

# Rare Earth May Be China's Checkmate

October 10<sup>th</sup>, 2006

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Source: The Anchor House, Inc.

In 1992, Deng Xiaoping, then ruler of China, put the world on notice with the following statement:

“There is oil in the Middle East; there is rare earth in China.” What does this statement mean? We know that oil is crucial for modern civilization – this is no secret. Oil gets a lot of media attention, and it affects the consumer at the pump. Although there are other players, the Middle East clearly leads this sector with approximately 40% of the current world production total. We felt the power of Middle East domination and control during the 1970s with long gas lines, shortages and price hikes. OPEC, with varying degrees of success, tries to maintain price control in the marketplace today. Oil is clearly a strategic resource, and it is problematic that the Middle East controls so much of it – however, the situation with rare earth elements (REE) is far more dramatic and concerning. What does this statement mean? We know that oil is crucial for modern civilization – this is no secret. Oil gets a lot of media attention, and it affects the consumer at the pump. Although there are other players, the Middle East clearly leads this sector with approximately 40% of the current world production total. We felt the power of Middle East domination and control during the 1970s with long gas lines, shortages and price hikes. OPEC, with varying degrees of success, tries to maintain price control in the marketplace today. Oil is clearly a strategic resource, and it is problematic that the Middle East controls so much of it – however, the situation with rare earth elements (REE) is far more dramatic and concerning.

## What relevance do rare earth elements have in present society?

### Imagine your world without:

- iPod
- laptop computers
- TVs
- cell phones
- modern transportation

### Now picture the medical field without:

- magnetic resonance imaging (MRI)
- computed tomography (CT) scans
- contrast agents that enhance the images
- cell phones
- modern transportation

### The military requires rare earth in a significant way as it has become increasingly reliant on its widespread use:

- range detectors
- lasers
- advanced aircraft materials
- guided missiles
- smart bombs
- protective coatings
- blast protection

All of the above are dependent on REE. Rare earths are giving the research scientists, computer developers, and military commanders capabilities only dreamed of a few decades ago, and are proving to be an absolutely essential component in shaping modern and future technology.

Magnetic refrigeration, made possible by REE magnets, will soon allow for huge leaps in efficiency. Hybrid cars will each require anywhere from 20-80 pounds of rare earth materials. The future of computing technology is dependent on rare earth magnets and the miniaturized disk drive. These are just a few of the 100s of uses for rare earths.

## Now for the scary stuff:

**China currently produces approximately 97% of the world's supply of REE.** Based on the above uses, rare earths give China an *overwhelming* advantage in technology both now and in the future. Perhaps this wouldn't be so devastating if China simply exported the stuff for profit like many resource-rich countries. Quite the opposite – *the Chinese unmistakably understand the strategic value of rare earths* and have been positioning themselves for years to take full advantage of the situation. Chinese President Jiang Zemin made the following statement during his 1999 visit to the rare earth rich Baotou region of China, "Improve the development and applications of rare earth, and change the resource advantage into economic superiority." According to the US-China Economic and Security Review Commission, since the early 1990s Beijing has commenced a "detailed strategy to control the rare earth market". China has done more than just talk – they dropped their prices to cost (driving other world mines out of business), hired between 1000 and 2000 dedicated rare earth scientists, built the world's most massive REE devoted research facilities, dramatically increased their own consumption, and have begun to cut exports.

Some US officials are aware of the problem, but the US has neither a detailed strategy nor the initiative and resources to contend with this current predicament.

**Currently the US imports 100% of its rare earth resources (95% from China) and has no stockpile.** The US can't really get tough with China while they control such a vital resource. There just aren't many options available. The US used to have a rare earth mine at Mountain Pass, California, but it was closed a few years ago. It's not like we can just open it back up and process the elements into concentrated form.

**The Attempted Takeover of Unocal by Chinese CNOOC Wasn't About Oil – it was about rare earths.** When Frank Gaffney, Jr., the CEO of the Center for Security Policy, testified before the House Armed Services Committee on 13 July 2005 he spoke of the danger of the People's Republic of China acquiring Unocal through CNOOC. His chief concern was not that China would control the oil involved in the potential transaction – it was that "The Unocal-owned Molycorp mine in Mountain Pass, California is America's only indigenous source of rare earth minerals known as lanthanides, including neodymium." Neodymium-iron-boron magnets are used for making missiles and smart bombs.

**The Chinese Strategy May Not Include Mercy.** The world is already addicted to rare earth, with demand projected to soar from 130,000 tonnes to 200,000 tonnes by 2010. To put it in plain terms – we are all junkies and there is only one rare earth dealer. China has effectively all the pieces on the chess board. There is no viable competition. China will do what it wishes with its own rare earths, leaving the rest of the world to become beggars at its feet. China currently has the ability to raise the price of REE, cease export, or use rare earth strategically by withholding these essential commodities for political, economic, or military reasons. As the significance of rare earths grows with each new technological discovery, China grows stronger in its strategic position.

The crazy thing is that Deng Xiaoping warned us almost 15 years ago. Jiang Zemin reiterated the warning seven years ago. Meanwhile the US has closed its only producing mine, shuttered the Rare Earth Information Center, and ceased stockpiling these essential materials. When I asked James Hedrick, of the USGS, if we could catch up with the Chinese he replied, "*I don't think the US has the initiative or the money.*"

China put us on notice that it is playing for keeps, and we are playing right into its endgame. The industrialized nations don't seem to care much about the strategic significance of rare earths – the clock is ticking and they need to either get in the game or come up with a plan to beg for mercy.