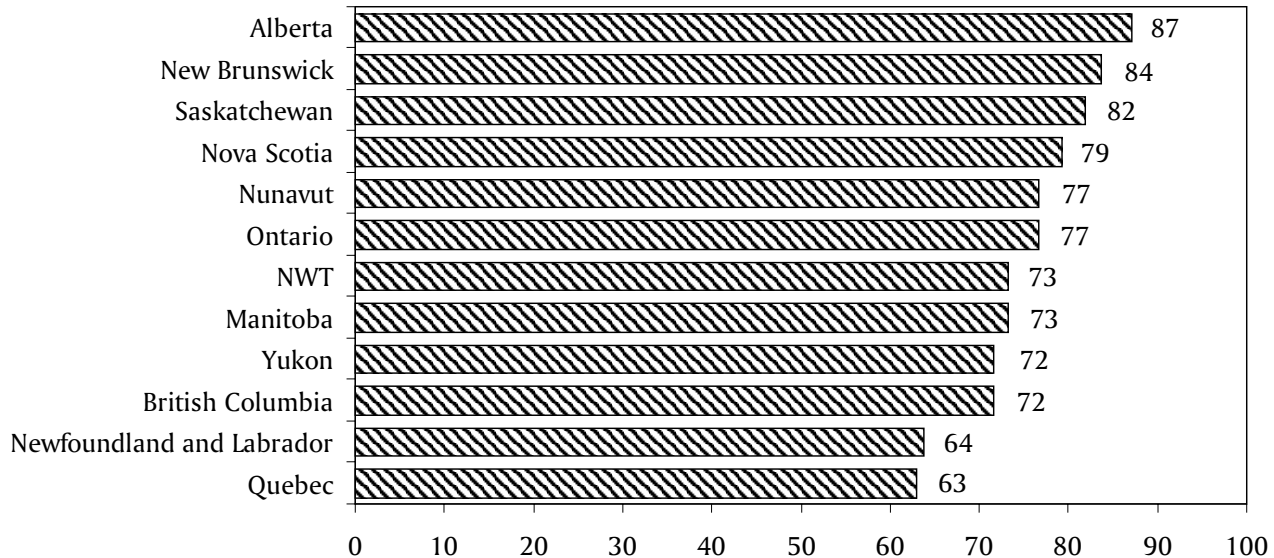
	NL	NS	NB	QC	ON	MB	SK	AB	BC	YK	NWT	NU
Railway density (rail km/ area km <sup>2</sup> ) (%)	0.001	0.021	0.014	0.003	0.011	0.008	0.015	0.011	0.008	n/a	n/a	n/a
Road density (road km/ area km <sup>2</sup> ) (%)	0.067	0.87	1.05	0.148	0.216	0.161	0.383	0.311	0.216	0.033	0.009	0
Geoscience availability— percent of province mapped to 1:50,000 scale (%)	27%		85%	65%	33%	30%	7%	5%	15%	18%	15%	5%
Percent of exploration and deposit appraisal expenditures (averaged over 1998-2002) spent on land access	1.92%	0.97%	0.29%	0.15%	0.78%	0.23%	0.31%	0.70%	1.50%	0.81%	1.34%	1.34%*

\*Until five years of data are available for Nunavut, calculations will be made using data for the Northwest Territories.

## Index Results

An “objective index” comparing the policy attractiveness of Canadian jurisdictions was constructed using the available data described in this section. More regulatory and taxation variables were included because these are the most directly influenced by policy makers in each jurisdiction. The results are shown in figure 37. Although there is a positive correlation between the survey results and the objective index results, it is a fairly weak correlation. In some cases, such as Alberta’s, the results are consistent with the opinion index in the first section of the report. In other cases, most noticeably Quebec’s, the results are inconsistent. There are many possible explanations for this. The objective data used cannot capture the attitudes of the regulators in each jurisdiction, or the ease with which permits can be obtained. Further, it could be that the data used to create the objective index do not adequately capture the concerns of exploration managers, or it could be that the opinions about operating in some jurisdictions differ from the reality of operating there. Improvements to the index might include adding additional variables, or removing or changing the measurement of existing ones. It is also possible that the key data are not yet being gathered, but will become available in future years. Suggestions for improvement from policy makers and the industry continue to be encouraged.

**Figure 37: Objective Index**



## Appendix A: Survey Questions

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### A. EXPLORATION INVESTMENT

**Note:** For the purposes of this survey, **exploration investment** includes both basic and advanced exploration. This includes all exploration expenditures (financing costs, option payments, finders fees, etc.) incurred in searching for and delineating mineral deposits on properties where no production is taking place.

1. What percentage of your **annual exploration budget in 2002** was spent within:

Canada _____	<b>OCEANIA</b>	<b>EURASIA</b>
USA _____	Australia _____	China _____
<b>LATIN AMERICA</b>	Indonesia _____	India _____
Argentina _____	New Zealand _____	Ireland _____
Bolivia _____	Philippines _____	Kazakhstan _____
Brazil _____	<b>AFRICA</b>	Russia _____
Chile _____	DRC (Congo) _____	Spain _____
Mexico _____	Ghana _____	Turkey _____
Peru _____	South Africa _____	Other _____
Venezuela _____	Zimbabwe _____	

*Note: Should total 100 percent.*

2. Has that percentage changed over the 5 years from 1998-2002? If so, please indicate whether there was a positive (+), or negative (-) change, or no change (0).

Canada _____	<b>OCEANIA</b>	<b>EURASIA</b>
USA _____	Australia _____	China _____
<b>LATIN AMERICA</b>	Indonesia _____	India _____
Argentina _____	New Zealand _____	Ireland _____
Bolivia _____	Philippines _____	Kazakhstan _____
Brazil _____	<b>AFRICA</b>	Russia _____
Chile _____	DRC (Congo) _____	Spain _____
Mexico _____	Ghana _____	Turkey _____
Peru _____	South Africa _____	Other _____
Venezuela _____	Zimbabwe _____	

3. Has your total (worldwide) exploration expenditure increased, decreased, or remained the same over the five years from 1998-2002?

Increased \_\_\_\_\_ Decreased \_\_\_\_\_ Remained the Same \_\_\_\_\_

## B. INVESTMENT FACTORS

The following pages list factors such as taxation and regulation that influence investment decisions. Using the scale provided below, please rate each jurisdiction with respect to the factor listed in bold at the top of each page. Please rate only the regions with which you are familiar. For jurisdictions with which you are unfamiliar, please circle 6 or leave blank.

### Scale:

- 1 = encourages exploration investment
- 2 = not a deterrent to exploration investment
- 3 = mild deterrent to exploration investment
- 4 = strong deterrent to exploration investment
- 5 = would not pursue exploration in this region due to this factor
- 6 = do not know

## I. UNCERTAINTY CONCERNING EXISTING REGULATIONS\*

Please circle the appropriate rating, for the uncertainty in the following regions re the **administration/ interpretation/enforcement of existing regulations**.

(See above for key to scale)

<b>CANADA</b>							<b>USA</b>						
Alberta	1	2	3	4	5	6	Alaska	1	2	3	4	5	6
British Columbia	1	2	3	4	5	6	Arizona	1	2	3	4	5	6
Manitoba	1	2	3	4	5	6	California	1	2	3	4	5	6
New Brunswick	1	2	3	4	5	6	Colorado	1	2	3	4	5	6
Nfld./Labrador	1	2	3	4	5	6	Idaho	1	2	3	4	5	6
NWT	1	2	3	4	5	6	Minnesota	1	2	3	4	5	6
Nova Scotia	1	2	3	4	5	6	Montana	1	2	3	4	5	6
Nunavut	1	2	3	4	5	6	Nevada	1	2	3	4	5	6
Ontario	1	2	3	4	5	6	New Mexico	1	2	3	4	5	6
Quebec	1	2	3	4	5	6	South Dakota	1	2	3	4	5	6
Saskatchewan	1	2	3	4	5	6	Utah	1	2	3	4	5	6
Yukon	1	2	3	4	5	6	Washington	1	2	3	4	5	6
							Wisconsin	1	2	3	4	5	6
							Wyoming	1	2	3	4	5	6
<b>AUSTRALIA</b>							<b>LATIN AMERICA</b>						
New South Wales	1	2	3	4	5	6	Argentina	1	2	3	4	5	6
Nthn. Territory	1	2	3	4	5	6	Bolivia	1	2	3	4	5	6
Queensland	1	2	3	4	5	6	Brazil	1	2	3	4	5	6
South Australia	1	2	3	4	5	6	Chile	1	2	3	4	5	6
Tasmania	1	2	3	4	5	6	Mexico	1	2	3	4	5	6
Victoria	1	2	3	4	5	6	Peru	1	2	3	4	5	6
Western Australia	1	2	3	4	5	6	Venezuela	1	2	3	4	5	6
<b>OCEANIA</b>							<b>EURASIA</b>						
Indonesia	1	2	3	4	5	6	China	1	2	3	4	5	6
New Zealand	1	2	3	4	5	6	India	1	2	3	4	5	6
Philippines	1	2	3	4	5	6	Ireland	1	2	3	4	5	6
							Kazakhstan	1	2	3	4	5	6
<b>AFRICA</b>							Russia	1	2	3	4	5	6
D.R.C. (Congo)	1	2	3	4	5	6	Spain	1	2	3	4	5	6
Ghana	1	2	3	4	5	6	Turkey	1	2	3	4	5	6
South Africa	1	2	3	4	5	6							
Zimbabwe	1	2	3	4	5	6							

\*Repeated for each of the 13 policy and mineral questions presented in the graphical results of the survey.

## C. INVESTMENT CLIMATE

1. How would you weight the importance of mineral potential versus policy factors when considering a new exploration project (assuming the existence of some basic mineral potential )?

Mineral \_\_\_\_\_%                      Policy \_\_\_\_\_%    (Total 100%)

2. What country or jurisdiction do you think has the **most favourable** policies toward mining?

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Why ? \_\_\_\_\_

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3. What country or jurisdiction do you think has the **least favourable** policies toward mining?

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Why ? \_\_\_\_\_

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If there could be one policy change in this jurisdiction, what should it be?

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4. If you have an example of either a regulatory “horror story” related to operating in a particular jurisdiction or an example of what you would consider an exemplary policy climate, please describe in the space below. Please attach another sheet if you need more room.

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5. To what extent have **recent acts and threats of terrorism** had an impact on your exploration investment plans?

- \_\_\_\_\_ **Significant impact**—my company **has cancelled plans to invest** in jurisdictions that have become targets of terrorism.
- \_\_\_\_\_ **Some impact**—my company **will spend less than planned** in jurisdictions that have become targets of terrorism.
- \_\_\_\_\_ **Little impact**—my company **is reconsidering its investment plans** in jurisdictions that have become targets of terrorism.
- \_\_\_\_\_ **No impact**—my company **will continue to invest** in jurisdictions that have become targets of terrorism.
- \_\_\_\_\_ **Not applicable**—the jurisdictions in which my company operates are **not presently targets** of terrorism.

6. In what countries or jurisdictions have recent acts and threats of terrorism caused you to reconsider your exploration investment plans?

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#### **D. BACKGROUND INFORMATION**

1. Are you a **Junior** \_\_\_\_\_ or **Senior** \_\_\_\_\_ mining company?

2. What is your position with the company? \_\_\_\_\_

3. What commodity is currently assigned the greatest percentage of your exploration budget?

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4. What jurisdictions, if any, would you like to see added to the survey next year?

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5. What was the value of your **2002 annual exploration expenditures\*** (please specify **US\$** or **Canadian\$** or **Australian\$**) within:

<b>NORTH AMERICA</b>	Venezuela _____	New Zealand _____
Canada _____	<b>INTERNATIONAL</b>	Philippines _____
USA _____	Australia _____	Russia _____
<b>LATIN AMERICA</b>	China _____	South Africa _____
Argentina _____	DRC (Congo) _____	Spain _____
Bolivia _____	Ghana _____	Turkey _____
Brazil _____	India _____	Zimbabwe _____
Chile _____	Indonesia _____	Amount spent outside the above jurisdictions
Mexico _____	Ireland _____	
Peru _____	Kazakhstan _____	

*\*Please note that individual surveys are **strictly confidential**. The information from this question is used to determine the total exploration budgets of all of the companies participating in the survey. If you are uncomfortable giving a specific amount, please give a range.*

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# The Fraser Institute's Annual Survey of Mining Companies

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