



DIVISION OF  
CORPORATION FINANCE

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

June 14, 2013

Via E-mail

Mr. Constantine E. Karayannopoulos  
Chief Executive 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, 2012**  
**Filed March 18, 2013**  
**Response Dated May 29, 2013**  
**File No. 001-34827**

Dear Mr. Karayannopoulos:

We have reviewed your response 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 10-K for the Year Ended December 31, 2012

1. We note your response to comments 9 through 12 in which you propose to address these comments prospectively, such as reporting your ore reserves to coincide with your fiscal year end, mine and mill production along with stockpile changes and salable production, a description of your new mill facility's operational transition, your construction and commissioning challenges, capital cost variances, schedule slippage, and external feedstock source quantity & quality for all your operating divisions in your future annual filings. Please provide a copy of the proposed sections, paragraphs or pages you intend to modify in your future filings along with any enhanced discussion, as necessary.

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You may contact George K. Schuler, Mining Engineer, at (202) 551-3718 with questions about engineering comments.

Sincerely,

/s/Tia L. Jenkins

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