



DIVISION OF
CORPORATION FINANCE

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

October 18, 2013

Via E-mail

David Blaiklock
Chief Financial Officer
Primero Mining Corp.
Suite 1640, One Bentall Centre
505 Burrard Street, Box 24
Vancouver, British Columbia, Canada

**Re: Primero Mining Corp.
Form 40-F for the Year Ended December 31, 2012
Filed April 2, 2013
Response Dated September 20, 2013
File No. 001-35278**

Dear Mr. Blaiklock:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 40-F for the Year Ended December 31, 2012

Exhibit 99.2

Notes to the Consolidated Financial Statements

3. Significant accounting policies, page 8

(h) Mining interests

(vi) Depreciation and depletion, page 14

1. We reviewed your response to prior comment 3. Please provide the following information related to your San Dimas mine.
 - We note that in 2012 you changed your reserve and resource estimation methodology to improve mine planning and more accurately predict grade and therefore, production. The change in methodology had a reduction in mineral reserves and

resources and a significant amount of inferred resources were reclassified to exploration potential. Please provide your analysis to further explain why the change in reserve estimation methodology did not affect your accounting policy and the confidence in the accuracy and reliability of the mineralization included in your depreciation cost base;

- Concurrent with the change in methodology, you increased the percentage of mineralization included in depletion cost base from 50% to 75% for inferred resources and exploration potential for the year ended December 31, 2012. Please provide an analysis to further explain why the increase in the percentage of mineralization included in your depreciation cost base provides reliability;
- Please supplement your reconciliation of proven and probable reserves for the three years ended December 31, 2012 with a rollforward for each year showing reserves consumed and those converted from resources. Please also show a progression of exploration potential to resources and or reserves; and
- Please provide PDF copies of the maps for your mine as of December 31, 2012, December 31, 2011 and December 31, 2010 along with the reserve/resource information and the mine plan panels or stope outline to clearly show the progression of converting exploration potential to resources to reserves.

2. We note your response to prior comment 4. Please provide the following information:

- Explain to us why and how you determined that your estimates of resources, such as inferred mineral resources and exploration potential, used to calculate your units of production depreciation cost base are reliable estimate to the number of production expected to be obtained from your San Dimas mine. We believe the paragraph 4.41 of the Conceptual Framework for Financial Reporting issued by the International Accounting Standards Board addresses the recognition of the elements of both balance sheet and income statement items;
- We note that the definition of exploration potential is that it lacks the necessary level of measurement precision to enable it to be classified as a mineral reserve or resource. Please provide us with your analysis of how this exploration potential which has not demonstrated technical feasibility and economic viability can be used in the estimate of production of units expected to be obtained from the mine;
- We note that in the absence of specific IFRS guidance, you looked to other guidance, specifically EITF 04-3. Please provide specific references in the scope of EITF 04-03 that supports your position as it applies to depreciation of these mining assets. Also, tell us if you considered other guidance including how you would have accounted for depreciation of these mining assets under legacy Canadian GAAP and provide the specific references. If you continue to believe that the useful life of some of your

mining assets extends beyond the current reserves and resources, please tell us how you evaluated the guidance in IAS 16 paragraphs 43-47; and

- We note that the majority of the target areas on page 13 do not appear to be currently accessible and require future tunnels. As you are including the majority of the exploration potential in your depreciation base, please explain whether you considered any future development costs which are required to access those resources when computing your depreciation calculation.

Exhibit 99.2

Management's Discussion and Analysis of Financial Condition and Results of Operations
Non-GAAP measure - Cash costs per gold ounce, page 23

3. We note your response to prior comment 5 and believe that you can provide your existing disclosure as long as you also include the following:
 - Cash costs without adjusting for by-product revenues;
 - Disclose the reasons why metals other than gold are considered by-products;
 - If there are multiple by-products, provide a reconciliation of the dollar amount of by-product credit attributable to each metal; and
 - Make the line item captions more transparent and explain what the measure is intended to depict and that it does not portray IFRS.

Please supplementally provide draft disclosure of your planned changes.

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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.

David Blaiklock
Primero Mining Corp.
October 18, 2013
Page 4

You may contact Suying Li at (202) 551-3335 or Nasreen Mohammed at (202) 551-3773 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

/s/Tia L. Jenkins

Tia L. Jenkins
Senior Assistant Chief Accountant
Office of Beverages, Apparel, and
Mining