



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-4628

November 13, 2009

Richard A. Degner  
Chairman and Chief Executive Officer  
Global Geophysical Services, Inc.  
13927 South Gessner Road  
Missouri City, TX 77489

**Re: Global Geophysical Services, Inc.  
Registration Statement on Form S-1  
Filed October 16, 2009  
File No. 333-162540**

Dear Mr. Degner:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your registration statement in response to these comments. If you disagree, we will consider your explanation as to why our comments are inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. 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 might 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.

General

1. You will expedite the review process if you address each portion of every numbered comment that appears in this letter. Provide complete responses, and where disclosure has changed, indicate precisely where in the marked version of the amendment we will find your responsive changes. Similarly, to minimize the likelihood that we will reissue comments, please make corresponding changes where applicable throughout your document. For example, we might comment on one section or example in the document, but our silence on similar or related disclosure elsewhere does not relieve you of the need to make similar revisions elsewhere as appropriate. If parallel information appears at more than one place in the document, provide in your response letter page references to all responsive disclosure.

2. There are numerous blanks in the document, and you also indicate in the exhibit list that a number of exhibits will be provided later. You will need to allow sufficient time to respond to any comments we issue once you provide the omitted disclosure and exhibits.
3. If you intend to submit a request for confidential treatment for the omitted portions of any exhibits as yet unfiled, file it promptly with the Secretary, and give effect to all comments issued during the course of the review of your prior request. For example, be sure to discuss in the prospectus the material terms of all material contracts.
4. Please update your financial statements and related disclosure throughout the filing to comply with the requirements of Article 3-12 of Regulation S-X.

Prospectus Cover Page

5. Revise to eliminate from the cover page any non-essential information, including the reference to “Joint Book-Running Managers” and “Senior Co-Manager.”

Summary, page 1

6. Please provide us with independent, supplemental support for the following assertions:
  - Expected worldwide oil demand growth rate at page 2;
  - “[M]any large and well capitalized oil and gas companies have continued to maintain high levels of capital spending” on page 3;
  - “[W]e provide our clients with seismic data that is higher resolution than the traditional 3D seismic data provided by our competitors” on page 3;
  - Weinman GeoScience, Inc. is “a recognized leader in seismic data processing” on page 33; and
  - “[T]oday, the vast majority of seismic data acquired is 3D” on page 53.

Blue Chip Client Base, page 4

7. We note your reference to long-standing relationships with certain large, well-established oil companies. Please revise this section to indicate whether you have any long-term, contractual relationships with any of these companies that would obligate them to continue using your services, and file all material contracts as exhibits.

Risk Factors, page 9

8. We note that many of your risk factors contain language that attempts to qualify or mitigate the identified risks. Examples of this occur throughout your risk factors section, including without limitation, the following statements:

- “Although we maintain what we believe is prudent insurance protection” on page 13;
- “[W]e seek to minimize the risk of delays through the inclusion of ‘standby rate’ provisions” on page 13;
- “[W]e obtain contractual indemnification and insurance . . . and require the subcontractors to obtain insurance for our benefit” on page 14;
- “Although we usually perform ongoing credit evaluations” on page 14;
- “[W]e believe that our safety procedures for handling and disposing of explosives comply with the standards prescribed by applicable laws” on page 15;
- “[W]e believe the international seismic data services market provides significant growth opportunities” on page 15;
- “We maintain key man insurance of \$10 million on Mr. Degner” on page 17; and
- “In response to this significant deficiency, we dedicated qualified personnel to timely reconcile each of our bank accounts” on page 19.

Please revise your risk factors to remove these and any other statements that qualify or mitigate the risk posed. You may elaborate on the factors employed to minimize identified material risks in an appropriate section, such as Management’s Discussion and Analysis. We also remind you of prior comment 9 from our comment letter dated September 8, 2006.

We have supply agreements with a limited number of key suppliers, page 11

9. The second paragraph in this risk factor includes a discussion of the risk posed by the fact that one of your key suppliers is also a competitor. Please discuss this discrete risk under a separate, appropriately titled caption.

There are inherent limitations in all control systems and failure of our controls, page 19

10. This risk factor, as well as the factor captioned “As a public company we will incur additional costs” at page 24, both could apply to any newly public company. Please revise this section to eliminate generic risks. Refer also to comment 13 from our letter dated September 8, 2006.

Risks Related to our Indebtedness, page 20

11. Please add a risk factor that makes clear that your credit facilities are secured by substantially all of your assets.

Use of Proceeds, page 26

12. Provide a detailed description of how much you will allocate to each identified use, and provide more information regarding the reference to “general corporate purposes,” which is not sufficiently precise in this context. We refer you to the disclosure at page 47, as well as prior comment 14 from our letter dated September 8, 2006, and prior comment 1 from our

letter dated December 4, 2006. See also Item 504 of Regulation S-K and Instruction 4 to Item 504.

Unaudited Pro Forma Consolidated Financial Information, page 29

13. We note you have presented pro forma combined statements of operations that do not include pro forma adjustments. Your current presentation appears to simply add the pre-acquisition operations of Weinman Geoscience, Inc. to your historical operations for the year ending December 31, 2008. Please revise your presentation to include pro forma adjustments as discussed in Regulation S-X, Rule 11-02(b)(6). Your revisions should also include narrative discussion of the basis for each pro forma adjustment.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 32

General

14. Throughout this section, you often use the word "primarily" to refer to two or more factors that contributed to material changes over the reported periods. Revise to quantify the amount of the changes contributed by each of the factors or events that you identify. Rather than simply using the term "primarily" in describing changes, quantify the amount of the change that is attributable to the primary source you identify. See Section III.D of SEC Release 33-6835 (May 18, 1989). For example, and without limitation, we note on page 41 that "[t]he reduction in interest expense is primarily due to the capitalized debt issuance costs . . . and lower interest rates in the first half of 2009." In addition, on page 42, you state that the increase in interest expense "was primarily the result of enlarging our secured credit facility . . . and the capitalized debt issuance costs . . . [and] the new secured credit facilities carried higher interest rates."

Multi-client Services, page 34

15. The table summarizing data for multi-client services includes \$15.7 million as unrecognized pre-commitments as of December 31, 2007. However, your deferred revenue balance as of December 31, 2007 totaled only \$6.9 million. We notice differences in these amounts at other balance sheet dates as well. Please clarify why there is a difference between the two amounts.

How We Evaluate Our Operations, page 35

16. We note your disclosure which states that management utilizes a variety of financial and productivity metrics to analyze and monitor the performance of your services. Since you have identified these metrics as key and important indicators of financial performance, additional disclosure which quantifies and analyzes these results would provide an improved understanding of your financial results. We refer you to SEC Release 33-8350

("Release 33-8350"), Sections III.B.1 and 3 which notes that you "should identify and address those key variables and other qualitative and quantitative factors which are peculiar to and necessary for an understanding and evaluation of the individual company." Please indicate to the staff how you intend to comply with Release 33-8350 with respect to the key performance indicators you have listed on page 35.

Business, page 50

17. We note that you reproduce verbatim in this section all of the disclosure found in your prospectus summary, beginning on page 1. Please revise to delete any unnecessarily duplicative disclosure. Also, we note that your prior registration statement, file number 333-136483, contained a section titled "Our Challenges," which balanced your disclosure.

Equipment Sourcing and Suppliers, page 56

18. We note that you purchase a majority of your recording equipment from Sercel, Inc. Please revise this section to make clear that you compete with Sercel's parent and to disclose the material terms of your agreement(s) with Sercel.

Management, page 60

19. Revise Mr. Vergheese's sketch to clarify when he began work with Barclays and to disclose the percentage of his professional time that he devotes to your business, to the extent that he works less than full time for you. We note that he currently serves as Chairman of LANNSYS Inc. Also revise Mr. Forrest's sketch to provide the month and year that each listed position in the past five years began and ended.

Compensation Discussion and Analysis, page 67

Objectives of Our Compensation Program, page 67

20. Please revise to elaborate on the nature of your core values, which you describe as a significant competitive advantage.

Description of Capital Stock, page 88

21. Revise to disclose the required information in necessary detail, and eliminate the suggestion that it is as you "expect to be set forth" in a future amended and restated certificate. You will need to provide updated information here and elsewhere, allowing sufficient time for staff review and comment.

Description of Indebtedness, page 93

22. We note that under the terms of your first lien credit agreement, you are required to make a mandatory prepayment with 50% of the proceeds from the issuance of certain capital stock. In addition, we note your disclosure in the “Use of Proceeds” section that indicates you plan to apply a portion of the net proceeds from this offering towards the repayment of your indebtedness. Please tell us whether conducting this offering will require a mandatory prepayment, and provide expanded disclosure of any such requirement in this section and the “Use of Proceeds” section.
23. Add risk factor disclosure of the excess cash flow prepayment term in your first lien credit agreement.

Financial Statements

24. We note you have provided financial statements of Weinman Geoscience, Inc. as of December 31, 2007 and May 31, 2008 and for the five month period ending May 31, 2008. However, you have not provided statements of income, stockholders’ equity or cash flows for the year ending December 31, 2007 or for the five month period ended May 31, 2007. Please tell us how you determined that you have provided the required annual and interim financial statements required by Regulation S-X, Rule 3-05(b). Please provide your asset, investment and income significance analysis of the Weinman Geoscience, Inc. acquisition in accordance with Regulation S-X, Rules 3-05(b)(2) and 1-02(w) which supports your determination.

Note 2 – Summary of Significant Accounting Policies

Revenue Recognition, page F-8

25. Your disclosure indicates that you review the deliverables in your multi-element arrangements and apply the guidance of EITF 00-21 to allocate the arrangement fee to each deliverable. We also note your disclosure on page 33 which states that you recognize revenue on the percentage of completion method. Therefore, it appears that you are recognizing revenue in accordance with SOP 81-1. If this is correct, please explain how you have considered EITF 00-21, paragraph 4.a.iii (including footnote 4), when determining that your deliverables are in the scope of EITF 00-21. In this respect, SOP 81-1 includes separation and allocation guidance and therefore all deliverables within the scope of SOP 81-1 should be separated and allocated based on that guidance. As part of your response, please clarify each deliverable that are present within your arrangements, whether the deliverable is in the scope of SOP 81-1 and when you recognize revenue for the deliverable.

26. Revise to address the disclosure requirements of SAB Topic 13.B with respect to your multiple elements arrangements. In this respect, your disclosure should discuss the accounting policy for each unit of accounting as well as how units of accounting are determined and valued.
27. We note your revenue recognition policy for multi-client services. Your disclosure states that you recognize revenue based on the proportional performance method, which indicates that you are applying the guidance of SAB Topic 13 to these arrangements. However, your disclosure on page 34 states that you are applying the percentage of completion method to these arrangements. Please clarify the revenue recognition model that you are applying to these arrangements and whether these arrangements are in the scope of SOP 81-1, paragraphs 11 through 15 (including footnote 1).
28. Your disclosure also states that you recognize revenue based on costs incurred and work performed to date as a percentage of total estimated costs and work required. Please explain how you estimate the costs that are attributable to a specific customer when your customers share the cost of seismic data acquisition. In addition, please explain how you have determined that the input measure of total costs accurately reflects performance performed under these contracts. Tell us whether your estimate includes late sales.
29. Please tell us how you determined that it is appropriate to capitalize costs related to the multiclient seismic data library. Tell us the accounting guidance that you apply to these costs and how your accounting fully complies with that guidance. In addition, tell us how you account for capitalized costs in excess of estimated revenues and whether any of these amounts remain on the balance sheet after the related pre-commitments have been recognized as revenue.

Accounts Receivable, page F-9

30. Please describe the contractual provisions that do not permit you to bill your customers as services are performed. As part of your response, please clarify how you have determined that your unbilled receivables are collectable as of December 31, 2008. Explain whether you were able to bill 100% of your unbilled receivables within the two months subsequent to December 31, 2008.

Foreign Operations, page F-12

31. We note your recognized a significant foreign exchange loss of \$5.2 million in fiscal year 2008. Please expand your disclosures to discuss how you account for foreign exchange differences in your financial statements and describe the basis and reason for the increase in exchange losses during the years presented.

Note 8 – Income Taxes, page F-15

32. Please expand your disclosures to discuss the nature of the adjustments in your effective tax rate reconciliation. Your disclosures should clearly describe the basis for the reconciling item as well as the reason for variations from year to year.

Note 9 – Long-Term Debt, page F-18

33. Please disclose how you have accounted for your interest rate swap in the financial periods presented.

Note 11 – Earnings Per Share, page F-21

34. Tell us what consideration you have given to the two-class method for computing basic and fully diluted earnings per share for each of your issued Class A and Class B common stock pursuant to paragraphs 60 and 61 of SFAS 128. Please revise your disclosure to clarify whether the dividend rates for each class are the same or are subject to change (e.g., based on the voting rights of the Class A common stock). In addition, revise your income per common share caption in your consolidated statements of income to clearly indicate that your income per common share is for both Class A and Class B common stock.

Note 12 – Stock-Based Compensation, page F-22

35. We note you have granted a significant amount of stock options in fiscal years 2007 and 2008. Please describe the objective evidence that supports your determination of the fair value of the underlying shares of common stock at each grant or issue date. This objective evidence could be based on valuation reports or on current cash sales transactions of the same or a similar company security to a willing unrelated party other than under terms and conditions arising from a previous transaction. Where you have obtained a valuation from an unrelated specialist, tell us what level of assurance the specialist gave in the fair value assessment. In addition, describe the basis for any adjustments made in determining the fair value of the underlying shares of common stock, such as illiquidity discounts, minority discounts, etc.
36. Please tell us your proposed IPO price, when you first initiated discussions with underwriters and when the underwriters first communicated their estimated price range and amount for your stock.

Note 16 – Recently Issued Accounting Pronouncements, page F-25

37. The provisions of FIN 48 were initially effective for fiscal years beginning after December 31, 2006. Your disclosures on page F-25 states the provisions of FIN 48 are effective for financial statements issued after December 15, 2008. FIN 48, paragraphs 22 through 24



provide its effective date and transition requirements, which refer to the definition of a public enterprise presented in paragraph 289 of SFAS 109. This definition of a public enterprise includes entities “whose financial statements are filed with a regulatory agency in preparation for the sale of any class of securities.” Please make the appropriate revisions to apply the interpretation and provide the disclosures required by paragraphs 20 and 21 of FIN 48.

Note 6 – Goodwill and Other Intangibles, page F-39

38. We note you have recorded a purchase accounting adjustment of \$2.5 million to reflect an amendment to the terms of the earn-out agreement and the equity conversion of promissory notes issued in connection with the acquisition of Weinman Geoscience, Inc. In order to further our understanding of your accounting, please provide us with further details as to the terms of the amendment and your related accounting adjustments to goodwill.

Note 7 – Income Taxes, page F-41

39. To further our understanding of your income tax activity for the interim period ending June 30, 2009, tell us why the US state income tax adjustment to the federal statutory rate in your effective tax rate reconciliation changed from increasing to decreasing the statutory rate. In addition, tell us the nature of the withholding tax refund.

Independent Auditors’ Report, page F-52

40. Please revise the audit report for Weinman Geoscience, Inc. to provide the signature of the auditor.

Exhibit Index

41. Do not renumber exhibits with subsequent amendments, as you appear to have done with your prior registration statement. Revise the index to specify precisely with which filing and on what date the prior exhibit which you purport to incorporate by reference was filed.

Closing Comments

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. With your amendment, please furnish a cover letter 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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.

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 connection with our review of your filing or in response to our comments on your filing.

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.

Richard A. Degner  
Global Geophysical Services, Inc.  
November 13, 2009  
Page 11

You may contact Shannon Buskirk at (202) 551-3717 or Chris White, Branch Chief, at (202) 551-3461 if you have questions regarding comments on the financial statements and related matters. Please contact John Lucas at (202) 551-5798 or, in his absence, Timothy Levenberg, Special Counsel, at (202) 551-3611 with any other questions.

Sincerely,

H. Roger Schwall  
Assistant Director

cc: Via Facsimile  
Bryce D. Linsenmayer, Esq.  
John W. Menke, Esq.  
Haynes and Boone, LLP  
(713) 236-5540