

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: \_\_\_\_\_ January 2011

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)

1. Exhibit 99.1 - Press Release dated January 6, 2011

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

Form 20-F  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

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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: January 7, 2011

/s/ Winnie Wong

Winnie Wong, Corporate Secretary



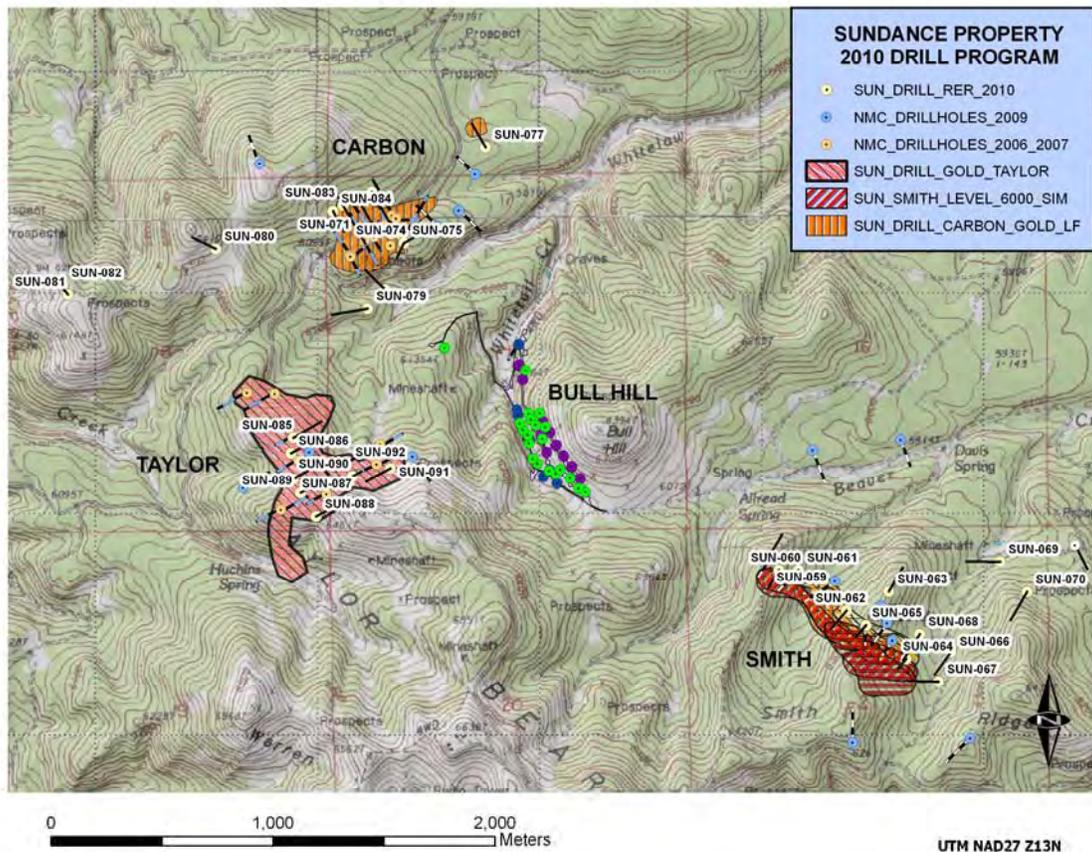
**NEWS RELEASE**  
**RARE ELEMENT RESOURCES LTD**  
**TSX-V: RES & AMEX: REE**  
*January 6, 2011*  
*Ref: 1-2011*

**Rare Element Reports Final 2010 Gold Drilling Assay Results,  
Including Some of the Best Results to Date**

- ***Drill hole SUN-089 with 137.2m @ 0.67 g/t Au, including 13.7 m @ 1.00 g/t and 12.2m @ 3.05 g/t***
- ***Drill hole SUN-090 with 192.1m @ 0.59 g/t Au, including 62.5m @ 1.34 g/t beginning at surface***

**Vancouver B.C. - Rare Element Resources Ltd.** (NYSE Amex: "REE"; TSXV: "RES") announces final 2010 assay results from seven additional rotary (reverse circulation) holes drilled on the Sundance Gold Project, Wyoming (drill holes SUN-086 to SUN-092). A total of thirty-four rotary drill holes containing 21,605 feet (6,585 m) was drilled during 2010 on near-surface targets within oxide zone mineralization at the Smith, Carbon, and, most recently, Taylor target areas (Figure 1). Initial drilling results were reported from the Smith target (see news release dated September 21, 2010), and the second news release (November 15, 2010) reported results primarily from the Carbon target. This third release covers the conclusion of the 2010 drill program with results from the Taylor target area. Gold exploration activity during 2010 was focused on: 1) detailed definition of known gold-mineralized targets with in-fill drilling, 2) step-off drilling from known mineralization, and 3) discovery of gold mineralization in a new peripheral gold target.

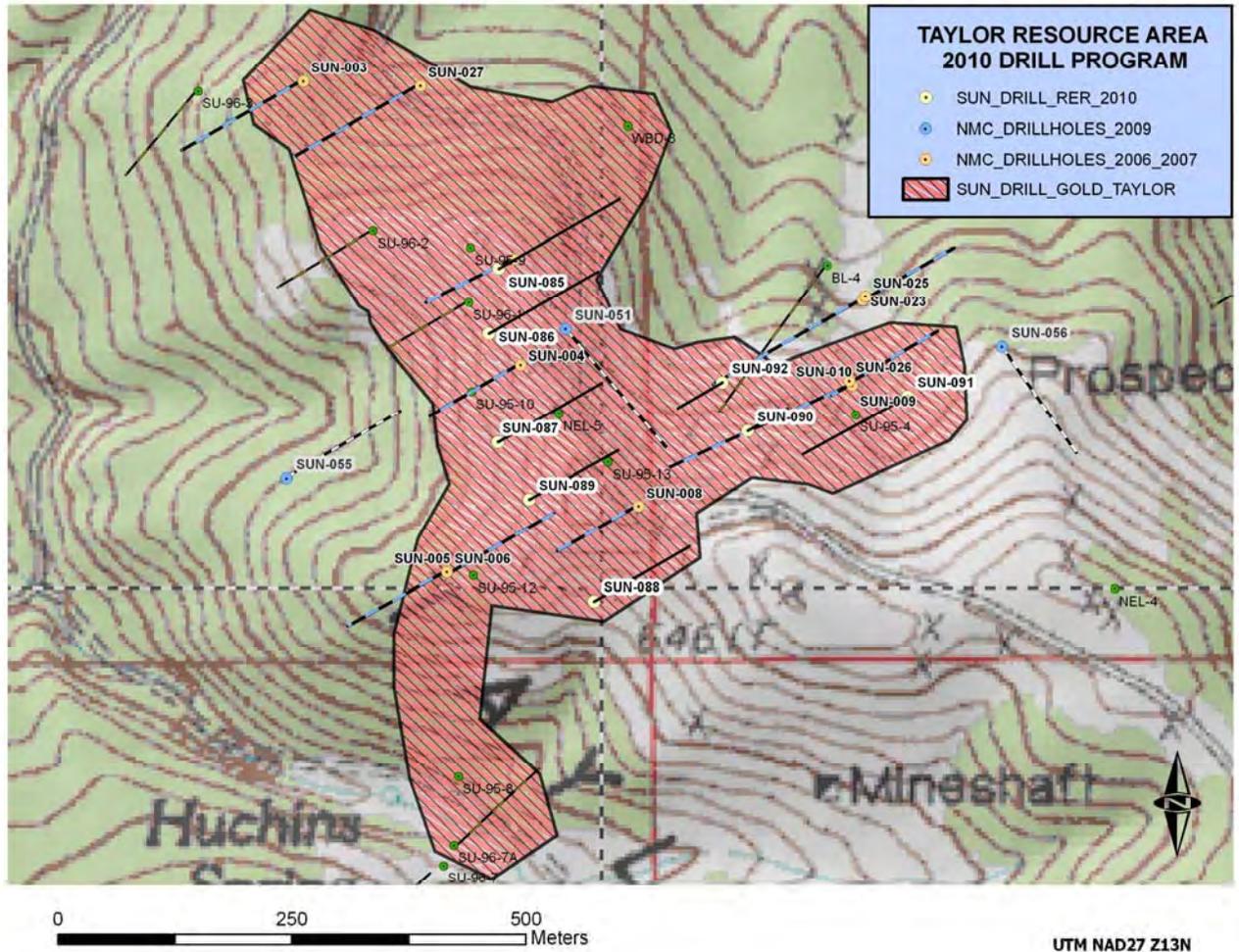
**Figure 1:** Plan map showing the location of the Smith, Carbon, and Taylor gold target areas within part of Rare Element Resources' Sundance Property. The gold targets surround the Bull Hill REE deposit. The drill hole collars from the 2010 program are shown in yellow. Drill-indicated gold-mineralized areas that contain greater than 300 ppb (>0.3 g/t) gold for each target area are shown as ruled polygons.



## Taylor Gold Target

Drilling conducted to define a potential resource at the Taylor gold target area in 2010 included a total of eight drill holes (SUN-085 through SUN-092). The program was terminated owing to inclement weather. The Taylor drill hole distribution is shown in Figure 2, along with a polygon depicting the known extent of drill-indicated gold intercepts greater than 300 ppb (>0.3 g/t) Au over significant widths. The gold mineralization at Taylor is a hovering plume-like mass hosted by Tertiary alkaline intrusions and Cambro-Ordovician sandstones of the Deadwood Formation. The mineralization generally extends from the surface to a depth of about 400 feet (125m). Representative grades within the plume, based on results from the 2010 program, are shown in Table 1 and include 0.56 g/t over 71.6m (SUN-085), 0.67 g/t over 137.2m (SUN-089), 0.45 g/t over 56.4m (SUN-091), and 0.42 g/t over 64.0m (SUN-092). In addition, SUN-089 contains a high grade interval of 3.05 g/t over 12.2m between 515-555 feet (157-169.2m), which may indicate proximity to a feeder structure. Drill hole SUN-090 tested another potential feeder structure, marked by a pronounced resistivity protrusion (2010 CSAMT survey) that extends from depth and intersects the gold-mineralized plume. Gold assays results from SUN-090 contain 0.67 g/t Au over 192.1m, including a high-grade portion with 1.34 g/t Au over 62.5m from surface to a depth of 62.5m.

**Figure 2:** Plan map of the Taylor gold target area showing the location of 2010 drill holes (yellow collars) with respect to previous drilling, and the footprint of gold mineralization defined by drill intercepts greater than 300 ppb (>0.3 g/t) gold over significant widths.



John Ray, Sundance project exploration manager, states, “Higher grade gold zones seen in drill holes SUN-089 and SUN-090 attest that higher-grade gold zones are present in the Taylor system, and the interpreted continuity of these zones will be used as vectors to further define their extent. An untested CSAMT resistivity anomaly west of the known gold mineralization at Taylor could represent the roots of a second satellite shoot of gold mineralization. Another key result from this year’s program is the interpretation of the ‘hovering’ aspect of plume-like portions of both the Taylor and Carbon gold systems, where deeper intersections in drill holes can be in barren rock underlying anomalous gold at shallower depths within the plume.”

**Table 1:** Selected significant gold intercepts from the 2010 drilling program at the Taylor target area, Rare Element Resources' Sundance Project, Wyoming.

| Hole #  | TD, ft | Prospect  | Intercepts >20ft and >0.40 g/t Au |           |                |               |                  | G-T = Gram<br>* thickness<br>(m) |
|---------|--------|---|-----------------------------------|-----------|----------------|---------------|------------------|----------------------------------|
|         |        |   | From,<br>ft                       | To,<br>ft | Length<br>(ft) | Length<br>(m) | Grade,<br>g/t Au |                                  |
| SUN-085 | 700    | Taylor North  | 0                                 | 235       | 235            | 71.6          | 0.56             | 40.3                             |
| SUN-086 | 620    | Taylor North  | 0                                 | 70        | 70             | 21.3          | 0.44             | 9.3                              |
|         |        |   | 85                                | 105       | 20             | 6.1           | 0.40             | 2.5                              |
|         |        |   | 140                               | 190       | 50             | 15.2          | 0.41             | 6.2                              |
|         |        |   | 215                               | 235       | 20             | 6.1           | 0.42             | 2.6                              |
|         |        |   | 270                               | 290       | 20             | 6.1           | 0.74             | 4.5                              |
|         |        |   | 315                               | 335       | 20             | 6.1           | 0.48             | 2.9                              |
|         |        |   | 360                               | 390       | 30             | 9.1           | 0.69             | 6.3                              |
| SUN-087 | 600    | Taylor North  | 440                               | 460       | 20             | 6.1           | 0.66             | 4.0                              |
|         |        |   | 65                                | 155       | 90             | 27.4          | 0.41             | 11.3                             |
| SUN-089 | 560    | Taylor North<br>includes 996 ppb/45' (195-240')<br>includes 3046 ppb/40' (515-555') | 370                               | 390       | 20             | 6.1           | 0.40             | 2.4                              |
|         |        |   | 110                               | 560       | 450            | 137.2         | 0.67             | 92.3                             |
| SUN-090 | 630    | Taylor North<br>includes 1340 ppb/205' (0-205')                                     | 0                                 | 630       | 630            | 192.1         | 0.59             | 114.1                            |
| SUN-091 | 600    | Taylor North  | 200                               | 385       | 185            | 56.4          | 0.45             | 25.2                             |
| SUN-092 | 360    | Taylor North  | 0                                 | 210       | 210            | 64.0          | 0.42             | 26.8                             |

**Rare Element Resources Ltd (TSX-V: RES & AMEX: REE)** 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:

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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, who take 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.