



# *Geopolitics of Minerals*

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# *The Geopolitics of Strategic Minerals*



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# *Minerals and Security*

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## Geopolitics:

**“The relation of international political power to the geographic setting.”**

*Saul B. Cohen*





# *STATE BEHAVIOR*

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✦ **No great nation willingly allows its standard of life and culture to be lowered and no great power accepts the risk that it will go hungry**

*Hjalmar Schacht,*  
*German Minister of Economics, 1937*



**“The consumption of our latest reserves of chromium ore (Turkish) would have ended the war by January 1, 1946 at the very latest.”**

*Albert Speer*





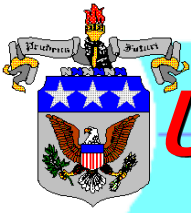
# *U. S. Consumption*

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✚ **In almost every metal or mineral-fuel category, American consumption since the outbreak of WWI had exceeded the entire quantity of that material used anywhere in the world since the beginning of time.**

– The President's Materials Policy Commission, 1951





# ***US RESOURCE VULNERABILITIES*** Center for Strategic Leadership **CSL**

- ❖ **The US imports approximately 60% of its petroleum consumption.**
- ❖ **The US imports over 80% of its most important strategic minerals:  
Chromium/PGM/Manganese/Cobalt/ Rare Earth Elements.**
- ❖ **Sixty one percent of the 18 minerals on which the US is 100% import dependent are produced in China.**





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**“Our aim is to gain control of the two great treasure houses on which the West depends. The energy treasure house of the Persian Gulf and the mineral treasure house of Central and Southern Africa.”**

*Leonid Brezhnev, Prague 1973*



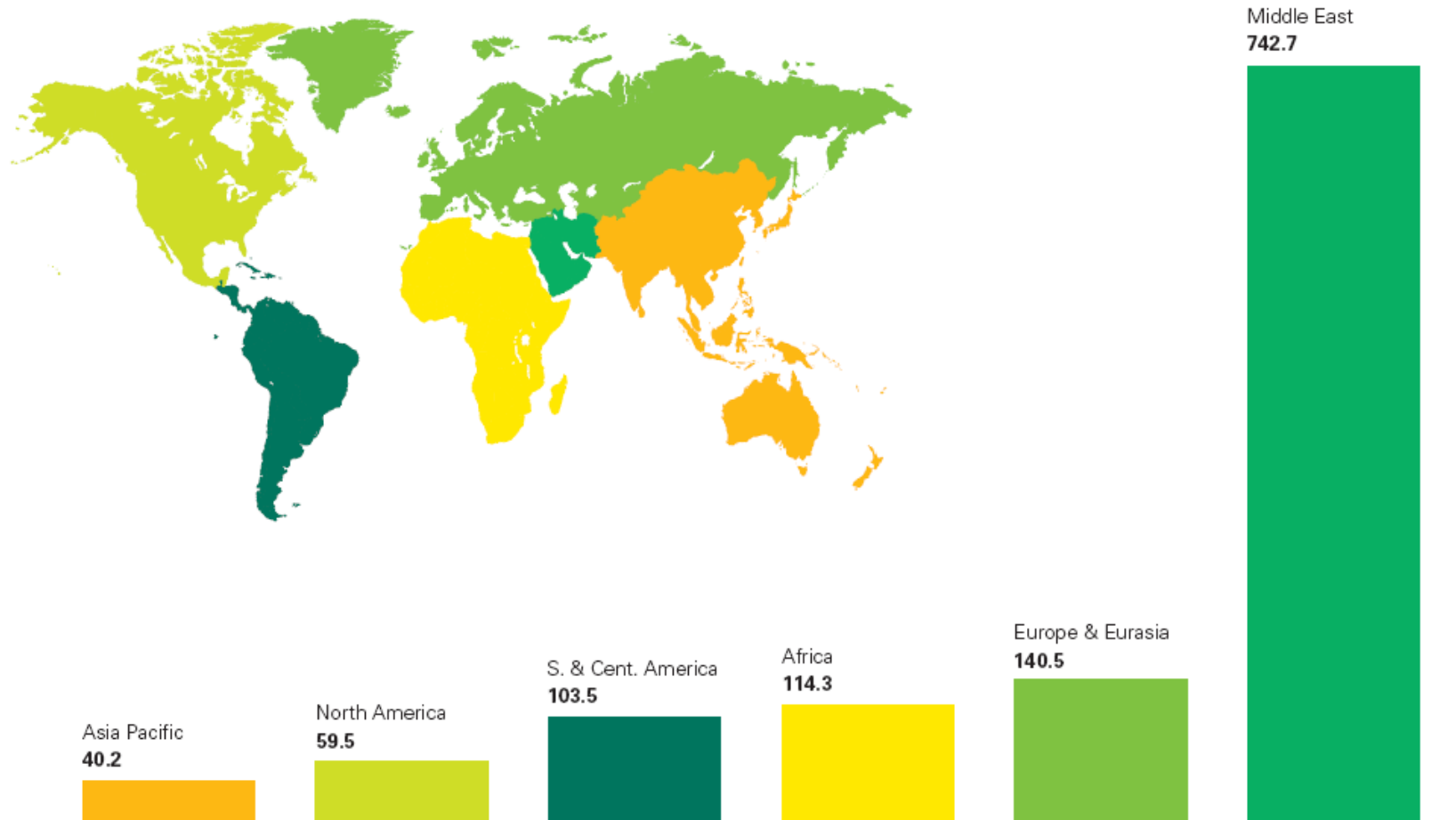


# Proved Oil Reserves

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Proved reserves at end 2005  
Thousand million barrels



Source: BP Statistical Review of World Energy 2006

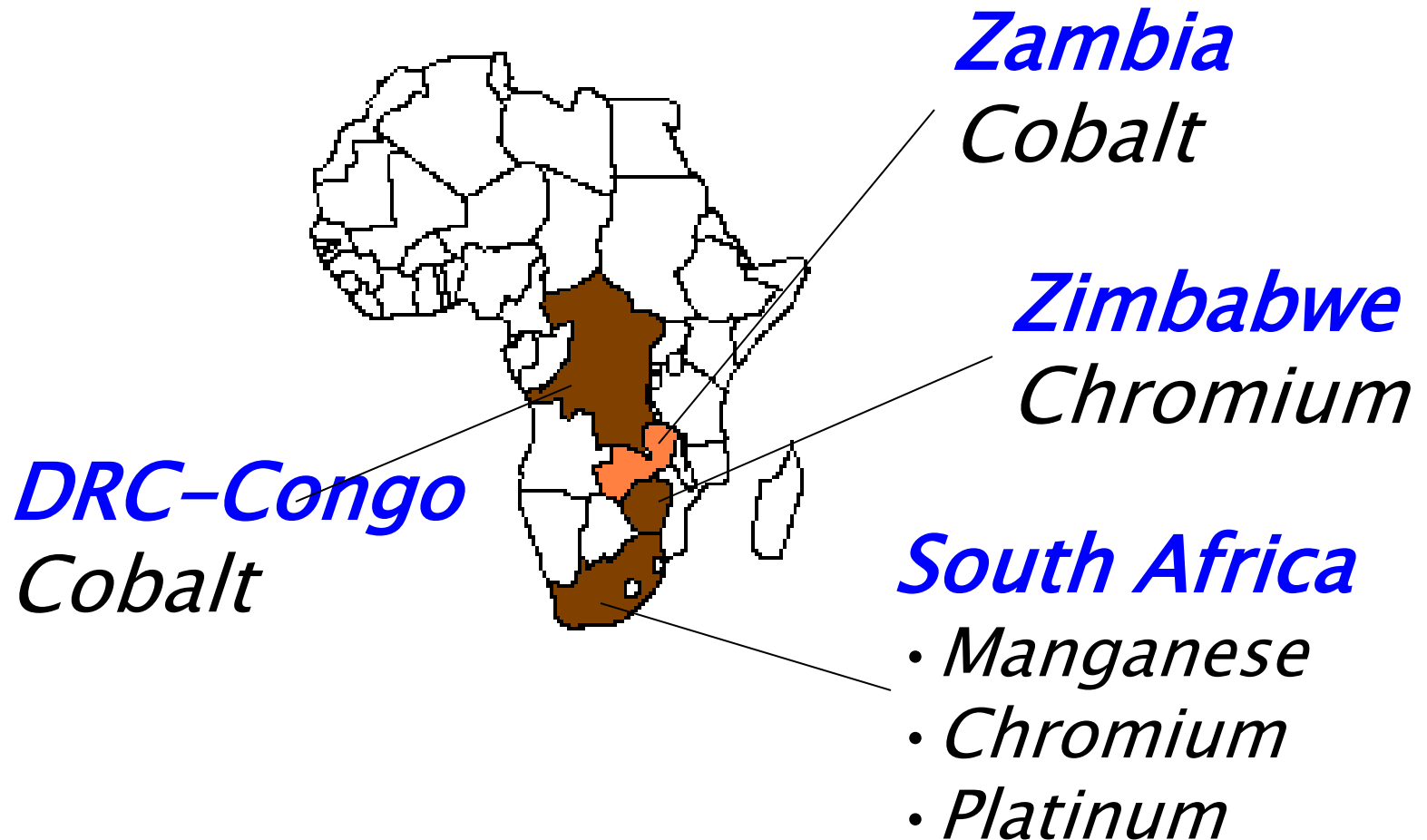




# ***Africa's Strategic Minerals***

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# *Minerals in Pratt & Whitney F100 Turbofan Engine*

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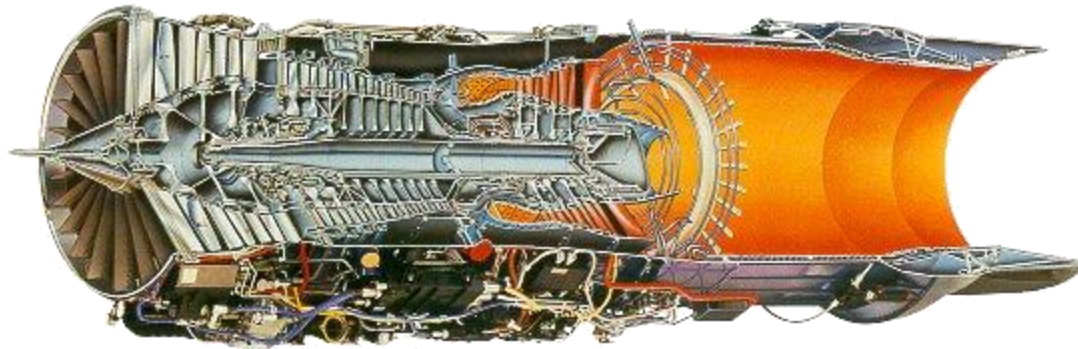
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**Nickel  
4,504 Lbs.**

**Titanium  
5,440 Lbs.**

**Chromium  
1,485 Lbs**

F100-PW-229 TURBOFAN ENGINE



**Columbium  
145 Lbs.**

**Manganese  
23 Lbs.**

**Cobalt  
885 Lbs**



# *Demographics*

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**Depending on the place -- growing, static, or aging**

**2000 to 2025**

*Total population in millions*

**China: 1,262.5 to 1,453.1**

**India: 1,002.7 to 1,396.0**

**Japan: 126.7 to 117.8**

**Russia: 146 to 128.1**

Physical Map of the World, April 2006





# *China*

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- **Second largest GDP**
- **World's largest military**
- **Nuclear weapons**
- **Social Unrest**
- **Seeks regional/global leadership role**
- **Mineral import dependent**



# *China*

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- 🌐 **Economic growth critical to social stability & CCP survival**
- 🌐 **Rising unemployment/urban-rural gap,**



Bayan Obo Iron and Rare Earth Mine, Inner Mongolia.

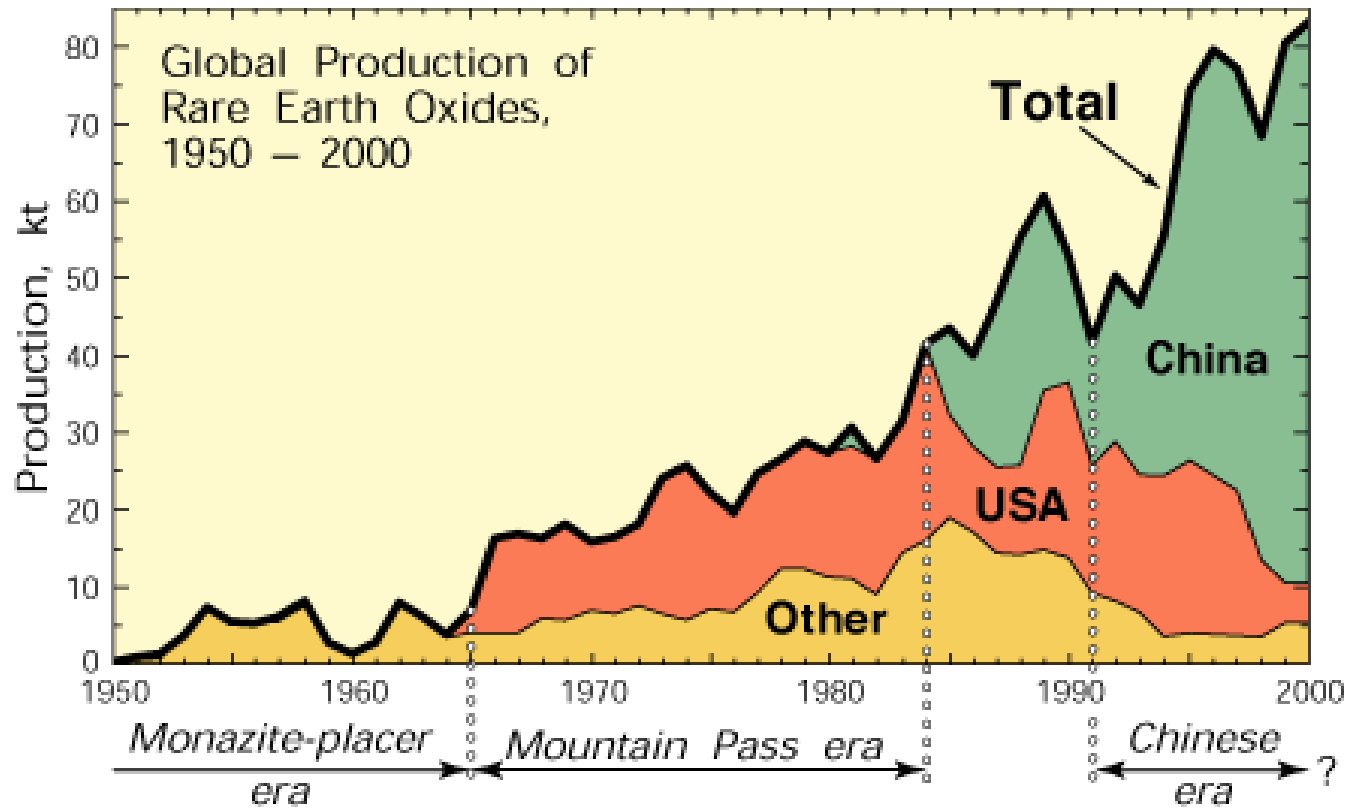


# *Sun Tzu*

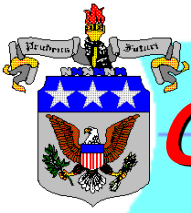
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*是故百戰百勝，非善之善者也；不戰而屈人之兵，善之善者也。*

*Therefore one hundred victories in  
one hundred battles is not the  
most skillful. Seizing the enemy  
without fighting is the most skillful.*







# *China's Mineral Imports to U.S.* **CSL**

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## Mineral commodity

## Percent of imports to U.S.

⊕ <b>Antimony</b>	<b>56%</b>
⊕ <b>Barite</b>	<b>95%</b>
⊕ <b>Fluorspar</b>	<b>40%</b>
⊕ <b>Indium</b>	<b>35%</b>
⊕ <b>Magnesium compounds</b>	<b>78%</b>
⊕ <b>Rare earths</b>	<b>97%</b>
⊕ <b>Tungsten</b>	<b>43%</b>
⊕ <b>Yttrium</b>	<b>75%</b>



# *China's Mineral Dilemma*

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- **Only 21 of the 45 minerals with proven reserves in China met its domestic demand in 2010.**
- **By 2020, the figure will fall to only six minerals.**





# *China Mineral Diplomacy* **CSL**

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- ⊕ **Driven by economy & import dependence**
- ⊕ **Do not trust market or U.S. influence**
- ⊕ **Go Out Strategy-*control source* -UNOCAL**
- ⊕ **Pay high price**
- ⊕ **Unencumbered by principles**
- ⊕ **Isolate Taiwan**
- ⊕ **Backed by \$ resources**





# Canada Oil Sands



*Petro China (\$1.8B)*

*Canadian Production 3.35 MBD*  
*Oil Sands Production 1.3 MBD*





# China Foreign Exchange Reserve \$3.0 Trillion : African Access

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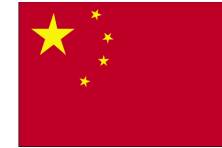
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*China Investment Corporation (\$300B)*

*Blackstone Group (U.S.) \$3B stake*

*China Development Bank*

*Barclays (U.K.) \$7B stake*



***Standard Bank \$5.4B***

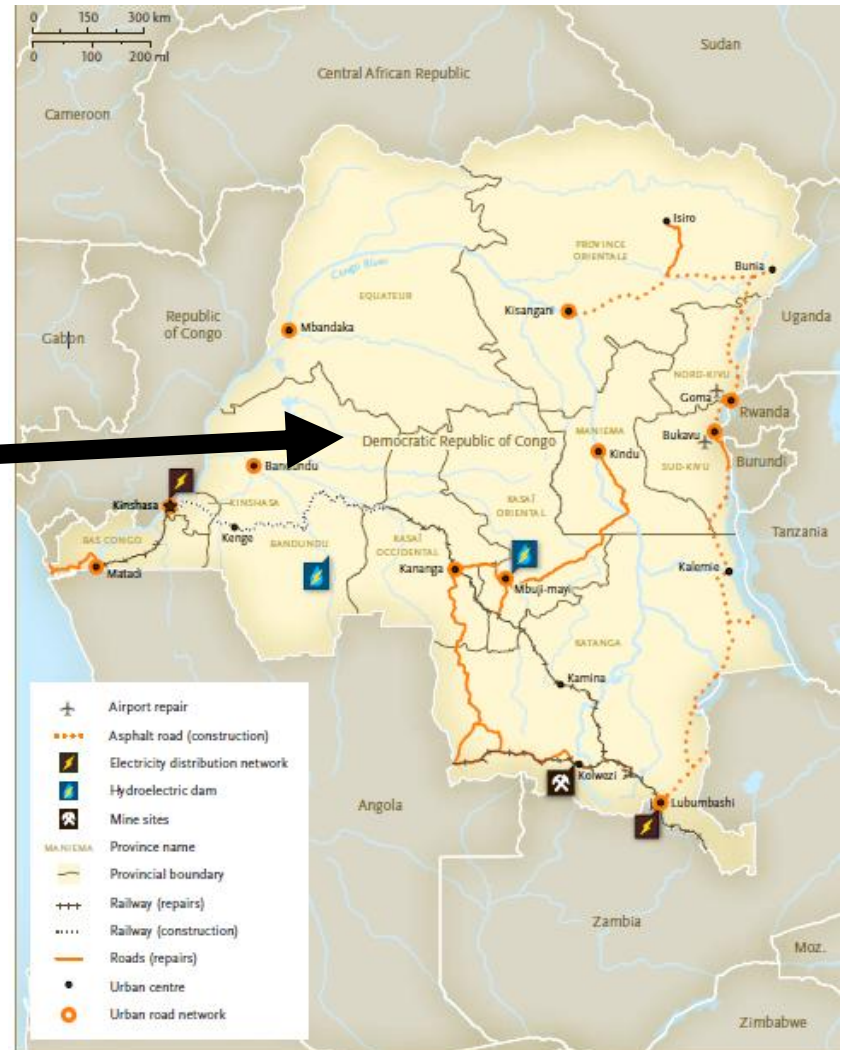


# China Investment in DRC

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*\$6 Billion*







# *China's Charm Diplomacy* Center for Strategic Leadership **CSL**



Liberian children greet China's president, Hu Jintao, on his arrival in Monrovia. Photographer Herwig/Reuters

<http://www.guardian.co.uk/world/2007/feb/08/development.topstories3>





# *Minerals Strategies*

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- ☉ **China- “Go Out Strategy” 1999**
- ☉ **European Commission “EU Raw Materials Strategy” 2008**
- ☉ **Japan- “Strategy for Ensuring Stable Supplies of Rare Metals” 2009**
- ☉ **United States ?**



# ***POLICIES OPTIONS***

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- ❖ **Make Strategic Resource Access an Objective of the National Security Strategy**
- ❖ **Revitalize the National Defense Stockpile.**
- ❖ **Recognize USGS as a National Security Resource and Increase Their Funding to Collect, Analyze and Disseminate Minerals Data.**
- ❖ **Strategic Communication to Congress, Public: Why Important!**



Questions?



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