



DIVISION OF
CORPORATION FINANCE
MAIL STOP 7010

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

July 26, 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, 2007
Filed July 16, 2007
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
Response Letter Dated June 15, 2007
File No. 000-19566

Dear Mr. Vance:

We have reviewed your Form 10-KSBs for each of the Fiscal Years Ended March 31, 2007 and 2006, Form 10-QSB for the Fiscal Quarter Ended September 30, 2006, and response letter dated June 15, 2007, and have the following additional 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.

Form 10-KSB for the Fiscal Year Ended March 31, 2006

General

1. When amending your 2006 and subsequent interim reports as previously agreed, please ensure that you also revise the accounting and disclosures in those reports as necessary to comply with all applicable comments written on your 2007 report in this letter.

Controls and Procedures, page 15

2. We have read the disclosure you proposed in response to prior comment 10, in which you state that there has been "...no significant change in [y]our internal controls...that occurred during the period covered by this report." However, your representation should not be restricted to significant changes, as the requirement stipulates that *any change* identified in connection with your evaluation of disclosure controls and procedures should be disclosed, provided that it has materially affected or is reasonably likely to materially affect your internal control over financial reporting. Additionally, your representation regarding internal control changes should correlate precisely with the last fiscal quarter, rather than more generally to the period covered by your report. Please revise your disclosure to comply with Item 308(c) of Regulation S-B.

Exhibit 31

3. We have noted your response to prior comment 18, and the revised officers' certifications you intend to include in your amended filing. Please further revise each of your certifications required by Exchange Act Rule 13a-14(a) so as not to include the title of the certifying individual at the beginning of the certification. This also applies to your officers' certifications corresponding to your amended interim filings.

Form 10-KSB for the Fiscal Year Ended March 31, 2007

General

4. We note that your current filing does not fully reflect your proposed changes in response to prior comments 1, 3, 12, 13, 14 and 15. Please revise your most recent filing on Form 10-KSB, consistent with your response to these prior comments, modified as necessary to comply with the additional comments in this letter.

Business, page 3

5. Your disclosure in the fifth paragraph states that fiscal 2006 revenues were \$302,901, which does not correspond to the revenues indicated in your statements of operations on page F-3, which amount to \$399,742. A similar disclosure is made on pages 7 and F-6. Please reconcile this difference, eliminate any inconsistencies, and identify the period associated with the revenue amount of \$192,297.

6. We have read the disclosure you proposed in response to prior comment 2, explaining how your sensing instruments gather spectral data. Please add the information presented in your reply to your disclosure, with further revision to identify (i) the types of minerals and compounds you have located with your data, (ii) any limitations hindering detection of these minerals and compounds in the earth (e.g., atmospheric conditions, geologic formations, proximity to the surface, presence of other substances), and (iii) the scope and extent to which your data has been tested and shown to be reliable in these endeavors. Please also clarify your meaning with the reference to “limited success,” and modify your existing disclosures to address the following points.
 - (a) Describe the changes you have observed in data collected at different times, and the particular application for which you know this information is suitable in the area of environmental and land-use management (fifth paragraph, page 4).
 - (b) Indicate the extent to which your process of data collection and interpretation has been proven to be both faster and more accurate in finding minerals and oil and gas than other methods commonly in use (sixth paragraph, page 4).
 - (c) Clarify that the evidence of interest in your strategy mentioned pertains to the mapping agreement with Noranda Minerals which concluded in 2005, if true; also, state the reasons that relationship did not continue (last paragraph, page 4).
 - (d) Describe the specific applications in the segments of mining, hydrocarbons, agriculture, ecological, and environmental monitoring for which your data has proven to be useful, reliable, and accurate (paragraph three, page 5).
 - (e) Include details of the two joint venture proposals and letter of intent you are evaluating, along with your view on their viability and the conditions under which you would proceed with these arrangements (paragraph five, page 5).
 - (f) Clarify the relative significance of the “terabyte quantities” of imagery collected, identify the geographic region covered by this data, and explain how you have decided which portions of the data to process (paragraph two, page 6).
 - (g) Identify the dates and number of requests for proposals and quotations you have received which you believe demonstrates demand for your services; describe their nature, scope and status (paragraph three, page 6).

Properties, page 7

7. We note that you proposed disclosure in response to prior comment 4, clarifying that you own 50% of a single hyper-spectral instrument, with an option to acquire the other 50% not presently owned. Please expand your disclosure to identify the joint owner, and to include the terms under which you could acquire the remaining interest. Further, disclose how the device is propelled and becomes airborne, indicate its range of travel, and state the elevation and duration of launch necessary to capture the data required for the various applications identified. As a point for clarification, tell us whether this is the same device referenced in your responses to prior comments 12, 14 and 16. If so, disclose under this heading the reasons you believe it is appropriate to have characterized the company as a 50% owner, given your disclosures on page F-13; and revise your disclosure on page F-6 to correct references to the plural version of the term sensors, while clarifying that you presently have no sensors under contract, along with the reasons you describe in response to prior comment 17, not covered by the settlement agreement.
8. Given that you identify costs capitalized for an aircraft and equipment on page F-9, expand your disclosure on page 7 to identify the type of aircraft and equipment and to describe its location and condition to comply with Item 102 of Regulation S-B.

Controls and Procedures, page 14

9. We see that, based on the evaluation as of March 31, 2007, your officers concluded that your disclosure controls and procedures were not effective. You further indicate that this conclusion resulted due to some accounting entries related to accounts payable, accrued interest, unrecorded debt, stock issued for services, imputed interest, debt commissions and recognition of liabilities from legal settlement that required adjustment.

Expand your disclosure to identify the specific nature of each of the adjustments required, including the corresponding amount, so that it is clear why each adjustment was necessary and why your controls and procedures failed to ensure that such items were recorded on a timely and accurate basis. Since you conclude that there were no changes in your internal control over financial reporting, please clarify whether you believe the circumstances leading to the conclusion that your disclosure controls and procedures were not effective had persisted over multiple periods.

Please quantify in your response the impact that such adjustments had on your interim results reported in each of your fiscal 2007 Form 10-QSBs, or if such adjustments have not been made, the impact that would result if correction is necessary.

Executive Compensation, page 16

Employment Contracts, page 17

10. You refer to Note 11 of your financial statements in the second paragraph, but the disclosure contained in such note does not correspond to the information disclosed in this section. Please correct your disclosure to include the appropriate cross reference.

Signatures, page 21

11. Please amend your filing to indicate the date on which your officers and directors signed, in accordance with the requirements of Form 10-KSB.

Financial Statements, page F-1

Report of Registered Independent Public Accounting Firm, Page F-1

12. Please ask your auditors to revise their report to reflect your current address, identified as Lakeside, Montana on the cover of your filing. Also, alert your auditors to the guidance in AU §530.04, requiring certain modifications to the audit report, pertaining to the date of the audit report, which will be necessary to extend audit coverage to the corrections and disclosure revisions made in response to the comments in this letter.

Statements of Cash Flows, page F-5

13. We note you disclose a non-cash financing activity during fiscal 2007, in which you issued common stock for a loan extension, in the amount of \$72,000. Please revise your accounting and disclosure as necessary to show how this transaction is reflected in your statement of changes in stockholders' deficit on page F-4.

Note 1 – Summary of Operations and Significant Accounting Policies, page F-6

14. You state in the third paragraph that all of your subsidiaries are inactive, other than Petro Probe. However, in the second paragraph on page 3, you indicate that your subsidiary Geoprobe, Inc. was active during fiscal years ended March 31, 2007 and 2006. Please revise your disclosures to eliminate this and all similar inconsistencies.

Further, since you are reporting as a consolidated entity, whereas disclosures are generally presented from a consolidated standpoint, except where necessary to explain pertinent details of arrangements involving shared ownership or undertakings, disclose the reasons you are placing such emphasis on the operating status of individual subsidiaries. It would also be helpful to utilize first-person terminology, such as *we* or *our*, rather than referring to the company as ESSI, in the third-person form.

15. Please revise your disclosure in the fifth paragraph to reference fiscal periods 2007 and 2006, to correspond with the periods for which information is presented in your financial statements.

Note 10 – Commitment and Contingencies, page F-13

16. We understand from your response to prior comments 12 and 14 that although you negotiated a settlement agreement under which you would return the hyper-spectral probe and be released of amounts owed to the other party, you have not returned the device, contrary to the arrangement described.

As the guidance under paragraph 17 of SFAS 5 generally precludes gain recognition associated with contingencies, and you have not delivered the asset which would be required for derecognition under paragraph 16(a) of SFAS 140, we do not see substantive support for your recognition of gain in 2006. Similarly, the guidance in paragraph 18 of SFAS 15 clarifies that a debtor shall not recognize gain on a restructured payable involving indeterminate future cash payments, when total future payments, assuming contingent amounts will be paid, exceed the carrying amount of the liability.

Given the foregoing, unless you have authoritative support for the accounting applied, you may need to restate your financial statements to eliminate the gain recognized in 2006. Also, disclose the reasons you have not complied with the terms of your settlement agreement, as you had agreed in response to prior comment 17.

17. We note your disclosure on page 10, indicating that you recorded a \$10.1 million gain on the settlement of debt in 2007, which was incurred in connection with a U.S. Government project called Naval Earth Map Observer (NEMO), payable to various subcontractors. However, you also indicate that you derecognized this liability with no compensation to or agreement with the creditors, stating that you obtained a legal opinion supporting your view that since no significant claims had been filed, any action compelling your performance under the contract would be barred by the applicable statute of limitation.

As your reference to the legal advisor constitutes an expert reference, you will need to identify that party in the disclosure, and obtain and file a consent. Please also identify the statute(s) of limitations applicable, governing jurisdiction(s), and other details sufficient to establish correlation between the statutes you are relying upon and the liability being derecognized. Add similar disclosure in the notes to your financial statements, along with your view of how the circumstances described meet the conditions in paragraph 16(b) of SFAS 140.

Submit a schedule identifying all subcontractors to whom this amount was payable, listing the amounts owed to each party reflected in the \$10.1 million total, with a brief indication of the nature of work performed by each subcontractor, also indicating the dates and location where this activity occurred.

Exhibit 23.1

18. We see that you have attached a consent from your auditors pertaining to the incorporation by reference of its audit opinion along with your periodic report into the Form S-3 that you filed on June 30, 2003. Please obtain an updated consent from your accountants that indicates the date it was executed, as required by Item 601(b)(23) of Regulation S-B, and include it in your amended filing.

Closing Comments

As appropriate, please amend your filings 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 amendments to expedite our review. Please furnish a cover letter with your amendments 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.

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

cc: Benjamin M. Alexander (via fax)
Richardson & Patel LLP