



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

October 31, 2016

Via E-mail

Harold C. Flynn, Jr.
President and Chief Executive Officer
Biolase, Inc.
4 Cromwell
Irvine, CA 92618

**Re: Biolase, Inc.
Registration Statement on Form S-3
Filed October 27, 2016
File No. 333-214281**

Dear Mr. Flynn:

This is to advise you that we have not reviewed and will not review your registration statement.

Please refer to Rules 460 and 461 regarding requests for acceleration. We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Please contact Caleb French at (202) 551-6947 with any questions.

Sincerely,

/s/ Caleb French for

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery

cc: Lindsey A. Smith, Esq.
Sidley Austin LLP