



**Perpetua
Resources**

JUNE 2023

NASDAQ:PPTA

TSX:PPTA

PERPETUA RESOURCES

Responsible Mining. Critical Resources. Clean Future.

www.perpetuaresources.com

STIBNITE GOLD PROJECT

Coeur d'Alene

Stibnite Gold Project
Perpetua Resources Au-Sb

McCall

Cascade

Boise





THE STIBNITE GOLD PROJECT

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 through responsible mining and a sustainable approach to restore the environment for the benefit of all stakeholders.



THE PERPETUA WAY

RESPONSIBLE. RESTORATIVE. CRITICAL.

We are driven by the understanding that building a strong and successful business starts with doing business the right way.

We know that economic success and environmental success are inseparable.

We designed our project to restore the environment, create opportunity and benefit communities.





NEW PERSPECTIVES



ENVIRONMENT SOCIAL RESPONSIBILITY GOVERNANCE (ESG)

Perpetua Resources is changing the face of mining.

- ✓ Community Agreement in 2018
- ✓ Adopted ESG policy in 2019
- ✓ Updated ESG policy in 2021
- ✓ Published GHG emissions inventory 2021 & 2022
- ✓ Citizen's water monitoring program 2021
- ✓ Annual Sustainability Reporting
- ✓ 65k+ Trees Planted
- ✓ 8+ years No Reportable Spills
- ✓ Dark Skies commitments

2021 ESG Commitments

- ✓ Publish Sustainability Roadmap

Note: Numbers reflect Perpetua Resources Idaho, Inc. staff and board members as of January 2023

WORKING TOGETHER

Community Agreement

Through a community agreement signed in 2018, the **Stibnite Advisory Council** brings together communities across central Idaho to discuss the challenges and opportunities presented by the Stibnite Gold Project.

- ✓ Direct access to company leadership
- ✓ Monthly meetings
- ✓ Identify opportunities and solutions
- ✓ Address questions or concerns
- ✓ Citizen's Water Monitoring Initiative (2021)



VILLAGE OF YELLOW PINE + CASCADE + DONNELLY + NEW MEADOWS + RIGGINS + COUNCIL
+ ADAMS COUNTY + IDAHO COUNTY



2022 SUSTAINABILITY REPORTING



100%

Safe Fuel Hauls
(since 2009)

1,100+

Community Presentations
(since 2015)

100%

**of Employees participated in
compliance and business
integrity training**
(in 2022)

25%

**Energy at Stibnite from
Solar Power**
(in 2022)

83%

Employees based in Idaho
(as of Dec 2022)

67%

**Female Executive
Management**
(as of Jan 2023)

\$60k

**In scholarships for local
students**
(since 2015)

33%

Diverse Board Members
(as of Jan 2023)

SUSTAINABILITY ROADMAP

In 2022, Perpetua Resources published a **Sustainability Roadmap** to define our commitments to continually improve our environmental performance, build partnerships with communities and govern the company.

Improve and protect water quality.

Conserve water.

Limit our footprint.

Be a responsible link in the clean energy supply chain.

Nurture connections with tribal communities & identify opportunities to collaborate.

Foster an open and transparent relationship with local communities.

Create economic partnerships that sustain beyond the life of the mine.

Work with communities & regulators to refine environmental outcomes of the Stibnite Gold Project.

Develop a diverse and inclusive team.

Disclose and report current and future ESG emissions.

Set science-based GHG emissions target.

Protect our people and our communities.

Adopt a long-term Environment, Social and Governance (ESG) reporting framework.





RESTORE AN ABANDONED SITE

1890s

The Thunder Mountain gold rush brings mining to the area

1900-1930

The town of Stibnite is established

1938

Mining at Yellow Pine pit stops salmon migration upstream

1941-1950

Antimony & tungsten declared critical & strategic minerals for the war effort, mining for both occurs at Stibnite.

1953-1960

With WWII & the Korean War over, mining slowed and Stibnite slowly faded

1960s

Earthen dam failure resulting in hundreds of tons of sediment eroding into surrounding streams & rivers, even to this day

1970s-1990s

Periodic gold mining by multiple owners and operators

1990s-2000s

All mining stopped, limited reclamation by owners, operators and state and federal government.

2009-2011

Land ownership consolidated by Midas Gold (now Perpetua Resources). Geology & environment within the Stibnite Gold Project area is studied.

HISTORICAL STIBNITE MINING DISTRICT



neutral by the Americas.

It was Germany's use of high-velocity, armor-piercing projectiles with the tungsten carbide core that almost made the north African campaign a successful one.

Tungsten production in China began in 1914, and it has been the largest tungsten producer. During the Sino-Japanese War its flow of tungsten was disrupted and stockpiles accumulated in Indochina. One of the great coups of the rearmament race was made by the United States when it purchased this entire stock and delivered it to this country just prior to Pearl Harbor. In the race for tungsten hurried between victory and defeat, the United States paid Portugal and Spain for the critical metal. The buying policy of the United States to keep Germany from obtaining critical metal rendered it impossible for the United States to pay a unit for WO₃.

But to obtain enough tungsten for the military program was a task. Domestic mines were reexplored and explorations were made. The Yellow Pine deposit in Idaho.

The Government investigated the deposit, build access roads and open up the deposit. The Yellow Pine deposit was a lifesaver for this country, but it was geologically a strange phenomenon like a bowl of

In 1942, 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."

"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



BM-124

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



RESTORATION OF BROWNFIELDS SITE

SOLUTIONS FOR THE ENVIRONMENT



Early repair of the largest source of sedimentation



Pick up, reprocess, reuse and safely store 10.5M tons of tailings and spent ore



Re-establish fish migration and provide permanent river restoration



LEGACY

During the World War II era, the East Fork of the South Fork of the Salmon River (EFSFSR) was diverted to facilitate mining of the Yellow Pine pit, cutting off fish passage.

TODAY

The East Fork of the South Fork of the Salmon River flows directly into the Yellow Pine pit, blocking fish passage.

YELLOW PINE PIT



CURRENT CONDITIONS

Existing Yellow Pine pit

East Fork South Fork Salmon River (EFSFSR) dumps into the Yellow Pine pit.

Fish passage blocked for over 80 years.

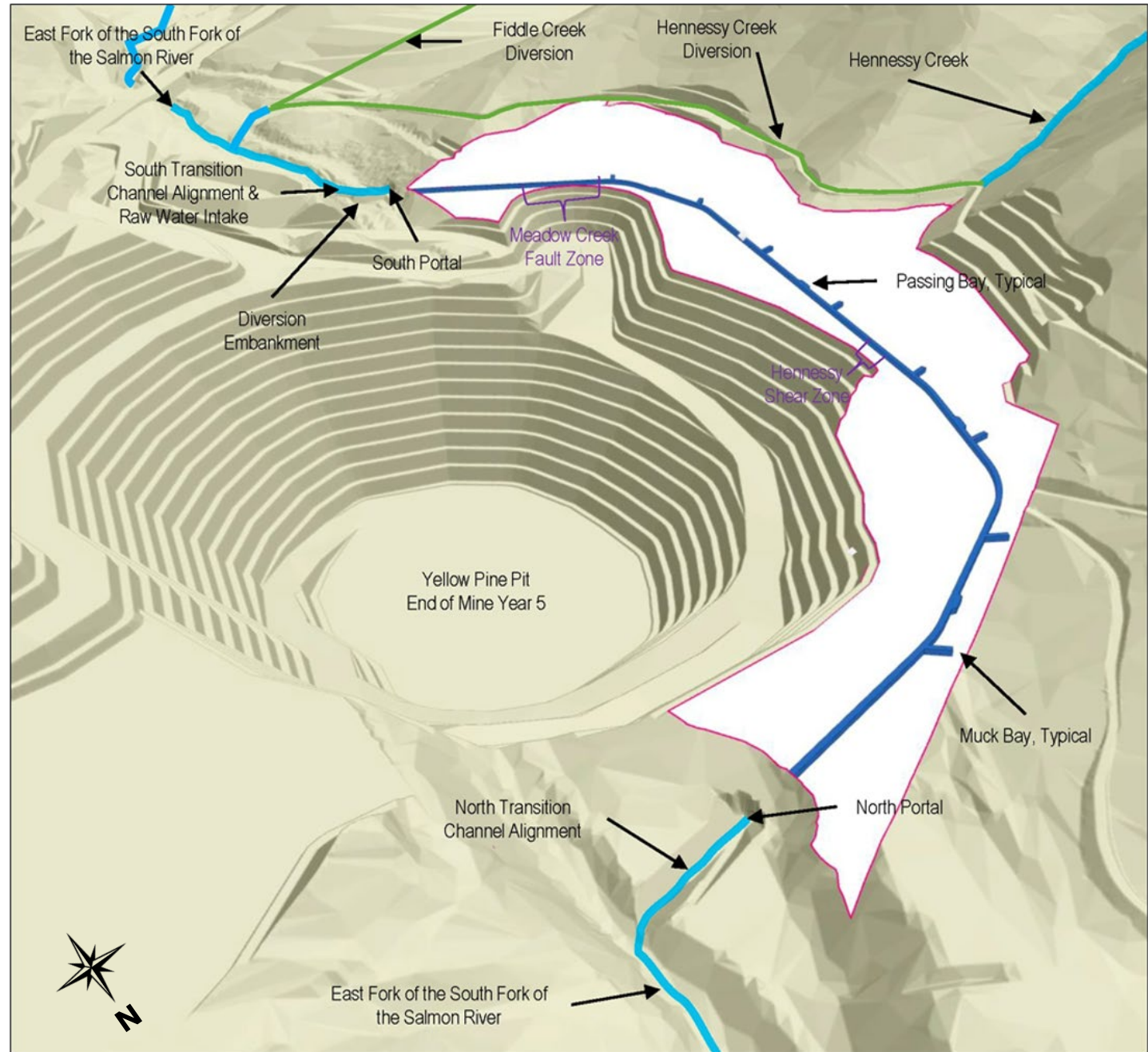
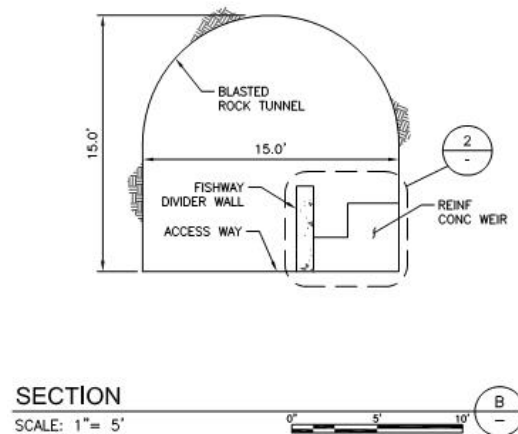
Sediment from Blowout Creek settles in Yellow Pine pit



DURING MINING

EFSFSR Tunnel Passage

- Immediate fish passage for approximately 15 years.
- Proven technologies for passage, monitoring and restoration.
- Passage for all 3 key species - chinook salmon, bull trout and steelhead to miles of stream habitat currently blocked.

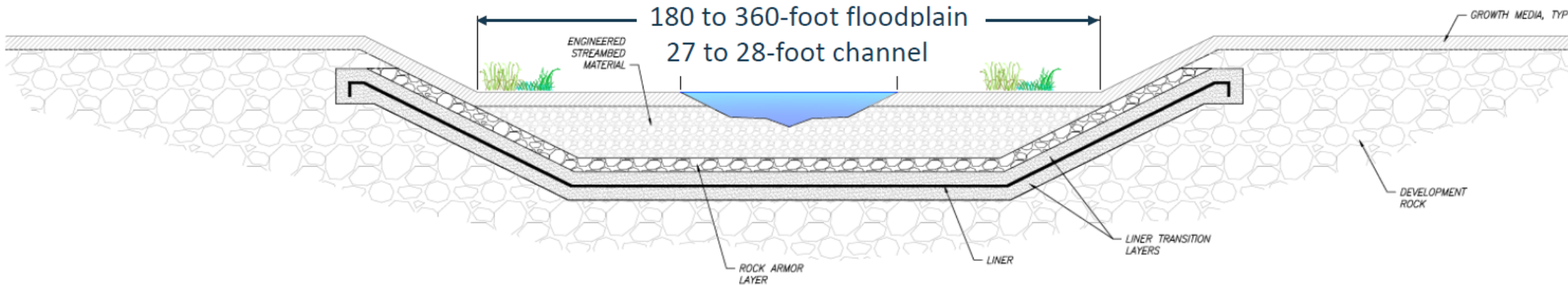


EFSFSR: East Fork South Fork Salmon River

EFSFSR OVER YPP

Proposed Stream Liner

- 180 to 360-foot-wide floodplain
- Liner buried 11-16 feet



Drawing Not to Scale

Proposed Stream Liner Details (DRAFT)						
Reach	Mine Facility	Approximate Liner Width (ft)*	Layers of Material Over the Liner			Total Liner Depth Below the Floodplain Surface (ft)
			Protection (Transition) Layer (ft)	Armor Layer (ft)	Stream Bed and Floodplain Material (ft)	
EF3	Yellow Pine pit	170 to 345	1.0 to 3.0	5.8 to 6.0	4.2 to 6.8	11.0 to 15.8
HC2						
MN2						



STACK ROCK GROUP

River and Fish Passage Restored

PERMANENT FISH ACCESS restored for the first time in 80 years.

HABITAT RESTORATION built into project beginning in year 11.



LEGACY

Water reservoir failed in 1965.

TODAY

The failed reservoir is the most significant source of sediment in the watershed. It degrades water quality and fish habitat and diminishes wetland functionality.

BLOWOUT CREEK

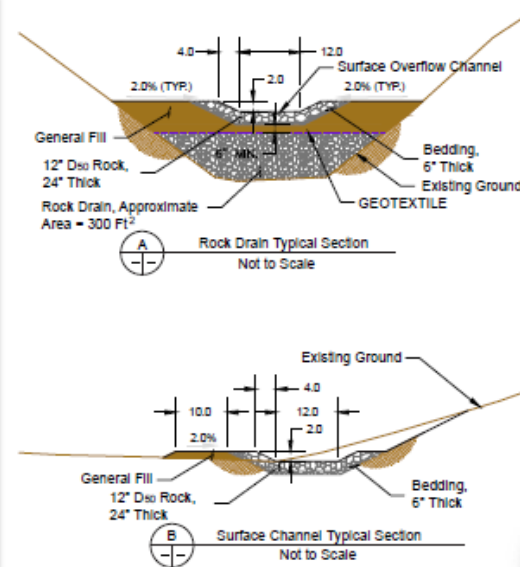


BLOWOUT CREEK RESTORATION

CURRENT

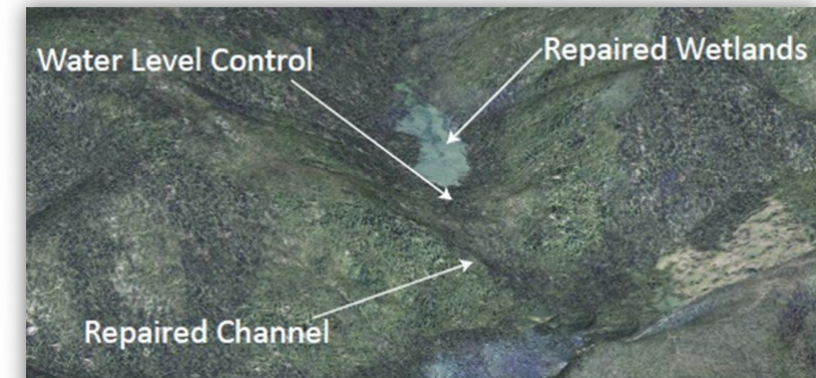


INTERMEDIATE



IMPROVEMENTS

- ✓ Improve water quality in Meadow Creek and EFSF Salmon River.
- ✓ Improve habitat conditions.
- ✓ Raise water table in the hanging valley by 14 ft
- ✓ Stabilize the water table
- ✓ Reestablish wetlands habitat.



LEGACY

Tailings (beige) were covered with spent heap leach ore (brown) after being deposited, unlined, in the Meadow Creek Valley.

TODAY

Revegetation attempts have been made; however, legacy materials continue to degrade water quality and leach metals into the surface water and groundwater.

An aerial photograph showing a large, unlined disposal area in a valley. The area is filled with tailings (beige) and spent heap leach ore (brown). The surrounding landscape is forested, and a road or path is visible on the left side of the disposal area.

SPENT ORE DISPOSAL AREA (SODA)

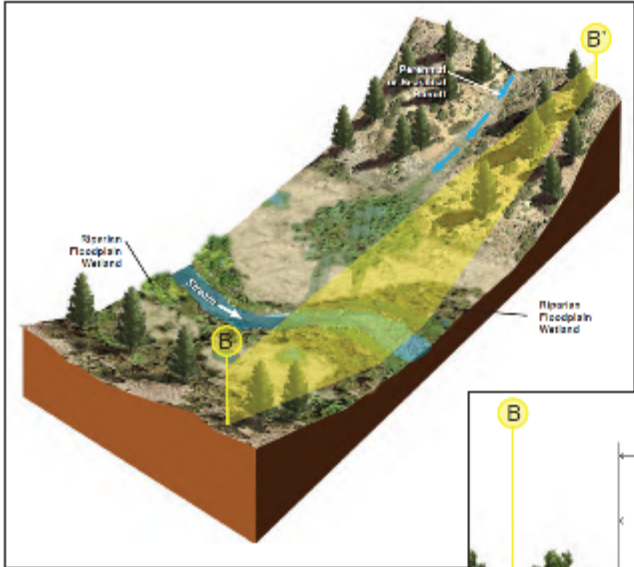


REMOVE & REPROCESS LEGACY TAILINGS

CURRENT

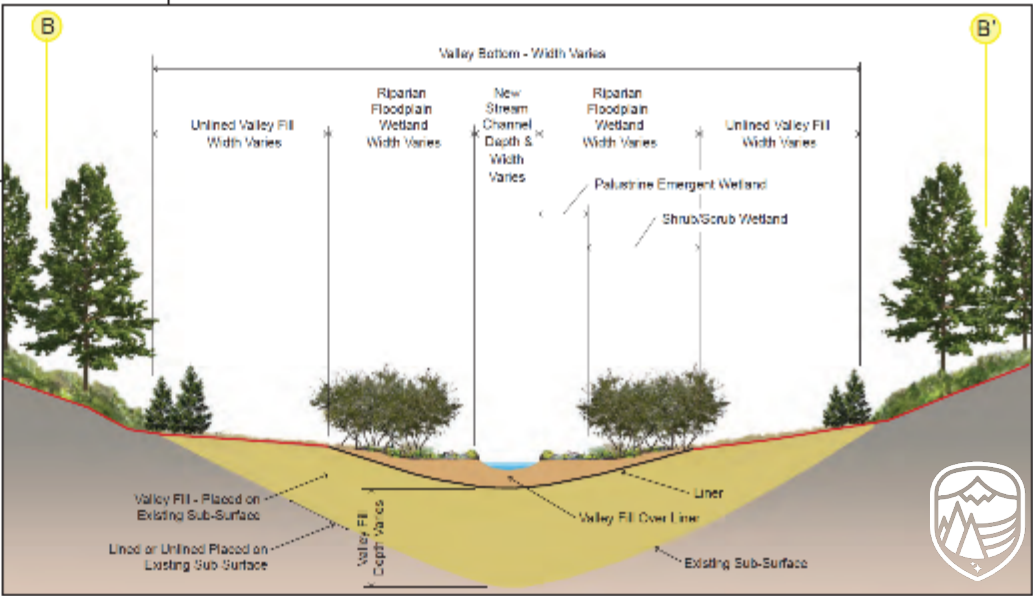


RESTORATION



Reprocess 3 million tons of historical tailings & repurpose the 7.5 million tons of spent heap leach ore, removing an existing potential source of water degradation.

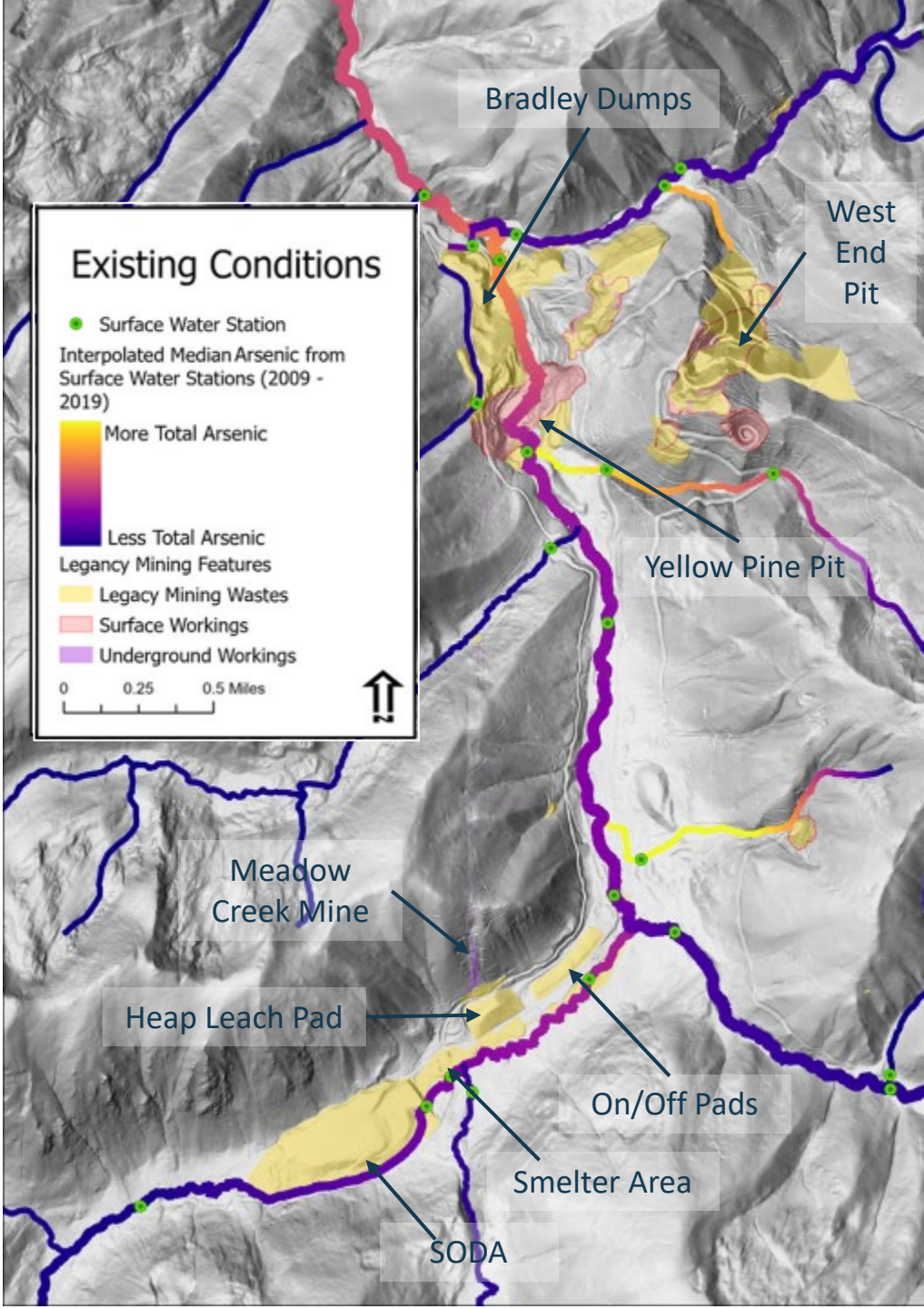
Restoration follows construction and operation of TSF and Hangar Flats DRSF within portions of the SODA footprint.



RIPARIAN FLOOD PLAIN WETLAND B-B'
NOT TO SCALE

WATER QUALITY TODAY

Meadow Creek Valley, circa 1940s



COMMITTMENT TO EARLY RESTORATION

The Administrative Settlement Agreement and Order on Consent (ASAOC) is necessary to allow a third-party to voluntarily address environmental conditions at an abandoned mine site.

The ASAOC does not approve mining activity, it only provides for cleanup activity of legacy waste and is separate from the NEPA process reviewing the Stibnite Gold Project

SOLUTIONS START NOW

Perpetua Takes Action to Restore the Site

Perpetua signed an ASAOC with federal agencies in 2021, in order to perform agreed upon early actions to improve water quality conditions at Stibnite.

Comprehensive Clean Up: Immediate, time-critical needs are addressed over 4 years; once the Stibnite Gold Project is permitted, and all parties agree, the Agreement allows for a comprehensive site cleanup.

Phase 1: The first phase of work began in July 2022.



CLEANUP STARTS TODAY

A PATH FORWARD FOR STIBNITE

In a signed agreement with federal agencies, Perpetua has volunteered to remove and safely store over 300,000 tons of legacy tailings & waste and divert and line streams to help keep clean water clean.



Stibnite Gold Project ASAOC Phase 1 Removal Actions

Legend

Removal - Destination Location	Legacy Mining Wastes
Removal - Source Location	Lakes
Potential Borrowsites	Perennial Stream
Adit Investigation Location	Other Stream
Stream Diversion	



INDUSTRY AND THE ENVIRONMENT CAN WORK TOGETHER

ECONOMY + ENVIRONMENT

Invest \$1 billion in Idaho

Provide well-paid jobs to Idahoans

Grow economic opportunity with an estimated \$43 million in direct annual payroll during operations & \$86 million in local and state taxes*

Reprocess historical tailings

Restore fish passage

Repair historically impacted waterways

Remediate areas contributing to water degradation

Rehabilitate habitat and natural vegetation

Reuse materials on site

*Based on the 2014 Pre-Feasibility Study





IDAHO JOBS

IN IDAHO, ~2 INDIRECT JOBS CREATED FOR EVERY DIRECT JOB IN MINING.

~ 2-3-year construction period*

Approx. **600-700 direct jobs in Idaho**

Average wage: **\$70,000**

Average annual **payroll ~ \$34 million**

~ 12-15-year operating life*

Approx. **500-600 direct jobs in Idaho***

Average wage: **\$80,000***

Average annual **payroll ~\$42 million**

** (Life of mine average)*

~ 3-5-year final reclamation and closure*

Approx. **50-200 direct jobs in Idaho**

Average wage: **\$60,000**

NOTE: Based on the 2014 PFS, 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 PFS and FS. See "Regulatory Information" at the end of this presentation.





~\$1 BILLION INVESTMENT

~\$1 billion total construction and investment

37 miles of road: new and upgraded roads including 5 bridges

72 miles of transmission line: new and upgraded 138 kV power line and 5 new substations

57,000 cubic yards concrete

5,580 tons of rebar

7,730 sq ft of masonry

9,555 tons of structural steel: 106,000 sq ft steel decking, 3,200 linear ft ladders and stairs,
26,500 linear ft handrail, 768,000 sq ft. roofing and siding

ECONOMIC OPPORTUNITIES



DIRECT BENEFITS*

- \$232 million in average annual expenditures
- \$42 million in annual payroll (operations)
- \$329 million in federal corporate income taxes
- \$86 million in state and local taxes and mine license fees
- \$3.8 million in local taxes for schools, government, law enforcement, etc

DIRECT, INDIRECT AND INDUCED BENEFITS*

- \$506 million in Federal Taxes
- \$218 million in State and Local Taxes
- \$152 million in sales transactions in the regional economy
- \$298 million annually in sales transactions in Idaho

\$100M spent in Idaho 2014-2022

COASTLINE
Equipment

Rocky Mountain
SIGNS
McCall, Idaho 634-2045
STICKERS, BANNERS, WINDOW GRAPHICS,
MAGNETS, VEHICLE GRAPHICS, ETC

COUGAR DAVE'S
FOOD & SPIRITS

LEGACYSeeds

MOUNTAIN TECH
PERFORMANCE

BOB BATE FORD
Ford
CASCADE, IDAHO

* Information is based on the 2014 PFS which is intended to be read as a whole, 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 PFS. See "Regulatory Information" at the end of this presentation.

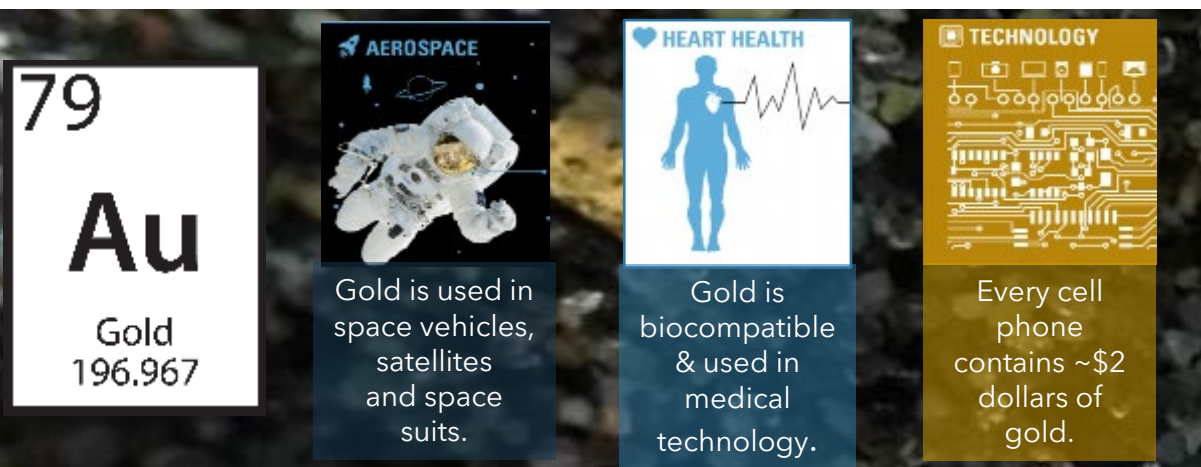


CRITICAL RESOURCES

GOLD

4.8 MILLION OUNCES OF GOLD (Reserve)

Total resource ~6 million ounces.



The **Stibnite Gold Project** would be the 4th 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 ~216 million pounds



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.





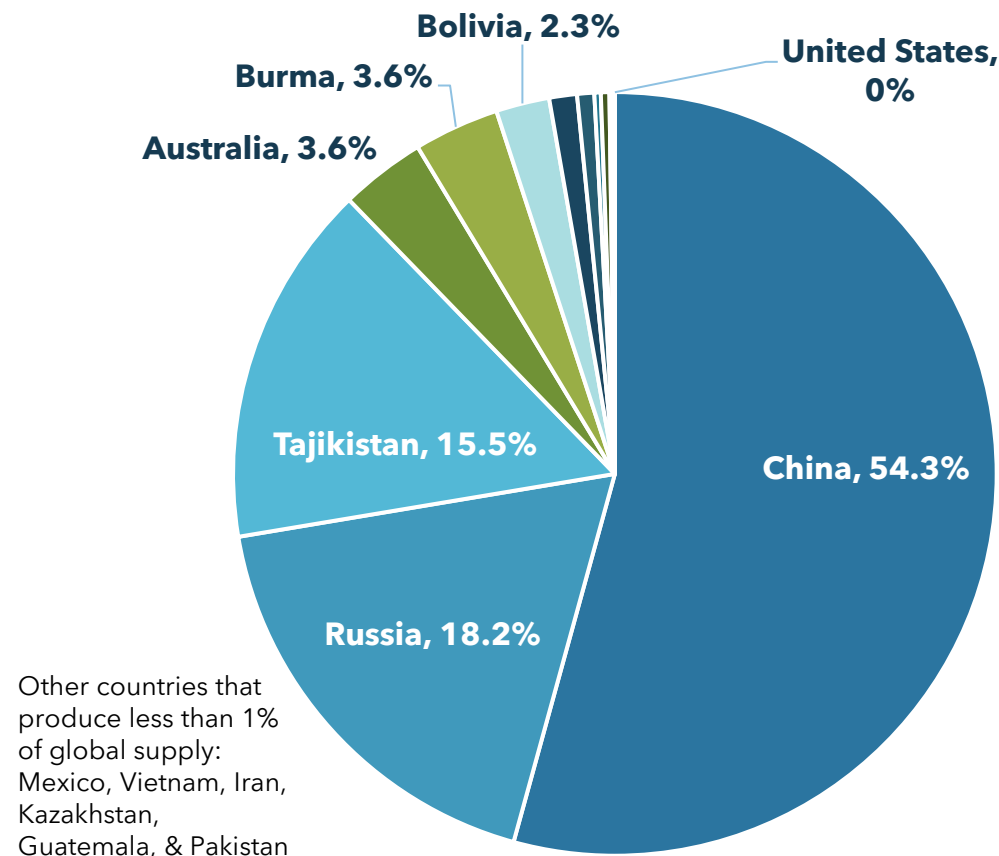
ATIMONY: Securing & Powering the Future

US CRITICAL MINERAL SUPPLY CHAIN RISK.

Critical Minerals are metals and non-metals essential to economic and national security and are vulnerable to supply chain disruptions

- **Antimony** is one of 50 federally listed critical minerals and a strategic defense material.
- **China & Russia** dominate the world antimony supply (>70%)
- **U.S. has no primary antimony production.**
- **Perpetua Resources could re-establish domestic antimony** production and protect America's future.
- **2021 - Executive Order on Critical Supply Chains** and subsequent report, signals need to evaluate supply chains for critical minerals, semiconductors and battery storage technology.
- **2022 - National Defense Authorization Act** noted concern that non-allied nations control the U.S. supply of antimony and called for reporting on the national stockpile of antimony
- **2022 - Through the Defense Logistics Agency**, Perpetua received 2 Small Business Innovation and Research (SBIR) grants to advance study of domestic mil-spec antimony trisulfide.
- **2022 - Department of Defense awarded Perpetua up to \$24.8M** in Defense Production Act Funding

2022 World Mine Production and Reserves



Source: [2023 USGS Mineral Commodity Summaries](#)

Perpetua Resources is estimated to produce enough antimony trisulfide to completely satisfy Defense needs and ~35% of U.S. annual commercial antimony demand in the first six years of production¹

1. Based on the first 6 years of 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.

DEPARTMENT OF DEFENSE up to \$24.8M

U.S. Department of Defense has awarded Perpetua Resources up to \$24.8M in Defense Production Act Title III funding to support advancing the construction readiness of a domestic antimony source.

- Reimbursement for certain costs incurred over 24 months
- Advances construction readiness and the environmental and technical studies required for permitting process.
- No changes to the project design.
- No changes to the authorities of the permitting agencies.

"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."

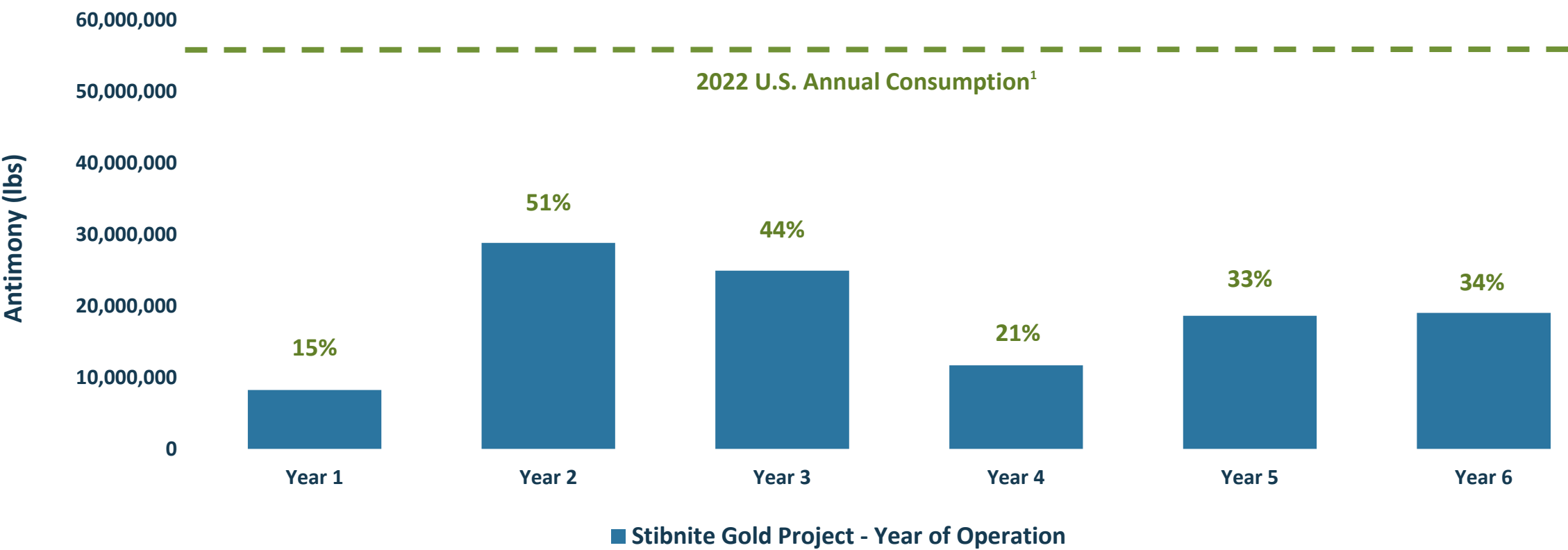
U.S. Department of Defense, Dec. 19, 2022





EXPECTED TO AVERAGE ~35% OF U.S. DEMAND^{1,2}

Stibnite Gold Project Recovered Antimony²



Perpetua Resources plans to re-establish domestic antimony production, protecting America's future

1. Source: 2023 USGS Antimony commodity summary
2. 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. For a summary of differences between the FS and TRS, see "Cautionary Note and Technical Disclosure" at the beginning of this presentation.

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

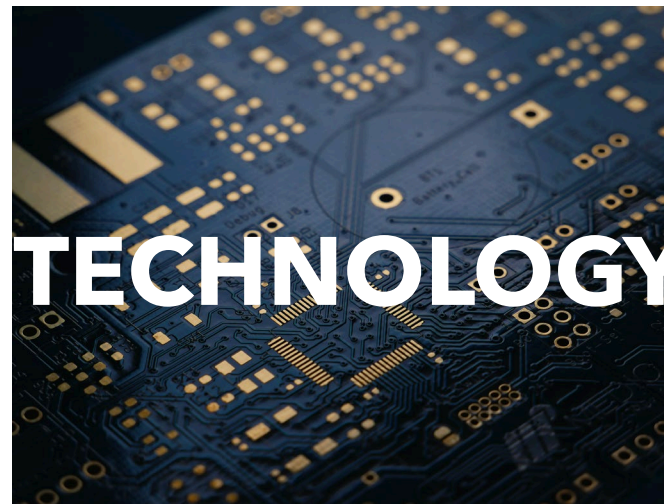
Military Clothing

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



AMERICAN INNOVATION & AMERICAN MINERALS

LIQUID METAL BATTERY

The liquid metal battery fundamentally changes the way power grids operate and enables the transition to carbon-free power grids.

MISSING PIECE FOR NET ZERO GRID

Ambri's antimony-based, liquid metal battery is the large-capacity, low-cost, reliable, responsible, stationary energy storage for the future.

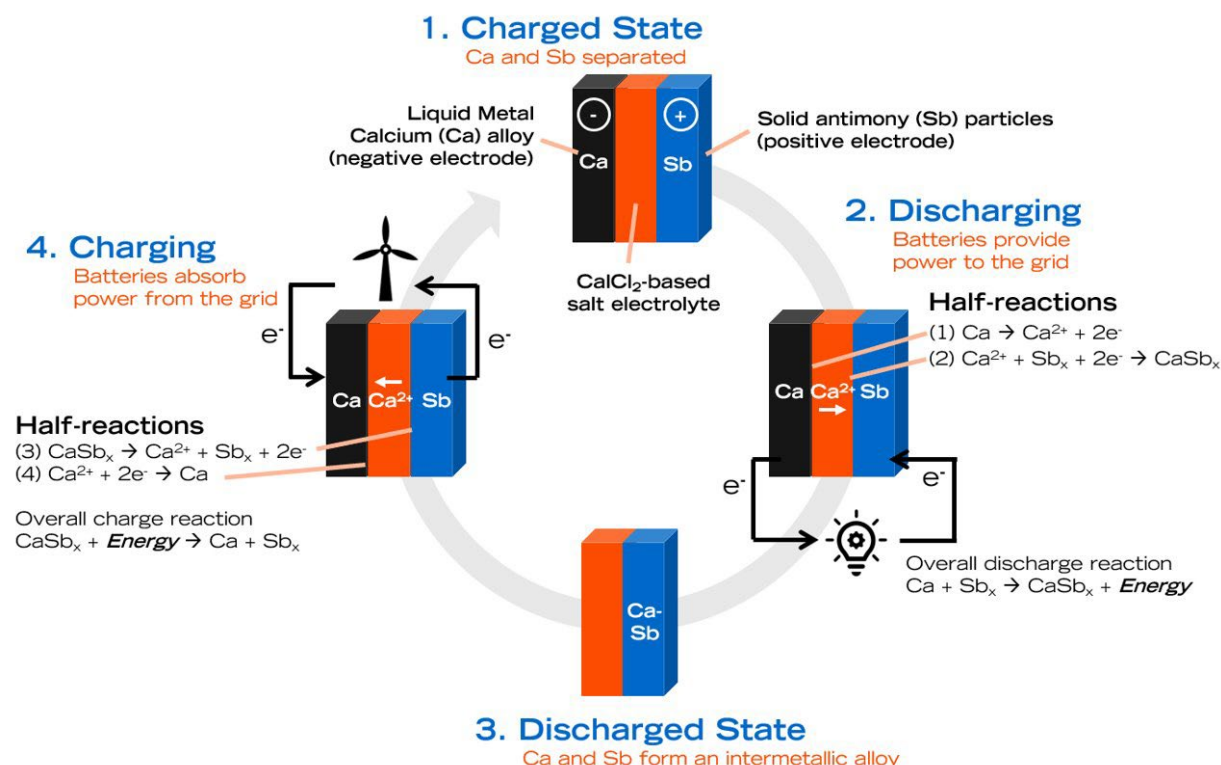
ANTIMONY AND CALCIUM: Developed by a team from MIT, the liquid metal battery technology relies on a calcium alloy anode, molten salt electrolyte and a cathode of solid antimony.

HIGH-CAPACITY: Grid scale, daily cycle, modular to meet gigawatt deployment.

LONG-LIFE: 20+ year useful life.

LOWER COST: 30-50% below equivalent lithium-ion (2020-2030).

IMMEDIATE: <500 millisecond response time.



A GREEN ENERGY PARTNERSHIP

Antimony from the Stibnite Gold Project will be used to produce high-capacity, long-term, reliable, and safe clean energy storage batteries.

At the current scope, the partnership will provide enough antimony to

**Power ~1 Million
U.S. homes with
solar power for the
20-year battery
lifespan.**

RESPONSIBLE, SECURE SOURCE of ANTIMONY

MISSING PIECE FOR DECARBONIZED GRID

- Perpetua has committed to supply a portion of the antimony from the Stibnite Gold Project to Ambri, the liquid metal battery company.
- **The current commitment of antimony from the Project can power over 13 Gigawatt hours of energy storage.**
- Perpetua and Ambri will also partner to identify opportunities to reduce carbon emissions through renewable energy generation combined with battery storage during operations



INFRASTRUCTURE

STIBNITE GOLD LOGISTICS FACILITIES

Scott Valley, Administrative and Transportation Facility

IN-TOWN JOBS

Human Resources

Purchasing & Accounting

Administration & Management

Warehousing & Storage

Laboratory

REDUCE TRAFFIC

Use as point of transportation for staff and site load consolidation

Reduces dust and sediment generated by vehicles

Reduces risk of accidents along route

Reduce greenhouse gas emissions



SITE ACCESS

CURRENT ROUTE (Johnson Creek Alternative)

The current travel routes to Stibnite, via Johnson Creek to Yellow Pine and Stibnite.

CONSIDERATIONS

- Public input and feedback
- Proximity to fish-bearing waterways
- Impact on residents and recreationalists
- Safety risks to employees and the public

PREFERRED ALTERNATIVE, THE BURNTLOG ROUTE PROMOTES SAFETY

38 miles total.

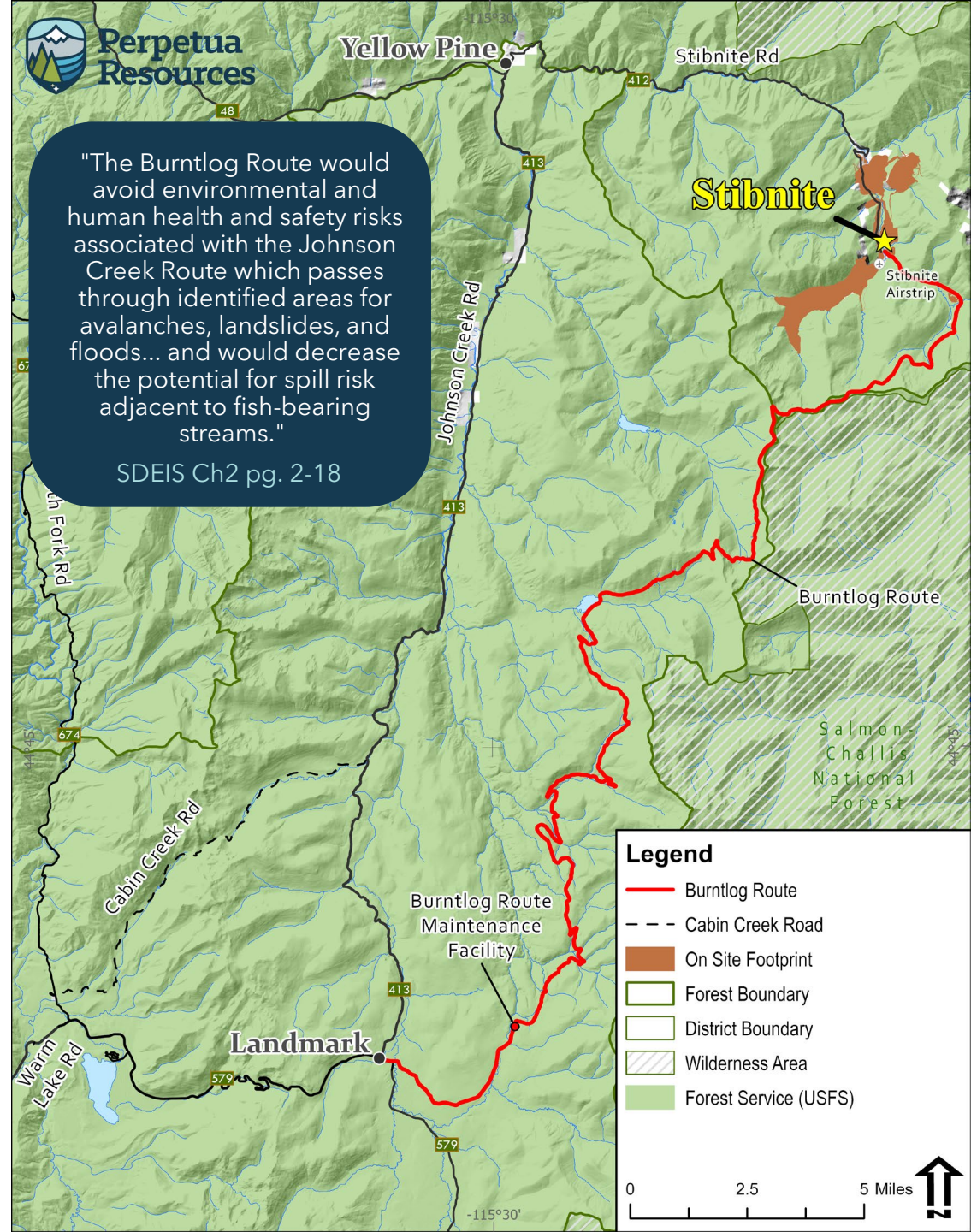
- 23 miles improving existing road (Burnt Log Road, Meadow Cr. Lookout Rd, & Thunder Mountain Road)
- 15 miles of new road

Benefits

- Avoids travel along waterways
- 18 fewer miles within 0.5 mile of streams.
- Avoids large avalanche paths along Stibnite Rd.

Safety Considerations

- All sensitive loads travel under strict best practice protocol and are accompanied by trained spill teams, which along with berms and ditches, minimize spill risk reaching waterways or the Frank Church boundary.
- ~4.3 miles alongside boundary area of the Frank Church
 - 3.3 miles are new road, drain away from the Wilderness, and are not visible from the Wilderness.
 - 1 mile of existing road will receive additional protective ditches and drain away from the wilderness.



TRANSPORTATION PLAN

- Concentrate traffic 6am-8pm Mon-Fri
- Bus workforce from Logistics Facility to project site (Estimate 90% of workforce)
- Approximately 25 round trips per day
- Pilot vehicles will accompany fuel & sensitive loads
- Bypass downtown McCall
- Perpetua Resources will address upgrades at HWY 55 at Warm Lake, Boydston and Dienhard

BENEFITS:

Less traffic
Less dust
Lower accident risk
Lower spill risk
Less noise

The Stibnite Gold Project represents an estimated 1-3% increase in 2017 traffic levels on Highway 55.

Current Burntlog Road



PERPETUA TRAFFIC IMPACTS - OPERATIONS

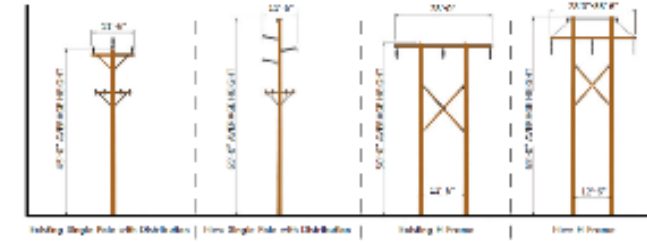
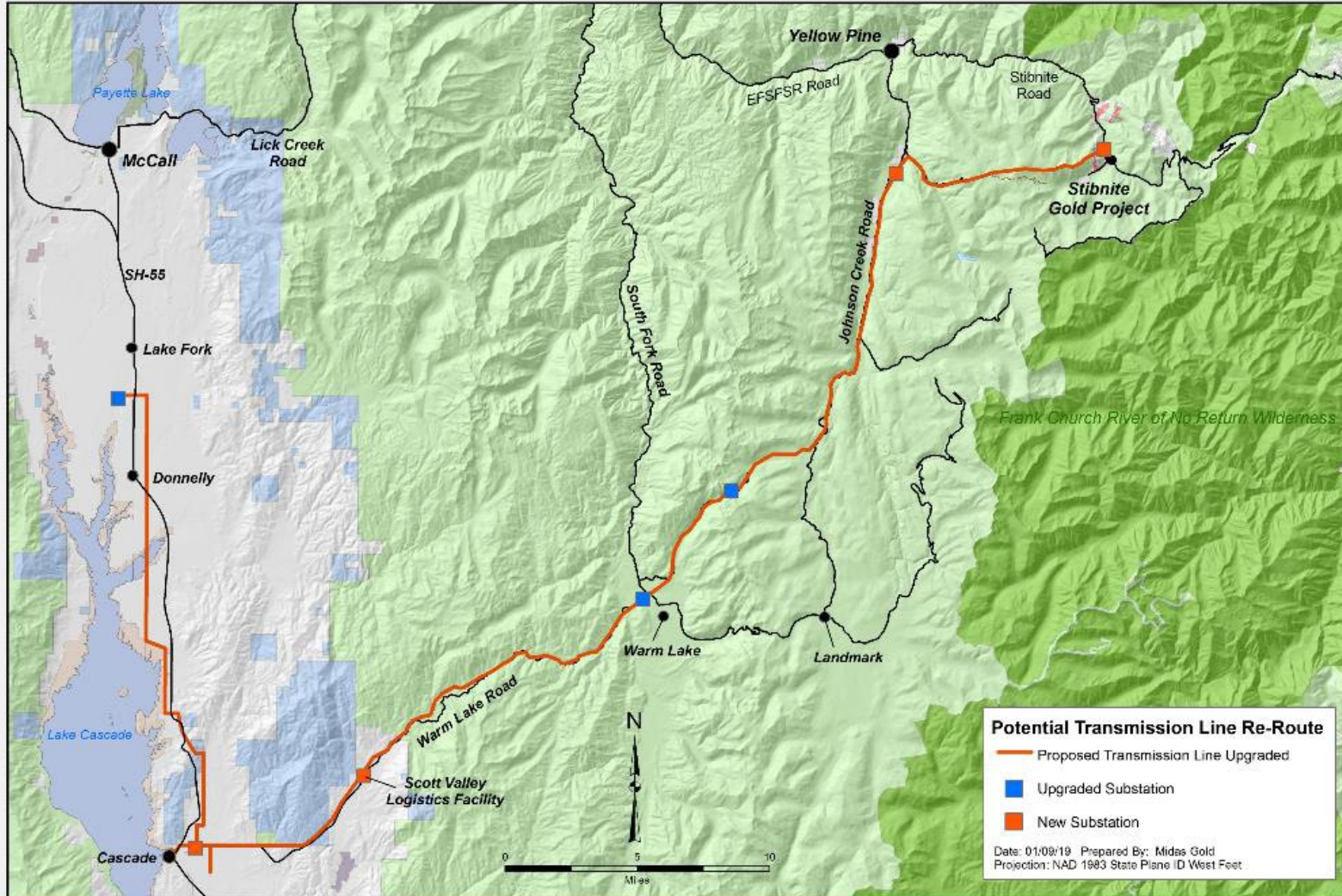
To/From SH-55 to the Stibnite Gold Logistics Facility

Main Road	Direction of Travel	Annual Average Daily Traffic ¹			Percent Vehicles from Perpetua	Number of Heavy Vehicles	Percent Heavy Vehicles
		Existing AADT	Perpetua Added Trips	Total			
SH-55	North of Warm Lake	4,900	52	4,952	1.1	8	0.1
	South of Warm Lake	4,900	104	5,004	2.1	17	0.3
Warm Lake Rd	N/A	1,670	156	1,826	8.5	25	1.4

¹ Supplemental Draft Environmental Impact Statement (SDEIS), 2022

TRANSMISSION LINE UPGRADE

Project will upgrade ~72 miles of transmission line at company's expense



INCREASED POWER AND RELIABILITY

- Upgrade current 69-kV to 138-kV
- New and upgraded substations
- Costs will be incurred by Company, not Idaho Power rate payers.
- We proposed changes to the route to reduce environmental impact and improve location for local residents.



TAILINGS SAFETY 101

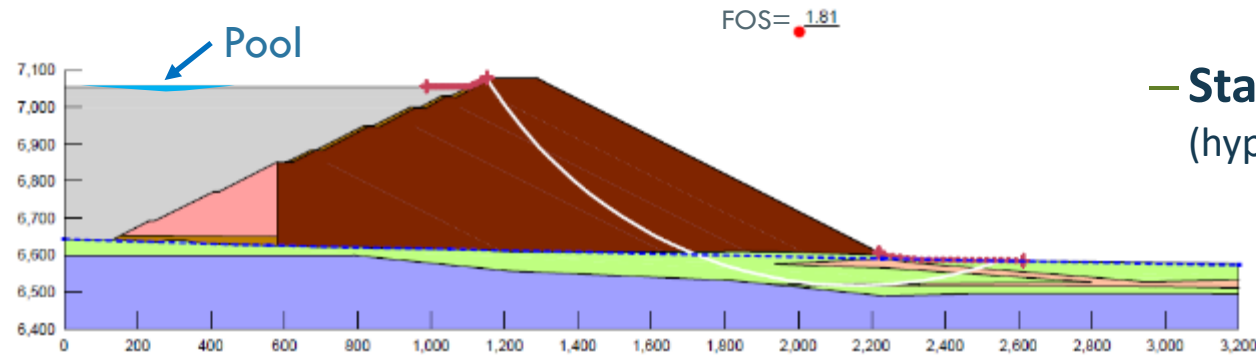
THE STIBNITE GOLD PROJECT TAILINGS STORAGE FACILITY WILL BE:

- Best Practice** For Tailings Facility Design
 - ✓ Downstream constructed
 - ✓ Made with compacted rockfill
 - ✓ Fully lined
- No known failures** for facilities with these design characteristics
 - ✓ Reviewed by an independent expert
 - ✓ Buttressed to double the factor of safety
- Added** benefits
 - ✓ Designed and regulated in the U.S.
 - ✓ 90% contained by mountains

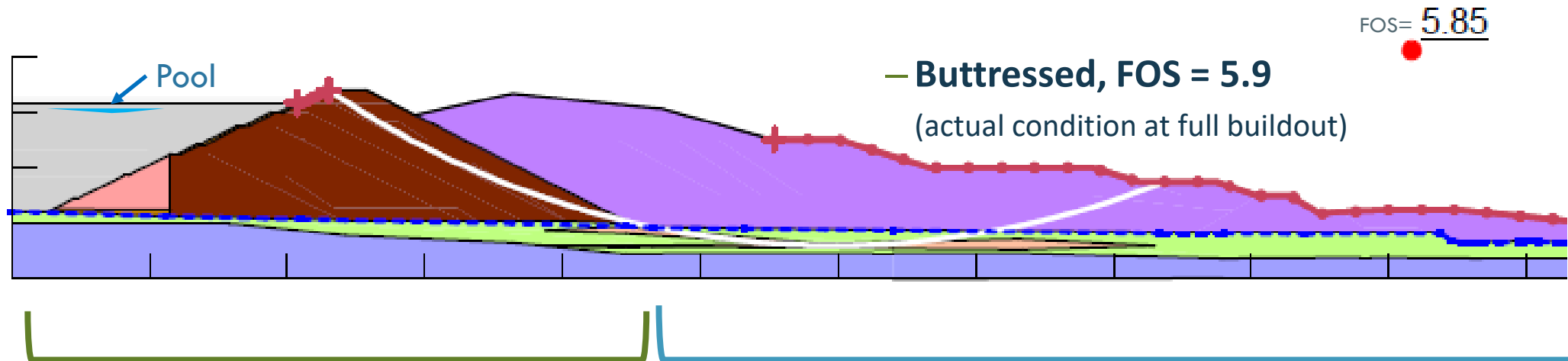


TAILINGS FACILITY STABILITY

FOS: Factor of Safety



— **Standalone Dam, FOS = 1.8**
(hypothetical only)

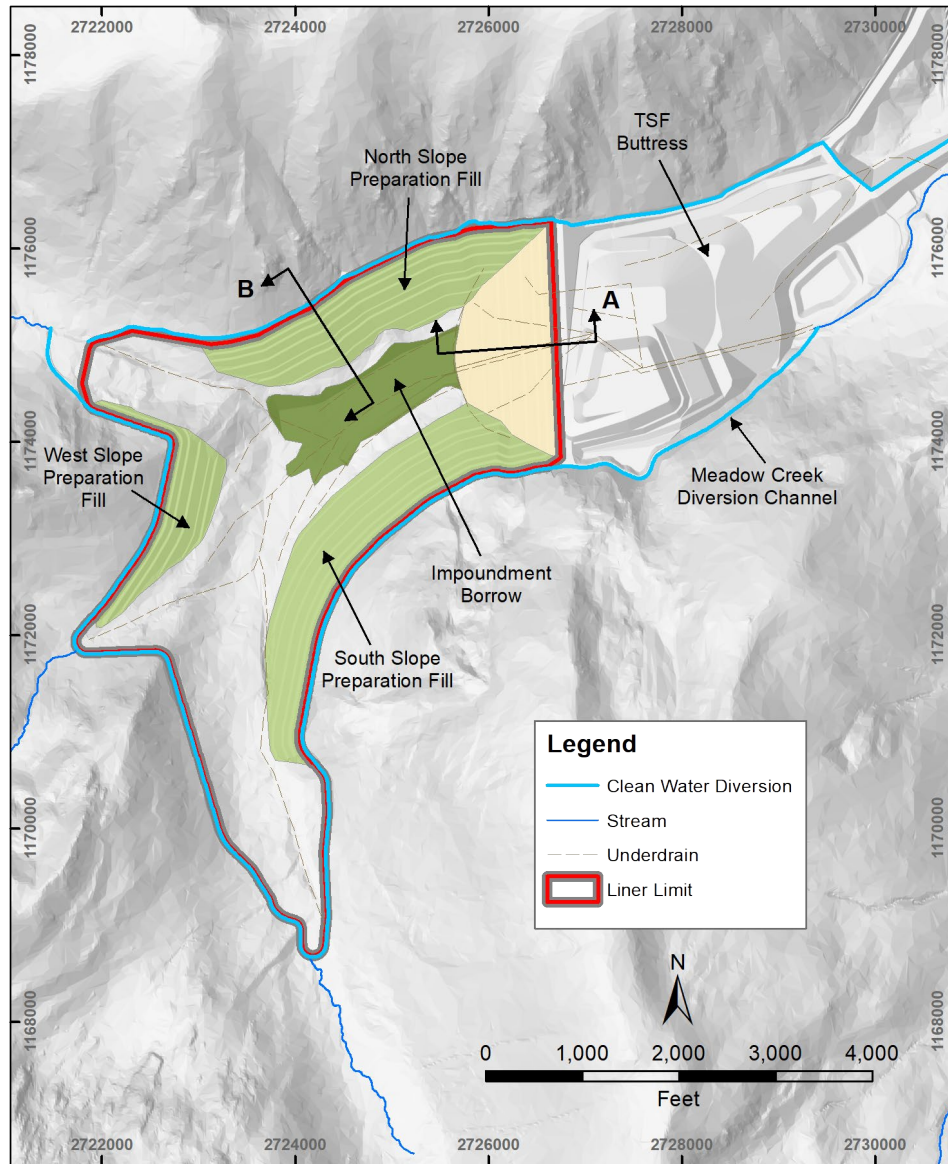


— **Buttressed, FOS = 5.9**
(actual condition at full buildout)

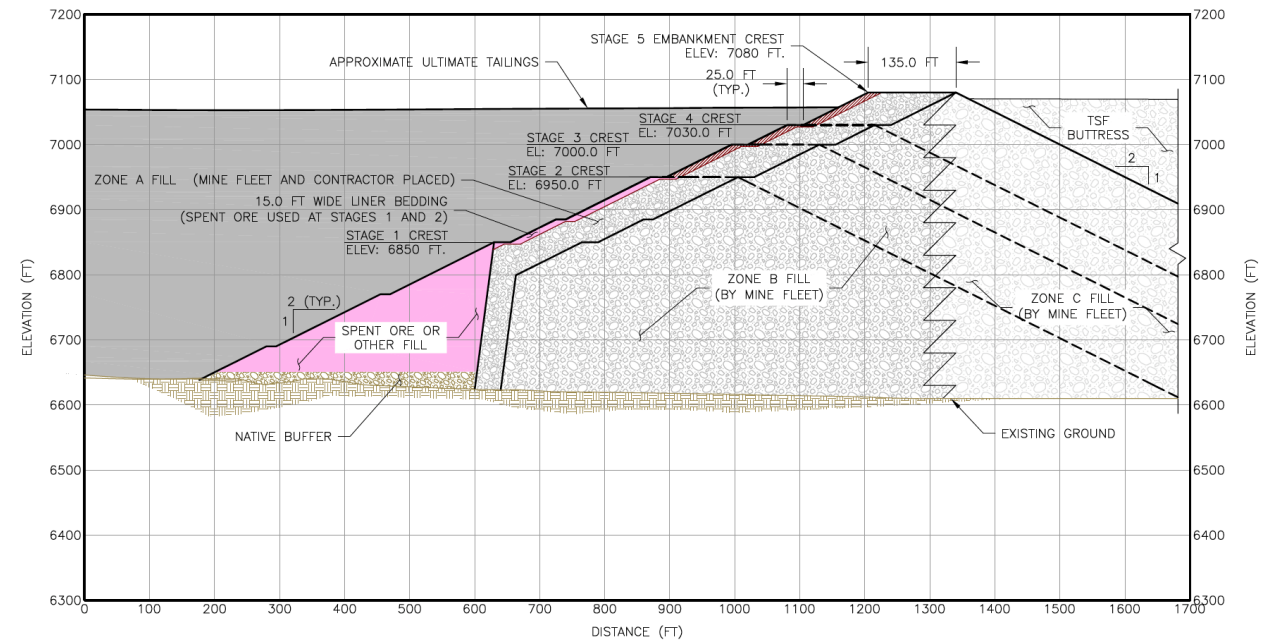
Meets or Exceeds Regulatory Standards
(Static FOS 1.5)

Rock Buttress At Least Doubles Required FOS
(at all stages)

TSF/BUTTRESS DESIGN CONFIGURATION



- ✓ Rockfill with downstream raises to maintain freeboard
- ✓ Composite-lined
- ✓ Surface water diverted
- ✓ Underdrains
- ✓ Over-liner drainage/pore pressure relief



FINANCIAL ASSURANCE

MAKING SURE FUNDING FOR RESTORATION IS AVAILABLE INCASE OF DEFAULT

Before mining can begin, we must set aside protected funds to guarantee the reclamation of the project.

1. Laws have recently changed; projects must now set aside funding for reclamation calculated based on the **actual cost of reclamation and closure** which includes on site-specific conditions and **third-party contractor costs**. The calculation also includes an extra percentage for contingency and long-term water treatment.
2. Perpetua has suggested that financial assurance for the Stibnite Gold Project incorporate **restoration standards** where possible.
3. Financial Assurance for the Stibnite Gold Project will be **evaluated in phases and reviewed** at a minimum of every five years to ensure the amounts are correct and adaptive.
4. Perpetua will **not** be using a **"Corporate Guarantee"** as a tool for financial assurance and instead will look to traditional forms like bonding and trust.



REGULATORY PROCESS

The STIBNITE GOLD PROJECT

PLAN DESIGNED TO PROVIDE:

- ✓ Natural resource restoration 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

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*¹

NEPA: National Environmental Policy Act

DEIS: Draft Environmental Impact Statement

EFSFSR: East Fork South Fork Salmon River



¹ See forward-looking statements at the end of this presentation. Reflects management's latest expectations based on USFS schedule published in March 2023.

WHAT WE HEARD IN 2020

- ✦ **Improve water quality**
- ✦ **Reduce water temperature**
- ✦ **Reduce the project footprint**

Based on public and agency feedback on the Draft EIS, Perpetua submitted project refinements to the USFS in December of 2020. The improvements create better environmental outcomes and are responsive to public input. The agency has decided to advance the improved project design forward for additional public review.

PROJECT IMPROVEMENTS

Improved Water Quality permanent water treatment is no longer needed through elimination of Fiddle DRSF, added liners, etc.

Improved Water Temperature to reach levels closer to or even below baseline.

10% reduction in total volume mined (44 million tons)

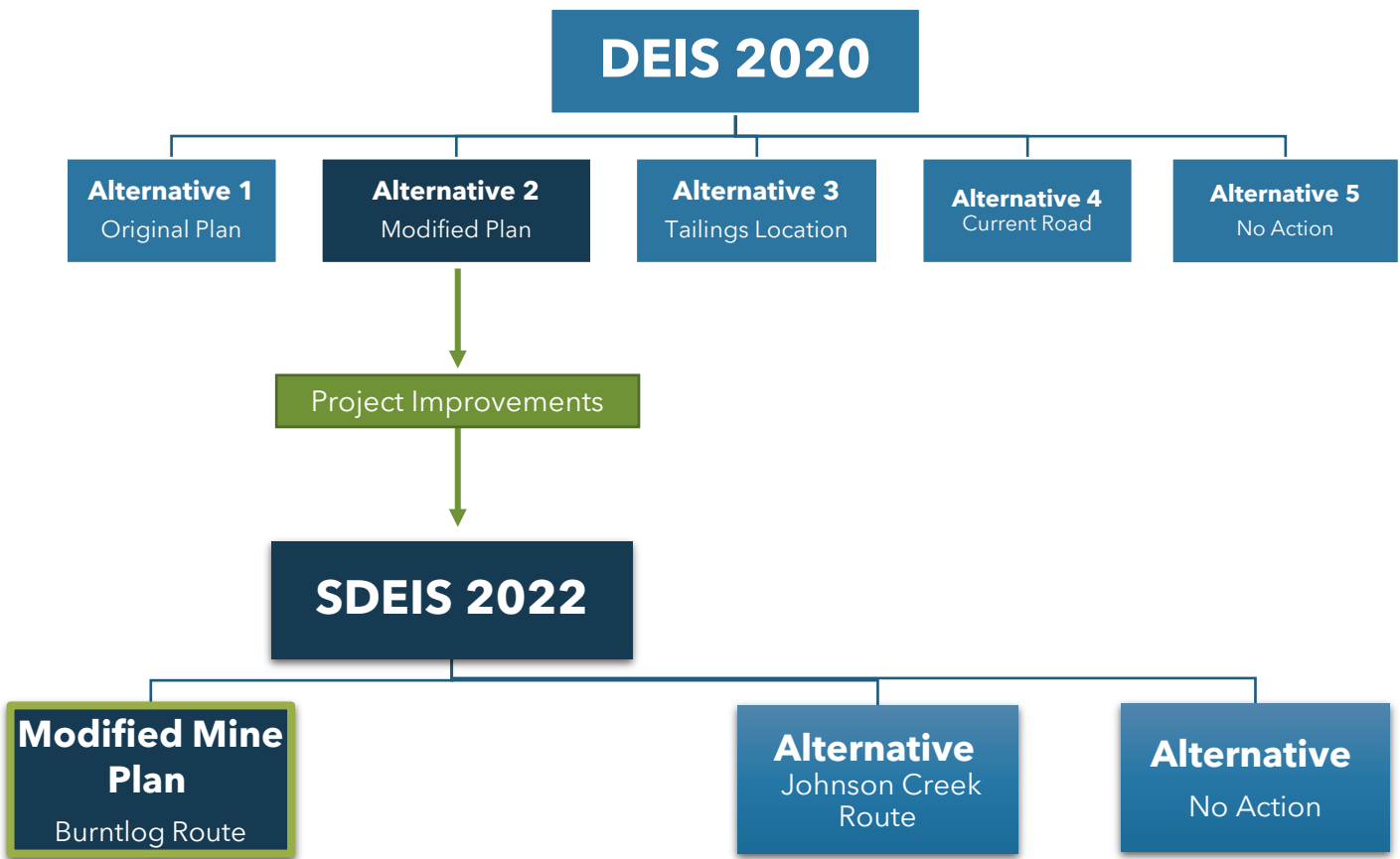
70% reduction in Hangar Flats pit size (the pit can be completely backfilled)

7% reduction in disturbance from open pits (37 acres)

168-acre reduction in disturbance without Fiddle DRSF



2022 SUPPLEMENTAL DEIS



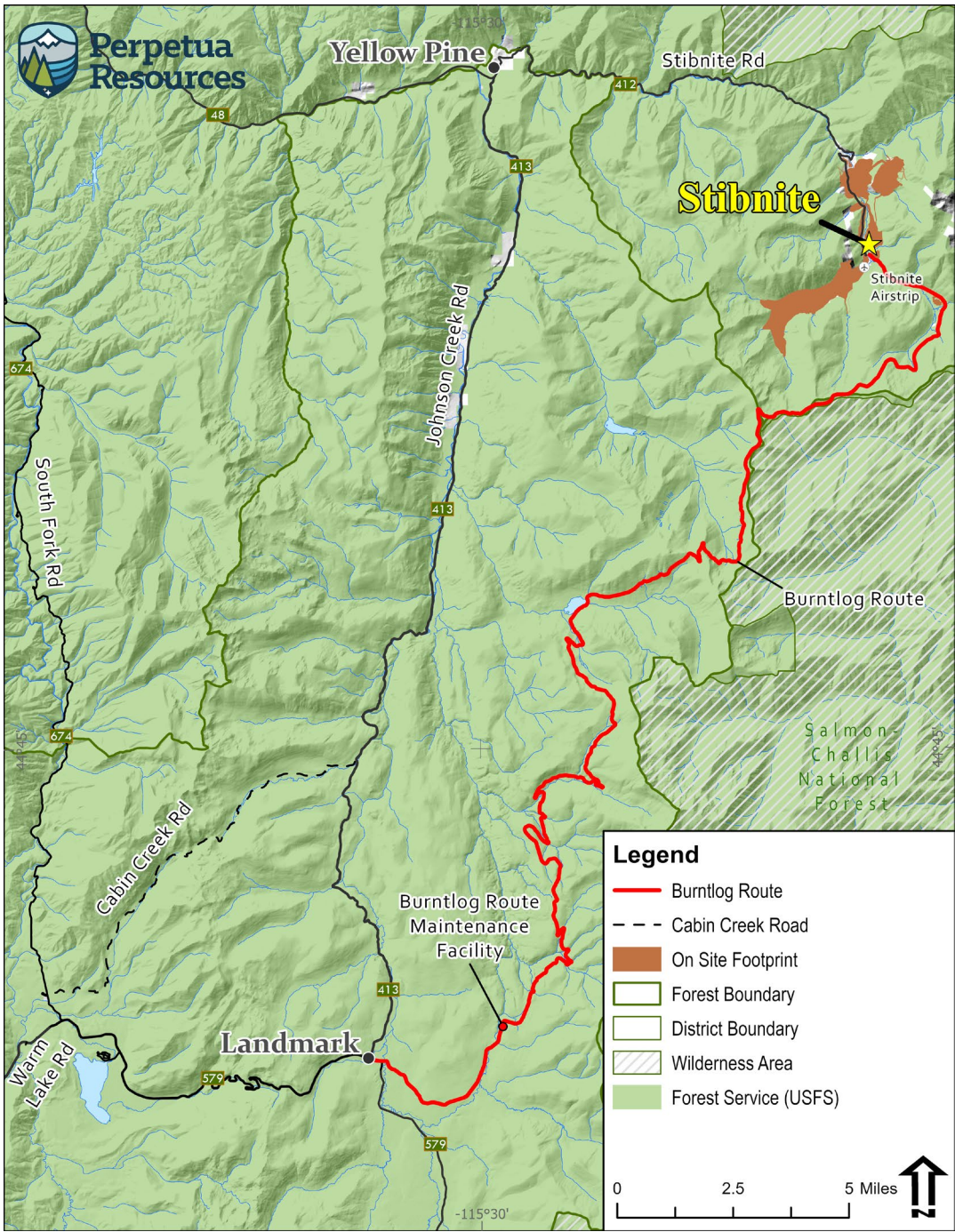
PREFERRED ALTERNATIVE¹
Burntlog Route Alternative

- Identified as the Preferred Alternative
- Avoids travel close to waterways
- Adds ingress/egress route into Stibnite
- Reduces interaction of mine traffic and public
- High in drainage, lower risk of impacts from avalanches

Johnson Creek Route Alternative

- Utilizes existing roads
- Lower in drainage (higher potential avalanche impact)
- Close to waterways
- All mine traffic through village of Yellow Pine

¹ 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.





IT ALL STARTS HERE.

Restore the site.

Provide for our nation.

Bring jobs home.

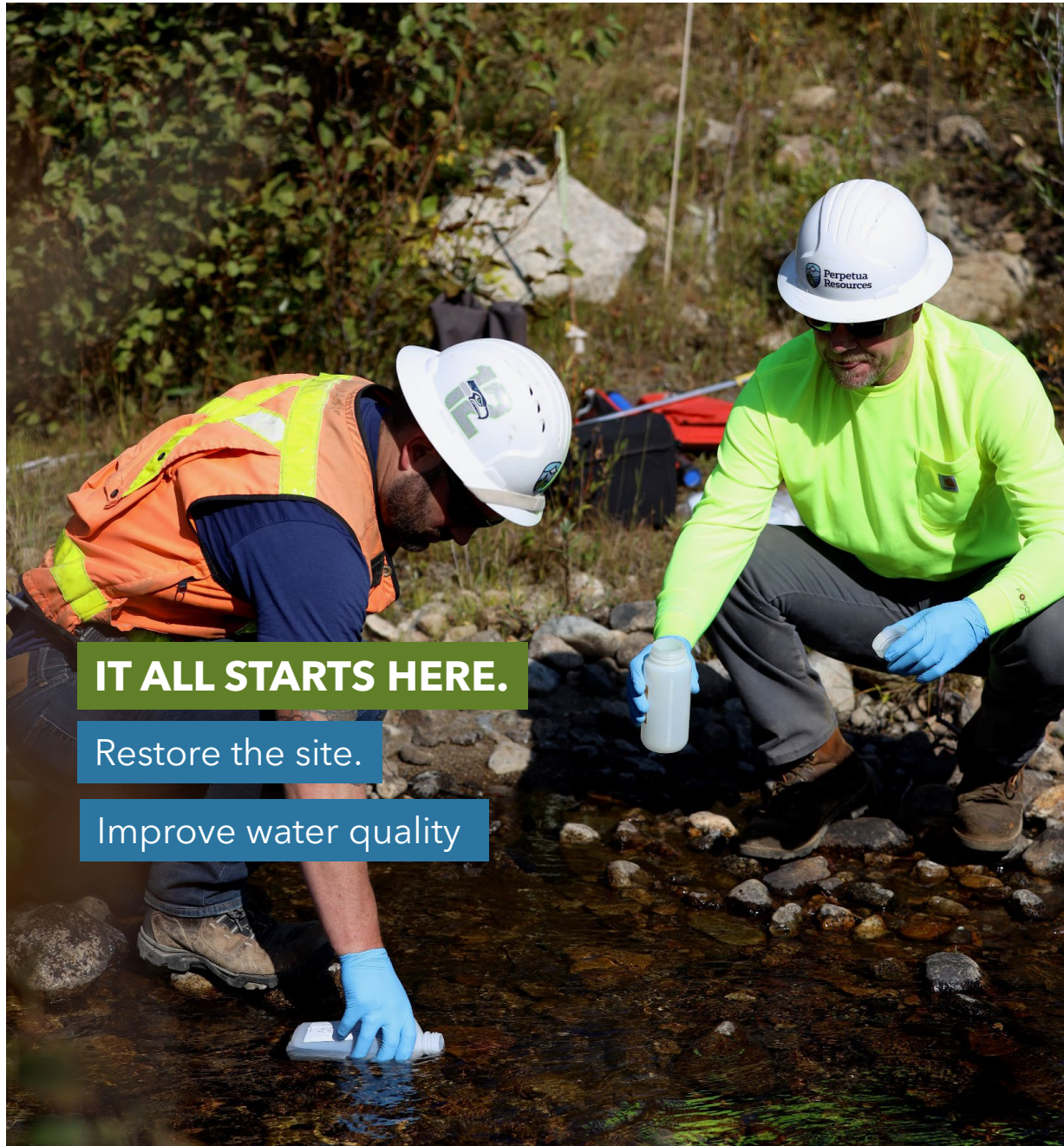
IT IS TIME.

The Supplemental Draft Environmental Impact Statement identified Perpetua's plan as the **Preferred Alternative**.¹

- ✓ Improved water quality.
- ✓ Eliminated need for permanent water treatment.
- ✓ Improved water temperature.
- ✓ Transportation route safest for community and the environment.
- ✓ Meets the purpose and need.

¹ 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.





IT IS TIME.

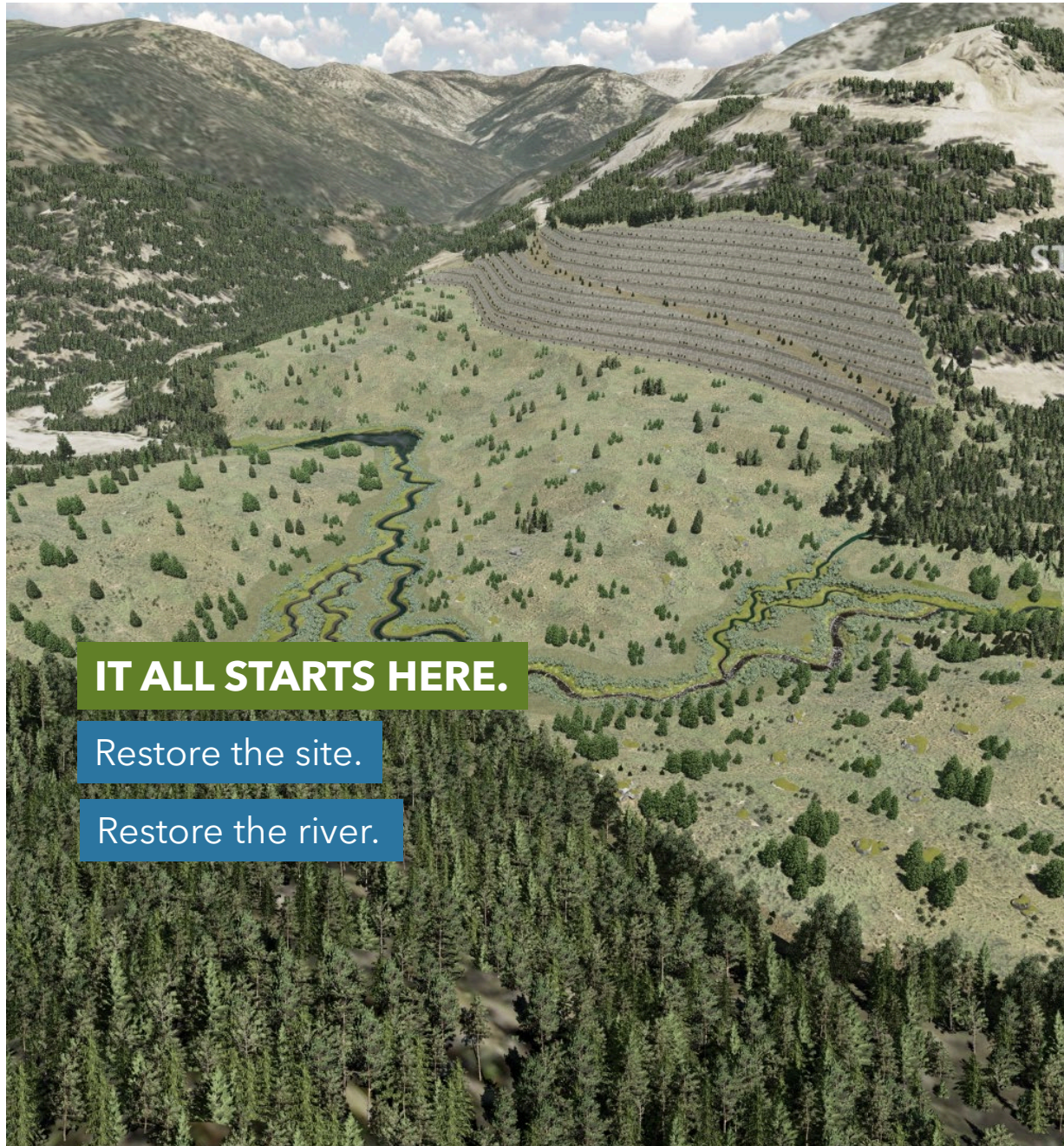
Improve water quality in EFSF Salmon River.

- ✓ **47% reduction in arsenic** in EFSF Salmon River on-site. (40% off-site) (Tables on 4.9-18)
- ✓ **60% reduction in antimony** in EFSF Salmon River on-site (57% off-site) (Tables on 4.9-18)
- ✓ **5C stream temperature reduction from DEIS.**
- ✓ **9% increase** in river functional units

"The 2021 MMP would improve some of the existing water quality conditions observed in Meadow Creek and the East Fork SFSR by removing and repurposing legacy mine wastes."

(Supplemental Draft Environmental Impact Statement, ES-16)





IT IS TIME.

Improve River and Fish Conditions

- ✓ **20+ miles of habitat** opened
- ✓ **8 miles of bull trout habitat**
- ✓ **13 miles of Chinook critical habitat**

IT ALL STARTS HERE.

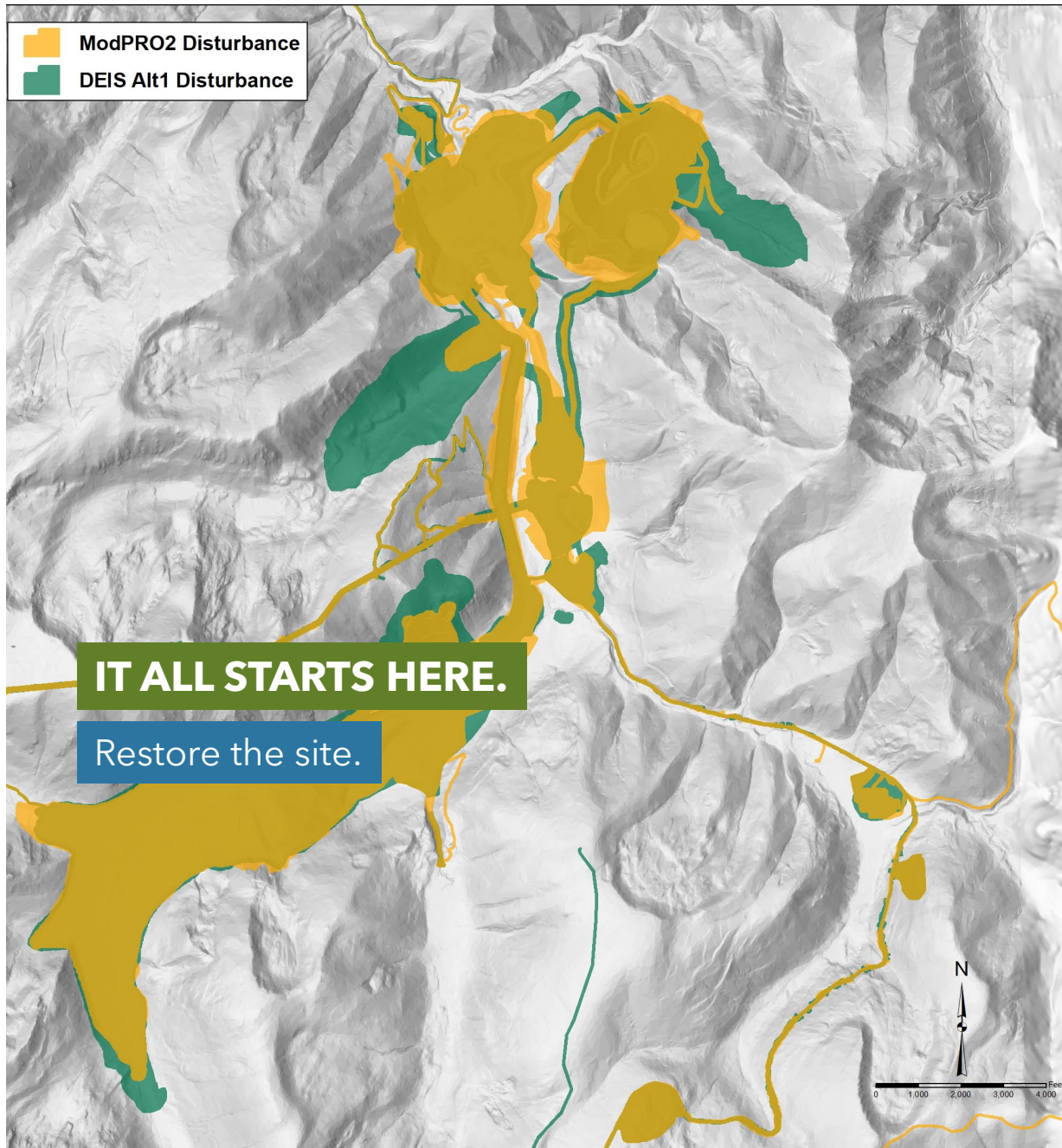
Restore the site.

Restore the river.

"The restoration activities, particularly providing volitional passage in the East Fork SFSR, would result in a major, permanent, regional, and beneficial effect on Chinook salmon, steelhead, bull trout, and westslope cutthroat trout within the vicinity of the mine."

(Supplemental Draft Environmental Impact Statement, 4.12.2.2 2021 MMP; p.4-334)





IT IS TIME.

6 years of listening and working with regulators has reduced the project impacts.

- ✓ **13% reduction in on-site disturbance**
- ✓ **51% on-site Project footprint on previously disturbed legacy areas.**
- ✓ **10% reduction in volume mined**
- ✓ **70% reduction in Hangar Flats pit volume + complete backfill**
- ✓ **~60% reduction in mercury emissions**
- ✓ **23% reduction in traffic by adding lime production to site.**





IT IS TIME.

Safe transport via Burntlog route.

- ✓ 38 miles of new and existing road
- ✓ Reduced risk of hazards
- ✓ Reduced safety risks
- ✓ 18 fewer miles within .5 mile of streams.

"The Burntlog Route would avoid environmental and human health and safety risks associated with the Johnson Creek Route which passes through identified areas for avalanches, landslides, and floods. This route would provide another route for SGP ingress/egress, would decrease SGP and public traffic interaction with Yellow Pine and Johnson Creek area residents; and would decrease the potential for spill risk adjacent to fish-bearing streams."





PERMITTING – NEXT STEPS



EIS: Environmental Impact Statement
DEIS: Draft Environmental Impact Statement
FEIS: Final Environmental Impact Statement

NOA: Notice of Availability
PRO: Plan of Restoration and Operations
ROD: Record of Decision



PERPETUA RESOURCES

RESPONSIBLE. RESTORATIVE. CRITICAL.



Responsible Approach



Abandoned Mine Restoration



Critical Mineral Production



Clean Energy Battery Storage

THANK
YOU.



**Perpetua
Resources**

www.perpetuaresources.com



FORWARD-LOOKING STATEMENTS

Information and statements contained in this presentation that are not historical facts are “forward-looking information” or “forward-looking statements” (collectively, “Forward-Looking Information”) within the meaning of applicable Canadian securities legislation and the United States Private Securities Litigation Reform Act of 1995. We use words such as “may,” “would,” “could,” “should,” “will,” “likely,” “expect,” “anticipate,” “believe,” “intend,” “plan,” “forecast,” “outlook,” “project,” “estimate” and similar expressions suggesting future outcomes or events to identify forward-looking statements or forward-looking information. Forward-Looking Information includes, but is not limited to, information concerning the business of Perpetua Resources Corp. (the “Company”), the Stibnite Gold Project (the “Project”), including but not limited to statements with respect to results of the FS (as defined below); disclosure regarding possible events, conditions or financial performance that is based on assumptions about future economic conditions and courses of action; next steps and courses of action including environmental clean up actions by us and our contractors; our ability to comply with and obtain permits related to the Stibnite Gold Project; actions to be taken by the USFS, the Department of Defense, the State of Idaho and other government agencies and regulatory bodies; negotiation of the definitized agreement and anticipated approval of reimbursement requests; our ability to successfully implement and fund the Project and the occurrence of the expected benefits from the Project; timing of the Final Environmental Impact Statement (“FEIS”), Draft Record of Decision, Final Record of Decision and other anticipated milestones related to the Project; expected funding from the Department of Defense; predictions regarding improvements to water quality, water temperature, and fish habitats and other environmental conditions at the site, including with respect to process and timing of such improvements; reduction of the Project footprint and the anticipated benefits and other effects thereof; our ability to successfully implement the Project and the occurrence of the expected benefits from the Project, including contributions to the workforce, national security and clean energy transition; our and Ambri, Inc.’s (“Ambri”) ability to perform under the supply agreement described in this presentation, which agreement is subject to certain conditions, including completion of the permitting process for the Project, commencement of commercial production of antimony, identification of one or more refiners to transform our antimony concentrate into antimony metal, and mutual agreement on certain material terms, including volume and pricing; the anticipated economic, environmental and other benefits of the Project; the viability of the Project; development and operating costs in the event that a production decision is made; success of exploration, development and environmental protection, closure and remediation activities; permitting time lines and requirements; requirements for additional capital; requirements for additional water rights and the potential effect of proposed notices of environmental conditions relating to mineral claims; risks and opportunities associated with the Project; planned exploration and development of properties and the results thereof; planned expenditures, production schedules and budgets and the execution thereof. Statements concerning mineral resource and mineral reserve estimates may also constitute Forward-Looking Information to the extent that they involve estimates of the mineralization that may be encountered if the Project is developed. In preparing the Forward-Looking Information herein, the Company has applied several material assumptions, including, but not limited to, assumptions that we will successfully negotiate a definitized agreement and that the full amount of the Defense Production Act award will be funded on the expected timeline; that the review process under the NEPA (including any joint review process involving the USFS, the State of Idaho and other agencies and regulatory bodies) as well as the FEIS will proceed in a timely manner and as expected; that we will be able to obtain sufficient funding to finance permitting, pre-construction and construction of the Project and that all requisite information will be available in a timely manner; the exchange rates for the U.S. and Canadian currencies will be consistent with the Company’s expectations; that the current exploration, development, environmental and other objectives concerning the Project can be achieved and that its other corporate activities will proceed as expected; that the current price and demand for gold and antimony will be sustained or will improve; that general business and economic conditions will not change in a materially adverse manner and that all necessary governmental approvals for planned activities on the Project will be obtained in a timely manner and on acceptable terms; that permitting and operations costs will not materially increase; the continuity of the price of gold and other metals, economic and political conditions and operations; and the assumptions set out in the FS. Forward-Looking Information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the Forward-Looking Information. Such risks and other factors include, among others, the industry-wide risks and project-specific risks identified in the FS; operations and contractual obligations; changes in exploration programs based upon results of exploration; changes in estimated mineral reserves or mineral resources; future prices of metals and minerals; availability of personnel and equipment; equipment failure; accidents, effects of weather and other natural phenomena and other risks associated with the mineral exploration industry; environmental risks, including environmental matters under US federal and Idaho rules and regulations; impact of environmental remediation requirements and the terms of existing and potential consent decrees on the Company’s planned exploration and development activities on the Project; certainty of mineral title; community relations; delays in obtaining governmental approvals or financing; the Company’s dependence on one mineral project; the nature of mineral exploration and mining and the uncertain commercial viability; the Company’s lack of operating revenues; governmental regulations and the ability to obtain necessary licenses and permits; risks related to prior unregistered agreements, transfers or claims and other defects in title to mineral projects; currency fluctuations; changes in environmental laws and regulations and changes in the application of standards pursuant to existing laws and regulations; risks related to dependence on key personnel; COVID-19 risks to employee health and safety and a slowdown or temporary suspension of operations in geographic locations impacted by an outbreak; estimates used in budgeting and financial statements proving to be incorrect; risks related to unforeseen delays in the review process including availability of personnel from the USFS, State of Idaho and other stated, federal and local agencies and regulatory bodies (including, but not limited to, future US government shutdowns); risks related to opposition to the Project; risks related to increased or unexpected costs in operations or the permitting process; risks that necessary financing will be unavailable when needed on acceptable terms, or at all; risks related to the outcome of litigation and potential for delay of the Project, as well as those factors discussed in the Company’s public disclosure record. Although the Company has attempted to identify important factors that could affect the Company and may cause actual actions, events or results to differ materially from those described in Forward-Looking Information, there may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. There can be no assurance that Forward-Looking Information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Because it is not possible to predict or identify all such factors, this list cannot be considered a complete set of all potential risks or uncertainties. Accordingly, readers should not place undue reliance on Forward-Looking Information. For further information on these and other risks and uncertainties that may affect the Company’s business and liquidity, see the “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” sections of the Company’s filings with the SEC, are available at www.sec.gov and with the Canadian securities regulators, which are available at www.sedar.com. Except as required by law, the Company expressly disclaims any obligation to update the Forward-Looking Information herein.



CAUTIONARY NOTE & TECHNICAL DISCLOSURE

The presentation has been prepared by Perpetua Resources management and does not represent a recommendation to buy or sell these securities. Investors should always consult their investment advisors prior to making any investment decisions. All references to “dollars” or “\$” shall mean United States dollars unless otherwise specified.

The material scientific and technical information in respect of the Stibnite Gold Project in this presentation, unless otherwise indicated, is based upon information contained in the technical report titled “Stibnite Gold Project, Feasibility Study Technical Report, Valley County, Idaho” dated effective December 22, 2020 and issued January 27, 2021 (the “FS” or “2020 Feasibility Study”). The 2020 Feasibility Study was prepared in accordance with National Instrument 43-101 – Standards of Disclosure for Mineral Projects (“NI 43-101”). NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. These standards differ from the mining property disclosure rules specified in Subpart 1300 of Regulation S-K under the United States Securities Act of 1933 (“Subpart 1300”) promulgated by the SEC. Accordingly, information concerning mineral deposits from the 2020 Feasibility Study set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

The Company has issued its inaugural Technical Report Summary (the “TRS”), dated as of December 31, 2021, and amended as of June 6, 2022, developed for the Stibnite Gold Project in accordance with the mining property disclosure rules specified in Subpart 1300 promulgated by the SEC. The TRS summarizes, in accordance with the mining property disclosure rules specified in Subpart 1300, the FS, which was completed under NI 43-101, with the following notable differences between the FS and the TRS:

- The TRS Mineral Resource estimates were developed based on a gold price of \$1,500/oz versus the \$1,250/oz gold price assumed for the FS. The change in gold price results from higher trailing average gold prices at the date of preparation for the respective reports.*
- The Measured Mineral Resources in the FS were reclassified to Indicated Mineral Resources in the TRS due to differences in Subpart 1300 versus NI 43-101 Mineral Resources classification guidelines.*
- The Proven Mineral Reserves from the FS were reclassified as Probable Mineral Reserves for the TRS resulting from the reclassification of the Measured Mineral Resources to Indicated Mineral Resources due to differences in Subpart 1300 versus NI 43-101 Mineral Resources classification guidelines.*
- The TRS is classified as a Preliminary Feasibility level study whereas the FS was classified as a Feasibility level study. This change was driven by the Subpart 1300 requirement that a compliant Feasibility level TRS include a capital cost contingency allowance no greater than 10%, whereas the initial capital cost estimate for the FS included a more conservative allowance at approximately 15%.*

All other technical analyses, design information, capital and operating cost information, economic analyses, permitting and legal assumptions, conclusions and recommendations are consistent between the TRS and the FS. Readers are encouraged to read the TRS and the Company’s Current Report on Form 8-K filed with the SEC on January 3, 2021, as amended by the Company’s Current Report on Form 8-K/A filed with the SEC on June 8, 2022, which are available under the Company’s profile on EDGAR. Readers are also encouraged to read the FS, which is available on the Company’s website and under the Company’s profile on SEDAR, for detailed information concerning the Project. See also “Regulatory Information” at the end of this presentation.

This presentation contains certain mineral reserve, production, costs, valuation, capitalization, trading data and similar information regarding certain other mineral projects and peer companies. Such data was derived from publicly available reports by such companies and other trade and industry sources. While the company believes such sources to be reliable, the company has not independently verified such information. Furthermore, information regarding mineral reserves, production and similar mineral project information for each company is based on estimates, assumptions and reporting standards applied to available data by each company and their reserve engineers in their respective reports, which may differ materially from the estimates, assumptions and reporting standards applied by us, and therefore may not be comparable among the companies presented. As a result, comparisons of such data made in this presentation, while considered reasonable at the time they are made, are subject to a variety of risks and uncertainties which could cause actual events or results of each company to differ materially from those reflected and there can be no assurance that we will be able to achieve similar results at similar stages of development.

Investors should be aware that the publication of the SDEIS and the permitting schedule, and the identification by the USFS of the Modified Mine Plan as the Preferred Alternative in the SDEIS, does not indicate any commitments on the part of the USFS with regard to the content or timing of a final decision. In developing the FEIS, the next phase of the NEPA planning process, the USFS may select various actions based on the Modified Mine Plan or each of the alternatives analyzed in the SDEIS. Furthermore, the USFS is not bound by the permitting schedule and anticipated milestones may be delayed materially or not be satisfied.



REGULATORY INFORMATION

The FS was compiled by M3 Engineering & Technology Corporation (“M3”) in accordance with NI 43-101 under the direction of independent qualified persons (as defined in NI 43-101) (“Independent QPs”). Independent QPs for the FS include: Richard Zimmerman, SME-RM (onsite and offsite infrastructure, cost estimating and financial modeling) and Art Ibrado, P.E. (mineral processing) with M3; Garth Kirkham, P.Geo. (mineral resources) with Kirkham Geosystems Ltd.; Christopher Martin, C.Eng. (metallurgy) with Blue Coast Metallurgy Ltd.; Grenvil Dunn, C.Eng. (hydrometallurgy) with Hydromet WA (Pty) Ltd.; Chris Roos, P.E. (mineral reserves) and Scott Rosenthal P.E. (mine planning) with Value Consulting, Inc.; and Peter Kowalewski, P.E. (tailings storage facility and closure) with Tierra Group International, Ltd.

The TRS was compiled by M3 in compliance with Subpart 1300 promulgated by the SEC under the direction of Independent Qualified Persons (as defined in Subpart 1300) (“QPs”). QPs for the TRS include: Richard Zimmerman, SME-RM (onsite and offsite infrastructure, cost estimating, mineral processing, financial modeling) with M3; Garth Kirkham, P.Geo. (mineral resources) with Kirkham Geosystems Ltd.; Christopher Martin, C.Eng. (metallurgy) with Blue Coast Metallurgy Ltd.; Grenvil Dunn, C.Eng. (hydrometallurgy) with Hydromet WA (Pty) Ltd.; Scott Rosenthal P.E. (mine planning and mineral reserves) with Value Consulting, Inc.; and Peter Kowalewski, P.E. (tailings storage facility and closure) with Tierra Group International, Ltd.

The material scientific and technical information in respect of the Project in this presentation, unless otherwise indicated, is based upon information contained in the FS, with notable differences between the FS and the TRS identified. Readers are encouraged to read the TRS and the Company’s Current Report on Form 8-K filed with the SEC on January 3, 2021, as amended by the Company’s Current Report on Form 8-K/A filed with the SEC on June 8, 2022, which are available under the Company’s profile on EDGAR. Readers also are encouraged to read the FS, which is available under the Company’s profile on SEDAR and on the Company’s website, for detailed information concerning the Project. All disclosure contained in this presentation regarding the mineral reserves and mineral resource estimates and economic analysis on the property is fully qualified by the full disclosure contained in the FS and the TRS.

Information of a scientific or technical nature in this presentation has been approved by Christopher Dail, AIPG CPG #10596, Exploration Manager for Perpetua Resources Idaho, Inc. and a qualified person (as defined in NI 43-101 and as defined in Subpart 1300).

All mineral resources have been estimated in accordance with CIM definitions, with notable differences to Subpart 1300 identified. Mineral resources are reported in relation to a conceptual pit shell to demonstrate potential for economic viability, as required under NI 43-101; mineralization lying outside of these pit shells is not reported as a mineral resource. Mineral resources are not mineral reserves and do not have demonstrated economic viability. Mineral resource estimates include inferred mineral resources that are considered too speculative geologically to have economic considerations applied to them that would enable them to be categorized as mineral reserves. It is reasonably expected that the majority of inferred mineral resources could be upgraded to indicated mineral resources.

The mineral resources and mineral reserves at the Stibnite Gold Project are contained within areas that have seen historic disturbance resulting from prior mining activities. In order for the Company to advance its interests at the Stibnite Gold Project, the Project will be subject to a number of federal, state and local laws and regulations and will require permits to conduct its activities.

See also “Cautionary Note” at the beginning of this presentation.

OTHER

Certain monetary amounts, percentages and other figures included in this presentation have been subject to rounding adjustments. Certain other amounts that appear in this presentation may not sum due to rounding.

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