

**Mail Stop 4561  
via fax (952) 487-9510**

October 29, 2009

Peter Goepfrich  
Chief Financial Officer  
Vital Images, Inc.  
5850 Opus Parkway, Suite 300  
Minnetonka, MN 55343

**Re: Vital Images, Inc.  
Form 10-K for the Fiscal Year Ended December 31, 2008  
Filed March 16, 2009  
Forms 8-K Filed February 19, 2009, May 7, 2009 and August 6, 2009  
File No. 000-22229**

Dear Mr. Goepfrich:

We have reviewed the above-referenced filings and have the following comments. If 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 supplemental information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. 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.

Form 10-K for the Fiscal Year Ended December 31, 2008

Item 1. Business

General

1. Please provide information responsive to Item 101(c)(1)(xi) of Regulation S-K concerning your research and development activities, which appear to be material to your company, as well as financial information about geographic areas and long-lived assets required by Item 101(d) of Regulation S-K. With respect to the

latter, you may alternatively include a cross-reference to this data in the financial statements.

Marketing and Distribution, page 6

2. We note that you depend on Toshiba Medical Systems Corporation for more than 50% of your total revenues. We note further that while you reference the Marketing and Distribution agreement with Toshiba in this section, you have not included a discussion of the material terms of the agreement in the business section. Similarly, we did not note a discussion of the material terms of the Toshiba Development Agreement. Please tell us what consideration you gave to include a discussion of the material terms such as the minimum purchase obligations.

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

Liquidity and Capital Resources, page 34

3. It appears that your Marketing and Distribution Agreement with Toshiba Medical Systems Corporation dated November 21, 2008 (Exhibit 10.23) includes a minimum purchase commitment that should be disclosed pursuant to Item 303(a)(5) of Regulation S-K. We note that you have received confidential treatment for portions of this agreement on April 15, 2009; however, material terms of an agreement upon which you are substantially dependent are required to be disclosed. Given the significance of the contract to your historical operations, it appears that the minimum purchase commitment provision of the agreement with this principal customer is a known, material commitment that should be disclosed pursuant to Item 303(a)(3) of Regulation S-K. Please advise as to why you have not disclosed or discussed the material terms of the agreement with Toshiba in the Form 10-K.

Item 8. Financial Statements and Supplementary Data

Revenue Recognition page 48

4. We note that you introduced ViTAL Enterprise in May 2008. Please describe your methodology for establishing vendor-specific objective evidence ("VSOE") of fair value for post-contract support included in those arrangements. If VSOE is based on stated renewal rates then please tell us how you determined the renewal rates are substantive. In this regard, please provide the range of renewal rates and tell us what percentage of your customers actually renew at such rates. Alternatively, if VSOE is based on stand-alone sales, then provide the volume and range of stand alone sales used to establish VSOE. Also, please describe the

various factors that affect your VSOE analysis including customer type and other pricing factors (e.g., geographic region, purchase volume, competitive pricing, perpetual versus term license, etc.).

5. We note your disclosure on page 3 which indicates that your ViTAL Enterprise solution can be licensed through “capital or subscription pricing.” Please tell us more about your subscription pricing arrangements and how revenue from these arrangements is recognized. As part of your response, please tell us how your current revenue recognition policy reflects your accounting for these arrangements.

Item 11. Executive Compensation (Incorporated by Reference from Definitive Proxy Statement Filed April 2, 2009)

Compensation Discussion and Analysis, page 16

6. You state that you utilized a compensation consultant that benchmarked the compensation of the executives at Vital Images against the compensation paid to similar officers in the peer group and provided recommendations for base salary and bonus percentages. We also note your disclosure that information provided by the consultant was used as a “guideline by the Compensation Committee, but not a determining factor in determining compensation for the Named Executive Officers.” In your response, please identify the benchmark and confirm that you will disclose this information in future filings as appropriate, or tell us why this disclosure is not warranted. Refer to Item 402(b)(2)(xiv) of Regulation S-K and Question 118.05 of Regulation S-K Compliance and Disclosure Interpretations, available on the SEC website.

Forms 8-K Filed February 19, 2009, May 7, 2009 and August 6, 2009

7. We note your disclosure of “adjusted EBITDA.” As this non-GAAP measure excludes a number of items that are recurring in nature please tell us how you considered the disclosures in Question 8 of the Division of Corporation Finance’s Frequently Asked Questions Regarding Use of Non-GAAP Financial Measures. In this regard, we believe you should further enhance your disclosures to comply with Item 10(e)(1)(i)(C) and (D) of Regulation S-K and Question 8 of the related FAQ to demonstrate the usefulness of your non-GAAP financial measures, the limitations of the measures and the manner in which management compensates for these limitations.

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Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please submit all correspondence and supplemental

materials on EDGAR as required by Rule 101 of Regulation S-T. If you amend your filing(s), you may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter that keys your response 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 any amendment and your response 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 Exchange Act of 1934 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.

In connection with responding to our comments, please provide, in writing, a 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Jason Niethamer, Senior Staff Accountant, at (202) 551-3855, or Christine Davis, Assistant Chief Accountant, at (202) 551-3408 if you have any questions regarding comments on the financial statements and related matters. Please address questions regarding all other comments to Jan Woo, Staff Attorney, at (202) 551-3453 or Maryse Mills-Apenteng, Legal Special Counsel at (202) 551-3457. If you need further assistance, you may contact me at (202) 551-3730.

Sincerely,

Kathleen Collins  
Accounting Branch Chief