



DIVISION OF  
CORPORATION FINANCE  
MAIL STOP 7010

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-0405

September 12, 2006

Ms. Hansine Ullberg  
Chief Financial Officer  
Birch Mountain Resources LTD  
Suite 300, 250 – 6<sup>th</sup> Avenue S.W.  
Calgary, Alberta T2P 3H7  
Canada

**Re: Birch Mountain Resources LTD  
Form 20-F for Fiscal Year Ended December 31, 2005  
March 29, 2006  
File No. 1-32475**

Dear Ms. Ullberg:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 20-F for the Fiscal Year Ended December 31, 2005

Key Information

Selected Financial Information, page 7

1. We note that you have presented a line item depicting revenues for all years presented in your Selected Financial Information. We are unable to locate similar “revenue” information in your audited financial statements located elsewhere in your document. It appears you are depicting amounts that represent interest income as revenues. Please revise accordingly to avoid investor confusion.

Risk Factors

Birch is Currently in the Development Stage, page 8

2. It appears from your filing that you have not established proven or probable reserves. As such, it appears you should revise your disclosures indicating that you are a development stage enterprise, to clarify that for U.S. GAAP purposes, the company is regarded as an “Exploration Stage” enterprise, as defined under SEC Industry Guide 7. Please include this labeling in the financial statement headers.

Operating and Financial Review and Prospects

Operating Results

General and Administrative Expenses, page 30

3. We note your presentation of “Adjusted G&A Expenses”. It appears this presentation represents a non-GAAP measure. Please refer to Item 10(e)(i) & (ii) of Regulation S-K and tell us why you believe this presentation is appropriate. It appears certain amounts you are adjusting are recurring in nature and potentially settled in cash.

Mineral Exploration Costs, page 31

4. It appears from your disclosures that you paid \$5.9 million for the excavation and stockpiling of surface overburden, commonly referred to as deferred stripping. If true, please separately identify this asset on the face of your balance sheet and provide an accounting policy disclosure relative to pre-production deferred stripping for Canadian GAAP.

Quantitative and Qualitative Disclosures about Market Risk, page 51

5. We note you have not provided market risk disclosures in accordance with Item 11 of Form 20-F. It appears from your document that you may be susceptible to market risks associated with commodity price risk and also possibly currency exchange rate risk. Please refer to Item 11 of Form 20-F and advise us why you believe these disclosures are not applicable.

Controls and Procedures

Changes in Internal Control over Financial Reporting, page 52

6. Please modify your disclosure to indicate if there were any changes in the Company's internal controls subsequent to the date of your evaluation. Please refer to Item 15(b) of Form 20-F.

Financial Statements

Report of Independent Auditor, page 3

7. Please revise your report title to state, "Report of Independent Registered Public Accounting Firm."

Report of Independent Registered Public Accounting Firm, page 3

8. Please repaginate your document. It appears both audit reports have the same page number and the notes to the financial statements do not follow the page numbers of the primary financial statements.
9. We note the report provided for fiscal years 2004 and 2003 refers to a restatement footnote and is dual dated with respect to certain notes. We are unable to locate the notes referred to in this report. Please advise and modify your document accordingly.

Consolidated Balance Sheet, page 4

10. We note that you have classified restricted cash as a current asset. It appears from elsewhere in your document that this restriction is associated with asset retirement obligations. Please tell us why you believe this should be reflected as a current asset.
11. Please modify your line item identified as "Long-term asset" to better identify the nature of the asset. It appears from other disclosures that the amount represents a prepaid expense.

Consolidated Statements of Cash Flows, page 6

12. Please tell us the nature of the transaction(s) described in the financing activities section as “Advances on share subscriptions upon the exercise of options.” We may have further comment.
13. Please reconcile the amounts presented for years 2005 and 2003 for “Mineral exploration costs” in your Statements of Cash Flows to the information presented on page 31 and Note 7 of your document.

Note 2 – Significant accounting policies

(g) Asset Retirement Obligations, page 64

14. It appears you have reflected certain amounts in your financial statements for asset retirement obligations during 2005. Please explain your policy disclosure that indicates “There is no impact on the current year’s financial statements...”

Note 13 – Deficit, page 70

15. It appears that for U.S. GAAP purposes, your elimination of the Company’s accumulated deficit represents a quasi-reorganization. Please tell us if you believe you have satisfied all the requirements of Section 210 of ASR 25. Provide us an analysis in support of your conclusion. Please also refer to SAB Topic 5:S for additional information.

Note 20 – Segmented Information, page 74

16. Please identify the numeric information you have presented in your tabular presentation.

Note 22 – Material differences between Canadian and United States generally accepted accounting principles, page 75

17. It appears from your document that the Company has not established proven or probable reserves in accordance with SEC Industry Guide 7. Please note that for U.S. GAAP, exploration expenses should be expensed as incurred. Please modify your document accordingly.
18. We further note that you have capitalized amounts in certain periods presented as development costs. Given the absence of proven and probable reserves in accordance with SEC Industry Guide 7 for all periods presented, it is unclear to us

why the Company believes these costs represent development costs which have probable future economic benefit under U.S. GAAP. Please advise.

19. Please tell us if you have evaluated your capitalized development costs for impairment. If so, please provide us with a copy of your analysis.

#### Engineering Comments

##### General – Cover Page

20. Please correct the Commission file number and the fiscal year end date. In addition, please provide a company telephone number.

##### Birch is currently in the development stage, page 8

21. The words “development” and “production” have very specific meanings under Industry Guide 7, (see [www.sec.gov/divisions/corpfin/forms/industry.htm#secguide7](http://www.sec.gov/divisions/corpfin/forms/industry.htm#secguide7)). The terms reference the “development stage” when companies are engaged in preparing reserves for production, and the “production stage” when companies are engaged in commercial-scale, profit-oriented extraction of minerals from the reserves. If the company does not disclose any “reserves,” as defined by Industry Guide 7, then company must be in the “exploration stage,” as defined by Guide 7(a) (4) (i). This will prevent the designation of capital expenses within the financial statements and precludes the use of these terms within the financial statement headnotes and footnotes see Instruction 1 to paragraph (a), Industry Guide 7.

##### Birch is currently in the development stage, page 8

##### Business Overview, page 14

##### Quarry and aggregate plant development, page 18

22. The third paragraph, on page 8 states that “The Muskeg Valley Quarry was open for production at the end of 2005...,” the fourth paragraph on page 14 “...the quarry was opened in late December 2005,” and on page 18 “the quarry operator began production in 2006.” Please make a statement within these sections, regarding the initial sales or total annual sales and revenue received from these sales for fiscal 2005. If no sales or revenues were received make a statement to that effect.
23. Also within the third paragraph, please change the 5.5 million barrels per year to 5.5 million barrels per day.

##### Reconciliation of Canadian and US Mineral reserve Estimates, page 28

24. The table located on page 29 lists only the tonnage of mineralized material. High quality & purity limestones are generally defined by the calcium carbonate (CaCO<sub>3</sub>) content, percentage, or another appropriate measurement. Does this apply to the disclosed limestone materials? If so, disclose the appropriate measurement. If not, disclose this fact and elaborate on the challenges presented to control plant feed quality, define the impacts on these estimates, mining & processing recoveries, and the process operations.

Material differences between Canadian and United States generally accepted accounting practices, page 75

25. Paragraph (a) states "...under U.S. GAAP capitalized costs relating to the development of proven reserves." Please clarify within the filing if these are Industry Guide 7 reserves.

#### Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated

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Birch Mountain Resources LTD  
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by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Kevin Stertzell at (202) 551-3723, or Jill Davis, Branch Chief, at (202) 551-3683 if you have questions regarding comments on the financial statements and related matters. You may contact Ken Schuler, Mining Engineer, at (202) 551-3718 with questions about engineering comments. Please contact me at (202) 551-3740 with any other questions.

Sincerely,

H. Roger Schwall  
Assistant Director