

**BEFORE THE BOARD OF ENVIRONMENTAL QUALITY
STATE OF IDAHO**

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NEZ PERCE TRIBE, IDAHO)
CONSERVATION LEAGUE, and SAVE)
THE SOUTH FORK SALMON)
)
Petitioners,)
)
v.)
)
IDAHO DEPARTMENT OF)
ENVIRONMENTAL QUALITY,)
)
Respondent.)

CASE DOCKET NO. _____
**PETITION TO INITIATE
CONTESTED CASE: AIR
QUALITY PERMIT TO
CONSTRUCT P-2019.0047
(JUN. 17, 2022)**

ATTENTION: Hearing Coordinator

INTRODUCTION

1. Petitioners Nez Perce Tribe, Idaho Conservation League (“ICL”), and Save the South Fork Salmon (“SSFS”), by and through their attorneys of record, file this Petition to Initiate Contested Case (“Petition”) before the Idaho Board of Environmental Quality (“Board”) pursuant to Idaho Code § 39-107(5) and IDAPA 58.01.23. This Petition challenges the Air Quality Permit to Construct P-2019.0047 (“PTC”) issued by the Idaho Department of Environmental Quality (“DEQ”) on June 17, 2022, to mining company Perpetua Resources Idaho, Inc. (“Perpetua”) for its proposed Stibnite Gold Project (“SGP”).

2. The SGP is in the headwaters of the East Fork of the South Fork of the Salmon River approximately ten miles east of the town of Yellow Pine, Idaho. The SGP is geographically located within the Nez Perce Tribe’s aboriginal homeland and within the area over which the Nez Perce Tribe has Treaty-reserved rights and resources. As proposed, Perpetua would use conventional mining techniques to extract ore from three open pits, process gold, and dispose of mine waste at the SGP site.

3. The PTC being challenged here authorizes emissions of air pollutants from the SGP that will occur over the mine’s anticipated 16-year life span. These emissions include massive quantities of dust generated by mining, hauling, and processing. The dust includes particulate matter and arsenic—pollutants which can cause serious harm to human health and the environment.

4. When it issued the PTC, DEQ failed to comply with the federal Clean Air Act and with Idaho rules, regulations, and guidance for Clean Air Act permitting in multiple ways set forth below. Petitioners respectfully request that the Board reverse and set aside the PTC and remand to DEQ to correct these errors.

LISTING OF REPRESENTATIVES

5. Copies of all pleadings, correspondence, and official documents shall be served on the Petitioners' counsel listed below:

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JURISDICTION, STANDARD OF REVIEW, PARTIES, AND STANDING

6. Pursuant to Idaho Code § 39-107(5), IDAPA 58.01.23, and IDAPA 58.01.01 (the “Idaho Air Rules”), the Board has jurisdiction over this contested case challenging DEQ’s action issuing PTC P-2019.0047 for the SGP on June 17, 2022. This Petition is timely filed on July 22, 2022, within thirty-five (35) days of the date of DEQ’s June 17, 2022 decision. *See* IDAPA 58.01.23.060.

7. An agency action, such as DEQ’s issuance of the PTC being challenged here, may be reversed if it is in violation of constitutional or statutory provisions, is in excess of statutory authority, is made on unlawful procedure, or is arbitrary, capricious, or an abuse of discretion. Idaho Code (“I.C.”) § 67-5279. When an agency action is not affirmed, it shall be set aside, in whole or in part, and remanded for further proceedings as necessary. *Id.*

8. Pursuant to IDAPA 58.01.23.002.02: “Any person aggrieved by an action or inaction of the Department may file a petition to initiate a contested case pursuant to Chapter 52, Title 67, Idaho Code.” An aggrieved person is defined as “any person or entity with legal standing to challenge an action or inaction of the Department, including but not limited to permit holders and applicants for permits challenging Department permitting actions.” IDAPA 58.01.23.005.01.

9. PETITIONER NEZ PERCE TRIBE is a federally-recognized Indian tribe with headquarters on the Nez Perce Reservation in Lapwai, Idaho; and with offices in Orofino, McCall, and Powell, Idaho, and Joseph, Oregon.

10. The Nez Perce Tribe has standing to bring this contested case. The Nez Perce people, the *Nimiipuu*, exclusively occupied, since time immemorial, over thirteen million acres encompassing a large part of what is today Idaho, Oregon, and Washington—stretching from the Bitterroot Mountains to the Blue Mountains. Nez Perce also traveled far beyond this homeland to fish, hunt, gather, and pasture—frequently going east to buffalo country, in what is today the state of Montana, and west along the Snake and Columbia rivers to the Pacific Ocean. The Nez Perce actively maintain their connection to the land, water, and resources of their vast homeland. The Nez Perce’s intimate knowledge and continuous use of their homeland over millennia have created a unique and reverential bond between people and place that defines Nez Perce culture and identity.

11. When the Nez Perce Tribe entered into a treaty with the United States in 1855, it sought to reserve the rights central to maintaining its culture and way of life. The 1855 Treaty reserved to the Tribe, for its “exclusive use and benefit,” 7.5 million acres of its more than

thirteen-million- acre homeland, including an area spanning present-day north-central Idaho, southeast Washington, and northeast Oregon as well as:

[T]he right of taking fish at all usual and accustomed places in common with citizens of the Territory; and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed land.

Treaty with the Nez Perces, art. 3, June 11, 1855, 12 Stat. 957. Nez Perce Tribal members, pursuant to the Nez Perce Tribe's Treaty-reserved rights, continue to fish, hunt, gather, and pasture across the Nez Perce Tribe's vast aboriginal homeland and at traditional places, including areas within and surrounding the SGP. The Nez Perce Tribe, as a co-manager of its treaty-reserved resources, also plays a leading role in the restoration of the East Fork South Fork Salmon River and South Fork Salmon River fisheries, expending approximately \$2.5 million annually to restore Chinook salmon runs in both rivers through hatchery supplementation, fishery research, and watershed restoration.

12. The Nez Perce Tribe will suffer physical, cultural, spiritual, and economic injury caused by excessive air pollutants resulting from DEQ's issuance of the PTC. Clean, clear air is a critical component to ensuring the health and resiliency of the Nez Perce Tribe's Treaty-reserved rights and resources. Air pollution reduces visibility, which impairs cultural and ceremonial practices for Tribal members and reduces enjoyment of these special places. Air pollution causes a host of environmental and human health problems, including damage to culturally important plants, sensitive forests, and fish habitat, acidification of lakes and streams, depletion of soil nutrients, aggravated asthma, heart attacks, and premature death. Impacts can be especially harmful to at-risk ecosystems and especially harmful for sensitive human populations such as asthmatics, children, the elderly, people with diabetes, and people with heart or lung disease.

13. To safeguard its rights and interests, the Nez Perce Tribe has participated extensively in DEQ's review process, including submitting comments on October 12 and November 10, 2020, March 8, 2021, and March 14, 2022. A favorable decision in the Contested Case will redress these injuries suffered by the Tribe.

14. PETITIONER IDAHO CONSERVATION LEAGUE is an Idaho non-profit conservation organization. Its main office is located in Boise, Idaho, and it has three field offices in Sandpoint, Ketchum, and McCall. ICL represents approximately 50,000 supporters dedicated to protecting and conserving Idaho's clean water, air, public lands, and wildlife.

15. ICL has standing to bring this contested case. ICL supporters, staff, and board members ("ICL members") regularly visit the SGP and/or nearby areas where air quality would be affected by the SGP for professional, recreational, aesthetic, and other purposes. ICL members will suffer health, environmental, and aesthetic injuries from the particulate matter and arsenic air pollution emitted by the SGP and authorized by DEQ's issuance of the PTC. A favorable decision in the Contested Case will redress ICL's injuries. Neither the claim asserted, nor the relief requested, requires participation of these individual ICL members in the lawsuit. The interests ICL seeks to protect are germane to the organization's purpose in protecting Idaho's clean water, clean air, wildlife, and public lands.

16. In furtherance of its mission, ICL participated extensively in the public processes for the PTC, including by submitting formal public comments to DEQ on October 12 and November 11, 2020, March 19, 2021, and March 16, 2022.

17. PETITIONER SAVE THE SOUTH FORK SALMON is a community-based, non-profit conservation organization headquartered in McCall, Idaho. SSFS represents members and supporters dedicated to preserving the South Fork Salmon River watershed and ecosystem.

18. SSFS has standing to bring this contested case. SSFS members, supporters, and members of the Board of Directors (“SSFS members”) regularly visit the South Fork Salmon River watershed and the SGP site, where the emission of excessive air pollutants due to DEQ’s issuance of the PTC would impact professional, economic, recreational, aesthetic, environmental, and human health interests. SSFS members would suffer injury from DEQ’s issuance of the PTC from environmental, health, and aesthetic harms caused by the emission of harmful air pollutants, including particulate matter and arsenic. A favorable decision in the Contested Case will redress these injuries suffered by SSFS members. Neither the claims asserted, nor the relief requested, requires participation of these individual supporters in the lawsuit. The interests SSFS seeks to protect are germane to the organization’s mission of protecting and preserving the South Fork Salmon River watershed and ecosystem, and protecting public health, the river, the fish, and recreational opportunities in the area.

19. In furtherance of this mission, SSFS participated extensively in the public process for the PTC, including submitting formal public comments to DEQ on October 12 and November 11, 2020, March 19, 2021, and March 16, 2022.

20. RESPONDENT IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY is an executive department and administrative agency organized under the laws of the State of Idaho, pursuant to the Idaho Constitution (Article IV, Section 20) and Idaho Code section 39-104(1). Its principal offices are located at 1410 N. Hilton, Boise, Idaho 83706. DEQ, through its Director, and subject to Board oversight, is responsible for issuing air quality PTCs under the Idaho Air Rules, IDAPA 58.01.01.

21. On June 17, 2022, DEQ issued PTC P-2019.0047, which is the subject of this contested case.

FACTUAL SUPPORT FOR PETITION

I. OVERVIEW OF SGP & CHRONOLOGY OF DEQ'S ISSUING THE PTC

22. Perpetua is currently in the process of seeking multiple permits and other approvals from multiple agencies and other authorities for the proposed SGP. As described by DEQ in the Statement of Basis (“SOB”) document prepared with the PTC:

Perpetua proposes to construct and operate the SGP, consisting of conventional open-pit mining, ore preparation, and gold extraction operations. The SGP is to be located in Valley County at the intersection Forest Service roads NF-374 and NF-412 (Stibnite Road), approximately 10 miles east of Yellow Pine. The project will be located on a combination of public national forest and private lands. The mining operations boundary within which public access will be excluded is defined in Figure 1. This operations boundary also defines the ambient air boundary that was used in all ambient air quality impact analyses as part of the development process of the PTC.

The SGP will require the construction of significant infrastructure, including a power transmission line, a primary mine site access road, onsite haul roads, an ore processing facility, onsite workspaces, employee housing and recreation, water storage and distribution facilities, and sewage disposal facilities.

Conventional open-pit mining methods including drilling, blasting, excavating, and hauling will be used to extract ore and waste rock, termed development rock (DR). Hydraulic shovels and front-end loaders will be used to load ore and DR into haul trucks. DR will be used for construction, restoration, and backfilling, or hauled to the dedicated development rock storage facilities (DRSF). Approximately 340 million tons of DR will be handled over the life of the mine.

The SGP will include three years of pre-mining development and construction activities, followed by an operating mine life of approximately 12 years. Mining will occur in three open pits: Yellow Pine Pit (YPP), Hangar Flats pit (HFP), and West End pit (WEP). Although there will be overlap in mine development, construction and operations, the general sequence of mining will be the YPP deposit, followed by the HFP and WEP deposits. Legacy tailings from the Meadow Creek valley (Bradley Tailings [BT]) will also be reclaimed and reprocessed during the initial project schedule. Surface exploration drilling will occur within the pits and within the Scout Prospect decline (underground exploration) throughout the mine operation period. Restoration and reclamation of other legacy mining features will occur prior to mining, throughout the life of the mine, and as part of the mine closure.

Ore will be hauled to the primary crusher area, where it will be fed directly into the crusher dump pocket or stockpiled. The ore crushing plant will be designed

to operate at a maximum rate of 25,000 tons per calendar day (T/day). Approximately 100 million tons of ore will be mined from the three pits over the life of the project. The metal-recovery process from ore will include conventional crushing and grinding, followed by froth-flotation circuits that will generate separate gold-silver and antimony-silver concentrates. The antimony-silver concentrate will be shipped offsite for refining, whereas additional onsite processing of the gold-silver concentrate will include pressure oxidation, carbon-in-leach circuits, and refining processes to recover gold and minor amounts of silver. The finely ground leftover ore material from the mineral recovery process, termed tailings, will be neutralized, thickened, and transported via a pipeline to the tailings storage facility. A diagram of ore processing and ore concentration and refining process flows is provided in Figure 2.

23. Perpetua (previously Midas Gold) submitted a PTC application for the SGP to DEQ on August 20, 2019. As shown in the “Application Chronology” section of the SOB, between that date and March 6, 2020, DEQ determined that the application was incomplete, requested additional information, and received supplementary materials from Perpetua no fewer than four times. On May 15, 2020, DEQ deemed Perpetua’s application complete.

24. Between May 15, 2020, and March 16, 2022, DEQ developed three versions of the draft PTC and released them for public comment. As noted in comments submitted by the Nez Perce Tribe, ICL, and SSFS, the first two draft versions of the PTC (herein referred to the September 2020 and February 2021 draft PTCs) contained significant shortcomings. As a result, the September 2020 draft PTC was considered deficient and required updated information from Perpetua, including updated hazardous air pollutants (“HAP”) and toxic air pollutants (“TAP”) emissions estimates, a HAP/TAP addendum to the application, updated TAP modeling analyses, supporting references, and updated modeling files with corrections for formaldehyde and sulfuric acid.

25. DEQ subsequently updated the draft PTC and in February 2021, provided a revised draft PTC for public comment. Following additional comments, DEQ again determined that the February 2021 draft PTC was deficient and required additional information from

Perpetua, including Prevention of Significant Deterioration emissions estimates and regulatory applicability for the lime manufacturing plant, as well as an updated TAP/HAP addendum including an updated emission inventory and modeling files.

26. DEQ revised the February 2021 draft PTC and released it for public comment on January 13, 2022. Comments were submitted by the Nez Perce Tribe, ICL, SSFS, the U.S. Environmental Protection Agency (“EPA”) Region 10, and Ian von Lindern of Terragraphics International Foundation. Commenters raised numerous concerns with the draft PTC and urged DEQ to gather additional information, to perform additional modeling and analysis, and to develop additional enforceable permit conditions and limits prior to issuing a final PTC. On June 17, 2022, DEQ issued the final PTC, along with responses to comments and the SOB. While DEQ made limited updates to the PTC, it rejected most of the issues raised by the commenters.

II. PM₁₀ & ARSENIC EMISSIONS FROM THE SGP

27. While the SGP will emit numerous air pollutants, PM₁₀ and arsenic are the air pollutants of greatest concern and are the pollutants at issue in this contested case.

A. PM₁₀ Pollution and Regulation

28. Particulate matter (“PM”) contains microscopic solids or liquid droplets that are so small that they can be inhaled and cause serious health problems. Some particles less than 10 micrometers in diameter can get deep into a person’s lungs, and some may even get into the person’s bloodstream. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including premature death in people with heart or lung disease; nonfatal heart attacks; irregular heartbeat; aggravated asthma; decreased lung function; and increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing. People

with heart or lung diseases, children, and older adults are the most likely to be affected by particle pollution exposure.

29. In addition to causing human health problems, PM causes environmental damage. Particles can be carried over long distances by wind and then settle on ground or water. Depending on their chemical composition, the effects of settling may include making lakes and streams acidic; changing the nutrient balance in river basins; depleting nutrients in soil; damaging sensitive forests and crops; affecting diversity of ecosystems; and contributing to acid rain.

30. Under Sections 108 and 109 of the federal Clean Air Act, EPA is required to establish National Ambient Air Quality Standards (“NAAQS”) for each “criteria air pollutant” to protect the nation’s public health and welfare. “[E]ffects on welfare include[], but [are] not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.” 42 U.S.C. § 7602(h).

31. PM is a criteria air pollutant. EPA has established primary and secondary NAAQS for coarse particulate matter, or “PM₁₀,” 40 C.F.R. § 50.6, and for fine particulate matter, or “PM_{2.5},” *id.* at § 50.7. PM₁₀ consists of inhalable particles with diameters that are generally ten micrometers and smaller. 42. U.S.C. § 7602(t). PM_{2.5} consists of inhalable particles that are 2.5 micrometers and smaller. The NAAQS specify a maximum amount of PM to be present in the outdoor air. *See* 40 C.F.R. §§ 50.6, 50.7.

32. EPA has delegated to DEQ authority to issue air quality permits in Idaho. Under the Rules for the Control of Air Pollution in Idaho, DEQ is required to ensure that no PTC shall be granted for a new or modified stationary source unless the applicant shows to the satisfaction of DEQ that the source would not cause or significantly contribute to a violation of any NAAQS. IDAPA 58.01.01.203.02. To satisfy these requirements, DEQ must assess air impacts using maximum potential emissions as limited by either the capacity of the unit/operation or as limited by enforceable permit provisions. *See* IDAPA 58.01.01.006.88.

B. PM₁₀ Pollution from the SGP & Flaws in the PTC

33. According to DEQ's Statement of Basis for the SGP, the SGP has the potential to emit 55.7 tons per year of PM₁₀ from a variety of sources. The generation of dust from ore haul trucks traveling along haul roads is the most significant source, estimated to be approximately 55% of all modeled PM₁₀ emissions. The next most significant source is open pit drilling fugitive emissions, estimated by DEQ to account for approximately 24% of all modeled emissions.

34. DEQ modeled receptors at various locations along the SGP's ambient air boundary and determined that the maximum potential emissions will be below (and thus comply with) the 24-hour PM₁₀ NAAQS. DEQ found the maximum 24-hour PM₁₀ pollution from the SGP would be 123.5 ug/m³, which is 82.3% of the NAAQS.

35. DEQ's determination that the SGP will not cause or contribute to a violation of the PM₁₀ NAAQS is flawed.

36. First, important variables affecting the quantity of PM₁₀ generated by the ore haul trucks are not directly limited and enforceable as PTC permit conditions. Perpetua estimated the quantity of PM₁₀ that would be emitted by the ore haul trucks based on EPA's compilation of air emissions factors (AP-42 Chapter 13.2.2) and their subsequent analysis of sources used by the

EPA to develop Chapter 13.2.2. Critical variables that Perpetua used as inputs to PM emission calculations include: the average empty weight of ore haul trucks; the average loaded weight of ore haul trucks; the silt content of the haul road being traveled; and the total number vehicle miles traveled by ore haul trucks. However, only one of these critical variables is directly limited and enforceable as a condition in the PTC: the silt content of the haul roads. *See* PTC condition 3.13.

37. Instead of developing PTC conditions for these other critical variables, DEQ relied on a surrogate limit in the PTC (total ore haulage per day, *see* PTC conditions 3.5) and on plans that have not yet been developed—a Fugitive Dust Control Plan (“FDCP”) and a Haul Road Capping Plan (“HRCP”)—to claim the PTC ensures enforceable compliance with 24-hour PM₁₀ NAAQS. Without developing the FDCP and HRCP first, and without including important variables as enforceable permit conditions, there is no assurance the SGP will comply with the 24-hour PM₁₀ NAAQS, even with the total ore haulage per day limit. Perpetua used a very specific combination of these variables to arrive at a quantity of ore haul truck generated PM₁₀ that they contend ensures compliance with the NAAQS. Changing these variables in any number of ways (ways which are not precluded by any conditions in the PTC) can result in higher PM₁₀ levels—levels so high that they exceed the NAAQS. As just one example, merely changing the ratio of large to small trucks used by Perpetua (to include more large trucks) could cause a violation of the NAAQS.

38. Second, DEQ assumed 93.3% of all haul road PM₁₀ emissions from the SGP can be controlled by using an unspecified combination, volume, and frequency of water sprays and chemical dust suppressants. This extremely high level of control which DEQ assumed Perpetua can achieve is based on Perpetua’s interpretation of AP-42 Chapter 13.2.2. AP-42 Chapter 13.2.2

discusses the critically important variables surrounding control efficiencies (in particular to chemical suppressants, some of which can reasonably be assumed to apply to water too):

The control effectiveness of chemical dust suppressants appears to depend on (a) the dilution rate used in the mixture; (b) the application rate (volume of solution per unit road surface area); (c) the time between applications; (d) the size, speed and amount of traffic during the period between applications; and (e) meteorological conditions (rainfall, freeze/thaw cycles, etc.) during the period. Other factors that affect the performance of dust suppressants include other traffic characteristics (e. g., cornering, track-on from unpaved areas) and road characteristics (e. g., bearing strength, grade). The variabilities in the above factors and differences between individual dust control products make the control efficiencies of chemical dust suppressants difficult to estimate. Past field testing of emissions from controlled unpaved roads has shown that chemical dust suppressants provide a PM-10 control efficiency of **about 80 percent when applied at regular intervals of 2 weeks to 1 month** (emphasis added).

39. None of the above variables, however, have any specific and enforceable permit conditions within the PTC to ensure a 93.3% control efficiency. Instead, the PTC has a permit condition (permit condition 2.6) only requiring the permittee to develop and submit the FCDP and HRCF, which merely describe how these variables will be addressed 30 days before start-up of the SGP. Permit condition 2.6 details what variables contributing to PM₁₀ control effectiveness must be detailed in the FCDP, but the specific details that are so important to control efficiency (e.g., the amount of water or chemical suppressants applied and the frequency of application) are undetermined at present and are left to Perpetua to decide at a later date. A lesser control efficiency, even just slightly lesser, could result in large enough PM₁₀ emissions to violate the NAAQS. In fact, if the SGP were to instead achieve 80% control (as EPA found through past field testing of chemical dust suppressants), then the SGP's PM₁₀ emissions could exceed the NAAQS.

40. Third, DEQ relied on monitoring and record keeping (permit condition 3.16) using devices and methodologies in the Operation and Maintenance ("O&M") Manual for the

potential to emit limit associated with the 180,000 tons per day hauling in permit condition 3.5. However, the O&M Manual has not yet been developed, submitted to the public for comment, or reviewed and revised by DEQ. Further, the PTC itself does not include all monitoring, recordkeeping, and reporting necessary to assure compliance with the permit emission limitations and applicable requirements.

41. Fourth, DEQ assumed there would be 120 days of recordable precipitation at the SGP (defined as recording precipitation of 0.01 inch or greater) as a variable in its ore haul road fugitive PM emission calculations. This 120 days comes from general geographic guidance from AP-42 Chapter 13.2.2-1. DEQ, however, should have used local meteorological data. Section 6.8 (Meteorological Data) of DEQ's *Guideline for Performing Air Quality Impact Analyses* states: "The meteorological data used in the modeling analysis should be representative of the meteorological conditions at the particular site of the proposed construction or modification." Days of recordable precipitation is an important variable affecting the SGP's emissions of PM₁₀ from ore haul roads. DEQ's failure to use the most representative site data is counter to this guidance and increases the risk of miscalculation of ore haul road emissions. As a result, DEQ failed to ensure PM₁₀ emissions from the SGP will comply with the NAAQS.

C. Arsenic Pollution & Regulation

42. Arsenic is a naturally occurring element in soils and minerals. When soil or rock containing arsenic is disturbed, arsenic may enter the air, water, and land from wind-blown dust and from run-off and leaching. The EPA classifies inorganic arsenic as a "human carcinogen," based on evidence in human studies of links to lung, bladder, kidney, skin, and liver cancers.

43. Arsenic released from the soil and rock as airborne dust causes environmental damage. Airborne arsenic pollutes soil, plants, and water resources when it is removed from the

air by rain, snow, or gradually settling. Studies have shown that there is a strong correlation between arsenic concentrations in water and in the tissues of fish collected from arsenic-polluted waters. Plants may also absorb arsenic in their leaves and root system from arsenic-polluted soil. The health effects of long-term ingestion of arsenic include developmental effects, diabetes, pulmonary disease, cardiovascular disease, and skin, bladder, or lung cancer.

44. Arsenic is a Toxic Air Pollutant regulated by DEQ. DEQ is required to ensure that no permit to construct shall be granted for a new or modified stationary source unless emissions of TAPs from the constructed source would not injure or unreasonably affect human or animal life or vegetation as required by Section 161. IDAPA 58.01.01.203.03. Section 161 states, “any contaminant which is by its nature toxic to human or animal life or vegetation shall not be emitted in such quantities or concentrations as to alone, or in combination with other contaminants, injure or unreasonably affect human or animal life or vegetation.” IDAPA 58.01.01.161.

45. To comply with these TAPs regulations, emissions from a facility must not exceed the Acceptable Ambient Concentrations of Carcinogens (“AACC”) at the ambient air boundary. For each carcinogenic TAP, IDAPA 58.01.01.586 lists the applicable TAP and its AACC in $\mu\text{g}/\text{m}^3$ as an annual average. The AACC can practically be defined as the concentration of a TAP that, if an individual was exposed to yearly over a 70-year lifetime, would equate to a cancer development probability risk of 1 in 1,000,000. *See* IDAPA 58.01.01.006.125 & 58.01.01.210.12.

46. In order to determine a facility’s TAP concentration at their ambient air boundary, and as noted similarly for PM_{10} emissions, DEQ must assess air impacts using maximum

potential emissions as limited by either the capacity of the unit/operation or as limited by enforceable permit provisions. *See* IDAPA 58.01.01.006.88.

D. Arsenic Pollution from the SGP & Flaws in the PTC

47. There are numerous arsenic sources at the SGP, including drilling, blasting, excavating, hauling, silos, rock dumps, and storage and tailing piles. Table 3 in the SGP TAPs Addendum indicates that the maximum arsenic Potential Total Emissions (“PTE”) is 0.544 lbs/hr at the maximum mine production rate of 180,000 tons/day. The largest source of arsenic emissions are haul roads estimated at 0.464 lbs/yr (Table B1-W3 in SOB). PTE estimates for arsenic are calculated using the same formulas and Emission Factors as total particulate and PM₁₀ emission rates. As such, like the PM and PM₁₀ emission estimates discussed already, the arsenic emission estimates are similarly underestimated and equally unreliable.

48. During the permitting process, DEQ determined that the SGP’s estimated arsenic emissions and concentrations at the ambient air boundary were excessive and would not meet the AACC for arsenic. To get around this problem, Perpetua chose to employ a process known as T-RACT. T-RACT is a demonstration that allows a permittee to analyze and employ reasonably available control technologies (“RACT”) that could be applied to a source of TAPs. If RACT does not sufficiently reduce toxic emissions to below the AACC, then the permittee is allowed a 10-fold increase in the AACC and can employ production limitations to ensure compliance with the now 10-times-bigger AACC. These production limitations should then be incorporated as enforceable permit conditions. *See* IDAPA 58.01.01.210.13–14.

49. As part of the T-RACT determination process, the applicant must supply, and DEQ must consider, information on a variety of factors relevant to determining a “reasonable”

control technology including, but not limited to, control effectiveness, economic costs, operational feasibility, and associated environmental impact. IDAPA 58.01.01.210.14a–d.

50. Perpetua submitted to DEQ a T-RACT demonstration for arsenic emissions from open-pit drilling and ore haul roads. Perpetua determined that the most effective RACT for open-pit drilling was dry drilling with dust collectors and that the most effective RACT for ore haul roads was water sprays and chemical suppressants. In its T-RACT demonstration, Perpetua included limited qualitative discussion, and no quantitative support, regarding economic considerations. Perpetua failed to provide any discussion of environmental impacts.

51. DEQ approved Perpetua’s T-RACT demonstration and granted Perpetua a 10-fold increase in allowable arsenic pollution, subject to operational limitations to reduce PTE. And as modeled by DEQ, arsenic pollution from the SGP would comply with this larger AACC.

52. DEQ’s approval of Perpetua’s T-RACT demonstration for arsenic, and its analysis determining the SGP will not exceed the AACC and thus will not injure or unreasonably affect human or animal life or vegetation, is flawed.

53. First, the T-RACT demonstration contained no persuasive economic information and no discussion at all regarding associated environmental impacts, despite the requirements to do so in IDAPA 58.01.01.210.14. There will be water quality and biological impacts associated with Perpetua’s use of substantial amounts of chemical dust suppressants and water that have not been considered in the PTC. For example, the use of chemical dust suppressants like magnesium chloride can cause toxicity in trees and can lead to tree death. Magnesium chloride is also known to adversely affect aquatic ecosystems. Moreover, the proposed water source for dust control is primarily water collected in runoff ponds (captured rain or snowfall that has become contaminated through the contact of mine facilities), groundwater, and surface water from the

East Fork of the South Fork of the Salmon River. USGS sampling indicates elevated arsenic in these waters. The environmental impact of using magnesium chloride or arsenic-polluted water as dust suppression methods was never considered as part of the T-RACT demonstration.

Likewise, the T-RACT demonstration did not provide sufficient economic support for Perpetua's decision to use water and chemical dust suppressants as compared to paving the haul roads, even though paving was shown to achieve the highest reasonable dust control efficiency.

54. Second, because the underlying particulate and PM₁₀ emissions estimates and particulate control assumptions are unreliable in numerous respects, as already discussed above, so too are the estimated arsenic emissions. The SGP's estimated arsenic emissions were based on its PM₁₀ emissions. PM₁₀ emissions from the SGP may be higher, and their control effectiveness may be lower, than DEQ assumed, in which case arsenic emissions would also be higher and might exceed the AACC.

55. Third, Perpetua's and DEQ's TAPs analyses substantially reduce the SGP's purported arsenic emissions using three improper averaging tactics: (1) averaging emissions over a 5-year period for the T-RACT input to ambient toxics modeling; (2) averaging the estimated annual ambient modeling impacts across two multi-year scenarios; and (3) averaging the resultant 16-year total emissions over the 70-year human lifetime to assert compliance. Nothing in the Idaho Air Rules allows for multi-year emissions averaging and ambient air concentration adjustments. Rather, the arsenic AACC is an annual average. *See* IDAPA 58.01.01.586). DEQ's T-RACT regulations require comparing the estimated maximum annual ambient air arsenic concentration to 10 times the listed annual AACC. IDAPA 58.01.01.12.b. Therefore, to determine compliance with the AACC requires that DEQ estimate the SGP's maximum 1-year annual arsenic emissions and compare it to the annual arsenic AACC.

56. By relying on these improper averaging tactics, DEQ fails to show the SGP will satisfy the arsenic AACC and the resulting analysis masks potentially severe human health and environmental impacts of SGP's potential arsenic emissions. The underlying analyses supporting the TAPs requirements allows for a 1-in-1,000,000 excess cancer risk factor. The T-RACT approval increases that risk 10-fold to a 1-in-100,000 excess cancer risk factor. IDAPA 58.01.01.12.b. Perpetua's multi-year averaging of emission rates combined with DEQ's decision to allow the full lifetime exposure (70 years) to be imposed on receptors during the 16-year estimated life of mine increases the cancer risk by another order of magnitude to the 1-in-10,000 range or higher. Combined with uncertainties associated with the underlying particulate emissions calculations noted above, the SGP may result in extremely dangerous arsenic exposures.

57. Exacerbating this cancer risk is the fact that under DEQ's incremental TAPs regulations (*see* IDAPA 58.01.01.585), when DEQ considers permitting any additional sources of arsenic in the area over the next 70 years (such as an extension of the life of the SGP, expansion of the facility itself, and/or any adjacent facilities seeking a similar permit, like the potential Horse Heaven project), DEQ will not have to consider the arsenic emissions authorized by this PTC.

E. DEQ's Ambient Air Boundary for the SGP

58. The Clean Air Act and Idaho Air Rules require meeting various air standards, including the NAAQS and TAPs, in ambient air. *See, e.g.*, IDAPA 58.01.01.006.11 (NAAQS), 58.01.01.006.125 (TAPs). EPA defines "ambient air" as "that portion of the atmosphere, external to buildings, to which the general public has access." 40 C.F.R. § 50.1(e). In defining an ambient air boundary, the EPA has long followed a policy that exempts "the atmosphere over land owned

or controlled by the source and to which public access is precluded . . .” from ambient air. EPA’s Revised Policy on Exclusions from “Ambient Air” (Nov. 2018) states that “it is appropriate to exclude the atmosphere over land owned or controlled by the stationary source, where the owner or operator of the source employs measures, which may include physical barriers, that are effective in deterring or precluding access to the land by the general public.”

59. The Idaho Air Rules define “ambient air” as “[t]hat portion of the atmosphere, external to building, to which the general public has access.” IDAPA 58.01.01.005.09. To exclude areas from consideration as ambient air, the following conditions must be met: (1) the permittee must have the legal authority to exclude the general public from the area; (2) the boundary to ambient air must be clearly discernible to the general public; (3) the general public must be effectively precluded from assessing the facility; and (4) the general public is not considered employees of the facility; those having official business with the facility; guests of the facility, including participants in facility routes and those seeking access for a specific purpose.

60. Perpetua established an operations boundary (the active industrial site where mining activities and heavy equipment operation will occur) for the purposes of excluding this area from ambient air analysis, and for excluding public access. The area includes the current Stibnite Road point of entry and proposed site access via the Burntlog Route. According to Perpetua, access inside the operations boundary will be restricted for the life of the mine by physical barriers at points of potential access, as well as natural features of the landscape that prevent public access.

61. DEQ’s determination to exclude the access route from ambient air protections is flawed.

62. Perpetua has indicated that it intends to allow access to the general public through the mine site between Stibnite Road at Sugar Creek and Thunder Mountain Road at Meadow Creek. Furthermore, this roadway is currently accessible to and has been regularly used by the general public. And while Perpetua claims that it has “legal and practical ability to enforce its control over roadway access,” the Forest Service has not yet completed its NEPA analysis and approval of the SGP, which would include a decision on whether it will require or will not permit general public access through the mine site.

63. DEQ states that the route would be managed in accordance with the Stibnite Road Access Management Plan (“AMP”). DEQ, however, relied on an ambiguous description of measures and requirements to preclude public access and ensure that those traveling over the road can be classified as “guests” of the mine.

64. PTC condition 2.7 requires the development of an AMP to address whether the NAAQS apply to the mine’s access road through the Perpetua site given the extent of public access allowed. PTC condition 2.8 allows the AMP to be developed later, after the PTC was issued and without public comment, and it does not require the AMP to be enforceable. For the AMP to preclude the applicability of the NAAQS along the access road, the AMP must be reviewed and approved by DEQ, it must be reviewed through public comment, and it must be enforceable under the PTC.

65. Without full disclosure and knowledge of the exact measures and requirements in the AMP and enforceable permit limits, DEQ cannot make a determination of whether exclusion of the access road from ambient air protections complies with EPA’s ambient air policy and the Idaho Air Rules, nor can DEQ determine whether the SGP will comply with the NAAQS and TAPs.

F. DEQ's Failure to Require Ambient Air Monitoring for the SGP

66. DEQ has the authority to require ambient air monitoring to determine the effect emissions from the stationary source or facility may have on the air quality of the area potentially impacted by the source. IDAPA 58.01.01.211.01(d).

67. DEQ received comments from the Nez Perce Tribe, EPA Region 10, ICL, and SSFS urging the PTC to require ambient air monitoring to verify the SGP's compliance with the NAAQS and TAPs increments. But DEQ declined, stating in the Response to Comments (pg. 16): "DEQ disagrees that a PM/PM₁₀ ambient monitoring network is necessary to make the PTC practically enforceable." DEQ states in the Response to Comments that any violation of the permit would be processed in accordance with DEQ's enforcement procedures manual.

68. However, without ambient air monitoring, it will be impossible for DEQ to assess whether the SGP's operation is in compliance with NAAQS and TAPs increments at any given time. Ambient air monitoring is necessary because of the large uncertainty surrounding dust control efficiency and emissions factors associated with the SGP for PM₁₀ and arsenic, as well as the lack of enforceable permit conditions for many important variables, as already described in this Petition.

RELIEF REQUESTED

69. An agency action, like DEQ's issuance of the PTC, may be reversed if it is in violation of constitutional or statutory provisions, is in excess of statutory authority, is made on unlawful procedure, or is arbitrary, capricious or an abuse of discretion. I.C. § 67-5279. When an agency action is not affirmed, it shall be set aside, in whole or in part, and remanded for further proceedings as necessary. *Id.*

70. As stated above, under the Idaho Air Rules, DEQ must not issue a PTC unless it determines: (1) “the stationary source or modification would comply with all applicable local, state or federal emission standards”; (2) “the stationary source would not cause or significantly contribute to a violation of any ambient air quality standard”; and (3) “the emissions of toxic air pollutants from the stationary source or modification would not injure or unreasonably affect human or animal life or vegetation as required by Section 161.” IDAPA 58.01.01.203. Based on the flaws in DEQ’s issuance of the PTC described above, DEQ’s action is in violation of these provisions of the Idaho Air Rules and is otherwise arbitrary, capricious, and an abuse of discretion and must be reversed.

71. By issuing the PTC in its current form, DEQ failed to adequately protect the public and environment from harmful air pollution causing injury to the Nez Perce Tribe, ICL, SSFS, and their members and supporters. To redress these injuries, Petitioners respectfully request the Board set aside and remand the PTC and direct DEQ to correct the following errors prior to issuing any new or revised PTC:

Ore Haul Road PM₁₀ & Arsenic Emissions

A. DEQ must develop and include in the PTC enforceable permit conditions for the maximum average empty weight of ore haul trucks, the maximum average loaded weight of ore haul trucks, the maximum total number vehicle miles traveled annually by ore haul trucks, the silt content of the roadbed, the arsenic content of the silt in the roadbed, and any other important variables affecting the SGP’s fugitive emissions of PM₁₀ and arsenic from vehicle traffic on mine haul roads. To develop such permit conditions and ensure compliance with the NAAQS and TAP limits, DEQ must reevaluate and recalculate fugitive emissions of PM₁₀ and arsenic.

B. Silt and arsenic levels should be included as permit conditions and monitored regularly *in situ*, rather than from stockpiles as applied to the roadbed.

C. Instead of assuming 120 days of recordable precipitation at the SGP as a variable within ore haul road fugitive PM emission calculations, as done by the applicant based off general geographic guidance from AP-42 chapter 13.2.2-1, DEQ must recalculate all fugitive emissions after analyzing local meteorological data sources to determine a more accurate and representative number of days with recordable precipitation.

FDCP, AMP, O&M Manual, & HRCP

D. DEQ must require Perpetua to submit the FDCP, AMP, O&M Manual, and HRCP (collectively, “Plans”), must provide for public comment on the Plans, must review and revise Plans to ensure the SGP’s emissions comply with IDAPA 58.01.01.203, and must incorporate the Plans as enforceable PTC conditions.

Arsenic Averaging

E. DEQ must remove the 5-year averaging for arsenic emissions, the averaging of estimated annual ambient modeling impacts across two multi-year scenarios, and the 16/70 life of mine versus lifetime exposure adjustment for the SGP’s maximum arsenic ambient concentration it used to assess arsenic TAPs compliance. DEQ must use the SGP’s highest 1-year arsenic emission rates for each scenario evaluated and repeat the modeling analyses using these rates. DEQ must use the maximum annual ambient arsenic concentration from the single emission scenario producing the highest annual concentration for any 1-year as the point of compliance. *See* IDAPA 58.01.01.210.03b (“The point of compliance is the receptor site that is estimated to have the highest ambient concentration of the toxic air pollutant of all the receptor sites that are located either at or beyond the facility property boundary or at a point of public

access”). DEQ must assess the impact of the SGP’s maximum 1-year annual emissions from the single emission configuration by comparing to the T-RACT AACC for arsenic (10 times the AACC value published in IDAPA 58.01.01.586), without averaging over multiple years, and without adjusting for the alleged 16-year life of the mine or the 70-year lifetime exposure.

Ambient Air Boundary Monitoring

F. As part of any PTC for the SGP, DEQ must require ambient air boundary monitoring, as provided for by IDAPA 58.01.01.211.01(d), to ensure compliance with the NAAQS and the TAPs increments. DEQ must require Perpetua to submit an ambient air boundary monitoring plan (“AABMP”), must take public comment on the AABMP, must review and revise the AABMP, and must incorporate the AABMP as enforceable PTC conditions. At a minimum, the AABMP must provide a strategy for monitoring the ambient air concentrations of PM_{total} , PM_{10} , $PM_{2.5}$ and arsenic at the SGP’s ambient air boundary. The AABMP must be developed according to best industry and regulatory practices, consulting contemporary sources (e.g., DEQ or EPA guidance, similarly established plans for other state permits, etc.). At a minimum, monitoring stations must be required for areas of the ambient air boundary in which DEQ ambient air modeling results (specifically results using operating scenario W3 and BULKRN meteorological data) show receptors with 24-hour PM_{10} or arsenic concentrations within 70% of the applicable NAAQS or AACC (without consideration to multi-year emissions averaging and 16/70 adjustment).

Environmental & Economic Impacts of Arsenic Control Technology

G. DEQ must require Perpetua to update their T-RACT analysis to include analysis of “environmental impacts caused by the control technology that cannot be mitigated, including, but not limited to, water pollution and the production of solid wastes,” including the use of

magnesium chloride and its aquatic life and tree toxicity effects, as well as using arsenic-contaminated water sources for dust suppression. IDAPA 58.01.01.210.14.c.ii. DEQ must also require the updated T-RACT to adequately address the “economic feasibility of a control technology or other requirement, including the costs of necessary mitigation measures, for a particular source,” including detailed consideration of the economic feasibility of paving haul roads to better control fugitive dust emissions. IDAPA 58.01.01.210.14.d. DEQ must provide the updated T-RACT demonstration for public comment, must review and revise the T-RACT demonstration, and must incorporate enforceable PTC conditions from the T-RACT demonstration in the PTC.

CONCLUSION

72. When it issued the PTC for the SGP, DEQ failed to comply with critical requirements of the federal Clean Air Act, the Idaho Air Rules, and related regulations and guidance. Accordingly, the Board should vacate and withdraw the PTC and remanded to DEQ to correct all errors.

Dated: July 22, 2022

Respectfully submitted,

/s/ Bryan Hurlbutt

Bryan Hurlbutt

*Attorney for the Nez Perce Tribe and the
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/s/ Julia Thrower

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CERTIFICATION OF SERVICE

I hereby certify that on this July 22, 2022, I caused a true and correct copy of the foregoing PETITION TO INITIATE CONTESTED CASE to be served upon the following persons:

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