

**REVIEW OF VULCAN MATERIALS OTAY MESA ASPHALT PLANT
AB2588 HEALTH RISK ASSESSMENT (HRA)**

April 5, 2022

Emissions Inventory Facility ID: 200706271

Toxics Emissions Inventory Year: 2019

Review Conducted by: Stephen Amberg, SDAPCD

A Health Risk Assessment (HRA) was performed for Vulcan Materials Otay Mesa Asphalt Plant (Vulcan), 7522 Paseo De La Fuente, San Diego, California 92154, by Sespe Consulting, Inc. for emissions in calendar year 2019 and submitted to the District for review on August 31, 2021 (Submittal HRA). The District provided District's comments on the HRA along with comments provided from the Office of Environmental Health Hazard Assessment (OEHHA) to Vulcan on December 2, 2021. Vulcan submitted a revised HRA (Revised HRA) to the District on January 31, 2022.

The following are the District's comments on the Revised HRA.

Approved HRA Results

Maximum Individual Excess Cancer Risk (PMI)	80.6 in a million
Maximum Residential Excess Cancer Risk	1.41 in a million
Maximum Occupational Excess Cancer Risk	2.33 in a million
Maximum Chronic Non-Cancer Health Hazard Index (PMI)	5.93
Maximum Residential Chronic Non-Cancer Health Hazard Index	0.096
Maximum Occupational Chronic Non-Cancer Health Hazard Index	1.91
Maximum 8-Hour Occupational Non-Cancer Health Hazard Index	0.071
Maximum Acute Health Hazard Index (PMI)	2.06
Maximum Residential Acute Health Hazard Index	0.23
Maximum Occupational Acute Health Hazard Index	1.18
Population Excess Cancer Burden	0.000002
Sub-Chronic Lead Exposure Risk	<0.12 ug/m ³

The 30-day lead concentration at the Maximum Offsite Concentration (MOC), using EPA's AERMOD model, is estimated to be 0.0197 $\mu\text{g}/\text{m}^3$, which is below the High Exposure Scenario approval level of 0.12 $\mu\text{g}/\text{m}^3$ in the ARB Risk Management Guidelines for Lead, 2001. Lead emissions were estimated based on annual emissions being emitted in a 30-day period.

Major Pollutant and Source Contributions for Selected Risks

Maximum Worker Non-Cancer Chronic Health Hazard Index

Pollutant	Contribution
Arsenic	69%
Silica	27%
Nickel	4%

Source	Contribution
Haul Roads	80%
Storage Piles	14%
Asphalt Stack	2%

Maximum Non-Cancer Acute Health Hazard Index

Pollutant	Contribution
Nickel	94%
Benzene	4%

Source	Contribution
Asphalt Stack	97%
Engines	1%

The Revised HRA concludes that the worker non-cancer chronic health hazard index and the worker acute health hazard index do exceed the public notification levels specified in District Rule 1210.

Locations of Receptors at Maximum Exposure Points

Receptor - Cancer Risk	Risk (1 in 1 million)	x (m)	y (m)
Point of Maximum Impact Cancer Risk (PMI)	80.6	508386.04	3603440.59
Maximum Exposed Individual Resident Cancer Risk (MEIR)	1.41	507789.50	3604209.50
Maximum Exposed Individual Worker Cancer Risk (MEIW)	2.33	508427.10	3603406.10

Receptor - Non-Cancer Chronic Health Hazard Index	Health Hazard Index	x (m)	y (m)
Maximum Non-Cancer Chronic Health Hazard Index (PMI)	5.93	508386.04	3603440.59
Maximum Residential Non-Cancer Chronic Health Hazard Index (MEIR)	0.096	507789.50	3604209.50
Maximum Worker Non-Cancer Chronic Health Hazard Index (MEIW)	1.91	508427.10	3603406.10
Maximum Worker 8-Hour Non-Cancer Chronic Health Hazard Index (MEIW)	0.071	508427.10	3603406.10

Receptor - Acute Health Hazard Index	Health Hazard Index	x (m)	y (m)
Maximum Acute Health Hazard Index (PMI)	2.06	508700.00	3603700.00
Maximum Residential Acute Health Hazard Index (MEIR)	0.23	507789.50	3604209.50
Maximum Worker Acute Health Hazard Index (MEIW)	1.18	508144.12	3603423.42

The geographic coordinate system for the locations is the North American Datum of 1983.

Contours for Selected Risk and Health Hazard Index Calculations

Isopleths at notification thresholds for selected risk calculations are on the following pages.

1. Occupational non-cancer chronic health hazard index
2. Acute non-cancer chronic health hazard index