

**FRONTIER RARE EARTHS PROVIDES AN UPDATE ON ITS ZANDKOPSDRIFT  
RARE EARTH ELEMENT PROJECT IN SOUTH AFRICA**  
**- Preliminary Economic Assessment close to completion -**  
**- Pre Feasibility Study commenced -**  
**- Strategic partnership discussions progressing -**

**Toronto, Ontario, November 15, 2011** Frontier Rare Earths Limited (TSX: FRO) (TSX: FRO.WT) is pleased to provide an update on operational progress at its Zandkopsdrift rare earth element project in South Africa and related corporate activities.

*"We are very encouraged by the progress of work on the preliminary economic assessment for our flagship Zandkopsdrift project, and expect to announce the results early next year,"* said Mr. James Kenny, President and CEO of Frontier Rare Earths. *"We believe that the PEA will clearly demonstrate the significant economic potential of Zandkopsdrift and this will leave Frontier well positioned to become one of the major producers of rare earths globally commencing in 2015."*

**HIGHLIGHTS**

**Preliminary Economic Assessment at advanced stage**

- Preliminary Economic Assessment at advanced stage and scheduled for completion in early Q1 2012
- Preliminary Economic Assessment expected to confirm the technical and economic viability of Zandkopsdrift
- Initial work commenced on Preliminary Feasibility Study

**Strategic Partnership**

- Discussions with Korea Resources Corporation, which signed a heads of agreement with Frontier in July 2011, at an advanced stage
- Definitive Agreement expected to be finalised in Q4 2011
- Approaches also received from other potential strategic partners

**Metallurgical test work progressing well and flow sheets defined**

- Metallurgical test work at an advanced stage
- Test work has identified two metallurgical processing flow sheets for the purposes of the PEA
- Test work continuing at SGS and validation test work commenced at Mintek (South Africa) and a leading Asian metallurgical test facility

**Resource development work significantly advanced**

- Resource drilling programme completed, with more than 20,000 meters drilled in 2011
- Drilling expected to upgrade most of the Zandkopsdrift resource to the measured and indicated categories
- Final assay results expected by December 2011
- Revised resource estimate to be published in Q1 2012

**Preliminary Economic Assessment**

A highly qualified, multidisciplinary team of specialist consultants was appointed in early 2011 to undertake the studies that are required to complete a Preliminary Economic Assessment ("PEA") on

Zandkopsdrift. Significant progress has been made in recent months and the PEA is now at an advanced stage.

Under the PEA, it is anticipated that open-cast mining will be carried out at Zandkopsdrift by conventional truck and shovel method, with minimal drilling and blasting required. A concentrator plant will be located at Zandkopsdrift, designed to treat an annual run of mine throughput of approximately 1 million tonnes. The concentrator plant will comprise size reduction, flotation, acid cracking, leaching, thickening and filtration plants. Design and costing for the PEA will also include provision for an on-site sulphuric acid plant. A separation plant with an output capacity of approximately 20,000 tonnes per annum of separated rare earth oxides will be located at Saldanha Bay, approximately 250km south of Zandkopsdrift. Work on pit design, mine schedule, plant and infrastructure layout and a preliminary production and cash flow forecast is nearing completion. All of the PEA consultants are expected to complete their work and submit their reports in Q4 2011, following which Venmyn, who have been retained to prepare a NI 43-101 compliant independent technical report on the results of the PEA (the "PEA Report"), will commence drafting the PEA Report. It is expected that the results of the PEA will be announced in early Q1 2012.

As the Company is confident that it will receive a positive outcome from the PEA, it has already commenced work on a number of the longer lead time activities that will need to be undertaken for the planned Preliminary Feasibility Study ("PFS") on Zandkopsdrift. These activities include work on power, water and environmental studies. As a result, the Company expects to be able to complete the PFS in a relatively short period, with a current target completion schedule of approximately six months following publication of the PEA Report.

### **Strategic Partnership**

In July 2011 Frontier announced that it had signed a non-binding heads of agreement with Korea Resources Corporation ("KORES") ([www.KORES.or.kr](http://www.KORES.or.kr)) in relation to the development of Zandkopsdrift. KORES is wholly-owned by the Korean government and has a stated objective of becoming a global top 20 mining company by 2020. KORES has a policy mandate to further Korea's access to strategically important mineral resources and has designated rare earths as a strategic raw material for Korea's future economic growth.

Under the terms of the heads of agreement, KORES will, *inter alia*, acquire up to a 20% direct interest in the Zandkopsdrift project and up to a 10% ownership in Frontier. KORES will also enter into an off-take agreement with Frontier under which it will have the right and obligation to acquire a percentage of the rare earth products to be produced from Zandkopsdrift related to KORES' interests in Zandkopsdrift and Frontier. In addition, it is anticipated that KORES will assist Frontier in securing project financing for the development of mining and rare earth processing facilities, provide technical and operational assistance in relation to the operation of these facilities, and cooperate with Frontier on potential downstream rare earth processing and beneficiation opportunities. Frontier expects to sign a definitive agreement with KORES in Q4 2011.

Frontier is also continuing discussions with a number of other parties from whom it has received approaches, with a view to entering into other strategic partnerships that would be complementary to that proposed with KORES. These approaches have been received from well-established groups in North America, Europe and Asia.

### **Metallurgical Testwork Programme**

Considerable progress has been made on a comprehensive program of metallurgical test work being carried out at SGS Minerals Services, Lakefield, Ontario. Extensive bench scale rougher flotation testing has been undertaken to evaluate the effect of grind size, desliming, pH and a number of

different reagent regimes. Other test work undertaken has explored the cleaning characteristics of the rougher concentrates produced. Cracking test work has initially concentrated on the sulphuric acid destruction and leaching of the whole ore and has examined the acid requirements, cracking temperatures and preliminary leach conditions. Multiple starved acid tests, acid bake/water leach tests and atmospheric tests have been performed as well as whole ore caustic cracking tests. Following the generation of adequate quantities of bench rougher flotation concentrate, initial sulphuric acid cracking tests have also been performed. The results from work completed to date are encouraging and have identified two alternative process flow sheets that are being used for the purposes of the PEA. Metallurgical test work at SGS is currently focused on the optimization of these flow sheets for the purposes of the planned PFS.

The Company has recently engaged Mintek in South Africa and a leading Asian metallurgical laboratory with extensive experience in rare earths to carry out additional metallurgical test work on material from Zandkopsdrift. This work will include validation of the SGS results and optimization of the process flow sheets for the purposes of the planned PFS.

### **Drilling and Resource Estimation**

A comprehensive resource definition drilling program of more than 20,000 metres has been completed at Zandkopsdrift in 2011. Prior to the commencement of drilling, detailed mapping of the deposit, ground magnetic and radiometric surveying, and petrographic studies and mineralogical analyses were undertaken. These studies confirmed the interpretation that the Zandkopsdrift carbonatite has undergone deep lateritic weathering and contains rare earth enriched zones as a result of supergene enrichment. Several episodes of supergene enrichment have occurred resulting in the remobilisation of rare earth elements into secondary rare earth bearing minerals. The principal rare earth minerals (~97%) at Zandkopsdrift have been confirmed as monazite and altered monazite.

The first phase of the 2011 drilling programme was comprised of 61 reverse circulation drill holes for a total of 3,415 metres and was completed in Q2 2011. This phase of the drilling programme was primarily focused on the Zandkopsdrift B-Zone, with the objective of upgrading this part of the deposit to a higher confidence level. More than 4,000 samples from this phase of the drilling were submitted for assay by Genalysis Laboratory Services in Perth, Australia. The assay results have been received and have now been incorporated into an updated Zandkopsdrift resource estimate (the "2011 Resource Estimate") by the Company's independent geological consultants, MSA. This phase of the drilling programme identified for the first time the presence of a significant sub-vertical to vertical dyke component to the Zandkopsdrift deposit that is highly enriched in rare earths. The 2011 Resource Estimate has been used for the purposes of the PEA and will be published in conjunction with the PEA Report in Q1 2012.

In Q2 2011 the Company commenced the second phase of the 2011 drilling programme. The objective of this phase of the drilling programme was to increase the confidence level of the Zandkopsdrift resource estimate to the measured and indicated categories, to assess the parts of the deposit where prior drilling results indicated that mineralisation remained open both laterally and at depth, and to define the rare earth enriched dyke zone, which appears to be associated with the higher grade parts of the deposit. This phase of the programme was comprised of 138 reverse circulation drill holes and 68 PQ3 diameter diamond core drill holes, for a combined total of 14,194 metres, and was completed in Q3 2011.

Angled reverse circulation drilling at -60° was undertaken around the western, southern and eastern margins of the deposit to define extensions to mineralization. The diamond core drilling consisted

primarily of angled drilling along five radial lines laid out across the central part of the deposit from the fresh carbonatite on the north-east to the carbonatite/ gneiss contact to the west and south. The holes were drilled at -60° through the deposit and generally below the water table and into fresh carbonatite.

A total of 15,663 samples from this phase of the 2011 drilling programme have been submitted for assay and all assay results are expected to be received by the end of November 2011. This data will be incorporated into a further resource estimate update to be undertaken by MSA in early 2012 (the "2012 Resource Estimate"), and it is expected that the majority of the Zandkopsdrift resource will be upgraded to the measured and indicated categories at this time. The 2012 Resource Estimate is expected to be available in late Q1 2012, after publication of the PEA report, and will be used for the purposes of the planned PFS on Zandkopsdrift.

### **China Office**

In August 2011 the Company announced the appointment of Ms. Vivian Wu as Business Development Director for Frontier with responsibility for the Company's activities in Greater China. Frontier has now established an office in Shanghai, which is being used as a base to broaden Frontier's relationships in Greater China with potential strategic partners, customers and suppliers. The Company is very encouraged by the initial response from various groups in the region in relation to Zandkopsdrift and potential partnership opportunities for Frontier.

### **New Prospecting Right**

In September 2011 the Company was notified that it had been granted a new prospecting right by the South African Department of Mineral Resources. The new prospecting right, which covers rare earths and other related minerals, covers an area of approximately 75,000 hectares situated in the Namaqualand region of the Northern Cape and is located approximately 80km northeast of Zandkopsdrift. The Company expects the new prospecting right to be formally received by the end of November 2011, following which a phased programme of exploration will be undertaken. The Company believes the area covered by this new prospecting right to be prospective for rare earth mineralisation and brings the area covered by Frontier's prospecting rights in the region to approximately 135,000 hectares.

Further details on the Company's activities and progress are set out in the Management Discussion & Analysis for the quarter ended September 30, 2011, which were published on 14 November 2011 and are available for download on [www.frontierrareearths.com](http://www.frontierrareearths.com) or on [www.SEDAR.com](http://www.SEDAR.com).

### **About Frontier Rare Earths Limited (TSX: FRO) (TSX: FRO.WT)**

Frontier Rare Earths Limited ([www.frontierrareearths.com](http://www.frontierrareearths.com)) is a mineral exploration and development company exclusively focused on the development of rare earths projects in Africa. Frontier's flagship asset is the Zandkopsdrift rare earth project (95% economic interest held), which is located in the Northern Cape Province of South Africa and is one of the largest undeveloped rare earth deposits worldwide. After Molycorp's Mountain Pass and Lynas' Mount Weld projects, the Zandkopsdrift B Zone has the highest TREO<sup>(1)</sup> grade and the highest grade of high value HREOs<sup>(2)</sup> of significant advanced deposits<sup>(3)</sup> outside China. Zandkopsdrift's favourable location is expected to provide significant advantages in relation to capital costs, operating costs and development time compared to other rare earth projects currently being evaluated, and makes it well positioned to become one of the first significant new producers of rare earths outside China after Molycorp and Lynas. In July 2011, Frontier announced a major strategic partnership agreement with Korea

Resources Corporation ([www.kores.or.kr](http://www.kores.or.kr)) in relation to the development of the Zandkopsdrift rare earth project and a definitive agreement is expected to be signed in Q4 2011.

Frontier filed a NI 43-101 report on Zandkopsdrift in October 2010, which included a resource estimate of circa 43m tonnes at an average grade of 2.2% containing 950,000 tonnes TREO applying a 1% cut-off, of which 56% is in the Indicated Resource category. A revised resource estimate is expected to be published in early 2012 in conjunction with a Preliminary Economic Assessment on Zandkopsdrift. Frontier is well funded with approximately \$42m cash and no debt and this strong working capital position will finance the proposed work programme of the Company and the expected completion of a PEA, Preliminary Feasibility Study and Definitive Feasibility Study on Zandkopsdrift. Frontier plans to commence production of separated rare earths from Zandkopsdrift in 2015 at a rate of 20,000 tonnes per annum. Frontier is listed on the main board of the Toronto Stock Exchange and currently has 89,562,781 shares outstanding.

**Notes:**

(1) TREO = total rare earth oxides and includes the elements lanthanum to lutetium expressed as trivalent oxides

(2) HREOs = heavy rare earth oxides; high value HREOs are Europium, Terbium and Dysprosium

(3) Significant advanced deposits are those with >200,000 tonnes TREO under SAMREC, JORC, CIM or equivalent international codes

**Qualified Person**

The technical information in this release, some of which has been summarized or extracted from the Amended NI 43-101 Resource Estimate and Technical Report on the Zandkopsdrift Rare Earth Element (REE) Project, located in the Republic of South Africa dated October 29, 2010 (the "Technical Report"), has prepared under the supervision of Frontier's Vice President, Exploration, Dr. Stuart Smith BSc, PhD. who is a "Qualified Person" in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects. Readers are cautioned not to rely solely on the summary of information contained in this release, but should read the Technical Report which is filed on SEDAR at [www.sedar.com](http://www.sedar.com) and any future amendments to such report. Readers are also directed to the cautionary notices and disclaimers contained therein.

**Forward-looking Information:** Certain information set forth in this news release may contain forward-looking statements that involve substantial known and unknown risks and uncertainties. These forward-looking statements are subject to numerous risks and uncertainties, certain of which are beyond the control of the Company, including, but not limited to the impact of general economic conditions, industry conditions, commodity prices, availability of financing, results of feasibility studies and dependence upon regulatory approvals. Readers are cautioned that the assumptions used in the preparation of such information, although considered reasonable at the time of preparation, may prove to be imprecise and, as such, undue reliance should not be placed on forward-looking statement.

For further information visit [www.frontierrareearths.com](http://www.frontierrareearths.com), e-mail the Company at [IR@frontierrareearths.com](mailto:IR@frontierrareearths.com) or contact James Kenny, CEO, at +352 208 80249 or Joe Racanelli, TMX Equicom at 416 815 0700 x243.