



DIVISION OF
CORPORATION FINANCE

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

July 30, 2014

Via E-Mail

Mr. Michael F. Doolan
Chief Financial Officer
Molycorp, Inc.
5619 Denver Tech Center Parkway, Suite 1000
Greenwood Village, CO 80111

**Re: Molycorp, Inc.
Form 10-K for the Year Ended December 31, 2013
Filed March 3, 2014
Response letter dated July 28, 2014
File No. 001-34827**

Dear Mr. Doolan:

We have reviewed your response letter and have the following comment. In our comment, 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 filings, 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 filings and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Year Ended December 31, 2013

Notes to Consolidated Financial Statements, page 81

(16) Stockholder's Equity, page 107

1. We note your response to comment one of our letter dated June 13, 2014 regarding your revised determination of the fair value of the share-lending arrangements and your conclusion that the previous error in measuring fair value of these arrangements did not result in a material misstatement of your financial statements based on the analysis you performed under SAB 108 and SAB 99. Please address the following points:

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- Clarify how you applied your valuation methodology, providing quantification and clear explanations of how you arrived at the inputs and assumptions used in the valuation model. For example, quantify and explain how you determined the cost of borrowing shares of the company's stock and the related adjustments you made to account for credit risks of counterparties.
- Provide text of the disclosures required by FASB ASC 470-20-50-2A to be included in future filings as previously requested in our letter dated June 13, 2014.
- Provide us with your SAB 108 and SAB 99 materiality analysis that supports your conclusion that the impact on your previously-issued financial statements, including quarterly periods, is not material.

You may contact Joanna Lam at (202) 551-3476 or Craig Arakawa, Accounting Branch Chief at (202) 551- 3650 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