



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

January 25, 2007

Mr. Larry F. Vance
Chairman of the Board and Chief Executive Officer
Earth Search Sciences, Inc.
306 Stoner Loop Road, #6
Lakeside, MT 59922

Re: Earth Search Sciences, Inc.
Form 10-KSB for the Fiscal Year Ended March 31, 2006
Filed July 17, 2006
Form 10-QSB for the Fiscal Quarter Ended September 30, 2006
Filed November 20, 2006
File No. 000-19566

Dear Mr. Vance:

We have reviewed your Form 10-KSB for the Fiscal Year Ended March 31, 2006 and Form 10-QSB for the Fiscal Quarter Ended September 30, 2006 and have the following comments. We have limited our review of your filings to those issues we have addressed in our comments. Where indicated, we think you should revise your documents 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 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 filings. 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-KSB for the Fiscal Year Ended March 31, 2006

General

1. Please correct the Commission File Number indicated on the cover of your annual report to be 000-19566, as utilized on your subsequent interim reports.

Business, page 3

2. Disclose the manner by which sunlight is measured by your sensing instruments, the means of recording the images, and what these images reveal. Explain how the images are useful in each of the areas that you mention on pages 3 and 7. The reasons you believe this is a valuable product or service, and the extent of your success in marketing, i.e., securing customers who have purchased the product or service, should be clear.

Properties, page 7

3. The location of your headquarters, indicated here as Kalispell, MT, does not correspond to the location indicated on the cover page of your annual report. Revise your document to eliminate this inconsistency.
4. Disclose the number of sensing instruments and probes that you own, differentiating between the class and application of the device, under this heading and within the Business section on page 3. Describe the terms of all arrangements governing your use or access to devices which you do not own.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 10

5. Revise your table of selected financial data to properly and consistently display all net loss amounts, to include bracketing the net loss amounts presented for fiscal years 2006 and 2005.
6. The net loss per common share of \$0.00, presented in your table of selected financial data, does not agree with the corresponding figure presented in your statements of income. Similarly, the amounts of loss per share for fiscal 2006 and 2005 disclosed in the fifth paragraph of your "Results of Operations" on page 11, do not agree with the corresponding amounts presented in your statements of operations. Please resolve these inconsistencies.

Results of Operations, page 11

7. Under Item 303(b) of Regulation S-B, you are required to address your past and future financial condition and results of operations, "...with particular emphasis on the prospects for the future," including known trends, events and uncertainties that have had, or are reasonably expected to have, a material impact on revenues or income from continuing operations. Given your disclosure in Note 8, stating that all revenue reported by your Airborne Hyperspectral Services segment, representing 76% of your total revenues for 2006, was derived from a single customer under a contract that has been disbanded, further disclosure in MD&A is required.

Further, based on your disclosure in Note 4, indicating that all revenue recorded by your Oil and Gas Properties segment was derived from a single producing property, which you have determined is uneconomical to operate, leading to the impairment of all previously capitalized costs, coupled with the 57% decline in such revenues from 2005 to 2006, your disclosure in MD&A presently does not include a required discussion and analysis of a significant event and trend impacting your results of operations.

Accordingly, promptly amend your disclosure in MD&A to discuss the status of the arrangements under which you have reported revenue for each period. Address the trends depicted and apparent in the related events, along with the indicative value of your historical results, relative to reasonably likely expectations for the future. Also, describe your progress in securing additional contracts for the sale of your hyperspectral services, and your plans for discontinuing production from the oil and gas property, including your rationale for any extension of operations, given that you determined the property to be uneconomic. Your disclosure should be sufficiently detailed to understand the timing of all material events impacting your operating results.

Liquidity and Capital Resources, page 11

8. In the fourth paragraph, you discuss an agreement with the ONR by STDC. Please expand the disclosure to describe the relationship, and to explain what the agreement entailed, and why the agreement is not being extended. Please also define ONR and STDC. There should be sufficient information for a reader to understand the background of this arrangement and its effects on your liquidity and future operations.

Also, disclose the mechanism by which payment of \$8,216,424 in accounts payable due to subcontractors and vendors associated with the NEMO program is dependent upon you successfully negotiating plans for “going forward” on this disbanded program. Since you describe the contract as a cost reimbursement arrangement in Note 8, disclose the reasons you have not recovered the amounts that are now payable. If you incurred costs for activities that were not clearly covered by your contract, as suggested by the absence of any receivable, disclose the reasons you associate the prospect of ultimately paying these amounts with a reactivation of the NEMO program. Discuss your relationship with the subcontractors and vendors, in terms of the services they provided to you and their willingness to continue the business arrangement, given your delinquency.

9. We note your statement that you believe funds generated from operations, future borrowings and the equity line "...will be adequate to meet the Company's anticipated cash needs during the immediate term." Expand this disclosure to clarify what you mean by "immediate term." Also, explain how you reasonably expect these sources to cover the current liabilities amounting to \$18,799,172 that you report as of March 31, 2006.

If you have no viable means of satisfying your obligations, this should be clearly stated and, under these conditions, the manner by which you have defined "adequate" in making your representation should also be specified.

Controls and Procedures, page 15

10. Revise your disclosure to state whether there were any changes in your internal controls over financial reporting identified in connection with your evaluation of disclosure controls and procedures, which occurred during your last fiscal quarter that have materially affected, or are reasonably likely to affect, your internal control over financial reporting, to comply with Item 308(c) of Regulation S-B.

Financial Statements

11. Please paginate the financial statements included in your filing.

Statements of Operations

12. We note that you reported a debt forgiveness gain of approximately \$1.6 million in fiscal 2006. Please amend your disclosure in MD&A to include a discussion of the facts and circumstances associated with this event.

Note 1 – Summary of Operations and Significant Accounting Policies

13. Since you have interests in producing oil and gas properties, and given the activities normally associated with such operations, it appears you should disclose your accounting policy for asset retirement obligations, as well as a reconciliation of the beginning and ending accrual, to comply with paragraph 8 of APB 22 and paragraph 22 of SFAS 143.

Note 3 – Property and Equipment

14. Expand your disclosure to explain how you have satisfied the \$3,805,754 capital lease obligation that you reported at March 31, 2005. It should be clear how the event has been reported in your financial statements, and how you determined that your accounting treatment is compliant with the guidance in paragraph 16 of SFAS 140.

Note 8 – Business Segment Information

15. The combined interest expense amount for fiscal 2006 of \$2,189,247, presented in this tabular disclosure, does not agree with the corresponding amount presented in your statements of operations of \$2,297,210. Additionally, the combined interest expense amount does not agree with the sum of the individual amounts presented for your four business segments. Accordingly, please correct your disclosures.

Note 12 – Litigation

16. We note your disclosure indicating that you recorded a settlement accrual in the amount of \$2,820,099 in the fourth quarter of your 2006 fiscal year, related to a leaseback purchase agreement for a hyperspectral probe. Please disclose how you have reflected this in your Statements of Operations, and since this appears to be a non-cash item, tell us why it does not appear in your reconciliation of net loss to net cash used in operating activities in the Statements of Cash Flows. Similarly, disclose in your September 30, 2006 Form 10-QSB how the \$1,117,219 increase in the obligation has been reflected in your Statements of Operations, and advise us on the Statements of Cash Flows presentation.
17. Disclose under this heading and under Legal Proceedings on page 7 the reasons you have not returned the hyperspectral probe that you agreed to return under the settlement agreement in the fourth quarter of your 2005 fiscal year.

Exhibit 31

18. Your officers' certifications do not comply with the specific language required by Item 601(b)(31) of Regulation S-B. Please revise your filing to include properly worded certifications.

Form 10-QSB for the Fiscal Quarter Ended September 30, 2006

General

19. Revise the accounting and disclosures in all of your interim reports as necessary to comply with all applicable comments written on your annual report.

Balance Sheets, page 3

20. Based on the accumulated deficit amounts presented, as of March 31, 2006 and September 30, 2006, the change in accumulated deficit during this period appears to have been a decrease of \$36. However, your net loss for the six-month period ended September 30, 2006 was \$2,465,453. Please revise your disclosure to fully explain any other transactions or events that have been reflected in accumulated deficit during this period.

Statements of Cash Flows, page 5

21. We noted the following inconsistencies within this statement:

- (a) The labeling appears to be incorrect, and should reflect “six” months rather than “three” months.
- (b) For fiscal 2006, the amounts for net loss (\$1,602,332), depreciation, amortization and depletion (\$107,254), and cash at the end of the period (\$9,319), do not agree with the corresponding amounts presented in the balance sheets and statements of operations.
- (c) For fiscal 2005, the amount for depreciation, amortization and depletion (\$120,146) does not agree with the corresponding amount in the statements of operations.

Please amend your filing to resolve and eliminate all inconsistencies presented within your financial statements.

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 7

Results of Operations, page 7

22. Expand your disclosure to include a discussion and analysis of your results of operations for the six-month periods ending September 30, 2006 and 2005, to comply with the requirements set forth in Item 303(b)(2) of Regulation S-B.

Liquidity and Capital Resources, page 7

23. It appears that you may need to revise your disclosure in the first paragraph to state that net cash was “used” by operating activities for the six months ended September 30, 2006, rather than “provided,” as it now indicates.

Future Operations, page 7

24. We note your disclosure stating that you have entered into a “...license for the production of oil and gas from oil shale,” and that you expect to build a test plant “late in 2006.” You also state that you have entered into “...an alliance with two other companies to provide further development opportunities with oil shale,” and that you expect this alliance to attract opportunity as a “synergistic team.” Further details will be necessary to comply with Item 303 of Regulation S-B. Please expand your disclosure to include the following information about your license and alliance arrangements.

- (a) Terms of the license, including all aspects of coverage, amount and form of consideration conveyed in acquiring the license, and under the provisions of the license going forward, timeline for making such payments;
- (b) Nature of the test plant to be built, including general specifications, location, permitting and construction processes required, the related timeline, expected cost and the manner by which you intend to pay for this project; and
- (c) Terms of the alliance, including the nature and extent of activities covered, responsibility for funding and managing operations, reasons you believe this will attract opportunity, and the type of opportunity being sought.

Exhibit 31

25. Your officers' certifications do not comply with the specific language required by Item 601(b)(31) of Regulation S-B. Please revise your filing to include properly worded certifications.

Closing Comments

As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment 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 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.

Mr. Larry F. Vance
Earth Search Sciences, Inc.
January 25, 2007
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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 Donald F. Delaney at (202) 551-3863, if you have questions regarding comments on the financial statements and related matters. Please contact me at (202) 551-3686 with any other questions.

Sincerely,

Karl Hiller
Branch Chief