

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

**FORM 6-K**

REPORT OF FOREIGN ISSUER PURSUANT TO RULE 13a-16 AND 15d-16  
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of: \_\_\_\_\_ June 2010

SEC File No. 000-53834

**RARE ELEMENT RESOURCES LTD.**

(Exact name of registrant as specified in its charter)

325 Howe St., #410, Vancouver, British Columbia, Canada V6C 1Z7

(Address of principal executive offices)

Exhibit 99.1 - Press Release, June 10, 2010

Indicate by check mark whether the Registrant files annual reports under cover of Form 20-F or Form 40-F

Form 20-F xxx Form 40-F \_\_\_\_

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): \_\_\_\_

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): \_\_\_\_

Indicate by check mark whether the Registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under Securities Exchange Act of 1934.

Yes \_\_\_\_ No xxx

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**SIGNATURE**

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this Form 6-K to be signed on its behalf by the undersigned, thereunto duly authorized.

Rare Element Resources Ltd. -- SEC File No. 000-53834  
(Registrant)

Date: June 11, 2010

/s/ Winnie Wong

Winnie Wong, Corporate Secretary



**Drilling Begins at Rare Element's Bear Lodge Rare-Earths Project;  
Stock options granted**

**Vancouver B.C. - Rare Element Resources Ltd.** (TSX-V: RES) is pleased to announce that drilling has begun on the Bear Lodge rare-earths project in Wyoming. Exploration activity during 2010 is focused on: 1) upgrading the resource category from inferred to measured and indicated for a portion of the rare-earth-element (REE) deposit; 2) expansion of the currently known REE deposits; and 3) discovery of additional REE-mineralized deposits within known target areas. The vast majority of the drilling will be conducted for near-surface REE targets in the oxide zones of mineralization. Work is being conducted under a permit that allows up to 200 acres of disturbance.

One core drilling rig is now on the project site and will be used to test the Bull Hill area REE targets (Figure 1). A second drill rig is expected to arrive soon. Testing of the REE targets will require approximately 30-40 angle drill holes generally with depths of 400 to 700 feet. Additional testing of the Whitetail Ridge targets identified in 2009 will also be carried out during this program. Historic hole WP-1, drilled by Hecla Mining Company in 1987, intersected 430 feet of strong REE mineralization in an intercept from 0 to 430 feet that averages 2.44% REO at the Whitetail Ridge area. Within the larger intercept were several 10-foot intercepts with grades ranging from 5.5% to 13.7% REO which will be followed up this year.

"Rare Element is moving the known rare-earths deposit at Bull Hill into the development drilling phase in preparation for a prefeasibility study. We are also excited with the results of the Bull Hill Northwest deposit drilling and resource estimation. The probability of defining more high-grade mineralization at Bull Hill Northwest is excellent," reports Vice President-Exploration, Dr. Jim Clark. "We are also very fortunate to benefit from the experience of Dr. Ellen Leavitt who will manage the rare-earths exploration program again this year."

In addition, the Company's evaluation efforts on the rare-earth resources will culminate in a Preliminary Economic Assessment (Scoping Study) that is scheduled for completion later this summer.

The 2010 gold exploration and drilling program will be announced shortly.

## Stock Options

The Board of Directors has also approved a grant of 500,000 stock options to Directors, Officers, employees and consultants exercisable at a price of \$2.71 until May 28, 2015.

**Rare Element Resources Ltd (TSX-V:RES)** is a publicly traded mineral resource company focused on exploration and development of rare-earth elements and gold on the Bear Lodge property.

Rare-earth elements are key components of the green energy technologies and other high-technology applications. Some of the major applications include hybrid automobiles, plug-in electric automobiles, advanced wind turbines, computer hard drives, compact fluorescent light bulbs, metal alloys, additives in ceramics and glass, petroleum cracking catalysts, and a number of critical military applications. China currently produces more than 95% of the 130,000 metric tonnes of rare-earths consumed annually worldwide, and China has been reducing its exports of rare earths each year. The rare-earth market is growing rapidly, and is projected to accelerate if the green technologies are implemented on a broad scale.

ON BEHALF OF THE BOARD

*Donald E. Ranta, PhD, PGeo, President & CEO*

For information, refer to the Company's website at [www.rareelementresources.com](http://www.rareelementresources.com) or contact:  
Mark T Brown, CFO, (604) 687-3520 ext 242 [mtbrown@pacificopportunity.com](mailto:mtbrown@pacificopportunity.com) .  
Donald E Ranta, (604) 687-3520 [don@rareelementresources.com](mailto:don@rareelementresources.com)

Donald E. Ranta, PhD, PGeo, serves the Board of Directors of the Company as an internal, technically Qualified Person. Technical information in this news release has been reviewed by Dr. Ranta and has been prepared in accordance with Canadian regulatory requirements that are set out in National Instrument 43-101. This news release was prepared by Company management, which takes full responsibility for content. Neither TSX Venture Exchange nor its Regulation Services Provider (as that term is defined in the policies of the TSX Venture Exchange) accepts responsibility for the adequacy or accuracy of this release...

Figure 1 Location Map of Bull Hill Resources Area and Targets

