

January 22, 2007

Mail Stop 6010

Gregory D. Casciaro  
Xtent, Inc.  
President, Chief Executive Officer and Director  
125 Constitution Drive  
Menlo Park, CA 94025-1118

**Re: Xtent, Inc.  
Amendment No. 5 to Form S-1  
Filed January 11, 2007  
File No. 333-136371**

Dear Mr. Casciaro:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

#### Summary

##### Status of Regulatory Approval, page 1

1. We note your response to the comment in our letter to you dated January 4, 2007. That comment sought expanded disclosure under this particular caption to balance the disclosure relating to "evidence of safety." Your revised disclosure appears under a different caption. Therefore, we reissue the comment.

##### Exhibit 5.1

2. Your legality opinion appears to cover only 4,700,000 shares of common stock. Please revise your opinion to make clear whether it also covers the shares

issueable pursuant to the underwriters' over-allotment option. The current language in the legality opinion is inconsistent with the prospectus cover page.

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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.

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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Kevin Vaughn, Branch Chief, at (202) 551-3643, or Martin James, Senior Assistant Chief Accountant, at (202) 551-3671 if you have questions regarding comments on the financial statements and related matters. Please contact Eduardo Aleman at (202) 551-3646 or me at (202) 551-3800 with any other questions.

Sincerely,

Peggy Fisher  
Assistant Director

cc(via facsimile): J. Casey McGlynn, Esq.