



THE STIBNITE GOLD PROJECT

IDAHO, USA

FREQUENTLY ASKED QUESTIONS & PROJECT GLOSSARY

AUGUST 2021

A

ACCESS

ARE SITE TOURS AVAILABLE?

We love offering tours and have conducted 192 tours and brought over 1,800 people to site. However, because of the pandemic, tours are currently on hold.

You can watch a virtual tour [here](#).

WILL THE PUBLIC BE ABLE TO ACCESS THUNDER MOUNTAIN FROM YELLOW PINE?

Yes. Originally, Perpetua Resources did not contemplate public access through the site during operations but around it. After residents from Yellow Pine and recreationists voiced concern, Perpetua worked with them to identify alternative transportation routes that would allow seasonal access for the public through site. That alternative is being reviewed by the U.S. Forest Service (USFS). We are hopeful the USFS will include a public access option in the final plan. Learn more [here](#).

DOES PERPETUA RESOURCES IDAHO PLAN TO CUT OFF ACCESS TO SUGAR CREEK AND CINNABAR?

No. Perpetua Resources has nothing to do with Sugar Creek Road closing. We understand that public access is important and we've worked very hard to ensure the public can safely access recreation areas around the project location. The closing of Sugar Creek Road was the decision of the U.S. Forest Service. It is not a factor of our project or our presence in the area. Learn more [here](#).

ANTIMONY

WHAT WILL PREVENT ANTIMONY CONCENTRATE DUST FROM BEING RELEASED INTO THE ENVIRONMENT AS IT IS BEING TRANSPORTED?

Antimony concentrate will be in enclosed containers (such as super sacks), inside closed transport vehicles, during transport to prevent dust emissions as well as the loss of valuable concentrate.

WHERE WILL THE ANTIMONY BE SHIPPED/SOLD?

Perpetua has been in touch with several refiners and end product users although there are not any firm commitments in place. It is likely we won't have a committed purchaser for the antimony or gold until the Stibnite Gold Project is in construction, and the production schedule of these minerals is well understood. Due to the highly variable nature of our antimony concentrate production, it is very likely that multiple refineries will

process the concentrate concurrently. Existing antimony processing facilities are located in the U.S., Mexico, China and Oman, as well as elsewhere.

CAN PERPETUA RESOURCES GUARANTEE THAT THE ANTIMONY WILL STAY IN THE U.S.?

We are currently evaluating the possible options of what will happen to the antimony concentrate once it is produced at Stibnite. We are trying our best to do right by the critical mineral needs here in the U.S. In 2021, Perpetua Resources signed an agreement with U.S. Antimony to evaluate if its two North American facilities could process antimony concentrate from the site.

We are also exploring other options, including contracting with a facility that would process our antimony for a fee and allow us to maintain control of the product. Nothing will be finalized until we've taken the necessary time to explore all of the possibilities.

B

BOOM

ISN'T MINING JUST A “BOOM AND BUST” INDUSTRY?

Stibnite has a relatively long life for a mining project, spanning some 20 years. We also have the benefit of learning from companies that have come before us. As Idahoans, we're committed to sustainable economic growth. That is why we sequenced our operations in such a way to balance out the peak employment periods. Committing to train employees through job training programs also help provide a long-term base of skilled workers that can transfer skills to other roles throughout Idaho. Hiring locally and supporting local businesses helps promote an uplift in the economy of the region that can spin off additional growth not reliant on the mining project.

C

CANADA

IS PERPETUA RESOURCES A CANADIAN OWNED COMPANY?

Our parent company, Perpetua Resources Corp is based in Boise, Idaho. It is a publicly owned company, traded on the Nasdaq and Toronto Stock exchange. The project is owned and staffed by Idaho companies, and regulated by county, state and federal agencies in the U.S. Shareholders of Perpetua Resources are primarily Canadian and American.

CRIME

WILL THE STIBNITE GOLD PROJECT ATTRACT CRIME INTO THE AREA?

There is no data to suggest crime increases with modern mining projects. What we do know is that the jobs offered with our project will sustain families and attract high-skill labor. Perpetua Resources employees will have to meet strict standards to work on our project. In addition, employees will have to stay up at site during their two-week shifts and we will follow best industry practices to keep people safe, which includes no alcohol or drug use at the site. In addition, we believe about 30 percent of our workforce will be from the local communities and the balance from the rest of Idaho.

CYANIDE

CAN YOU EXPLAIN IN DETAIL HOW THE TANK LEACHING PROCESS WORKS?

At the Stibnite Gold Project, we will use a weak sodium cyanide solution to extract gold from the ore we mine. Cyanide has a natural tendency to bond with metals, even when they occur in microscopic amounts, such as gold and silver in ore. This method of gold recovery has been popular for over a century. Advances in technology have allowed companies to use less and less cyanide to achieve similar results. At our project, we will meet or exceed all of the standards of the International Cyanide Management Code, which was developed and adopted by the industry after incidents at mines in Eastern Europe and South America. Idaho's Department of Environmental Quality will also have to review and approve all of our plans for cyanide use at our site.

To make sure we are doing things in the safest way possible, all gold ore processing will happen inside an enclosed facility in order to protect the environment. Our building will have 110% containment for all solutions being used. We will use as little cyanide as possible at the site, which will not be difficult since cyanide works so well for gold recovery and is not needed in large amounts or high concentrations. After the ore is mined and crushed, it will be placed in large tanks and mixed with a dilute sodium cyanide solution that contains less than one percent cyanide. This process extracts the gold from the ore and allows us to recover it to make mixed gold-silver doré bars for further processing off-site.

One of the processes that really sets our use of cyanide apart from operations of the past is the water, cyanide, ore mixture will be chemically treated using a cyanide destruction process, located within the processing building, before being pumped from the process plant for placement in our fully lined tailings storage facility. This process reduces the levels of cyanide to negligible amounts before it ever leaves the contained building. Neutralizing the cyanide is an imperative step in our process to meet our own needs. We plan to recycle water from our tailings storage facility and reuse it in a part of the gold production process, the flotation circuit, where cyanide is not supposed to be present. If any measurable levels of cyanide remain in the recycled water, it would negatively impact gold recovery in flotation. Learn more [here](#).

IS IT SAFE TO USE CYANIDE AT THE STIBNITE GOLD PROJECT?

At our project, we will meet or exceed all of the standards of the International Cyanide Management Code and Idaho's Department of Environmental Quality will review and approve all of our plans for cyanide use. To make sure we are doing things in the safest way possible, all gold ore processing at Stibnite will happen inside an enclosed facility in order to protect the environment. Our building will have 110% containment for the solutions being used. We will use as little cyanide as possible at the site, which will not be difficult since cyanide works so well for gold recovery and is not needed in large amounts or high concentrations. After the ore is mined and crushed, it will be placed in large tanks and mixed with a dilute sodium cyanide solution that contains less than one percent cyanide. This process extracts the gold from the ore and allows us to recover it to make mixed gold-silver doré bars for further processing off-site.

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IN WHAT FORM WILL CYANIDE (NaCN) BE DELIVERED TO THE FACILITY? WHAT AMOUNT WILL BE USED PER WEEK? ARE THERE MEASURES IN PLACE TO PREVENT INCIDENTAL CONTACT WITH WATER (HCN GAS PRODUCTION)?

There will be approximately two loads of NaCN briquettes delivered to the processing plant per week. The solid briquettes will be delivered in specially designed sealed trailers to eliminate potential for spills, cyanide gas development and contact with workers. Trucks hauling hazardous material will be escorted to the plant by a HAZMAT kit equipped vehicle from Cascade. This proven transportation approach has been successfully used in the US for decades without incident.

WILL THE PLANT HAVE A NaCN REGENERATION CIRCUIT TO REDUCE NaCN CONSUMPTION?

A CN regeneration plant was considered, but due to the characteristics of the Stibnite ore and process flowsheet, it would not result in a significant reduction in NaCN consumption, and therefore was not included. However, NaCN solutions used in the ore processing plant will be neutralized before tailings are discharged from the process plant.

WHAT MEASURES ARE IN PLACE TO PREVENT THE PRODUCTION OF HYDROGEN CYANIDE GAS (HCN)?

Hydrogen cyanide gas is created in an acid environment. Our processing only works in an alkaline environment and therefore we maintain pH to prevent HCN formation. Slurried lime will be added to the leaching circuit as needed to maintain alkalinity at a pH of approximately 11. As noted in the PRO in Section 10.1.7, "Slurried lime will be added to

the leach circuit, as required, to maintain alkalinity at a pH of approximately 11 in the circuit”.

IN THE EVENT OF A TANK OR PIPING FAILURE IN THE NaCN LEACHING PHASE, WHAT MEASURES ARE IN PLACE TO PREVENT RELEASE OF THIS TOXIC SOLUTION INTO NEARBY STREAMS OR GROUND WATER? HOW WILL PLANT OPERATIONS NEUTRALIZE NaCN SOLUTION/SLURRY THAT HAS BEEN RELEASED?

Tanks and pipes that contain CN solutions will be within secondary containment; the capacity of the secondary containment systems will accommodate 110% of the largest vessel within a given circuit. Additionally, applicable emergency response kits will be kept on site to neutralize accidental spills and personnel will be trained to respond to these types of events.

IN THE FUTURE, WILL INDEPENDENT RISK ASSESSMENT STUDIES BE PERFORMED AND THE RESULTS PUBLISHED WHICH CALCULATE THE PROBABILITY AND THE CONSEQUENCES OF NaCN SOLUTION BEING RELEASED INTO THE ENVIRONMENT DUE TO A FAILURE?

Perpetua Resources management currently conducts quarterly risk assessments, which is a requirement of our corporate Board of Directors, and we will continue to do so during construction and operations. The risk assessment tool we use is audited by an independent third party and based on a Failure Mode and Effects Analysis (FMEA) methodology. A potential failure mode associated with a CN release can be expected to form part of our operational risk assessments. It should be noted that we are designing and will operate our CN facilities consistent with ICMI and IDEQ requirements, and the likelihood of CN pipe or tank rupture at Stibnite is likely consistent with similar operations in Nevada. Learn more [here](#).

HOW WILL CYANIDE LEACH PADS BE RECOVERED AT THE END OF PRODUCTION?

Perpetua Resources does not plan to develop heap leach pads; our cyanidation process will occur in enclosed steel tanks. Once the gold and silver is extracted from the ore, the resulting tailings will be neutralized to reduce weak acid dissociable cyanide (CNWAD) to levels protective of wildlife, then pumped to a fully synthetically lined tailings storage facility (TSF). The TSF will be covered with native soils, rock, and growth media, and Meadow Creek will be reestablished at a horizontal alignment similar to the original alignment.

COMMUNITY AGREEMENT

ISN'T THE COMMUNITY AGREEMENT JUST A BRIBE?

No. Such impact-benefit agreements are best practice in the industry. The community agreement is a long-term commitment on behalf of the company to promote transparency and collaboration with the community. It is important to know what the community agreement is asking and what it is not asking. We have agreed to three things:

- 1. Participate in a regional conversation;*
- 2. Become informed and share your point of view; and*
- 3. Assist in making decisions about how to distribute foundation funding.*

There are no requirements for support and funding is not tied to support. It is good business for us to work with communities to anticipate and address points of conflict before they arise. While Perpetua Resources fully intends to operate the Stibnite Gold Project, regardless of what happens to anyone who works for Perpetua Resources, the community agreement ensures our commitments today remain for the future. [Learn more here.](#)

ARE THE FUNDS IN THE STIBNITE GOLD FOUNDATION INTENDED TO MITIGATE PROJECT IMPACTS?

No. The foundation will be a charitable organization focused on helping the communities of the West Central Mountains, Council and Riggins. Project impacts, like road improvements or environmental mitigation, will be paid for by Perpetua Resources as a part of the permitting process. [Learn more here.](#)

E

ENVIRONMENT

WILL MINING DESTROY THE LAND AND RIVER?

No. Past mining left an impact on this area and it was never fully restored. Today, with modern mining, we can go back to these impacted areas and rewrite the area's legacy. Our project design, and the regulatory environment today, prioritize protecting the land and river for generations to come. [Learn more here.](#)

WHAT IF MORE CONTAMINANTS ARE RELEASED INTO THE ENVIRONMENT, VIA UNEXPECTED ACCIDENTS OR LEACHING?

In order to permit the Stibnite Gold Project, we must identify potential environmental and safety risks and either identify how to eliminate those risks or take necessary mitigation steps to reduce the probability of the event occurring. We must also take every conceivable step to be ready and prepared to deal with any incident. This is why Perpetua Resources has proposed accessing the site via Burntlog Road. This road would keep traffic away from rivers and major waterways, substantially reducing the potential of

any contaminants being spilled in the river. We also identified using pilot vehicles to reduce the potential of an accident and to be ready with spill cleanup response equipment in the escort vehicles in the case that an accident did occur. Another example is that within the ore processing facilities on site, all vessels have secondary containment sufficient to hold up to 110% of the volume of the vessel in case of a rupture. While our first job is to eliminate and greatly reduce risks, we also have to develop action plans to ensure we have clear response plans in place if something unplanned were to occur.

IF YOU WANT TO RESTORE THE ENVIRONMENT, WHY IS ONLY 43% OF THE FOOTPRINT ON DISTURBED AREAS?

Accessing the remaining mineral value at site is what pays for the cleanup. 90% of the mineral resources we will mine are on privately held land, most of which has been heavily disturbed by past mining activities. The lined tailings facility and the housing development are the largest impacts to public land. Learn more [here](#).

U.S. MINING HAS A TRACK RECORD OF POLLUTING WATER. ONE STATISTIC SAYS MINE SITES IN THE U.S. DUMP 50 MILLION GALLONS OF FOULED WASTE WATER DAILY. HOW DO YOU RESPOND?

Today, regulations and permitting dictate water quality standards and discharge. Any water discharged must meet set standards or be treated so that it meets standards before discharge. The Stibnite Gold Project will not directly discharge process water, and any discharges will meet the regulatory standards after treatment.

Prior mining created the problems facing the East Fork of the South Fork of the Salmon River (EFSFSR) and, no matter how counterintuitive it may seem, we believe mining should fix it. Today, we have 11 state and federal agencies reviewing all aspects of our plan as well as input from the public and interested stakeholders. After a complete review and changes to make our plan better, these agencies are expected to approve the final plan for restoration, operations and mitigation. We will be required to follow the plan they accept, which will include strict requirements around how we restore the site. Unlike mining that occurred decades ago, Perpetua Resources cannot walk away from our project site. Before any work can begin, we must set aside all funds needed to restore the site. This ensures that the EFSFSR will finally get the attention it needs. If you'd like more information on the steps we are taking to guarantee financial assurances for reclamation, we are happy to schedule time with you.

WILL THERE NEED TO BE A PERPETUAL WATER TREATMENT ON SITE AFTER CLOSURE?

Perpetua Resources is working to establish a closure plan that does not require continual water treatment. This involves a number of different components, such as preventing metals entering surface and groundwater in the first place, to designing facilities to avoid contact with surface and groundwater – keep clean water clean – and storing development rock moved to access ore in designed facilities that keep water separated, such as covering them with liners and diverting water around them. The creation of wetlands, and improved surface water channels will also help address water quality. Perpetua Resource's stated objective is to leave the site better than it is today.

ECONOMY

WHAT TYPES OF JOBS WILL BE AVAILABLE ON THE STIBNITE GOLD PROJECT?

Opportunities will be available for professionals in an array of fields from craft and trade jobs to highly specialized roles, as well as administration, HR and accounting. We are committed to looking to Idaho first for employment and vendors. For now, our team includes a talented group of people committed to the idea that modern mining can leave a lasting positive impact on the environment, economy and people of Idaho.

Learn more [here](#). To stay up to date on future employment opportunities, please fill out the employee intake form [here](#).

F

FINANCIAL ASSURANCE

WHAT PREVENTS PERPETUA RESOURCES FROM "WALKING AWAY" FROM THE SITE?

Before Perpetua Resources Idaho is allowed to begin construction or mining operations at Stibnite, the company will be required by law to set aside all the funds necessary to fully reclaim and restore any disturbance made to the site. This ensures the environment will be protected. Learn more [here](#).

WHY DIDN'T FINANCIAL ASSURANCE ALWAYS WORK IN THE PAST?

For financial assurance to work, environmental risk needs to be minimized and the total cost of reclamation needs to be properly calculated. Today's environmental regulatory environment and advanced mining technology create a safer environment for mines to operate. Calculating accurately the cost of cleanup is also important. Models like Standardized Reclamation Cost Estimator (SRCE) base calculations on detailed, site-specific factors and assume government-contracting rates. The resulting figure is far more accurate than the flat-fee structures of the past. Learn more [here](#).

WHEN WILL WE KNOW THE BOND AMOUNT FOR THE STIBNITE GOLD PROJECT?

Because we've elected to use an actual-cost based model, we will need to see the final approved plan before we can use SRCE to provide a calculation. However, in the meantime, we are in the process of developing an estimate of what it would take to bond for the Stibnite Gold Project as submitted in the Plan of Restoration and Operations. Learn more [here](#).

FOOTPRINT OF PROJECT

HOW BIG IS THE PROJECT?

The Stibnite Gold Project is located on a combination of private and public land just outside of Yellow Pine. Perpetua Resources' claim package includes 29,827 acres of private and public land but the project footprint is only 1,991 acres – just 7 percent of the total package. We worked hard to contain as much of the project as possible within areas previously disturbed by mining or mining-related activity, as a result, 43 percent of the project footprint is on land that has already been disturbed. The tailings facility and worker housing facility are the largest impacts to undisturbed public lands. By locating facilities on previously disturbed ground to the maximum extent possible, using existing roads and avoiding riparian areas, the other 93 percent of land held by Perpetua Resources will not be affected by the proposed project. Additionally, 90 percent of the mineral reserves Perpetua Resources plans on mining are on Perpetua Resource's private land. As we move forward with our project, we will continue to look for practical ways to minimize the footprint of our project. In December of 2020, we provided refinements to the U.S. Forest Service that reduced the total volume of mined material by 10 percent and further reduced the disturbance by 168-acres by eliminating the proposed Fiddle Development Rock Storage Facility. It is incredibly important to our team that, as much as possible, we keep our work out of areas that have been left untouched and focus our efforts on areas that have already been heavily mined. Learn more [here](#).

G

GOLD

WHAT HAPPENS IF THE PRICE OF GOLD DROPS?

The Stibnite Gold Project has robust economics in the 2014 Pre-feasibility Study (PFS) and gold prices today are similar to when that study was prepared. The low operating cost, roughly half of the current gold price, means that it should weather a weaker gold price. Part of the mine financing package may also involve pre-selling gold at a fixed price to ensure those robust returns, further reducing the risks to the project.

H

HOUSING

HOW WILL THE PROJECT IMPACT LOCAL HOUSING?

We commissioned a detailed economic study of the area to get a sense of the potential impacts our project might have on the community. In the Plan of Restoration and Operations (PRO), we designed our shifts to be two weeks on, two weeks off, to make it possible for employees to live anywhere in Idaho to reduce our impacts on local

communities by spreading employees over a larger area. We anticipate that about 120-150 employees will come from those who already live in the region, a third of the workforce will commute to the project, and some people (about 120) will move into the Valley and Adams County region from elsewhere. According to our study, we believe impacts will be limited since the number of people moving in appears to be relatively low compared to the community size and annual growth rate. Learn more [here](#).

INVESTORS

WHO OWNS PERPETUA RESOURCES?

Perpetua Resources, formerly Midas Gold, began in 2009 as a U.S. private company exploring the historical Stibnite Mining District.

In 2011, Midas Gold Corp. (MAX.TSX), was founded in Canada in order to access the Toronto Stock Exchange, which was the largest source of capital in the world for pre-production mining companies. In 2021, the Company announced a name change to Perpetua Resources and listed on the Nasdaq stock exchange (NASDAQ: PPTA). Perpetua Resources Corp. is now headquartered in Boise, Idaho.

As a publicly traded company, shares of Perpetua Resources are owned primarily by investors in the United States and Canada, as well as overseas. As of May 12, 2021, institutional investors make up ~60% of the company ownership including New York-based Paulson & Co. (~40%), Sun Valley Gold (~10%), Franklin Advisers (~2%) and Gabelli (1%). Barrick Gold holds ~10% of the shares outstanding and the remaining ownership includes retail investors, high net worth individuals and management.

Today, Perpetua Resources is an Idaho company with ~35 employees based in Donnelly, Boise and Stibnite. As Idahoan's, we care deeply about our communities and environment and we are committed to being a good neighbor and economic partner.

IS PERPETUA JUST MAKING DECISIONS BASED ON WHAT IS BEST FOR THE SHAREHOLDER?

Shareholders who invest in Perpetua Resources are investing in who we are as a company and how we run our business. This includes our commitment to corporate social responsibility, earning a robust social license, prioritizing environmental sustainability, cleaning up legacy impacts and doing the right thing because these elements are all crucial for permitting. In fact, some of the world's largest investment asset management companies are urging strong social and environmental programs as a criteria for investment. Learn more [here](#).

L

LINER

WHAT IS THE LIFE EXPECTANCY OF THE TAILINGS FACILITY LINER ?

The plastic component of the tailings facility liner has a half-life of over 450 years; however the bentonite clay contained in the underlying geosynthetic clay liner (GCL) is a natural low-permeability material that will not degrade with time. In addition, owing to both their fine grind and our addition of lime and limestone during ore processing, the tailings themselves create a nearly impermeable layer as they compact and cement over time.

We are happy to walk you through the design and the contents of the tailings storage facility, you can watch our webinar [here](#). It is also important to note that today, millions of tons of spent ore and tailings sit uncontained in the Meadow Creek valley and interact with ground and surface water. One of our first actions during operations will be to pick up this material for reprocessing, reuse and safe storage.

M

MERCURY

WILL MERCURY BE CAPTURED DURING THE PROCESSING OF ORE? IF SO, HOW WILL IT BE DISPOSED? AND WHAT MEASURES ARE IN PLACE TO CAPTURE MERCURY GAS?

Mercury (Hg) that is naturally occurring in the ore and that is volatilized in the autoclave will be collected by scrubbers. Hg that volatilizes in the onsite refinery will be recovered in retort condensers. Hg collected through these two systems will be transported to an approved offsite hazardous waste storage facility.

WHEN REPROCESSING LEGACY TAILINGS, WILL PERPETUA RESOURCES CAPTURE MERCURY THAT REMAINS IN THE TAILINGS?

Yes, mercury capture systems are included in several circuits in the ore processing plant, and we expect that most of the mercury in the legacy tailings will be captured by these systems.

O

OPERATIONS

WHERE ARE YOU MINING?

The Stibnite Gold Project is located in central Idaho, roughly 50 miles northeast of Cascade. We are in the middle of the permitting phase right now, so we aren't currently mining. We are expecting the draft EIS comment period to begin in late 2019, with our

record of decision coming at the end of 2020. Once we receive our record of decision and the remaining ancillary permits we can begin construction, which is expected to take 3 years. After construction is complete we can begin mining. We will be mining for gold, antimony and a little bit of silver. Learn more [here](#).

IS THE STIBNITE GOLD PROJECT AN UNDERGROUND MINE?

The Stibnite Gold Project will utilize open pit mining; it is not an underground mine. However, we do have plans to do some underground mining exploration as outlined in our Plan of Restoration and Operations (PRO).

WHAT MINERALS IS THE STIBNITE GOLD PROJECT LOOKING FOR?

We are exploring for gold, antimony and silver. Already, we have found valuable deposits of these minerals at the Stibnite Gold Project. Learn more [here](#).

DOES PERPETUA RESOURCES HAVE OTHER OPERATIONS?

No, we are solely focused on permitting and mining the Stibnite Gold Project.

WHEN DO YOU EXPECT TO RECEIVE YOUR PERMITS FOR THE STIBNITE GOLD PROJECT? WHEN WILL MINING START?

Our Draft Environmental Impact Statement (DEIS) was released in August 2020 and kicked off a 75-day comment period. Over 8,000 comments were submitted and the USFS is currently reviewing and responded to them. We are currently on track to receive our record of decision (ROD) at the end of 2020. Once the ROD is received, we'll have 3 years of construction before operations will start. Learn more [here](#) and [here](#).

IS IT FAIR TO CALL THE STIBNITE GOLD PROJECT A RESTORATION PROJECT?

The project goes beyond the reclamation required by law. The Stibnite Gold Project was designed to leave the site better than we found it. Repairing the East Fork South Fork of the Salmon River, restoring fish passage, addressing legacies of the past, and repairing Blowout Creek are not required by regulation but they are the right thing to do. We call it the Plan of Restoration and Operations because Restoration and Operations go hand in hand; they were designed to complement one another and can't happen alone. Learn more [here](#).

CAN PERPETUA RESOURCES PROMISE NOTHING WILL GO WRONG?

Realistically, the company can't make that promise. However, Perpetua Resources can promise you its team is doing absolutely everything it can to ensure they will limit potential risks, they take every possible precaution to protect the environment and they keep the safety of its employees and the community at the forefront of all of their decisions. After all, we live here too.

The permitting process is also designed with many checks and balances. Projects are required to identify possible risks and either eliminate risk or mitigate the possibility of the risk and then put in place plans to address a situation should it occur. The projects that receive approval to move forward today have to pass strict requirements and be deemed safe by federal, state and local agencies. Learn more [here](#).

WHAT IS PERPETUA RESOURCES DOING TODAY?

Right now, we are in the midst of permitting the Stibnite Gold Project. We submitted our Plan of Restoration and Operations to the USFS in late 2016. This plan explains how we would mine the site and, most importantly, how we would take care of the environment before, during and after mining. Our plan is available on the USFS website, if you want to learn more about it and receive updates on the process. Before we can begin operations at the project, Perpetua Resources needs to successfully earn more than 50 permits and licenses from the federal, state and local agencies. There will be many chances for the community to provide comments on our project throughout the permitting period. Keep an eye out for updates from the U.S. Forest Service for information on how to stay involved. Learn more [here](#).

IS THE CURRENT PROPOSAL THE FINAL PLAN?

No. There may be changes to our plan before it is finalized. We submitted our best ideas after five years of planning and community outreach. In December of 2020, after reviewing the public comments submitted during the DEIS, we submitted refinements to the USFS that were responsive to the points raised and allowed us to reduce the project footprint and improve water temperatures on site. Now, the process is designed for the USFS and other agencies to collect and analyze public feedback and ensure that our plan meets the necessary standards required in order to obtain over 50 federal, state and local permits. The agencies will then bring forward a proposed plan, which may differ from our proposed plan, and the public will have another opportunity to comment on the draft plan before any final approval, called a “Record of Decision”, is issued. Learn more [here](#).

WHY IS MINING TODAY DIFFERENT THAN HISTORICAL MINING?

Mining practices have greatly improved today compared to past decades—especially compared to the early to mid-1900s when major mining activity occurred at Stibnite.

Mining, environmental technology and practices have evolved, engineering controls have been developed, and federal and state regulatory programs and financial assurance requirements have been adopted and successfully implemented since the early 1990s to ensure comprehensive bonding for mining’s impacts. Societal values have also changed and, at Perpetua Resources, we are very aware of our potential impact on the environment and have taken extensive and comprehensive measures to address those potential impacts. In contrast to historic mining activities, which focused on profit (or, in the case of Stibnite, focused on providing critical and strategic metals for the United States and its allies during World War II and the Korean War) with little regard for impacts to the environment, the Stibnite Gold Project was designed from the start with ultimate closure in mind, and with restoration and reclamation as primary design standards.

It is important to note that, since the implementation of stronger environmental standards and bonding requirements over the past several decades, there have been no new mines developed in the U.S. that required Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) funding for clean-up. Learn more [here](#).

WILL PERPETUA RESOURCES OPERATE THE MINE?

Perpetua Resources fully intends to own, construct and operate the Stibnite Gold Project long term. As a public company, MGI’s parent, Perpetua Resources Corp. is always

looking to the future, and particularly to future funding sources for the eventual construction and operation of the project. We will continue to pursue potential new investors or partnerships that allow us to provide the capital required for construction of the proposed operation and restoration, once permits are granted. Perpetua Resources intends to remain in the community and ensure the Stibnite Gold Project, with all its environmental, economic and social benefits, is completed as planned. The conditions of approval contained within the final authorization will bind us, or any other operator, to abide by the operating restrictions, requirements and obligations of the final approved action.

WHAT WILL PERPETUA RESOURCES DO ABOUT DUST ABATEMENT?

Dust abatement is a high priority across the site and throughout the life of the project. We've already invested hundreds of thousands of dollars in reducing dust on roads to the project location and on site.

Best management practices (BMPs) to control fugitive dust are very important for employee and public health and safety, are a key aspect of the air quality permit, and help prevent delivery of fine sediment into streams. Section 6.2.1 of the Plan of Restoration and Operations (PRO) describes numerous BMPs that will be implemented to inhibit fugitive dust on the haul road and access roads, on stockpiles, and in ore processing areas where dust may be generated (crushers, grinders, hoppers, feeders). These BMPs may include application of water and/or approved chemical treatments to road surfaces, ongoing road maintenance to remove loose material, installation of spray bars at processing areas, and enclosure of dust generating mill processes. Other activities where dust suppression may be applicable include drilling, ore handling (loading/dumping), excavation and other ground-disturbing activities. Solutions for dust abatement in the longer term, such as for development rock storage facilities and the TSF will include concurrent reclamation where practicable, which may include installation of soil/rock cover material, growth media, and establishing vegetation. In addition to these engineering and design BMPs, practices such as shift scheduling, on-site employee housing and employee busing and vanpooling will reduce the frequency of activities that generate fugitive dust, particularly along the Project access route.

WILL YOU COMPOST FOOD AND RECYCLE UP AT SITE?

Yes. Solid waste management at the Stibnite Gold Project is described in Section 6.2.10 of the Plan of Restoration and Operations (PRO). Perpetua Resources currently has a robust recycling program to reduce trash delivery to area landfills (for materials like plastic, glass, aluminum). In addition, composting of food wastes and incorporation into growth media will be an important process at the Stibnite Gold Project to boost volumes of available topsoil.

WILL PERPETUA RESOURCES USE SOLAR POWER AT THE SITE DURING OPERATIONS? HOW MUCH?

Current solar panel arrays will be supplemented at the site and installed at new facilities such as the worker housing facility, Logistics Facility, and Maintenance facility to offset overall electrical demand. Additionally, solar panels will be used to power ancillary activities such as remote data collectors and transmitters, and for use in backup power generation. Whereas the Plan of Restoration and Operations (PRO) indicates that Stibnite Gold Project will require approximately 50 MW of electrical power at maximum

demand, providing more than a small percentage of overall electrical demand using solar would require vast tracts of land and is not feasible. Further, seasonality and mountainous terrain reduce the potential for solar generation. Although it has yet to be precisely calculated, solar power will likely provide a small percentage of overall electrical power for the site (approximately 1%).

ANY PLANS TO RECYCLE GREY WATER?

No plans currently to recycle grey water. Grey water will be handled by the septic and leach field systems.

HAS PERPETUA CONSIDERED PLACING FLOATING SOLAR PANELS ON THE TSF POND AS WAS CONSTRUCTED AT A COPPER MINE IN CHILE?

Perpetua has looked at bringing alternate sources of energy to site, however, we didn't specifically evaluate floating solar panels. This is in large part because the tailings facility will not be a pond and the minimal amount of water on the surface won't accommodate this option. In addition, the tailings facility sits in the bottom of deep valleys, so the period of direct sunshine would be very low, making it very inefficient.

OPEN PITS

HOW MANY OPEN PITS DO YOU PROPOSE TO HAVE ON SITE?

Perpetua Resources plans to excavate three open pits, two of which are expansions to already existing open pits at site, and one is the site of a former underground mine, processing facilities and smelter. In the PRO, we propose to backfill the expanded existing Yellow Pine pit, which currently blocks fish passage, and to restore the East Fork of the South Fork of the Salmon River so that fish can travel to their headwaters for the first time in more than 80 years. The other two pits will both be partially backfilled and the Hangar Flats pit will be flooded so it can become a lake, with additional fish habitat around its margins.

R

RISK

ISN'T THERE MORE RISK TO OPERATING A MINE THAN LEAVING THE SITE AS IS?

In order to permit the Stibnite Gold Project, we must identify potential risks and either identify how to eliminate those risks or make necessary mitigations to reduce the probability of the event occurring. We must also take every conceivable step to be ready and prepared to deal with any incident. There are 11 state and federal agencies reviewing our project and the permitting process is focused on eliminating unnecessary risks and maximizing our protection of the environment. Currently, the Stibnite Gold

project is the only viable clean up solution for the area. Stibnite needs to be cleaned up for environmental and human health reasons, and industry brings the resources to get the job done right. There are 10.5 million tons of unlined tailings and waste rock sitting at the site impacting water quality. Blow Out Creek is the largest sedimentation source in the watershed. And fish migration has been blocked at the Yellow Pine Pit for the last 80+ years. These conditions will not get better on their own. It is because of this that Perpetua Resources believes mining provides the best opportunity for the site's future.

HOW IS PERPETUA RESOURCES PREPARED FOR NATURAL EVENTS LIKE EARTHQUAKES?

We have factored in potential seismic activity into the design of our project. In fact, the tailings facility design is built to withstand a quake 6 times larger than the March 2020 6.5 magnitude quake.

The project infrastructure for the Stibnite Gold Project must take into consideration known risks and safety hazards. We have evaluated those risks ranging from rain on snow events to earthquakes and factored them into the engineering and design of the infrastructure proposed for the project.

It was important to us, and in many cases required of us, to design project infrastructure to have a high factor of safety. This means the design of the facilities must withstand more than anticipated stress. In Idaho, a dam must have a factor of safety of at least 1.5. By adding the 65 million ton buttress to the face of the facility the factor of safety is more than twice what is required. Our facility design has a factor of safety well over 3.

When we first started our engineering process, we commissioned a site-specific seismic hazard assessment. This study utilized all available local and regional data to develop and design earthquake recommendations for the site and proposed infrastructure, like the tailing storage facility. We updated that study in late 2019.

To give an earthquake specific example, the tailings facility for our project was designed to withstand shaking about 6 times stronger than what was experienced in the March 2020 earthquake of a 6.5 magnitude.

RIVER

GIVEN THERE IS ALREADY CONTAMINATION FROM PREVIOUS MINING, WHAT IS THE POTENTIAL FOR FURTHER CONTAMINATION?

In order for our project to move forward, we have to prove to the 11 state and federal regulatory agencies reviewing the project that the Stibnite Gold Project will minimize impacts to the environment. In addition to minimizing our impacts, we also need to have clearly developed plans for how we would respond if the unexpected happened. Regulators will not allow our project to move forward if they believe it would negatively impact the river. The East Fork of the South Fork of the Salmon River has been impacted for more than a century and the water quality and fish habitat in its headwaters are degraded. Our plan will allow us to repair and enhance more than 12 miles of the East Fork of the South Fork of the Salmon River and tributaries leading into it and get salmon and trout back to its headwaters for the first time in more than 80 years. Learn more [here](#).

WHAT WILL PERPETUA RESOURCES DO ABOUT WETLANDS?

Wetland and stream restoration are discussed in the Plan of Restoration and Operations (PRO), and are being evaluated in further detail in mitigation plans that are in progress. Wetland and stream restoration have received a great deal of attention in support of, and following submission of, the PRO. Perpetua Resources's primary goal with regard to mitigation for wetland impacts is to restore and/or replace wetlands that have already been or would be impacted by project disturbances, preferably in place during reclamation, or at nearby locations within the upper East Fork of the South Fork of the Salmon River (EFSFSR) drainage; off-site mitigation is also being considered. In the case of the upper East Fork of Meadow Creek (Blowout Creek), we have plans to restore wetlands that have been negatively impacted for decades by the failure of the historical East Fork Meadow Creek water retention dam. There are also plans to re-establish wetlands on the surfaces of the TSF and development rock storage facilities (DRSFs), including along the EFSFSR across the backfilled Yellow Pine pit.

WHAT WILL PERPETUA RESOURCES DO ABOUT STREAM RESTORATION AT SITE?

Stream reconstruction and habitat enhancement is a related and equally important restoration goal. Perpetua Resources plans to reconstruct streams where they have been or would be impacted by past (legacy) or future project disturbances. Significant examples include the restoration of the EFSFSR across the backfilled Yellow Pine pit (which currently is a blockage to upstream passage for anadromous fish), and to repair Blowout Creek below the failed East Fork Meadow Creek dam. Stream restoration efforts are targeted at restoring anadromous fish access to the upper EFSFSR, reducing sediment delivery to the EFSFSR (by Blowout Creek) and enhancing fisheries habitat in the upper EFSFSR drainage. Our stream restoration plans acknowledge the dynamic nature of streams and are designed to allow for natural channel migration over time. Learn more [here](#) and watch our webinar [here](#).

WILL FISH AND GAME CONSIDER PLACING SALMON AND STEELHEAD SMOLT IN THE STREAMS NEAR SITE OR WILL IT NEED TO OCCUR NATURALLY?

This is a topic that is under consideration as the design of the diversion tunnel around the Yellow Pine pit advances. Ideally, the completion of the diversion tunnel will facilitate volitional upstream fish passage and continued placement of hatchery fish into the upper reaches of the EFSFSR will not be necessary. We expect that this could take a few years, as returning populations are reestablished by continuing the present program of placing Chinook salmon adults (not smolts) in Meadow Creek to spawn when excess fish are available from the hatchery rearing program. While salmon are placed in Meadow Creek presently, Idaho Department of Fish & Game (IDF&G)'s approach to steelhead recovery in the South Fork of the Salmon River basin avoids placing hatchery fish. While we welcome accelerated reestablishment of both steelhead and salmon, we recognize the desire to achieve this naturally when possible as is the present policy regarding steelhead. Any reversal of this policy would be a decision for IDF&G and applicable Federal agencies, not Perpetua Resources.

IS PERPETUA TRYING TO HAVE FISH SWIM UPSTREAM IN A TUNNEL?

Fish have been unable to swim past the Yellow Pine pit since 1938. Currently, the East Fork of the South Fork of the Salmon River flows directly into an abandoned open pit. To fix this as quickly as possible, the company will install a temporary 0.9-mile fish passage tunnel designed with resting pools, lighting and the needed gradient and flow to provide a state of the art system for fish migration. This is a temporary solution but literature and examples from around the world suggests that fish will likely use the tunnel for passage.

After re-mining and backfilling the Yellow Pine pit, Perpetua Resources will restore the East Fork of the South Fork of the Salmon River in the later stages of operations providing a permanent pathway for fish to migrate upstream to their native spawning grounds using the routes similar to those they traveled prior to mining.

REGULATIONS

WHY SHOULD WE TRUST PERPETUA RESOURCES?

You can trust the project because it will have to meet some of the strictest regulatory standards in the world, not just on day one—but every single day through the life of the project. Perpetua Resources will also be required to set money aside for reclamation before its project moves forward. This will ensure that no matter what happens, the site will finally have the resources to be properly restored.

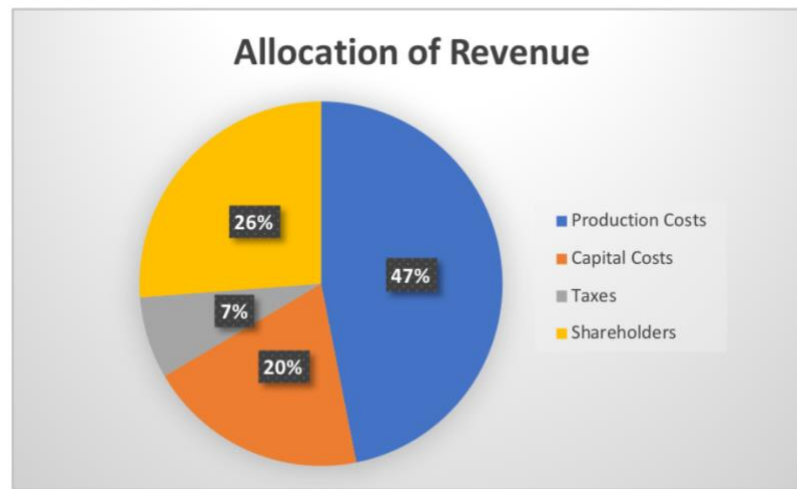
WHAT IS THE PROCESS OF PERMITTING THE STIBNITE GOLD PROJECT?

Perpetua Resources Idaho proposed the Plan of Restoration and Operations (PRO) for Stibnite Gold Project in 2016; this plan is now undergoing an Environmental Impact Statement (EIS) review by the U.S. Forest Service. This review considers economic, community and environmental components of the plan, takes in public feedback and then proposes a final plan for implementation. Additional permits are required through the Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers; through state agencies that include Idaho Department of Environmental Quality and Idaho Department of Lands; and from Valley County. All agencies are working cooperatively to coordinate their review processes. Learn more [here](#).

WHAT IS THE 1872 MINING LAW?

The 1872 Mining Law governs the transfer of rights to mine gold and other minerals from federal lands. In our case, more than 90 percent of the mineral resources proposed to be extracted as part of the Stibnite Gold Project lie on Perpetua Resource's private land, not on public Forest Service land. Some claim that by allowing us to mine on Forest Service land, the government is giving the resources on site "away for free." This is simply not true. Not just because most of the resources for our project are already owned by Perpetua Resources, but because money is given back to the local, state and federal governments through taxes. Modern, first-world countries see the benefits of mining primarily through income taxes, sales taxes, employment and payroll taxes. Third-world countries with weak income tax collection and enforcement tend to collect royalties, which are offset against income taxes and therefore reduce income taxes overall.

Regardless of who owns the gold at Stibnite, the local, state and federal governments will see the benefits of the project through taxes and other benefits. And of course, most critics of the 1872 Mining Law just talk about the gross value of the metal in the ground, forget that we will not recover 100% of the metal and forget to mention that we, Perpetua Resources will have to invest \$1.2 billion in capital to build the mine, spend another ~\$2.4 billion in mining and processing costs and hire and pay hundreds of Idahoans along the way. We also have to fund tens of millions of dollars in clean-up of legacy impacts that have no other source of funding today. The distribution of revenue from the project is illustrated in the pie chart below.



RECLAMATION

WHAT ENSURES ENVIRONMENTAL RECLAMATION WILL BE COMPLETED?

Before work can commence on site, Perpetua Resources Idaho is required to set aside funds required to reclaim the site. Additionally, we designed our plan to repair many of historical environmental impacts early in the life of the Project, during construction or early operations, which ensures that they will happen. We also proposed to continue restoration and reclamation work in parallel with operating the mine. Learn more [here](#).

HASN'T THE AREA ALREADY BEEN RESTORED? WON'T THE STIBNITE GOLD PROJECT DESTROY THE RESTORATION WORK?

The U.S. Government and the mining industry invested some money to help with restoration efforts at Stibnite, public records indicate about \$12 million went into reclamation but it was not nearly enough to achieve comprehensive restoration of the site. There is still arsenic in the water coming from improperly stored historical tailings and waste rock. Hundreds of tons of sediment are dumped into the river each year from Blowout Creek, the site of a failed hydro dam that blew out in 1965 (hence the nickname of the creek). Fish have been blocked from their native spawning grounds for nearly 80 years. The area needs to be reforested after being destroyed by wildfires. And wetlands in the East Fork of Meadow Creek are drying up as uncontrolled erosion drops the water

table. With all of the issues facing the site today, we cannot say the site has already been restored - there is a lot more to do. Learn more [here](#).

WILL RESTORATION BE AN ONGOING PROCESS OR HAPPEN AT THE END OF THE PROJECT?

Early initiation of reclamation and restoration efforts is a key facet of the Plan of Restoration and Operations (PRO). Perpetua Resources designed the Stibnite Gold Project to address legacy issues early in the project life and conduct concurrent reclamation throughout the life of the project.

Blowout Creek, mentioned above, will be addressed early to mitigate the release of sediment into Meadow Creek and the East Fork of the South Fork of the Salmon River (EFSFSR) from Blowout Creek. The construction of a tunnel around the Yellow Pine pit will serve not only the function of diverting the EFSFSR around the pit but will also reestablish anadromous fish passage into the upper East Fork of the South Fork of the Salmon River throughout operations; upstream passage which has been blocked since 1938. Other legacy mine features will also be reclaimed prior to and during mining operations. The Meadow Creek valley includes 10.5 million tons of unconstrained spent ore and tailings. During tailings storage facility (TSF) construction prior to operations, the approximately 6 million tons of spent ore in the Spent Ore Disposal Area (SODA) will be repurposed and incorporated into the TSF. This will provide access to the approximately 3 million tons of underlying tailings, which currently are not contained by any low permeability design feature (i.e. liner). The tailings will be reprocessed early in the mine operations phase to recover remaining sulfide minerals (and associated gold, antimony and silver), and the reprocessed tailings will be stored in the new, fully-engineered TSF.



SAFETY

CAN MINING BE DONE SAFELY?

At Perpetua Resources, our goal is to do everything in the safest way possible. Our track record is proof of our commitment. We have explored the site since 2010 without a reportable spill or serious safety incident. Our dedication to safety was carried through the design of our project in order to minimize potential risks as much as possible. Learn more [here](#).

SPILLS

HOW WILL SPILLS OF TRANSPORTED MATERIALS BE PREVENTED AND OR ADDRESSED?

Currently, we have spill kits in all of our company vehicles at site and along the roadway in order to respond quickly if an accident happens. We also use pilot vehicles to help safely guide sensitive loads to site. These practices will continue.

Perpetua Resources developed our Plan of Restoration and Operations (PRO) to move the travel route to site away from waterways and contain chemicals on site using best management practices in order to reduce the chances of any type of chemical spills.

Additionally, during operations, the ore processing vessels on site will have a secondary containment to hold up to 110% of the volume of the vessel in case of a rupture. Safety measures like these are built into the PRO and will be enhanced as we move into operations. However, it is important to point out that we have an impeccable safety record and have not had a reportable spill of any type for more than 80 months.

T

TAILINGS SAFETY

WHAT MEASURES ARE IN PLACE TO PREVENT THE TAILINGS POND FROM BREACHING, OVERFLOWING OR SEEPING INTO THE GROUNDWATER?

Perpetua Resources' tailings storage facility (TSF) is designed to meet or exceed the most stringent design factor-of-safety set forth in Idaho regulations. In Idaho, tailings dams are regulated three ways - through Idaho Department of Water Resources' dam safety regulations and tailings impoundment regulations; through Idaho Department of Environmental Quality's Ore Processing by Cyanidation regulations, and through Idaho Department of Lands' mine closure regulations. In addition to establishing minimum factors of safety, these regulations specify certain practices and design features to promote long-term stability and protect water quality.

Our TSF incorporates site-specific design features that were selected based on regulations and what the industry has learned about best practices specific to the facility location, purpose, lifespan, and contents. Specific elements that will prevent breaching, overtopping, or leakage consist of both design features and operational measures. These serve to prevent release of water and tailings into the environment by promoting geotechnical stability, preventing excess water accumulation in the TSF, allowing sufficient capacity to temporarily store any excess that could occur, and providing redundancy for critical components of the water management system.

See the question above for the aforementioned design elements.

HOW WILL THE TAILINGS DAM BE STABILIZED DURING OPERATIONS AND POST-RECLAMATION?

The design of the tailings embankment is subject to approval by the Idaho Department of Water Resources (IDWR), which requires the embankment to have a minimum static factor of safety of 1.5. Perpetua Resources will design and install the tailings embankment to this required specification. In addition to meeting IDWR requirements, Perpetua Resources plans to place the Hangar Flats Development Rock Storage Facilities (DRSF) as an abutment to the tailings storage facility (TSF) embankment. This mass of rock – approximately 65 million tons – will approximately double the geotechnical factor of safety for the embankment to well above the required specification, both during operations and in perpetuity.

In addition, the tailings embankment would be constructed of coarse rock, not tailings, the TSF would be lined with synthetic liner to improve stability and would be constructed in a downstream construction method, which improves geotechnical stability. The tailings will be thickened (partially dewatered) in a thickener plant associated with the processing facility before being transported by pipeline to the TSF. Tailings in the TSF will consolidate concurrent to, and following, deposition. The resultant tailings mass will have low hydraulic conductivity and low effective porosity (resulting from the fine grinding of the ore, added lime, and naturally occurring clays in the ore). The dewatering and consolidation of tailings in the TSF is facilitated in part through the continual removal and recycling of supernatant water from the surface of the tailings. This process is continued during site reclamation and closure phases as the tailings continue to consolidate under their own self-weight. Ultimately, the surface of the TSF will be covered and revegetated, and Meadow Creek will be re-established across its surface, including an adjacent riparian corridor and associated wetlands. Learn more [here](#).

WHAT SAFETY MEASURES ARE IN PLACE FOR THE TAILINGS STORAGE FACILITY?

Perpetua Resource's tailings storage facility (TSF) is designed to meet or exceed the most stringent design factor-of-safety set forth in Idaho regulations. In Idaho, tailings dams are regulated three ways - through Idaho Department of Water Resources' dam safety regulations and tailings impoundment regulations; through Idaho Department of Environmental Quality's Ore Processing by Cyanidation regulations, and through Idaho Department of Lands' mine closure regulations. In addition to establishing minimum factors of safety, these regulations specify certain practices and design features to promote long-term stability and protect water quality. Our TSF incorporates site-specific design features that were selected based on regulations and what the industry has learned about best practices specific to the facility location, purpose, lifespan, and contents. Specific elements that will prevent breaching, overtopping, or leakage consist of both design features and operational measures. These serve to prevent release of water and tailings into the environment by promoting geotechnical stability, preventing excess water accumulation in the TSF, allowing sufficient capacity to temporarily store any excess that could occur, and providing redundancy for critical components of the water management system. These elements include the following:

- 1. The SGP tailings storage facility will be 90% contained by surrounding hillsides and the remaining 10% of the perimeter will be retained by a dam. This can be contrasted with facilities in flat terrain where as much as 100% of the facility might be retained by a dam (i.e., a ring dike).*
- 2. The SGP tailings dam will be made of coarse rockfill (not tailings sand or fine-grained soil), constructed by the "downstream method" wherein each successive lift of the dam is founded entirely upon the underlying rockfill, rather than upon tailings as in the "upstream" construction method. In general, downstream-constructed rockfill dams are the most stable among the alternatives, under both static and seismic loading.*
- 3. The SGP TSF impoundment, including the interior dam face, will be fully lined with geosynthetic (both geomembrane and geosynthetic clay liner, GCL, for redundancy), preventing seepage. Seepage can destabilize a dam as well as presenting a water quality problem if seepage enters groundwater or surface water. GCL is particularly useful in preventing TSF seepage because the GCL acts as a cushion to protect the overlying geomembrane from irregularities in the subgrade, thereby reducing the occurrence of leaks, and the bentonite clay*

component of GCL will hydrate and swell in response to a leak in the geomembrane, sealing off the leak. The tailings contribute to minimization of leaks as well, both by directly filling voids and because of their naturally low permeability that limits transfer of water to a liner leak.

- 4. After the first stage of the dam is constructed, Perpetua Resources will begin placement of a buttress that will ultimately contain approximately 65 million tons of development rock. With the buttress in place, the static factor of safety of the dam will be approximately double the minimum requirement from the regulations.*
- 5. Excess accumulation of water will be prevented by diverting clean water (Meadow Creek, tributaries, and hillsides) around the facility in surface diversions designed to convey the 100-year peak runoff.*
- 6. Due to the size and risk category of the TSF, IDWR requires that it maintain sufficient freeboard to store the Probable Maximum Flood (PMF), i.e., the runoff from the Probable Maximum Precipitation (PMP). The PMP is the greatest amount of precipitation that is physically possible over a given watershed. The facility is designed to maintain sufficient freeboard above the normal operating pool to store the runoff from the PMP, conservatively assuming diversion failure at the onset of rainfall, plus an additional 4 feet dry freeboard (the 4 feet including 2 feet for wave runoff). Such PMP events are rare, commonly estimated as having less than a 1 in 10,000-year frequency.*
- 7. To ensure that the freeboard volume is sufficient as mining progresses, dam lifts will be added to the TSF to keep ahead of TSF filling. The total freeboard (PMF + 4 feet) provided in the SGP TSF varies by stage as the facility surface area increases, and represents 11 to 12 times the estimated 100-year flood volume (24-hr design rainfall basis), or 6 to 7 times the 500-year flood volume. Also note that the minimum freeboard is present for a limited exposure window (weeks or months not years) while a stage is nearly full but before the next stage (dam raise and liner expansion) is complete. Available excess volume in the facility is thus much greater than the minimum for much of the operating life.*
- 8. Mercury is removed during ore processing, and WAD (weak acid dissociable) cyanide is neutralized down to less than 10 ppm before tailings are pumped to the TSF. WAD cyanide levels below 50 ppm are protective of wildlife. Addition of lime to the oxidation circuit helps to create stable (insoluble) forms of arsenic.*
- 9. The tailings are also thickened before pumping to the TSF which helps to reduce the amount of water being introduced to the TSF, and promotes consolidation of the tailings.*
- 10. The reclaim pumping system (that returns water to the process plant) will be redundant, with at least one installed spare pump in addition to the operating pump(s) at the TSF.*
- 11. Repair parts (additional reclaim pump, pump seals, impellers, screens, pipe sections, flanges, etc.) will be stored on-site to effect immediate repair of a pipe rupture or pump failure.*
- 12. Perpetua Resources will utilize evaporators (EcoMisters, etc.) to reduce free water inventory on the TSF, during both operations and pre-closure, and will generally have at least one or two spare evaporators warehoused on site.*
- 13. In the event of an unusually severe and highly improbable set of circumstances (extensive length of pipe rupture, multiple concurrent pump failure, protracted site-wide power outage, failed diversion or excessive meteoric water buildup in the facility during a time when evaporators are ineffective due to temperature or humidity), the process would be shut down, and repair parts or backup systems brought from off site. The reclaim pipeline is a common pipe size, and readily*

available from suppliers in Idaho and regionally (Utah, Nevada, Washington) and, as the reclaim line is largely gravity flow, any number of substitute pumps available regionally or at Perpetua Resources facilities could be installed to return the reclaim system to operations – including by operating the reclaim pipeline as a siphon. Excess water would be managed first by use in the process, then by evaporation, and lastly by emergency treatment and discharge.

14. At closure, restored channel/floodplain corridors will be separated from the underlying tailings by a geosynthetic liner, and the dam will be notched to allow stable passage of floodwater without impounding water on the surface of facility.

Learn more [here](#).

WHAT IS THE LIFE EXPECTANCY OF THE TAILINGS FACILITY LINER?

The plastic component of the tailings facility liner has a half-life of over 450 years; however the bentonite clay contained in the underlying geosynthetic clay liner (GCL) is a natural low-permeability material that will not degrade with time. In addition, owing to both their fine grind and our addition of lime and limestone during ore processing, the tailings themselves create a nearly impermeable layer as they compact and cement over time.

We are happy to walk you through the design and the contents of the facility. It is also important to note that today, millions of tons of spent ore and tailings sit uncontained in the Meadow Creek valley and interact with ground and surface water. One of our first actions during operations will be to pick up this material for reprocessing, reuse and safe storage.

CAN YOU EXPLAIN IN MORE DETAIL THE DESIGN OF THE TAILING IMPOUNDMENT DAM AND WHY THERE IS ESSENTIALLY ZERO PROBABILITY OF DAM BREACHING OR SEEPAGE OF CONTENTS INTO GROUND WATER?

Please see a more detailed response above, specifically the points on design freeboard (PMP, and usually greater depending on timing), redundant geocomposite liner system, and greater-than-required factor of safety due to the buttress.

WHY ARE DAM SOLUTION CONTENTS RECYCLED BACK TO PLANT DURING THE LEACHING PROCESS?

Solution is recycled back to the process plant to keep it from accumulating in a "runaway" fashion in the tailings storage facility (TSF), provide consistent water quality to the process, and to minimize the amount of clean groundwater added to the overall water balance. A certain amount of water must still be added, termed "makeup" water, to offset the losses due to water evaporated from the TSF surface or buried with the tailings.

WHAT WILL BE THE HEIGHT OF THE LINED DAM? WILL THE DAM HEIGHT BE INCREASED AS NEEDED OR CONSTRUCTED ALL AT ONCE?

The starter (first stage) dam will be approximately 250 feet in height. The facility will be raised to keep up with mining and tailings deposition, with a new stage completed roughly every 3 years. The final stage will bring the total dam height to roughly 465 feet, though by this time the presence of the buttress immediately downstream will mean that little of the dam face will be visible.

WHAT WILL BE THE AVERAGE WATER DEPTH ABOVE THE SETTLED TAILINGS?

Water depth over the tailings will vary, from zero (significant height of beach above water around the edges and particularly at the back of the facility as it nears closure) to over 50 feet during storage of the inflow design flood (the PMF), depending on the stage (later stages will store the same flood volume in less height; only roughly 15 vertical feet is required to store the flood at the end of Stage 4 that would require 40 feet at the end of Stage 1), and the volume of the operational water pool at the onset of the flood. As the tailings beach geometry has not been evaluated in detail at this design step, and will generally only be evaluated at key design points (end-of-a-stage), and the impoundment surface area will vary significantly as the tailings level increases, determining an "average" water depth is likely both meaningless and misleading.

WHAT IS THE EXPECTED TONS OF ROCK USED TO CAP THE POND DURING THE RECLAMATION?

More detailed cover design is in progress for the ongoing Reclamation and Closure Plan; cover material quantities will be estimated as that document is finalized. In the Plan of Restoration and Operations (PRO) and Pre-feasibility Study (PFS), soil/rock cover of at least 2-foot thickness was anticipated, with excess cover needed to fill the former pool location where post-closure consolidation is expected to be greatest bringing the overall TSF average to approximately 3 feet.

HOW WILL DE-WATERING BE ACCOMPLISHED AT END OF PROJECT?

During active closure (before and during cover placement), excess water inventory would be managed primarily via forced evaporation (EcoMisters, etc.), and if necessary, treated for discharge through a permitted Idaho Pollutant Discharge Elimination System Program (IPDES) outfall.

WILL CYANIDE BE NEUTRALIZED BEFORE IT ENTERS THE TAILINGS STORAGE FACILITY (TSF)?

Cyanide concentrations in the tailings solution will be detoxified prior to transport via pipeline to the tailings storage facility (TSF). To be protective of wildlife, the International Cyanide Management Institute (ICMI) recommends that weak acid dissociable (WAD) cyanide concentrations be below 50 ppm; however, Perpetua Resources plans to detoxify the tailing solution to a WAD cyanide concentration of less than 10 ppm.

As indicated in Response 1, it is important for recycled water from the TSF to have a low concentration of cyanide prior to its re-introduction into the ore processing circuit. Cyanide concentrations above 10 ppm can negatively impact gold/silver recovery.

DID PERPETUA INDICATE THAT ALTERNATIVE 3 IN THE USFS PROPOSAL IS NOT AN ACCEPTABLE LOCATION FOR THE TSF SINCE PERPETUA WOULD THEN HAVE NO REASON TO REMOVE ARSENIC, NATURALLY OCCURRING MERCURY AND AMALGAM LOSS IN LEGACY TAILINGS IF THE TSF IS NOT CONSTRUCTED IN THE LOCATION PROPOSED IN ALTERNATIVES 1 AND 2 (PREFERRED)?

Under an alternative where the tailings facility would be located in the East Fork of the South Fork drainage we would not pick up and move the existing tailings and waste rock in the Meadow Creek area. To clarify, mercury content in the Bradley Tailings is actually fairly low, with an average of 0.77 ppm Hg. This concentration is lower than what naturally occurs in our ore grade materials that Perpetua plans to mine, which average approximately 1.5 ppm Hg.

The mercury in the tailings is lower than what was mined for a couple reasons; Bradley Mining Company used cyanide rather than mercury as a lixiviant for gold extraction, some mercury was likely emitted through the smelter stack, and mercury was also preferentially concentrated in the antimony flotation concentrate.

While mercury is present, the antimony and arsenic present in the unlined facility is the larger concern for water quality.

WILL PERPETUA RESOURCES LEAVE TOXIC SLUDGE ON THE SITE IN THE TAILINGS FACILITY?

Toxic sludge is not a scientific term. There will be a slurry material deposited in the tailings storage facility (TSF), which will be neutralized prior to deposition. Cyanide in the tailings solution will be detoxified prior to transport via pipeline to the TSF. To be protective of wildlife, the International Cyanide Management Institute (ICMI) recommends that WAD cyanide concentrations be below 50 ppm; however, Perpetua Resources plans to detoxify the tailing solution to a WAD cyanide concentration of less than 10 ppm and is motivated to do this because higher cyanide levels would reduce gold recoveries. Further, the gold recovery process results in the stabilization of arsenic and antimony as ferric arsenate and ferric antimonate, which are long term stable products that do not break down in the natural environment.

TRANSPORTATION

HOW WILL TRAFFIC IMPACT RESIDENTS?

Overall, transportation experts anticipate the traffic created by the Stibnite Gold Project will add approximately 1% more new vehicles on the road. Vehicles will be a combination of light vehicles and trucks but will be the type of vehicles you see on the road every day. Traffic will also be kept to daylight hours during the week whenever possible. Our plans for travel to and from the project site were designed to prioritize the safety of our employees and Idahoans. We know continued access is a very important issue for many Idahoans, so our plan maintains recreational access so Idahoans can continue to safely hike, hunt, fish, snowmobile and explore the areas surrounding the site much as they do today.

We estimate we will need to make around 65 round trips per day during construction and operations. A third of these trips would be made using the light vehicles like you see us driving today. Our plan was designed to minimize trips on the road in order to increase safety and sustainability. We will drive 90 percent of our employees to the site on buses and have them work in a two-week work cycles in order to have less traffic to and from the project site. In our plan, we committed to transporting goods Monday through Friday

during business hours as much as possible to reduce traffic during peak travel times. Learn more [here](#).

CAN EMPLOYEES DRIVE TO SITE?

Typically, no. Perpetua Resources Idaho employees will not drive their own vehicles to site; rather they will be required to travel in company-provided buses from McCall, Donnelly, or Cascade. In limited cases, some Perpetua Resources personnel and contractors may be required use individual vehicles for transportation to the Project site. As noted in the PRO in Section 8.2: “Perpetua Resources will utilize buses or vans to transport workers to and from the Stibnite Gold Logistics Facility (Scott Valley) at the beginning and end of their work cycles. Onsite transport of employees from Stibnite Lodge to the various Project facilities and workstations will be accomplished by a small fleet of buses and vans”.

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WATER TREATMENT

WILL WASTE TREATMENT SLUDGE BE RECYCLED?

Dried sludge from treatment of sanitary wastewater will be mixed with compost (food waste) and incorporated into growth media to boost volumes of available topsoil and used during the reclamation process.

WATER QUALITY

WHAT ABOUT ACID ROCK DRAINAGE (ARD)?

The Stibnite area has been mined for over 100 years. Throughout that time, the rocks at site have not generated what is referred to as “acid rock drainage,” or, “acid mine drainage.” Acid rock drainage is a naturally occurring process of sulfide minerals oxidizing and creating acid. Acid rock drainage has not occurred at our site because the conditions and materials necessary to cause the reaction are not present. The rocks at Stibnite have very low sulfide content, and other minerals present in the rock, like the carbonates in limestone and other rock types, act as neutralizers. As a result, acid rock drainage does not occur, and is not expected to occur, at our site. In fact, after years of study, our team

found that the substantial majority of the rocks that we will mine have no potential for generating acid. Learn more [here](#).

WILL ALL THE WASTE CHEMICALS BE STORED IN CLOSED CONTAINERS? HOW LONG DO THE CONTAINERS LAST?

Waste chemicals will not be stored on site long-term. While stored temporarily on site, they will be held in approved containers and within secondary containment areas.

HOW WILL YOU KEEP METALS FROM ENTERING THE WATER?

Arsenic is the dominant metal of concern at the Stibnite Gold Project given its association with mineralization. Arsenic concentrations in the groundwater and streams in the Stibnite area are naturally elevated as mineralized rock in the area is rich in arseno-pyrite and arsenian-pyrite; these are also the minerals that host (and encapsulate) gold and silver. These minerals will be concentrated in the flotation circuit, and the concentrate will report to the oxidation circuit (autoclave) where the sulfide minerals will be broken down to liberate the precious metals. The pH will be carefully controlled in the autoclave (by adding ground limestone to the ore) to promote the formation of stable, crystalline, ferric arsenates (e.g. scorodite) versus less stable, amorphous ferric arsenates (e.g. jarosite). This is done for environmental reasons (to result in stable forms of arsenic in the tailings storage facility), and for metallurgical reasons (as jarosite tends to encapsulate and lock-up gold and silver particles, and crystalline ferric arsenates do not).