



DIVISION OF
CORPORATION FINANCE

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

July 21, 2014

Via E-mail

Ryan Ashton
Chief Executive Officer
Great Basin Scientific, Inc.
2441 South 3850 West
Salt Lake City, UT 84120

**Re: Great Basin Scientific, Inc.
Confidential Draft Registration Statement on Form S-1
Submitted June 24, 2014
CIK No. 0001512138**

Dear Mr. Ashton:

We have reviewed your draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

General

1. Please supplementally provide us with any written materials that you or anyone authorized to do so on your behalf provides in reliance on Section 5(d) of the Securities Act to potential investors that are qualified institutional buyers or institutional accredited investors. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Prospectus Cover Page

2. Please ensure that your registration statement cover page fits on one page. See Item 501(b) of Regulation S-K.

3. We note you are including in the fee table the warrants to be issued to the representative, but it does not appear you have included them on the prospectus cover page. Please revise or advise.

Our Company, page 1

4. Your summary should be a balanced discussion of your business and those aspects of the offering that are most important to investors and should be written in a manner that investors who are not familiar with your technology can understand. For example, please revise your first paragraph to identify your single current product. Please also highlight that you provide customers with the analyzer portion of your platform and that you generate revenue from the sale of test cartridges. Finally, describe your limited revenues to date, your history of losses, your accumulated deficit and the fact that your auditor has included a paragraph in its opinion that there exists substantial doubt as to your ability to continue as a going concern.
5. It is unclear why “win rate” is an appropriate measure to highlight in your Summary, as it appears you do not sell your analyzer but provide one to your customers. Please advise or revise. Also, tell us how you determined the scope of customers that elected to purchase your tests after receiving and evaluating your platform. How many customers were selected to receive and evaluate your platform and how were they selected?
6. Please revise to specify the bases for statements describing the efficacy and cost of your products throughout your prospectus summary. For instance, we note your statements that your platform is “low cost,” “easy-to-use,” “simple, rapid and cost-effective.” Also, where you state that your products are “simpler and more affordable,” or will lead to “reduced costs,” “faster time to result,” and “higher sensitivity,” please revise to identify the particular tests or technology to which you are comparing your products.

The Great Basin Platform, page 1

7. Please briefly expand your discussion of what molecular testing is, how it works and how your technology compares to other existing molecular testing methods.
8. Please clarify what you mean when you state that you retain ownership of the analyzer in light of the sale-leaseback arrangements you describe. We also note that it appears you sell the entire system including the analyzer outside the U.S., according to your disclosure in the third paragraph on page 45.

Our Products, page 2

9. Please clarify in the summary whether your “first commercial test” is your only current product generating revenues and disclose its current FDA clearance status. Also, please

clearly disclose whether your other “tests in development” are commercially available at this time, in the United States or otherwise.

10. Please revise to clarify the significance to your business of your statement that “costs associated with the care of patients with C. diff are not covered by insurance or Medicaid/Medicare.” Please indicate how insurance coverage and Medicaid/Medicare coverage affects your sales volume.

Use of Proceeds, page 8

11. Please expand your disclosure to explain what the amounts used to “fund clinical and regulatory development of new diagnostics tests” will specifically include. Identify the specific test(s) that will be developed using funds from this offering and state whether the amount of the offering proceeds set aside for this use will be enough to complete clinical testing and obtain regulatory approval, or whether further funds would be needed. We note your risk factor on page 19 that you will need to raise additional capital to fund testing.

Proposed NASDAQ Capital Market symbol for our common stock, page 8

12. We note you state that there is no assurance that Nasdaq will approve your listing application. Please clarify whether you intend to go forward with the offering if the application is not approved.

Risk Factors, page 12

13. Please add a risk factor regarding your obligation to continue to keep the registration statement updated so that warrant holders are able to exercise their warrants in the future.

We have a limited commercial history, page 12

14. Please expand this risk factor to quantify the losses you incurred for each year and interim period for which you present financial statements, in order to illustrate the risk to investors. Please also state that your auditor has included an explanatory paragraph in its report that there exists substantial doubt as to your ability to continue as a going concern.

Capitalization, page 38

15. Please revise to remove cash from the capitalization table since cash is not a component of your capitalization. As an alternative, you may disclose the amount of cash in the text before the table.

16. We see that you have prepared your capitalization table as June 20, 2014. Please revise the filing to provide the capitalization information as of the most recent balance sheet date.

Selected Financial Data, page 43

17. Pro forma information should only be shown for the latest fiscal year and interim period, if applicable. Please remove the pro forma net loss per share figure for the December 31, 2012 fiscal year and the March 31, 2013 quarterly period provided here and on page 10, and the March 31, 2013 quarterly period provided on page F-25.

Results of Operations, page 47

Revenue, page 48

18. We note the discussion here of the effect of increased customers on your revenues. Please revise to also include a discussion of the impact of prices and volume on your revenues. Refer to Item 303(a)(3)(iii) of Regulation S-K.

Controls and Procedures, page 58

19. We note the discussion here and in Risk Factors on page 22 that you attribute identification of the material weakness in your internal control over financial reporting at December 31, 2013 to your independent registered public accounting firm. However, we note that Mantyla McReynolds, LLC has not, and was not required to opine on the effectiveness of your internal control over financial reporting at that date. Please describe to us the nature and extent of the role played by Mantyla McReynolds, LLC in identifying the material weaknesses and revise the section to clarify the extent to which any statements should be attributed to your management as opposed to your auditor. In this regard, please refer to the guidance provided in Question 233.02 of Division's C&DI to the Securities Act Rules which can be found at <http://www.sec.gov/divisions/corpfin/guidance/securitiesactrules-interps.htm>.
20. Please revise to disclose the nature of the material weaknesses in your internal control over financial reporting.

License Agreements, page 67

21. Please disclose the material terms of these license agreements, including when they expire and the amounts to be paid under the agreements.

Intellectual Property, Proprietary Technology, page 70

22. Please revise to clarify the term “allowed patent” and explain how it differs from an issued patent.

Government Regulation, page 71

23. Please expand your disclosure regarding government regulation to discuss the FDA Form 483 you received on February 27, 2013 as you describe in the risk factor on page 14 and disclose whether there is any further action or notice expected from the FDA or you with regard to this matter.

Certain Relationships and Related Person Transactions, page 91

24. With respect to the promissory notes issued in March 2014 and February 2014, please quantify the number of shares into which the note will convert in connection with this offering. Please also disclose the exercise price of the warrants.
25. Please disclose the nature of the related party interest with Krispen Family Holdings, L.C.
26. Please provide the disclosure required by Item 404 of Regulation S-K with respect to the March 2014 short term notes payable to Mr. Spafford and Mr. Ashton described in Note 15 to your financial statements on page F-22.
27. Please clarify the extent of the personal guarantee of Mr. Spafford and Mr. Ashton and disclose to whom the guarantee is issued. To the extent these guarantors, which are described as “third parties” in this section of your disclosure, are related parties or are controlled by related parties as indicated in Note 11 to the audited financial statements, please revise to identify them as such. Also, please clarify the exercise price of the warrants granted to Mr. Spafford and Mr. Ashton on November 25, 2013.

Security Ownership of Certain Beneficial Owners and Management, page 94

28. Please identify the natural persons who have voting and investment control over the shares held by the entities listed in the table. For example, we note Krispen Family Holdings L.C. and Onset Financial Inc.

Warrants, page 98

29. Please clarify whether the 152,747,370 Class A Warrants and the 138,068,714 Class B Warrants outstanding are the same class as the Series A and Series B Warrants being offering pursuant to this registration statement. Please describe all the terms of the warrants to be outstanding after this offering.

Financial Statements, page F-1

Revenue Recognition, page F-9

30. We note the discussion on page 45 that the analyzers are considered fixed assets. We also note that outside of the U.S., you sell your analyzers to distributors and that these transactions are treated as a sale of assets. Please describe for us the significant terms and conditions of these sales arrangements with foreign distributors. We note that the production and sale of your propriety platform, which includes an analyzer and disposable cartridge, are the activities that constitute your ongoing major and central operations. Accordingly, the inflows from those transactions appear to be revenue generating activities. Please describe for us how you concluded that the sale of the analyzer to your customers should be reflected as an asset sale and presented net on the face of your income statement. Please provide references to the appropriate authoritative literature which supports your conclusion.
31. In this regard, please also describe for us the significant terms of the agreements with domestic customers whereby you retain ownership of the analyzer. Describe the rationale for having separate revenue generating models for domestic and foreign sales.

Note 8. Common and Preferred Stock, page F-14

32. Please tell us the estimated initial public offering price range. To the extent that there is a significant difference between the estimated grant-date fair value of your common stock during the past twelve months and the estimated IPO price, please discuss for us each significant factor contributing to the difference.

Preferred Stock, page F-14

33. We note the disclosure on page F-27 that you “expect all of the convertible preferred stock outstanding to convert into shares of common stock.” We also note the disclosure here that, “the preferred stock will be automatically converted upon a qualified initial public offering.” Please revise to define “qualified initial public offering.” Please also tell us the basis under which you have assumed the automatic conversion of the preferred stock to common stock upon the closing of the underwritten initial public offering. For example, please tell us whether or not you expect the offering to be a “qualified initial public offering” or upon the election of a majority of the holders of each respective outstanding preferred stock series.
34. In this regard, please provide us with a calculation supporting the Cumulative preferred stock dividends (undeclared) for the fiscal year ended December 31, 2013 and most recent quarterly fiscal periods.

Ryan Ashton
Great Basin Scientific, Inc.
July 21, 2014
Page 7

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at <http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm>.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (<http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm>). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Kevin Kuhar at 202-551-3662 or Brian Cascio, Accounting Branch Chief, at 202-551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at 202-551-3637 or Mary Beth Breslin, Senior Attorney, at 202-551-3625 with any other questions.

Sincerely,

/s/ Mary Beth Breslin for

Amanda Ravitz
Assistant Director

cc (via e-mail): David Marx