



Knox Excavating – Painted Rock Mine

LOCATION

Approximately 6.5 miles
Northeast of Minden, NV, on
Sunrise Pass Road.

FACILITY PROCESS

The facility design includes
crushers, screens, conveyor
transfers, and non-emergency
generators. Different
configurations of the permitted
equipment are permitted.

BUREAU OF AIR POLLUTION CONTROL (BAPC)

The BAPC regulates stationary
sources in the State of NV,
excluding Washoe and Clark
counties.

Nevada Revised Code (NRS) and Nevada Administrative Code (NAC) 445B

The state rules to control air
pollution can be found in both
codes.

EMISSION CALCULATIONS

- Emission factors from AP-42 Chapter 11.19 (Sand and Gravel Processing) and Chapter 13.2.4 (Aggregate Handling and Storage Piles) were used to calculate process fugitive emission limits. This data takes into consideration the percent of silt content found in the process material from soil samples taken at various sites when creating the emission factors.
- Painted Rock will utilize water spray controls on stationary equipment to control dust.

MODELING

- AERMOD is the modeling program NDEP uses, developed based on 30 years of work between the EPA and American Meteorological Society. This uses weather trends over 1 year (air quality data) or 5 years (National Weather Service data). Carson City Army air monitoring data was used to model this facility.
- The modeled concentrations noted in the table below are the maximum concentrations found where the public has access – in this case, the facility boundary.
- Process fugitive emissions and stack emissions from stationary sources are modeled. Fully saturated process units and fugitive dust emissions are not included in modeling as they do not contribute to PM emissions or require traffic data, which is not an enforceable component of the permit.

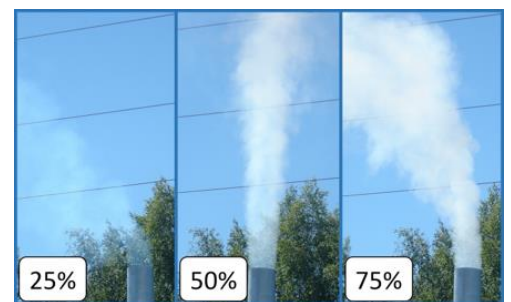
Pollutant	Averaging Period	Modeled Concentration	Background Concentration ^a	Total Impact	NAAQS	Percent of Standard
PM _{2.5}	24-hr (µg/m ³) ^a	10.5	8	18.5	35	53%
	Annual (µg/m ³) ^b	2.4	2.3	4.7	12	39%
PM ₁₀	24-hr (µg/m ³)	119.8	10.2	130.0	150	87%
	1-hr (ppb) ^c	44.0		44.0	75	59%
SO ₂	3-hr (µg/m ³)	85.6		85.6	1,300	7%
	24-hr (µg/m ³)	16.3		16.3	365	4%
	Annual (µg/m ³)	40.2		40.2	80	50%
	1-hr (ppb) ^d	77.0		77.0	100	77%
NO ₂	Annual (µg/m ³)	6.4		6.4	100	6%
	1-hr (µg/m ³)	692		692	40,500	2%
CO	8-hr (µg/m ³)	123		123	7,000	2%
	Rolling 3 mo. Average (µg/m ³)				0.15	
Pb						
H ₂ S	1-hr (µg/m ³)				112	
Ozone	8-hr (ppm)	0.0		0.0	0.075	11%

SURFACE AREA DISTURBANCE CONDITIONS

- NAC 445B.22037 is our federally enforceable State Implementation Plan (SIP) requirement for fugitive dust.
- The NDEP has added additional fugitive dust mitigation requirements to the Draft Class II AQOP:
 - All storage piles shall be stabilized to prevent fugitive dust emissions.
 - Fugitive dust shall be mitigated from becoming airborne during all loading and unloading activities.
 - All haul trucks must be covered or loads need to be sufficiently wetted before leaving the facility to prevent fugitive dust emissions during transport and hauling.
 - Mitigate dust and track-out at facility exit by installing and maintaining a track-out pad or utilizing other track-out control methods.

COMPLIANCE

- Method 9 – an average of opacity readings taken every 15 seconds for a minimum of 24 observations (6 minutes)



National Ambient Air Quality Standards (NAAQS)

- The EPA set NAAQs for six criteria air pollutants, which can be harmful to public health and the environment. These include PM₁₀, PM_{2.5}, Sulfur Dioxide, Nitrogen Dioxide, Carbon Monoxide, Lead, and Ozone. Nevada also has a state standard for Hydrogen Sulfide. The table to the right shows the modeled concentrations for each criteria pollutant at the facility.