



DIVISION OF
CORPORATION FINANCE

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

October 29, 2010

Robert G. Phillips
President and Chief Executive Officer
Crestwood Midstream Partners LP
717 Texas Avenue, Suite 3150
Houston, Texas 77002

Re: Crestwood Midstream Partners LP
Form 10-K for Fiscal Year Ended December 31, 2009
Filed March 15, 2010
Form 8-K
Filed October 7, 2010
File No. 001-33631

Dear Mr. Phillips:

We have reviewed your letter dated October 13, 2010 in response to our comment letter dated September 30, 2010 and have the following comments. In our comments, we may ask you to provide us with information so we may better understand your disclosure.

You should comply with these comments in all future filings, as applicable. Please confirm in writing that you will do so, and also explain to us in sufficient detail for an understanding of the disclosure how you intend to comply by providing us with your proposed revisions.

Please respond to this letter within ten business days 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, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for Fiscal Year Ended December 31, 2009

Management's Discussion and Analysis of Financial Condition and Results of Operation, page 22

1. We note your response to comment three in our letter dated September 30, 2010. Please provide us with the disclosure you intend to provide in future filings. Beyond cross referencing your highlights disclosure to your Results of Operations and Liquidity and Capital Resources discussion, please enhance your disclosure to specifically discuss:

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- known material trends and uncertainties that will have, or are reasonably likely to have, a material impact on your net sales or income from continuing operations or result in your liquidity decreasing or increasing in any material way;
- additional information about the quality and variability of your earnings and cash flows so that investors can ascertain the likelihood of the extent past performance is indicative of future performance;
- economic or industry-wide factors relevant to your partnership; and
- material opportunities, challenges and risks in the short and long term and the actions you are taking to address them.

Please also provide us a complete discussion of your current year highlights discussion on page 22 as it appears that there is language missing in the last bullet point.

Form 8-K filed on October 7, 2010

2. It appears that exhibit 10.1, the Credit Agreement dated October 1, 2010, does not include any of the referenced exhibits or schedules. Please advise or refile a complete copy of this agreement with your next periodic report.

Please contact Angie Kim, Staff Attorney, at (202) 551-3535, Brigitte Lippmann, Special Counsel, at (202) 551-3713, or me at (202) 551-3720 with any questions.

Sincerely,

H. Christopher Owings
Assistant Director

cc: William Manias, Chief Financial Officer