

FRONTIER RARE EARTHS APPOINTS VIVIAN WU AS BUSINESS DEVELOPMENT DIRECTOR-GREATER CHINA

CHINA REPRESENTATIVE OFFICE OPENED

August 22, 2011

Toronto, Ontario: Frontier Rare Earths Limited (TSX: FRO) (TSX: FRO.WT) (“Frontier”) is pleased to announce the appointment of Ms Vivian Wu as Business Development Director-Greater China. In this role, Ms Wu will be responsible for developing new commercial and industrial partnerships and customer relationships for Frontier in the region. Ms Wu has more than 18 years of experience in the rare earth market in China, and most recently was the Chief Representative for Treibacher Industrie AG in China, based in Shanghai.

Ms Wu has a Bachelor of Science and an EMBA from Shanghai Jiao Tong University and gained her initial experience in the rare earth sector with China Minmetals Corporation where she served in various senior business and management positions within the rare earth division between 1993 and 2001. Between 2001 and 2006 Ms Wu was the Worldwide Strategic Raw Material Sourcing and Purchasing Director for Rhodia (China) Investment Co and subsequently joined Treibacher Industrie AG in 2006.

“The opening of a dedicated China Representative office and the appointment of Vivian Wu is hugely significant for Frontier. Vivian’s broad business experience and her reputation, in-depth understanding and knowledge of the rare earth sector in Greater China, and Asia more broadly, will be of great benefit to Frontier as we seek to develop additional commercial and industrial partnerships and new customer relationships,” said James Kenny, President & CEO of Frontier Rare Earths.

Frontier’s representative office in China is located at 9th Floor, Cross Region Plaza, 899 Lingling Rd, Shanghai, China. Telephone +86 21 34696968

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

Frontier Rare Earths Limited (www.frontierrareearths.com) is a mineral exploration and development company 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⁽¹⁾ grade and the highest grade of high value HREOs⁽²⁾ of significant advanced deposits⁽³⁾ 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. On 13 July 2011, Frontier announced a major strategic partnership agreement with Korea Resource Corporation (www.kores.or.kr) in relation to the development of the Zandkopsdrift rare earth project.

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. Frontier is well funded with approximately \$48m 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. Frontier plans to commence production of rare earths at 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

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 statements.

For further information visit www.frontierrareearths.com, e-mail the Company at IR@frontierrareearths.com or contact James Kenny, CEO, at +352 208 80249.