

## FRONTIER RARE EARTHS LIMITED

### Frontier advances Zandkopsdrift rare earth project and provides an update on the project evaluation programme

**Toronto, Ontario, April 12, 2011**

Frontier Rare Earths Limited (TSX: FRO) (TSX: FRO.WT) (“Frontier” or the “Company”) is pleased to provide an update on the status of the evaluation and development programme at its Zandkopsdrift rare earth project (“Zandkopsdrift”) in South Africa. Zandkopsdrift is recognised as one of the largest rare earth deposits in the world measured under international reporting standards. The Zandkopsdrift B Zone, which is estimated to contain circa 450,000 tonnes TREO<sup>(1)</sup>, has the highest TREO grade and the highest grade of high value HREO’s<sup>(2)</sup> of significant advanced rare earth deposits<sup>(3)</sup> outside China after Mountain Pass (Molycorp) and Mount Weld (Lynas).

#### HIGHLIGHTS

##### Metallurgical Testwork

- Approximately 6,000 kg of core recovered for metallurgical testing
- SGS Minerals Services to commence test work shortly

##### Economic Evaluation

- Preliminary Economic Assessment expected to be completed by end Q3 2011
- Preliminary Feasibility Study expected to be completed within 3 months of Preliminary Economic Assessment

##### Resource Development

- 15,000 metres of reverse circulation and core drilling to be carried out
- 3,000 metres of reverse circulation drilling completed; samples to be transported for assay shortly
- Drilling programme expected to be completed by end Q3 2011

**James Kenny, Frontier’s CEO commented:** “We are very pleased with the significant progress that we have made in advancing the evaluation of Zandkopsdrift since November. The commencement of metallurgical testing is a very significant step, as results from this work should allow us to complete both a preliminary economic assessment and a preliminary feasibility study on Zandkopsdrift by the end of 2011.”

##### Metallurgical Testwork

Diamond drilling for the recovery of samples for metallurgical testwork commenced on schedule in mid-January 2011 under the supervision of The MSA Group (“MSA”), who were responsible for the preparation of the NI 43-101 compliant independent technical report on Zandkopsdrift published in October 2010. The objective of this initial phase of drilling at Zandkopsdrift was to recover approximately 1,000 kg of representative material for bench scale metallurgical testing to be undertaken by SGS Minerals Services (“SGS”) of Lakefield, Ontario. By the end of March 2011, 12 metallurgical drill holes had been completed for a total of 794 metres. The holes were drilled at four sites, approximately 100 metres apart in the central part of the Zandkopsdrift deposit, using PQ3 triple tube core, with three holes being drilled at each site and within approximately four metres of each other. Overall core recovery was excellent, at approximately 97%, and in excess of 6,000 kg of material was recovered, with very little core breakage recorded.

The core has now been logged in detail and a number of analytical and geophysical techniques have been utilized to ensure that the core and the identified rock types are accurately described. Down hole geophysical survey techniques, including magnetic susceptibility, density and natural gamma,

have also been used to further characterize the rock types in the core. A Niton XLp portable XRF analyzer, which has been specifically set up for rare earth element analysis and which is calibrated on a daily basis, also provided geochemical control. The correlation established between Niton analyses and actual laboratory results from drilling carried out by Frontier on Zandkopsdrift in 2010 has allowed a high degree of confidence to be ascribed to the analytical field data generated.

Approximately 4,000 kg of core is expected to be shipped to SGS in mid-April, with the remaining material being retained on site for reference purposes. A large composite sample, representative of the overall Zandkopsdrift deposit, will be selected from this material as well as a number of smaller variability samples from higher and lower grade sections and from different rock types in the core samples. The samples selected will undergo a metallurgical test program comprising mineralogical analysis, ore characterisation, bench scale flotation, leaching and separation tests, with the objective of identifying the optimal flowsheet for the recovery of the contained rare earth elements. The SGS work programme is expected to take approximately six months to complete.

### **Economic Evaluation**

Initial results from the SGS metallurgical testwork will be used to complete a Preliminary Economic Assessment (“PEA”) on Zandkopsdrift. On the basis of current schedules, the Company expects that it will be in position to complete the PEA by end Q3 2011. The Company is at an advanced stage in relation to the selection of the lead engineering consultant for the PEA and expects to announce this appointment and others shortly.

Final results from the SGS metallurgical testwork programme will be used to complete a Preliminary Feasibility Study (“PFS”). As the Company plans to work on several components of the PFS work programme in parallel with the PEA work programme, this is expected to allow the completion of the PFS approximately three months after completion of the PEA.

### **Resource Development**

Resource drilling commenced at Zandkopsdrift in February 2011, after completion of the metallurgical sample drilling, with two drill rigs operating under the supervision of MSA. Approximately 15,000 metres of reverse circulation and core drilling is planned to be carried out, with the primary objective of converting the higher grade Zandkopsdrift B Zone to the measured category and of converting a significant portion of the balance of the Zandkopsdrift resource to the Indicated category. The drilling programme will also include step out drilling to the north west and south east, where mineralization remains open, and a number of deep stratigraphic holes in areas where previous drill holes were terminated in good mineralization.

By the end of March 2011, 56 holes had been completed for a total of approximately 3,000 metres. Samples from these holes have been prepared and are waiting dispatch to Genalysis Laboratory Services in Perth, Australia, for assay. The drilling rate is expected to increase by the end of April, when four drill rigs are expected to be operational, and this is expected to allow the resource drilling program to be completed by end Q3 2011. Further updates on drilling progress will be made in due course.

### **Audited Annual Financial Statements, MD&A and AIF**

The Company has filed its Audited Annual Financial Statements, Management Discussion and Analysis and Annual Information Form for the financial year ended December 31, 2010. These documents may be viewed at [www.sedar.com](http://www.sedar.com).

### **Annual General Meeting**

The Company will hold its Annual General Meeting of Shareholders at 2.00 p.m. on Thursday, May 12, 2011 at 9 Allée Scheffer, L 2520-Luxembourg, Luxembourg.

#### **Notes**

- (1) TREO = total rare earth oxides and includes the elements lanthanum to lutetium expressed as trivalent oxides
- (2) HREO = heavy rare earth oxides; high value HREO's 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**

Certain technical information in this release 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"). Scientific and technical information contained in this release has been 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.

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.

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

Frontier Rare Earths Limited is a mineral exploration and development exclusively focused on the development of rare earths projects in Southern 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 HREO's<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.

Frontier filed a NI 43-101 report on Zandkopsdrift dated October 29, 2010, which included a resource estimate of circa 43m tonnes containing 950,000 tonnes TREO applying a 1% cut-off, of which 56% is in the Indicated Resource category.

Frontier is well funded with approximately \$52m 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 Preliminary Economic Assessment, Preliminary Feasibility Study and Definitive Feasibility Study on Zandkopsdrift by the end of 2012. Frontier listed on the main board of the Toronto Stock Exchange in November 2010 and currently has 89,562,781 shares outstanding.

#### **Forward-looking Information**

Forward Looking Statements – 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 statements.