ADEQ Arizona Department of Environmental Quality
azdeq.gov

# FACT SHEET

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# South32 Hermosa, Inc. Community Meeting Draft Air Quality Permit

## South32 Hermosa, Inc.

South32 Hermosa Inc. is a mineral company focused on the exploration and potential development of the Hermosa Project near Patagonia, Arizona in Santa Cruz County.

Learn more about South32 Hermosa:
south32hermosa.com/en_US/

### Hermosa Project

The Hermosa Project includes underground mining of the following two deposits:

- Taylor sulfide deposit (Taylor), a high-grade zinc-lead-silver deposit.
- Clark oxide deposit (Clark), a high-grade manganese-zinc-silver deposit.

### Air Quality Permitting

A state air quality permit includes:

- Emission and operational limitations;
- Performance test requirements; and
- Monitoring, recordkeeping, and reporting requirements.

To obtain one, a facility must prepare and submit an application with the following information:

- A detailed process description of the facility's operations;
- An estimated emissions calculations spreadsheet; and
- A self-identified list of applicable local, state and federal air quality regulations.

  **New facilities may be required to provide an air dispersion model approved by the U.S. Environmental Protection Agency (EPA).*

ADEQ reviews the air quality permit application to confirm its accuracy, identify potential issues and develop requirements that comply with all applicable local, state and federal air quality regulations.

## Draft Air Quality Permit for the Hermosa Project

### Permit Type

The Hermosa Project has the potential to emit nitrogen oxides, carbon monoxide and hazardous air pollutants greater than major source thresholds established by regulation. It is classified as a major source and thus, it is required to obtain a Class I permit.

### Permitting Process

South32 Hermosa Inc. submitted an air quality permit application. ADEQ has been diligently processing it since October 24, 2022.

A 30-day public comment period began on January 5, 2024. ADEQ is accepting comments through mail and email. In addition, comments will be accepted in person during a public hearing on February 6, 2024. ADEQ will review and consider comments received before taking final action. Comments must be postmarked or received by February 6, 2024.

The air quality permitting process is as follows:

- **Application (10/24/22)**
- **Emissions Calculations, Modeling & Rule Research**
- **Permit and Technical Support Document**
- **Community Meeting (1/11/24)**
- **Public Hearing (2/6/24)**
- **Public Comment Period (From 1/5/24 to 2/6/24)**
- **Responsiveness Summary**
- **EPA Review**
- **Permit Decision**

**Download application, modeling report, public notice, draft permit, or draft technical support document:**
azdeq.gov/public-notice-new-air-quality-permit-south32-hermosa-project

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## Permit Contents

| Activity | Control Devices | Compliance |
|---|---|---|
| Mining | Wet Suppression, Dust Collectors | Opacity Monitoring, Performance Tests |
| Engines | EPA Certified Engines, Selective Catalytic Reduction & Oxidation Catalysts | Continuous Monitoring System, Performance Tests |
| Transport | Watering, Chemical Dust Suppression | Opacity Monitoring |
| Tailings | Special Design and Control | Opacity Monitoring |

## Dispersion Modeling

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for six principal pollutants: particulate matter (PM), carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$) and ozone ($O_3$). Air dispersion modeling uses mathematical formulations to characterize the atmospheric processes that disperse a pollutant emitted by a source to determine compliance with the NAAQS. It combines emissions, meteorology and topography data to evaluate the impact of a facility's emissions on ambient concentrations. The facility's impacts are then combined with the existing background concentrations to determine compliance against the NAAQS.

South32 Hermosa Inc. performed an air dispersion modeling analysis based on worst-case scenarios, which was reviewed and approved by ADEQ. It was determined that the impacts from the Hermosa Project will be less than the NAAQS:

| Pollutant | Averaging Time | Modeled Concentration ($\mu g/m^3$) | Background Concentration ($\mu g/m^3$) | Total Concentration ($\mu g/m^3$) | NAAQS ($\mu g/m^3$) |
|---|---|---|---|---|---|
| CO | 1-hour | 11,022 | 2,058 | 13,080 | 40,000 |
| | 8-hour | 2,430 | 1,000 | 3,430 | 10,000 |
| $NO_2$ | 1-hour | 138 | 20 | 158 | 188 |
| | Annual | 10.41 | 2.08 | 12.49 | 100 |
| Pb | 3-month rolling | 0.090 | 0.005 | 0.095 | 0.15 |
| $PM_{10}$ | 24-hour | 106.14 | 28 | 134.14 | 150 |
| $PM_{2.5}$ | 24-hour | 16.72 | 7.2 | 23.92 | 35 |
| | Annual | 5.03 | 3.76 | 8.79 | 12 |

In addition, South32 Hermosa Inc. conducted air dispersion modeling for manganese. Agency for Toxic Substances and Disease Registry (ATSDR) minimal risk levels (MRLs) were used as a guideline. That is to examine potential health effects from exposure to manganese. The highest modeled annual concentration is 0.2 $\mu g/m^3$ at the fenceline while the concentrations are several orders lower at Patagonia, Arizona. The ATSDR chronic MRL is 0.3 $\mu g/m^3$ for manganese.

## Monitoring

ADEQ has requested South32 Hermosa Inc. to install and operate a $PM_{10}$ and $PM_{2.5}$ monitor in Brush Hill. The monitor will provide additional assurance that the air quality permit is protective of the health of local communities.

ADEQ values and appreciate your input. Your perspectives and insights are an important part of our decision-making process as we work together to address environmental concerns effectively and transparently.

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*For translations or other communications aids, please email the Title VI Coordinator, Leonard Drago, at Drago.Leonard@azdeq.gov or call 602-771-2288.*

*Para traducciones u otras ayudas de comunicación, envíe un correo electrónico al Coordinador del Título VI, Leonard Drago, a Drago.Leonard@azdeq.gov o llame al 602-771-2288.*