



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

DIVISION OF
CORPORATION FINANCE

June 14, 2011

Via E-mail to Wm. Chris Mathers

Dan Gorski
Chief Executive Officer
Texas Rare Earth Resources Corp.
304 Inverness Way South, Suite 365
Englewood, CO 80112

**Re: Texas Rare Earth Resources Corp.
Amendment No. 2 to Registration Statement on Form S-1
Filed May 25, 2011
File No. 333-172116**

Dear Mr. Gorski:

We have reviewed your amendment, and your letter dated May 24, 2011, and we 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, providing the requested information or advising us when you will provide the requested response. 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, your other public filings and the information you provide in response to these comments, we may have additional comments.

Amendment No. 2 to Registration Statement on Form S-1

1. Please continue to provide updated disclosure with each amendment. For example, we note your disclosure on page 28 that Aeroquest Airborne is scheduled to conduct an aerial survey of Round Top in May 2011, and your disclosure on pages 29 and 36 that you plan to spend approximately \$26,000 for computer hardware and mining software in March and April 2011.

2. We note that you are registering 9,158,125 shares of common stock, but on your prospectus cover page you describe specifically only those shares that are underlying the convertible securities. Please revise your prospectus cover page to make clear that the selling stockholders are also offering 4,295,000 shares of common stock that have already been issued and that are not underlying any convertible securities.
3. We note your response to comment two in our letter dated May 11, 2011. Please review your registration statement fee table and confirm that you have paid the appropriate fee, given that all of the shares being registered will be offered at the fixed price of \$4.52 per share.

Management, page 40

4. Please revise Mr. LeVier's biographical sketch to clarify the reference to his previous employer, which we assume is Newmont Mining Corporation.

Interim Financial Statements

Notes to Interim Financial Statements

Note 4 – Capital Stock, page F-21

5. It appears that you recognized net cash proceeds of \$4,069,850 from the sale of 3,388,750 shares of your common stock. Please provide us with a reconciliation between the amount of cash raised from these stock offerings and the common stock issued for cash line item per your statement of stockholders' equity for the six months ended February 28, 2011. Your response should provide information regarding the number of shares issued and the amount of cash received.
6. We note your response to comment nine in our letter dated May 11, 2011 and the related revisions to your filing. With regard to the shares issued in connection with warrants exercised between November 2010 and January 2011, we note that you issued 656,250 shares of your common stock and received cash proceeds of \$382,813. However, it does not appear that the issuance of these shares is reflected in your statement of stockholders' equity for the six months ended February 28, 2011. Please advise.

Other Equity Issues, page F-22

7. We note your response to comment ten in our letter dated May 11, 2011 states that you have revised your financial statements to expense the options issued to Sunrise Securities Corp. over the associated service period through October 2012. Please provide us with additional detail supporting the recognition of the expense related to these options over the service period. Specifically, please describe the underlying performance commitment

and tell us whether there is a disincentive for non-performance. Refer to FASB ASC 505-50-30.

Exhibit 5.1

8. We note your response to comment 12 in our letter dated May 11, 2011. Please provide a legal opinion that opines more clearly on all of the shares being registered. Counsel's revised legal opinion (with Amendment No. 2) covers 9,158,125 shares of common stock but in the introductory paragraph describes specifically only those shares that are underlying the convertible securities. The introductory paragraph should also describe the 4,295,000 shares of common stock that have already been issued and that are not underlying any convertible securities.

Engineering Comments

Press Releases

9. We note that you refer to or use the terms other than proven or probable reserves in certain press releases. As you may know, for U.S. reporting purposes, measures of mineral reserves must be consistent with the definitions set forth in Industry Guide 7. These generally differ from measurement systems that guide the estimation of resources. If you continue to make references in your press releases to reserve measures other than those recognized by the Securities and Exchange Commission, please accompany such disclosure with cautionary language comparable to the following:

“Cautionary Note to U.S. Investors - The United States Securities and Exchange Commission limits disclosure for U.S. reporting purposes to mineral deposits that a company can economically and legally extract or produce. We use certain terms in this press release, such as “reserves,” “resources,” “geologic resources,” “proven,” “probable,” “measured,” “indicated,” or “inferred,” which may not be consistent with the reserve definitions established by the SEC. U.S. investors are urged to consider closely the disclosure in our S-1 or 10-K. You can review and obtain copies of these filings from our website at <http://www.sec.gov/edgar.shtml>.”

Please indicate the location of this disclaimer in your response.

Planned Exploration and Development Activities page 28

10. We note your response to comment 15 in our letter dated May 11, 2011. Please forward to our engineer, as supplemental information and not as part of your filing, the current and historical drill data referenced in your response pursuant to paragraph (c) of Industry Guide 7 and Rule 12b-4 of Regulation 12B. If possible, please provide this information on a CD, formatted as Adobe PDF files. Please also provide the name and phone number for a technical person whom our engineer may call, if he has technical questions about your drill data.

If you wish to have this supplemental material returned, please make a written request with the letter of transmittal. Please note that you may request the return of this information pursuant to the provisions of Rule 418(b). If there are any questions concerning the above request, please phone John Coleman, Mining Engineer at (202) 551-3610.

Description of Rare Earth Elements page 29

11. We note your response to comment 17 in our letter dated May 11, 2011. It appears the article you reference is a geological paper indicating the presence of mineralization on your property and does not support the technical requirements to support a resource or reserve under Industry Guide 7. Please remove any disclosure pertaining to a large-tonnage, low grade resource from your filing.
12. We note your response to comment 18 in our letter dated May 11, 2011. In addition, we note on page 29 of your amended filing that you still disclose information regarding the processing of your rare earth minerals yet you have not conducted any metallurgical test work. Please advise.
13. We note your response to comment 19 in our letter dated May 11, 2011 and do not concur with your assessment. Please revise your disclosure by removing this statement until you have specific geologic evidence taken from your property.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include, as the case may be, the information the Securities Act of 1933 and all applicable Securities Act rules require or the Securities Exchange Act of 1934 and all applicable Exchange 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 responding to our comments or 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 John E. Coleman, Mining Engineer, at (202) 551-3610 with questions about engineering comments. You may contact Andri H. Boerman, Staff Accountant, at (202) 551-3645 or Ethan Horowitz, Accounting Branch Chief, at (202) 551-3311 if you have questions regarding comments on the financial statements and related matters. Please contact Alexandra M. Ledbetter, Staff Attorney, at (202) 551-3317 or, in her absence, me at (202) 551-3611 with any other questions.

Sincerely,

/s/ H. Roger Schwall for

Anne Nguyen Parker
Branch Chief