



REFERENCE MATERIALS ID LEGISLATURE AUG 2024

TSX:PPTA  
NASDAQ:PPTA

# PERPETUA RESOURCES

Responsible Mining. Critical Resources. Clean Future.

[www.perpetuaresources.com](http://www.perpetuaresources.com)

# STIBNITE GOLD PROJECT | Perpetua Resources

Coeur d'Alene

**Stibnite Gold Project**  
Perpetua Resources Au-Sb

**McCall**

**Cascade**

**Boise**



**Perpetua  
Resources**

The Stibnite Gold Project (Project) is in the abandoned Stibnite Mining District in central Idaho. The site produced 90% of the antimony and 50% of the tungsten used by the US war efforts during WWII and the Korean War.

Today, Perpetua Resources is nearing final permitting approvals to redevelop the site for remaining gold and antimony resources. The Project is also designed to repair environmental legacies left behind from mining activities that started over a century ago, leaving the environment better than it is today.

The Stibnite Gold Project is the only identified domestic source and the only known available non-Chinese source of mil-spec antimony trisulfide.





# HISTORICAL STIBNITE MINING DISTRICT

“In the opinion of the Munitions Board, the discovery of that tungsten mine at Stibnite, Idaho in 1942 shortened World War II by at least 1 year and saved the lives of a million American soldiers.”

The US Senate Congressional Record, 1956





# HISTORICAL LEGACY

After 100+ years of mining activity, many environmental legacies remain.

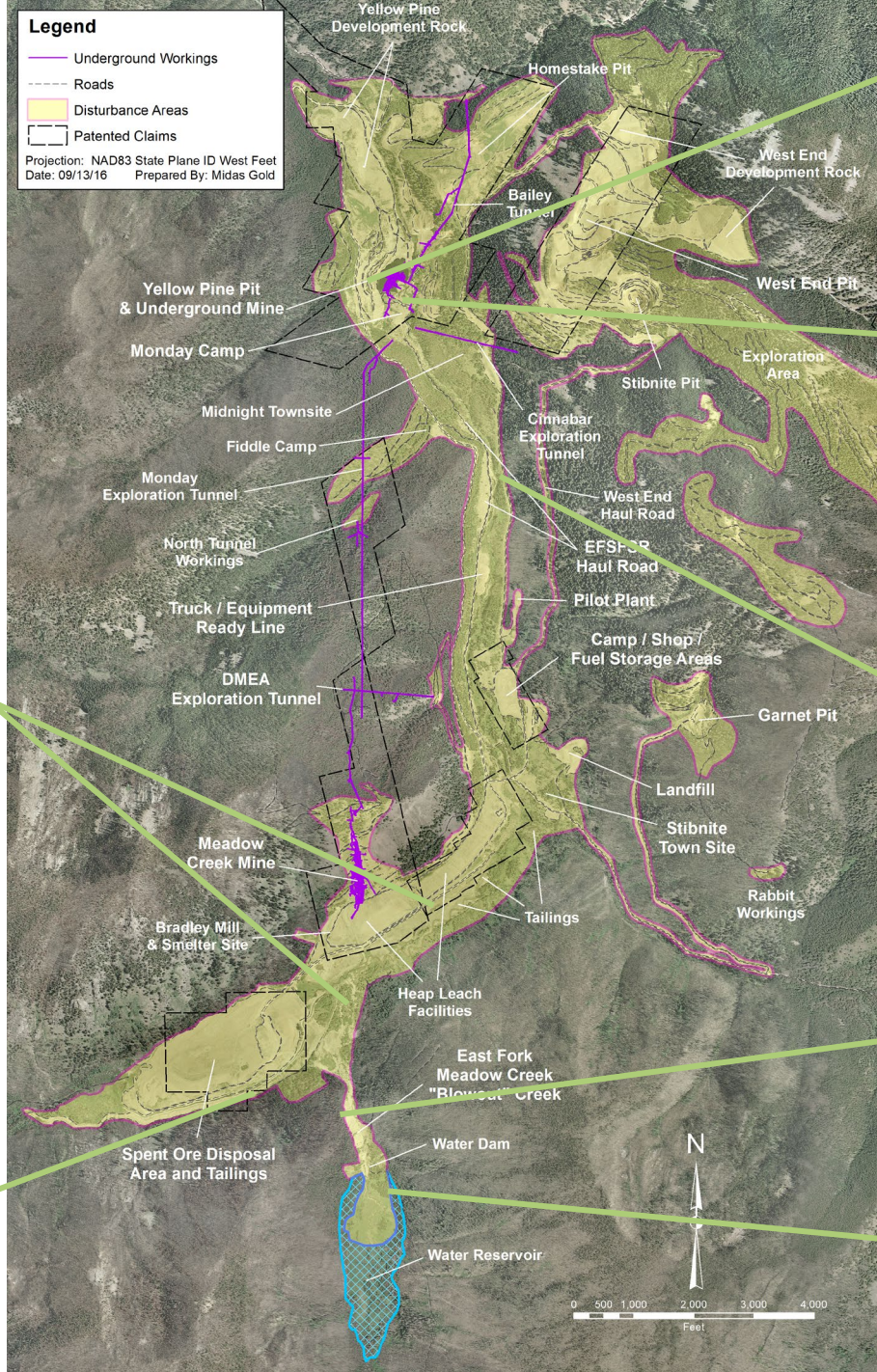
## TAILINGS

10.5 million tons of legacy spent ore and unlined tailings interact with ground and surface water



## MEADOW CREEK

4,900 ft rock lined ditch with limited habitat function



## YELLOW PINE PIT

The East Fork of the South Fork dumps into a legacy mine pit. Currently, ~80 feet of sediment has collected at the bottom



## FISH PASSAGE

Fish migration is blocked by the Yellow Pine Pit



## HABITAT

13,000+ ft poor habitat quality



## BLOWOUT CREEK

Largest source of sedimentation in the watershed

## BLOWOUT CREEK VALLEY

14-foot drop in water table, loss of wetlands function





# RESTORATIVE. CRITICAL. RESPONSIBLE.



Our goal is to transform an area abandoned after 100 years of mining activity into a national strategic asset for critical mineral and gold production.

Our approach is to utilize responsible mining and stakeholder engagement practices to restore the legacy site and bring benefits to all stakeholders.





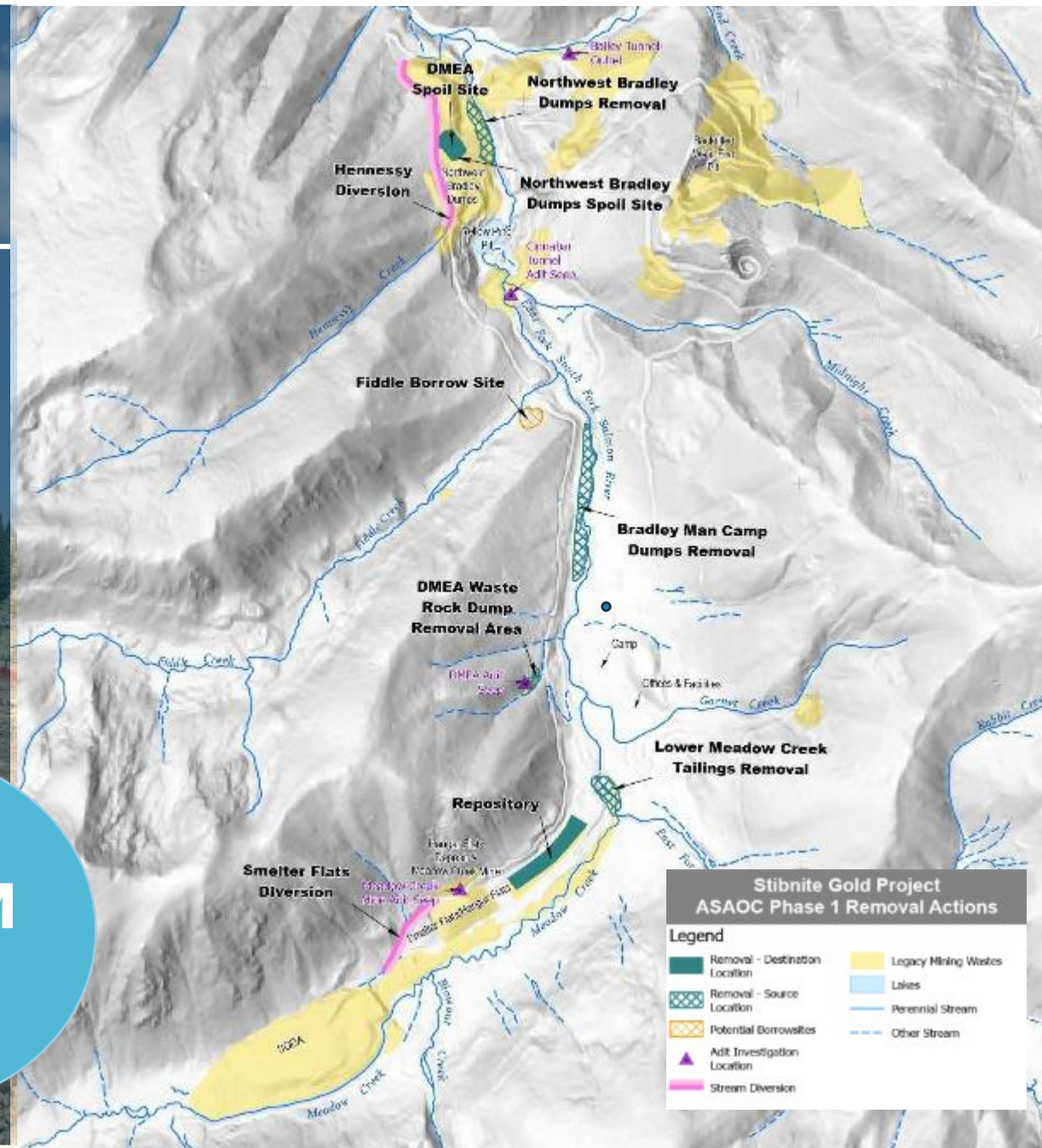
# CLEANUP STARTS TODAY

A PATH FORWARD FOR STIBNITE

In a signed agreement with federal agencies, Perpetua has volunteered to remove and safely store 325,000 tons of legacy tailings & waste and divert and line streams to help keep clean water clean.

Work began in July 2022.

**\$17.5M**  
invested





# GOLD

**4.8 MILLION OUNCES OF GOLD (Reserve)**

Total resource ~6 million ounces.

**79 Au**  
Gold  
196.967

**AEROSPACE**  
Gold is used in space vehicles, satellites and space suits.

**HEART HEALTH**  
Gold is biocompatible & used in medical technology.

**TECHNOLOGY**  
Every cell phone contains ~\$2 dollars of gold.

The **Stibnite Gold Project** would be the 4<sup>th</sup> largest US gold operation by grade and likely produce between ~4-5 million ounces of gold. \*

Half of all gold is used for jewelry. Other uses include currency and industrial purposes, in aerospace, technology and medical equipment.

\* Based on the 2020 Feasibility Study (FS), which is intended to be read as a whole and sections should not be read or relied upon out of context. The information in this presentation is subject to the assumptions, exclusions and qualifications contained in the FS. See "Regulatory Information" at the end of this presentation.

# ANTIMONY

**148 MILLION POUNDS OF ANTIMONY (Reserve)**

Total resource ~206 million pounds

**51 Sb**  
Antimony  
121.760

Every cell phone contains ~\$2 dollars of gold.

The **Stibnite Gold Project** would be the only domestic source of mined antimony, expected to produce ~115 million pounds.\*

Critical for the defense and technology sectors, the United States uses **56.7 million pounds** of antimony each year, but we are **heavily dependent on China** to supply this strategic mineral.



# STIBNITE GOLD PROJECT

## YELLOW PINE PIT

The Yellow Pine Pit will be re-mined and backfilling will begin in year 7 of operations. The river will be restored to natural flow and gradient, reconnecting fish to miles of native spawning and rearing grounds for the first time in 80 years.

## WEST END PIT

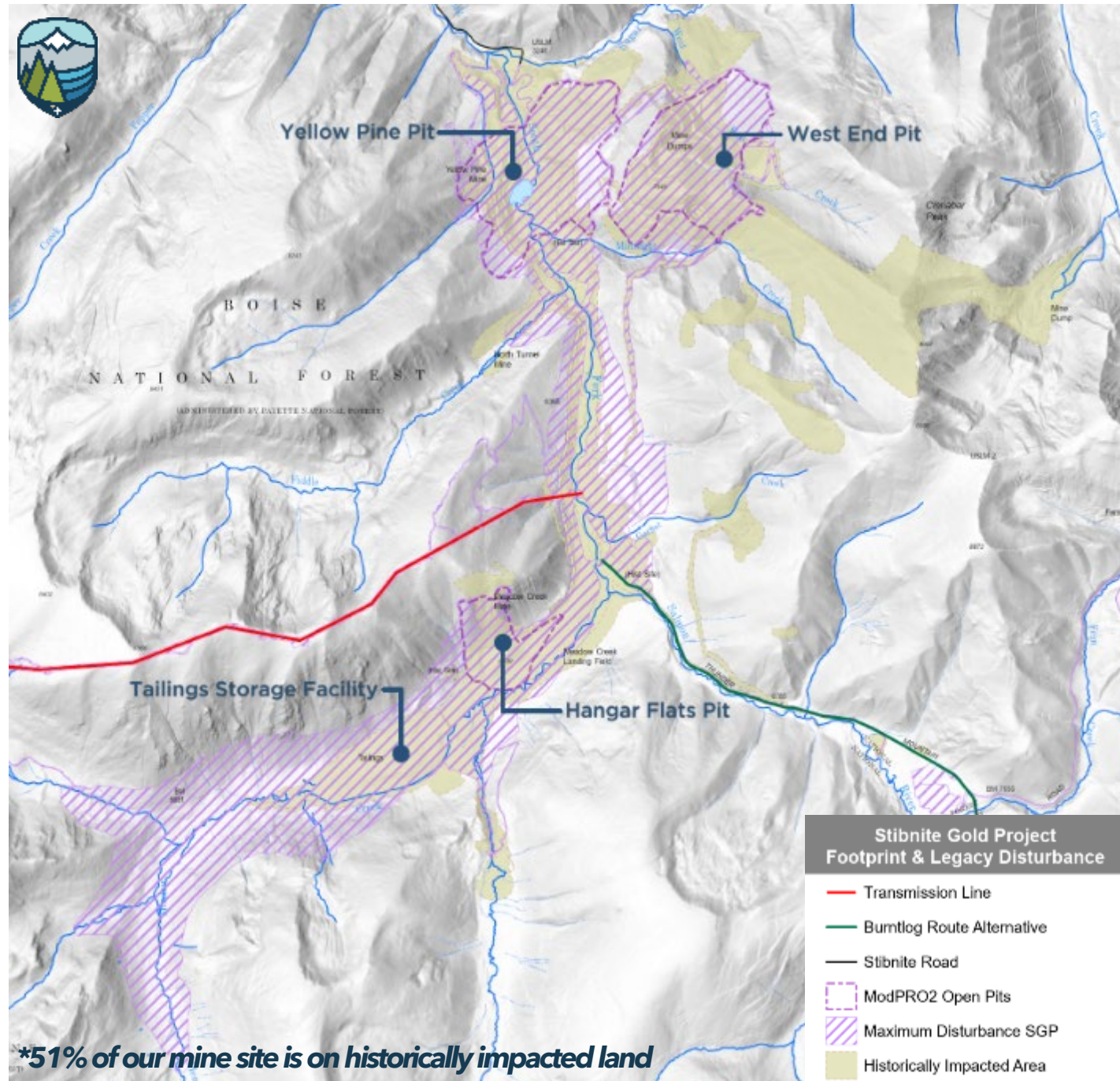
This current open pit will be re-mined, providing limestone for processing and allowing for more comprehensive habitat restoration.

## HANGAR FLATS PIT

This is the site of the former smelter, heap leach and underground workings. It will become a new open pit during operations. Mining this area will include backfilling the pit and stream and wetland reconstruction.

## TAILINGS STORAGE FACILITY (TSF)

TSF construction and operations include reprocessing & safely storing 3 million tons of historical tailings and repurposing 7 million tons of heap leach ore, removing an existing potential source of water degradation. The TSF will be composite lined and features an 80-million-ton rock buttress that brings the factor of safety to double the required value at all stages.







# The STIBNITE GOLD PROJECT

- 2010** Begin Study and Engineering
- 2016** Begin Regulatory Review under NEPA
- 2020** Public Comment Period for the DEIS
- 2022** Supplemental Draft EIS published
- 2024** Record of Decision *anticipated 2024*

## PLAN DESIGNED TO PROVIDE:

- ✓ Restoration of abandoned mine site via private investment
- ✓ Restoration of salmon migration into upper EFSF Salmon River
- ✓ Over 500 direct well-paid jobs for Idahoans
- ✓ The only domestically mined source of antimony, a mineral of critical national significance

**NEPA:** National Environmental Policy Act

**DEIS:** Draft Environmental Impact Statement

**EFSFSR:** East Fork South Fork Salmon River

<sup>1</sup> See forward-looking statements at the beginning of this presentation. Reflects management's latest expectations based on USFS schedule published in October 2022.



# River and Fish Passage Restored

## IT ALL STARTS HERE.

Restore the site.

Provide for our nation.

Bring jobs home.

## REFINED BY SCIENCE & PUBLIC FEEDBACK

After **7+ years** of review, feedback, refinement, and the 2022 Supplemental Draft Environmental Impact Statement (SDEIS) the Stribnite Gold Project is ready to move forward.

### Identified as Preferred Alternative

- ✓ **PUBLIC SUPPORT:** 15,500 (85%) of the public comments on the SDEIS supported the project.
- ✓ **WATER IMPROVED:** 47% reduction in arsenic in EFSF Salmon River on-site. (40% off-site) (SDEIS Tables 4.9-18)
- ✓ **HABITAT OPENED:** 20+ miles of fish habitat opened.
- ✓ **WETLANDS IMPROVED:** 63% net increase in wetlands acres and 140% uplift in wetlands quality (functional units) over today.
- ✓ **RIVER IMPROVED:** 9% increase in river functional units + 5C stream temperature reduction from DEIS.
- ✓ **SALMON BENEFIT:** *"The restoration activities, particularly providing volitional passage in the East Fork SFSR, would result in major, permanent, regional, and beneficial effect on Chinook salmon, steelhead, bull trout, and westslope cutthroat trout within the vicinity of the mine."* (SDEIS)



<sup>1</sup> Under NEPA, a "Preferred Alternative" is identified by a Federal Agency in a DEIS to let the public know which action the agency is leaning toward selecting as final. <sup>10</sup>

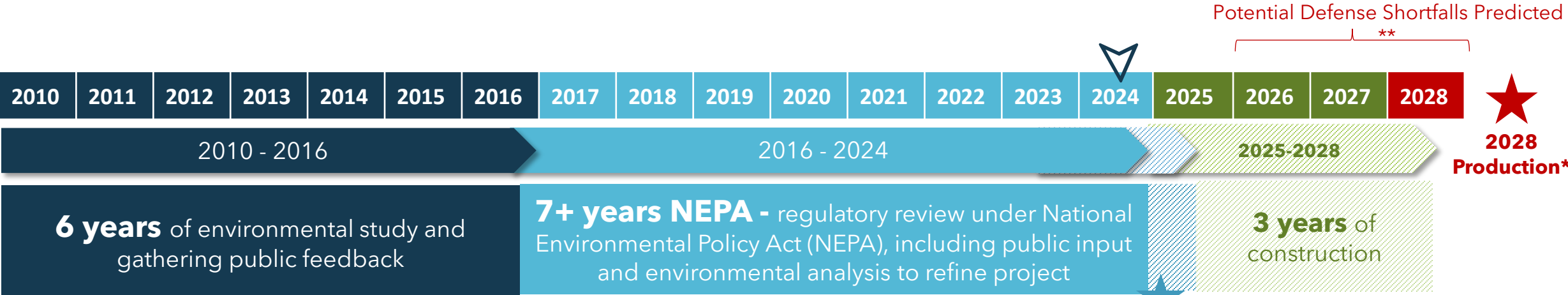


# PROJECT DEVELOPMENT TIMELINE\*



\*Expected schedule based on company projections and current schedule from US Forest Service

\*\* Feb 2024 Letter to Idaho Delegation from DOD Acquisition and Sustainment, William LaPlante



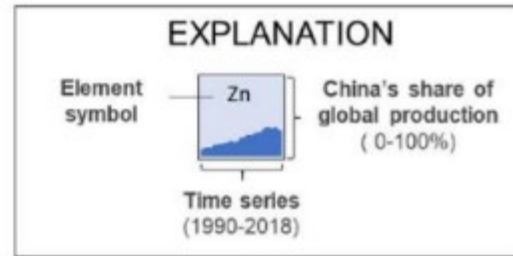
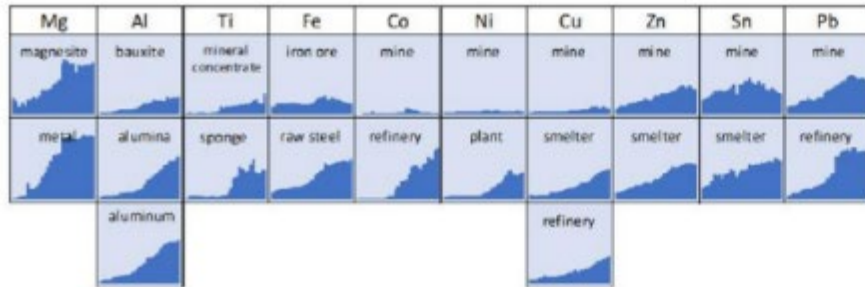
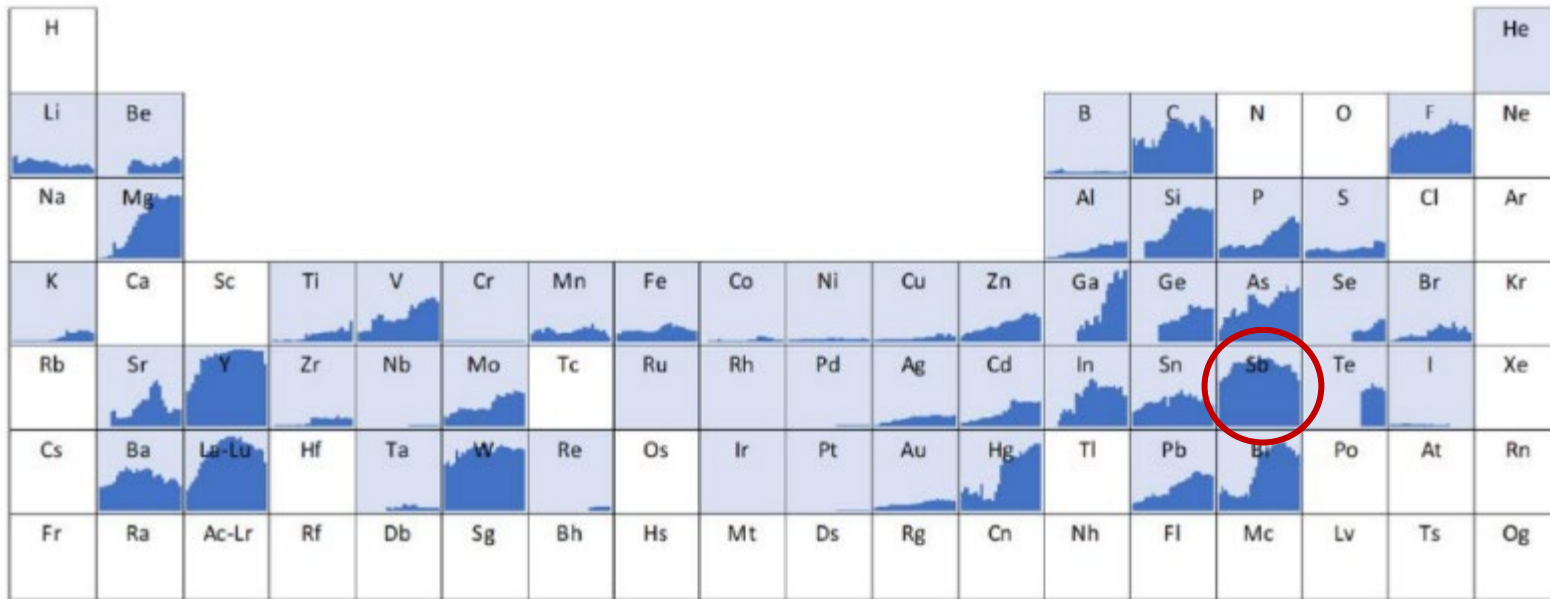
**18 years** from identifying the resource to production.  
**\$300M+** private investment to-date  
**\$70M** Department of Defense Funding awarded



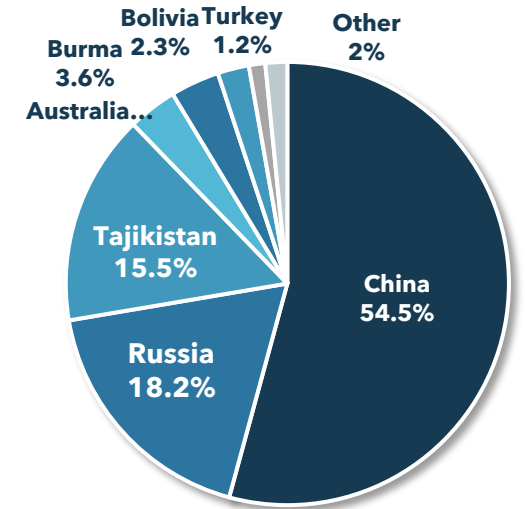


# ANTIMONY SUPPLY

Figure 9: China's Share of Global Primary Production (1990-2018)<sup>34</sup>



## World Antimony Production, 2022



~90% of the global antimony supply is dominated by China, Russia and Tajikistan.

Source: White House Report, 100-Day Supply Chain Reviews (2021), Department of Defense, Review of Critical Minerals and Materials



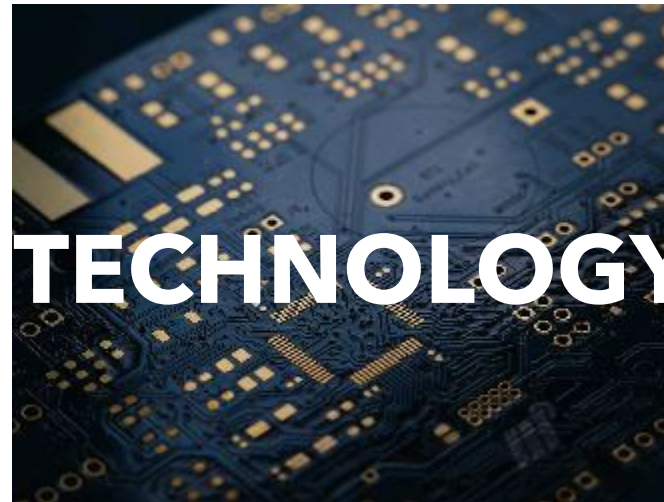
# CRITICAL FOR THE AMERICAN FUTURE

**ANTIMONY (Sb):** A “critical mineral” that is vital to U.S. national security and will support the transition to a green economy



## DEFENSE

- Night Vision Goggles
- Military Clothing
- Infrared Sensors
- Hardening Lead: Bullets & Shrapnel
- Armor Piercing Projectiles
- Ammunition Primers



## TECHNOLOGY

- Circuit boards
- Semi-conductors
- Electrical switches
- Fluorescent lighting
- High-quality clear glass



## ENERGY

- Copper wiring insulation
- Lead-acid batteries
- Liquid-metal batteries
- Solar panels
- Wind turbines





# ANTIMONY IN THE DEFENSE SECTOR

Antimony is critical for national defense



## U.S. DEPARTMENT OF DEFENSE

\$59.4M - Defense Production Act Title III

\$15.5M - U.S. Army, Defense Ordnance

**"Perpetua's Stibnite-Gold Project produced antimony trisulfide for the U.S. ammunition industrial base during World War II and the Korean War, and it is the sole domestic geologic reserve of antimony that can meet Department of Defense (DoD) requirements."**

U.S. Department of Defense, Dec 19, 2022



**ANTIMONY TRISULFIDE:** *Antimony trisulfide, aka "stibnite", is derived from a high purity form of the critical mineral antimony.*

*It is an essential component in hundreds of munition types, including primers for small and medium caliber munitions, mortars, artillery, mines, flares, grenades, shoulder launched munitions and missiles.*

- **Ammunitions**
- **Ammunition Primers**
- **Explosive Formulations**
- **Night Vision Goggles**
- **Military Clothing**
- **Communication Equipment**
- **Infrared Sensors**
- **Precision Optics**
- *And more*



# WHOLE OF GOVERNMENT

**\$74M+**  
**Defense Funding**

Up to **\$59M+ Defense Production Act** funding to support permitting, construction readiness.

**\$15M Defense Ordinance Technology Consortium (DOTC)** funding to test mil-spec production.

**\$1.8B**  
**Export-Import Bank of the US**

Letter of Interest for up to **\$1.8B financing for project development** under Make More In America Initiative + China & Transformational Exports Program (CTEP).

## Defense Production Act (DPA):

- ✓ Product required for national security
- ✓ American Industrial Base cannot meet the need
- ✓ DPA is the most efficient way to bridge the gap.



U.S. Department of Defense



## EXIM Financing available for:

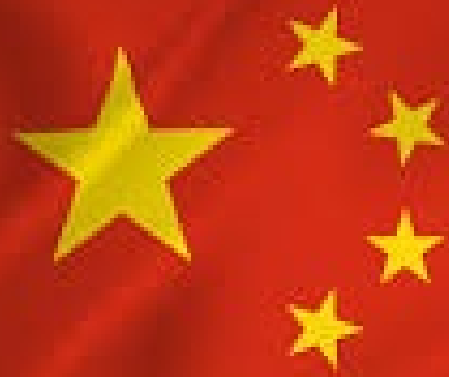
- ✓ American Jobs
- ✓ Export nexus
- ✓ China competitiveness
- ✓ 10 transformational exports



August 15, 2024

## CHINA RESTRICTS ANTIMONY EXPORTS

Antimony ore | Antimony oxide | Antimony Sulfide | Antimony Ingots | Antimony-based alloys | Related processing equipment



## China's Antimony Export Restrictions: The Impact on U.S. National Security (AP)

## China's Antimony Export Restrictions: The Impact on U.S. National Security

**BEIJING (AP) —**

“China’s Commerce Ministry announced Thursday that it will restrict exports of a mineral used in a wide range of products from batteries to weapons.

**Export controls will be placed on antimony starting Sept. 15 to safeguard China’s security and interests** and fulfill its international non-proliferation obligations, the ministry said. Anyone wishing to export the mineral in various forms will have to apply for a license.”

### RESTRICTIONS INCLUDE:

Antimony Ore | refined to make antimony metals, oxides, sulfides – etc.  
Antimony TriOxide | fire retardants, solar panels, glass clarifiers, night vision goggles, lasers  
Antimony Sulfide | primers, detonators  
Antimony Ingots | solar panels, lead acid batteries  
Antimony-based alloys | batteries, semiconductors,  
Related processing equipment | Tbd



THANK  
YOU.



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