

# U.S. NATIONAL DEFENSE: STRONGER WITH MINERALS



According to a recent poll, six in 10 voters support streamlining the U.S. mine permitting process to ensure the Department of Defense (DoD) has timely access to the mineral resources necessary for our national security.

## How important are minerals to our national defense?



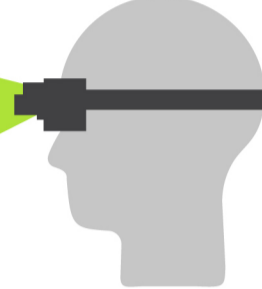
The DoD uses up to 750,000 tons of minerals annually in the manufacture of military gear, weapon systems and other defense applications.



The Pentagon includes 37 mineral commodities in its Defense National Stockpile.

## Without minerals, we wouldn't have these critical military technologies:

### HELPING SOLDIERS SEE IN THE DARK: Night-Vision Goggles and Surveillance



**RARE EARTH MINERALS** like lanthanum are used to make night-vision goggles.

21% of **BERYLLIUM** is used in defense applications like helping detect potential threats.

#### RARE EARTH MINERALS

#### BERYLLIUM



**RARE EARTHS** are used to make infrared absorbing glass.



**BERYLLIUM'S** thermal conductivity improves surveillance capabilities.



They are added to camera lenses to improve image clarity.



It helps produce real-time imagery and targeting for surveillance and makes reconnaissance flights performed by unmanned aerial systems possible.

### KEEPING OUR TROOPS SAFE: Body Armor



**NICKEL** resists corrosion and oxidation and prevents degeneration.

**NICKEL'S** toughness makes it ideal for body armor because it can withstand harsh impacts.

### GIVING AIRMEN & AIRWOMEN FLIGHT: Aircraft and Fighter Jets



**SILVER** is a key resource for military aircraft like the Air Force's C17 and the Army's Apache Helicopter because it is malleable and ductile while also being one of the strongest of the known elements.



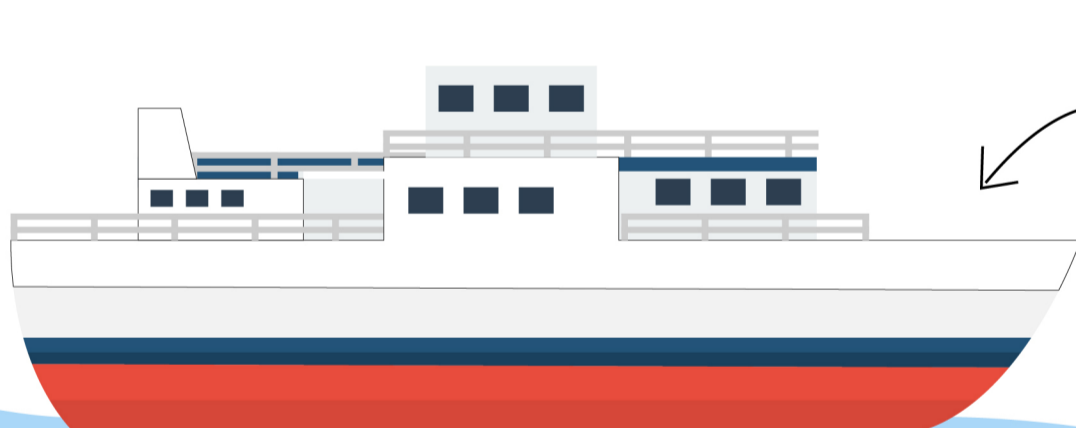
**RARE EARTH MINERALS** are used in the manufacturing of jet engines.



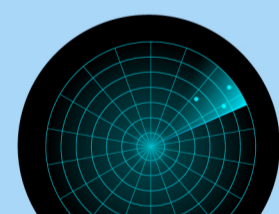
**BERYLLIUM'S** lightweight properties make fighter jets faster.

80% of aircraft, including fighter jets like the F-16, are made of **ALUMINUM** because it is lightweight and improves fuel efficiency.

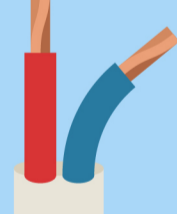
### TRANSPORTING SERVICEMEN & SERVICEWOMEN OVERSEAS: Vessels and Ships



Naval vessels and Coast Guard ships rely on **COPPER** to protect them from corrosion.

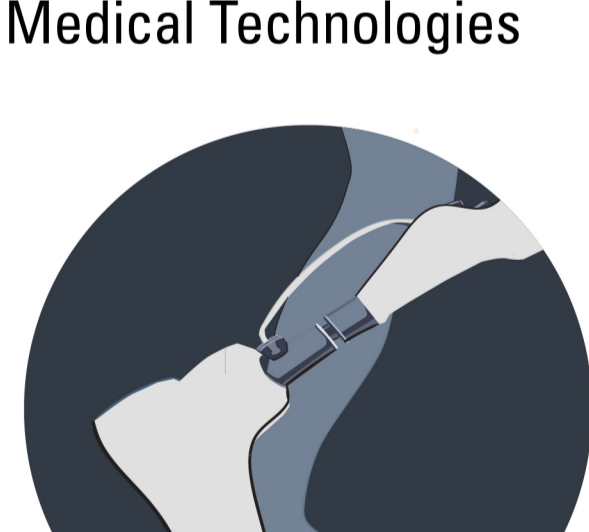


**RARE EARTH MINERALS** make sonar possible for submarines and naval ships.

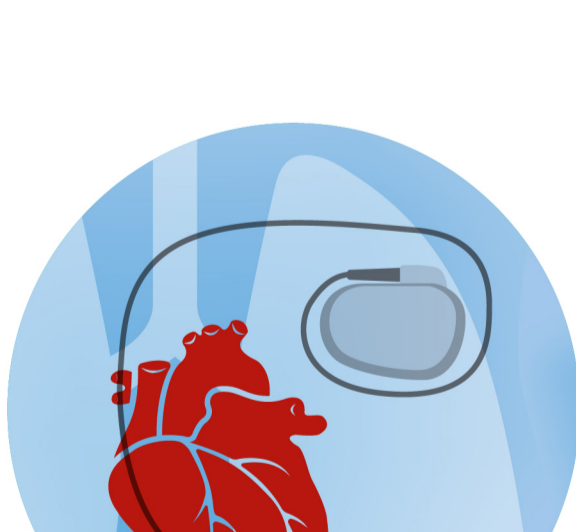


**COPPER WIRING** – because of its conductivity – improves the operations of ships' generators, electric motors, lighting and communications systems.

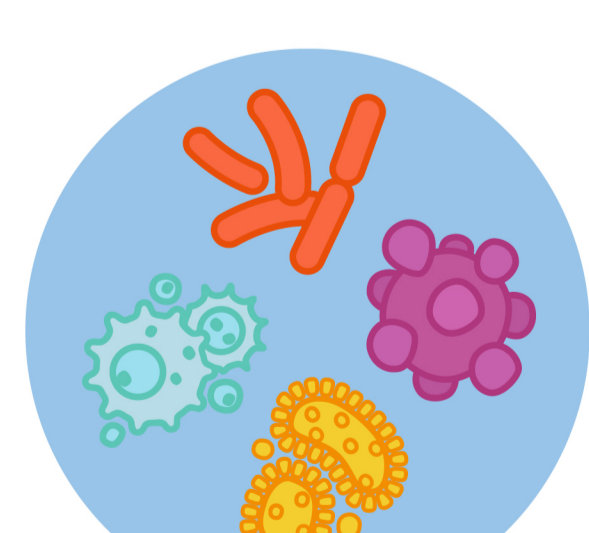
### ENSURING OUR TROOPS ARE HEALTHY: Medical Technologies



Metals like **TITANIUM** and **MOLYBDENUM** are used to make life-saving implants like stentroids and prosthetic limbs.



Because of their resistance to corrosion, **PLATINUM GROUP METALS** are frequently found in pacemakers, implantable defibrillators, catheters, stents and neuromodulation devices.



**SILVER** prevents bacterial growth, accelerates the healing process and can heighten the effectiveness of certain drugs.



**BERYLLIUM'S** heat resistant and low-density properties reduce radiation levels in medical technologies, such as X-rays, while also improving their functionality and efficiency.

Despite being home to a wealth of mineral resources, the U.S. imports more than one-half of its nonfuel minerals and is **100% import reliant on 20 key minerals** due to an outdated and lengthy mine permitting process. Protracted **delays that last seven to 10 years** make it harder for the DoD to get the U.S. mineral resources it needs to protect our nation and our troops.

**Modernizing our permitting process will put our defense back into our own hands!**

#### SOURCES

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