



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

DIVISION OF  
CORPORATION FINANCE

Mail Stop 4720

August 27, 2010

Clifford A. Reid, Ph.D.  
President and Chief Executive Officer  
Complete Genomics, Inc.  
2071 Stierlin Court  
Mountain View, CA 94043

Re: **Complete Genomics, Inc.**  
**Registration Statement on Form S-1, filed July 30, 2010**  
**File No. 333-168439**

Dear Mr. Reid:

We have reviewed your registration statement and have the following 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. If 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.

General

1. Please note that our comments on your request for confidential treatment will be provided under separate cover.
2. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not complete lists. If our comments are applicable to portions of the filing that we have not cited as examples, please make the appropriate changes in accordance with our comments.
3. Please note that when you file a pre-effective amendment containing pricing-related information, we may have additional comments. As you are likely aware, you must file this amendment prior to circulating the prospectus.

4. Please note that when you file a pre-effective amendment that includes your price range, it must be bone fide. We interpret this to mean that your range may not exceed \$2 if you price below \$20 and 10% if you price above \$20.
5. Please update your financial statements and related financial information as required by Rule 3-12 of Regulation S-X.

#### Graphics

6. Please confirm that the graphics included in your registration statement filed on EDGAR are the only graphics you will use in your prospectus.
7. Please confirm that the facility and equipment depicted in photographs 2 and 3 are your facility and equipment.
8. We note Caption 5 in the graphic depiction of your Complete Human Genome Sequencing Service states that your customers have access to a suite of analytical tools to enable them to rapidly analyze the genomic data that is generated from their samples. This statement is inconsistent with the statements on pages 3 and 76 that you are developing a suite of analytical tools designed to enable your customers to rapidly analyze the genomic data generated from their samples. Please either explain the inconsistency or revise caption 5 to clarify that the current tools available enable customers to identify key variants in each genome and annotate the genomic data.

#### Prospectus Summary, page 1

9. Please provide the basis for your stated beliefs:
  - “We believe we will become the preferred solution for complete human genome sequencing and analysis;”
  - “We believe that our solution will provide ...complete human genomic data and analysis at an unprecedented quality, cost and scale...;”
  - “We believe that our human genome sequencing technology ...is superior to existing commercially available complete genome sequencing methods in terms of quality, cost and scale;”
  - “We believe that we will be the first company to sequence and analyze high-quality complete genomes, at scale, for a total cost of under \$1,000 per genome.” and
  - “We believe this unique combination of our proprietary DNB and cPAL technologies is superior in both quality and cost when compared to other commercially available technologies...”

#### Our Company, page 1

10. You state that in the DNA sequencing industry, complete human genome sequencing is generally deemed to be coverage of at least 90% of the nucleotides in the genome. Please disclose the source of this information.

11. We note your statement that you expect your capacity to increase threefold in 2011. Please explain any assumptions used on making this projection, including staffing, planned capital expenditures, and or any other factors. Please note planned capital expenditures should be described in Management's Discussion and Analysis of Financial Condition and Results of Operations.

Risks Associated with our Business, page 6

12. Please include the possibility that potential customers may have reservations about allowing a third party to control the sequencing process and the possibility that other customers may not want to sequence complete human genomes as risks associated with your business.

Risk Factors

We have a history of losses, and we may not achieve or sustain profitability..., page 13

13. We note your disclosure that your independent registered public accounting firm's report on your financial statements as of and for the year ended December 31, 2009 includes an explanatory paragraph expressing substantial doubt about your ability to continue as a going concern. Please revise your disclosure to include your ability to continue as a going concern as its own risk factor and expand the discussion to address the possible effects that a going concern opinion could have on your ability to raise capital.
14. Please delete the portion of this risk factor that states "[a]s a public company, we will also incur significant legal, accounting and other expenses that we did not incur as a private company." This sentence, as currently written, could apply to any initial public offering.

We may need substantial additional capital in the future ..., page 13

15. To the extent practicable, please quantify the amount of additional funds you will need to maintain and expand your business.

We depend on a limited number of suppliers, including single-source suppliers..., page 18

16. Please identify the single-source suppliers of all critical components for your sequencing process for which there is no alternative source.

If our Mountain View genome sequencing facility becomes inoperable, we will..., page 18

17. Please disclose your level of insurance covering damage to your property and the disruption of your business and the cost to you of such coverage, if material.

We may have to resequence genomes due to contamination of DNA..., page 19

18. This risk factor covers two separate risks:

- (1) the risk that you may have to resequence genomes due to contamination of DNA samples in the sequencing process; and
- (2) the risk that you may inadvertently mishandle your customers' samples.

Please revise your disclosure to separate each of the two risks into two appropriately titled risk factors.

We use biological and hazardous materials that require considerable expertise..., page 21

19. Please disclose whether you have insurance coverage for the use of hazardous materials and, if you do, please disclose your level of insurance coverage. Please also disclose the cost to you of such coverage, if material.

If we fail to retain the services of our key executives or if we are unable..., page 24

20. To the extent that you have experienced problems attracting and retaining qualified employees in the recent past, please revise to describe these problems. Additionally, if any key employee has plans to retire or leave your company in the near future, please revise the discussion to disclose this information.

We could become subject to litigation regarding patent and other proprietary rights..., page 26

21. To the extent you have received notice of patent infringement, patent challenges or related legal action, please discuss the situation and potential consequences in this risk factor discussion.

Special Note Regarding Forward-Looking Statements, page 33

22. Did Scientia Advisors estimate industry revenues, projections or other statistics on your behalf or are there industry reports commercially available? If they were prepared on your behalf, please disclose this information in your registration statement and file their consent as an exhibit.

Use of Proceeds, page 34

23. Please revise your disclosure to separately allocate the amount of proceeds you anticipate you will use for each of the intended purposes described in this section. Also, with respect to the proceeds that you plan to use for capital expenditures to expand your facilities and operations, please clarify whether you intend to use the funds from the offering to open new facilities, increase the capacity of your current facility or both. If you intend to increase your current capacity and open new facilities, clarify how the

portion of the proceeds you expect to allocate to each and indicate where you expect to open new facilities.

#### Capitalization, page 36

24. Please revise your Pro Forma as Adjusted column to reflect only the common stock issued in this offering. All other pro forma adjustments should be reflected in the Pro Form column. Please also revise the pro forma information on page eleven accordingly.

#### Management's Discussion and Analysis of Financial Condition and Results of Operations

##### Stock-Based Compensation, page 49

25. Please revise your disclosure of the valuation factors to discuss the significant factors, assumptions and methodologies used to determine each of the reassessed fair values.
26. Please expand your discussion of the method used to determine Volatility to disclose the factors considered in determining which public companies ("peer companies") were the most similar. Tell us on a supplemental basis the names of the public companies used and why you consider them to be the most similar. Please provide us with the historical volatilities of these companies and their expected volatilities, if known.
27. Since you have not disclosed an estimated offering price we are deferring a final evaluation of stock compensation and other costs recognized until the estimated offering price is specified. We may have further comment in this regard when the amendment containing that information is filed. In that amendment, please progressively bridge management's fair market value determinations to the current estimated IPO price range. Please reconcile and explain the differences between the mid-point of your estimated offering price range and the fair values included in your analysis.

##### Results of Operations, page 54

##### Cost of Goods Sold

28. Please explain why you do not identify and disclose costs of goods sold in your financial statements. It appears that your line item Start-up Production Costs contains many of the components of Cost of Goods Sold.

##### Liquidity and Capital Resources

##### Cash Flows for the Three Months Ended March 31, 2009 and 2010, page 60

29. Please tell us if the sequencers noted for the decrease in prepaid expenses were recorded as property and equipment upon receipt. If so, tell us why the related cash flows are shown within operating activities.

## Business

### Proprietary Sequencing Technology, page 69

30. We note your statement that the read accuracy was “independently verified by the Institute for Systems Biology.” It appears that ISB is a customer of yours and has partnered with you on projects relating to a Huntington’s Disease Study and genome sequencing a family of four. Therefore, it does not appear that ISB is independent. Please revise your disclosure to delete “independently,” clarify that ISB is not independent and describe your relationships with ISB.

### Competitive Strengths, page 70

31. Under the bullet titled “Fully Integrated Advanced Information and Data Management Software,” please explain what you mean by the term “powerful informatics.”

### Our Strategy, page 73

32. We note that your strategy includes “Maintaining and Strengthening” your technological leadership position. Please provide independent support for your position as a technological leader.

### Service Delivery Technology, page 76

33. To the extent that you are substantially dependent on Amazon Web Services (AWS) to provide data delivery and have an agreement with AWS, please indicate so and describe in your Business section the material terms of the agreement, including term and termination provision and payment provisions. Please also file the agreement as an exhibit to the registration statement or provide us with an analysis supporting your determination that you are not substantially dependent on the agreement.

### Intellectual Property, page 79

34. Please explain the terms “random arrays” and “non-random arrays” and explain the significance of the non-exclusive nature of the license with respect to non-random arrays.
35. We note that in addition to your in-licensed patent portfolio from Callida, you have also secured other exclusive licenses to patent applications for intellectual property related to your sequencing technology. Please expand your disclosure to identify the other licensors and disclose the material terms, payment provisions and termination provisions of these license agreements. You should also file the license agreements as exhibits to the registration statement or provide us with an analysis supporting your determination that you are not substantially dependent on these licenses.

## Executive Compensation

### Compensation Determination Process, page 96

36. We note your statement that the compensation committee did not engage in benchmarking against a single company or an identifiable select group of companies. We also note that the committee reviewed surveys provided by Radford and made adjustments to executive compensation in November 2009. Additionally, we note your statements that the compensation committee recommended the level of target bonuses based, in part, on its review of the Radford compensation survey. Please identify the Radford survey or surveys.

### Performance Bonuses, page 98

37. Please confirm that your 2010 Form 10-K will explain how bonus amounts will be determined. To the extent that bonuses are based on the achievement of corporate and/or individual goals, these goals should be described. To the extent the goals are quantified, your discussion should also be quantified. Additionally, your disclosure should discuss the extent to which the goals were achieved.

### Long-Term Equity Incentives, page 98

38. You have stated that the board of directors has considered the relative job scope, value of existing long-term incentive awards, individual performance history, prior contributions and the size of prior grants in determining the size of equity incentive awards. Additionally, you have stated that the board of directors granted stock options in November 2009 following the completion of the Series D preferred stock financing and in March 2010. Please explain the board's basis for the grant and size of the award. For example, with respect to the November 2009 stock option grant, was the grant based on the officers' performance with respect to the private placement?
39. With respect to the grants intended to offset the dilutive effect of the Series D preferred stock financing, did these grants completely offset the dilutive effect of the Series D preferred stock financing? Did these grants consider any portion of the Series D preferred stock that was purchased by your officers or their affiliates?

## Financial Statements

### Note 2. Summary of Significant Accounting Policies

#### Concentration of Credit Risk and Other Risks and Uncertainties, page F-10

40. You state that accounts receivable are derived from direct sales. Please tell us why accounts receivable are greater than revenue. For instance at December 31, 2009 you recorded \$1.3 million of accounts receivable and revenue for the year then ended of \$.6 million.

## Exhibits

41. Please file your remaining exhibits, including the legal opinion, as soon as practicable. We will need time to review these exhibits prior to granting effectiveness of the registration statement.

\* \* \* \* \*

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.



You may contact James Peklenk at (202) 551-3661 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170 with any other questions.

Sincerely,

Jeffrey Riedler  
Assistant Director

cc: Alan C. Mendelson  
Gregory Chin  
Latham & Watkins LLP  
140 Scott Drive  
Menlo Park, California 94025-1008