



# Unlocking a National Treasure

**Mr. Anthony Marchese**  
Chairman, Board of Directors

OTCQX: TRER

**December 4, 2013**

# Legal Disclaimers

## **Forward-Looking Statements**

This presentation contains forward-looking statements within the meaning of the U.S. Securities Act of 1933, as amended, and U.S. Securities Exchange Act of 1934, as amended. The estimated resources at the Round Top project, potential recoverability of resources, estimated homogeneous distribution of HREEs and REEs in rhyolite, the economic assessments in the December 2013 Preliminary Economic Assessment, including the estimated Initial Capex, NPV, payback period, initial Life of Mine, Life of Mine gross revenue, Life of Mine Opex, production profile, projected revenue sources and projected operating expenditures, the potential beryllium, uranium, and thorium mineralization at the property, anticipated inclusion of non-Rees, uranium, lithium and beryllium in future economic analyses, possible whole rock recoveries, anticipated climate, labor and regulation at the Round Top project, potential market, demand and values for REEs, including ytterbium, dysprosium, terbium, erbium, holmium, thulium, lutetium and thorium, and the likely business friendly environment in Texas are forward-looking statements. These statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such statements. Such factors include, among others, uncertainty of mineralized material and mineral resource estimates, risks related to projected and estimated economics not reflecting actual economic results due to the uncertainty of mining processes, potential non-uniform sections of mineralized material, potential mining hazards and accidents, changes in equipment and labor costs, changes in projected REE prices and demand, competition in the REE industry, risks related to project development determinations, the inherently hazardous nature of mining-related activities, potential effects on the Company’s operations of environmental regulations, risks due to legal proceedings, liquidity risks and risks related to uncertainty of being able to raise capital on favorable terms or at all, as well as those factors discussed under the heading “Risk Factors” in the Company’s latest annual report on Form 10-K as filed on November 26, 2013 and other documents filed with the U.S. Securities and Exchange Commission. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those described in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Except as required by law, the Company assumes no obligation to publicly update any forward-looking statements, whether as a result of new information, future events, or otherwise.

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## Cautionary Note to Investors

The United States Securities and Exchange Commission (“SEC”) limits disclosure for U.S. reporting purposes to mineral deposits that a company can economically and legally extract or produce. This presentation uses certain terms that comply with reporting standards in Canada and certain estimates are made in accordance with Canadian National Instrument NI 43-101 (“NI 43-101”) and the Canadian Institute of Mining, Metallurgy and Petroleum (“CIM”) - *CIM Definition Standards on Mineral Resources and Mineral Reserves*, adopted by the CIM Council, as amended (the “CIM Standards”). NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosures an issuer makes of scientific and technical information concerning mineral projects. This presentation uses the terms “resource,” “measured and indicated mineral resource,” and “inferred mineral resource.” We advise U.S. investors that while these terms are defined in accordance with NI 43-101 such terms are not recognized under the SEC Industry Guide 7 and are normally not permitted to be used in reports and registration statements filed with the SEC. Mineral resources in these categories have a great amount of uncertainty as to their economic and legal feasibility. “Inferred resources” have a great amount of uncertainty as to their existence and, under Canadian regulations, cannot form the basis of a pre-feasibility or feasibility study, except in limited circumstances. The SEC normally only permits issuers to report mineralization that does not constitute SEC Industry Guide 7 compliant “reserves” as in-place tonnage and grade without reference to unit measures. Under SEC Industry Guide 7 standards, a “final” or “bankable” feasibility study is required to report reserves, the three-year historical average price is used in any reserve or cash flow analysis to designate reserves and all necessary permits and government approvals must be filed with the appropriate governmental authority. **Our Round Top project currently does not contain any known proven or probable ore reserves under SEC Industry Guide 7 reporting standards.** The results of the PEA disclosed in this presentation are preliminary in nature and include inferred mineral resources that are considered speculative geologically to have the economic considerations applied to them that would enable them to be categorized as mineral reserves and there is no certainty that the results of the PEA will be realized. U.S. investors are urged to consider closely the disclosure in our latest reports and registration statements filed with the SEC. You can review and obtain copies of these filings at [http://www.sec.gov/edgar\\_shtml](http://www.sec.gov/edgar_shtml). **U.S. Investors are cautioned not to assume that any defined resource will ever be converted into SEC Industry Guide 7 compliant reserves.**

This presentation contains statements regarding a historical beryllium resource and potential mineralization of thorium that have not been reviewed by an independent third-party consultant. Such statements are not compliant with NI 43-101 and do not represent SEC Industry Guide 7 compliant reserve estimates or economic recoveries. The estimates of management as presented in this presentation is preliminary in nature and may not occur as anticipated or estimated, if at all. While management believes these statements have a reasonable technical basis, they are based on estimates of management which may not occur as anticipated. The estimated beryllium resource is based on a historical internal feasibility study by Cypress Sierra Blanca, Inc. and does not represent an Industry Guide 7 compliant reserve. Actual beryllium mineralization may not be economically recoverable. Estimates of thorium are based on management’s assessment of limited, historical drill hole data and may not be indicative of mineralization throughout the project area. Such mineralization estimates may not occur in the amounts estimated and does not represent an Industry Guide 7 compliant reserve. Investors are cautioned not to assume that these mineralization estimates will ever be realized as anticipated or sufficiently documented in a definitive feasibility study. **U.S. Investors are cautioned not to assume that any mineralization estimate will ever be converted into SEC Guide 7 compliant reserves.**

## Select Financial Highlights

|                              |                 |
|------------------------------|-----------------|
| Fiscal Year End              | August 31st     |
| Symbol                       | OTCQX: TRER     |
| Stock Price (11-29-13)       | \$ 0.53         |
| Shares Outstanding (8-31-13) | 37 million      |
| Market Cap                   | \$ 19.8 million |
| Avg Daily Volume (30 day)    | 73,600          |
| Cash (8-31-13)               | \$ 2.3 million  |
| Insider Ownership            | 38%             |
| Institutional Ownership      | 9%              |
| Float                        | 47%             |

# Diverse Independent Governance and Large Stakeholders *Emphasize Share Value*

| Board of Directors       | Background                    |
|--------------------------|-------------------------------|
| Anthony Marchese*- Chair | Capital Markets               |
| Dr. Phil Goodell*        | UTEP-Geology                  |
| Dan Gorski               | Mining Industry               |
| Jack Lifton*             | Consulting/Metals             |
| Laura Lynch              | Natural Resources             |
| Dr. Nick Pingitore*      | UTEP-<br>Geoscience/Chemistry |
| Cecil Wall*              | Natural Resources             |
| Dr. Jim Wolfe*           | Rare Earth Metals<br>Industry |

| Management    | Title                |
|---------------|----------------------|
| Dan Gorski    | CEO                  |
| Mike McDonald | CFO                  |
| Laura Lynch   | VP- External Affairs |

| Shareholder      | Ownership |
|------------------|-----------|
| Management/Board | 38.1%     |
| Highline Capital | 6.8%      |
| Libra Advisors   | 2.4%      |

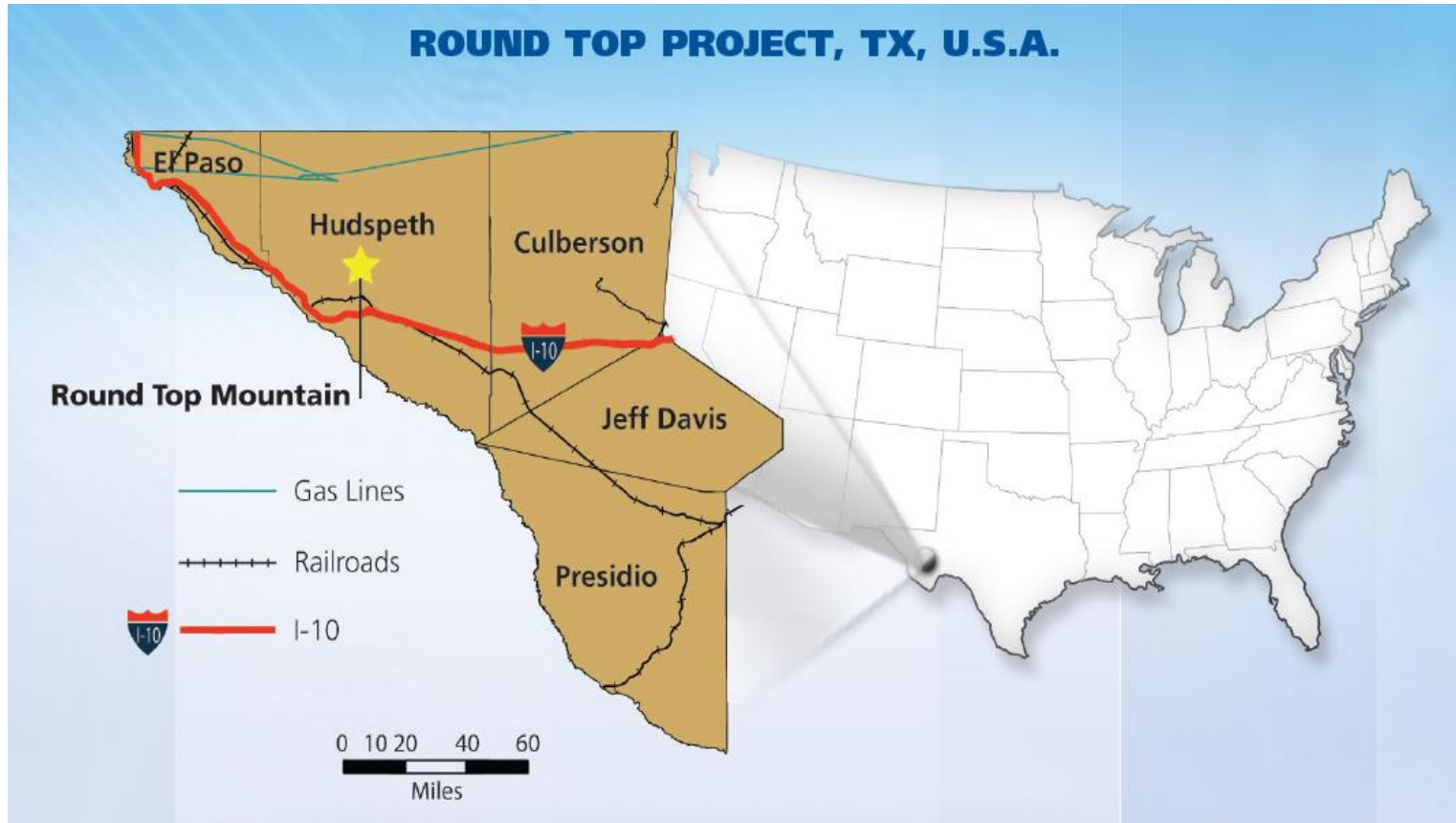
\*Independent board member



**ROUND TOP**

# A National Treasure

*One of four related mountains in plain view in America's own back yard, near El Paso in west Texas*





# Round Top Mountain

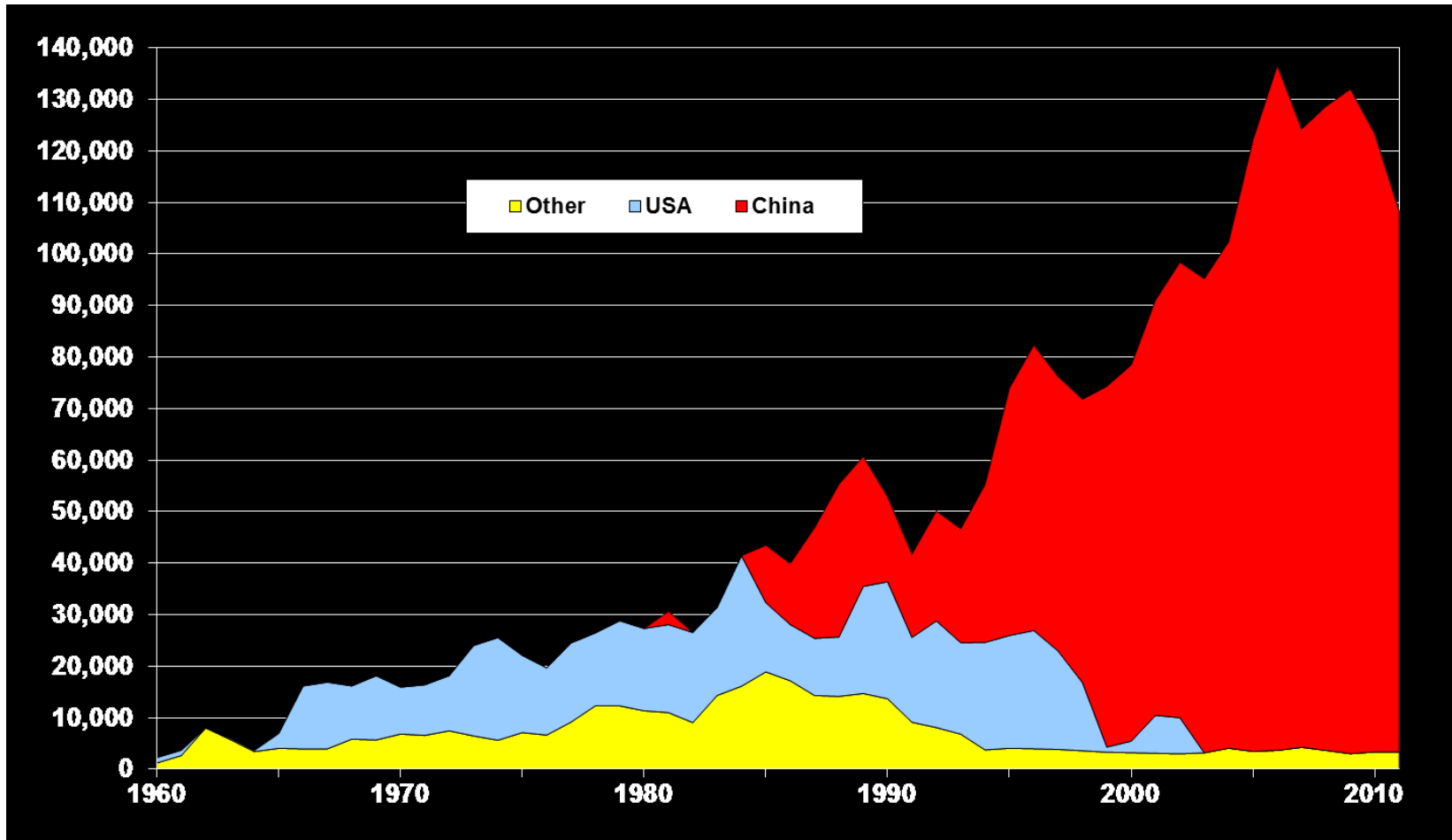
*1,250 feet high by 1 mile in diameter*



*and it's almost all mineralized heavy rare earth material!*

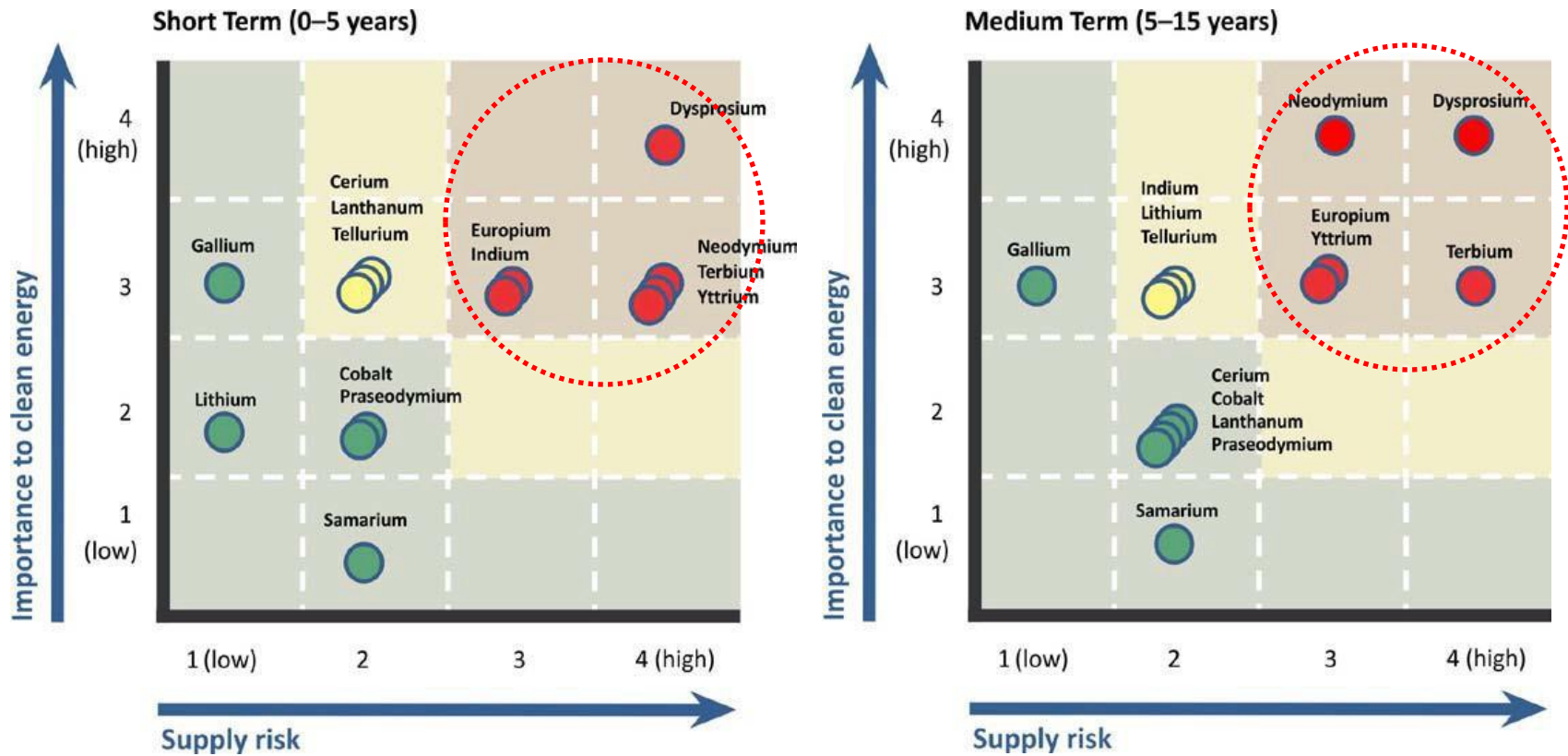


# China Dominates Global Rare Earth Oxide Mine Production



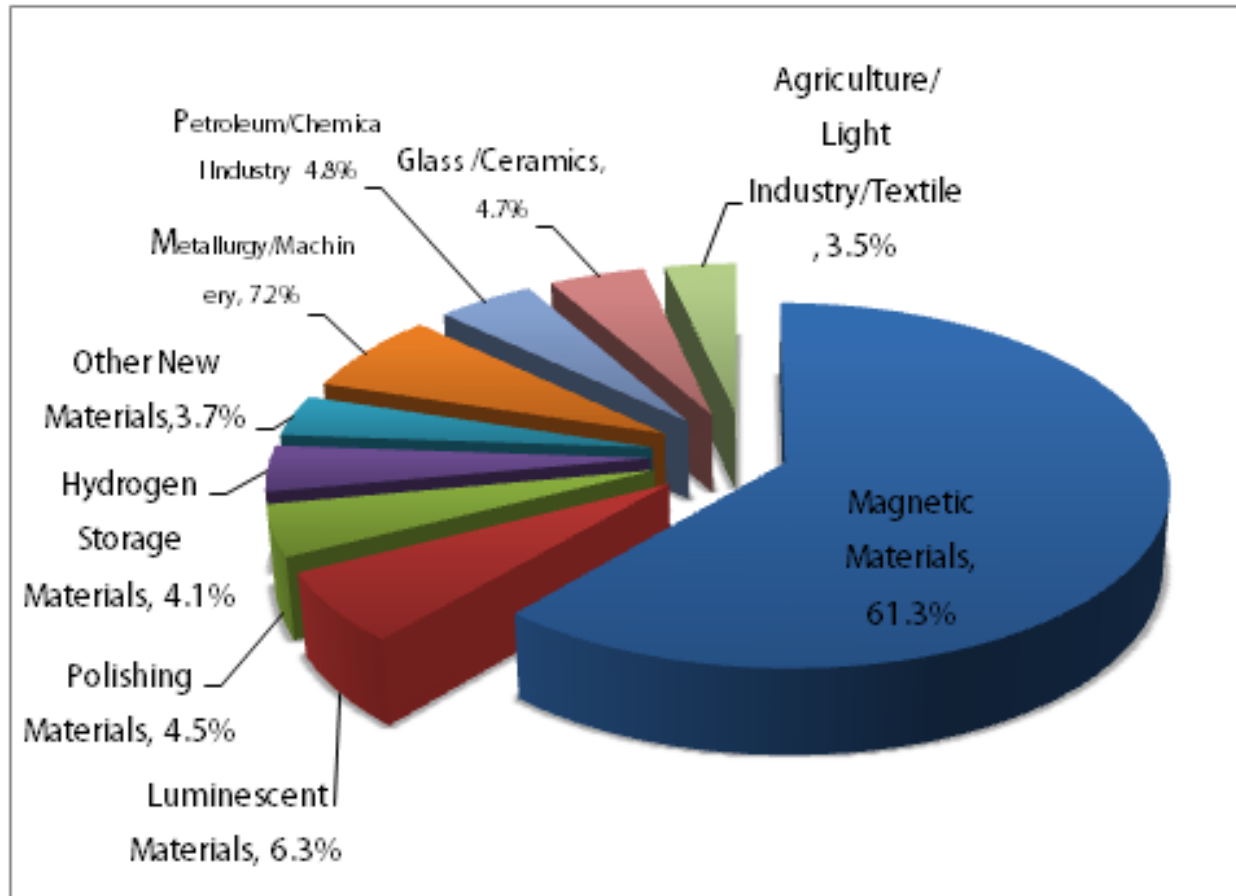
Source: USGS

# TRER’s REEs Expected to Remain in Critical Demand and Short Supply



Source: US Department of Energy

# Magnetic Materials Dominate Rare Earth Usage And Play Into TRER Strengths



Source: ResearchInChina- China Rare Earth Industry Report

# Volatile REE Prices *But...* HREEs Still Significantly Higher Than 2009 and Currently on the Upswing

The first point to note about Rare Earths prices is that there is significant variance in the relative market value for selected Rare Earths oxides. Secondly, the price of Rare Earths depends on the purity level, which is largely set by the specifications for each application.

The table below shows the average prices for a 'standard 99% purity of individual elements.

Prices are quoted in US\$/kg on an FOB China and domestic China (the price inside China) basis. The domestic price is related to the FOB price and can be calculated by taking FOB price less VAT, less export taxes (which range for 15% to 25%), the export quota cost; there may be some timing differences between the movements of internal and external China prices.

Note that higher purity oxides and other value added properties will attract higher prices than those shown.

| Rare Earths Prices (US\$/kg) |                         |        |         |         |         |         |                              |        |         |         |        |        |
|------------------------------|-------------------------|--------|---------|---------|---------|---------|------------------------------|--------|---------|---------|--------|--------|
| Rare Earths Oxide            | FOB China Average Price |        |         |         |         |         | China Domestic Average Price |        |         |         |        |        |
|                              | 2009                    | 2010   | 2011    | 2012    | Q1/13   | Q2/13   | 2009                         | 2010   | 2011    | 2012    | Q1/13  | Q2/13  |
| Lanthanum Oxide              | 4.88                    | 22.40  | 104.10  | 25.20   | 11.00   | 8.42    | 3.06                         | 4.23   | 16.26   | 11.46   | 7.15   | 5.43   |
| Cerium Oxide                 | 3.88                    | 21.60  | 102.00  | 24.70   | 11.85   | 8.49    | 2.13                         | 3.55   | 19.58   | 11.76   | 7.20   | 5.44   |
| Neodymium Oxide              | 19.12                   | 49.50  | 234.40  | 123.20  | 79.15   | 65.71   | 11.66                        | 29.28  | 132.06  | 74.72   | 52.64  | 45.30  |
| Praseodymium Oxide           | 18.03                   | 48.00  | 197.30  | 121.00  | 85.00   | 77.64   | 11.38                        | 27.60  | 104.60  | 70.51   | 58.14  | 57.91  |
| Samarium Oxide               | 3.40                    | 14.40  | 103.40  | 64.30   | 25.00   | 19.36   | 2.05                         | 2.47   | 11.85   | 10.44   | 7.71   | 5.88   |
| Dysprosium Oxide             | 115.67                  | 231.60 | 1449.80 | 1035.60 | 630.00  | 561.43  | 80.24                        | 166.48 | 994.33  | 620.73  | 345.35 | 246.74 |
| Europium Oxide               | 492.92                  | 559.80 | 2842.90 | 2484.80 | 1600.00 | 1110.71 | 351.75                       | 410.42 | 2025.00 | 1178.34 | 838.37 | 636.24 |
| Terbium Oxide                | 361.67                  | 557.80 | 2334.20 | 2030.80 | 1300.00 | 954.29  | 253.60                       | 388.80 | 1596.82 | 949.04  | 617.81 | 481.80 |

Source: <http://www.lynascorp.com/Pages/what-are-their-prices.aspx>

HREEs

# ***What Makes Round Top a National Treasure?***

*The 6 E's:*

*extent, exposure, enrichment,*

*extractable, evenness, elements*

- Extreme ***extent*** of the deposit
- Excellent ***exposure*** and location
- Extraordinary ***enrichment*** in high-value heavy rare earths
- Unique ***extractable*** mineralogy
- Remarkable ***evenness*** of mineralization grade
- Additional high-value non-REE ***elements***

# Extreme *extent* of deposit creates a long-life project

2013 - TRER 43-101 Preliminary Economic Assessment\*

|   |                            |
|---|----------------------------|
| Measured Mineral Resource                     | 133,888,936 kg REOs        |
| Indicated Mineral Resource                    | 173,371,071 kg REOs        |
| Inferred Mineral Resource                     | 218,176,364 kg REOs        |
| TOTAL   | 525,436,371 kg REOs        |
| <b>Heavy Rare Earth (HREE) Estimate (72%)</b> | <b>378,314,187 kg REOs</b> |

**China HREE Annual Production**                      **20,000,000-25,000,000 kg REOs**

***ONLY A SMALL PORTION OF CHINA PRODUCTION GETS EXPORTED!***

\*PEA Gustavson Associates, anticipated 12/13;  
See Cautionary Note to Investors

REOs = Rare Earth Oxides



## Excellent *exposure* and location, location, location allow for excellent economics

- Deposit is mostly above ground, allowing simple “open pit” mining
- No “cover” or overburden needs to be removed
- Close (3 miles) to US Interstate Highway 10
- Close by Southern Pacific, Missouri Pacific Railroads
- Texas General Land Office property surrounds site – a supportive neighbor/landlord
- Low population density
- Electricity nearby

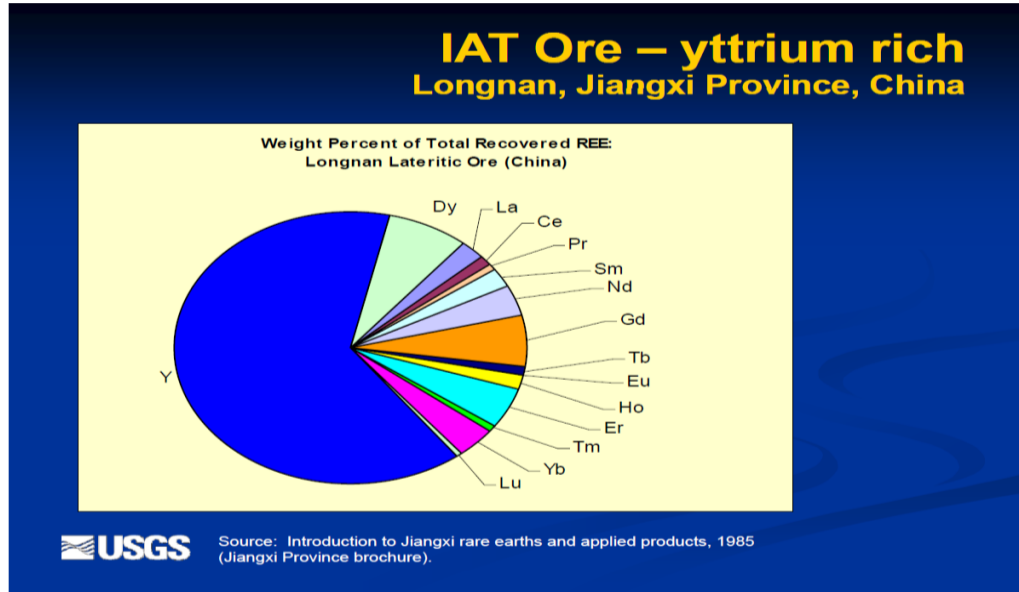


## Extraordinary *Enrichment* in Scarce, High-Value HREEs Fills a Void in the Market

- About 72% of REEs *in situ* are heavies (HREEs)\*
- Similar grade (concentration) to south China HREE deposits that account for virtually all current HREE production
- HREE enrichment greater than almost all other prospects; only a handful above 25% *in situ*
- Distribution of HREEs and all REEs in the rhyolite estimated to be *very* homogeneous – no surprises

\*includes yttrium

# Enrichment Compares Favorably With Chinese



## South China Heavy Rare Earth Deposits

90% Heavies - 0.20 – 0.05 % Total Rare Earths in Ore – Rare Earths “Stuck” on Clay

**World’s only significant source of heavy rare earths**

vs.

## Round Top Mountain

72% Heavies - 0.05 % Total Rare Earths in Ore – Rare Earths in Yttrifluorite in Rhyolite

**Western World’s future source of heavy rare earths?**

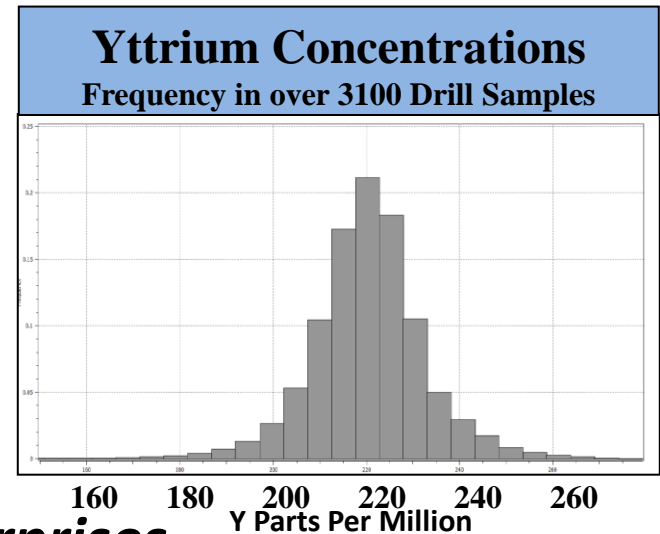
## Unique *Extractable* Mineralogy Leads to Potential Low Cost Heap Leach Processing

- **Yttrifluorite** – The mineral fluorite, with yttrium and heavy rare earths substituting for some calcium atoms
- **Unique** – We found no other deposit in the world in which yttrifluorite is the major rare earth ore mineral
- **Potential low-cost extraction**  
*Dilute sulfuric acid dissolves yttrifluorite*  
at room temperature
- Bulk rock is 90-95% quartz & feldspars that don't dissolve



## Remarkable *Evenness* of Ore Grade Leads to Potential Low Cost Processing

- Top pay mineral *yttriofluorite estimated to be distributed evenly* in deposit
- *Rock properties homogeneous* (physical, mechanical, chemical)
- *Why is an even ore grade important?*



Even ore grade means *reduced risk of surprises*

Economics easy to predict due to consistency

Ore grade & mine feedstock constant over life of mine

*Mining process optimized just once*

*REE separation chemistry can be optimized*

**NON REE REVENUE OPPORTUNITY:**

# Uranium Resource NOT Included in PEA Provides Potential Significant Upside Revenue

2013 PEA Defines U Resource\* but EXCLUDES P&L Impact:

|               |                            |
|---------------|----------------------------|
| Measured:     | 11,223,270 kg Oxide        |
| Indicated:    | 14,350,091 kg Oxide        |
| Inferred:     | 18,202,960 kg Oxide        |
| <b>Total:</b> | <b>43,776,321 kg Oxide</b> |

London Metals Exchange U Oxide Closing Price (11/29/13): \$79.91 kg

***TRER plans to include the potentially significant financial impact of the Uranium resource in future economic analyses.***



## NON REE REVENUE OPPORTUNITY

# Significant Lithium and Beryllium Independent Column Leach Test Results

### Lithium Metal:

Ore Grade: 400 ppm

Extraction: 58.5%

### Beryllium Metal:

Ore Grade: 19 ppm

Extraction: 9.7%

### PEA 20,000 TPD\* Operation

Potential Li Carbonate: 9,000 TPY\*\*

Potential Be Oxide: 36 TPY

### Current Commodity Pricing

Lithium Carbonate: \$5500/ton

Be Oxide: \$374,000/ton

Source: Metal Pages

Source: Shanghai Metals Market

### USGS 2012 World Mine Production Estimate:

Lithium Carbonate: 37,000 Tons

Beryllium Oxide: 230 Tons

***TRER plans to include the potentially significant financial impact of the Lithium and Beryllium in future economic analyses.***

# Academic Publications Enhance Credibility With Strategic Partners and Investors

- **Journal of Rare Earths**

Title: **Round Top Mountain rhyolite (Texas, USA), a massive, unique Y-bearing-fluorite hosted heavy rare earth element (HREE) deposit**

Authors: Nicholas E. Pingitore, Juan W. Clague, Dan Gorski

Date: **Peer-reviewed full article accepted, to appear in:** Volume 31, Issue 1, Jan. 2014

The Journal of Rare Earths is owned by the Chinese Society of Rare Earths, and published by academic journal giant Elsevier

- **American Geophysical Union**

Title: **A Unique Yttrifluorite-Hosted Giant Heavy Rare Earth Deposit: Round Top Mountain, Hudspeth County, Texas, USA**

Authors: Nicholas E. Pingitore, Juan W. Clague, Dan Gorski

Date: *Abstract, and presentation:* Wednesday, December 11, 2013

- **Geological Society of America**

Title: **Round Top Mountain, Texas, Laccolith Can Be a Reliable Source of HREE for US Industry and Defense**

Authors: Philip C. Goodell, Amed Gomez, Nicole Kyger, Geological Sciences, University of Texas at El Paso

Date: *Abstract, and presentation:* Tuesday, October 29, 2013

- **American Geophysical Union**

Title: **Fluorescein Dye Penetration in Round Top Rhyolite (Hudspeth County, Texas, USA) to Reveal Micro-Permeability and Optimize Grain Size for Heavy REE Heap Leach**

Authors: Lorraine M. Negron, Juan W. Clague, Dan Gorski, Maria A. Amaya, Nicholas Pingitore

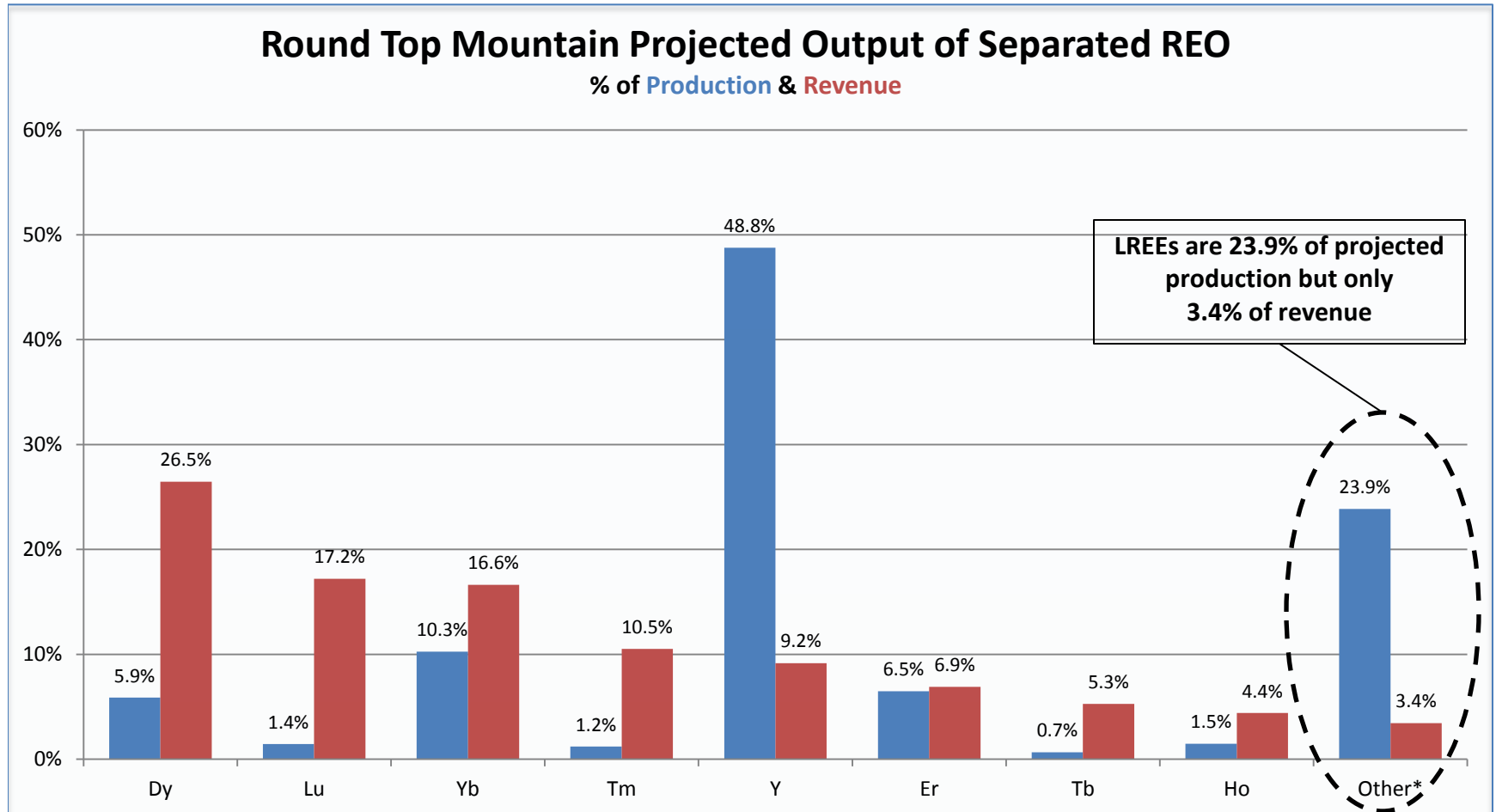
Date: *Abstract, and presentation:* Monday, December 9, 2013

# Preliminary Economic Assessment (PEA) December 2013 Highlights\*\*

- Initial Capex: \$293 million
  - *among the lowest worldwide*
- NPV (10% Pre-Tax): \$1.47 billion
  - *based upon current spot REE pricing*
- IRR (Pre-Tax): 69%
- Payback Period: 1.5 years
- Initial Life of Mine: 20 years\*
- Life of Mine Gross Revenue: \$7.9 billion
- Life of Mine Op-Ex: \$2.2 billion
- Production Profile: Diversified mix of HREOs & CREOs

# TRER Revenue Breakdown from 2013 PEA\*\*

## *Dominated by HREEs and CREOs*



\*Other includes Nd, Pr,Ce,Sm,La,Eu \*\*See Cautionary Note to Investors

# December 2013 PEA Mine Operating Expenditures\*\*

| Description                    | \$/mined ton |
|--------------------------------|--------------|
| Total Mining Operating Costs*  | 2.09         |
| Total Process Operating Costs* | 12.69        |
| Total G&A Operating Costs*     | 0.37         |
| Total Operating Expenditures*  | *15.16       |

\*Includes 10% Contingency \*\*See Cautionary Note to Investors

**NON REE REVENUE OPPORTUNITY**

# Separate World-Class Beryllium Deposit Below Base of Round Top Mountain

- *High grade mineralization* – 300,000 tons at 2% BeO \*
- 5,500 tons BeO; 230 tpy world production, 85% US
- Materion, world Be leader, thought to mine 1% BeO ore at Spor Mountain.
- 1988 Cyprus mine plan
- 867' long, 10'x10' decline with vent fan & services in place (still usable)



**TRER AIMS TO MONETIZE ITS WORLD-CLASS BERYLLIUM DEPOSIT**

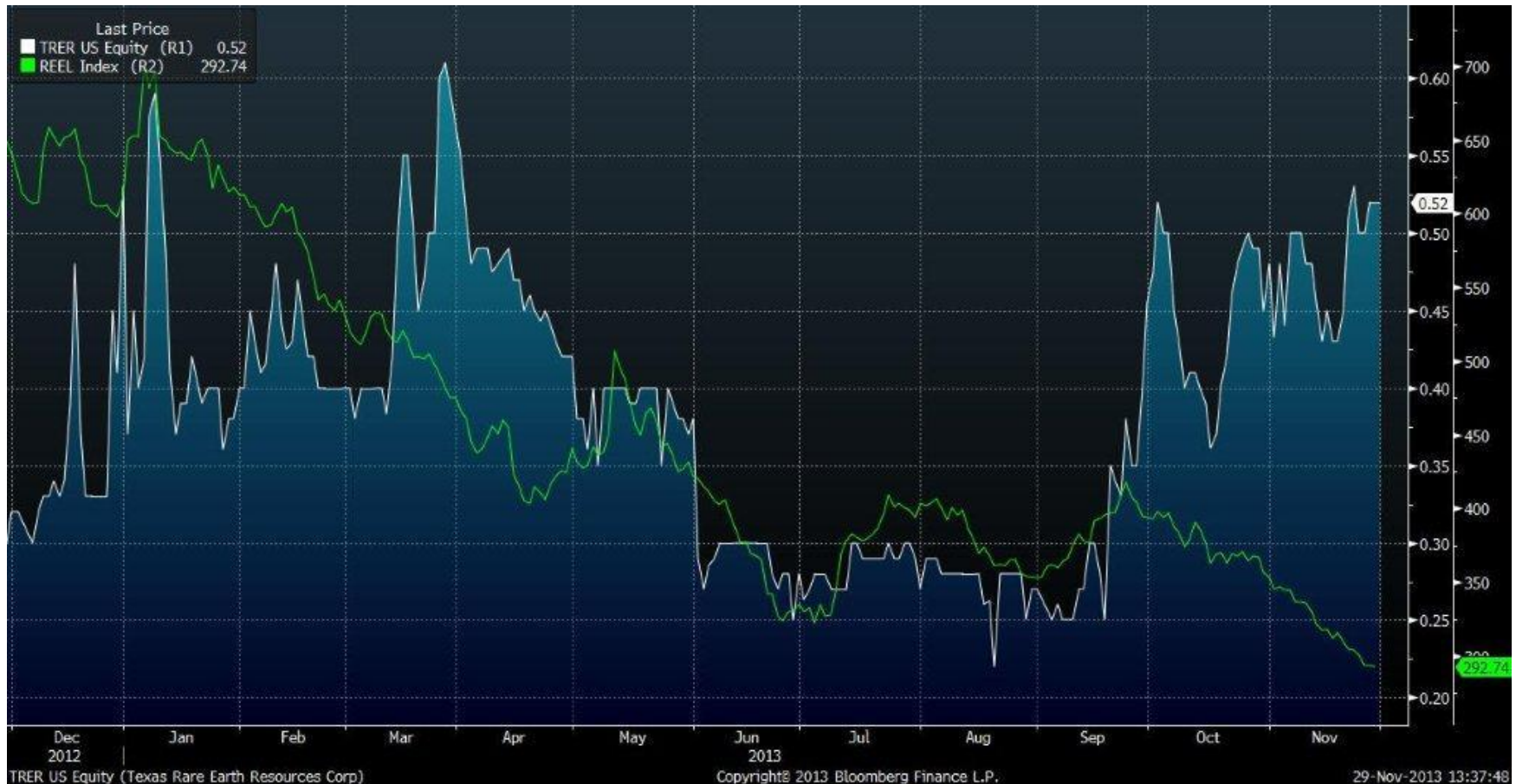
\*See Cautionary Note to Investors



# Significant Undervaluation Relative to North American Peers Creates Potential Opportunity

| Name                       | Symbol       | Market Cap (\$mm) | Project Location                     | Capex (\$mm) |
|----------------------------|--------------|-------------------|--------------------------------------|--------------|
| Texas Rare Earth Resources | TRER         | 19                | USA- Texas- State Property           | 293          |
| Quest Rare Minerals        | QRM (TSE)    | 32                | Canada- Northern Quebec              | 2,560        |
| Ucore Rare Metals          | UCR (TSE)    | 40                | USA-Alaska- Federal Property         | 221          |
| Avalon Rare Metals         | AVL (TSE)    | 70                | Canada- Northwest Territory          | 1,500        |
| Rare Element Resources     | REE (TSE)    | 75                | USA- Wyoming- Federal Property       | ?            |
| US Rare Earths             | UREE (OTCQX) | 90                | USA- Idaho/Montana- Federal Property | ?            |

# The Equity Market Has Begun to Take Notice Recently....



TRER stock price vs. Rare Earth Leaders Index (REEL)

# Key Investment Considerations

- Outstanding project economics
  - Low project Capex due to unique metallurgy and infrastructure
  - Robust project NPV and IRR at current spot prices
  - Potential significant non-REE revenue (U, Li, Be)
- Management and board has significant equity participation
- World demand for HREE’s and CREO’s expected to continue to rise
- Significantly undervalued relative to peers