

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: _____ August 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, August 18, 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

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: August 18, 2010

/s/ Winnie Wong

Winnie Wong, Corporate Secretary