



DIVISION OF  
CORPORATION FINANCE

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

December 28, 2011

Via Facsimile

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, 2010**  
**Filed March 9, 2011**  
**Form 10-Q for the Quarterly Period Ended September 30, 2011**  
**Filed November 10, 2011**  
**Forms 8-K**  
**Filed August 5, 2011 and November 10, 2011**  
**File No. 001-34827**

Dear Mr. Allen:

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 10-K for the fiscal year ended December 31, 2010

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 46

Contractual Obligations, page 59

1. We note on page 79 the annual payments of \$5.2 million that you agreed to make for 10 years under the September 30, 2010 natural gas transportation lease agreement with Kern

River. Please confirm to us that you will include disclosure of these known contractual obligations in future filings. Refer to Item 303(a)(5) of Regulation S-K.

Item 8. Financial Statements and Supplementary Data, page 64

Consolidated Statement of Operations, page 67

2. We note that you classify stock-based compensation expense as a separate income statement caption. Please confirm to us that in future filings you will classify stock-based compensation costs in the same income statement line item(s) that you use to classify cash compensation paid to the same individuals. Refer to SAB Topic 14.F for additional guidance.

Consolidated Statement of Stockholder's Equity, page 68

3. We note that the 44,308,804 outstanding shares at December 31, 2009 in your Form S-1/A4 filed on July 29, 2010 (page F-5, F-12, F-22 and F-30). We further note that you now disclose there were 44,998,185 outstanding shares at December 31, 2009. Please explain to us in sufficient detail why the number of outstanding shares at December 31, 2009 has changed.

Notes to Consolidated Financial Statements, page 70

(4) Summary of Significant Accounting Policies, page 71

(n) Stockholder's Equity, page 77

4. We note that the Company received contributions from its stockholders totaling \$15.0 million in exchange for 5,767,670 shares of Class A common stock prior to the completion of the IPO. We further note on page II-3 of your Form S1/A4 filed on July 29, 2010 that these shares were sold for \$2.60 per share based on an assumed offering price of \$14.00 per share. Given the significant difference between the selling price and the assumed offering price, please advise us of the following:
  - a. Confirm to us that these shares were sold prior to the completion of the IPO, and tell us the date(s) that these shares were sold to existing Molycorp stockholders;
  - b. Tell us if any shares were sold to any individuals that were employees or directors of Molycorp on the date of sale; and
  - c. To the extent that any shares were sold to employees or directors, quantify for us the number of such shares sold and tell us how you accounted for those transactions along with the accounting guidance you followed.

In addition, please clarify for us how many shares were sold on or about the time of the May 28, 2010 sale of securities to existing stockholders. In this regard, we note that in the fourth amendment to your registration statement on Form S-1 (333-166129) for your IPO you disclose under Item 15 that you sold the equivalent of approximately 1.9 million shares for proceeds of \$5.0 million, while the stockholders equity note in your subsequent financial statements indicates that you sold approximately 5.8 million shares for proceeds of \$15.0 million. In your response, please address the reason for the different amounts in the noted disclosures.

Form 10-Q for the quarterly period ended September 30, 2011

Condensed Consolidated Statement of Stockholders' Equity (Unaudited), page 5

5. We note your disclosure on page eight that you currently expect Molycorp to continue as a development stage company until the fourth quarter of 2012. Please confirm to us that you will provide the disclosures required by ASC 915-215-45-1 in future annual and interim filings while you are in the development stage.

Notes to Condensed Consolidated Financial Statements, page 7

(5) Acquisitions, page 21

6. We note your April 1, 2011 acquisition of AS Silmet (now Molycorp Sillamae). Please confirm to us that Molycorp Sillamae constitutes a business for reporting purposes and, if so, provide us with the results of the three tests that you used to measure the significance of the acquired business under Rule 3-05 of Regulation S-X. To the extent that any of the resulting calculations exceeded 20%, tell us how you considered the Rule 3-05(b)(2) financial statement requirements.
7. We note your use of a discount factor in determining the \$72.7 million fair value of common shares issued to acquire 80% of Molycorp Sillamae given that the shares were not registered under the Securities Act and were subject to certain lock-up provisions which limit the ability to sell the shares. Based on the April 1, 2011 closing price of \$59.25 per share, it appears that you discounted the shares by approximately 23% to arrive at the fair value. Please explain to us in sufficient detail how you determined the estimated discount, including all factors specific to both the securities and the Company that you considered.
8. We note on page 46 that, as part of the acquisition of Molycorp Tolleson, you entered into a rare earth products purchase and supply agreement through which Molycorp Tolleson will supply Santoku (i.e. the seller of Molycorp Tolleson to the Company) with certain rare earth alloys for a two-year period at prices equal to the feedstock cost plus the applicable product premium as such terms defined in the agreement. Please advise us of the following:

- a. tell us whether you had any preexisting relationships or other arrangements with Santoku (the seller) before negotiations for the acquisition of Molycorp Tolleson began;
- b. quantify Molycorp Tolleson's sales to Santoku under the agreement from the acquisition date through September 30, 2011; and
- c. tell us whether your sales of rare earth products to Santoku, at feedstock cost plus a premium, were at prices that were significantly less than the market value of such products on the date of sale and, if so, tell us how you considered the factors in ASC 805-10-55-18 to determine whether the purchase and supply agreement was a part of the business combination transaction. Refer to ASC 805-10-25-20 through 25-22 for additional guidance.

(10) Segments, page 30

9. We note your limited number of customers and geographic locations disclosures on page 28. We further note on page 34 that Molycorp Sillamäe currently sells products to customers in Europe, North and South America, Asia, Russia, and other former Soviet Union countries. Please confirm to us that you will provide the information about geographic areas required by ASC 280-10-50-41, or tell us why you believe that such disclosure is not required.

Items 8.01 and 9.01 Form 8-K filed August 5, 2011

10. We note your disclosure that states the revised financial statements included in Exhibit 99.1 to this Current Report on Form 8-K update and supersede the Company's financial statements included as Item 8 on the Form 10-K and included as Item 1 on the Form 10-Q. We further note your disclosure that states the Company has assessed the materiality of this misstatement in accordance with the SEC's Staff Accounting Bulletin No. 99 and concluded that this error is not material to the Company's previously issued consolidated financial statements. Please advise us of the following:
  - a. Provide us with your SAB 99 analysis that supports your conclusion that the error was not material;
  - b. Explain to us why you have revised your financial statements for an error that you concluded was not material;
  - c. Tell us how you considered the requirements of Item 4.02 of Form 8-K; and

- d. Explain to us why you revised your financial statements via Exhibit 99.1 to your Form 8-K, as opposed to filing amendments to your previously filed December 31, 2010 Form 10-K and March 31, 2011 Form 10-Q.

Items 2.02 and 9.01 Form 8-K filed November 10, 2011

Exhibit 99.1

11. We note that for purposes of your non-gaap disclosures you adjust net income (loss) attributable to Molycorp stockholders to arrive at adjusted net income (loss), and then adjusted diluted net income (loss) per share. Please explain to us why you label these two non-gaap measures as adjusted net income (loss), and adjusted diluted net income (loss) per share. In this regard, your non-gaap reconciliation begins with your net income (loss) attributable to Molycorp stockholders instead of your net income (loss).
12. We note that you present the tax effects of the adjustments to arrive at adjusted net income (loss) in one line item in your non-gaap reconciliation. Please explain to us in sufficient detail how you determined the income tax effects on these adjustments. Also confirm to us that you will disclose how the tax effects were calculated in the future, and provide us with the text of your proposed future disclosure based on the information in your Form 8-K. Refer to Question 102.11 of the Division of Corporation Finance's Compliance & Disclosure Interpretations of the rules and regulations on the use of Non-GAAP Financial Measures for additional guidance.

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.

In responding to our comments, please provide a written 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 by the Commission or any person under the federal securities laws of the United States.

James S. Allen  
Molycorp, Inc.  
December 28, 2011  
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You may contact Brian McAllister at (202) 551-3341 or John Archfield at (202) 551-3315 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