



DIVISION OF
CORPORATION FINANCE

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

September 27, 2012

Via E-mail

William P. Moffitt III
President and Chief Executive Officer
Nanosphere, Inc.
4088 Commercial Avenue
Northbrook, Illinois 60062

**Re: Nanosphere, Inc.
Registration Statement on Form S-3
Filed September 14, 2012
File No. 333-183916**

Dear Mr. Moffitt:

We have limited our review of your registration statement to those issues we have addressed in our 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 by amending your registration statement and providing the requested information. Where 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 registration statement and the information you provide in response to these comments, we may have additional comments.

Fee table

1. Refer to footnote (3) of your fee table. It is not appropriate to state in a footnote to the fee table that you are registering an indeterminable amount of securities that underlie other securities. The underlying securities must be included in the fee table. As the underlying securities are offered and sold, they should be counted against the dollar amount of securities remaining on the registration statement as required by Rule 457. Please revise accordingly.

Exhibit 5.1

2. Refer to the paragraph numbered (3) on page 4 of this exhibit. Please tell us why you believe it is necessary and appropriate for the opinion regarding the corporate power of the registrant to enter into the purchase contracts and units to be conditioned on the

occurrence of the events described in the lead-in to the list of items beginning on page 3. Does the registrant currently lack that power?

3. The opinion that you file to satisfy your obligations per Regulation S-K Item 601(b)(5) should address whether the warrants and purchase contracts are binding obligations of the registrant under the law of the jurisdiction governing those securities. Please file a revised opinion accordingly.
4. Refer to the last sentence of this exhibit. The opinion that you file to satisfy your obligations under Regulation S-K Item 601(b)(5) may not limit reliance. Please file a revised opinion.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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You may contact Tim Buchmiller at (202) 551-3635 or me at (202) 551-3617 with any questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc: Blake Hornick, Esq.
Seyfarth Shaw LLP