Perpetua Resources

November 2022

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PERPETUA RESOURCES

Responsible Mining. Critical Resources. Clean Future.

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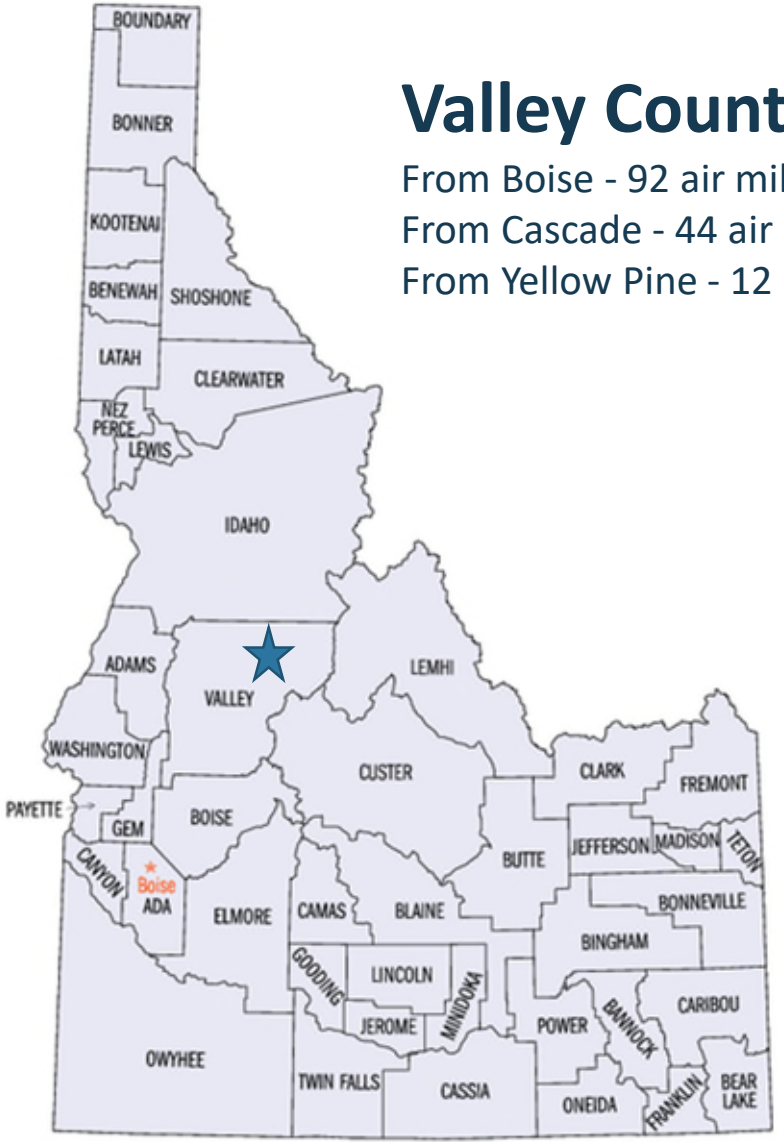
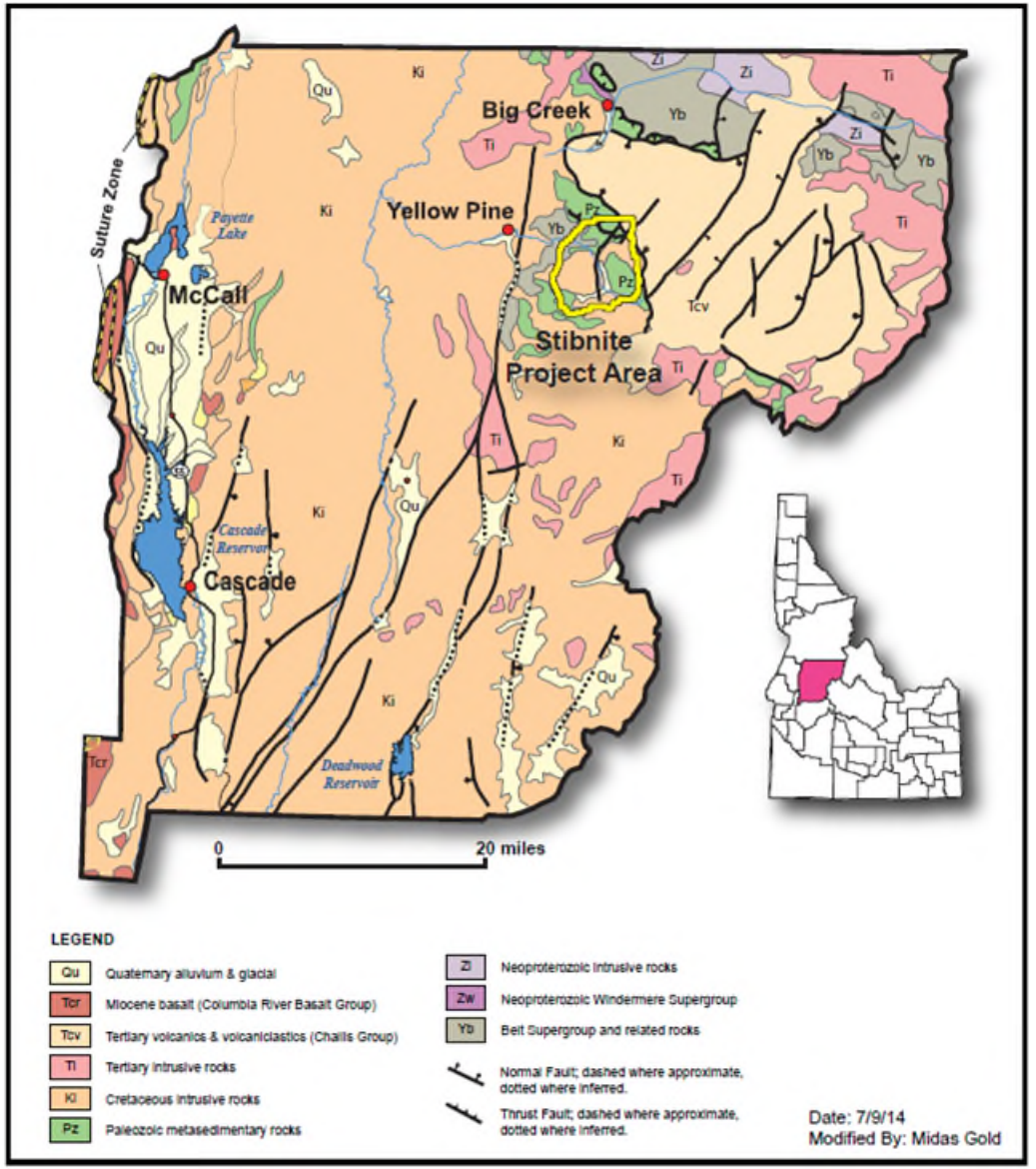
- History
- The Stibnite Gold Project
- Progress

STIBNITE MINING DISTRICT



Valley County, Idaho

From Boise - 92 air miles, 144 miles by road
From Cascade - 44 air miles NE
From Yellow Pine - 12 miles east



1890s
The Thunder Mountain gold rush brings mining to the area

1900-1930
Claims staked, modest production
The town of Stibnite is established

1938
Mining at Yellow Pine pit stops salmon migration upstream

1941-1950
The town of Stibnite booms when antimony & tungsten were declared critical & strategic minerals

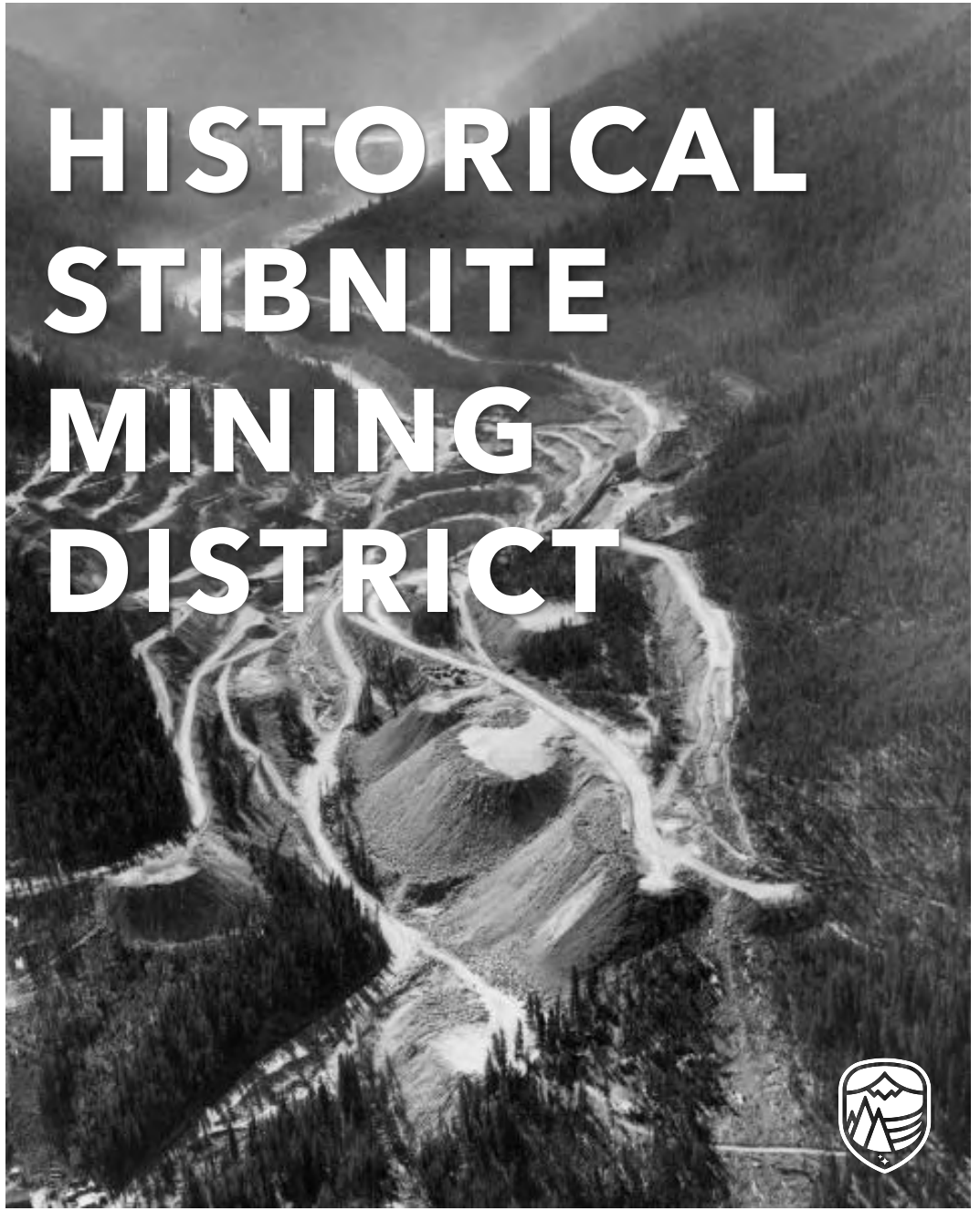
1953-1960
With WWII & the Korean War over, mining slowed and Stibnite slowly faded

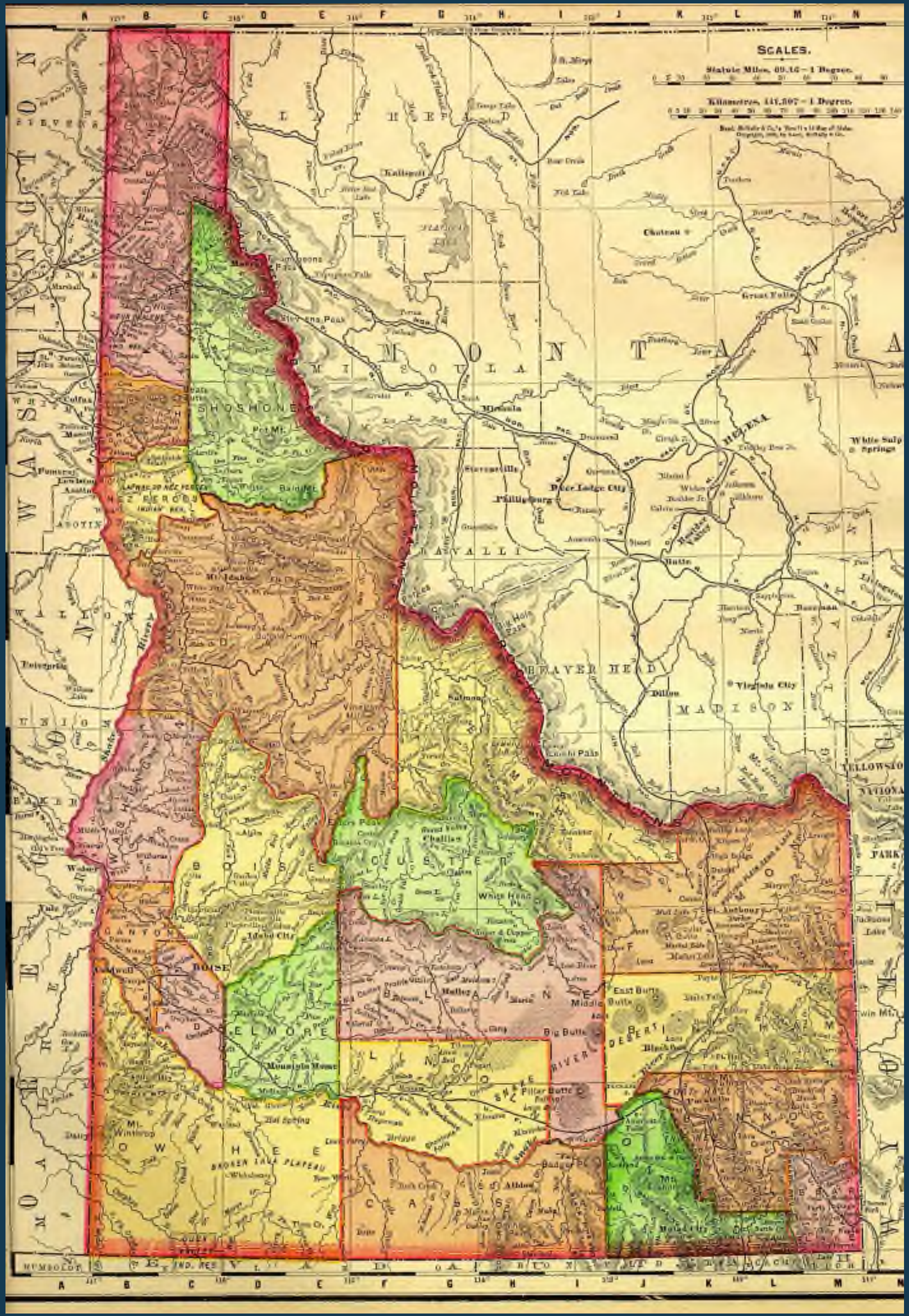
1960s
Earthen dam failure resulting in hundreds of tons of sediment eroding into surrounding streams & rivers, continues to this day

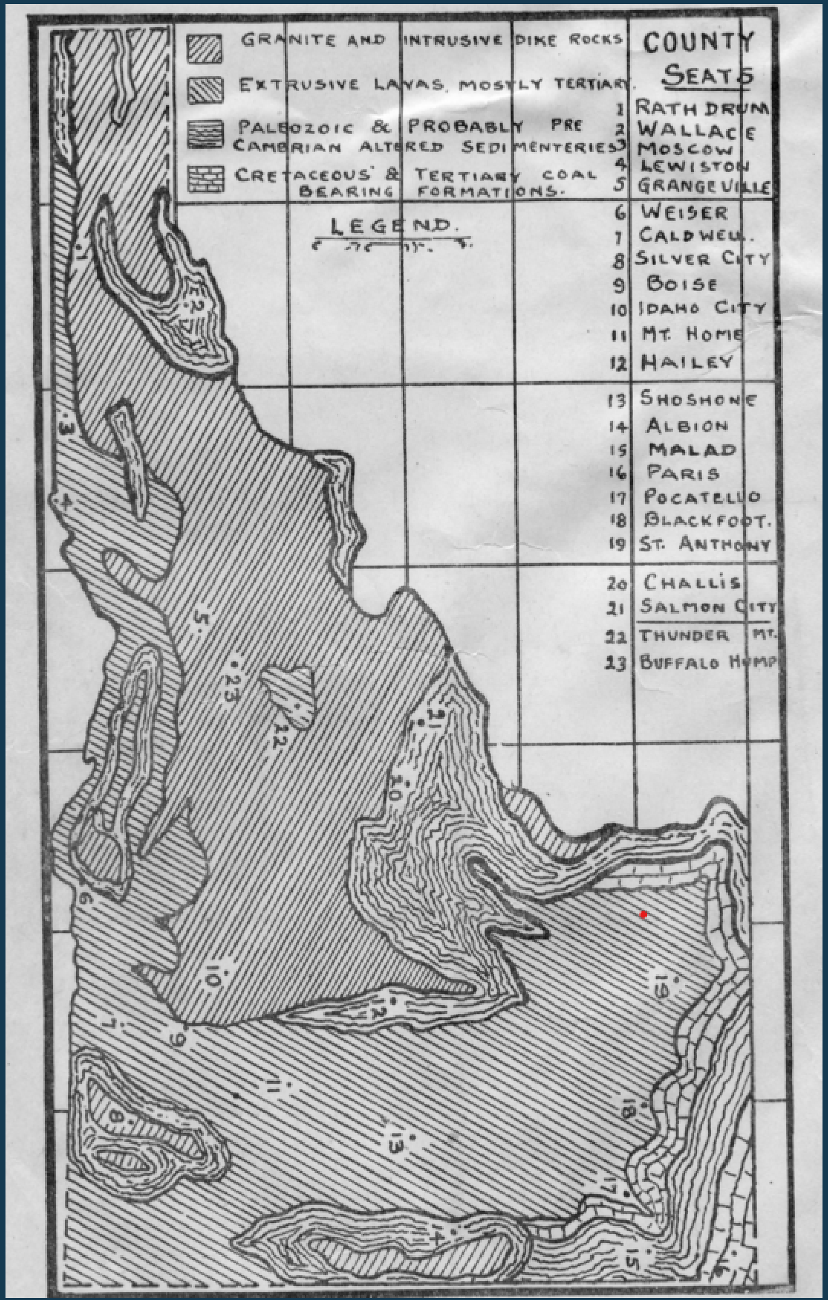
1970s-1990s
Periodic mining by multiple owners and operators

1990s – 2000s
All mining stopped, U.S. Gov't conducts some limited clean-up

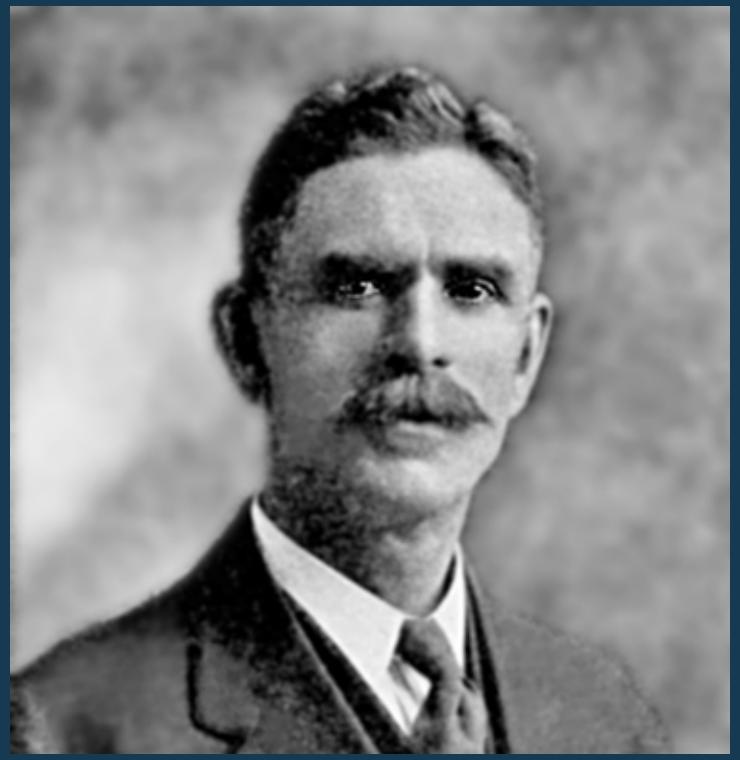
2009-2011
Midas Gold (*now Perpetua Resources*) consolidated land ownership & began evaluating the geology & environment within the Stibnite Gold Project area







Report of the Mining Districts of Idaho for the Year 1903 Bell, R.N., 1903



"I travelled 15,000 miles in the State during the field season of 1903…and reached only a dozen of the principal mining counties…without exception every county in Idaho contains mining operations that require the service of this office."

Robert N. Bell
Idaho Mining Inspector
Report of the Mining Districts of Idaho for the Year 1903 Bell, R.N., 1903

The Silver Messenger.

OUR MOTTO: "Free and Unlimited Coinage of Silver at the Ratio of 16 to 1."

VOL. 23. CHALLIS, CUSTER COUNTY, IDAHO, TUESDAY, AUGUST 5, 1902. NO. 3.

https://Chronicling America « Library of Congress (loc.gov)

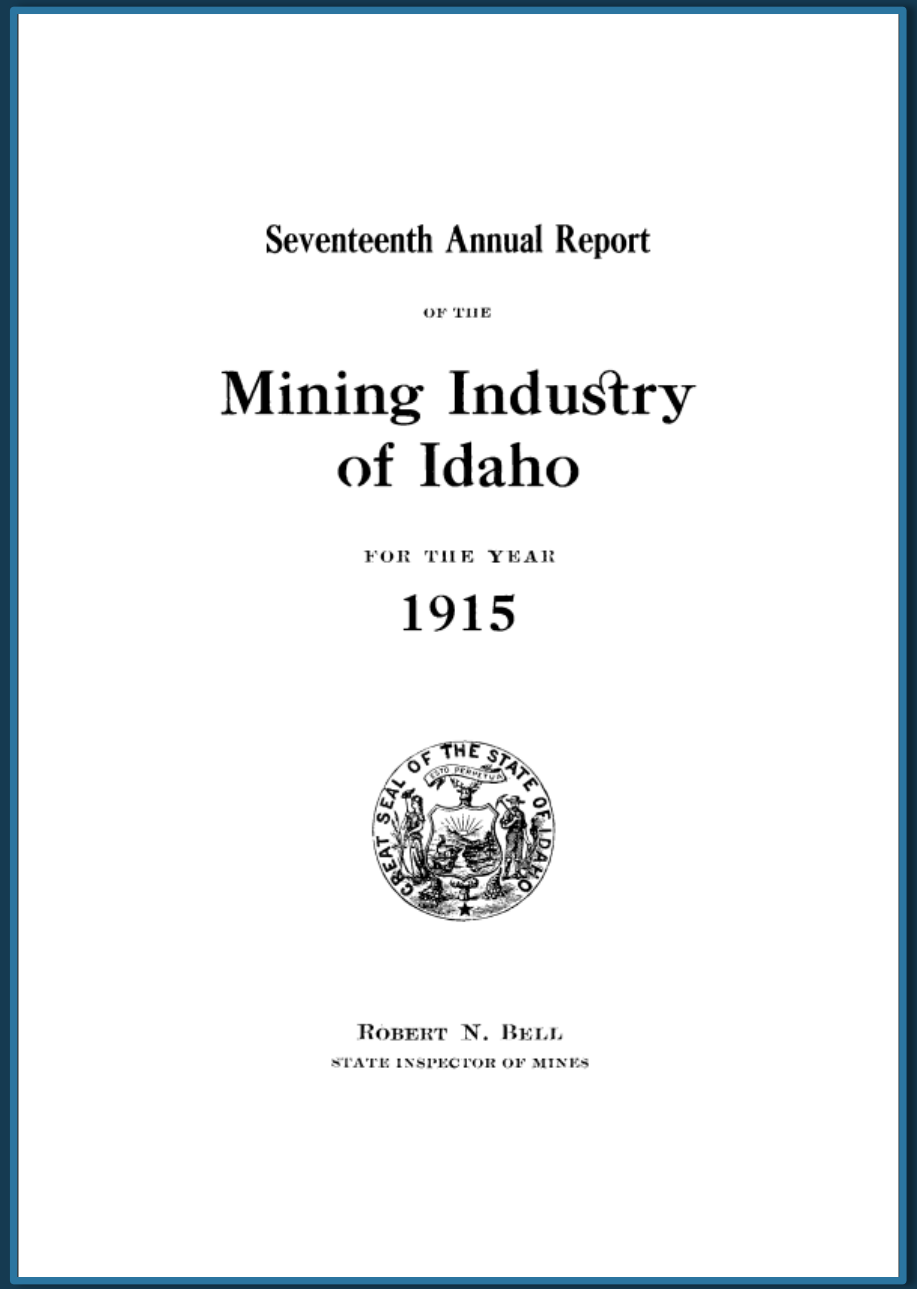
The Silver Messenger.

OUR MOTTO: "Free and Unlimited Coinage of Silver at the Ratio of 16 to 1."

VOL. 23. CHALLIS, CUSTER COUNTY, IDAHO, TUESDAY, AUGUST 5, 1902. NO. 3.

In the granite formation south of Sugar Creek, the visitor reports the discovery of some extensive deposits of antimony ore of very fine quality, almost pure stibnite, that may prove of considerable commercial importance…

Geological reconnaissance reported by Idaho Mine Inspector Robert Bell - The Silver Messenger, Custer County Idaho, August 5, 1902



Seventeenth Annual Report

OF THE

Mining Industry of Idaho

FOR THE YEAR

1915

ROBERT N. BELL

STATE INSPECTOR OF MINES

"One of the richest antimony deposits of the State is at Yellow Pine Basin, in Idaho County. …A company was formed to operate this property during the year, but I was unable to learn of any shipments…The great drawback to this discovery is the fact of its isolation, being about 60 miles from the nearest railroad…"

Seventeenth Annual Report of the Mining Industry of Idaho for the Year 1915 Bell, R.N., 1916 (p. 125)

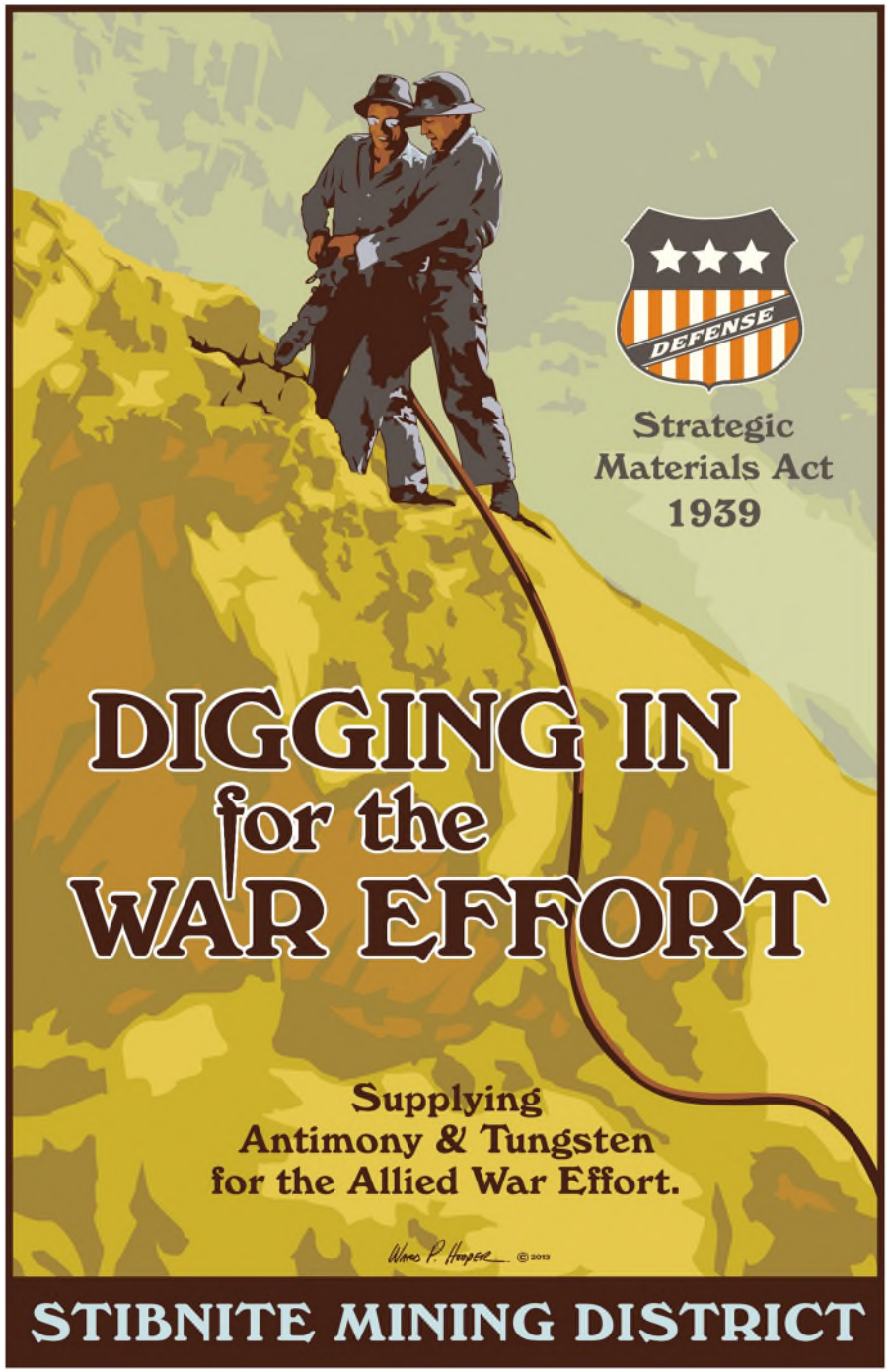
“

The principal source of antimony in this country is from…China and Japan…It would be a move of intelligent National preparedness…to make available such important sources of mineral supply as here indicated…for emergency use in the event of trouble developing in the Orient, where we might have to meet hard bullets with soft ones…”

Idaho Mine Inspector Robert Bell - Twentieth Annual Report of the Mining Industry of Idaho for the Year 1918 (Bell, R.N., 1919)

"…new mining equipment…new buildings, road construction and mine development work was the largest in southern Idaho in 1930. (Yellow Pine Mining Co.) has inaugurated one of the largest mine development campaigns ever undertaken in the history of the State…a new mining district of magnitude is being established…(and includes) a post office with the name of *Stibnite* "

Thirty-Second Annual Report of the Mining Industry of Idaho for the Year 1930 Campbell, Stewart, 1931



- Lead-acid batteries
- Hardening agent in metals
- Cable sheath
- Plumbing fixtures/pipes
- Roofing sheets
- Tank linings
- Armor-piercing projectiles
- SbCl3 fire retardant applied to tents and vehicle covers

- Tungsten carbide cutting tools
- Magnets
- Valves/valve seats
- Armor-piercing projectiles
- Erosion-resistant gun liners
- Lamp filaments
- Radio tube filament
- X-ray target
- Electrical contact points

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

Idaho.

The Government invested millions to build access roads and open up this mine. The Yellow Pine deposit was a lifesaver for this country, but it was geologically

"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

CURRENT CONDITIONS

Table 3, Estimated Historical Production from Yellow Pine Deposit

Company Name	Production Year	Tons Mined	Recovered Au (oz)	Recovered Ag (oz)	Recovered Sb (tons)	Recovered WO_3 (Units)[5]
Bradley[1]	1938-52[3]	4,405,170	352,091	1,756,928	40,257	856,189
Hecla[2]	1988-92	2,088,668[4]	127,426	-	-	-
	Totals	6,493,838	479,517	1,756,928	40,257	856,189

HISTORICAL LEGACY

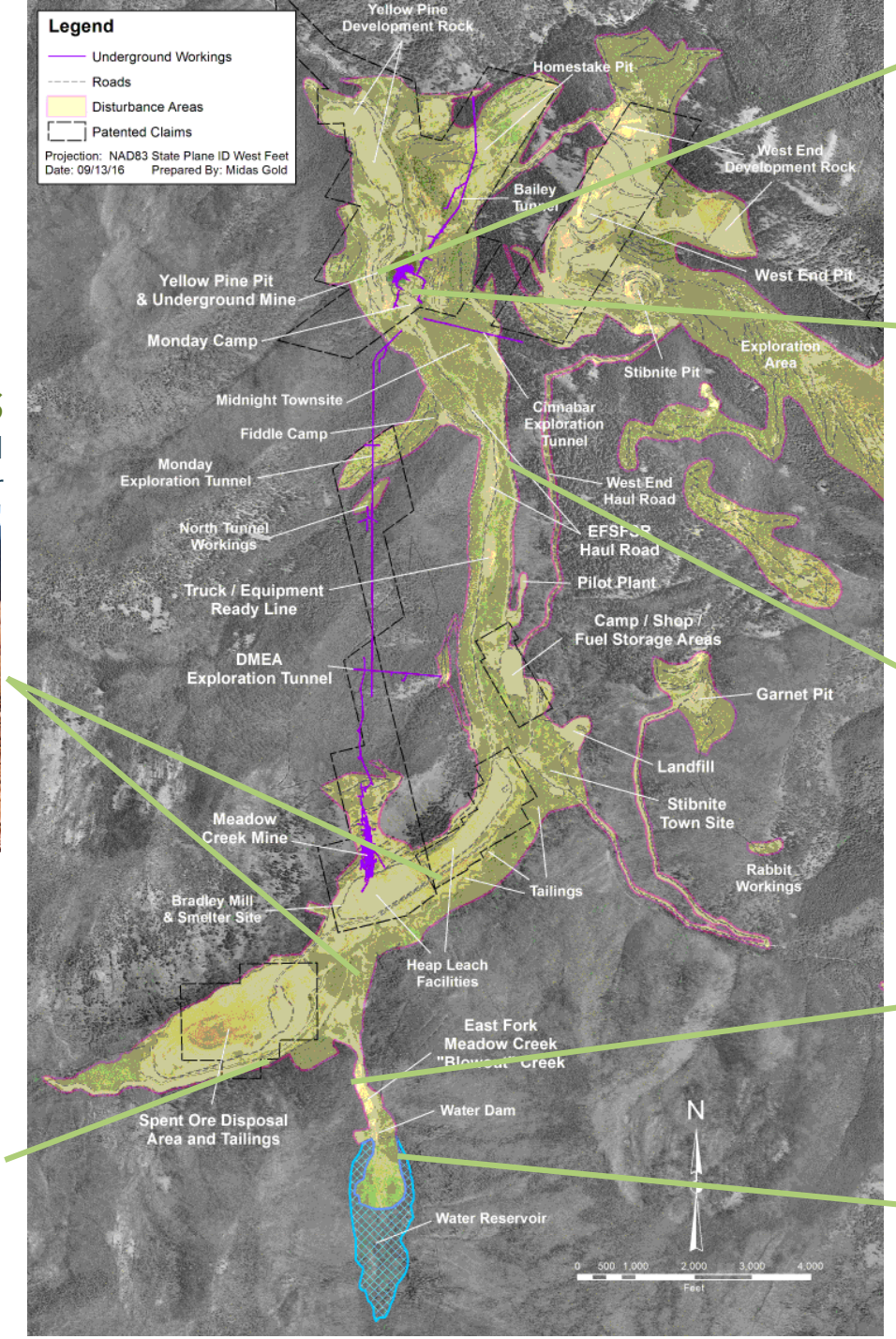
After 100+ years of mining activity, many environmental legacies remain.

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

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.

ENVIRONMENTAL OBJECTIVES

1. Remediate Areas Contributing to Water Quality and Habitat Impacts

Remove historic tailings and cyanide heap leach spent ore and reprocess or place in new TSF.
Voluntary remediation of some historic mining areas not within project footprint.

2. Locate facilities on historic disturbances

When possible, locate new facilities on historic disturbances to reduce new disturbance acres.

3. Restore Blowout Creek

Repair and reclaim past damage caused by failure in 1960s of water supply dam to eliminate major sediment source to the EFSFSR.

4. Restore fish passage through site

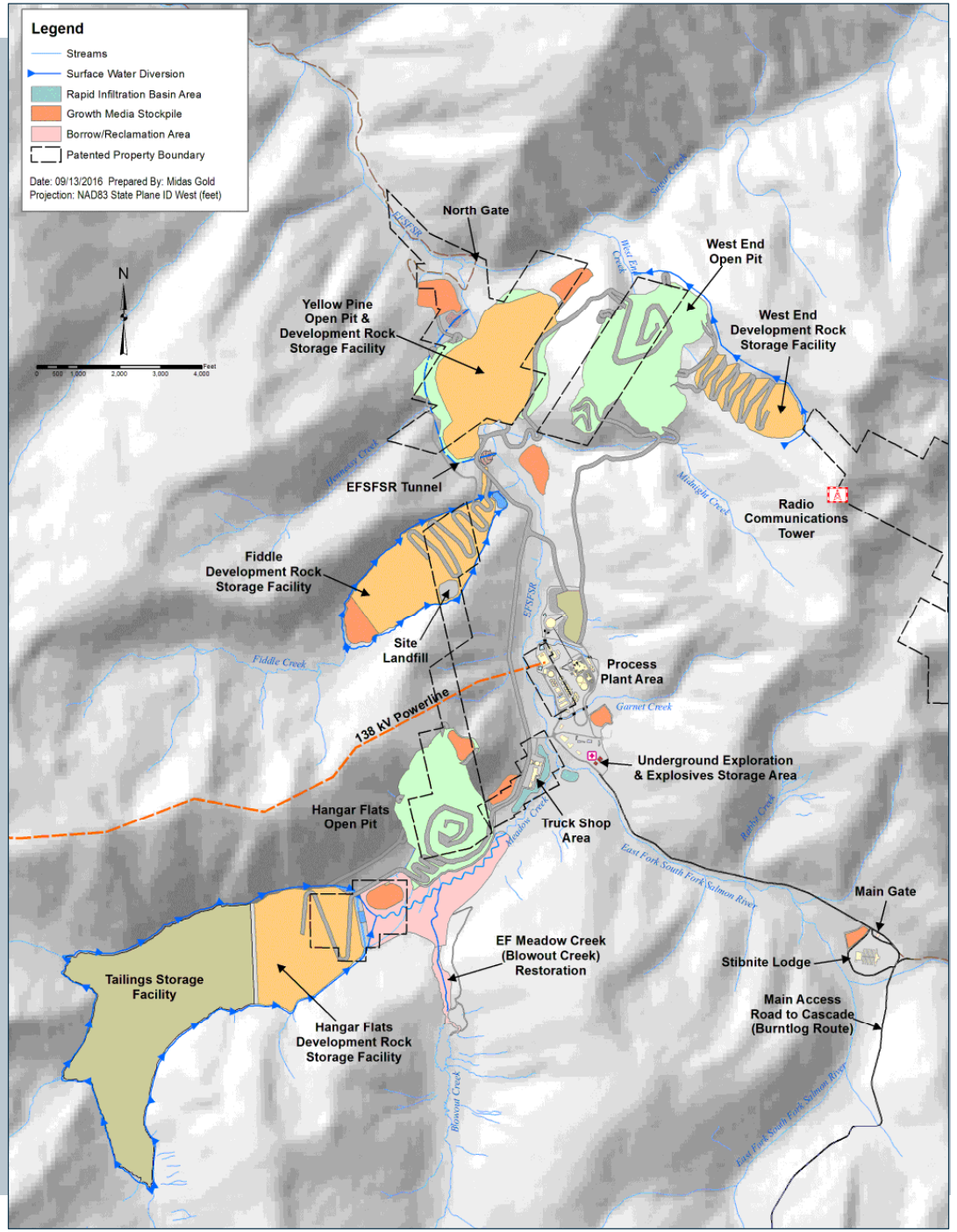
Create interim fish passage tunnel while developing Yellow Pine Pit and backfill pit and restore permanent fish passage through site

STIBNITE GOLD PROJECT PLAN OF RESTORATION AND OPERATIONS –

13 YEARS of Ongoing Study and Engineering

7 YEARS of Regulatory Review under NEPA (National Environmental Policy Act)

75-DAY Public Comment Period for the Draft Environmental Impact Statement (DEIS) and Supplemental DEIS (SDEIS)



CURRENT CONDITIONS

Existing Yellow Pine pit

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

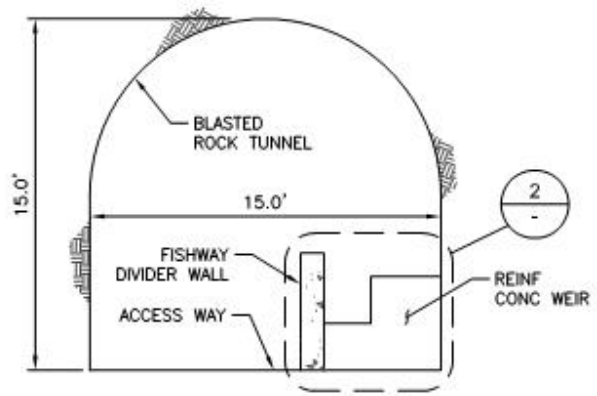
Fish passage blocked for over 80 years.

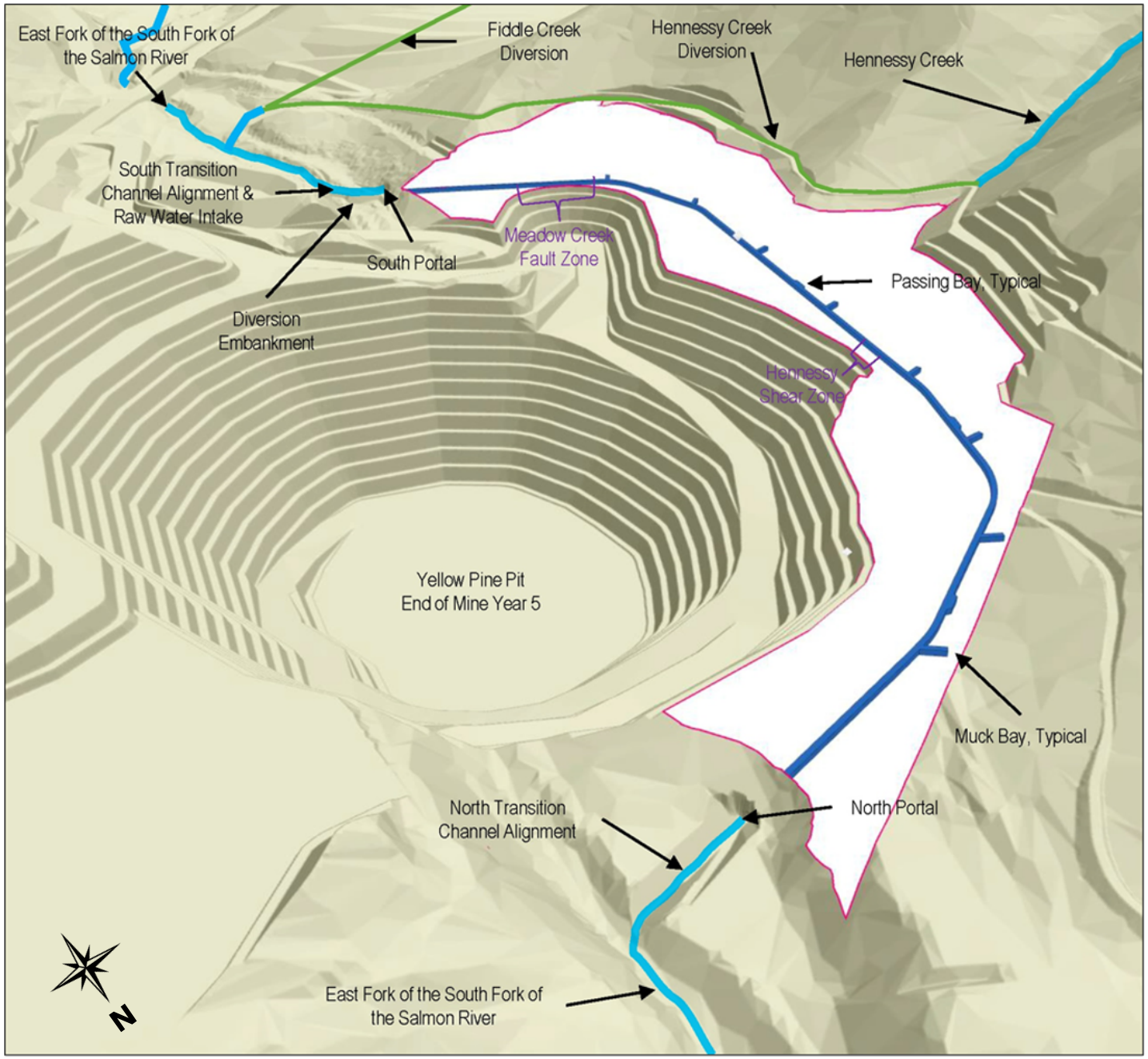
Sediment from Blowout Creek settles in Yellow Pine pit

DURING MINING

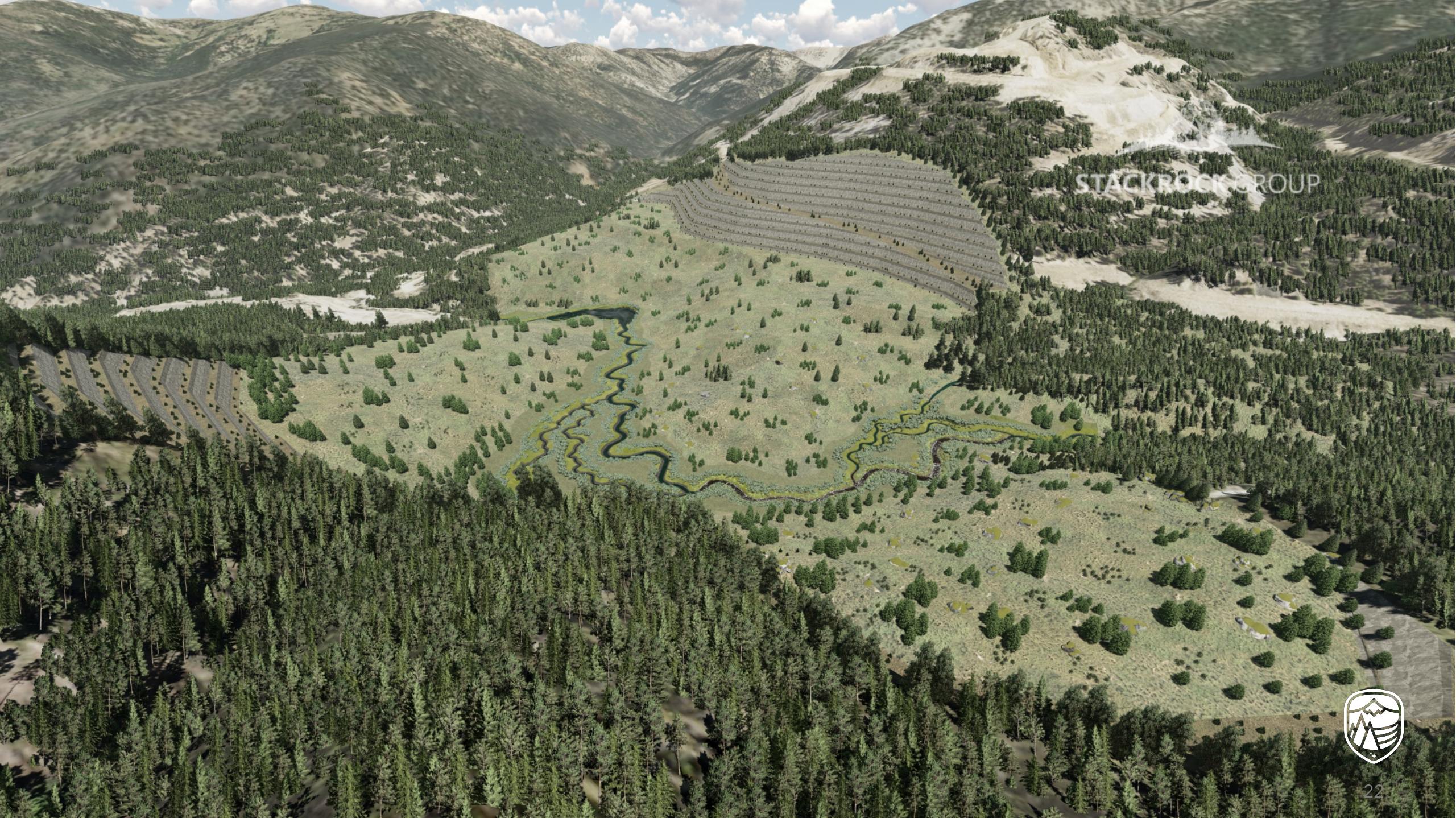
EFSFSR Tunnel Passage

- 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.





EFSFSR: East Fork South Fork Salmon River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LEGACY

Water reservoir failed in 1965.

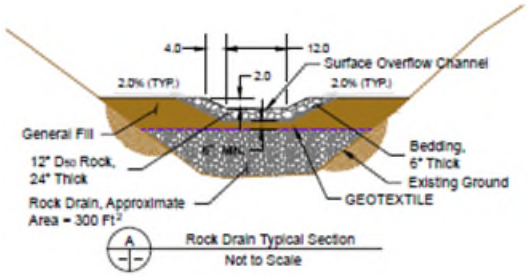
TODAY

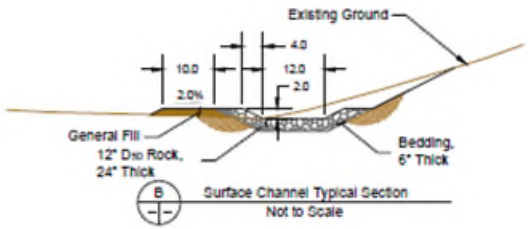
The failed reservoir is the most significant source of sediment in the watershed. It degrades water quality and fish habitat and diminishes wetland functionality.

BLOWOUT CREEK RESTORATION

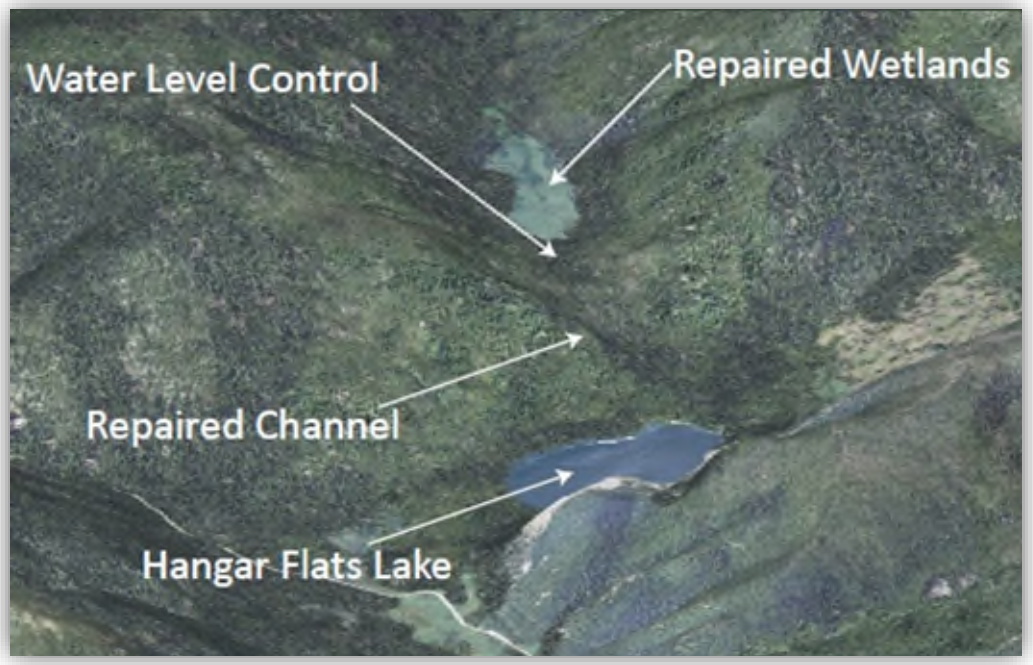
CURRENT

INTERMEDIATE





RESTORATION



LONG TERM SOLUTION to improve water quality, stabilize the water table and re-establish wetlands habitat.

LEGACY

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

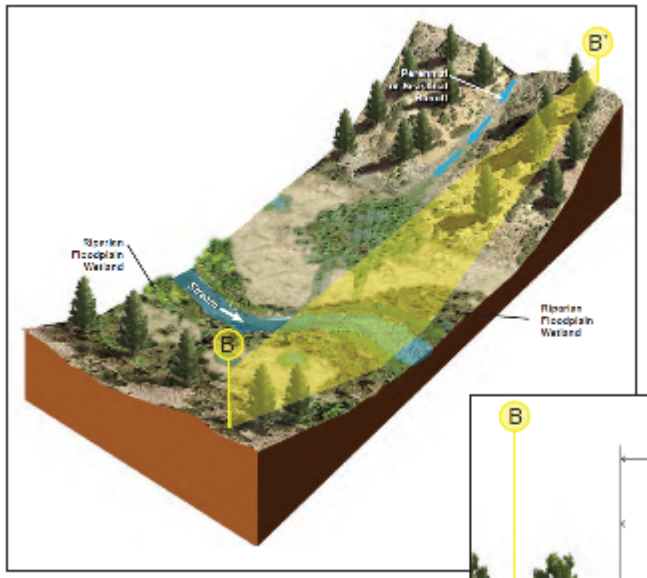
TODAY

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

REMOVE & REPROCESS LEGACY TAILINGS

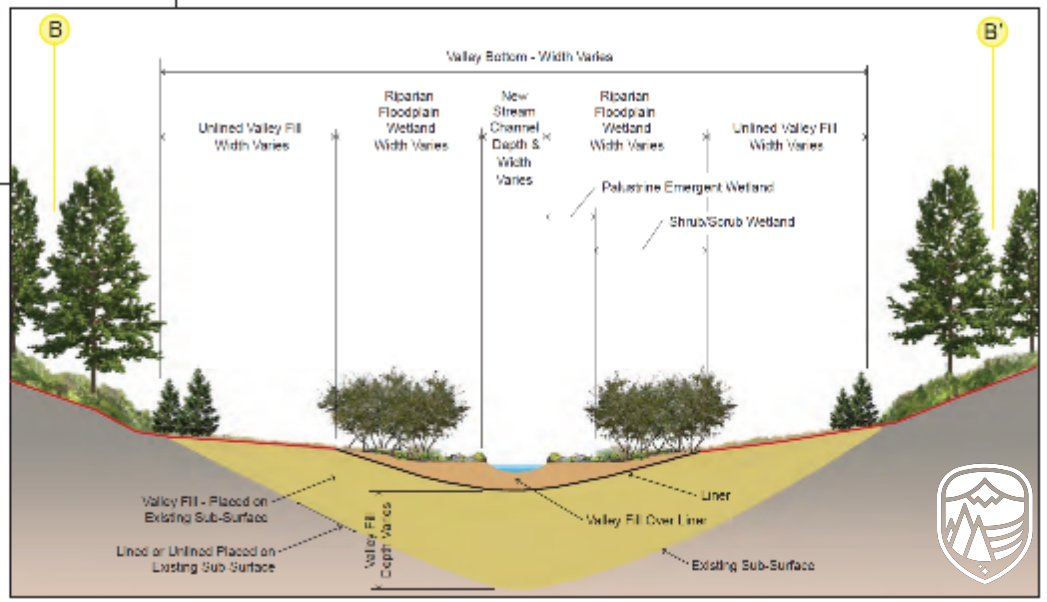
CURRENT

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'

TSF: Tailings Storage Facility | **DRSF**: Development Rock Storage Facility | **SODA**: Spent Ore Disposal Area

Stibnite Gold Project – NEPA Roles

Perpetua Resources – Proponent

First-party contractors

- Brown and Caldwell (primary)
- Tetra Tech, SPF, HDR
- SRK, McMillen Jacobs, M3
- Blue Coast, Tierra Group
- Stoel Rives (legal)
- Perkins Coie (legal)
- Vinson & Elkins (legal)

Stantec – Third-party EIS contractor

- Supplemental technical and administrative resources
- Assist lead agency in preparation of NEPA documents
- Directed by the USFS
- Services paid by proponent
- Conduct effects analysis
- Utilize data provided by first-party contractors
- Replaced under-performing contractor after DEIS NOA

USFS – Lead agency

Cooperating agencies

- USACE
- USEPA
- Idaho Governor's Office of Energy and Mineral Resources
- Idaho Department of Lands
- Idaho Department of Environmental Quality
- Valley County

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)

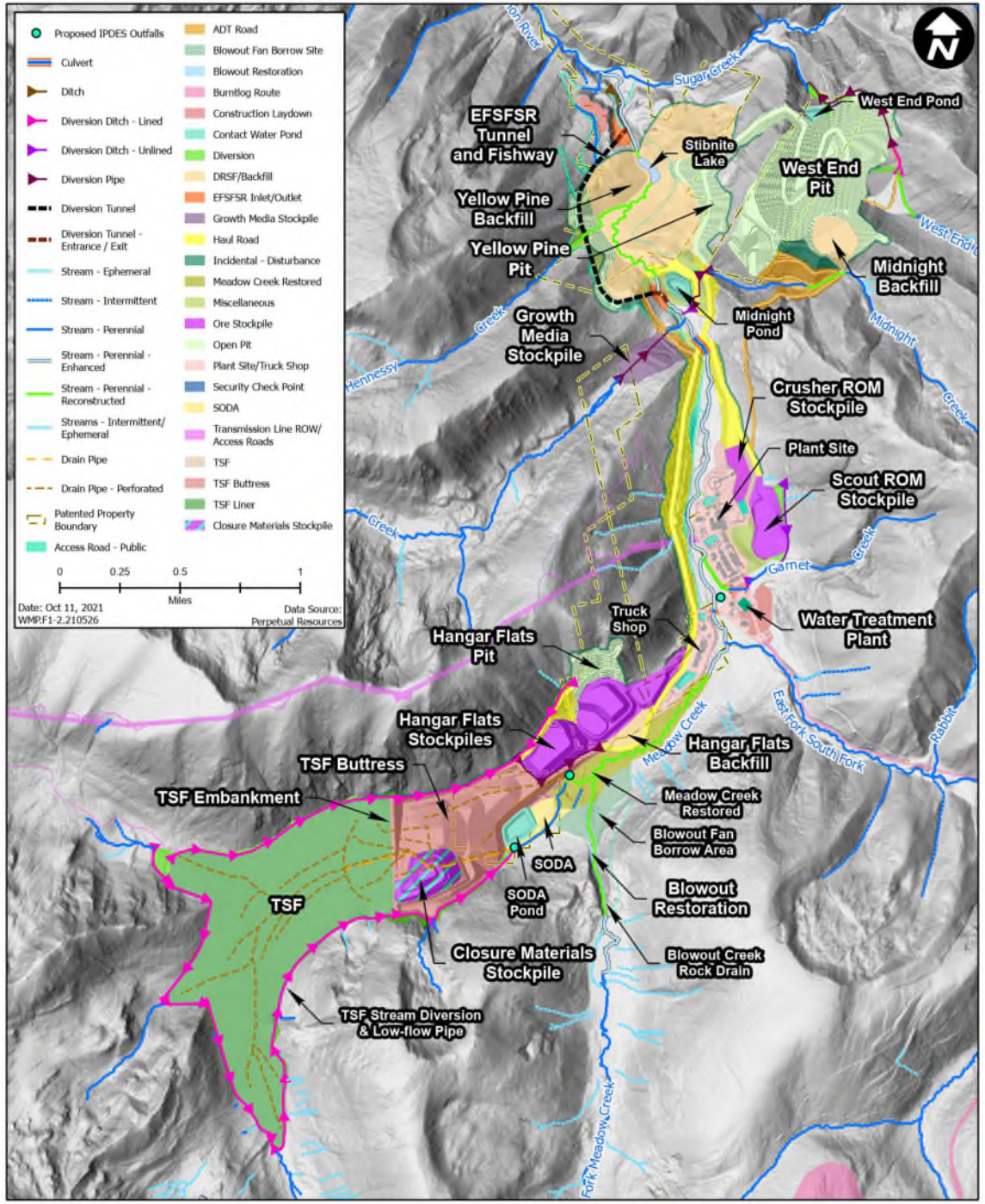
70% reduction in Hangar Flats pit size (the pit can be completely backfilled)

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

168-acre reduction in disturbance without Fiddle DRSF

DRSF: Development Rock Storage Facility

STIBNITE GOLD PROJECT PLAN OF RESTORATION AND OPERATIONS – ModPRO2 (rev.)



2022 SUPPLEMENTAL DEIS

DEIS 2020

- **Alternative 1** Original Plan
- **Alternative 2** Modified Plan
- **Alternative 3** Tailings Location
- **Alternative 4** Current Road
- **Alternative 5** No Action

Project Improvements

SDEIS 2022

- **Modified Mine Plan** Burntlog Route
- **Alternative** Johnson Creek Route
- **Alternative** No Action

PREFERRED ALTERNATIVE [1]

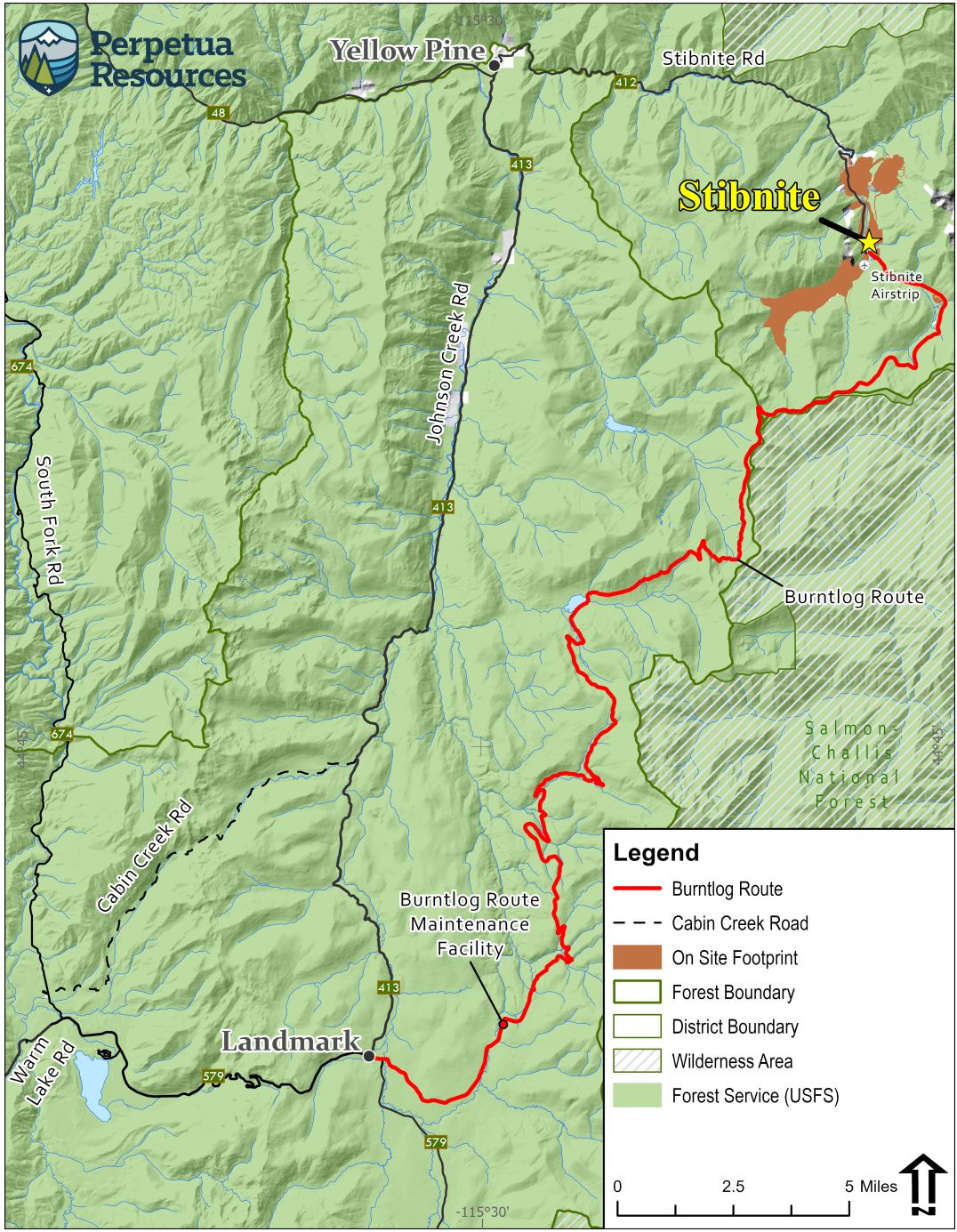
Burntlog Route Alternative

- 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.



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

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 <u>only</u> 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

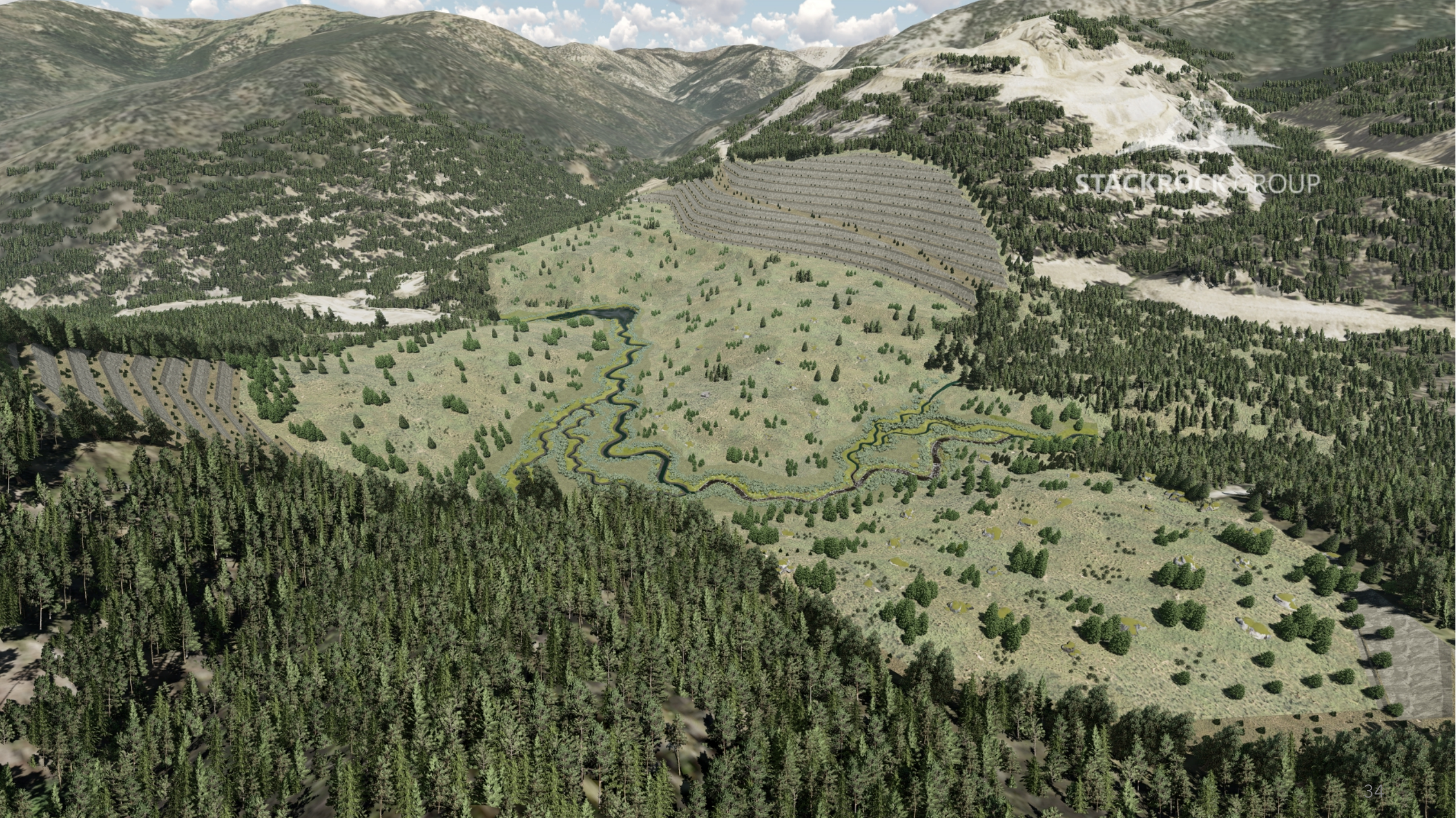
Perpetua signed an ASAOC with federal agencies in 2021, in order to perform agreed upon early actions to improve water quality conditions at Stibnite.

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.

ASAOC: Administrative Settlement Agreement and Order on Consent

CURRENT CONDITIONS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THANK YOU.

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FORWARD LOOKING STATEMENTS

Information and statement 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. Forward Looking Information includes, but is not limited to, information concerning the Company's business 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; the timing and impact of future activities on the Project, including but not limited to the ability to address legacy features left by previous operators; 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 Stibnite Gold Project is developed. In preparing the Forward-Looking Information herein, the Company has applied several material assumptions, including, but not limited to, that any additional financing needed will be available on reasonable terms; 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 Stibnite Gold 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 Stibnite Gold Project will be obtained in a timely manner and on acceptable terms; the continuity of the price of gold and other metals, economic and political conditions and operations; that the circumstances surrounding the COVID-19 pandemic, although evolving, will stabilize or at least not worsen; 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; risks related to the availability of financing; 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; 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; and estimates used in budgeting and financial statements proving to be incorrect; 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. Accordingly, readers should not place undue reliance on Forward-Looking Information. Except as required by law, the Company expressly disclaims any obligation to update the Forward-Looking Information herein.

Cautionary Note and 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"). Readers are encouraged to read the FS, which is available under the Company's profile on SEDAR, for detailed information concerning the Project. See also "Regulatory Information" at the end of this presentation.

Cautionary Note to U.S. Investors

This presentation includes Mineral Reserves and Mineral Resources classification terms that comply with reporting standards in Canada and the Mineral Reserves and the Mineral Resources estimates are made 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 significantly from the requirements of the SEC set the SEC's rules that are applicable to domestic United States reporting companies. Consequently, Mineral Reserves and Mineral Resources information included in this news release is not comparable to similar information that would generally be disclosed by domestic U.S. reporting companies subject to the reporting and disclosure requirements of the SEC. Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

REGULATORY INFORMATION

The FS was compiled by M3 Engineering & Technology Corporation (“M3”) in accordance with National Instrument 43-101 – *Standards of Disclosure for Mineral Projects* (“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 material scientific and technical information in respect of the Project in this presentation, unless otherwise indicated, is based upon information contained in the FS. Readers are encouraged to read the FS, which is available under the Company's profile on SEDAR, 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.

Information of a scientific or technical nature in this presentation has been approved by Austin Zinsser, SME-RM, Sr. Resource Geologist for Perpetua Resources Idaho, Inc. and a qualified person (as defined in Ni 43-101).

All mineral resources have been estimated in accordance with CIM definitions. 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.

NON-IFRS REPORTING MEASURES

"Cash Costs", “All-in Sustaining Costs” and “Total costs” are not performance measures reported in accordance with International Financial Reporting Standards (“IFRS”). These performance measures are included because the statistics are key performance measures that management uses to monitor performance. Management uses these statistics to assess how the Project ranks against its peer projects and to assess the overall effectiveness and efficiency of the contemplated mining operations. These performance measures do not have a meaning within IFRS and, therefore, amounts presented may not be comparable to similar data presented by other mining companies. These performance measures should not be considered in isolation as a substitute for measures of performance reported in accordance with IFRS.

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