BAYHORSE SILVER INC.

BAYHORSE SILVER USA INC

Air Quality

Baseline Report

July 2024

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BAYHORSE MINE PROJECT - EXISTING ENVIRONMENT – AIR QUALITY BASELINE REPORT in support of an Operating Permit under MLRR Division 35, OAR 632-035-0025. Oregon Mined Land Reclamation Act, Placer Mines, Coal Mines, And Metal Mines Using Only Gravity Separation.

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Introduction

The Oregon Department of Geology and Mineral Industries (DOGAMI) guidelines for an Operations Permit Application under MLRR Division 35 Application Requirements (OAR 632-035-0025) require local and regional information be collected on Vegetation, Soil/Overburden, Climate/Air Quality/ Precipitation (including modeling 100-year, 24-hour precipitation event), Fish/Aquatic Biology, Wildlife (terrestrial/avian), Surface Water, Groundwater, Area seismicity, Geology and Geographic hazards, Mineralogy and Chemistry and Noise, to provide a characterization of baseline conditions. These conditions include the 100 year 24 hour precipitation event.

Location

The Project, that lies entirely within the Idaho Power Corporation Baseline Study Area for the renewal of its Hells Canyon Hells Canyon Dam Complex relicensing; and that has been approved by the State of Oregon as of the date of this study. The Project is zoned by Baker County as ME (Mineral Extraction) and is located at 31690 Snake River Road, approximately 8 miles north of Huntington, Baker County, Oregon, 97907, which is 4 miles off US Interstate I-84 exit 26, and 30 miles north-west of the city of Ontario on the State Boundary Line with Idaho Oregon (Figure 1, Figure 2).

The Mine and underground workings are located on Tax Lot 500 and the historic underground workings extend under an adjacent unpatented lode mining claim (BH7) land administered by the Bureau of Land Management. Road access to the Mine is located on Tax Lot 400, that commences on Snake River (Baker County) Road in Township 13 South Range 45 East W.M., Baker County, Oregon. Together the Property covers an estimated 35 acres. Tax Lots 300 and 500, are owned by Bayhorse Silver Mine LLC.

The mine and road access are located on private ground of +/- 22 acres and unpatented lode mining claim that covers an additional +/- 20 acres. All proposed mining operations would occur on +/- 3.5 acres of Tax Lot 500 on ground that has historical, and recent, mining related disturbance (DOGAMI GIS 2023).

All historic mining related disturbances, and proposed mining activity would occur on the private, ground, with some underground workings extending under the unpatented lode mining claim BH7.

Snake River Road runs along the Western side of the Brownlee Reservoir, that was created in 1956 by the establishment of the Brownlee Dam by Idaho Power Corporation. The Bayhorse Mining Operation is a dry underground mine, with dry “electronic” separation. Water is used solely for dust suppression inside the mine and in the small crushing circuit (+/- 65 cu/yds/day).

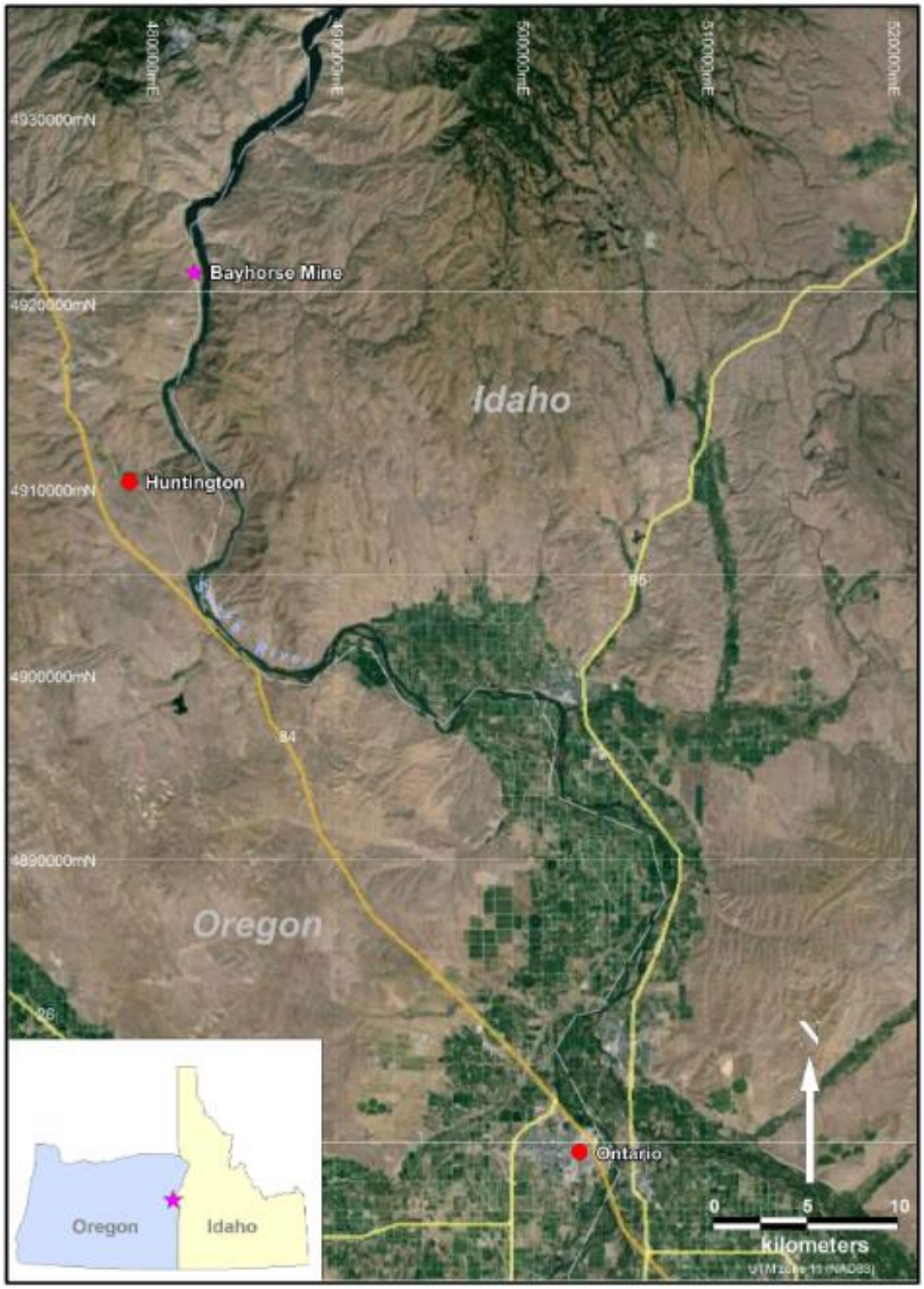


Figure 1, Mine general location..

Resource Study Area

The general Resource Study Area is +/- eight road miles from Huntington, Oregon, between mile 320 and mile 321 of the Snake River, on the west bank of the Brownlee Reservoir, the center of which is also the State Line Boundary between Oregon and Idaho.

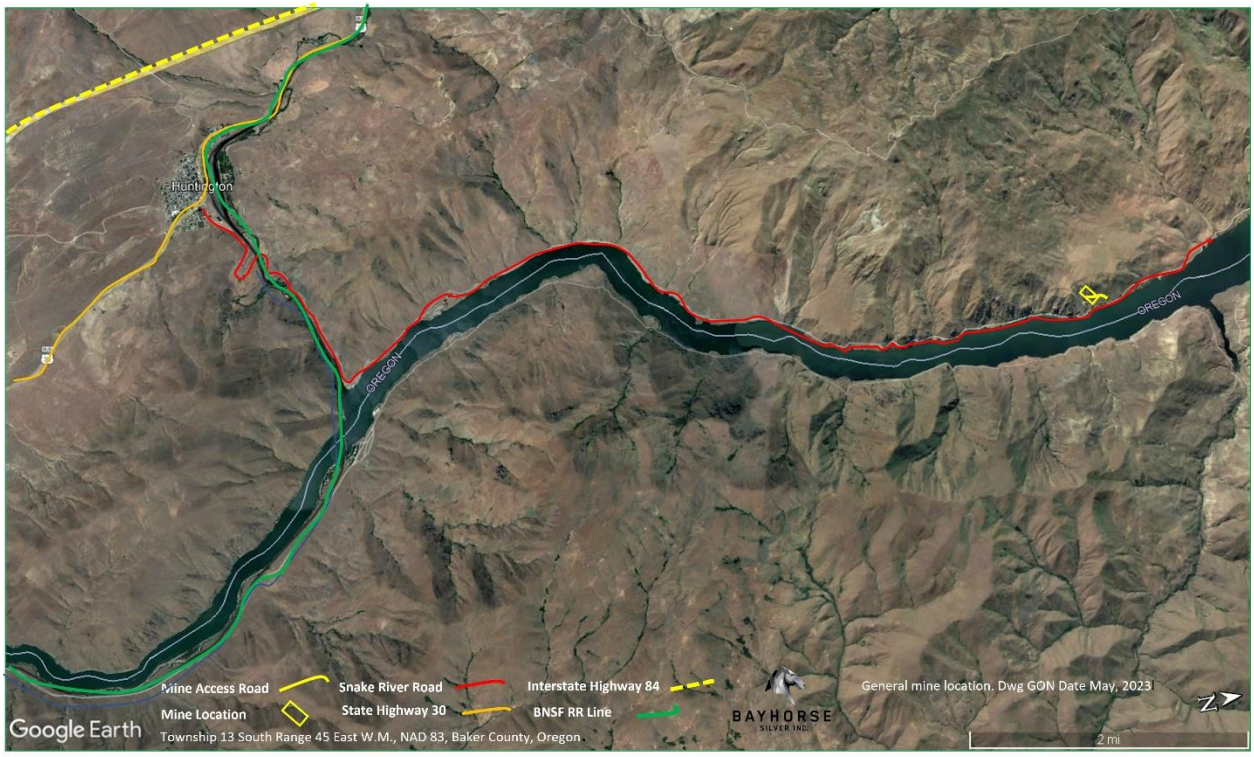


Figure 2, Mine location.

The Resource Study Area is between mile 320 and 321 (Figure 3) of the Snake River system in what is termed the Upper Reaches of the Brownlee Reservoir, created through the development of the Hells Canyon Dam Complex, which license expired in 2005. The relicensing Application was made to the FERC in 2003.

FERC issued a final environmental impact statement (EIS) for the project in 2007. Since then, it has worked with the states of Oregon and Idaho to receive water-quality certifications required to obtain a new FERC license. These certifications were granted in May 2019.

Until a new license is issued, Idaho Power operates the HCC on an annual license under the terms and conditions of the prior license, that Idaho Power Corporation anticipates that the relicensing will be completed by the end of 2024. All of these facilities operate under the same license (No. 1971) granted by FERC.

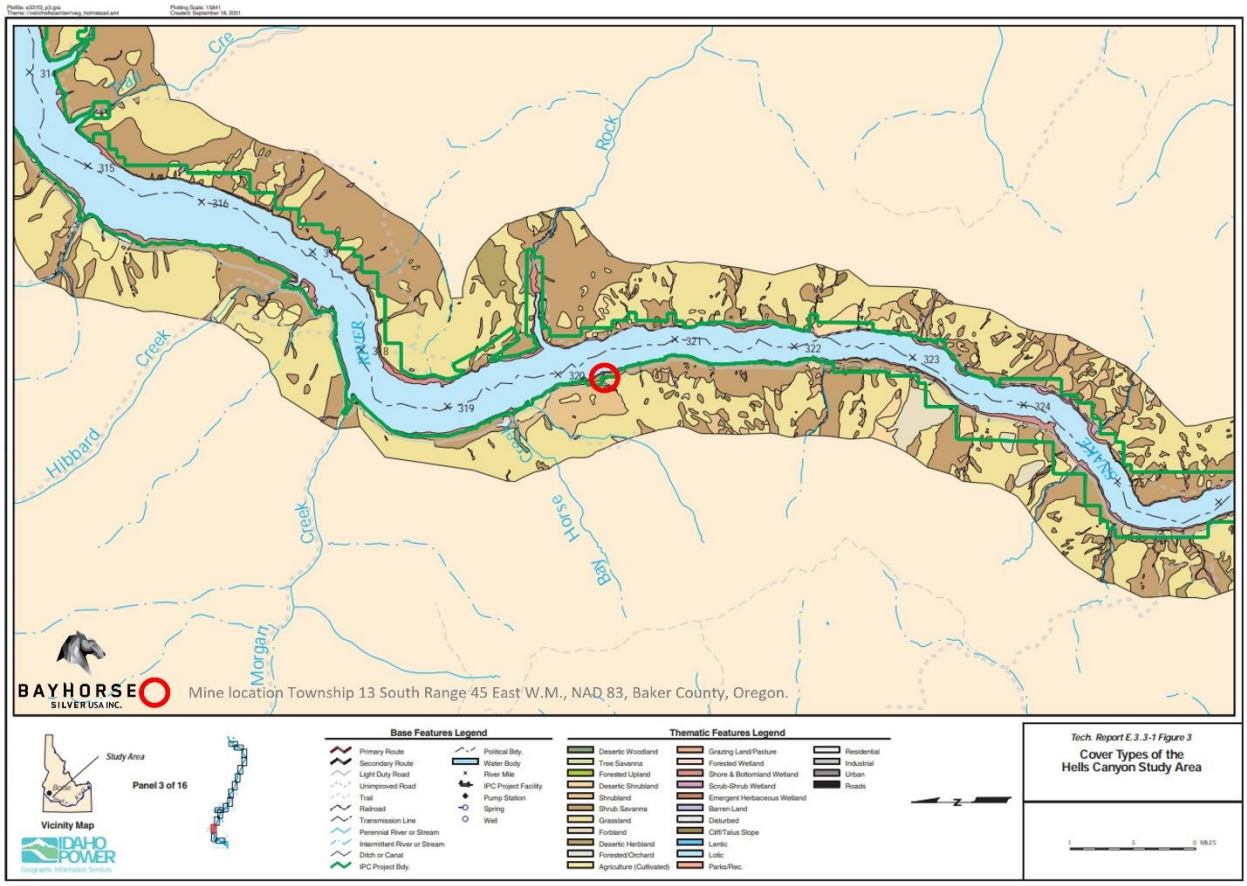


Figure 3. Resource Study Area.

Due to the relicensing application requirements by Federal and State (Idaho/Oregon) Agencies for the Hells Canyon Dam Complexes, there have been numerous, comprehensive, Baseline Studies completed by and for Idaho Power Corporation on the Hells Canyon Complex that extend one-half mile from each bank of the Brownlee Reservoir, inside which the Bayhorse Mine is located.

A review of the studies conducted by, for, or on behalf of Idaho Power Corporation, and studies conducted by the U.S. Geological Survey, U.S. Department of Agriculture, U.S. Department of Commerce, U.S. Department of the Interior, (Bureau of Land Management, Fish and Wildlife), among others in Relicensing the Hells Canyon Hydro Developments by Idaho Power Corporation, as well as Annual Air Quailty Reports, published by Oregon DEQ in 2019 and 2020, was undertaken to develop this baseline report.

The purpose of this air quality resources baseline report is to document existing ambient criteria air pollutant levels in the study area prior to the start of proposed mining operations at the Bayhorse Silver Mine Project (Project) near the town of Huntington, Baker County, Oregon.

This baseline report is to be submitted to the Oregon Department of Geology and Mineral Industries for an Operating Permit under MLRR Division 35, OAR 632-035-0025. Oregon

Mined Land Reclamation Act, Placer Mines, Coal Mines, And Metal Mines Using Only Gravity Separation.

Literature Review

A large portion of the text and data used in this report has been taken from the closest Air Quality Monitoring Station, maintained by Idaho DEQ, at Weiser, Idaho, that is located 18 miles south-east of the mine location in a mainly agricultural area. Additional supporting data is sourced from Oregon Air Quality Monitoring Annual Report: 2020, dated December 2021, that identifies the closest Air Quality Monitoring station in the City of Ontario, that lies 33 miles south-southwest of the mine location.

The methodology for choosing a site for the background concentration is included in this report.

Regulatory Framework

Ambient air quality and the emission of air pollutants are regulated under both federal and state laws and regulations. The federal and state ambient air quality standards are the minimum standards of quality for ambient air. Specific regulations potentially applicable to the Project include the following: National Ambient Air Quality Standards (NAAQS); Attainment and Nonattainment Areas; Prevention of Significant Deterioration (PSD); New Source Performance Standards (NSPS); National Emission Standard for Hazardous Air Pollutants (NESHAP); Federal Operating Permit Program (Title V); and State of Oregon air quality regulations and standards for permits.

Federal Clean Air Act; The Clean Air Act (CAA), and the subsequent Clean Air Act Amendments of 1990 (CAAA), require the United States Environmental Protection Agency (EPA) to set NAAQS to protect public health and welfare. The CAA and the CAAA establish NAAQS for six pollutants, known as “criteria” pollutants because the ambient standards set for these pollutants satisfy the human health-based and/or environmentally-based criteria (scientific-based guidelines) specified in the CAA.

The criteria pollutants and their currently applicable NAAQS set by the EPA are listed in Table 1. The most recent revisions include amendments to standards for the following pollutants (dates represent publication in the Federal Register [FR]): particulate matter less than ten microns in aerodynamic diameter (PM10) and particulate matter less than 2.5 microns in aerodynamic diameter (PM2.5) (EPA 2013); ozone (O3) (EPA 2008a); lead (Pb) (EPA 2008b); nitrogen dioxide (NO2) (EPA 2010a); sulfur dioxide (SO2) (EPA 2010b); and carbon monoxide (CO) (EPA 2011). All updated standards are effective in all states on the “effective” dates noted in the FR.

Pollutant		Standards		Averaging Time		Level	
CO		Primary		8-hr		9ppm (10mg/m3)	
		primary/secondary		1-hr		35ppm (40mg/m3)	

Pb		primary/secondary		3 month av		0.15 ug/m3	
NO2		primary		1-hr		100ppb (188ug/m3)	
		primary/secondary		annual		53ppb (100 ug/m3)	
O3		primary/secondary		8-hr		0.07ppm (150ug/m3)	
PM2.5		primary		Annual		12ug/m3	
		secondary		Annual		15 ug/m3	
		primary/secondary		24hr		35 ug/m3	
PM10		primary/secondary		24hr		150 ug/m3	
SO2		primary		1hr		75ppb (196 ug/m3)	
		secondary		3hr		0.5ppm (1,300/m3)	

In areas designated nonattainment for Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted approved, the previous standards (1.5 microgram per cubic meter (μg/m3) as a calendar quarter average) also remain in effect. (2) The level of the annual NO2 standard is 0.053 parts per million (ppm). It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level. (3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards additionally remain in effect in some areas.

Revocation of the previous (2008) O3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards. (4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet one year since the effective date of designation under the current (2010) standards; and (2) any area for which implementation plans providing for attainment of the current (2010) standard have not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a State Implementation Plan (SIP) call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its SIP to demonstrate attainment of Attainment and Nonattainment Areas Pursuant to the CAA, the EPA has developed classifications for distinct geographic regions known as air basins. Under these classifications, for each federal criteria pollutant, each air basin (or portion of an air basin [or “planning area”]) is classified as in “attainment” if: the air basin (or planning area) has "attained" compliance with (i.e. not exceeded) the adopted NAAQS for that pollutant; is classified as “non-attainment” if the levels of ambient air pollution exceed the NAAQS for that pollutant; or is classified as “maintenance” if the monitored pollutants have improved from non-attainment levels to attainment levels.

Air basins for which sufficient ambient monitoring data are not available are designated as "unclassified" for those particular pollutants until actual monitoring data support formal "attainment" or "non-attainment" classification. The Project is within an area which is unclassified and therefore, presumed to be in attainment. In addition to the designations relative to attainment of conformance with the NAAQS, the CAA requires the EPA to place each planning area within the United States into one of three classes which are designed to limit the deterioration of air quality when it is "better than" the NAAQS. "Class I" is the most restrictive air quality category and was created by Congress to prevent further deterioration of air quality in National Parks and Wilderness Areas of a given size which were in existence prior to 1977, or those additional areas that have since been designated Class I under federal regulations (40 Code of Federal Regulations [CFR] 52.21). All remaining areas outside of the designated Class I boundaries were designated Class II planning areas, which allow a relatively greater deterioration of air quality once the Minor Source Baseline Date has been set.

No Class III areas have been designated. Regardless of the class of the planning area, the air quality cannot exceed the NAAQS. The operator of any new major stationary source or major modification that may affect visibility of a Class I area is required to contact the federal managers for that area (40 CFR Section 51.307).

There is no new, or proposed, major stationary source, or new, or proposed, major modification of a stationary source at the Bayhorse Mine. Underground diesel equipment is required to meet Mine Safety & Health Administration requirements for emissions and does so. A distance of 30 miles from Class I areas is being used for this Project. There are no United States Forest Service-managed wilderness areas and no BLM managed wilderness areas within this area.

Prevention of Significant Deterioration Federal PSD applicability regulations limit the maximum allowable increase in ambient particulate matter in a Class I planning area, resulting from a major or minor stationary source, to four µg/m3 (annual geometric mean) and eight µg/m3 (24-hour average). For Class II planning areas the maximum allowable increase is 17 µg/m3 (annual geometric mean) and 30 µg/m3 (24-hour average). Increases in other criteria pollutants are similarly limited.

Specific types of facilities that emit, or have the potential to emit, 100 tons per year (tpy) or more of PM10 or other criteria air pollutants, or any other facility that emits, or has the potential to emit, 250 tpy or more of PM10 or other criteria air pollutants, is considered a major stationary source under this regulation. Most of the operating equipment at the Bayhorse Mine is electrically powered. There are no facilities, or equipment, at the mine that have the potential to emit 100 tpy or more of PM10, or other criteria air pollutants.

New Source Performance Standards NSPS were established by the CAA. The standards, which are for new or modified stationary sources, require the sources to achieve the best demonstrated emissions control technology. The Bayhorse Mine is a dry sorting facility using electronic sorting means, with a design capacity of 200 tons throughput per day, with dust suppression from the crushing circuit through fine water spray. For facilities to be classified as a "major source," a

facility must emit more than 100 tpy of any regulated pollutant, ten tpy of any single hazardous air pollutant (HAP), or 25 tpy or more of any combination of HAPs, from applicable sources.

Oregon State Air Quality Program

The CAA allows for the EPA to delegate primary responsibility for air pollution control to state governments, which in turn often delegate this responsibility to local or regional organizations. The SIP was originally the mechanism by which a state set emission limits and allocated pollution control responsibility to meet the NAAQS. The function of a SIP broadened after passage of the CAAA and now includes the implementation of specific technology based emission standards, permitting of sources, collection of fees, coordination of air quality planning, and PSD of air quality within regional planning areas and statewide. Section 176 of the CAA, as amended requires that federal agencies must not engage in, approve, or support in any way any action that does not conform to a SIP for the purpose of attaining ambient air quality standards. The Oregon Department of Environmental Quality (ODEQ) is the agency in the State of Oregon that has been delegated the responsibility for implementing a SIP. Also, parts of the SIP are the NAAQS. The ODEQ is responsible for permit and enforcement activities throughout the State of Oregon. The Project Area is located in Baker County, Oregon. The regulatory authority for air quality within the County is the ODEQ. Before any construction of a potential source of air pollution can occur, an air quality permit must be obtained from the ODEQ. The ODEQ permitting program implements the Title V federal operating permitting program, as well as the new source review (minor and major) permitting program.

Oregon State Ambient Air Quality Standards Oregon has adopted the NAAQS as the state standard. These standards of quality for ambient air are minimum goals and are intended to protect the existing quality of the Oregon air to the extent that it is economically and technically feasible to do so.

Study Methology. Ambient Air Quality Monitoring Stations

The Bayhorse Project lies eighteen miles from the Weiser, Idaho, Air Quality Monitoring Station, and eight – ten road miles north of Huntington, Oregon, beside the Brownlee Reservoir. Huntington lies 4 miles northwest of Interstate I-84 turnoff 26, on State Highway 30. There is an Oregon DOT weight station, a large, newly opened truck stop at I-84 turnoff 26, and 1 mile from the weigh station, towards Huntington, is Farewell Bend, State Park. Average daily traffic on State Highway 30 into Huntington is +/- 260 vehicles. (ODOT).

While significant vehicular traffic (between 8,000 to 14,000 vehicles/day) flows east and west on I-84 with approximately 50% being heavy transport trucks, the closest point of I-84 to the Mine Site is 10.5 miles where it passes through Weatherby, Oregon.

Burlington Northern Santa Fe Railroad (BNSF) crosses the Snake River into Oregon, approximately 1 mile from Huntington, where there is a large switching yard. At peak traffic, there are 30 plus large (1 mile in length) freight trains passing over the Snake daily hauled by up to five (5) diesel locomotives.

13 miles due west of the Bayhorse Mine, on Interstate I-84 west at Durkee, is the site of a large limestone quarry and cement manufacturing facility.

Power boats regularly travel along the Brownlee Reservoir, and a significant number of fisherpersons regularly park/camp, at the BLM's "Spring" campsite, 1.5 miles north of Huntington, Oregon, and along many miles of Snake River Road, up to, and north of the Bayhorse Mine, to conduct fishing activities during the Spring, Summer, and Fall.

The closest Air Quality Monitoring Station, operated by the Idaho DEQ, is located at Weiser, Idaho, eighteen miles from the Bayhorse Project location. Oregon DEQ has an Air Quality Monitoring Station in Ontario, Oregon, 33 miles from the Bayhorse Mine location.

Each Station monitors, and measures, PM2.5.

Baseline Characterization

The closest point the Bayhorse Project is from a major highway, I-84, is 11 miles. Ontario, Oregon, is 32 miles away to the south-east, and Weiser, Idaho, is 18 miles to the south-east (both predominately agricultural communities). Baker City, Oregon, also a predominately agricultural community, is 36 miles away to the west.

Background Concentration Site Selection. No monitoring has been performed within the Study Area for ambient concentrations of CO, NO2, O3, or SO2, nor do regulatory agencies specify background concentrations for these pollutants. Most monitoring is undertaken in locations with relatively high population density where high pollutant levels might be expected.

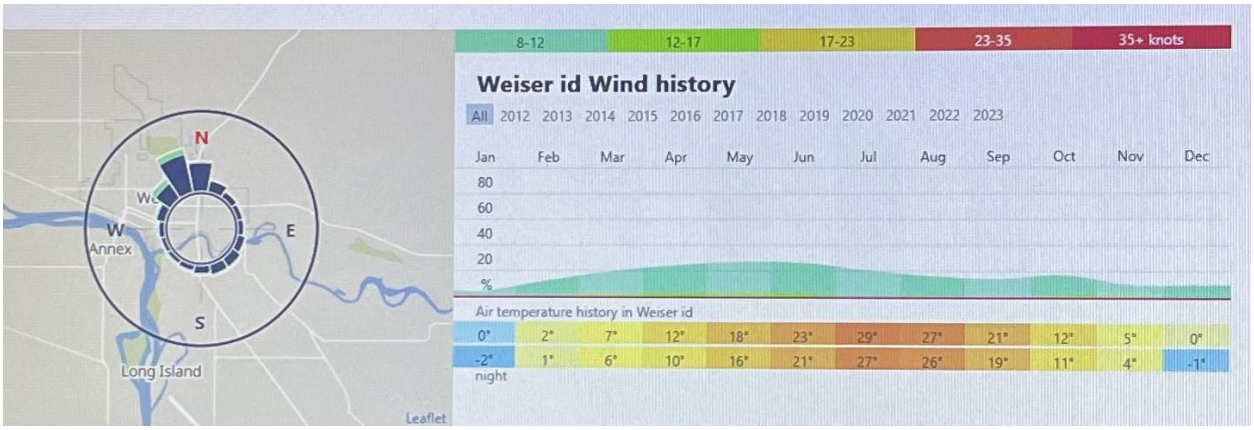


Figure 4. Weiser, ID, prevalent wind direction chart. (https://windy.app/forecast2/spot/369850/Weiser+id/statistics)

The closest major population center is Boise, Idaho, and the closest monitoring station to the Bayhorse Project site that provides CO, NO2, and SO2 ambient concentrations, is the St. Luke's, Meridian station, Meridian, Idaho, 100 miles from the Bayhorse Project. The closest other major population center to the Bayhorse Project is Spokane, Washington, 217 miles to the north.

Taking into consideration the distance St. Luke's AQ Monitoring Station is from the Bayhorse Project, the predominant wind direction at Weiser, that is from the north, and north-northwest at the Weiser, Idaho, Air Quality Station (18 miles from the Bayhorse Project) the surrounding settings (terrain, land use, and proximity of sources), any background concentrations of CO, NO2, and SO2 at the Project boundary are expected to be very low.

PM2.5

The background concentrations for PM2.5 were taken from the Weiser Monitoring Station, Additional data for PM2.5 was taken from the Ontario, Oregon, Air Quality 2020 Report (published 2021).The predominant average hourly wind direction in Ontario varies throughout the year. The wind is most often **from the north** for 8.0 months, from March 2 to November 3, with a peak percentage of 56% on July 18.

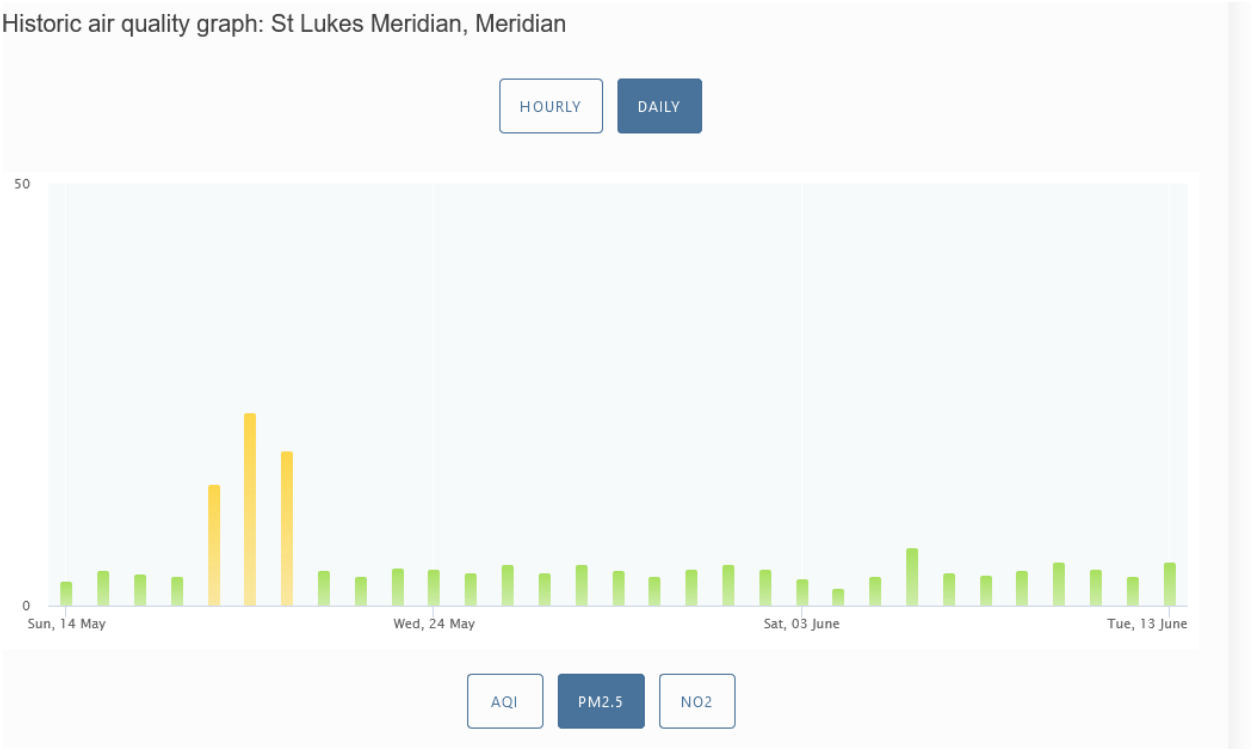


Figure 5 PM2.5 air quality graph, St Lukes, Meridian.

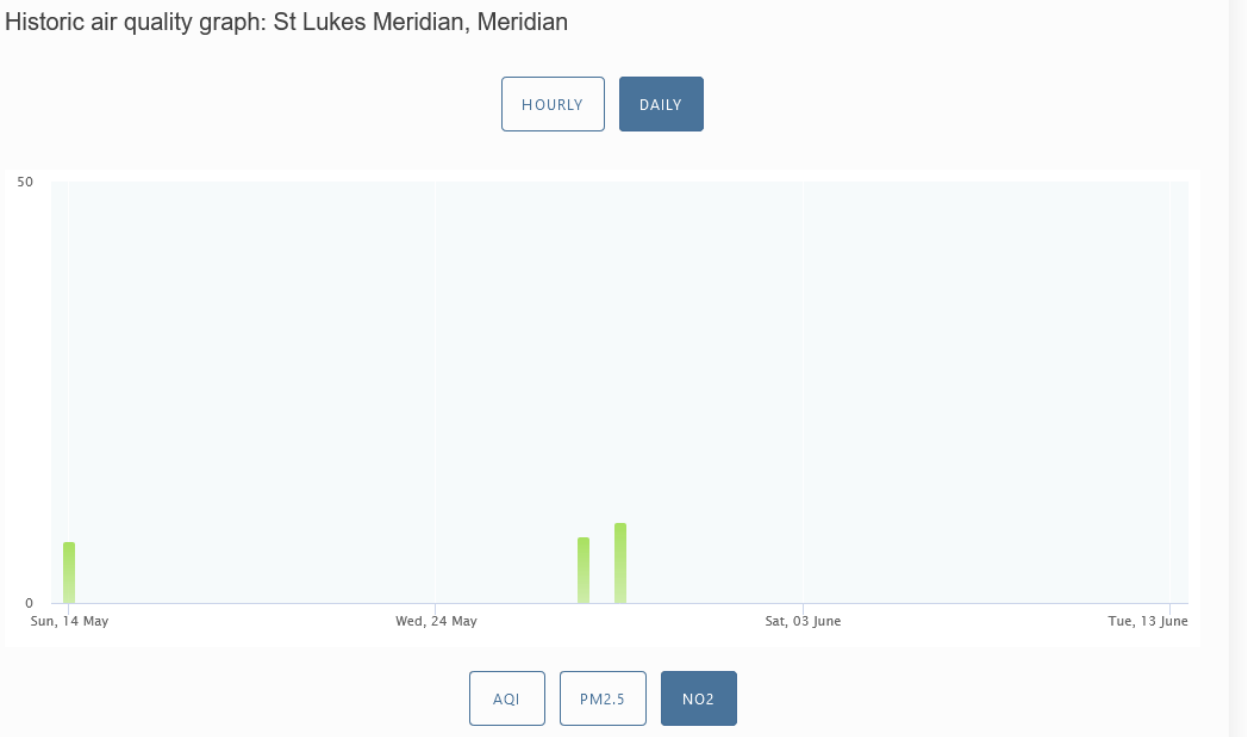


Figure 6 NO2.5 concentration graph, St Lukes, Meridian.



Figure 7 PM 2.5, Monthly Air Quality Graph, Weiser, ID.



Figure 8 PM 2.5, Monthly air quality graph, Weiser, ID.

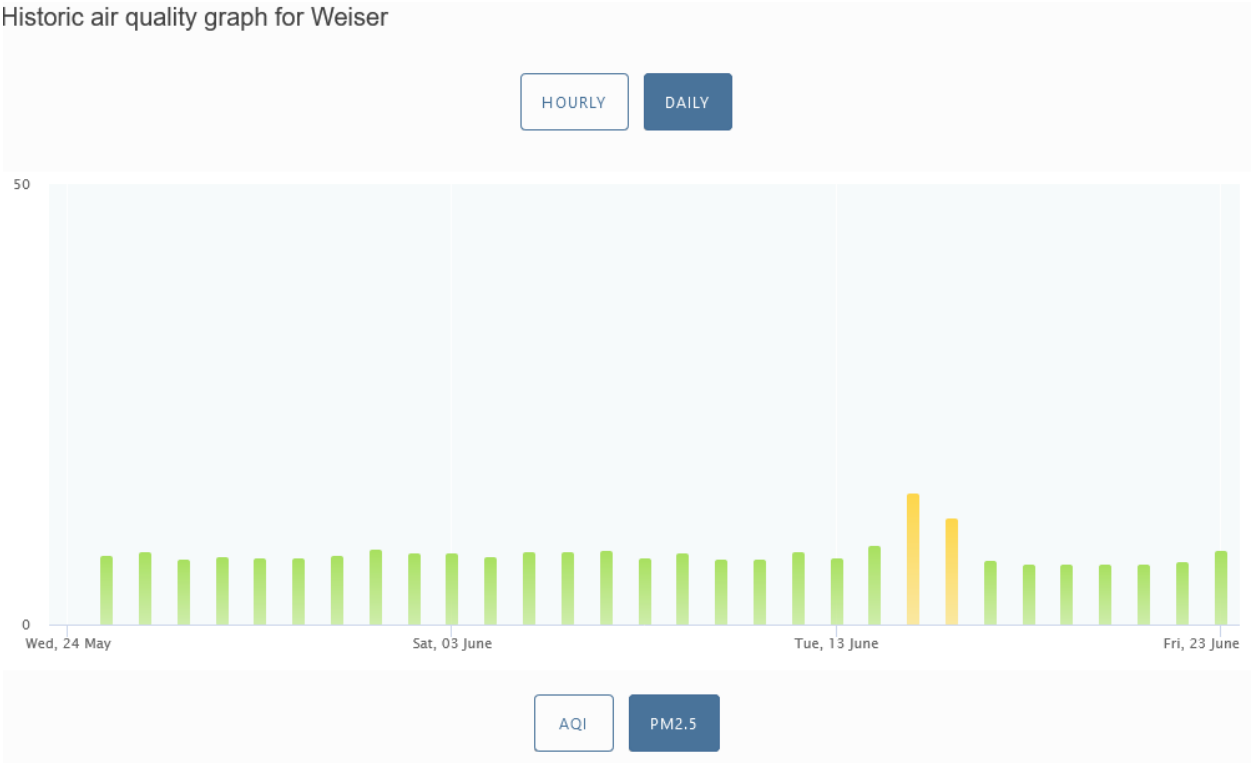


Figure 9. PM 2.5, Monthly Air Quality Graph, Weiser, ID.

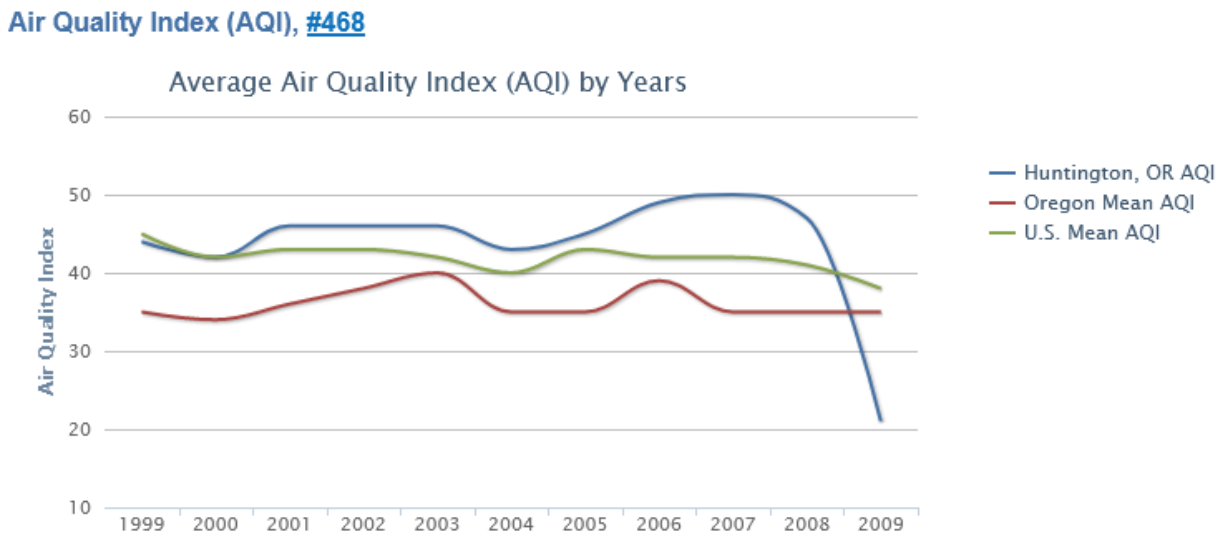


Figure 10. Huntington average air quality index (2020DEQ Report P.22).

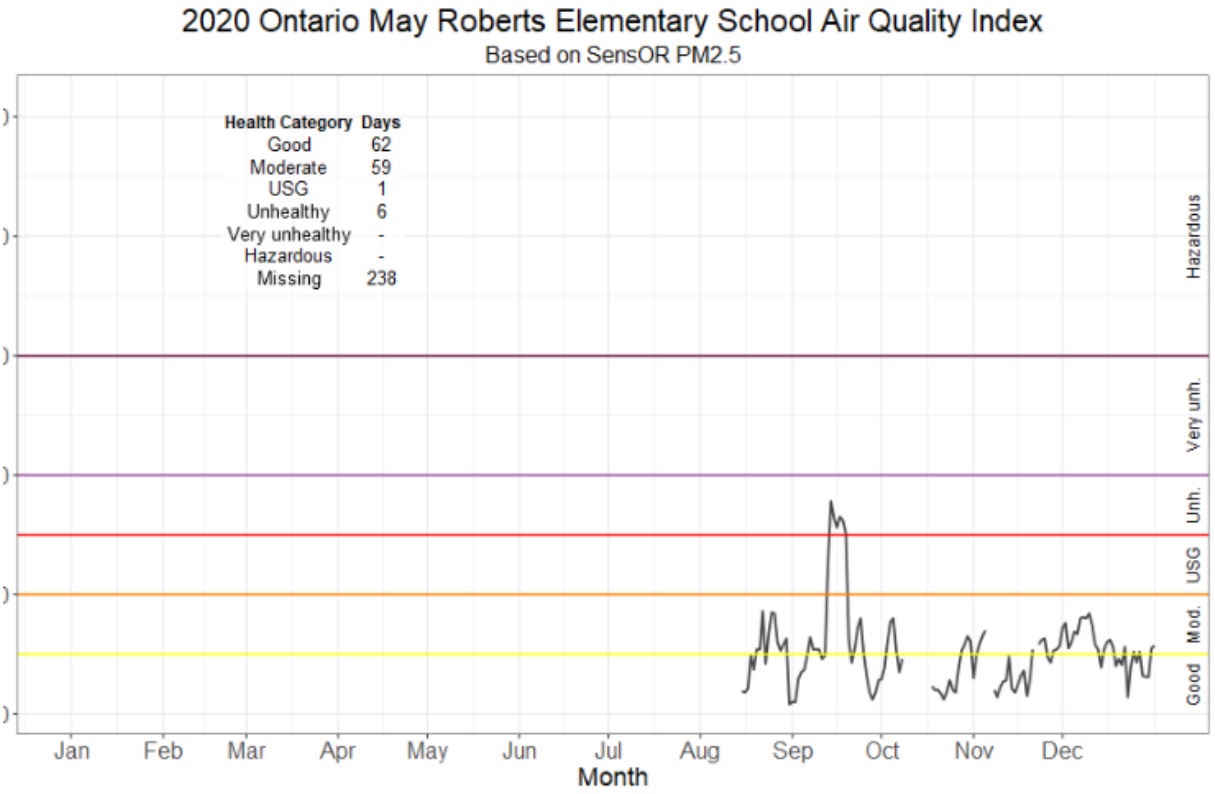


Figure 11 PM2.5 air quality graph, Ontario, Oregon (2020DEQ Report).

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