

Rare Earth Elements Letter

INTERNATIONAL

the independent information and advice bulletin for Rare Earth Elements and related investments

Special Situation – January 2012 Update

www.frontierrareearths.com



Frontier Rare Earths Limited (Cdn\$ 0.94)

TSX	: FRO
H + L prices (12 months)	: Cdn\$ 3.50 – 0.80
Net shares issued	: 89.6 million
Fully diluted shares	: 90.0 million
Market Capitalization	: Cdn\$ 84.2 million

First price target: Cdn\$ 5.00

Company profile

Frontier Rare Earths Limited (“Frontier”) is a Luxembourg headquartered, exploration and development company incorporated in 2002 with the objective of developing a portfolio of mineral exploration projects in **South Africa** and which is now exclusively focused on Rare Earth Elements (REEs) in Southern Africa.

Frontier’s principal asset is the **Zandkopsdrift REE Deposit** in the Namaqualand region of the Northern Cape Province, South Africa’s longest established mining region. Zandkopsdrift is believed to be one of the largest known rare earth resources outside of China classified under international resource reporting standards.

The Project was identified by Frontier in 2005 and for which the prospecting rights were secured in 2006.

The prospecting right for Zandkopsdrift is held by Sedex Minerals, a South African company that is 74% owned by Frontier. In accordance with the relevant South African Black Economic Empowerment (BEE) legislation, 26% of SEDEX is held by BEE shareholders, with 21% owned by the Namaqualand Empowerment Trust, a broad-based community trust established by Frontier. However, the terms of the Sedex shareholder’s agreement give Frontier an effective 95% economic interest in Zandkopsdrift.

In October 2010, an Independent Technical Report identified 22.92 million tonnes containing 532,000 tonnes of Total Rare Earth Oxides (TREO) at an average grade of 2.32% in the Indicated resource category and an additional 20.81 million tonnes containing 415,000 tonnes of TREO in the Inferred resource category, both applying a 1% TREO cut-off. As the Zandkopsdrift deposit remains open both laterally and at depth, it seems reasonable to assume that the Zandkopsdrift resource estimate may potentially significantly increase in the coming months as Frontier progresses its drilling program.

However, with a Total Rare Earth Oxide resource of close to 1.0 million tonnes already estimated in place the resource at Zandkopsdrift is already considered by Frontier to be large enough to target supplying up to 20,000 tonnes per annum of separated REOs, which is broadly comparable to be one of the world's largest rare earth projects outside China currently under development, after Molycorp and Lynas.

This potential has led to discussions with a number of potential strategic partners, but also become one of the world's most economically viable as means to accelerate the development of the Zandkopsdrift Project.

► Primary objectives

Frontier's primary objectives are to accelerate evaluation and development of Zandkopsdrift, including the completion of a Preliminary Economic Assessment (Scoping Study) in the 4th quarter of 2011, a Pre-feasibility study by the end of 2011/early 2012; and subject to the positive outcome of the pre-feasibility study, completing a Bankable feasibility study by the end of 2012; and subject to the results of the bankable feasibility study, commencing production of separated rare earth oxides in 2015.

The Company has a good financial position with Cdn\$ 46 million in cash and is fully funded through completion of the Definitive Feasibility Study.

On December 5, 2011, Frontier announced that it signed a definitive agreement with **Korea Resources Corp.** ("KORES"), the Korean government-owned mining and natural resources company, to form a strategic partnership designed to accelerate the development of the Zandkopsdrift REE Deposit.

Overview of Projects

➤ Zandkopsdrift Rare Earth Deposit, Namaqualand region, Northern Cape Province

The Zandkopsdrift Project comprises an area of approximately 60,000 ha in the Namaqualand region of the Northern Cape Province and includes the Zandkopsdrift Rare Earth Deposit. The Project is well situated approximately 450 km north of Cape Town and 230 km north of the deep water port of Saldanha Bay. Access to and infrastructure surrounding Zandkopsdrift is generally excellent.

The Deposit comprises a carbonate-rich magmatic rock deposit containing significant rare earth elements being mineralization within outcropping and near surface, deeply weathered phases. The Zandkopsdrift carbonatite is exposed as a well-defined, outcropping hill, approximately 40 m about a surrounding plain.

Zandkopsdrift has been the subject of a number of geological, mineralogical and metallurgical investigations from the 1950s onwards. A significant amount of work was carried out by Anglo American in two phases over a 6-year period, including during the mid-1980s when the rare earth potential of Zandkopsdrift was initially investigated.



All of the available rare earth related data from Anglo American's work, which included 3,400 metres drilling over 54 holes, bulk sampling (2,100 samples) metallurgical testing and related analysis, as well as Anglo American's original cores, pulp and other samples, were acquired by Frontier in 2008 and integrated with the work undertaken by Frontier.

The Anglo American data and samples have since been validated by independent geological consultants MSA, and combined with data from more than 1,000 metres drilled over 13 holes and 3,420 samples assayed by the Company, having allowed MSA to produce a CIM compliant resource estimate and a NI 43-101 compliant independent Technical Report on Zandkopsdrift.

The main rare earth bearing mineral at Zandkopsdrift is monazite and the mineralization styles and geological setting of Zandkopsdrift are similar to other rare earth deposits being evaluated and developed globally, but most notably Lynas' Mount Weld deposit in Australia.

The highest value heavy rare earth oxides, namely europium, terbium and dysprosium, are contained at elevated levels at Zandkopsdrift compared to several other deposits being evaluated elsewhere.

In addition, the low levels of thorium (225 ppm) and uranium (65 ppm) in the Zandkopsdrift Deposit both in absolute and relative terms, which compares favourably to many of the more advanced rare earth projects worldwide, reduces the potential environmental complications that would arise in the event of mine development being undertaken at Zandkopsdrift.

In summary, there are approximately 22.92 million tonnes containing 532,000 tonnes of TREO at an average grade of 2.32% at Zandkopsdrift in the Indicated resource category and an additional 20.81 million tonnes containing 415,000 tonnes of TREO in the Inferred resource category applying a 1% TRE cut-off.

Zandkopsdrift Resource Estimate (October 2010)

- ▶ Large, high confidence resource (c.950k tonnes TREO) with 56% of the contained TREO at the Indicated Resource level (October 2010)
- ▶ The deposit contains the high grade Zandkopsdrift-B Zone deposit (c.450k tonnes TREO)
- ▶ 20,100 metres drilled at Zandkopsdrift in 2011 is expected to significantly increase the resource estimate and classification
- ▶ Updated NI 43-101 resource estimate being prepared and due for release in Q1 2012

October 2010 Resource	Cut-off grade (TREO)	Tonnes (Millions)	Average Grade (TREO)	Contained TREO ('000 tonnes)
Indicated Resource	1%	22.9	2.32%	532
Inferred Resource	1%	20.8	1.99%	415

Relative distribution of REOs in Zandkopsdrift is shown on page 22 and are as set out in NI 43-101 report dated 29 October 2010. Resource is NI 43-101 compliant and presented in accordance with CIM definitions. The mineral resource estimates reflect 100% of the estimated resources at Zandkopsdrift. Frontier's 74% owned subsidiary, Sedex, has complied with the BEE equity ownership requirements as laid down by the Mining Charter and MPRDA, through shareholder agreements with historically disadvantaged South African individuals and entities that together hold the remaining 25% of the issued share capital of Sedex. In addition to Frontier's direct interest in the Zandkopsdrift Project through its 74% shareholding in Sedex, Frontier shall also be entitled to, in consideration for Frontier's funding of the BEE Shareholders' share of Sedex's expenditure on the Zandkopsdrift Project up to bankable feasibility stage, a payment from certain of the BEE Shareholders following the completion of the bankable feasibility study equal to 21% of the then valuation of the Zandkopsdrift Project. This gives Frontier an effective 95% interest in the Zandkopsdrift Project until such payment has been received.

It is important to note that within the Zandkopsdrift ore body there are a series of higher grade zones that are considered of sufficient size to be exploited as discrete units within the deposit. To date three zones have been identified and are referred to as A Zone, B Zone and C Zone in the left table and are defined by cut-off grades of 1.5%, 2.5% and 3.5% TREO respectively.

It should be noted that the B Zone is contained within the A Zone, and the C Zone contained within the B Zone. These zones will be the primary focus of further work at Zandkopsdrift but it is anticipated that Zandkopsdrift-B Zone, with an estimated 450,000 tonnes TREO (13.2m tonnes grading 3.63% TREO), in situ will be the focus of production for the first 12-15 years of mine life.

Zandkopsdrift Drilling Programme 2011-update

- ▶ Zandkopsdrift 2011 drilling programme completed
- ▶ 302 holes drilled for a total of 20,100 meters drilled from January to October 2011
- ▶ Drill spacing currently circa 40 meters
- ▶ Results of 2011 drilling programme are expected to expand the 2010 Resource estimate (see p.8) and advance it substantially into the measured and indicated resource categories
- ▶ Greatly enhanced knowledge of the geology and controls on mineralisation at Zandkopsdrift
- ▶ Focus now moving to other exploration targets elsewhere in the Zandkopsdrift prospecting right (c.60,000 hectares)

On July 11, 2011, Frontier provided an update on the progress of the exploration, evaluation and development activities at Zandkopsdrift.

The selected highlights of the Company's progress include Preliminary Economic Assessment at advanced stage and scheduled for completion in the fourth quarter of 2011, metallurgical testing underway at SGS Minerals Services and initial results expected shortly.

In addition, a total of 11,448 metres were drilled since January 2011 and an additional 6,500 metres expected to be completed on schedule by the end of September.

5,326 samples were submitted for assay, with a further 3,200 samples being submitted by the end of July.

The resource estimate will be updated in conjunction with Preliminary Economic Assessment.

On December 5, 2011, Frontier announced that it signed a definitive agreement with **Korea Resources Corp.** ("KORES"), The Korean government-owned mining and natural resources company, to form a strategic partnership designed to accelerate the development of the Zandkopsdrift REE Deposit.

The definitive agreement includes an investment in both Zandkopsdrift and Frontier and an off-take arrangement that could commit up to 31% of future production. KORES will acquire an initial 10% in Zandkopsdrift and with such acquisition secure off-take rights for 10% of rare earth production from Zandkopsdrift.

The agreement provides that KORES can also acquire a further 10% interest in Zandkopsdrift and up to a 10% share ownership of Frontier, which, if acquired, would give KORES off-take rights for an additional 21% of rare earth production from Zandkopsdrift.

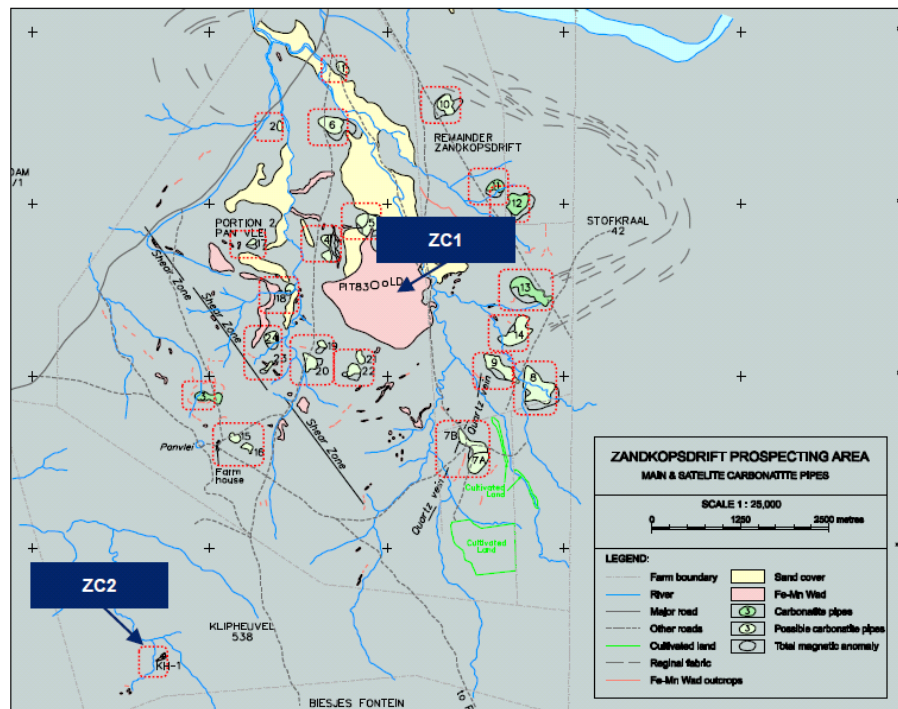
The definitive agreement follows the heads of agreement signed by Frontier and KORES in July 2011.

KORES also announced that it intends to form a consortium comprised of a number of leading Korean companies to join the Frontier joint venture (the KORES Consortium), including Samsung Group, Gyundai Motors group, GS Group, Daewoo Shipbuilding & Marine Engineering Group (DSME) and AJU Group.

KORES will take responsibility for arranging debt finance from Korean and other international lenders to cover the capital requirements for the construction and development of a rare earth mining and processing operation at Zandkopsdrift, KORES will also contribute to all costs and expenses incurred in the development and operation of Zandkopsdrift pro rate to its equity interest in Frontier.

Exploration and Resource Upgrade Potential

- ▶ ZC1 remains 'open' laterally and at depth
- ▶ Good potential to expand the resource particularly to the SE and SW of ZC1
- ▶ Churchite (HREE-rich) also present at ZC1
- ▶ 30 intrusives/plugs already discovered around ZC1, a number of which are proven to be RE bearing
- ▶ Other RE occurrences identified in the region and new 75,000 hectare prospecting right application submitted



Key Project Milestones 2011-2013

- ▶ Q4 2011: Conclude Definitive Agreement with KORES
- ▶ Q1 2012: Target Preliminary Economic Assessment completion
- ▶ Q1 2012: Updated NI 43-101 resource statement on Zandkopsdrift
- ▶ Q2 2012: Target Pre-Feasibility study completion
- ▶ Q1 2013: Target Definitive Feasibility Study completion and commence construction

Metallurgy:

- ▶ Phase 1 bench-scale metallurgical studies (Q3-4 2011) and following completion, phase 2 bench studies (Q1-2 2012) and initiate pilot plant metallurgical studies (Q1-2 2012)

Exploration:

- ▶ Investigate the satellite pipes/intrusives around Zandkopsdrift and other exploration targets identified elsewhere in current 60,000 hectare permit
- ▶ Commence work on recently awarded 75,000 hectare prospecting right in Namaqualand

New Projects:

- ▶ Selectively expand rare earth project portfolio
- ▶ Continue focus on Southern Africa

Note : Frontier is fully funded for its PEA, PFS and DFS programmes at Zandkopsdrift

Project Development Plan 2013-2015

- ▶ **Conceptual project development plan**
 - ▶ Construction to commence in 2013
 - ▶ Rare earth production commencement in 2015
 - ▶ Target production of up to 20,000 tonnes separated Rare Earth Oxides per annum
 - ▶ Mining, flotation and potentially cracking plant on site at Zandkopsdrift
 - ▶ Rare earth separation plant likely sited at Saldanha Bay (c.250km south of Zandkopsdrift)

On September 14, 2011, Frontier announced that it had been granted a new prospecting right by the South African Department of Mineral Resources for rare earths and other related minerals of interest, located approximately 80 km northeast of the Zandkopsdrift Project.

The new prospective right covers an area of approximately 75,000 hectares in the Namaqualand region of the Northern Cape Province.

A comprehensive exploration program is planned for the new area and work is expected to commence in the fourth quarter of 2011. The proposed working program is fully funded.

Management

James Kenny, B. Comm., M.B.S., CEO, Director, holds a Bachelor of Commerce (Honours) and a Master's degree in finance (MBS) from University College, Dublin. He has over 20 years of experience in the natural resources sector as a promoter, banker, broker and executive of various listed and private companies. Mr. Kenny has played a key role in the development of the Company to date. His investment banking experience included senior roles with ABN AMRO Bank, ABN AMRO Rothschild, NatWest, Collins Stewart and Evolution Securities. Between 2003 and 2006 Mr. Kenny was CEO of Frontier Capital, a private financial advisory firm focused on the natural resources and other sectors. Since mid-2006, he was CEO of Frontier Advisers, which provided management, financing, strategic advisory and other services to Frontier Rare Earths since it commenced its operational activities and until the appointment of Mr. Kenny as Chief Executive Officer at the IPO of the Company.

Paul McGuinness, B.Comm. M.Acc., ACA, CFO, Director, is a chartered accountant and qualified with Arthur Andersen in 1999 where he gained experience predominantly in the financial services, oil and gas and logistics sectors. He also has extensive experience in finance and investment banking, having worked with a number of international firms, where he worked as a corporate adviser to various financial institutions in the United Kingdom, and in Australia to various energy, mining and infrastructure companies. Since 2006 Mr. McGuinness has been CEO of MG Capital, a private consulting firm which provides advisory and financial control services to a number of clients, including Frontier Rare Earths.

Dr. Stuart Smith B.Sc., PhD., Vice-President, Exploration, has over 30 years experience in the minerals exploration with particular experience in rare earths, base metals, uranium and diamonds. He held a number of senior positions in the Geochemistry Research Unit of the University of Cape Town over a 13 year period and then worked for ten years as an exploration manager and operations director extensively across Southern Africa. Prior to joining Frontier, Dr. Smith worked as an independent consulting geologist since 2000, principally contracted to Fugro Survey, the international consulting group.

Derick de Wit (B. Tech. Chem. Eng.) Vice-President Project Development. He has considerable experience in the minerals industry, gained with GRD Minproc, Bateman Projects, De Beers Consolidated Mines and Venmyn Rand, and has been responsible for managing due diligence, scoping, prefeasibility and feasibility studies, mineral asset valuations and independent technical reports for listed and private companies in accordance with NI 43-101, SAMREC and JORC reporting codes. Over the past 15 years Derick has been involved in the preparation and/or management of more than 30 independent review, scoping, prefeasibility and feasibility studies for minerals projects, both in Africa and Canada.

Philip Kenny, B.E., M.B.A., Non-executive Chairman, Director, has over 25 years of experience in the mining and oil and gas sectors in Southern Africa, Europe and the United States. Since 1998, he has been the CEO of Firestone Diamonds, an emerging junior diamond mining and exploration company focused on South Africa and listed on the AIM market of the London Stock Exchange.

Anu Dhir B.A., J.D., Non-executive Director (Chair of the Audit Committee) has extensive experience in international business, operations and legal affairs in private equity and publicly-held companies in the mining, oil and gas and technology sectors. From January 2006 to October 2009, she served as Vice President, Corporate Development and Company Secretary at Katanga Mining, a TSX-listed company and is currently Managing Director of Minings, a private group primarily interested in resource projects. Ms. Dhir is a non-executive director of Anooraq Resources, a listed South African platinum group metals producer and also serves as a non-executive director of Compass Asset Management, headquartered in Almaty, Kazakhstan.

Eamonn "Edward" Grennan B.Sc., M.Sc., Non-executive Director, has over 40 years of experience as an exploration manager, geologist, consultant and senior lecturer. His international experience covers industrial minerals, aggregates, precious metals and base metals. Mr. Grennan is a former president of the Irish Association for Economic Geology and a former member of the Consultative Committee of Irish Geological Survey and is currently an independent consultant geologist.

Crispin Sonn B.A., B.Comm., Non-executive Director, is an executive director of Old Mutual South Africa with responsibility for corporate affairs, marketing and communications and is Chairman of the Old Mutual Foundation. He was the founding Chairman of FoodBank South Africa, a founding member of the FoodBank Foundation and also currently acts as a non-executive Director of CapeSpan, the largest fresh produce sourcing and distribution company in South Africa, and Old Mutual Kotak-Mahindra, a joint venture in India.

On August 22, 2011, Frontier announced the opening of a dedicated China representation office in Shanghai and 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 Freibacher Industrie AG in China, based in Shanghai. Ms Wu has a Bachelor of Science and an EMBA from Jiao Tong University and gained her initial experience in the rare earth sector with China Minmetals Corp. where she served 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 (Chinese) Investment Co. and subsequently joined Freibacher Industrie AG in 2006.

Finance

In November 2010, Frontier completed its initial IPO of 17.65 million units at a price of Cdn\$ 3.40 per unit for aggregate gross proceeds of Cdn\$ 60 million. Each unit consists of one ordinary share and one-half of an ordinary share purchase warrant, with each whole warrant entitling the holder thereof to purchase one additional ordinary share of frontier at an exercise price of Cdn\$ 4.60 per share until November 17, 2012.

Frontier is well funded with approximately \$ 46 million cash and no debt and this strong working capital position will finance the proposed work program of the Company and the expected completion of a Preliminary Economic Assessment, Prefeasibility and Definitive Feasibility studies on Zandkopsdrift by the end of 2012.

Investment recommendation:

Frontier Rare Earths 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, which is located in the Northern Cape Province of South Africa and is one of the largest undeveloped rare earth deposits worldwide classified under international resource reporting standards. After Molycorp's Mountain Pass and Lynas' Mount Weld projects, the Zandkopsdrift B Zone has the highest TREO grade and the highest grade of high value HREO's of significant advanced deposits outside China.

In October 2010, Frontier filed a NI 43-101 report on Zandkopsdrift in September 2010 including a resource estimate of circa 43 million tonnes containing approximately 950,000 tonnes TREO (56% in the Indicated Resource category) applying a 1% cut-off.

Frontier's primary objectives are to accelerate evaluation and development of Zandkopsdrift, including the completion of a Scoping Study in or before Q4 2011, a Pre-feasibility study by the end of 2011/Q1 2012; and subject to the positive outcome of the Pre-feasibility study, completing a Bankable feasibility study by the end of 2012; and subject to the results of the Bankable feasibility study, commencing production of separated rare earth oxides in 2015.

The highest value rare earth oxides, namely europium, terbium and dysprosium, are contained at elevated levels at Zandkopsdrift compared to several other deposits being evaluated elsewhere.

In addition, the low levels of thorium (225 ppm) and uranium (65 ppm) in both absolute and relative terms in Zandkopsdrift compare favourably to many of the more advanced rare earth projects worldwide and reduces the potential environmental complications that would arise in the event of mine development being undertaken at Zandkopsdrift.

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 December 5, 2011, Frontier announced that it signed a definitive agreement with Korean government-owned KORES to form a strategic partnership designed to accelerate the Zandkopsdrift REE Deposit.

With China responsible for about 97% of world REE production and using about 70% of that domestically, the cut in export quotas by 72% for the second half of 2010 and being followed by a further 35% cut for the first half of 2011, has not only resulted in the REE complex price to twentyfold to a peak of US\$ 232.68/kg as at August 1, 2011 (Mt Weld composition), since the beginning of 2010 using FOB China pricing, but also in share prices of REE companies having multiplied.

However, due to a strong correction to just above \$ 100 since then, also the valuation of REE companies came under strong pressure.

With Frontier expected to be one of the next generation of next REE producers in 2015, and compared to the current valuation of other major REE development companies, at today's depressed market capitalization of approximately Cdn\$ 84.2 million, including Cdn\$ 42 million in working capital, in our view, Frontier offers one of the highest investment leverage potential amongst major listed rare earth companies worldwide.

Our next price objective remains Cdn\$ 5.00

Zandkopsdrift-B Zone: 3rd highest grade rare earth deposit outside of China

RE Oxide	Current REO (\$/kg) ²	Lynas Mt Weld	Molycorp Mtn Pass	Frontier Zandkopsdrift B-Zone	R.E.R. Bear Lodge	Arafura Nolans Bore	Frontier Zandkopsdrift A-Zone	Frontier Zandkopsdrift	Avalon Nechalacho	Quest Strange Lake
Lanthanum	\$110	2.03%	2.39%	0.93%	1.08%	0.55%	0.67%	0.55%	0.21%	0.13%
Cerium	\$110	3.63%	3.44%	1.61%	1.63%	1.33%	1.16%	0.96%	0.46%	0.27%
Praseodymium	\$249	0.40%	0.30%	0.17%	0.14%	0.16%	0.12%	0.10%	0.06%	0.03%
Neodymium	\$313	1.39%	0.82%	0.58%	0.41%	0.59%	0.41%	0.34%	0.23%	0.11%
Samarium	\$129	0.20%	0.06%	0.08%	0.08%	0.07%	0.06%	0.05%	0.05%	0.02%
Europium	\$5070	0.05%	0.01%	0.02%	0.02%	0.01%	0.02%	0.01%	0.01%	0.00%
Gadolinium	\$193	0.12%	0.01%	0.05%	0.04%	0.03%	0.04%	0.03%	0.05%	0.02%
Terbium	\$4410	0.01%	0.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0.01%	0.01%
Dysprosium	\$2290	0.05%	0.00%	0.03%	0.01%	0.01%	0.02%	0.02%	0.04%	0.03%
Yttrium	\$175	0.17%	0.00%	0.15%	0.03%	0.04%	0.11%	0.09%	0.15%	0.23%
¹ Holmium to Lutetium	\$0	0.20%	0.01%	0.18%	0.03%	0.04%	0.13%	0.10%	0.19%	0.28%
Total		8.08%	7.04%	3.65%	3.45%	2.79%	2.63%	2.16%	1.30%	0.90%
"Big 5" Grade		1.89%	1.13%	0.80%	0.59%	0.78%	0.57%	0.47%	0.34%	0.18%

1. No value is attributed to Holmium, Erbium, Thulium, Ytterbium and Lutetium as these elements have small markets, are typically produced to special order and do not have a regularly published price.
2. Prices from Metal Pages September 1 2011
3. Peer group only includes advanced rare earth projects/deposits with >200k TREO calculated on a code-compliant basis

Differing rare earth distribution makes benchmarking difficult, thereby not only considering the economic value of the separate size of TREO elements in the total resource, but also the share of higher valued heavy rare earths elements in the total resource. Moreover, companies are using different cut-off grades while deposits can also include other minerals/metals like uranium, base metals and fluoride. Also, potential environment complications should be considered, particularly in case of higher levels of thorium and uranium.

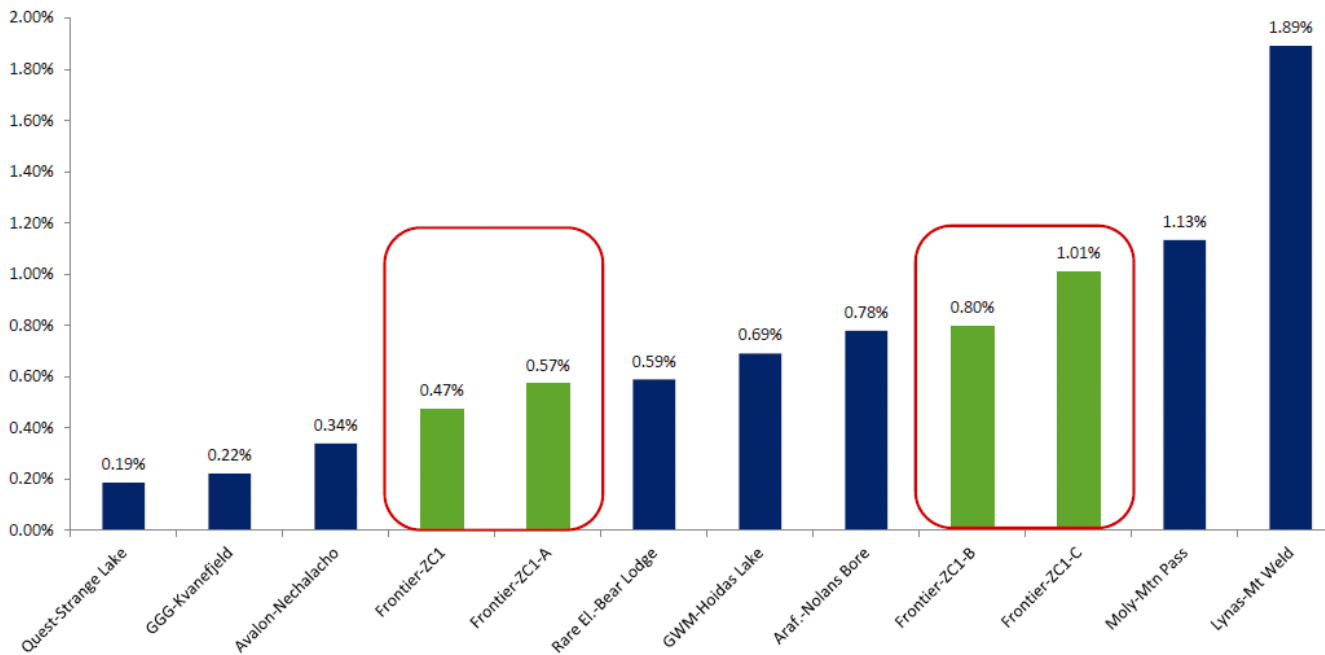
More specifically, comparisons of rare earth projects based on TREO and HREO can be misleading. Some Light REOs are low value, but some are high value and have high demand growth (neodymium and praseodymium). Some Heavy REOs are high value, but many are low value (gadolinium) or are produced in small quantities to special order, so do not have a regular market price holmium (Ho), erbium (Er), terbium (Th), ytterbium (Yb) and lutetium (Lu).

Metal equivalent grade is a better metric as it allows comparisons to be made between multi-commodity deposits containing different distributions of minerals with different values by connecting individual mining grades into a single, dominant mineral grade. This provides for relative ranking of projects.

Metal equivalent grade is widely used measure and common in other multi-commodity deposit environments.

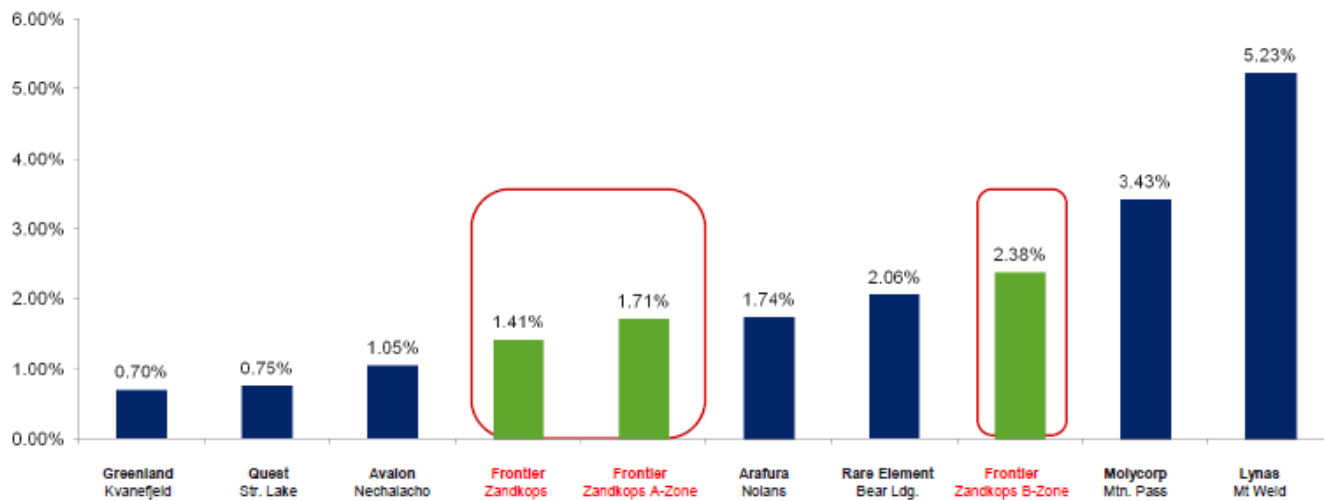
Neodymium (Nd) is proposed as an appropriate REO for which to calculate equivalent grade and using three year average REO pricing data, is the largest or second largest revenue contributor in the majority of Frontier's peer group. Nd equivalent is a direct proxy for in situ revenue per tonne and this approach is endorsed by the Ontario Securities Commission.

Big 5 Combined Absolute Grade %



Project Comparison on an Equivalent Grade Basis

Neodymium equivalent grade provides a relative ranking of deposits and is a proxy for *In situ* revenue/tonne



The following assumptions have been made in calculating neodymium equivalent grades:

- Calculated on an oxide-equivalent basis. Data is for Measured and Indicated Resource, except for deposits which only contain inferred resources
- Assumes 100% metallurgical recovery
- Based on the REO distributions and grades as set out on slide 22
- Based on average REO prices from 2008-2010 as set out on slide 22
- Only advanced projects with > 200 kt TREO calculated on code compliant basis included
- Non-REO by products excluded


The following assumptions have been made in calculating Nd grades:

- a) Calculated on an oxide-equivalent basis. Data is for Measured and Indicated resource, except for Strange Lake and Bear Lodge, which contain Inferred resource category
- b) Assumes 100% metallurgical recovery
- c) Based on REO distributions and grades
- d) Based on average REO prices from 2008 through end 2010
- e) Only projects with > 200 kt TREO calculated on code compliant basis included
- f) Non-REO by products excluded

What the table above clearly demonstrates is that Frontier's Zandkopsdrift-B and C Zones are the third and fourth highest grade rare earth deposits in the world after Lynas and Molycorp. As Nd-equivalent is effectively a direct proxy for in situ revenue per tonne, the attractions of Frontier as a pure, highly leveraged play on the rare earth market are very clear.

Differing REO Prices and Distributions make Project Comparisons Difficult

	RE Oxide	Average price ¹ (\$/kg REO)	Current price ² (\$/kg REO)	Frontier	Lynas	Molycorp	Rare Element	Arafura	Avalon	Quest
				Zandkops	Mt Weld ⁴	Mtn Pass	Bear Lodge	Nolan's Bore	Nechalacho	Strange Lake
LREO	Lanthanum	\$12	\$110	25.42%	25.14%	34.00%	31.27%	19.78%	15.83%	14.44%
	Cerium	\$10	\$110	44.17%	44.97%	48.80%	47.19%	47.63%	35.72%	30.00%
	Praseodymium	\$29	\$249	4.55%	4.90%	4.20%	4.05%	5.83%	4.51%	3.33%
	Neodymium	\$30	\$313	15.77%	17.18%	11.70%	11.87%	21.24%	17.83%	12.22%
	Samarium	\$8	\$129	2.31%	2.44%	0.79%	2.35%	2.37%	3.91%	2.22%
HREO	Europium	\$494	\$5070	0.59%	0.56%	0.13%	0.55%	0.40%	0.49%	0.00%
	Gadolinium	\$13	\$193	1.44%	1.54%	0.21%	1.22%	1.00%	3.71%	2.22%
	Terbium	\$515	\$4110	0.17%	0.17%	0.02%	0.17%	0.08%	0.54%	1.11%
	Dysprosium	\$148	\$2290	0.77%	0.58%	0.05%	0.41%	0.33%	2.71%	3.33%
	Holmium	\$0	\$0	0.13%	0.08%	0.02%	0.03%	0.00%	0.48%	1.11%
	Erbium	\$0	\$0	0.32%	0.22%	0.02%	0.06%	0.00%	1.26%	2.22%
	Thulium	\$0	\$0	0.04%	0.02%	0.02%	0.00%	0.00%	0.17%	0.00%
	Ytterbium	\$0	\$0	0.23%	0.09%	0.02%	0.03%	0.00%	1.01%	2.22%
	Lutetium	\$0	\$0	0.03%	0.02%	0.02%	0.00%	0.00%	0.14%	0.00%
	Yttrium	\$18	\$175	4.07%	2.08%	0.02%	0.81%	1.32%	11.69%	25.56%
Total				100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

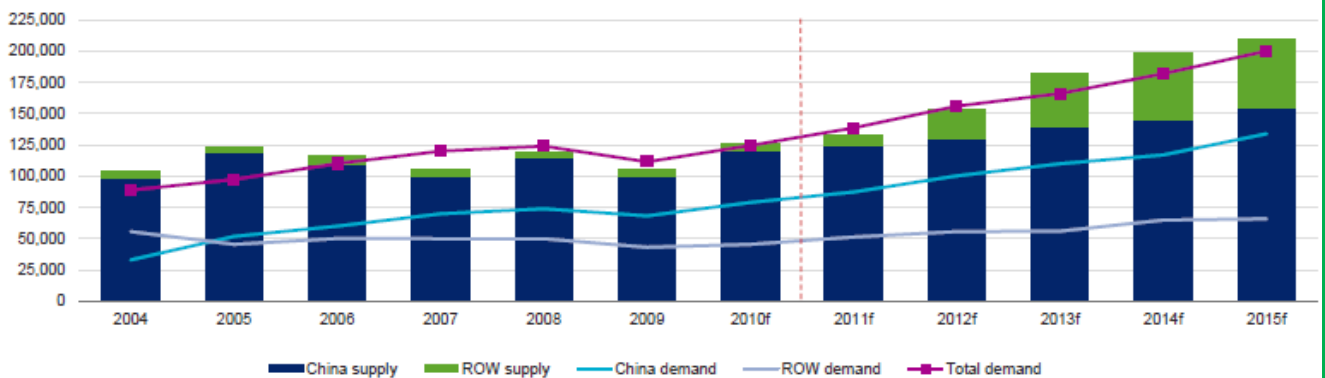


1. Based on average FOB China prices for 2008-2010. Source: Roskill
2. Based on current FOB China prices. Source: Metal Pages Sept 1 2011
3. No value is attributed to Holmium, Erbium, Thulium, Ytterbium and Lutetium as they have small markets and are typically produced to special order and do not have regularly published prices.
4. Mount Weld distribution calculated as a weighted average of the Central and Duncan deposits

Rare Earths – Supply/Demand Forecasts

- ▶ Demand projected to grow at 10-15% CAGR from 2010 to 2015
- ▶ China's domestic demand continues to increase faster than its supply
- ▶ Supply deficit widely forecast
 - ▶ 55kt of REO required from non-China sources by 2015, up from 5kt in 2010
 - ▶ Significant opportunity for new producers

Global Supply and Demand (tonnes REO)



Source: Roskill (2010)