



DIVISION OF
CORPORATION FINANCE

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

April 27, 2012

Via E-mail

Mr. James S. Allen
Chief Financial Officer
Molycorp, Inc.
5619 Denver Tech Center Parkway
Suite 1000
Greenwood Village, CO 80111

Re: Molycorp, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2011
Filed February 28, 2012
Form 10-K for the Fiscal Year Ended December 31, 2010
Filed March 9, 2011
File No. 001-34827

Dear Mr. Allen:

We have completed our review of your filings. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/Tia L. Jenkins

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