

# **The Round Top Rare Earth-Lithium Deposit**

## **Hudspeth County, Texas**

15 January 2020

We would like to thank Commissioner Bush and the GLO staff for extending us the opportunity to present at this conference.

Our company, USA Rare Earth is developing a large Rare Earth-Lithium deposit on state land in West Texas.

The project takes its name from Round Top Mountain.

ROUND TOP

Round Top

Looking West

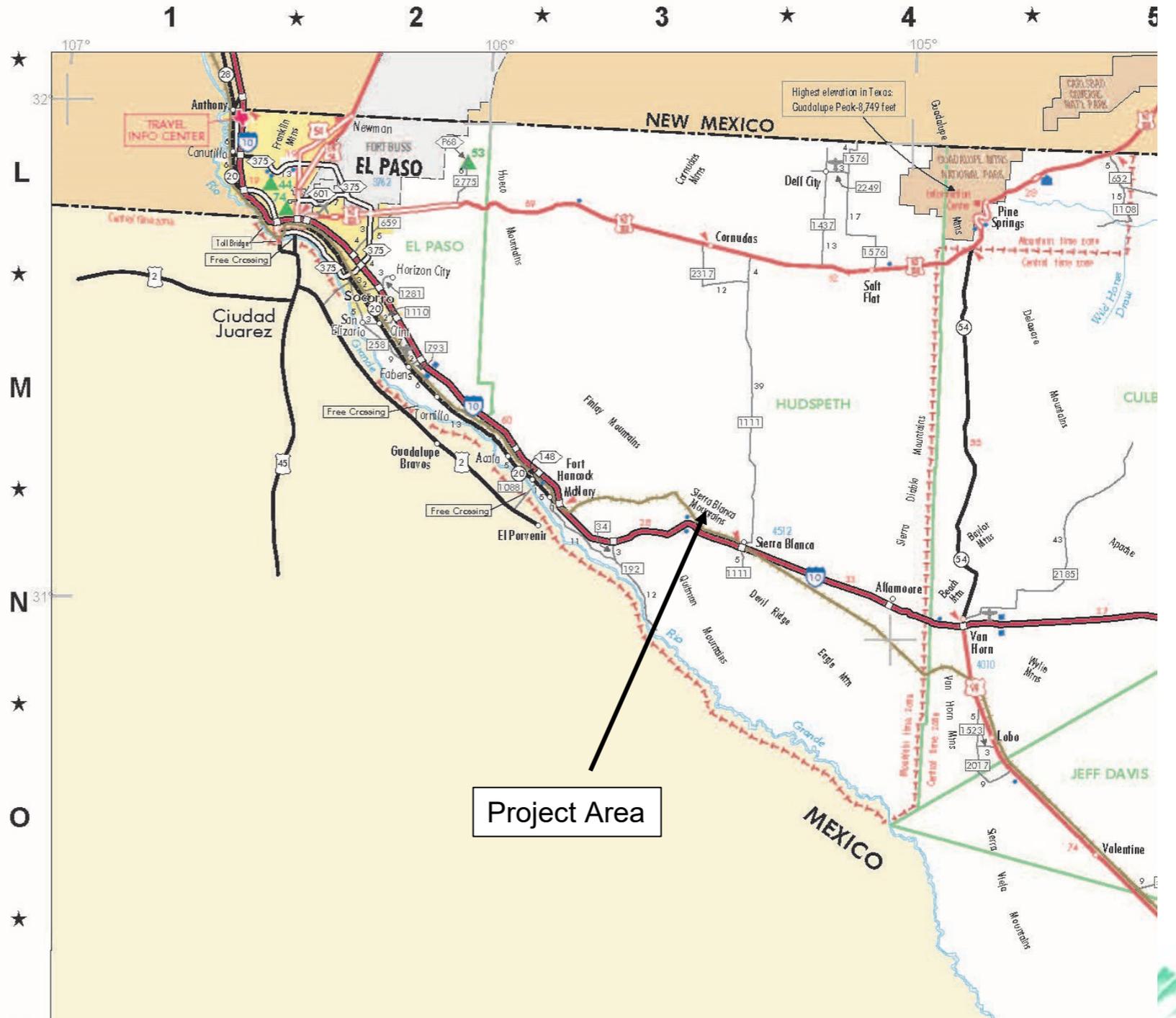
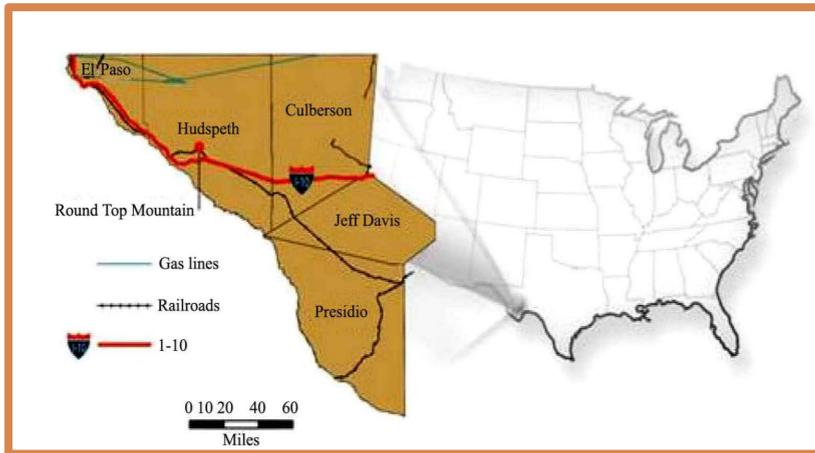


- **Round Top Mountain – approximately 1,250 feet high and 1 mile in diameter**



The Project Area is located some 85 miles southeast of El Paso, Texas  
near the town of Sierra Blanca

# ROUND TOP



Round Top is one of a group of five geologically related mountains that collectively are called  
the Sierra Blanca

Round Top

Little Round Top

Little Blanca Mtn.

Triple Hill

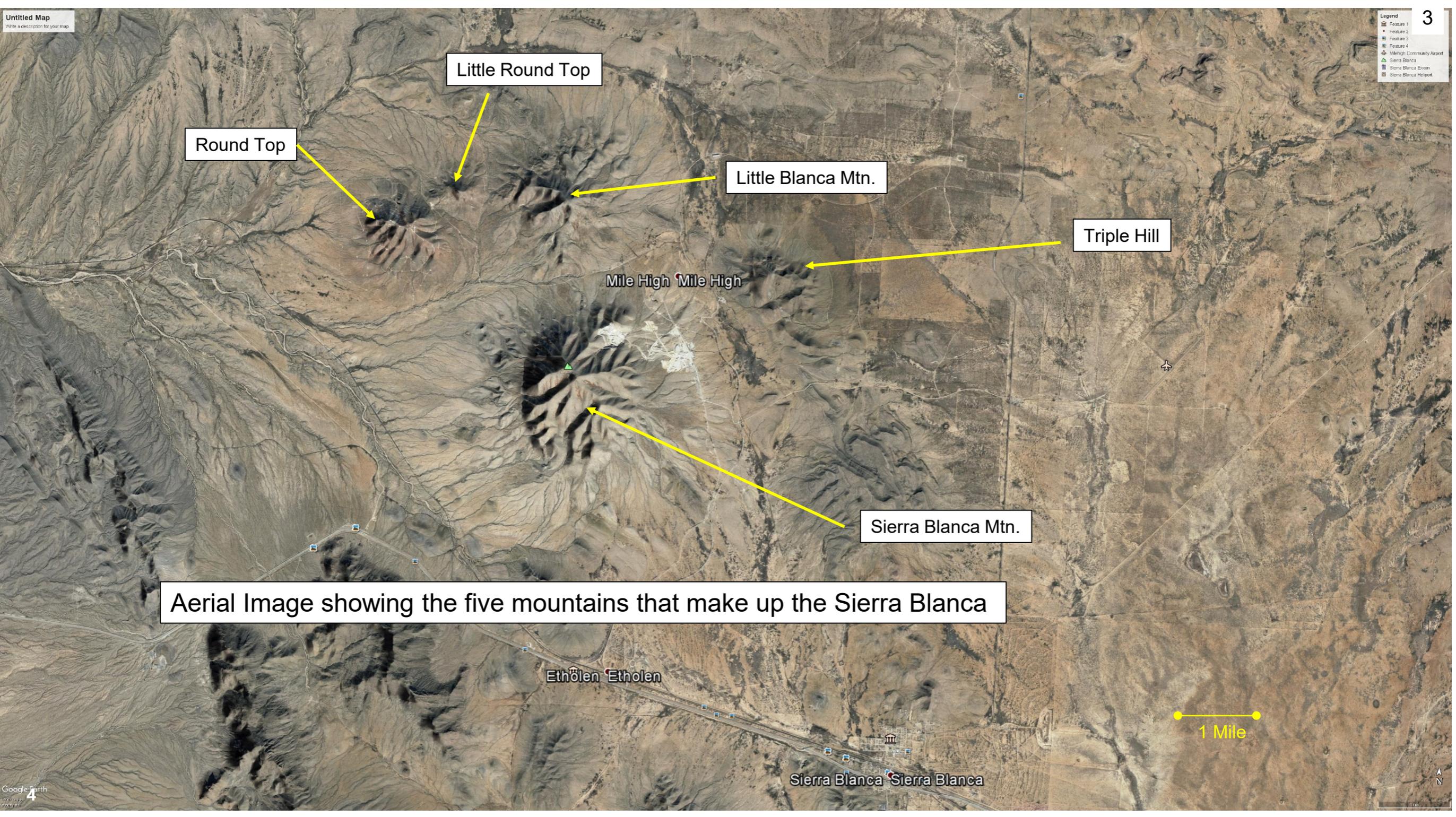
Sierra Blanca Mtn.

Aerial Image showing the five mountains that make up the Sierra Blanca

Ethölen Etholen

Sierra Blanca Sierra Blanca

1 Mile



Slide 4 is taken from the Geologic Atlas of Texas and shows the geology of the area. The Sierra Blanca lies on the boundary or “hinge line” between the thin flat lying sedimentary rocks of the Diablo Platform to the northeast and the thick sedimentary sequence of the Chihuahua Basin to the southwest. These rhyolite bodies or intrusions were emplaced sequentially in the order of Triple Hill first then Sierra Blanca, Little Blanca, Round Top and last, Little Round Top. The metal content of these rhyolite intrusions increases from oldest to youngest, thus Round Top and Little Round Top are the only ones containing economically viable concentration of REE and other metals.

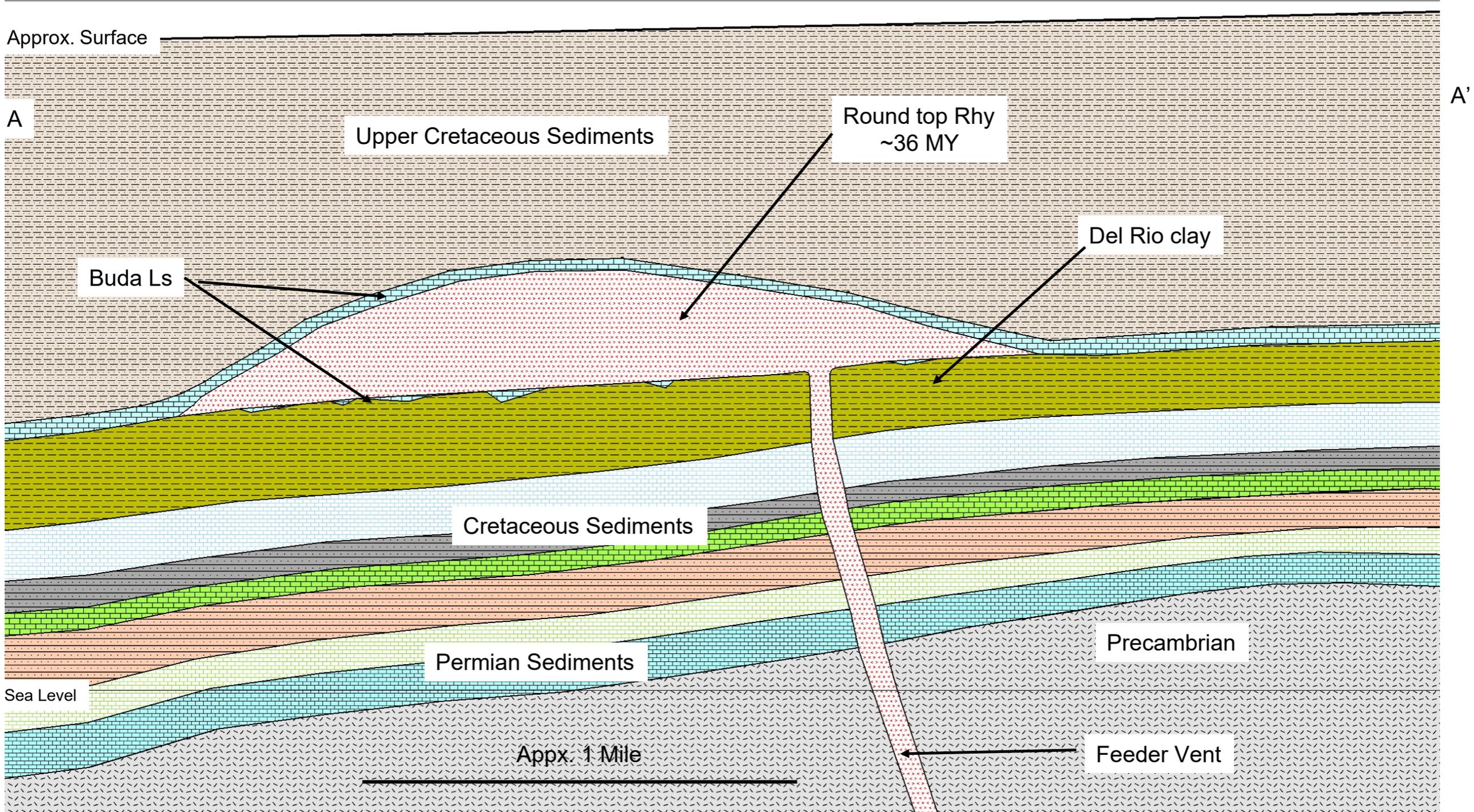
The cross-sections along line A-A’ are shown in slides 5 and 6.



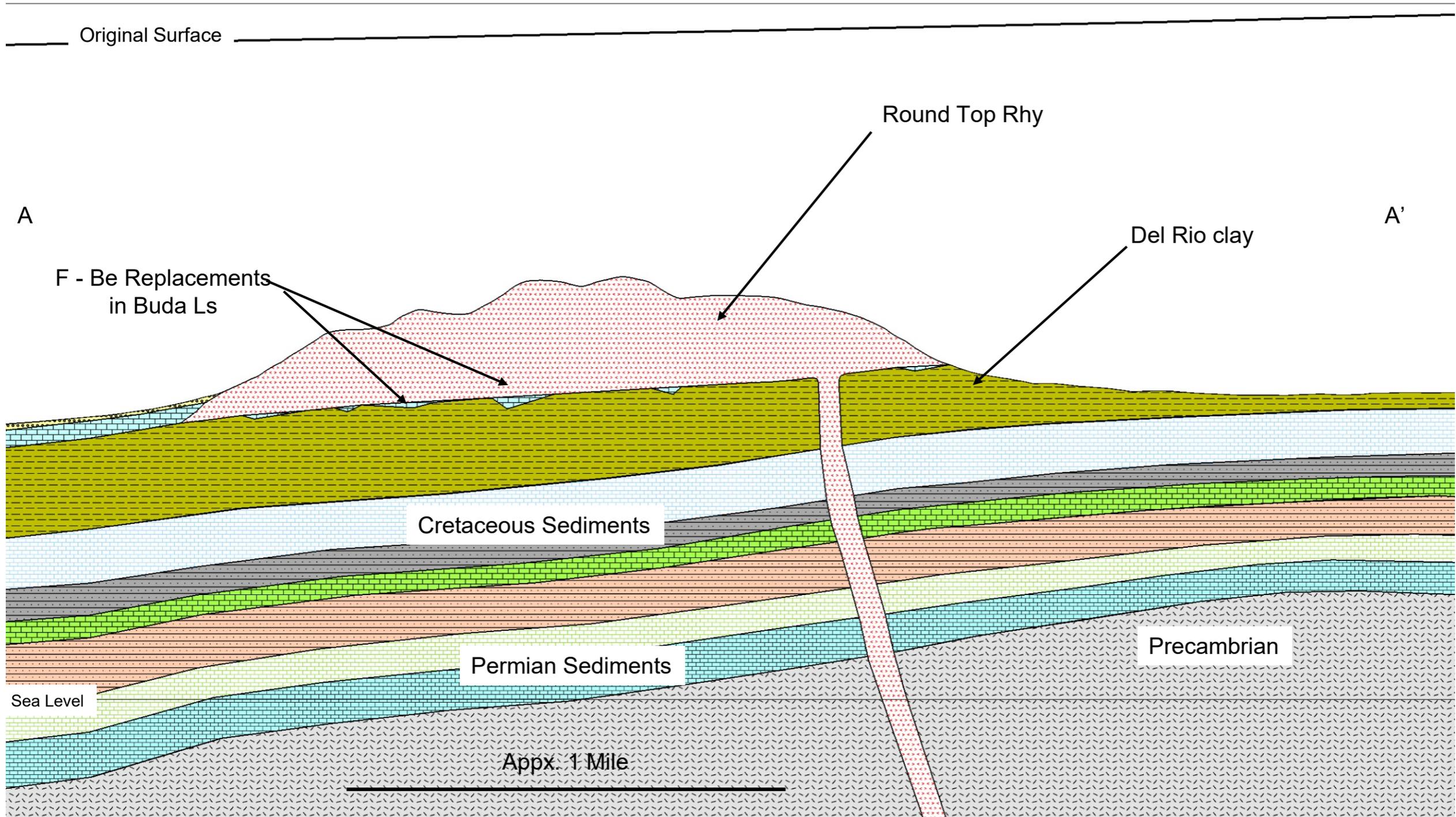
The cross-sections along line A-A' are shown in slides 5 and 6.

These mountains were formed approximately 35 million years ago when columns of molten rock rose from great depth through a narrow vent or "neck". As this magma neared the surface, rather than breaking through and forming a volcano, it spread laterally and formed the mushroom shaped intrusive-volcanic bodies known as a Laccoliths.

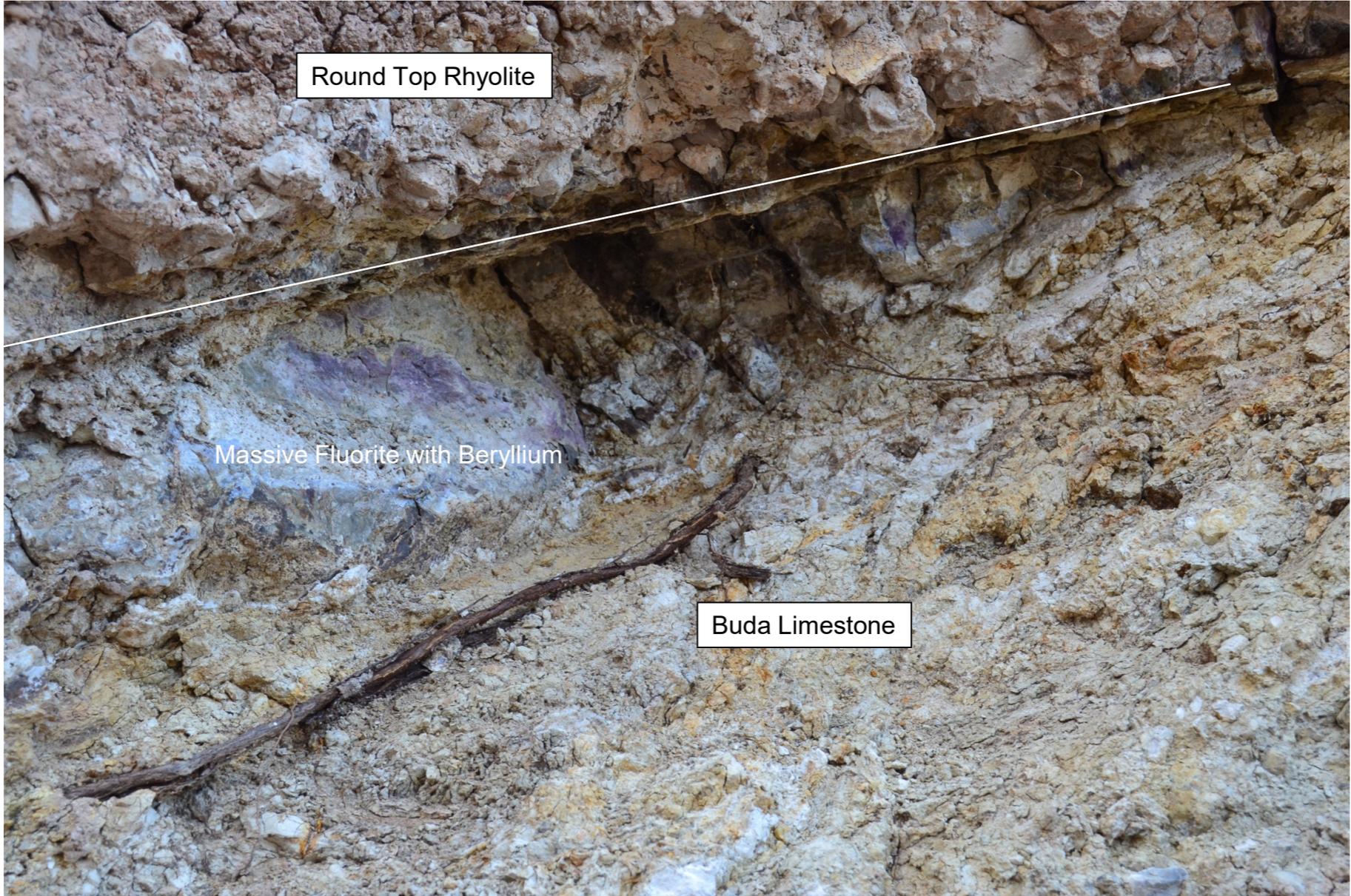
# Geology and topography at the time of Intrusion of the Round Top Rhyolite



# Geology and topography of Round Top today



In the 1970's initial exploration was begun in the district focused on fluorite replacement ore bodies developed at the basal contact of the rhyolite. It was during this phase of work that it was discovered that the fluorite deposits contained significant beryllium values.



Round Top Rhyolite

Massive Fluorite with Beryllium

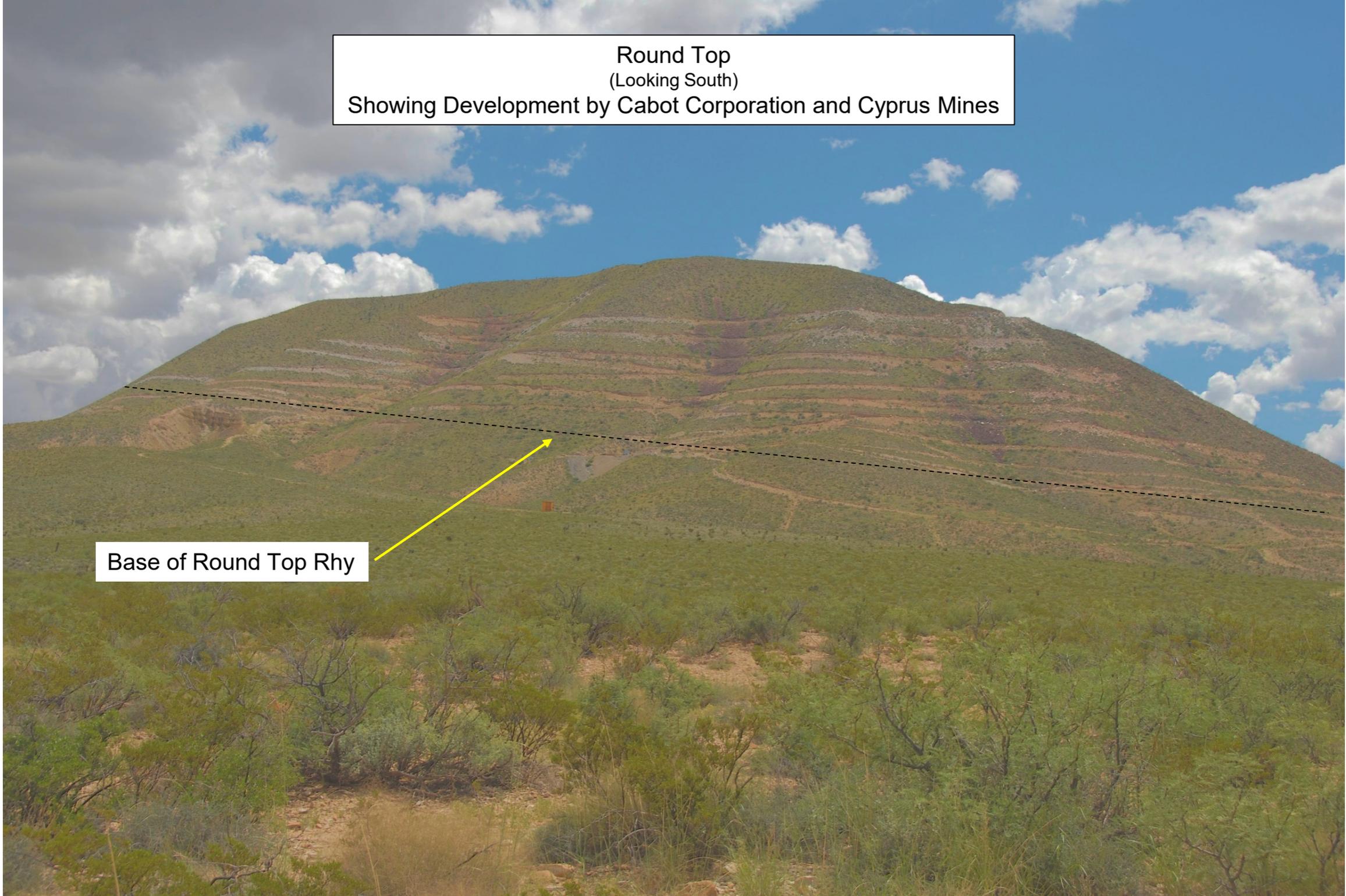
Buda Limestone

In the early 1980's Cabot Corp. had a beryllium fabricating division. They were conducting an extensive exploration program to locate their own source of beryllium. By 1986 they had been successful in defining several large and high grade beryllium resources in the Sierra Blanca district. However, in 1986 they sold their beryllium business to NGK and farmed out the property and project to Cyprus Mines. Cyprus continued the project with the same staff and ultimately produced a feasibility study in 1988. For various reasons they never opted to develop the property and in time let it go back to the underlying owner, the Texas GLO.

During the course of this project the Texas Bureau of Economic Geology made a detailed study of the beryllium deposits and of the rhyolite that overlies the replacement Be deposits. Their extensive and very well done study demonstrated that the rhyolite was very high in a number of potentially valuable elements such as REE, Li, Nb, Ta, and U.

At that time none of these various elements had a viable market and the Round Top rhyolite got filed under the category of a "geologic curiosity".

Round Top  
(Looking South)  
Showing Development by Cabot Corporation and Cyprus Mines



Base of Round Top Rhy

The Rare Earth “wake up” call came in late 2010 when a Japanese Coast Guard vessel collided with a Chinese fishing boat. During the “saber rattling”, which followed, the Chinese cut off REE export to Japan. Chaos within the REE sector followed with prices spiking to more than ten times the 2010 level by late 2011. The Chinese, probably completely taken by surprise by the furor they had caused, took steps to mitigate the situation but for a period of approximately two years were not able to completely regain control of the REE market. The lesson, however, cannot be unlearned. If the Chinese once took such drastic steps they can again.

This Rare Earth “crisis” resulted in a very high interest among junior mining companies and by the end of 2010 there were literally “hundreds” of REE projects being proposed.

The dramatic increase of REE prices and high market interest led to the re-evaluation of the Round Top deposit as a large bulk mineable deposit.

In 2011 and 2012 an extensive drilling program was conducted which resulted in the development of approximately 1 billion metric tonnes of uniformly mineralized rhyolite. If a cost-effective method of extracting the REE from the rock could be developed the deposit would have the potential to become a large and profitable REE producer.

ROUND TOP

# 2011-2012 Drilling

(during 2011 drill program)

Drill Rigs



Metallurgical testing done at Resource Development Inc. at their Denver facility demonstrated that high recoveries of REE and many other elements including lithium could be obtained by leaching the rhyolite with dilute sulfuric acid.

## ROUND TOP

Close up of  
crushed  
Round Top  
ore ready  
for leaching

Handle of Finn  
hoe is appx. 3'



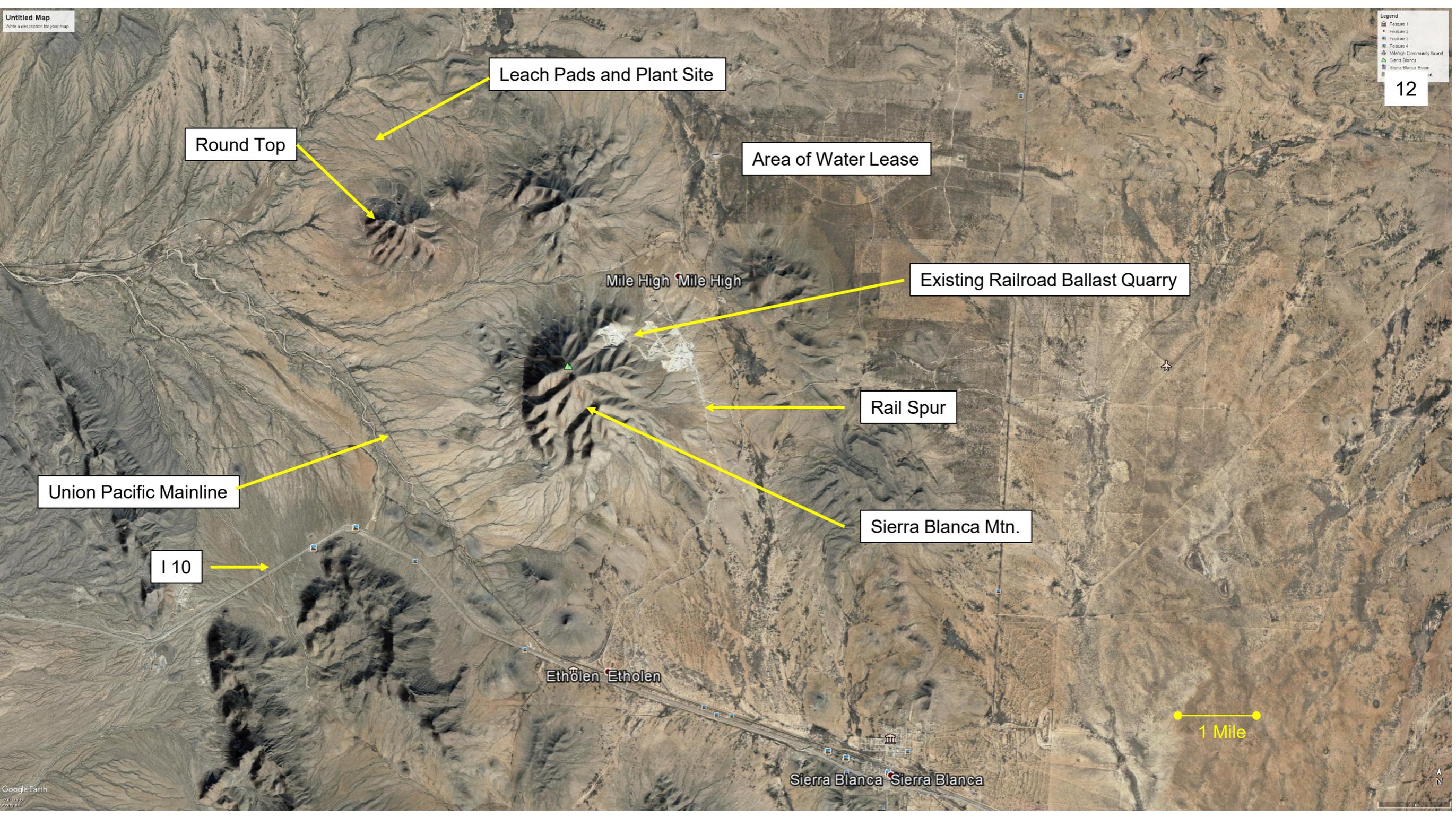
ROUND TOP

# Trial Mining

Another positive feature of the deposit is that the mining is straightforward with no with no stripping.



The location and infrastructure are near ideal. The following slide is an aerial image showing these features.



Leach Pads and Plant Site

Round Top

Area of Water Lease

Existing Railroad Ballast Quarry

Rail Spur

Sierra Blanca Mtn.

Union Pacific Mainline

I 10

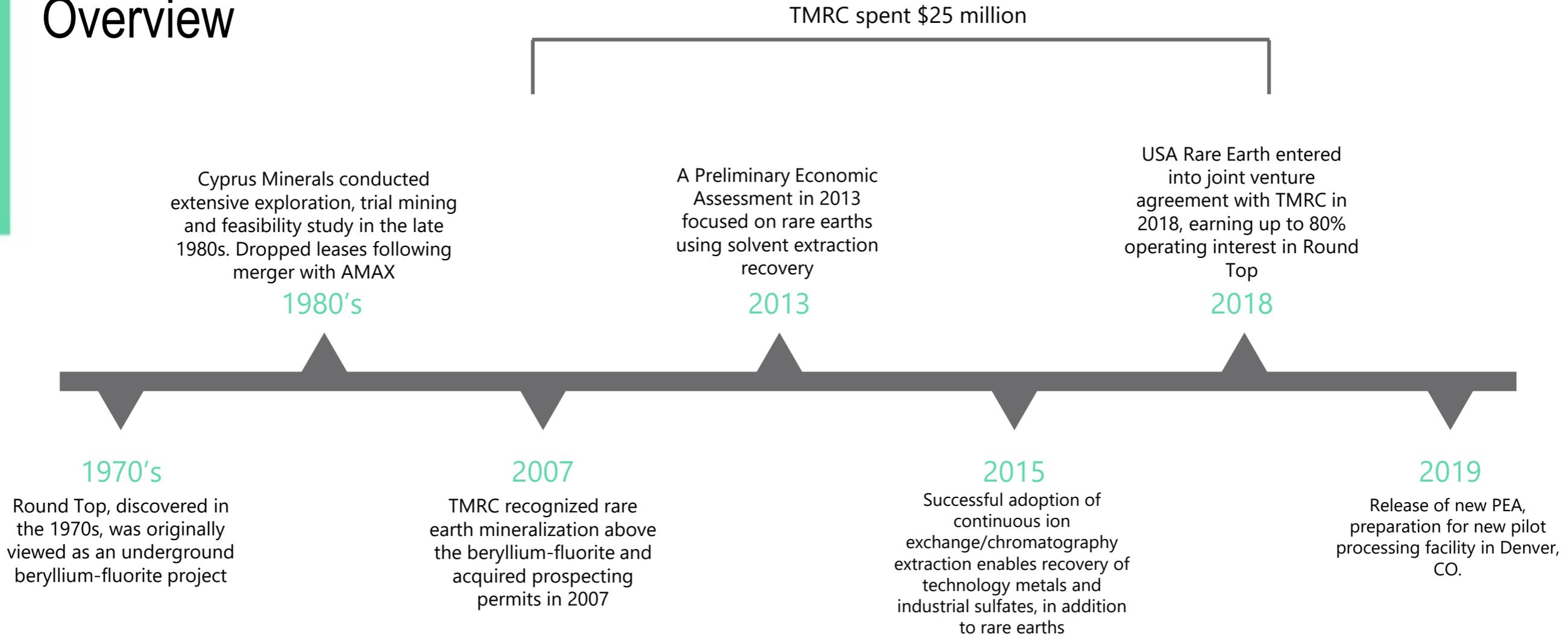
Mile High Mile High

Ethölen Etholen

Sierra Blanca Sierra Blanca

1 Mile

# Historical Overview



# Light at the End of the Tunnel

- ✓ The strategic importance of REE is now a high Governmental concern
- ✓ The expected increased use of EV's and hybrid electric vehicles is projected to increase the demand for both REE and Lithium
- ✓ New applications for the heavy REE are being developed
- ✓ The wide variety of by product elements recovered insures robust economics of the operation
- ✓ USA Rare Earth is well financed and staffed



# Important Information

## Forward Looking Statements, Disclaimer and Terms of Use

This presentation contains certain "forward-looking statements". All statements, other than statements of historical fact, that address activities, events or developments that USA Rare Earth, LLC ("USA Rare Earth" or the "Company") believes, expects or anticipates will or may occur in the future are forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "believe", "plan", "estimate", "target", "expect", and "intend" and statements that an event or result "may", "will", "can", "should", "could", or "might" occur or be achieved and other similar expressions. These forward-looking statements reflect the current internal projections, expectations or beliefs of USA Rare Earth based on information currently available to USA Rare Earth.

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This presentation uses certain terms such as "measured," "indicated," or "inferred" mineral resources, which are defined in Canadian Institute of Metallurgy guidelines, the guidelines widely followed to comply with Canadian National Instrument 43-101-- Standards of Disclosure for Mineral Projects ("**NI 43-101**").

We advise U.S. investors that these terms are not recognized by the United States Securities and Exchange Commission (the "SEC"). The estimation of measured and indicated resources involves greater uncertainty as to their existence and economic feasibility than the estimation of proven and probable reserves under the SEC's disclosure rules. Under U.S. standards, mineralization may not be classified as a "reserve" unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. Mineral resources that are not mineral reserves do not have demonstrated economic viability. U.S. investors are cautioned not to assume that measured or indicated mineral resources will be converted into reserves. Inferred mineral resources have a high degree of uncertainty as to their existence and their economic and legal feasibility. It cannot be assumed that all or any part of an inferred mineral resource exists, or is economically or legally viable. Under Canadian rules, estimates of "inferred mineral resources" may not form the basis of feasibility studies, pre-feasibility studies or other economic studies, except in prescribed cases, such as in a preliminary economic assessment under certain circumstances. Disclosure of "contained metal" in a resource is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report mineralization that does not constitute "reserves" by SEC standards as in place tonnage and grade without reference to contained units.



# Overview

## USA Rare Earth

### Formed to develop Round Top Mtn Project in West Texas

- Privately-held Delaware LLC
- Earning 80% Interest in Round Top from Texas Minerals Resources Corp
- TMRC invested \$25 million into project between 2007 and 2018
- USA Rare Earth focused on two stage development:
  - Stage I: Pilot plant, feasibility study, permitting – 18-24 months
  - Stage II: Construction – \$367 million, including working capital, 12 months

## Round Top

### Significant, low cost, long life Critical Minerals project

- Located on state land with extensive infrastructure support
- Diversified resource base, including unique endowment of heavy rare earths
- Conventional mine – open cut hillside mine, minimal waste rock, downhill haul
- Established processing – acid leach extraction, continuous ion exchange separation
- Round Top could stimulate advanced technology manufacturing in the US



# Overview continued

## Rare Earth Independence

### Foundation of U.S. Defense and Technological Infrastructure <sup>1</sup>

- China currently dominates the global rare earth market
- ~50% of all U.S. imports (\$1.4 trillion a year) contain rare earths
- Round Top contains all the rare earths needed for REO magnets
- USA Rare Earth has 15 of the 17 rare earths – including 10 of 11 heavy rare earths
- USA Rare Earth establishing heavy rare earth separation facility in Colorado

## Robust Base Case Economics<sup>3</sup>

**NPV<sub>10</sub> = \$1.56 billion, IRR = 70%**

- Annual revenue – \$396 million, net of 6.25% Texas royalty
- Annual EBITDA – \$282 million (71% EBITDA margin)
- Payback – under 18 months
- Upside case economics includes:
  - increased recovery
  - additional markets

<sup>1</sup> Assessing and Strengthening the Manufacturing and Defense Industrial Base and Supply Chain Resiliency of the United States: September 2018.

<sup>2</sup> Defined in FY2019 National Defense Authorization Act

<sup>3</sup> Preliminary Economic Assessment, July 2019 prepared by Gustavson Associates States: September 2019.



# U.S. Government Focus on Critical Minerals

Rare Earths  
Lithium  
Beryllium  
Scandium  
Uranium  
Cesium  
Gallium

Hafnium  
Magnesium  
Manganese  
Rubidium  
Strontium  
Zirconium

**FEDERAL REGISTER**  
The Daily Journal of the United States Government



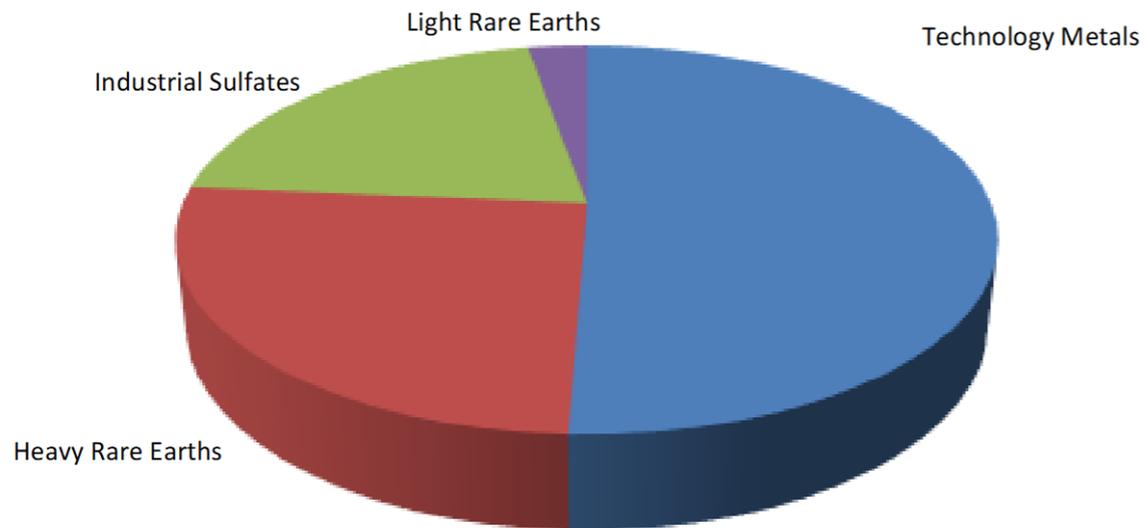
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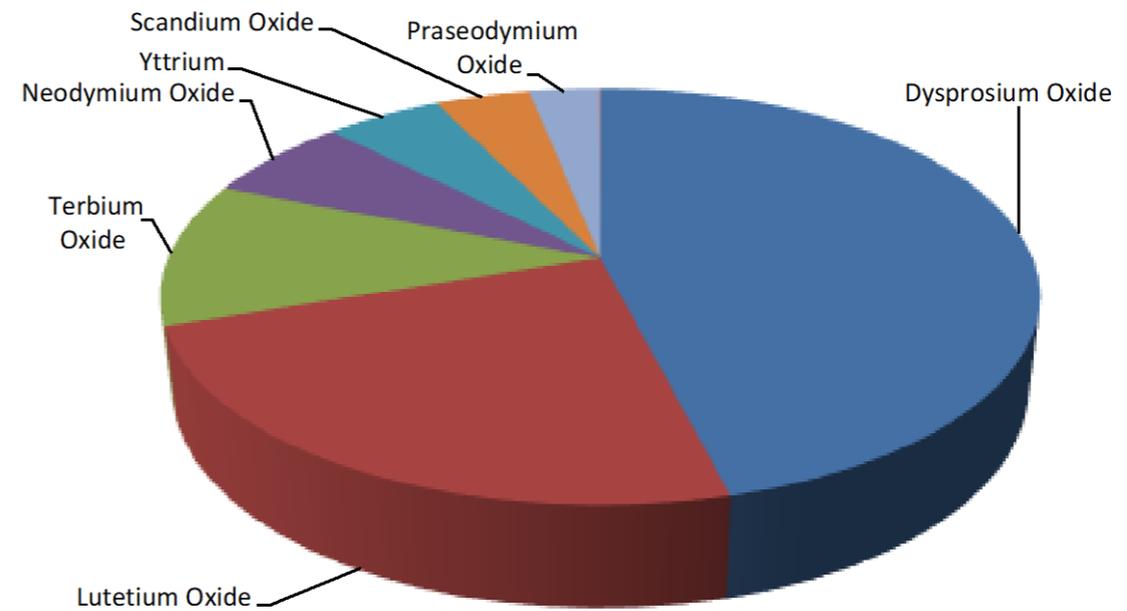
# Uniquely Diversified

- ✓ 13 of the 35 Critical Minerals
- ✓ 15 of the 17 rare earths – including dysprosium, neodymium, praseodymium
- ✓ Lithium, hafnium, etc.

**Distribution of Revenues**  
(by material)



**Rare Earths**



# Supporting New Industries

- ✓ Potential to Create New, Integrated Domestic U.S. Industries:
  - lithium batteries
  - permanent magnets
  - related industries

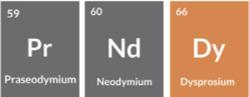


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# Rare Earths are Essential in Advanced Technologies



WIND TURBINES



MV: \$44.75bn  
8.34% CAGR (year)  
REE Quantity: 132kg per MW



MAGNETS



MV: \$19.25bn  
8.5% CAGR  
REE Quantity: 0.6kg to power 100kW motor



ELECTRIC VEHICLES



MV: \$119m  
22.3% CAGR  
REE Quantity: 15kg



MILITARY & DEFENSE



MV: \$872bn  
1.7% CAGR  
REE Quantity: 417kg - 4.1t

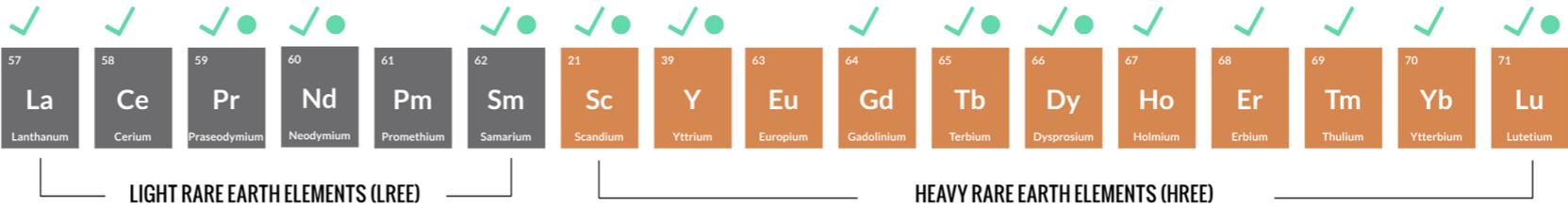


SMARTPHONES



MV: \$478.7bn  
7.9% CAGR  
REE Quantity: 0.25g

## CLASSIFICATION



✓ CONTAINED AT ROUND TOP

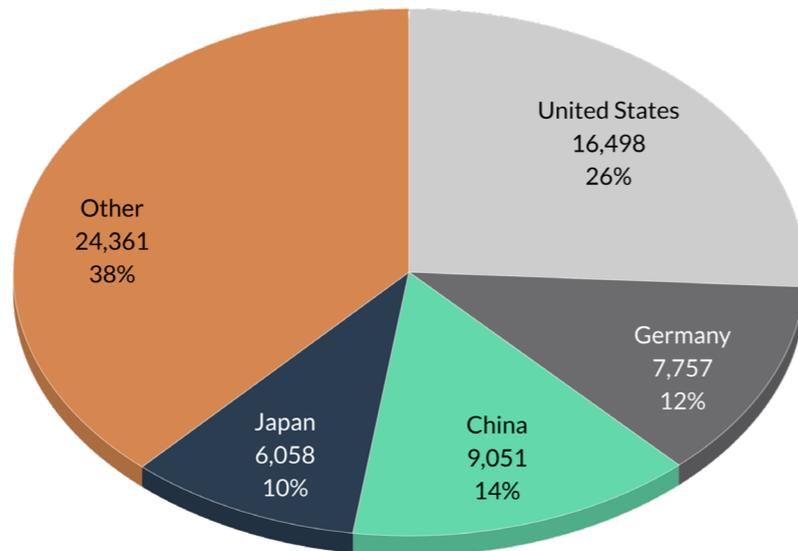
● INCLUDED IN ROUND TOP'S ECONOMIC VALUATION



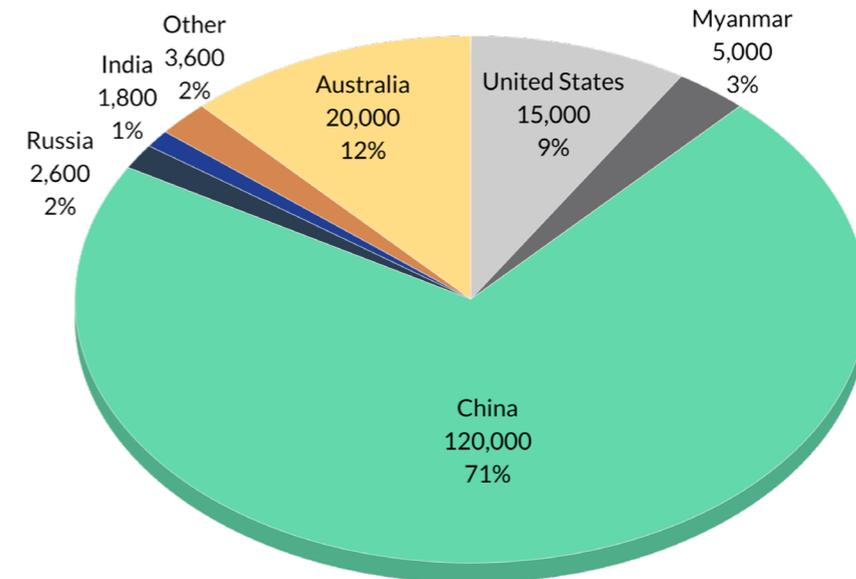
## Currently Dependent on Chinese Production

- ✓ U.S. is the largest importer of rare earths and is 100% dependent on China and other countries for many Critical Minerals
- ✓ China controls 70% of Rare Earth production
- ✓ China controls 100% of heavy rare earth separation

**Rare Earth Imports (Tonnes)  
2018-2019**



**Rare Earth Production (Tonnes)  
2018-2019**



## Creating a 100% Domestic U.S. Supply Chain

- ✓ Historically, America's resource endowment has been a critical part of its economic strength
- ✓ USA Rare Earth's new facility in Wheat Ridge, CO will be the first to produce high-purity rare heavy earths outside China

- **Round Top's unique diversity of minerals provides stability and resilience**

- Disruptive market activity in one mineral will not stop Round Top given the diversification of contained minerals
- In addition to rare earths, Round Top will be the 2<sup>nd</sup> largest lithium producer in the U.S.

- **Australia and Canada have no downstream rare earth processing capability**

- Australia is currently dependent on China and Malaysia to process rare earths
- Arafura will send concentrate and intermediate product to the Wheat Ridge facility



## ROUND TOP

# Government Support for Round Top Rare Earths

## White House, September 2018

*"Rare earths are critical elements used across many of the major weapons systems the U.S. relies on for national security, including lasers, radar, sonar, night vision systems, missile guidance, jet engines, and even alloys for armored vehicles. A 2016 study by the Department of Commerce's Bureau of Industry and Security reported that 66% of respondents, the majority of whom are vendors to DoD, indicated they imported rare earth or related materials.*

*"China has strategically flooded the global market with rare earths at subsidized prices, driven out competitors, and deterred new market entrants. When China needs to flex its soft power muscles by embargoing rare earths, it does not hesitate, as Japan learned in a 2010 maritime dispute."*



Defense Logistics Agency  
Contract Branch of Department  
of Defense Produced rare earth  
oxides to 99.999% purity at  
bench scale from Round Top.



Department of Energy Contract  
Team including Penn State  
University and Inventure  
Renewables awarded contract  
to extract rare earths  
Produced highly purified rare  
earth oxides from Round Top

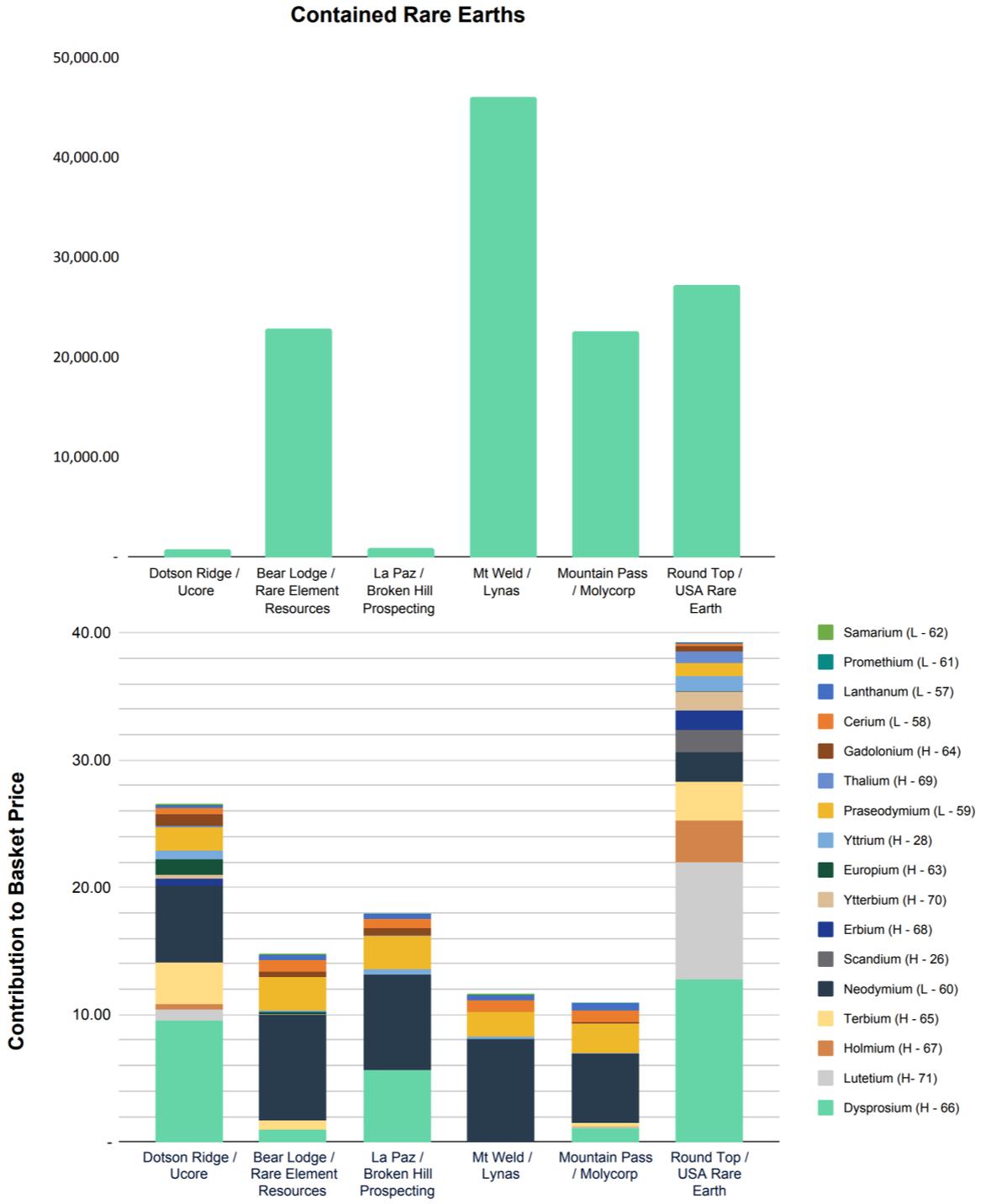


White House Council on  
Environmental Quality  
Governor of Texas  
recommended Round Top to  
the Federal Permitting  
Improvement Steering Council  
(FPISC) as a "High Priority  
Infrastructure Project"



ROUND TOP

Large Resource,  
Highest Basket  
Price, Weighted to  
Magnet Metals



Light rare earths are approximately 18 times more abundant than heavy rare earths.<sup>1</sup> Yttrium makes up more than 60%<sup>2</sup> of heavy rare earths.



Heavy rare earths are generally higher priced than light rare earths (~\$100s v ~\$10s per kg).

<sup>1</sup>Global Potential of Rare Earth Resources and Rare Earth Demand from Clean Technologies, University of Science and Technology Beijing, October 2017



## ROUND TOP

Rare Earth Elements										
Symbol	Rare Earth Element	Heavy / Light	Atomic Number	Contained at Round Top	Included in Economic Evaluation	Price (\$/kg)	Average Annual Production (kg)	M&I Resources 364 million tonnes REO Grade (g/t) Value (\$/t)		Selected Uses
La	Lanthanum	Light	57	☐		1.89	130,000	23.2	0.03	Batteries, Petrochemical industry
Ce	Cerium	Light	58	☐		1.91	535,000	95.1	0.14	Autocatalysts, glass polishing
Pr	Praseodymium	Light	59	☐	☐	54.50	67,100	12.0	0.50	High power magnets, yellow pigments
Nd	Neodymium	Light	60	☐	☐	44.00	180,400	32.5	1.09	Magnets, Laser Range-Finders, Guidance Systems, Communications
Pm	Promethium	Light	61							
Sm	Samarium	Light	62	☐	☐	1.83	65,900	11.7	0.02	Optical Lasers, Infrared-Absorbing Glass, Nuclear Reactors
Eu	Europium	Heavy	63							
Gd	Gadolinium	Heavy	64	☐		25.18	65,000	11.6	0.22	High power magnets, MRIs
Tb	Terbium	Heavy	65	☐	☐	575.50	23,500	4.0	1.85	High-Temperature Magnets, X-Rays, Lasers
Dy	Dysprosium	Heavy	66	☐	☐	270.50	205,600	34.8	7.62	High power, high temperature magnets, lasers
Ho	Holmium	Heavy	67	☐		50.39	51,000	9.0	0.35	High power magnets
Er	Erbium	Heavy	68	☐		24.23	212,000	37.8	0.70	Lasers, specialty glass
Tm	Thulium	Heavy	69	☐		55.00	46,000	8.1	0.35	Ceramic magnets
Yb	Ytterbium	Heavy	70	☐		15.69	368,000	65.4	0.79	Fiber optics, solar panels
Lu	Lutetium	Heavy	71	☐	☐	618.63	46,500	10.0	3.94	Petrochemical Industry, PET Scan Equipment, Cancer Treatment
Sc	Scandium	Heavy	26	☐	☐	1,040.76	4,900	1.0	0.70	PET Scan Equipment
Y	Yttrium	Heavy	28	☐	☐	3.60	1,719,000	271.7	0.85	Computer Monitors, Phone Screens, Camera Lenses, Energy-Efficient Lighting, Lasers



ROUND TOP

# Lithium - Driven by Electric Vehicles, Dominated by China

- ✓ China has secured a controlling position in lithium production in Chile, Australia and Argentina
- ✓ China dominates supply of both lithium materials and lithium chemicals
- ✓ Demand being driven by rechargeable batteries, in turn being driven by electric vehicles (EV's)

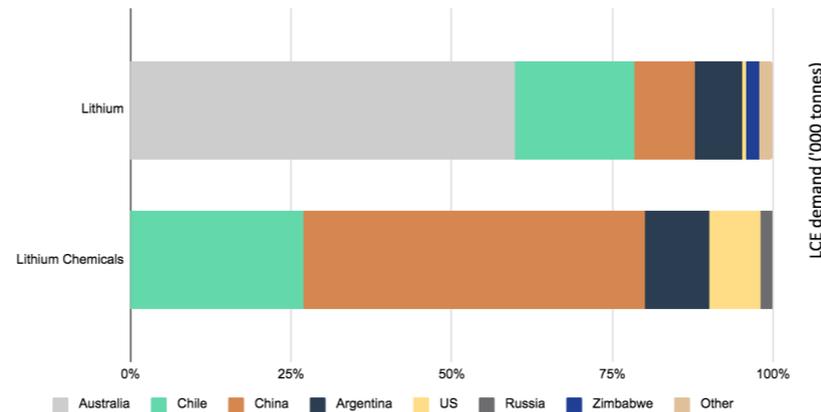
**Overseas Assets of Chinese Lithium Companies**  
(Showing % Stakes, Where Not Wholly Owned)



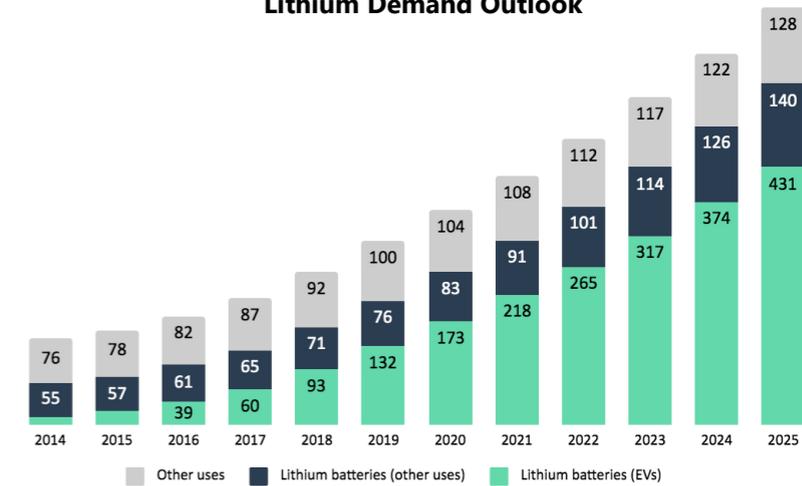
- 1 Planned Bacanora Minerals, Lithium Mine (30%)
- 2 Salar de Atacama, SQM (24%)
- 3 Planned Cauchari-Olaroz Lithium Brine Project (50%)
- 4 Mariana Lithium Brine Project (83%)
- 5 Avanzonia Lithium Project (55%)
- 6 Pilbara Minerals/Pilganoora Lithium/Tantalum Project (9%)
- 7 Planned Kwinana Lithium Hydroxide Plant
- 8 Greenbushes Lithium Mine (51%)
- 9 Mt Marion Lithium Project (50%)

● Ganfeng Lithium  
● Tianqi Lithium

**US Falls Short in Terms of Lithium and Lithium Chemical Production Compared to Other Regions**



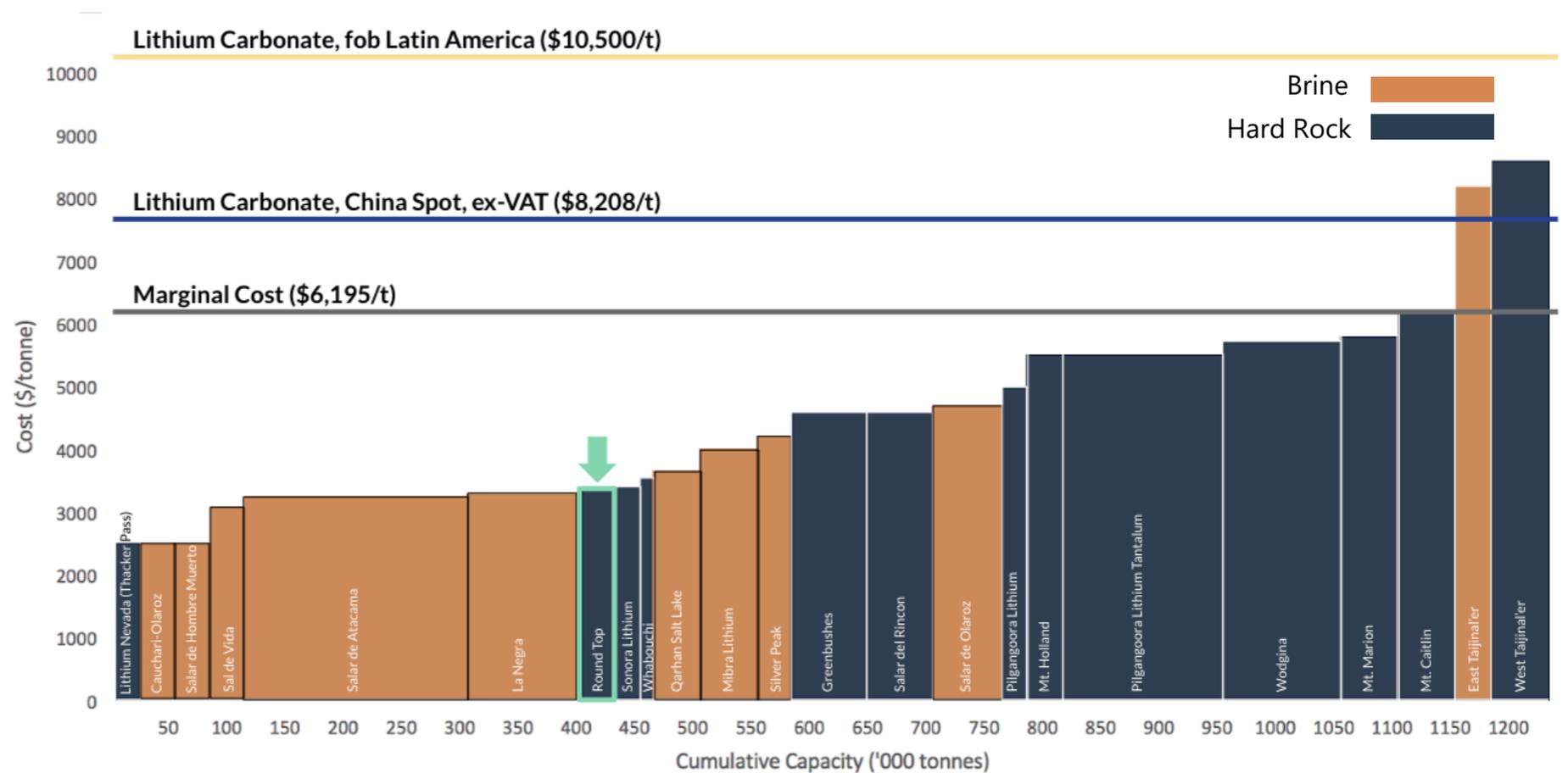
**Lithium Demand Outlook**



## Lithium Carbonate Industry Cost Curve Including Royalties

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Low Cost,  
Domestic U.S.  
Lithium  
Production



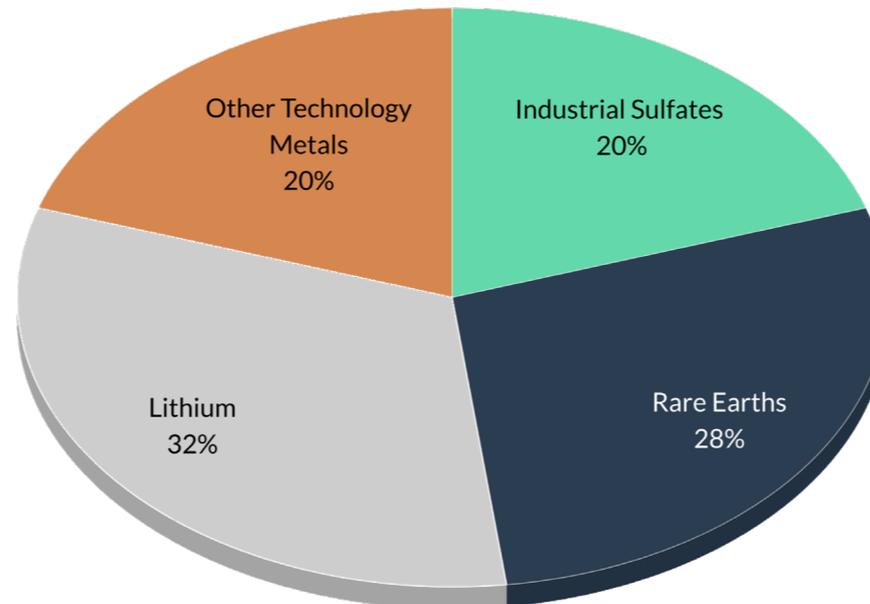
- Lithium is the most important single product for Round Top, representing 32% of revenues projected in the PEA
- The PEA projects annual production of approximately 10,000 tonnes of lithium carbonate (current US production = 5,000 tpa)
  - Continuing test work indicates higher lithium recovery – potential for 13,500 tonnes of lithium a year operating at 20,000 tpd
  - Expansion to 25,000 tpd could increase production to more than 15,000 tonnes per annum
- Average co-product<sup>1</sup> production cost of \$3,410/t
  - Higher recovery / operating rate could lower cash costs to less than \$3,000/t
- Projected to be one of the **lowest cost producers** in the world and the 2nd lowest cost producer in the USA



## Other Key Minerals

- ✓ Rare earths and lithium = 61% of projected revenues
- ✓ Other technology metals and industrial sulfates = 39% of projected revenues
- ✓ Significant upside from potential to increase recoveries

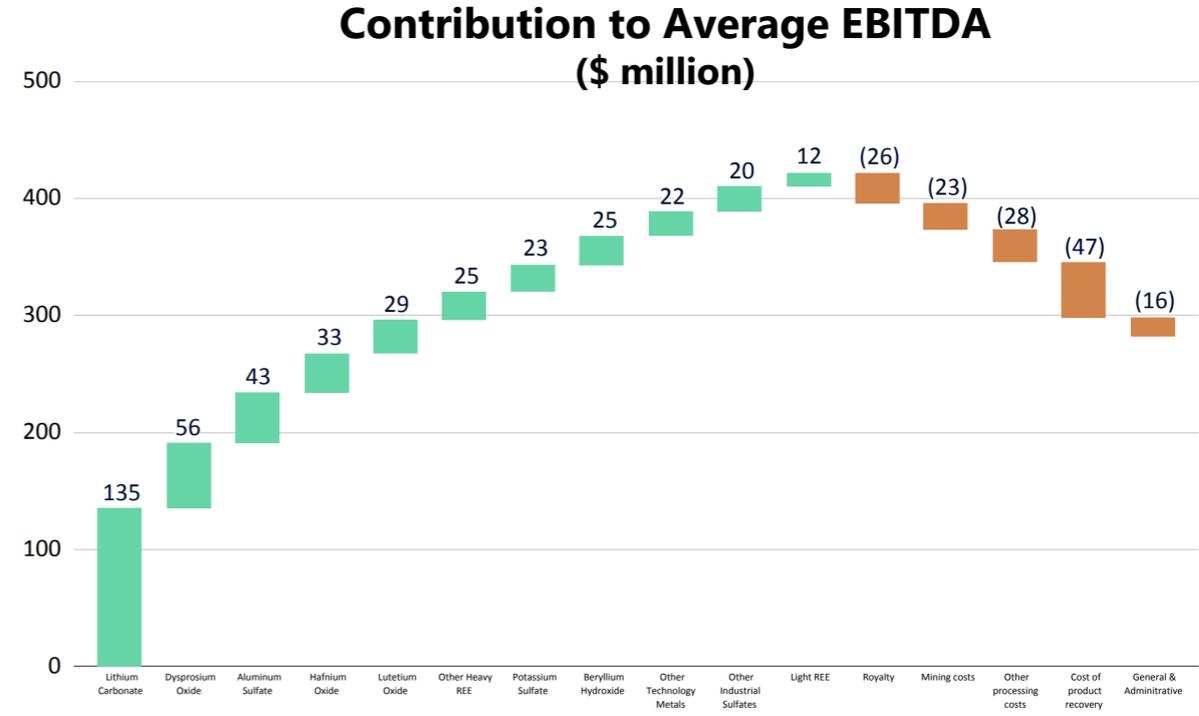
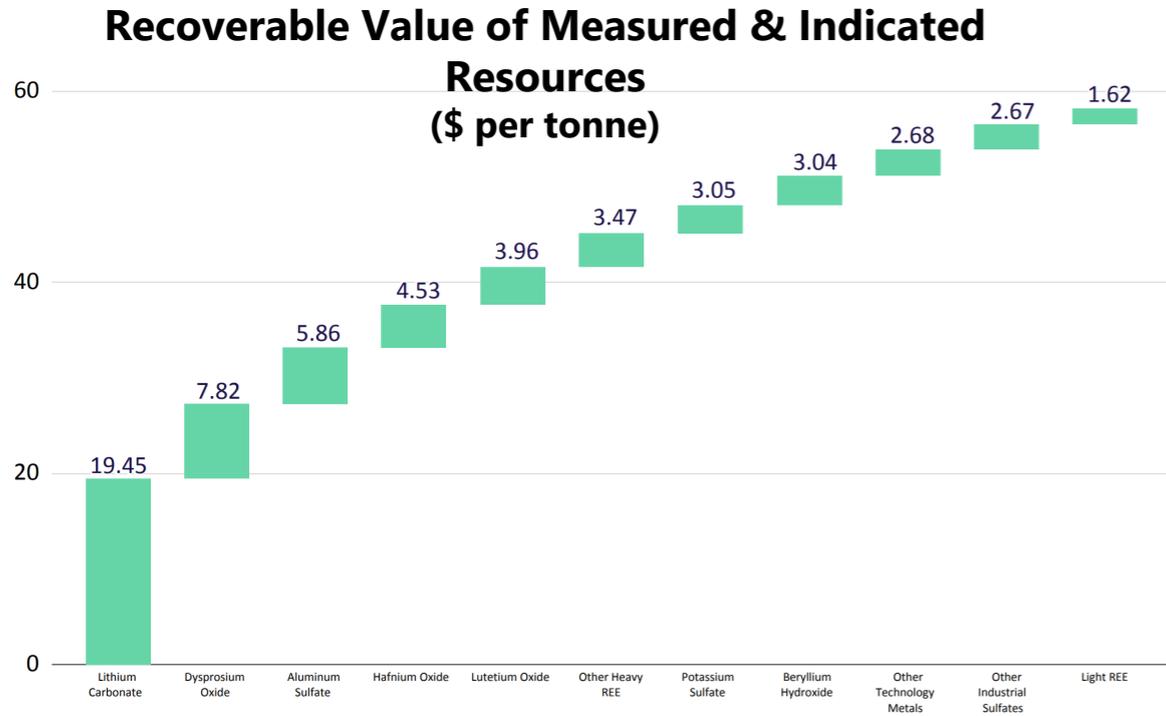
**Contribution to Revenues**



ROUND TOP

# Robust Economics, Highly Diversified

- ✓ **\$21.2 billion** – recoverable value of 364 million tonnes of measured & indicated resources (\$58.13 per tonne)
- ✓ **\$8.4 billion** – recoverable value of 146 million tonnes initial mine plan (\$57.81 per tonne)
- ✓ **\$422 million** – annual average gross revenue (before 6.25% Texas state royalty)
- ✓ **\$282 million** – annual average EBITDA (\$38.60 per tonne)



# 2019 Preliminary Economic Assessment

## **The 2019 PEA expands and updates the December 2013 report:**

- Both prepared by Gustavson Associates, a leading mining engineering, exploration and consulting firm
- 2019 report incorporates commercial recovery of lithium, other technology metals and industrial sulfates in addition to rare earths
- 2019 report proposes continuous ion exchange (CIX) and continuous ion chromatography (CIC) to separate rare earths

## **Incorporates improved process technology that recovers technology metals and industrial sulfates as well as rare earths:**

- Initial 20-year mine life at 20,000 tonnes per day – 13% of total measured, indicated and inferred resource
- Mineral processing at site using CIX/CIC to produce high purity rare earth oxides
- 2,300 tonnes per annum of combined rare earth oxides with an average price of \$52.25/kg
- 10,000 tonnes per annum lithium carbonate – upgradable to lithium hydroxide

## **Upside Potential beyond PEA:**

- Test work has achieved significantly higher lithium recovery (80% v 58% in the PEA)
- Plant may be able to support processing 25,000 tonnes per day (20,000 tpd in the PEA)
- 364 million tonnes measured & indicated resources could support expansion
- There may be markets for other Round Top rare earths that were not included from the PEA.



# Round Top Base Case Economics

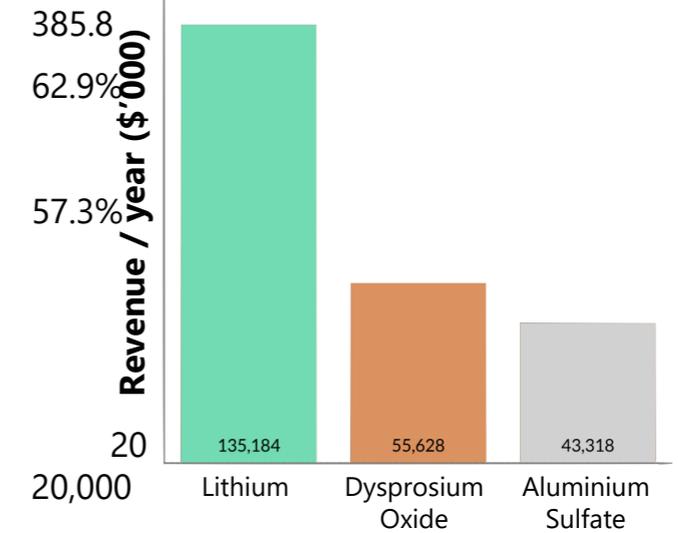
## Key Statistics

Average gross revenue	\$ millions / year	422.0
Average EBITDA	\$ millions / year	281.7
EBITDA margin	%	66.8%
Average free cash flow (after tax)	\$ millions / year	217.9
Payback	months	18
Maximum funding requirement	\$ millions	
Before Tax IRR <sup>1</sup>	%	
NPV @ 10.0% <sup>1</sup>	\$ millions	1,837.1
After Tax IRR	%	
NPV @ 10.0%	\$ millions	1,487.9

## Production

Life of mine	years
Average processing rate	tonnes / day

**Top 3 Revenue Products**



1 IRR and NPV include 90-day processing/marketing not included in PEA



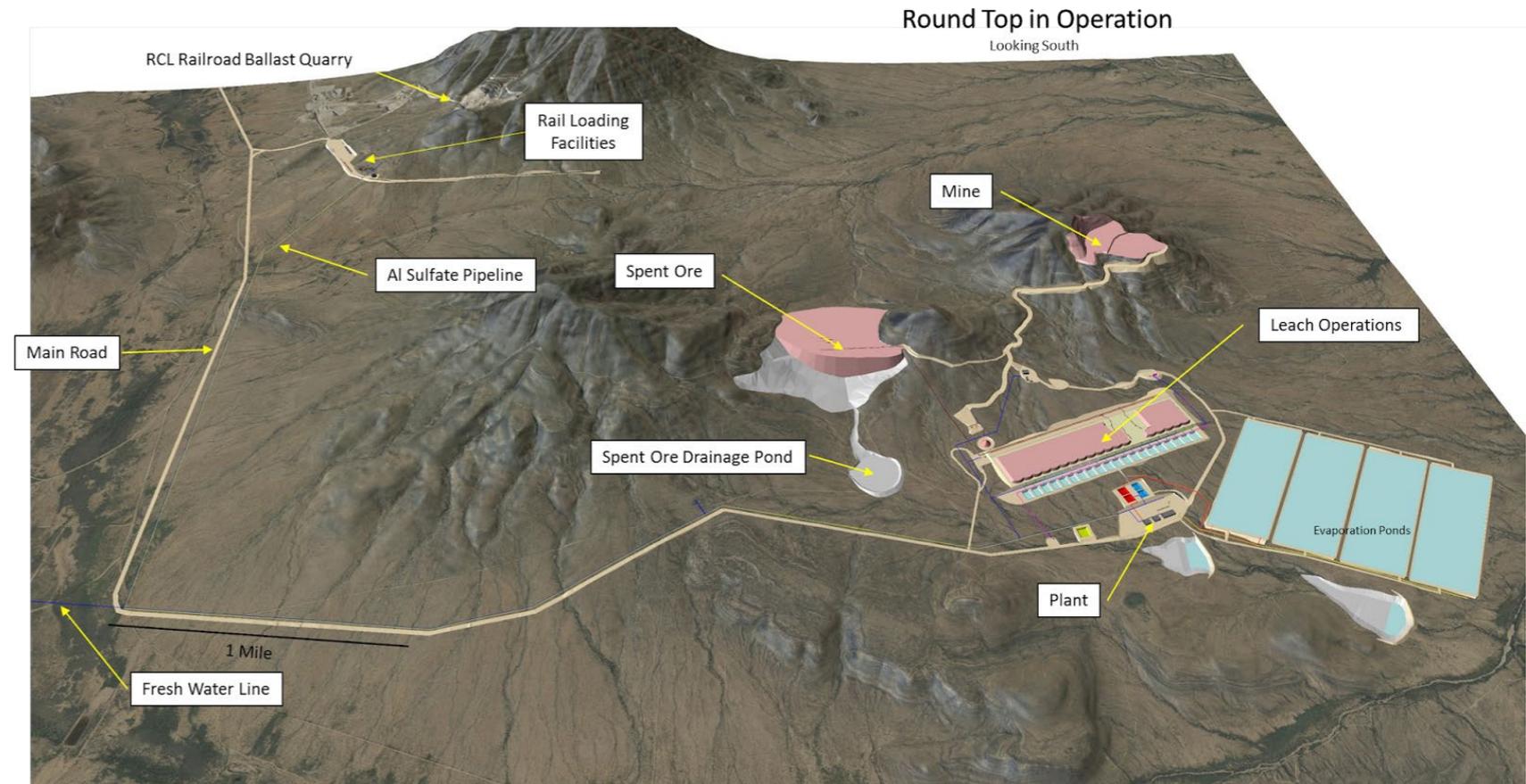
## ROUND TOP

# Mining & Processing



## Simple Mining

- Hillside open cut with minimal waste and downhill haul
- Moderate mining rate – 20,000 tonnes per day



## Conventional Processing

- Crushing
- Acid leach
- Continuous ion exchange/chromatography separation



# Pilot Plant Objectives & Scope

- ✓ First domestic U.S. plant to produce high-purity rare earth oxides
  - ✓ First phase in Denver, CO in early 2020
  - ✓ Second phase relocated to Round Top site incorporating continuous feed from test heap
  - ✓ leach
- Will provide product samples to potential customers

## Background

- Heap leach using dilute sulfuric acid,
- Continuous ion exchange / ion chromatography
  - Natural process occurs in soil fertilization,
  - Batch processing developed in the Manhattan Project in the 1940s using rare earths as surrogates,
  - Continuous process developed in 1980, widely used in water purification, fertilizers, and metallurgical processes.

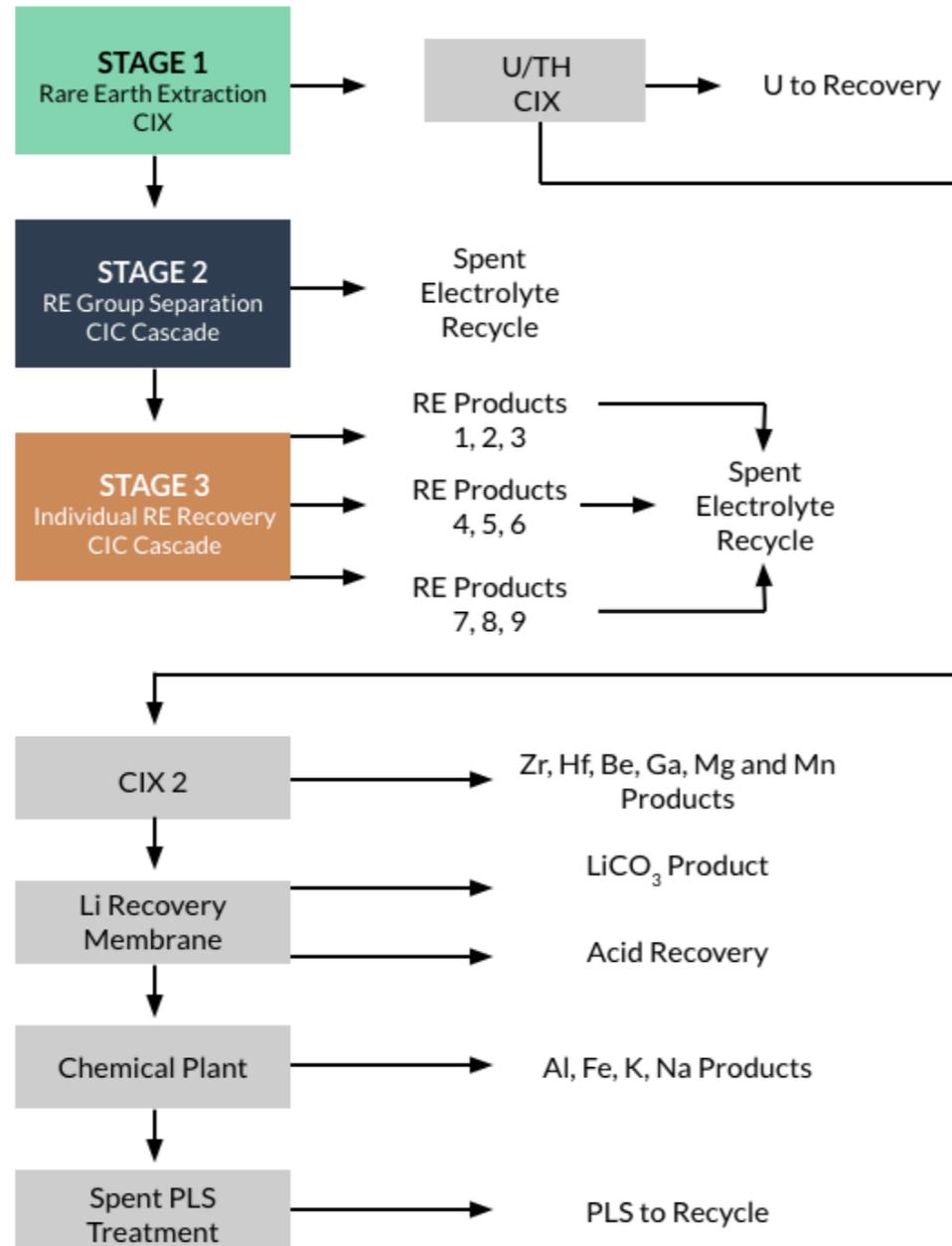
## Pilot Plant Objectives

- Optimize leach operating parameters,
- Optimize extraction and separation of high-purity rare earths, technology metals and industrial sulfates,
- Provide data for feasibility studies and detailed engineering,
- Provides support for final permits.



ROUND TOP

# Leaching & Metallurgical Process



## ○ Rare Earth and Lithium minerals dissolved by dilute sulfuric acid

- Round Top mineralization is hosted in yttrifluorite and yttrocerite, both of which are highly soluble in dilute sulfuric acid. The minerals are finely disseminated throughout the porous and permeable rhyolite.
- Round Top rhyolite does not breakdown because there is no clay.
- Leach columns slumped by less than 0.2% during testing and crushing produces little fine material so there should be minimal plugging and channeling.

## ○ Continuous Ion Exchange/Chromatography

- Long, well-established track record.
- Flexibility in targeting specific Rare Earths.
- Uses commercially available resins.
- Low capital and operating cost.
- Permitting process could be streamlined.



ROUND TOP

# Path to Implementation (36 months)

### Definitive Feasibility Study

- Geotech & Hydrological Drilling
- Bench Test Work (Inventure)
- Pilot Plant - Denver
- Pilot Plant - Texas
- Preliminary Feasibility Study
- Definitive Feasibility Study

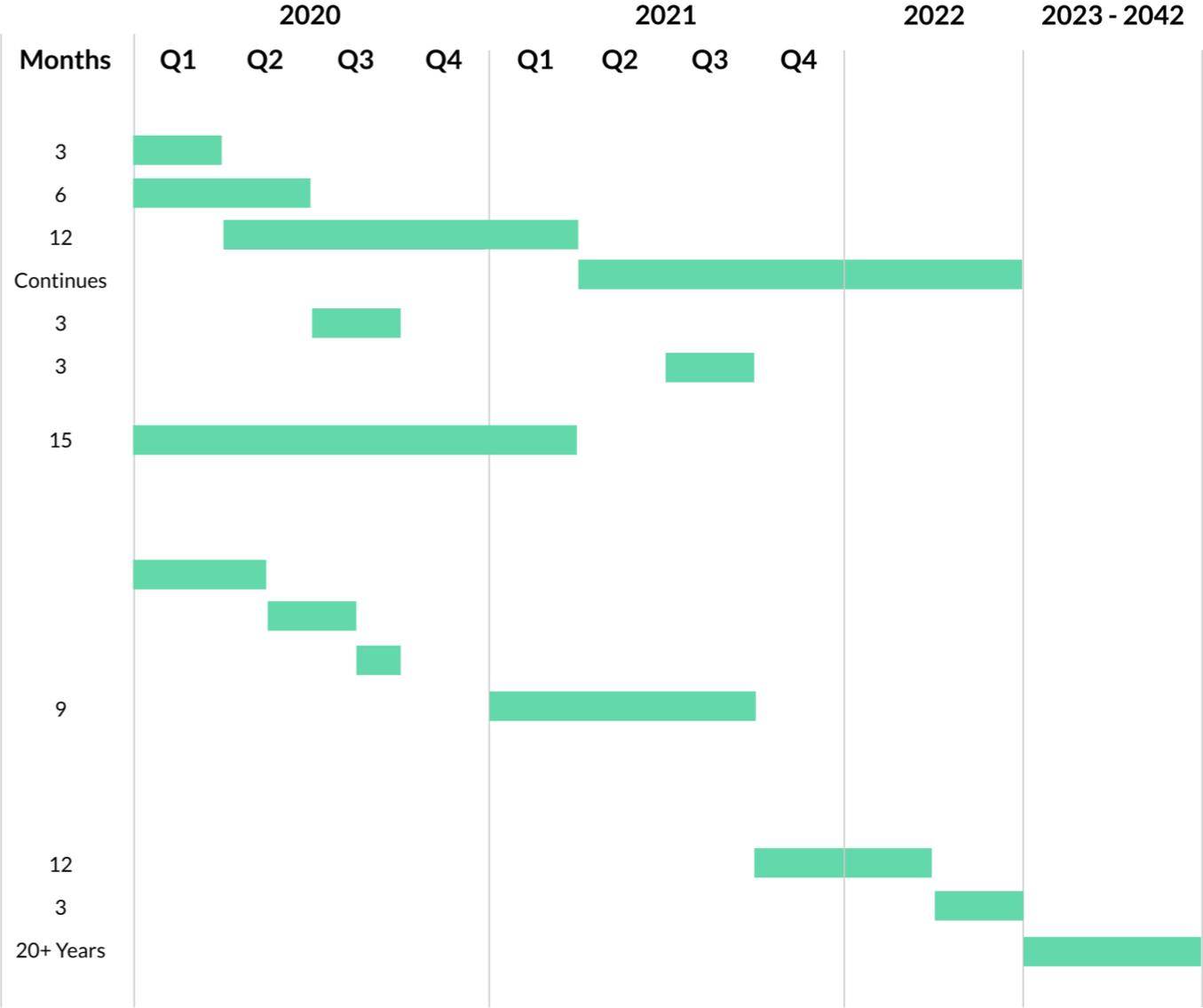
### Permitting

### Construction Contractors

- Preliminary Discussions
- Memorandum of Understanding
- Definitive Agreement
- Project Implementation Plan

### Construction

- Construction
- Commissioning
- Commercial Production



**Total Funding Requirement: \$398 million**



## ROUND TOP

# Permitting

- Round Top is on private and Texas GLO land
- Minimal waste rock and no tailings storage facility required
- After removal of metals and minerals, residual leach pads will be benign
- Governor of Texas recommended Round Top to the Federal Permitting Improvement Steering Council (FPISC) as a “High Priority Infrastructure Project”

Media	Permit	Agency	When Required
<b>Air</b>	New Source Review Permit to Construct	State TCEQ	Must be obtained prior to the start of construction.
	Title V Federal Operating Permit	US EPA	Application for permit must be filed prior start of operations
<b>Water</b>	Construction Storm Water General Permit	State TCEQ	In advance of commencement of construction
	Industrial Storm Water Multi- Sector General Permit (MSGP)	State TCEQ	Prior to start of operation
	Public Water System Authorization	State TCEQ	Approval must be obtained prior to use of non-municipal water as drinking water source
	Water Rights Permit	State TCEQ	Must be obtained prior to using surface water
<b>Operations</b>	Petroleum Storage	TCEQ	Prior to storage of petroleum products on site
	Explosives permit	US Bureau of Alcohol, Tobacco, Firearms, and Explosives	Required prior to storage and use of explosives
<b>Waste</b>	Hazardous or Industrial Waste Management, Waste Streams, and Waste Management Units Registration	State TCEQ	Registration number must be obtained prior to engaging in regulated activity
	EPA ID Number for Hazardous Waste Activity Hazardous Waste Permit	U.S. EPA through the State TCEQ	ID number must be obtained prior to engaging in regulated activity
	Hazardous Waste Permit (including financial assurance)	State TCEQ	Must be obtained prior to commencement of hazardous waste treatment, storage, or disposal activities.
	Radioactive Material License	State TCEQ	Must be obtained prior to possession of materials containing NORM waste, as defined by THSC 401.003(26)



# Management



## **Pini Althaus** *Chief Executive Officer*

As an Executive Officer in the Mining & Resource sector since 2002, Pini has successfully identified and acquired several significant mining projects in the United States, Canada, Australia, China and Latin America. His responsibilities have included executive duties, as well as operational ones. Including; fund-raising, liaising with Government officials, shareholder and investor, the implementation and upkeep of Social Economics Programs with the Indigenous groups in surrounding areas and compliance with securities regulations.



## **Dan Gorski** *Director of Operations*

Dan was responsible for securing the Round Top deposit from the Texas General Land Office, and has conducted work on the project since 2007, spending ~\$20m to drill it out and secure the publication of the 2013 PEA. He received an MA in Geology from the University of Texas, Austin, in 1970, and his storied career in the Mining Industry dates back to that time.



## **Dan McGroarty** *Head of Government & Regulatory Affairs*

An expert on critical minerals and well-known writer on geopolitics and resources. Dan has consulted to the Institute for Defense Analyses, which supports the Department of Defense's National Stockpile reporting and heads the non-partisan American Resources Policy Network. Prior to establishing his private sector advisory practice, Dan served as Special Assistant to the President and as presidential appointee to two Secretaries of Defense. He was one of three resource professionals interviewed in 60 Minutes' "Modern Life's Devices Under China's Grip," and has provided testimony on critical minerals issues in the U.S. Senate and House of Representatives.



## **Douglas Newby** *Chief Financial Officer*

Douglas has more than 35 years experience in mine evaluation, finance and corporate management. Most recently he was CFO of PolyMet Mining Corp., a Canadian company developing a large copper-nickel project in Minnesota, where he secured more than \$300 million in financing, established and maintained a strategic relationship with Glencore plc. He was responsible for maintaining compliance with securities regulations. He has extensive experience around the world including South America, Africa, Australasia, and Europe as well as the U.S. and Canada.



## **Mike Vaisey** *Chief Technology Advisor*

Mike is an experienced mining and chemical industry executive and Chemical Engineer, with 30 years operating and project development experience across mining and refining operations, project development, operational leadership, research and technology. He has occupied numerous positions with Lynas Corporation, including Chief Technology Officer, leading the technical development of the Mt Weld Rare Earths Project that reached full production rates in March 2017.

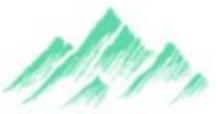


# Processing Partners

- ✓ USA Rare Earth is working closely with process technology partners
- ✓ Inventure Renewables – successfully recovered high-purity REOs from Round Top
- ✓ Fenix NZ Ltd. – successful application of CIX/CIC in commercial metallurgical applications
- ✓ Resource Development Inc. – leading international metallurgical firm

**Inventure** develops rapid, low-cost, high yield extraction processes for natural biochemical & material building blocks from low-value/waste biomass to provide cost-effective, carbon neutral biofuels, biochemicals and biomaterials.

**Fenix** is a leading results-oriented chemical engineering company, specializing in minerals processing and metal recovery by implementing the design, development, construction and installation of hydrometallurgical circuits.



- **Secure, Diversified, Domestic Supply Chain for Critical Minerals**
- **Robust Economics**
- **Potential to Spawn new Industries**

**USA** | Rare Earth