APPENDIX D

HEALTH RISK ASSESSMENT

Health Risk Assessment (Revised)

Project Garlic

June 23, 2021

Prepared by

EMC Planning Group

Health Risk Assessment (Revised)

Project Garlic

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1.0
Introduction

1.1 PURPOSE

The purpose of this report is to address community health risk impacts associated with the construction and operation of a delivery warehouse and industrial building in two phases on 54.5 acres located at the intersection of State Route 152 and Camino Arroyo in the City of Gilroy. Construction activities associated with the project would generate air pollutant emissions, which were predicted using models. Community health risk assessments typically look at all substantial sources of toxic air contaminants (TACs) that can affect sensitive receptors located within 1,000 feet of a project site (i.e., influence area). These sources include rail lines, highways, busy surface streets, stationary sources, and project construction activities. The potential health risk impacts to nearby sensitive receptors from exposure to emissions generated by project construction activity were evaluated in combination with exposures to existing TACs from stationary sources and high-traffic volume roadways. The impact analysis is based on the guidance provided by the Bay Area Air Quality Management District (hereinafter "air district").

This introductory section provides a description of the project. Section 2 describes the existing environmental setting including air quality conditions and the regulatory setting for addressing emissions-related health risks. Section 3 identifies thresholds of significance and describes the analysis methodology. Section 4 presents an assessment of project-related and cumulative health risks related to emissions generated by construction and operations of the project, the health risks from existing stationary sources located within 1,000 feet of the project, and the health risks from State Route 152. Section 5 includes a list of persons who prepared this technical report and presents sources for the references cited herein.

1.2 PROJECT DESCRIPTION

The proposed project would subdivide the 59.7-acre property into three lots and develop in three phases:

- Phase 1 – Development of a 141,360 square foot delivery station on 33.7 acres;

- Phase 2 – Development of a 266,220 square foot industrial building on 20.4 acres; and
- Phase 3 – A remainder 5.2-acre lot for future commercial uses.

Development of the remainder site is not currently proposed and not included in this assessment. The existing use of the site is agricultural row crop production. This assessment quantifies emissions from construction and operations associated with the development of Phase 1 and Phase 2 on a 54.5-acre site (proposed project). The entire 54.5-acre project site would be disturbed by construction. Construction of Phase 1 and Phase 2 are anticipated to occur over a period of approximately 10 months per phase. Phase 1 would occur during 2021 to 2022. Phase 2 would occur during 2022 to 2023. Phase 1 and Phase 2 construction activity will overlap during 2022. Proposed grading and site preparation activity includes importing 320,000 cubic yards of soil. Operational emissions were modeled based on full operations of both phases in the operational year 2024.

Figure 1-1, Location Map, presents the regional location of the project site. Figure 1-2, Aerial Photograph, presents an aerial of the project site. The area within which construction is proposed (project site) is outlined in red in this figure. Figure 1-3, Site Plan, presents the proposed facilities.

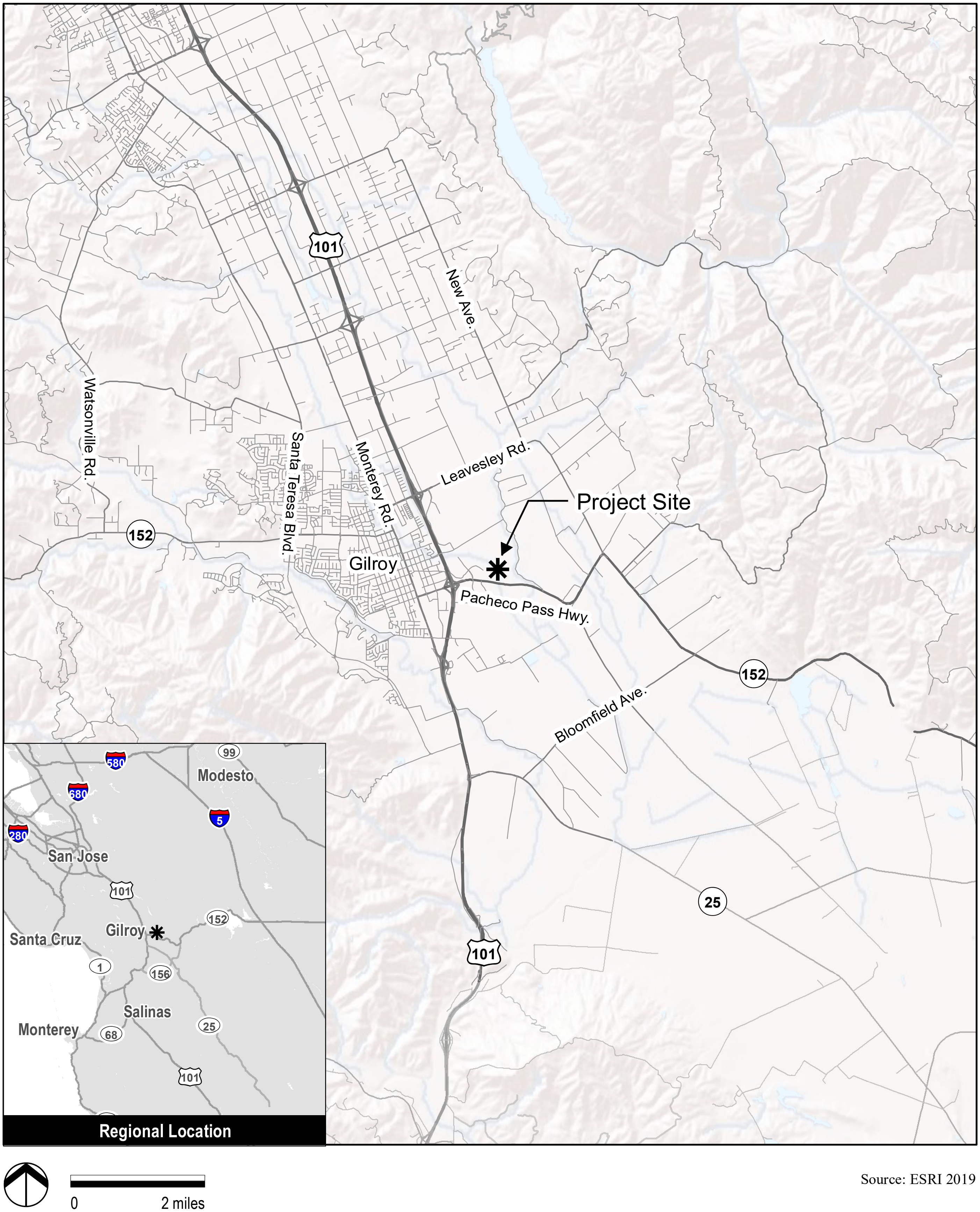

Figure 1
Location Map
Project Garlic Health Risk Assessment

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Source: Google Earth 2018
Santa Clara County GIS 2017

Figure 1-2

Aerial Photograph

Project Garlic Health Risk Assessment

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Source: Ware Malcomb 2021

Figure 1-3
Site Plan

Project Garlic Health Risk Assessment

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2.0
Setting

2.1 ENVIRONMENTAL SETTING

Regional Climate and Topography

The project is located in southern Santa Clara County, which is in the San Francisco Bay Area Air Basin (hereinafter "air basin"). The air basin encompasses all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties.

The topography of the air basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys and bays. This complex terrain, especially the higher elevations, distorts the normal wind flow patterns in the air basin. The greatest distortion occurs when low-level inversions are present and the air beneath the inversion flows independently of air above the inversion, a condition that is common in the summer time.

The climate of the air basin is determined largely by a high-pressure system that is usually present over the eastern Pacific Ocean off the west coast of North America. During winter, the Pacific high-pressure system shifts southward, allowing more storms to pass through the region. During summer and early fall, when few storms pass through the region, emissions generated within the Bay Area can combine with abundant sunshine under the restraining influences of topography and subsidence inversions to create conditions that are conducive to the formation of photochemical pollutants, such as ozone, and secondary particulates, such as nitrates and sulfates.

Temperature inversions can often occur during the summer and winter months. An inversion is a layer of warmer air over a layer of cooler air that traps and concentrates pollutants near the ground. As such, the highest air pollutant concentrations in the air basin generally occur during inversions (Bay Area Air Quality Management District 2017).

The project site is located in the Santa Clara Valley climatological subregion. The Santa Clara Valley subregion is bounded by the Bay to the north and by mountains to the east, south and west. Temperatures are warm on summer days and cool on summer nights, and winter temperatures are fairly mild. At the northern end of the valley, mean maximum temperatures are in the low-80's degrees Fahrenheit (°F) during the summer and the high-50's °F during the winter, and mean minimum temperatures range from the high-50's °F in the summer to the low-40's °F in the winter. Winds in the valley are greatly influenced by the terrain, resulting in a prevailing flow that roughly parallels the valley's northwest-southeast axis. A north-northwesterly sea breeze flows through the valley during the afternoon and early evening, and a light south-southeasterly drainage flow occurs during the late evening and early morning. In the summer the southern end of the valley sometimes becomes a "convergence zone," when air flowing from the Monterey Bay gets channeled northward into the southern end of the valley and meets with the prevailing north-northwesterly winds. Wind speeds are greatest in the spring and summer and weakest in the fall and winter. Nighttime and early morning hours frequently have calm winds in all seasons, while summer afternoons and evenings are quite breezy. Strong winds are rare, associated mostly with the occasional winter storm (Bay Area Air Quality Management District 2017).

The air pollution potential of the Santa Clara Valley is high. High summer temperatures, stable air and mountains surrounding the valley combine to promote ozone formation. In addition to the many local sources of pollution, ozone precursors from San Francisco, San Mateo and Alameda counties are carried by prevailing winds to the Santa Clara Valley. The valley tends to channel pollutants to the southeast. In addition, on summer days with low level inversions, ozone can be recirculated by southerly drainage flows in the late evening and early morning and by the prevailing north-westerly winds in the afternoon. A similar recirculation pattern occurs in the winter, affecting levels of carbon monoxide and particulate matter. This movement of the air up and down the valley increases the impact of the pollutants significantly (Bay Area Air Quality Management District 2017).

Air Pollutants of Concern

The air basin is currently designated as a non-attainment area for state and national ozone standards, for state and national fine particulate matter ($PM_{2.5}$) standards, and state respirable particulate matter (PM_{10}) standards.

Ground-level ozone is caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form ground-level ozone. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant in the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less or PM_{10} and fine particulate matter where particles have a diameter of 2.5 micrometers or less $PM_{2.5}$. Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs have the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure or acute (short-term) and/or chronic (long-term) non-cancer health effects. Examples of TACs include certain aromatic and chlorinated hydrocarbons, diesel particulate matter (DPM), certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and non-carcinogenic effects. Non-carcinogenic effects typically affect one or more target organ systems and may be experienced through either acute or chronic exposure to a given TAC.

Construction activity on the project site would generate emissions of TACs from equipment and trucks that could affect nearby sensitive receptors.

Construction Emissions

Construction emissions are typically generated by the use of heavy equipment, the transport of materials, and construction employee commute trips. Construction-related emissions consist primarily of ROG, NO_X, carbon monoxide, and particulate matter (PM_{10} and $PM_{2.5}$). Emissions of ROG, NO_X, carbon monoxide, and exhaust particulate matter are generated primarily by the operation of gas and diesel-powered motor vehicles, asphalt paving activities, and the application of architectural coatings. Fugitive particulate matter emissions are generated primarily by wind erosion of exposed graded surfaces.

Operational Emissions

Operational emissions on- and off-site would be generated by employee vehicles, fleet activities and larger delivery vehicles transporting materials to the site. Operational emissions volumes were modeled for employee vehicles, fleet operations, delivery trucks, moving about the site and their contributions to mobile source emissions exposures from vehicles on State Route 152 and Renz lane within 1,000 feet of the site.

Existing Sources of TAC Emissions Near the Project Site

Stationary-source Emissions

A stationary source consists of a single emission source with an identified emission point, such as a stack at an industrial facility. Facilities can have multiple emission point sources located on-site and sometimes the facility as a whole is referred to as a stationary source.

Examples of air district-permitted stationary sources include refineries, gasoline dispensing stations, dry cleaning establishments, back-up diesel generators, boilers, heaters, flares, cement kilns, and other types of combustion equipment, as well as non-combustion sources such as coating or printing operations.

According to the air district's Permitted Stationary Source Risks and Hazards geographic information systems (GIS) map tool, a manufacturing facility and two gasoline dispensing facilities are located within 1,000 feet of the project site. Although the manufacturing facility has a permit with the air district, reported health risks are zero. Figure 2-1, Existing Sources and Land Uses Within 1,000 Feet.

Mobile-source Emissions

Mobile sources of emissions on roadways with more than 10,000 vehicles per day can expose nearby receptors to potentially harmful emissions. The project site is located adjacent to State Route 152 (refer to Figure 2-1). According to Caltrans, the annual average daily traffic (AADT) volume on the segment of State Route 152 nearest to the project site is 28,400 vehicles per day (Caltrans 2017). Of the TAC substances emitted from vehicles, DPM causes the highest cancer and non-cancer health risks. Vehicle traffic on State Route 152 generates DPM volumes that can negatively affect the health of nearby sensitive receptors.

Sensitive Receptors

There are groups of people more affected by air pollution than others. Children, the elderly, and people with illnesses are especially vulnerable to the effects of air pollution. These groups are classified as sensitive receptors. Sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer-causing TACs. Residential locations are assumed to include infants and small children.

Sensitive receptors located adjacent to or in the vicinity of the project site consist of one single-family residence located east of the project site (Google, Inc. 2021). Figure 2-2, Sensitive Receptors Within 1,000 Feet, presents the location of this sensitive receptor relative to the project site.

2.2 Regulatory Setting

Federal

United States Environmental Protection Agency

The United States Environmental Protection Agency (EPA) was established on December 2, 1970 to create a single agency that covered several agency concerns: federal research, monitoring, standard-setting and enforcement.

Source: Google Earth 2020, BAAQMD 2021

Figure 2-1

Existing Sources and Land Uses Within 1,000 Feet

Project Garlic Health Risk Assessment

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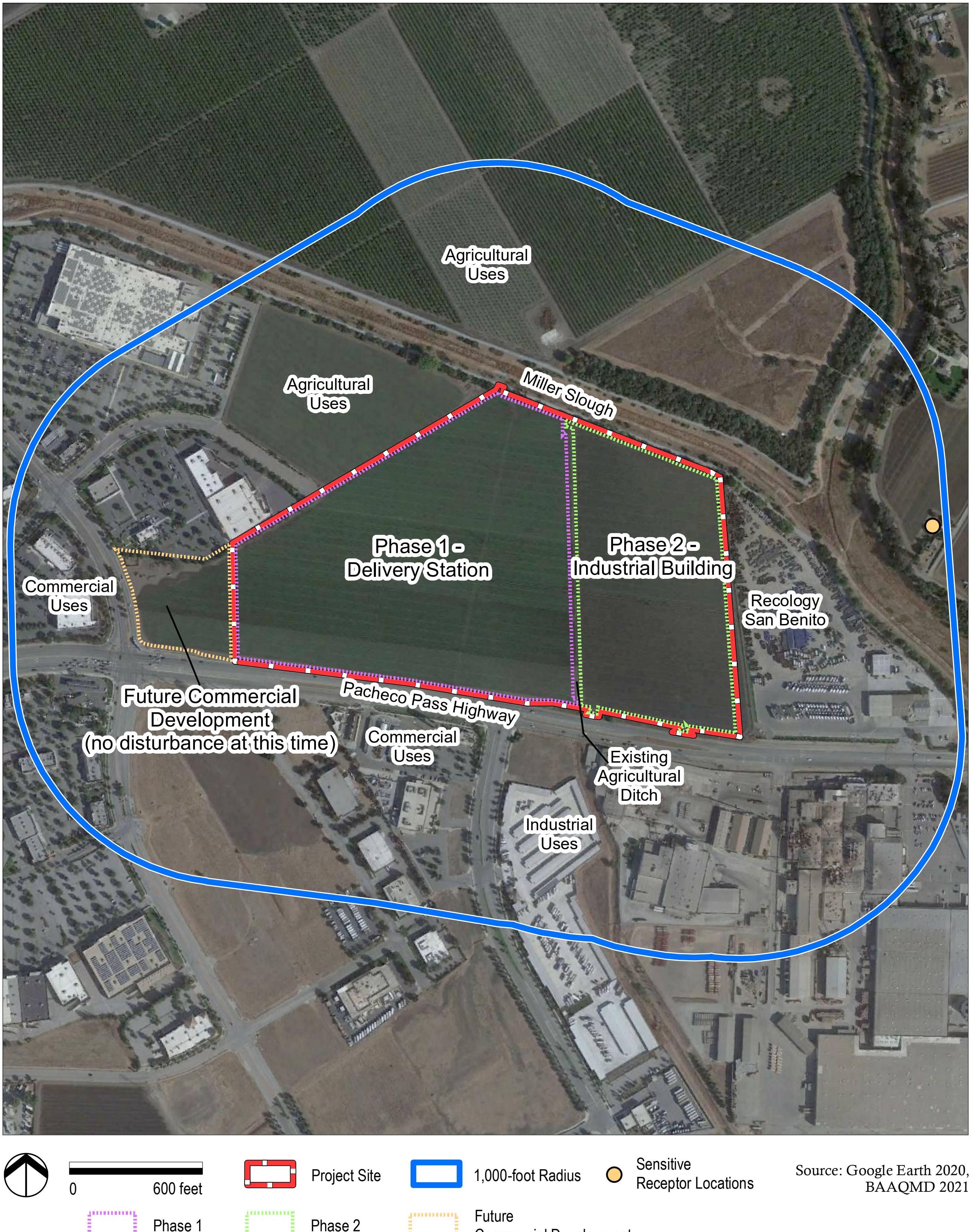

Source: Google Earth 2020, BAAQMD 2021

Figure 2-2

Sensitive Receptors Within 1,000 Feet

Project Garlic Health Risk Assessment

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The EPA regulates diesel engine design and has implemented a series of measures since 1996 to reduce NO_X and particulate emissions from off-road and highway diesel equipment. EPA Tier 1 non-road diesel engine standards were introduced in 1996, Tier 2 in 2001, Tier 3 in 2006, with final Tier 4 in 2014 (DieselNet 2017). Table 2-1, Typical Non-road Engine Emissions Standards, compares emissions standards for NO_X and particulate matter from non-road engine Tier 1 through Tier 4 for typical engine sizes. As illustrated in the table, emissions for these pollutants have decreased significantly for construction equipment manufactured over the past 20 years, and especially for construction equipment manufactured in the past five years. The City of San Francisco has been monitoring the availability of Tier 3 and Tier 4 compliance diesel construction vehicles. Results show that 60 to 70 percent of construction vehicles can meet the Tier 3 and Tier 4 standards.

Table 2-1 Typical Non-road Engine Emissions Standards

Engine Tier and Year Introduced	NO_X Emissions[1]			Particulate Emissions[1]		
	100-175 HP	175-300 HP	300-600 HP	100-175 HP	175-300 HP	300-600 HP
Tier 1 (1996)	6.90	6.90	6.90	--	0.40	0.40
Tier 2 (2001)	--[2]	--[2]	--[2]	0.22	0.15	0.15
Tier 3 (2006)	--[2]	--[2]	--[2]	-- †[3]	-- †[3]	-- †[3]
Tier 4 (2014)	0.30	0.30	0.30	0.015	0.015	0.015

SOURCE: DieselNet 2017

NOTES:

1. Expressed in g/bhp-hr, where g/bhp-hr stands for grams per brake horsepower-hour.
2. Tier 1 standards for NO_X remained in effect.
3. † - Not adopted, engines must meet Tier 2 PM standard.

State

California Air Resources Board

The California Air Resources Board (CARB) oversees regional air district activities and regulates air quality at the state level. CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways.

California Air Toxics Program

The Toxic Air Contaminant Identification and Control Act of 1983 or Assembly Bill 1807 established the California Air Toxics Program that was designed to reduce exposure to air toxics. The program involves a two-step process: risk identification and risk management. In the risk identification step, upon CARB's request, the Office of Environmental Health Hazard Assessment evaluates the health effects of substances other than pesticides and their pesticidal uses. Substances with the potential to be emitted or are currently being emitted into the ambient air may be identified as a TAC. Once a substance is identified as a TAC, and with the participation of local air districts, industry, and interested public, CARB prepares a report that outlines the need and degree to regulate the TAC through a control measure (California Air Resources Board 2021a).

The Air Toxics Hot Spots Information and Assessment Act or AB 2588 was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances their facilities routinely release into the air. The goals of AB 2588 are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels (California Air Resources Board 2021b).

Truck and Bus Regulation

As heavy-duty on-road vehicles are a significant source of TACs, the Truck and Bus Regulation is one of the most far-reaching and important tools to reduce smog-forming and toxic emissions and protect public health in disadvantaged communities. The Truck and Bus Regulation requires all trucks and buses, by January 1, 2023, to have 2010 or newer model year engines to reduce DPM and NO_X emissions (California Air Resources Board 2021c). To help ensure that the benefits of this regulation are achieved, starting January 1, 2020, only vehicles compliant with this regulation will be registered by the California Department of Motor Vehicles.

In-Use Off-Road Diesel Vehicle Regulation

The goal of the In-Use Off-Road Diesel-Fueled Fleets Regulation is to reduce DPM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.) (California Air Resources Board 2021d). This regulation applies to all diesel-powered off-road vehicles with engines 25 horsepower or greater. The regulations are intended to reduce DPM and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet averaged emission rates.

Regional/Local

Bay Area Air Quality Management District

The air district is charged with regulatory authority over stationary sources of air emissions, monitoring air quality within the air basin, providing guidelines for analysis of air quality impacts pursuant to California Environmental Quality Act (CEQA), and preparing an air quality management plan to maintain or improve air quality in the air basin. The air district's

2017 CEQA Air Quality Guidelines (2017 CEQA Guidelines) contain instructions on how to evaluate, measure, and mitigate air quality impacts generated from land development construction and operation activities.

Air District Basic Construction Mitigation Measures

The air district recommends that all receptors located within a 1,000-foot radius of the project's fence line be assessed for potentially significant impacts from the incremental increase in risks or hazards from the proposed new source (BAAQMD 2017). Compliance with these measures is a standard condition of approval for projects in the City of Gilroy. The air district's Basic Construction Mitigation Measures are listed below.

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Air District Additional Construction Mitigation Measures

The air district recommends that all proposed projects, where construction-related emissions would exceed the applicable Thresholds of Significance, to implement Additional Construction Mitigation Measures, listed below:

1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6-to-12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
9. Minimizing the idling time of diesel-powered construction equipment to two minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Require all contractors to use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

City of Gilroy General Plan

The *City of Gilroy 2040 General Plan's* ("General Plan") includes goals, policies, and actions to reduce exposures of the City's sensitive population to air pollution and TACs. The following policies and actions are applicable to the proposed project and this assessment:

Air Pollutant Emission Reduction

Policies:

NCR 3.15 Reduce Construction Emissions. Require the use of low emissions construction equipment for public and private projects, consistent with the air district 2017 Clean Air Plan. Where construction-related emissions would exceed the applicable Thresholds of Significance, the City will consider, on a case-by-case basis, implementing Additional Construction Mitigation Measures (Table 8-3 in BAAQMD's CEQA Guidelines).

NCR 3.16 Implement Dust-Control Measures. Require the implementation of the air district's dust control measures during construction of individual projects, consistent with the air district 2017 Clean Air Plan.

NCR 3.18 Sensitive Receptors within 500 feet of Existing Point Sources or Existing Heavy Industrial Designated Areas. Require modeling of toxic air contaminants, and include mitigation as may be appropriate, prior to approval of new residential development within the Downtown Specific Plan within 500 feet of existing point sources with screening factors in excess of thresholds, or within 500 feet of areas designated Heavy Industrial, to ensure significant health risks are mitigated.

NCR 3.19 New Industrial Uses within 500 feet of Sensitive Receptors. Require modeling, and include mitigation as may be appropriate, of toxic air contaminants prior to approval of new industrial development within 500 feet of residential uses, Neighborhood District designations, or the Downtown Specific Plan, to ensure significant health risks are mitigated.

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3.0 Significance Criteria and Methodology

3.1 AIR DISTRICT SIGNIFICANCE THRESHOLDS

The air district's 2017 CEQA Guidelines provide cancer and non-cancer thresholds to establish the level at which TACs would cause significant health risks in sensitive receptors. A summary of the air district's community risk significance thresholds is presented in Table 3-1, Air District Community Risk Significance Thresholds.

Table 3-1 Air District Community Risk Significance Thresholds

Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Cumulative Sources Within 1,000-foot Zone of Influence
Excess Cancer Risk	>10.0 per one million	>100 per one million
Non-Cancer Hazard Index	>1.0	>10.0
Incremental annual $PM_{2.5}$	>0.3 µg/m3	>0.8 µg/m3

SOURCE: Bay Area Air Quality Management District 2017

3.2 METHODOLOGY AND APPROACH

CalEEMod Modeling

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction of the site and operations assuming full build-out of Phase 1 and Phase 2. Data inputs and assumptions are described in greater detail in the model output and memorandum: *Project Garlic Industrial Project – Emissions Modeling Methodology, Assumptions, and Results* (EMC Planning Group 2021) (Appendix A).

Construction Emissions

CalEEMod provided annual emissions for both on- and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. Construction data inputs were derived from information provided by the project applicant including construction start and end dates, cut and fill estimates, and the number and type of equipment that would be used in each construction phase (Kimley-Horn Email message April 12, 2021). According to the applicant information, the construction start date for Phase 1 is October 2021; the estimated construction start date for Phase 2 is October 2022; construction is assumed to occur eight hours per day, five days per week; and both phases would be fully operational in 2024.

The CalEEMod software calculates the total annual exhaust PM_{10} emissions (assumed to be DPM) from the off-road construction equipment and on-road vehicles for the overall construction period. The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. CalEEMod default trip lengths were used to represent construction vendor and delivery vehicle travel while at or near the construction site.

The modeled results for unmitigated construction criteria air pollutant emissions are summarized in Table 3-2, Unmitigated Annual and Daily Construction Criteria Pollutant Emissions.

Table 3-2 Unmitigated Annual and Daily Construction Criteria Pollutant Emissions

Emissions	ROG[1]	NOx[1]	Total PM_{10}[1,2]	Exhaust PM_{10}[3]	Total $PM_{2.5}$[1,2]
Phase 1					
Maximum Annual	1.50	4.07	0.61	0.12	0.25
Annualized Average Daily[4]	0.006	0.02	<0.001	<0.001	0.001
Phase 2					
Maximum Annual	1.68	2.227	0.34	0.08	0.18
Annualized Average Daily[4]	0.007	0.01	0.001	<0.001	<0.001

Source: CalEEMod Results 2021, Kimley-Horn 2021

Notes:

1. Emissions are in tons per year.
2. Results are rounded and may vary
3. Total PM emissions include exhaust particles and fugitive dust.
4. Exhaust PM_{10} is assumed to be DPM, and are included here.
5. CalEEMod assumed 245 construction days per phase based on information provided by the applicant.

Operational Emissions

Unmitigated operational criteria pollutant emissions are summarized in Table 3-3, Unmitigated Annual and Daily Operational Criteria Pollutant Emissions.

AERMOD Dispersion Modeling

The health risk assessment evaluates the health risk impacts of the project's construction on nearby off-site sensitive receptors. A dispersion modeling analysis was conducted for project-generated short-term DPM emissions from construction emissions equipment and long term operations. The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD), which is an air district-recommended model for modeling atmospheric dispersion of emissions, was applied. Principal parameters of AERMOD for the project included the following:

- The 5-year meteorological data set (2013-2017) from the San Martin Airport provided by the air district;
- Construction emissions were modeled as occurring daily between 8:00 a.m. to 6:00 p.m. from Monday through Friday; Operational emissions were also modeled for this time period.
- Construction combustion equipment exhaust emissions (DPM) were modeled as an area source with an emission release height of 3.4 meters (11 feet). The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. Operational truck and van exhaust emissions were also modeled, but as a line source. The emission release height of 3.4 meters (11 feet) was applied to the diesel trucks, while 1.3 was applied to the delivery vans.
- Receptor height of 1.5 meters were used to represent the breathing heights of residents in the nearby home.

Table 3-3 Unmitigated Annual and Daily Operational Criteria Air Pollutant Emissions

Emissions	ROG	NO_X	PM_{10}	Exhaust PM_{10}[1]	$PM_{2.5}$
Phase 1					
Total Annual Emissions (tons/year)[2]	1.04	1.42	1.38	0.01	0.38
Average Daily Emissions (pounds/day)[2,3]	5.70	7.78	7.56	0.06	2.08
Phase 2					
Total Annual Emissions (tons/year)[2]	1.46	1.21	1.17	0.01	0.32
Average Daily Emissions (pounds/day)[2,3]	8.00	6.63	6.41	0.06	1.75

SOURCE: EMC Planning Group 2021

NOTES:

1. Assumed to be DPM.
2. Results may vary due to rounding.
3. CalEEMod estimates operational criteria air pollutant emissions in tons per year. A U.S. ton is equal to 2,000 pounds. The emissions estimates in ton per year are multiped by 2,000 pounds to arrive at emissions volume in pounds per year. Average daily emissions (in pounds per day) are computed by dividing the annual operational emissions (in pounds per year) by the number of operational days (conservatively assuming 365 days of operation).
4. Includes reductions from compliance with the State's 2019 Title 24 Building Efficiency Energy Standards (BEES).

Health Risk Calculations

The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) have developed recommended methods for conducting health risk assessments. The *Air Toxics Hot Spots Program Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments* (2015 risk assessment guidelines) published in February 2015 are the most recent OEHHA risk assessment guidelines. These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The 2015 risk assessment guidelines recommend that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASF) associated with the different types of exposure include: ASF of 10 for the third trimester and infant exposures, ASF of three (3) for a child exposure, and ASF of one (1) for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the air district for residential exposures, 95^{th} percentile breathing rates are used for the third trimester and infant exposures, and 80^{th} percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, the air district recommends using the 95^{th} percentile breathing rates. Additionally, CARB and the air district recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the air district.

The 2015 risk assessment guidelines include adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than two years old, 0.72 for ages two to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the air district if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 106

Where;

CPF is Cancer potency factor $(mg/kg\text{-}day)^{-1}$;

ASF is Age sensitivity factor for specified age group;

ED is Exposure duration (years);

AT is Averaging time for lifetime cancer risk (years);

FAH is Fraction of time spent at home (unitless); and

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}.

Where;

C_{air} is Concentration in air $(\mu g/m^3)$;

DBR is Daily breathing rate (L/kg body weight-day);

A is Inhalation absorption factor;

EF is Exposure frequency (days/year); and

10^{-6} is Conversion factor.

A summary of the health risk parameters used in this evaluation are presented in Table 3-4, Health Risk Parameters.

Table 3-4 Health Risk Parameters

Parameter	Exposure Type →	Infant		Child		Adult
	Age Range →	3rd Trimester	0<2	2<9	9<16	16-30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Gasoline Exhaust TOG Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		6.28e-3	6.28e-3	6.28e-3	6.28e-3	6.28e-3
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	631	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	861	745	335
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

SOURCES: Bay Area Air Quality Management District 2016 and Office of Environmental Health Hazard Assessment 2015

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index, which is the ratio of the TAC concentration to a reference exposure level. OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the reference exposure level are not expected to cause adverse health impacts, even for sensitive individuals. The total hazard index is calculated as the sum of the hazard indexes for each TAC evaluated. Then the total hazard index is compared to the air district's significance thresholds to determine whether a significant non-cancer health impact from a project would occur. Typically, for projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is DPM. For DPM, the chronic inhalation reference exposure level is 5 $\mu g/m^3$.

Annual $PM_{2.5}$ Concentrations

While not a TAC, $PM_{2.5}$ has been identified by the air district as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under CEQA. The increased annual average concentration of $PM_{2.5}$ at the project level must not exceed 0.3 $\mu g/m^3$. The cumulative threshold is 0.8 $\mu g/m^3$. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads. Project-generated annual $PM_{2.5}$ emissions were determined using CalEEMod.

4.0 Analysis

4.1 CONSTRUCTION HEALTH RISKS

Cancer Risk from Diesel Particulate Emissions

Construction of the proposed project would increase lifetime cancer risk (cancer risk) for sensitive receptors within 1,000 feet of the project site who are exposed to the project's temporary construction DPM and $PM_{2.5}$ emissions. Downwind concentrations of DPM were calculated using AERMOD. The location of the Maximally Exposed Individual (MEI) and the Point of Maximum Impact (PMI) were also determined for each phase of the project. For each phase, the PMI is located in different locations. For both Phase 1 and Phase 2 construction activity, the MEI is the single-family residence located east of the project site (refer to Figure 2-2). The PMI for Phase 1 is located near the center of the Phase 1 site. The PMI for Phase 2 is located near the center of the Phase 2 site. Detailed construction health risk calculations and model results are included in Appendix B.

Unmitigated Cancer Risks

The modeled unmitigated DPM concentration and maximum cancer risks at the MEI from project-related construction DPM and $PM_{2.5}$ emissions are summarized in Table 4-1, Unmitigated Construction Cancer Risks at the MEI. The unmitigated cancer risks for each phase and for the combined phases are below the air district threshold of 10 cases per million. Detailed cancer risk calculations are included in Appendix C. The increase in cancer risk during project construction is less than significant.

$PM_{2.5}$ Emissions

Construction $PM_{2.5}$ emissions were also modeled. Unmitigated $PM_{2.5}$ emissions would not exceed the air district's $PM_{2.5}$ threshold in either construction phase, or when construction activity would overlap in 2022. Table 4-2, Unmitigated Average $PM_{2.5}$ Concentrations at the MEI, presents $PM_{2.5}$ concentrations at the MEI for each phase and combined phases.

Table 4-1 Unmitigated Construction Cancer Risks at the MEI

Construction Year	DPM PM_{10} Concentration at the MEI[1,2] (ug/m^3)	Infant/Child Cancer Risk (per million)	Adult Cancer Risk (per million)
Phase 1			
2021 (0.25 years during pregnancy)	<0.01	0.04	-
2021[3]	<0.01	0.53	0.01
2022[3]	<0.01	1.03	0.02
Phase 1 Total Cancer Risk	-	1.61	0.03
Phase 2			
2022 (0.25 years during pregnancy)	<0.02	0.18	-
2022[3]	<0.02	2.14	0.04
2023	<0.02	2.42	0.04
Phase 2 Total Cancer Risk	-	4.74	0.08
Total Cancer Risk (Phase 1 and Phase 2)	-	6.35	0.11
Air District Single-Source Threshold	-	10.0	10.0
Exceeds Thresholds?	-	*NO*	*NO*

SOURCES: EMC Planning Group 2021 and Bay Area Air Quality Management District 2017.
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.
2. The MEI is located at a house located east of the project site. The UTM coordinates are approximately 630033 meters Easting and 4096517 meters Northing (Refer to Figure 4-1).
3. Per OEHHA and air district direction, pregnancies are included in the first-year calculations.

Chronic Exposures

DPM emissions are chronically toxic. To determine if the concentration of DPM exceeds the Chronic Reference Exposure Level (REL), the downwind concentrations of DPM were also modeled. Table 4-3, Unmitigated Average DPM (PM_{10}) Concentrations at the MEI compares the average annual downwind DPM (PM_{10}) concentrations with the air district REL and Hazard Index thresholds.

Model results for maximum increased DPM concentrations would not exceed the air district's significance threshold for chronic toxicity.

Table 4-2 Unmitigated Average $PM_{2.5}$ Concentrations at the MEI

Construction Year[1]	Unmitigated Average $PM_{2.5}$ Concentrations (ug/m^3)
Phase 1	
2021	0.02
2022	0.03
Phase 2	
2022	0.01
2023	0.02
Phase 1 and Phase 2 Overlapping Construction (2022)	
2021	0.02
2022	0.04
2023	0.02
Total Phase 1 and Phase 2	0.08
Air District Single-Source Threshold	0.30
Exceeds Thresholds?	NO

SOURCES: EMC Planning Group 2021 and Bay Area Air Quality Management District 2017
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.

Table 4-3 Unmitigated Average DPM (PM_{10}) Concentrations at the MEI

Construction Year[1]	Average DPM Concentrations (ug/m^3)
Phase 1	
2021	0.01
2022	0.02
Phase 2	
2022	0.01
2023	0.01
Combined Phase 1 and Phase 2	
2021	0.02
2022	0.03
2023	0.02
Total Phase 1 and Phase 2	0.07
Chronic REL	5.0
Hazard Index	1.0
Exceeds Thresholds?	NO

SOURCES: EMC Planning Group 2021 and Bay Area Air Quality Management District 2017
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.

Discussion Summary

The project-related increase in infant/child/Adult cancer risks, concentration of $PM_{2.5}$, and the chronic DPM hazard index resulting from construction emissions exposures at the MEI would not exceed the air district thresholds and are less than significant. No mitigation is required.

4.2 Operational Health Risks

Cancer Risk from Diesel Particulate Emissions

Project operations would increase lifetime cancer risk (cancer risk) for sensitive receptors within 1,000 feet of the project site who are exposed to the DPM and $PM_{2.5}$ emissions from the vehicles associated with the project. Downwind concentrations of DPM were calculated using AERMOD. The location of the Maximally Exposed Individual (MEI) and the Point of Maximum Impact (PMI) were also determined for each phase of the project. Detailed operational health risk calculations and model results are included in Appendix D.

In addition to the DPM concentrations, gasoline exhaust TOG is a surrogate for the many carcinogens in gasoline combustion exhaust. The process of determining the TOG cancer potency factor is based on the air district's method for determining exhaust TOG unit risk values (BAAQMD 2012, Table 14), using current cancer potency factors.

Unmitigated Cancer Risks

The modeled unmitigated DPM and Gasoline Exhaust TOG concentrations and maximum cancer risks at the MEI are summarized in Table 4-4, Combined Phase 1 and Phase 2 Unmitigated Operational Cancer Risks at the MEI. The unmitigated cancer risks for the combined phases are below the air district threshold of 10 cases per million. Therefore, the increase in cancer risk during project operations for each phase is less than significant.

$PM_{2.5}$ Emissions

Operational $PM_{2.5}$ emissions were also modeled. Table 4-5, Combined Phase 1 and Phase 2 Unmitigated Average Operational $PM_{2.5}$ Concentrations at the MEI, presents $PM_{2.5}$ concentrations at the MEI for each phase and combined phases. The combined project $PM_{2.5}$ Emissions are well below the air district threshold. Therefore, operational $PM_{2.5}$ health risks for each phase are less than significant.

Table 4-4 Combined Phase 1 and Phase 2 Unmitigated Operational Cancer Risks at the MEI

Category	Cancer Risk (Cases per Million)[1,2]		
	DPM (PM_{10})	Exhaust TOG	Total
Total Cancer Risks[3]	0.031	0.0037	0.034
Air District Threshold	-	-	10
Exceeds Threshold?	-	-	NO

SOURCES: EMC Planning Group 2021, Bay Area Air Quality Management District 2017.
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.
2. The UTM coordinates for the MEI are approximately 630033 meters Easting and 4096517 meters Northing (Refer to Figure 4-1).
3. Assumes a 30-year exposure (OEHHA 2015).

Table 4-5 Combined Phase 1 and Phase 2 Unmitigated Average Operational $PM_{2.5}$ Concentrations at the MEI

Category	Unmitigated Average $PM_{2.5}$ Concentrations (ug/m^3)
Operational Concentrations[1]	<0.001
Air District Single-Source Threshold	0.30
Exceeds Thresholds?	NO

SOURCES: EMC Planning Group 2021 and Bay Area Air Quality Management District 2017
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.

Chronic Exposures

DPM emissions are chronically toxic. To determine if the concentration of DPM exceeds the Chronic Reference Exposure Level (REL), the downwind concentrations of DPM were also modeled. Table 4-6, Combined Phase 1 and Phase 2 Unmitigated Average Operational DPM (PM_{10}) Concentrations at the MEI compares the average annual downwind DPM (PM_{10}) concentrations with the air district REL and Hazard Index thresholds. Model results for maximum increased DPM concentrations would not exceed the air district's significance threshold for chronic toxicity. Therefore, operational health risks associated with chronic exposures to DPM emissions generated by each phase would be less than significant.

Discussion Summary

The project-related increase in infant/child/Adult cancer risks, health risks associated with exposures to $PM_{2.5}$ concentrations, and the chronic DPM hazard index resulting from exposures to Phase I and Phase 2 operational emissions at the MEI would not exceed the air district thresholds and are less than significant for each phase. No mitigation is required.

Table 4-6 Combined Phase 1 and Phase 2 Unmitigated Average Operational DPM (PM_{10}) Concentrations at the MEI

Average Operational Year[1]	Average DPM Concentrations (ug/m³)
Project Concentrations	0.00004
Chronic REL	5.0
Hazard Index	0.000008
Exceeds Thresholds?	NO

SOURCES: EMC Planning Group 2021 and Bay Area Air Quality Management District 2017
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.

4.3 CUMULATIVE HEALTH RISKS

Local Roadways

As noted previously in Section 2.1, the AADT along the segment of State Route 152 nearest to the project site is approximately 28,400 vehicles/day (Caltrans 2017). Other nearby streets are assumed to have less than 10,000 vehicles per day, and not significant to include in the modeling. The distance from State Route 152 to the MEI is approximately 590 feet. The cancer risk at the MEI from the vehicles traveling on State Route 152 was provided by the air district to be 5.62 per million; the $PM_{2.5}$ concentration was 0.09 $\mu g/m^3$, and the Hazard Index was 0.018 (BAAQMD 2021b).

Air District Permitted Stationary Sources

Permitted stationary sources of TACs near the project site were identified using the air district's Permitted Stationary Source Risks and Hazards GIS map tool (BAAQMD 2021). This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. Two gasoline stations and one manufacturing facility are located within 1,000-feet of the project boundary.

Cumulative Community Health Risks

Emissions generated by construction and operations of the proposed project would contribute to less than cumulatively considerable cancer and non-cancer health risks. The cumulative community health risk impacts at the MEI and the project's contribution to them are summarized in Table 4-7, Cumulative Health Risks at the MEI.

Table 4-7 Cumulative Health Risks at the MEI

Emissions Source[1]	Cancer Risk (per million)[1]	Max Year $PM_{2.5}$ **Concentration ($\mu g/m^3$)**[1]	Max Year Hazard Index[1]
Air District Cumulative-Source Threshold	100.0	0.80	10.0
Highway 152 (28,400 AADT)	5.62	0.09	0.02
Permitted sources within 1,000 feet	57.58	0.00	0.25
Cumulative without the Project	63.20	0.09	0.27
Project Construction (Unmitigated)	6.35	0.04	0.01
Project Operations (Unmitigated)	0.034	<0.001	<0.001
Cumulative with Project	69.55	0.13	0.28
Exceeds Thresholds?	*NO*	*NO*	*NO*

SOURCE: EMC Planning Group 2021
NOTES:
1. Results have been rounded, and may, therefore, vary slightly.

Discussion Summary

The proposed project would generate emissions during construction and operations of each phase that contribute to cumulative community health risks. However, cumulative cancer and non-cancer health risks with and without the project's contributions to them are below the air district thresholds. Therefore, the proposed project's contribution to cumulative community health risks during construction and operations would be less than cumulatively considerable.

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5.0 Report Preparers and Sources

5.1 Report Preparers

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5.2 Sources

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APPENDIX A

CalEEMod Construction Emissions Model Results

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To: Teri Wissler Adam, Principal In Charge

From: Sally Rideout, Principal Planner

Cc: David Craft, File

Date: April 30 2021

Re: Project Garlic Industrial Project – Emissions Modeling Methodology, Assumptions, and Results

PROJECT DESCRIPTION

The proposed Project Garlic subdivision project is located at the northeast corner of Pacheco Pass Highway (State Route 152) and Camino Arroyo, within the city limits of Gilroy. The project site is located within the North Central Coast Air Basin, which is within the jurisdiction of the Monterey Bay Air Resources District ("air district"). An EIR is being prepared to evaluate the environmental impacts of the proposed project. The proposed project would subdivide the 59.7-acre property into three lots and develop in three phases:

- Phase 1 – Development of a 141,360 square foot delivery station and offices on 31.4 acres;
- Phase 2 – Development of a 266,220 square foot industrial building and offices on 20.4 acres; and
- Phase 3 – A remainder 5.2-acre lot for future commercial uses.

Development of the remainder site is not currently proposed and not included in this assessment. The existing use of the site is agricultural row crop production. This assessment quantifies emissions from the proposed improvements associated with the development of Phase 1 and Phase 2 on a 54.5-acre site (proposed project).

MEMORANDUM

SCOPE OF ASSESSMENT

This assessment provides, methodology, assumptions and an estimate of the proposed project's construction and operational criteria air pollutant emissions and operational greenhouse gas (GHG) emissions using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 software, a modeling platform recommended by the California Air Resources Board (CARB) and accepted by the air district. The model results will inform the EIR discussions of air quality, greenhouse gas emissions (GHGs) and a community health risk assessment. Model results are attached to this assessment.

METHODOLOGY

Emissions Model

CalEEMod estimates construction emissions associated with land use development projects and allows for the input of project-specific construction information including phasing and equipment information. CalEEMod was used to estimate annual emissions for on-site and off-site construction activity. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The CalEEMod software utilizes emissions models USEPA AP-42 emission factors, CARB vehicle emission models studies and studies commissioned by other California agencies.

The CalEEMod platform allows calculations of both construction and operational criteria pollutant and GHG emissions from land use projects. The model also calculates indirect emissions from processes "downstream" of the proposed project such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use.

CalEEMod is capable of estimating changes in the carbon sequestration potential of a site based on changes in natural vegetation communities and the net number of new trees that would be planted as part of the project. The model calculates a one-time only loss in the carbon sequestration potential of the site that would result from changes in land use such as converting vegetation to built or paved surfaces, and can provide an estimate of the change in the carbon sequestration potential that would result from planting new trees in an amount that is greater than the number of trees to be removed (net number of new trees).

Project Characteristics

For modeling purposes, data inputs to the model take into account the type and size of proposed uses utilizing CalEEMod default land uses based on the size metrics shown on the project plans, construction data information provided by the project applicant and trip generation provided by the project's traffic engineer. Model results are attached to this memorandum. The two proposed project phases were modeled separately.

The size and type of proposed sources of criteria air pollutant and GHG emissions during construction and operations of Phase 1 and Phase 2 are categorized by the CalEEMod land use default categories as shown in Table 1, Project Characteristics.

Table 1 Project Characteristics

Project Components	CalEEMod Default Land Use[1]	Existing	Proposed[2]
Phase 1			
Warehouse Phase 1	Unrefrigerated Warehouse – No Rail	-	124,526
Office Phase 1	General Office Building	-	16,824
Surface Parking Lots/paved Access	Parking Lot	-	713,102
Access Roads and Paved Bike Path	Other Asphalt Surfaces	-	29,097
Concrete docks/pads/sidewalks	Other Non-asphalt Surfaces	-	174,330
Soil Import	-	-	110,000 cubic yards
Phase 2			
Warehouse Phase 2	Unrefrigerated Warehouse – No Rail	-	256,220
Office Phase 2	General Office Building	-	10,000
Surface Parking Lot Phase 2	Parking Lot	-	172,687
Concrete docks/pads/sidewalks Phase 2	Other Non-asphalt Surfaces	-	105,062
Soil Import	-	-	210,000 cubic yards
Carbon Sequestration Data			
Cropland	-	54.5 acres	0
Trees	Miscellaneous Species	-	391 trees

SOURCE: Trinity Consultants 2017, Kimley-Horn 2019; 2021, Ware-Malcom 2021.
NOTES:
1. CalEEMod default land use subtype. Descriptions of the model default land use categories and subtypes are found in the User's Guide for CalEEMod Version 2016.3.2 available online at: http://www.aqmd.gov/caleemod/user's-guide
2. Expressed in units of square feet unless otherwise noted.

Unless otherwise noted, model inputs are based upon the information provided by the applicant. Construction and operational criteria air pollutant and operational GHG emissions estimates are quantified based on the project characteristics information presented in Table 1.

Modeling Scenario

One modeling scenario was prepared to estimate unmitigated project criteria air pollutant and GHG emissions that are reduced through compliance with state and local regulations. This scenario estimates unmitigated construction and operational emissions including reduced emissions that are achieved through compliance with mandatory local and state regulations. Model adjustments are made that reflect compliance with State requirements for Model Water Efficient Landscape Ordinance ("MWELO") and Title 24 2019 Building Energy Efficiency Standards ("BEES") for operational emissions, and compliance with quantifiable air district best management practices during construction such as reducing speeds on unpaved roads and watering exposed soils at least twice per day. The MWELO and BEES adjustments are described in greater detail under the Operational Emissions Data Inputs discussion.

Assumptions

Unless otherwise noted, data inputs for the model scenarios are based on the following primary assumptions:

1. Construction and operational air pollutant and GHG emissions generated by the proposed project were estimated using the following CalEEMod default land use subtypes:
    a. Emissions generated by warehouse buildings are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Unrefrigerated Warehouse – No Rail", which is defined as a warehouse that does not have refrigeration and no rail spur; and
    b. Emissions generated by the proposed office use (within the warehouses are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "General Office Building", which is

defined as a building where affairs of businesses commercial or industrial organizations or professional persons or firms are conducted.

c. Emissions generated by the proposed surface parking lot are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Parking Lot", which is defined as a single surface parking lot typically covered with asphalt;

d. Emissions generated by the paved bike path and access roads are assumed to be similar to emissions that would be generated by the CalEEMod default land use subtype "Other Asphalt Surfaces", which is defined as asphalt areas not included in parking;

e. Emissions generated by the construction of concrete loading docks and sidewalks are assumed to be similar to emissions generated by the CalEEMod default land use subtype "Other Non-asphalt Surfaces", which are defined as surfaces other than asphalt.

2. Construction data inputs by phase are based on information provided by the applicant (Kimley-Horn Email message April 12, 2021) for the number and type of construction equipment, cut and fill estimates, soil import volumes, days and hours of construction, and operational date.
3. The construction start date for Phase 1 is October 2021;
4. The estimated construction start date for Phase 2 is October 2022;
5. Construction is assumed to occur eight hours per day, five days per week;
6. Both phases would be fully operational in 2024; and
7. Changes to carbon sequestration potential were estimated based on the conversion of 54.5 acres of cultivated land and the proposed planting of 391 trees and were modeled under the Phase 2 when both phases would be fully operational.

Operational Emissions Data Input

The following adjustments were made to the model defaults to reflect regulatory updates and changes that have occurred since the model's release. The following adjustments were made:

- The model's default CO_2 intensity factor of 641 pounds/megawatt hour is adjusted to 206 pounds/megawatt hour to reflect Pacific Gas & Electric (PG&E) energy intensity factors for 2019, which is the most recent year reported for the provider's energy intensity factors. The intensity factor has been falling, in significant part due to the increasing percentage of PG&E's energy portfolio obtained from renewable energy. Emissions intensity data is from the California Energy Commission website.
- Each air district (or county) assigns trip lengths for urban and rural settings, which are incorporated into the CalEEMod defaults. The model's defaults were set to "urban" and the jurisdictional authority parameters are based on the model defaults for the air district.
- As noted previously, the model default trip generation rate is adjusted based on the information provided by the project traffic engineer (Hexagon Transportation Consultants 2021).
- The model was adjusted to account for project compliance with the State requirements for MWELO.
- The Title 24 BEES defaults in CalEEMod Version 2016.3.2 are the 2016 BEES. Title 24 BEES are updated every three years. The 2019 BEES became effective on January 1, 2020. Projects that build out after January 1, 2023 will be required to comply with 2022 BEES, which have not yet been developed. Compliance with the 2019 BEES increases non-residential building energy efficiencies by 30 percent over the 2016 BEES for non-residential buildings (California Energy Commission 2018). Adjustments are made to the energy mitigation screens for proposed conditions to account for Title 24 increases in energy efficiencies that have occurred since CalEEMod Version 2016.3.2 was released.

Construction Emissions Data Inputs

CalEEMod estimates construction emissions associated with land use development projects and allows for the input of project-specific construction information including phasing and equipment information, if known. CalEEMod default construction parameters allow estimates of short-term construction GHG emissions based upon empirical data collected and analyzed by the CARB. Use of the default construction emissions data for a proposed project is recommended by the air district if construction information is not yet available. The air district also recommends amortizing the short-term construction GHG emissions over a 30-year time period to yield an annual emissions volume.

Model adjustments to the model's default construction phases and numbers and types of equipment by phase were derived from construction information provided by the applicant (Kimley-Horn, personal communication. April 2021). Model results for each phase are attached to this memorandum.

Carbon Sequestration Potential Data Inputs

CalEEMod estimates a one-time only change in sequestration potential resulting from changes in natural communities. The proposed project would remove approximately 54.5 acres of cropland. Cropland is identified as a natural community with carbon sequestration value in the model; therefore, an estimate of the one-time loss in carbon sequestration value attributable to the loss of cropland is included in this assessment. CalEEMod also calculates the change in carbon sequestration potential based upon the net number of trees (the difference between trees removed and new tree plantings) on a site, averaged over a 20-year growth cycle. There are no trees on the project site; according to the proposed landscape plans, project landscaping includes planting 391 trees across both sites. Changes in sequestration potential are reported in metric tons of carbon dioxide equivalent (MT CO_2e).

RESULTS

Criteria air pollutant emissions results are reported in tons per year. GHG construction and operational emissions results are reported on an annual basis in MT CO_2e. Detailed model results for criteria air pollutants and GHG emissions for each development phase are attached to this memorandum.

Criteria Air Pollutants

Construction Emissions

Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Based on the applicant construction schedule and equipment usage, CalEEMod estimated emissions over 245 construction workdays for each phase. Unmitigated emissions generated by construction of the project are presented in Table 2, Unmitigated Construction DPM and Fugitive Dust Emissions.

Table 2 Unmitigated Annualized Daily Construction Emissions

Emissions	ROG[1]	NOx[1]	Total PM_{10}[1,2]	Exhaust PM_{10}[3]	Total $PM_{2.5}$[1,2]
Phase 1					
Maximum	1.499	4.073	0.613	0.117	0.247
Annualized Average Daily[4]	0.006	0.017	0.003	<0.001	0.001
Phase 2					
Maximum	1.675	2.216	0.248	0.075	0.145
Annualized Average Daily[4]	0.007	0.009	0.001	<0.001	<0.001

Source: CalEEMod Results 2021,
Note:
1, Emissions amounts are rounded and may vary.
2. Total PM emissions include exhaust particles and fugitive dust.
3. Exhaust PM_{10} is assumed to be DPM.
4. CalEEMod assumed 245 construction days per phase.

Operational Emissions

Unmitigated operational criteria air pollutant emissions resulting from project operations in are summarized in Table 2, Unmitigated Operational Criteria Air Pollutant Emissions.

Table 2 Operational Criteria Air Pollutant Emissions

Emissions[1]	Volatile Organic Gases (VOC)	Nitrogen Oxides (NO_X)	Sulfur Oxides (SO_2)	Suspended Particulate Matter (PM_{10})	$PM_{2.5}$	Carbon Monoxide (CO)
Phase 1						
Unmitigated Annual [1,2]	1.043	1.415	0.015	1.379	0.247	3.678
Average Daily Emissions[1,3]	0.003	0.004	<0.001	0.004	<0.001	0.01
Phase 2						
Unmitigated Annual [1,2]	1.457	1.205	0.013	1.168	0.320	3.112
Average Daily Emissions[1,3]	0.004	0.003	<0.001	0.003	<0.001	0.009
Buildout Average Daily Emissions[1,3]	0.004	0.003	<0.001	0.005	0.002	0.019

SOURCE: EMC Planning Group 2020
NOTES:
1. Results may vary due to rounding.
2. Expressed in tons per year.
3. Assumed 365 days per year.

GHG Emissions

Construction GHG Emissions

From the CalEEMod results, construction GHG Emissions would be 1,115.15 MT CO_2e for Phase 1 and 899.71 MT CO_2e for Phase 2. Construction activity is estimated to generate a total of 2,014.86 MT CO_2e of unmitigated GHG emissions. When averaged over a 30-year operational lifetime, the annual amortized emissions equal 67.16 MT CO_2e per year.

Operational GHG Emissions

The model results for unmitigated annual GHG emissions generated by the proposed project under the "Baseline Scenario" are attached to this memorandum. The model results indicate that at buildout of both phases, the proposed project would generate annual unmitigated operational GHG emissions of 3,104.05 MT CO_2e. Unmitigated annual GHG emissions volume estimates are summarized in Table 3, Unmitigated Operational GHG Emissions.

Table 3 Unmitigated Operational GHG Emissions

Emissions Sources[1,2]	CO_2e	
	Phase 1	Phase 2
Area	0.02	0.01
Energy[3]	116.25	143.92
Mobile	1,341.93	1,134.64
Waste	66.74	125.80
Water[4]	60.11	114.64
Total by Phase	1,585.04	1,519.01
Buildout	3,104.05	

SOURCE: EMC Planning Group 2020
NOTES:
1. Results may vary due to rounding.
2. Expressed in MT CO_2e per year.
3. Results include emissions reductions from compliance with 2019 BEES.
4. Results include emissions reductions from compliance with State thresholds for the MWELO

Carbon Sequestration Potential

Model results indicating the change in carbon sequestration potential on the project site are shown in Section 2.3 of the model results for each phase. Phase 1 would result in a loss of 211.61 MT CO_2e; Phase 2 would result in a gain of 144.33 MT CO_2e in sequestration potential. The model estimates a total net loss of 67.28 MT CO_2e sequestration potential over the lifetime of the project. Averaged over a 30-year lifetime, the annual loss in carbon sequestration potential associated with the proposed project would be 2.24 MT CO_2e per year. This amount is added to the project's annual operational GHG emissions.

Net Unmitigated GHG Emissions at Buildout

The GHG emissions that would be attributable to the proposed project at buildout of both phases consist of amortized construction emissions added to the operational emissions and the amortized annual loss in carbon sequestration potential on the site. The sum of unmitigated GHG emissions attributable to the proposed project at buildout are presented in Table 4, Net Unmitigated Annual GHG Emissions Attributable to the Project.

Table 4 Net Unmitigated Annual GHG Emissions Attributable to the Project

Operational Emissions	Amortized Construction Emissions	Total Annual Project Emissions	Carbon Sequestration Potential	Net Project Emissions
3,104.05	67.16	3,171.21	2.24	3,173.45

SOURCE: EMC Planning Group 2020
NOTE: Results may vary due to rounding.

SOURCES

1. Trinity Consultants. November 2017. *California Emissions Estimator (CalEEMod) Version 2016.3.2*. http://www.aqmd.gov/caleemod/home
2. Trinity Consultants. November 2017. *CalEEMod User's Guide (Version 2016.3.2)*. http://www.aqmd.gov/caleemod/user's-guide
3. Bay Area Air Quality Management District. May 2017. *California Environmental Quality Act Air Quality Guidelines.* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en
4. Hexagon Transportation Consultants. *Project Garlic Delivery Station Transportation Analysis.* April 19, 2021.
5. California Energy Commission. March 2018. *2019 Building Energy Efficiency Standards Frequently Asked Questions*; Accessed April 5, 2021. https://ww2.energy.ca.gov/title24/2019standards/documents/Title_24_2019_Building_Standards_FAQ_ada.pdf
6. Ware Malcomb. January 6, 2021. Conceptual Site Plan Camino Arroyo and Renz. Gilroy, CA.
7. Kimley Horn. January 12, 2021. Project Garlic Civil and Landscape Plans. Sacramento, CA.
8. Bhatt, Sheetal K., P.E., Kimley-Horn. Email to City Staff, 12 April 2021.

Project Garlic Phase I Construction Emissions

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	16.82	1000sqft	0.39	16,824.00	0
Unrefrigerated Warehouse-No Rail	124.53	1000sqft	2.86	124,526.00	0
Other Asphalt Surfaces	18.25	1000sqft	0.42	18,250.00	0
Other Non-Asphalt Surfaces	126.32	1000sqft	2.90	126,320.00	0
Other Non-Asphalt Surfaces	10.85	1000sqft	0.25	10,850.00	0
Other Non-Asphalt Surfaces	48.01	1000sqft	1.10	48,010.00	0
Other Non-Asphalt Surfaces	10.00	Acre	10.00	435,600.00	0
Parking Lot	608.45	1000sqft	13.97	608,450.00	0
Parking Lot	104.65	1000sqft	2.40	104,650.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CEC records on Utility CO2 intensitities

Construction Phase - Provided by applicant

Trips and VMT -

Grading - and Construction equip provided by applicant.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	75.00	25.00
tblConstructionPhase	NumDays	740.00	160.00
tblConstructionPhase	NumDays	55.00	5.00
tblConstructionPhase	NumDays	55.00	40.00
tblGrading	MaterialImported	0.00	110.00
tblLandUse	LandUseSquareFeet	16,820.00	16,824.00
tblLandUse	LandUseSquareFeet	124,530.00	124,526.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblTripsAndVMT	WorkerTripNumber	20.00	13.00
tblTripsAndVMT	WorkerTripNumber	20.00	13.00
tblTripsAndVMT	WorkerTripNumber	30.00	25.00
tblVehicleTrips	WD_TR	11.03	12.05
tblVehicleTrips	WD_TR	1.68	12.05

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1483	1.5426	1.0049	2.5600e-003	0.2952	0.0604	0.3556	0.1334	0.0560	0.1894	0.0000	228.6653	228.6653	0.0462	0.0000	229.8209
2022	1.4988	4.0730	3.9217	0.0123	0.4954	0.1172	0.6126	0.1345	0.1124	0.2469	0.0000	1,112.8441	1,112.8441	0.0921	0.0000	1,115.1472
Maximum	**1.4988**	**4.0730**	**3.9217**	**0.0123**	**0.4954**	**0.1172**	**0.6126**	**0.1345**	**0.1124**	**0.2469**	**0.0000**	**1,112.8441**	**1,112.8441**	**0.0921**	**0.0000**	**1,115.1472**

Project Garlic Phase 2 Construction Emissions (Unmiotigated)

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	10.00	1000sqft	0.23	10,000.00	0
Unrefrigerated Warehouse-No Rail	256.22	1000sqft	5.88	256,220.00	0
Other Non-Asphalt Surfaces	105.06	1000sqft	2.41	105,062.00	0
Parking Lot	172.69	1000sqft	3.96	172,687.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	206	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CEC records on Utility CO2 intensitities

Land Use - Project description (Panattoni)
Offices are ancillary to warehouse use

Construction Phase - Information provided by applicant

Off-road Equipment - Information derived from Applicant information.

Grading - Provided by Applicant

Vehicle Trips - From Traffic Engineer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	160.00
tblConstructionPhase	NumDays	30.00	25.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	10.00	15.00
tblGrading	AcresOfGrading	75.00	25.00
tblGrading	MaterialImported	0.00	21,000.00
tblLandUse	LandUseSquareFeet	105,060.00	105,062.00
tblLandUse	LandUseSquareFeet	172,690.00	172,687.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	206
tblSequestration	NumberOfNewTrees	0.00	391.00
tblVehicleTrips	WD_TR	11.03	4.96
tblVehicleTrips	WD_TR	1.68	4.96

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.2165	2.2166	1.8062	5.1400e-003	0.2006	0.0753	0.2759	0.0732	0.0714	0.1446	0.0000	463.4671	463.4671	0.0609	0.0000	464.9883
2023	1.6777	1.9673	2.0903	4.9100e-003	0.2677	0.0761	0.3437	0.1071	0.0724	0.1795	0.0000	433.1921	433.1921	0.0610	0.0000	434.7161
Maximum	**1.6777**	**2.2166**	**2.0903**	**5.1400e-003**	**0.2677**	**0.0761**	**0.3437**	**0.1071**	**0.0724**	**0.1795**	**0.0000**	**463.4671**	**463.4671**	**0.0610**	**0.0000**	**464.9883**

APPENDIX B

CONSTRUCTION MODELING ASSESSMENT

CONVERSION CHART
CalEEMod Output -->AERMOD Input

CalEEMod OUTPUT (Tons per Year) to AERMOD Input (Grams per Second per area)
Convert Tons/Year to Grams/Second Formula:
(X tons/year)(2000 lb/ton)(454 grams/lb)(1 year/365 days)(1 day/24 hours)(1 hour/3600 seconds)
= X grams per second
AREA is calculated in m^2. One acre equals 4,046.86 m^2

PROJECT NAME: Project Garlic Phase 1

Project Site Area:

Acres	m^2
34.29	138,767

PHASE 1

YEAR EMITTED	CALEEMOD OUTPUT	EMISSION RATE	AERMOD INPUT	AERMOD OUTPUT	INFANT CANCER RISK	ADULT CANCER RISK
UNMITIGATED DPM	Tons/YR	g/sec	g/sec/area	ug/m3	per million	per million
2021	0.0604	0.00174	1.253E-08	0.00325	1.61	0.03
2022	0.1172	0.00337	2.432E-08	0.00630		

UNMITIGATED $PM_{2.5}$	Tons/Yr			
2021	0.1894	0.00545	3.930E-08	0.01018
2022	0.2469	0.00711	5.123E-08	0.01327

PROJECT NAME: Project Garlic Phase 2 (OVERLAPS WITH PHASE 1)

Project Site Area:

Acres	m^2
22.49	91,014

PHASE 2

YEAR EMITTED	CALEEMOD OUTPUT	EMISSION RATE	AERMOD INPUT	AERMOD OUTPUT	INFANT CANCER RISK	ADULT CANCER RISK
UNMITIGATED DPM	Tons/YR	g/sec	g/sec/area	ug/m3	per million	per million
2022	0.0753	0.002168	2.382E-08	0.01305	4.74	0.08
2023	0.0761	0.002191	2.407E-08	0.01475		

UNMITIGATED $PM_{2.5}$	Tons/Yr			
2022	0.1446	0.004163	4.574E-08	0.02803
2023	0.1795	0.005168	5.679E-08	0.03481

BREEZE AERMOD
Sensitive Receptor Results
Phase 1 – 2021 Unmitigated DPM PM10
(Input DPM PM10 1.253e-8 g/s-m^2)

Pollutant: PM10, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.00325	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 1 – 2022 Unmitigated DPM PM10
(Input DPM PM10 2.432e-8 g/s-m^2)

Pollutant: PM10, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.0063	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 1 – 2021 Unmitigated $PM_{2.5}$
(Input Total $PM_{2.5}$ 3.930e-8 g/s-m^2)

Pollutant: PM25, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.01018	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 2 – 2022 DPM PM10
(Input DPM PM10 2.382e-8 g/s-m^2)

Pollutant: PM10, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.01305	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 2 – 2023 DPM PM10
(Input DPM PM10 2.407e-8 g/s-m^2)

Pollutant: PM10, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.01475	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 2 – 2022 $PM_{2.5}$
(Input $PM_{2.5}$ 4.574e-8 $g/s\text{-}m^2$)

Pollutant: PM25, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.02803	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Phase 2 – 2023 Unmitigated $PM_{2.5}$
(Input Total $PM_{2.5}$ 5.679e-8 $g/s\text{-}m^2$)

Pollutant: PM25, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.03481	

http://www.breeze-software.com/

APPENDIX C

CONSTRUCTION HEALTH RISK CALCULATIONS

Phase 1 - Project Gilroy - Construction Impacts, Unmitigated DPM PM10 Cancer Risk

Maximum DPM Cancer Risk Calculations from Construction
Impacts at Off-site MEI location - 1.5 meter receptor height
(Using San Martin Airport Met Data)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E+06

Where: CPF = Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
ASF = Age Sentivity Factor for specified age group
ED = Exposure Duration (years)
AT = Averaging Time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: Cair = Concentration in air ($\mu g/m^3$)
DBR = Daily Breathing Rate (L/kg body weight-day)
A = Inhalation Absorption Factor
EF = Exposure Frequency (days/year)
10^{-6} = Conversion Factor

	Infant/Child				Adult
Age --> Parameter	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF=	10	10	3	3	1
CPF=	1.1	1.1	1.1	1.1	1.1
DBR*=	361	1090	631	572	261
A=	1	1	1	1	1
EF=	350	350	350	350	350
AT=	70	70	70	70	70
FAH=	1	1	1	1	0.73

*95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Emissions Impact (House nearly 1000 feet eastern of the project)

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information			Infant/Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
			DPM Conc ($\mu g/m^3$) Year	DPM Conc ($\mu g/m^3$) Annual	Age Sensitivity Factor		DPM Conc ($\mu g/m^3$) Year	DPM Conc ($\mu g/m^3$) Annual	Age Sensitivity Factor	
0	0.25	-0.25 - 0*	2021	0.00325	10	0.04	2021	0.00325	-	-
1	1	0 - 1	2021	0.00325	10	0.53	2021	0.00325	1	0.01
2	1	1 - 2	2022	0.00630	10	1.03	2022	0.00630	1	0.02
3	1	2 - 3	0	0.0000	3	0.00	0	0.0000	1	0.00
4	1	3 - 4	0	0.0000	3	0.00	0	0.0000	1	0.00
5	1	4 - 5	0	0.0000	3	0.00	0	0.0000	1	0.00
6	1	5 - 6	0	0.0000	3	0.00	0	0.0000	1	0.00
7	1	6 - 7	0	0.0000	3	0.00	0	0.0000	1	0.00
8	1	7 - 8	0	0.0000	3	0.00	0	0.0000	1	0.00
9	1	8 - 9	0	0.0000	3	0.00	0	0.0000	1	0.00
10	1	9 - 10	0	0.0000	3	0.00	0	0.0000	1	0.00
11	1	10 - 11	0	0.0000	3	0.00	0	0.0000	1	0.00
12	1	11 - 12	0	0.0000	3	0.00	0	0.0000	1	0.00
13	1	12 - 13	0	0.0000	3	0.00	0	0.0000	1	0.00
14	1	13 - 14	0	0.0000	3	0.00	0	0.0000	1	0.00
15	1	14 - 15	0	0.0000	3	0.00	0	0.0000	1	0.00
16	1	15 - 16	0	0.0000	3	0.00	0	0.0000	1	0.00
17	1	16 - 17	0	0.0000	1	0.00	0	0.0000	1	0.00
18	1	17 - 18	0	0.0000	1	0.00	0	0.0000	1	0.00
19	1	18 - 19	0	0.0000	1	0.00	0	0.0000	1	0.00
20	1	19 - 20	0	0.0000	1	0.00	0	0.0000	1	0.00
21	1	20 - 21	0	0.0000	1	0.00	0	0.0000	1	0.00
22	1	21 - 22	0	0.0000	1	0.00	0	0.0000	1	0.00
23	1	22 - 23	0	0.0000	1	0.00	0	0.0000	1	0.00
24	1	23 - 24	0	0.0000	1	0.00	0	0.0000	1	0.00
25	1	24 - 25	0	0.0000	1	0.00	0	0.0000	1	0.00
26	1	25 - 26	0	0.0000	1	0.00	0	0.0000	1	0.00
27	1	26 - 27	0	0.0000	1	0.00	0	0.0000	1	0.00
28	1	27 - 28	0	0.0000	1	0.00	0	0.0000	1	0.00
29	1	28 - 29	0	0.0000	1	0.00	0	0.0000	1	0.00
30	1	29 - 30	0	0.0000	1	0.00	0	0.0000	1	0.00
Total Increased Cancer Risk per 1 million cases =						1.61				0.03

* Third Trimester of Pregnancy

Phase 2 - Project Gilroy - Construction Impacts, Unmitigated DPM PM10 Cancer Risk

Maximum DPM Cancer Risk Calculations from Construction
Impacts at Off-site MEI location - 1.5 meter receptor height
(Using San Martin Airport Met Data)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E+06

Where: CPF = Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
ASF = Age Sentivity Factor for specified age group
ED = Exposure Duration (years)
AT = Averaging Time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: Cair = Concentration in air $(\mu g/m^3)$
DBR = Daily Breathing Rate (L/kg body weight-day)
A = Inhalation Absorption Factor
EF = Exposure Frequency (days/year)
10^{-6} = Conversion Factor

	Infant/Child				Adult
Age --> Parameter	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF=	10	10	3	3	1
CPF=	1.1	1.1	1.1	1.1	1.1
DBR*=	361	1090	631	572	261
A=	1	1	1	1	1
EF=	350	350	350	350	350
AT=	70	70	70	70	70
FAH=	1	1	1	1	0.73

*95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Emissions Impact (House nearly 1000 feet eastern of the project)

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information DPM Conc $(\mu g/m^3)$ Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	Adult - Exposure Information DPM Conc $(\mu g/m^3)$ Year	Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)
0	0.25	-0.25 - 0*	2022	0.01305	10	0.18	2022	0.01305	-	-
1	1	0 - 1	2022	0.01305	10	2.14	2022	0.01305	1	0.04
2	1	1 - 2	2023	0.01475	10	2.42	2023	0.01475	1	0.04
3	1	2 - 3	0	0.0000	3	0.00	0	0.0000	1	0.00
4	1	3 - 4	0	0.0000	3	0.00	0	0.0000	1	0.00
5	1	4 - 5	0	0.0000	3	0.00	0	0.0000	1	0.00
6	1	5 - 6	0	0.0000	3	0.00	0	0.0000	1	0.00
7	1	6 - 7	0	0.0000	3	0.00	0	0.0000	1	0.00
8	1	7 - 8	0	0.0000	3	0.00	0	0.0000	1	0.00
9	1	8 - 9	0	0.0000	3	0.00	0	0.0000	1	0.00
10	1	9 - 10	0	0.0000	3	0.00	0	0.0000	1	0.00
11	1	10 - 11	0	0.0000	3	0.00	0	0.0000	1	0.00
12	1	11 - 12	0	0.0000	3	0.00	0	0.0000	1	0.00
13	1	12 - 13	0	0.0000	3	0.00	0	0.0000	1	0.00
14	1	13 - 14	0	0.0000	3	0.00	0	0.0000	1	0.00
15	1	14 - 15	0	0.0000	3	0.00	0	0.0000	1	0.00
16	1	15 - 16	0	0.0000	3	0.00	0	0.0000	1	0.00
17	1	16 - 17	0	0.0000	1	0.00	0	0.0000	1	0.00
18	1	17 - 18	0	0.0000	1	0.00	0	0.0000	1	0.00
19	1	18 - 19	0	0.0000	1	0.00	0	0.0000	1	0.00
20	1	19 - 20	0	0.0000	1	0.00	0	0.0000	1	0.00
21	1	20 - 21	0	0.0000	1	0.00	0	0.0000	1	0.00
22	1	21 - 22	0	0.0000	1	0.00	0	0.0000	1	0.00
23	1	22 - 23	0	0.0000	1	0.00	0	0.0000	1	0.00
24	1	23 - 24	0	0.0000	1	0.00	0	0.0000	1	0.00
25	1	24 - 25	0	0.0000	1	0.00	0	0.0000	1	0.00
26	1	25 - 26	0	0.0000	1	0.00	0	0.0000	1	0.00
27	1	26 - 27	0	0.0000	1	0.00	0	0.0000	1	0.00
28	1	27 - 28	0	0.0000	1	0.00	0	0.0000	1	0.00
29	1	28 - 29	0	0.0000	1	0.00	0	0.0000	1	0.00
30	1	29 - 30	0	0.0000	1	0.00	0	0.0000	1	0.00
Total Increased Cancer Risk per 1 million cases =						4.74				0.08

* Third Trimester of Pregnancy

APPENDIX D

OPERATIONAL HEALTH RISK CALCULATIONS

EMFAC RUN

calendar_year	season_month	sub_area	vehicle_class	fuel	model_year	temperature	relative_humidity	process	speed_time	pollutant	emission_rate
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	HC	0.102264352
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	CO	0.392324741
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	NOx	0.666205376
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	SOx	0.011003303
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	PM	0.024824345
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	TOG	0.147434517
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	ROG	0.129506479
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	CO2	1152.911934
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	CH4	0.006015328
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	PM10	0.024675399
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	5	PM2_5	0.023607952
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	HC	0.092897998
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	CO	0.330159628
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	NOx	0.558265131
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	SOx	0.009595052
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	PM	0.021667143
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	TOG	0.133931043
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	ROG	0.117645028
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	CO2	1005.357239
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	CH4	0.005464387
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	PM10	0.021537141
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	10	PM2_5	0.020605453
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	HC	0.083961344
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	CO	0.273776401
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	NOx	0.463030019
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	SOx	0.008342355
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	PM	0.018809665
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	TOG	0.12104707
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	ROG	0.106327747
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	CO2	874.1011823
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	CH4	0.004938721
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	PM10	0.018696807
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	15	PM2_5	0.017887991
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	HC	0.075454392
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	CO	0.223175059
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	NOx	0.380500039
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	SOx	0.00724521
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	PM	0.016251909
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	TOG	0.108782597
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	ROG	0.095554634
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	CO2	759.1437645
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	CH4	0.00443833
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	PM10	0.016154398
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	20	PM2_5	0.015455566
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	HC	0.067377141
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	CO	0.178355602
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	NOx	0.310675192
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	SOx	0.006303618
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	PM	0.013993876
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	TOG	0.097137625
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	ROG	0.08532569
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	CO2	660.4849849
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	CH4	0.003963215
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	PM10	0.013909913
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	25	PM2_5	0.013308176
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	HC	0.059729592
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	CO	0.139318031
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	NOx	0.253555478
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	SOx	0.005517579
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	PM	0.012035565
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	TOG	0.086112152
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	ROG	0.075640915
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	CO2	578.1248433
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	CH4	0.003513376
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	PM10	0.011963352
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	30	PM2_5	0.011445823
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	HC	0.052511743
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	CO	0.106062345
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	NOx	0.209140897
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	SOx	0.004887093
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	PM	0.010376977
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	TOG	0.07570618
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	ROG	0.066500308

2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	CO2	512.0633407
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	CH4	0.003088812
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	PM10	0.010314716
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	35	PM2_5	0.009868505
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	HC	0.045723595
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	CO	0.078588545
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	NOx	0.177431448
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	SOx	0.00441216
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	PM	0.009018112
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	TOG	0.065919708
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	ROG	0.057903871
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	CO2	462.3004771
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	CH4	0.002689524
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	PM10	0.008964003
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	40	PM2_5	0.008576225
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	HC	0.039365149
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	CO	0.05689663
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	NOx	0.158427132
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	SOx	0.00409278
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	PM	0.00795897
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	TOG	0.056752736
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	ROG	0.049851603
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	CO2	428.8362507
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	CH4	0.002315512
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	PM10	0.007911216
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	45	PM2_5	0.00756898
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	HC	0.033436404
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	CO	0.0409866
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	NOx	0.152127949
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	SOx	0.003928953
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	PM	0.00719955
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	TOG	0.048205264
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	ROG	0.042343504
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	CO2	411.6706633
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	CH4	0.001966775
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	PM10	0.007156352
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	50	PM2_5	0.006846772
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	HC	0.02793736
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	CO	0.030858456
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	NOx	0.158533898
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	SOx	0.003920679
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	PM	0.006739852
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	TOG	0.040277292
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	ROG	0.035379573
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	CO2	410.8037149
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	CH4	0.001643314
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	PM10	0.006699413
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	55	PM2_5	0.006409599
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	HC	0.022868017
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	CO	0.026512197
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	NOx	0.17764498
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	SOx	0.004067958
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	PM	0.006579878
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	TOG	0.03296882
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	ROG	0.028959812
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	CO2	426.2354045
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	CH4	0.001345128
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	PM10	0.006540398
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	60	PM2_5	0.006257464
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	HC	0.018228375
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	CO	0.027947823
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	NOx	0.209461195
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	SOx	0.00437079
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	PM	0.006719626
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	TOG	0.026279849
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	ROG	0.023084219
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	CO2	457.9657323
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	CH4	0.001072218
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	PM10	0.006679308
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	65	PM2_5	0.006390364
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	HC	0.014018435
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	CO	0.035165335
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	NOx	0.253982542
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	SOx	0.004829175
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	PM	0.007159096

2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	TOG	0.020210378
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	ROG	0.017752796
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	CO2	505.994699
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	CH4	0.000824583
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	PM10	0.007116142
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	70	PM2_5	0.0068083
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	HC	0.014018435
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	CO	0.035165335
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	NOx	0.253982542
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	SOx	0.004829175
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	PM	0.007159096
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	TOG	0.020210378
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	ROG	0.017752796
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	CO2	505.994699
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	CH4	0.000824583
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	PM10	0.007116142
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	75	PM2_5	0.0068083
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	HC	0.014018435
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	CO	0.035165335
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	NOx	0.253982542
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	SOx	0.004829175
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	PM	0.007159096
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	TOG	0.020210378
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	ROG	0.017752796
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	CO2	505.994699
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	CH4	0.000824583
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	PM10	0.007116142
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	80	PM2_5	0.0068083
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	HC	0.014018435
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	CO	0.035165335
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	NOx	0.253982542
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	SOx	0.004829175
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	PM	0.007159096
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	TOG	0.020210378
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	ROG	0.017752796
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	CO2	505.994699
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	CH4	0.000824583
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	PM10	0.007116142
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	85	PM2_5	0.0068083
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	HC	0.014018435
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	CO	0.035165335
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	NOx	0.253982542
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	SOx	0.004829175
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	PM	0.007159096
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	TOG	0.020210378
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	ROG	0.017752796
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	CO2	505.994699
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	CH4	0.000824583
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	PM10	0.007116142
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019	50	50	RUNEX	90	PM2_5	0.0068083
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		HC	2.5056
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		CO	26.3
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		NOx	41.38757143
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		SOx	0.033244348
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		PM	0.80319996
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		TOG	3.61232352
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		ROG	3.17306498
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		CO2	3483.3
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		CH4	0.147382803
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		PM10	0.79838076
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			IDLEX		PM2_5	0.763843162
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMTW		PM	0.012
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMTW		PM10	0.012
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMTW		PM2_5	0.003
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	5	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	5	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	5	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	10	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	10	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	10	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	15	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	15	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	15	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	20	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	20	PM10	0.078

2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	20	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	25	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	25	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	25	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	30	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	30	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	30	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	35	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	35	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	35	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	40	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	40	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	40	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	45	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	45	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	45	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	50	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	50	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	50	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	55	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	55	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	55	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	60	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	60	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	60	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	65	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	65	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	65	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	70	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	70	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	70	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	75	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	75	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	75	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	80	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	80	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	80	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	85	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	85	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	85	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	90	PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	90	PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Dsl	2019			PMBW	90	PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	HC	0.015601931
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	CO	1.242440513
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	NOx	0.020152076
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	SOx	0.014267336
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	PM	0.00249111
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	TOG	0.01689257
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	ROG	0.011576615
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	CO2	1427.600386
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	CH4	0.004114098
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	PM10	0.002227053
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	5	PM2_5	0.002047693
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	HC	0.012507871
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	CO	0.984327177
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	NOx	0.018222545
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	SOx	0.012343922
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	PM	0.002123876
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	TOG	0.01354256
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	ROG	0.009280827
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	CO2	1235.297981
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	CH4	0.003398573
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	PM10	0.001898745
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	10	PM2_5	0.001745826
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	HC	0.009772071
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	CO	0.763733903
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	NOx	0.016656326
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	SOx	0.010628937
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	PM	0.001806051
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	TOG	0.010580447
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	ROG	0.007250866
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	CO2	1063.818129
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	CH4	0.00274559
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	PM10	0.00161461

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	15	PM2_5	0.001484574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	HC	0.007394531
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	CO	0.580660692
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	NOx	0.015453421
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	SOx	0.009122382
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	PM	0.001537637
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	TOG	0.008006229
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	ROG	0.005486734
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	CO2	913.1608313
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	CH4	0.002157633
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	PM10	0.001374647
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	20	PM2_5	0.001263937
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	HC	0.00537525
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	CO	0.435107543
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	NOx	0.014613829
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	SOx	0.007824255
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	PM	0.001318632
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	TOG	0.005819907
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	ROG	0.003988429
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	CO2	783.3260862
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	CH4	0.001637751
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	PM10	0.001178857
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	25	PM2_5	0.001083916
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	HC	0.003714228
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	CO	0.327074456
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	NOx	0.014137549
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	SOx	0.006734558
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	PM	0.001149038
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	TOG	0.004021481
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	ROG	0.002755953
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	CO2	674.3138951
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	CH4	0.001189832
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	PM10	0.00102724
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	30	PM2_5	0.00094451
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	HC	0.002411467
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	CO	0.256561432
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	NOx	0.014024582
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	SOx	0.005853291
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	PM	0.001028854
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	TOG	0.00261095
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	ROG	0.001789305
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	CO2	586.1242569
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	CH4	0.000819097
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	PM10	0.000919796
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	35	PM2_5	0.000845718
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	HC	0.001466964
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	CO	0.22356847
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	NOx	0.014274928
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	SOx	0.005180452
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	PM	0.00095808
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	TOG	0.001588316
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	ROG	0.001088486
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	CO2	518.7571726
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	CH4	0.000533021
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	PM10	0.000856524
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	40	PM2_5	0.000787542
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	HC	0.000880721
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	CO	0.228095572
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	NOx	0.014888587
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	SOx	0.004716043
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	PM	0.000936717
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	TOG	0.000953577
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	ROG	0.000653494
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	CO2	472.2126413
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	CH4	0.000342933
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	PM10	0.000837425
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	45	PM2_5	0.000769981
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	HC	0.000652738
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	CO	0.270142734
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	NOx	0.015865559
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	SOx	0.004460063
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	PM	0.000964763
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	TOG	0.000706734
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	ROG	0.000484331
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	CO2	446.4906638

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	CH4	0.000264699
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	PM10	0.000862498
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	50	PM2_5	0.000793035
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	HC	0.000783014
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	CO	0.34970996
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	NOx	0.017205843
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	SOx	0.004412513
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	PM	0.001042219
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	TOG	0.000847787
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	ROG	0.000580996
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	CO2	441.5912393
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	CH4	0.000309789
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	PM10	0.000931744
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	55	PM2_5	0.000856704
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	HC	0.00127155
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	CO	0.466797248
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	NOx	0.018909441
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	SOx	0.004573391
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	PM	0.001169086
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	TOG	0.001376736
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	ROG	0.000943489
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	CO2	457.5143687
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	CH4	0.000471061
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	PM10	0.001045163
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	60	PM2_5	0.000960989
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	HC	0.002118345
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	CO	0.621404599
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	NOx	0.020976351
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	SOx	0.004942699
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	PM	0.001345363
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	TOG	0.002293581
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	ROG	0.00157181
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	CO2	494.2600511
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	CH4	0.00073229
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	PM10	0.001202754
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	65	PM2_5	0.001105888
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	HC	0.0033234
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	CO	0.813532012
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	NOx	0.023406574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	SOx	0.005520437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	PM	0.001571049
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	TOG	0.003598322
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	ROG	0.002465959
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	CO2	551.8282863
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	CH4	0.001080805
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	PM10	0.001404518
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	70	PM2_5	0.001291403
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	HC	0.0033234
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	CO	0.813532012
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	NOx	0.023406574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	SOx	0.005520437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	PM	0.001571049
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	TOG	0.003598322
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	ROG	0.002465959
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	CO2	551.8282863
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	CH4	0.001080805
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	PM10	0.001404518
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	75	PM2_5	0.001291403
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	HC	0.0033234
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	CO	0.813532012
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	NOx	0.023406574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	SOx	0.005520437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	PM	0.001571049
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	TOG	0.003598322
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	ROG	0.002465959
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	CO2	551.8282863
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	CH4	0.001080805
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	PM10	0.001404518
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	80	PM2_5	0.001291403
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	HC	0.0033234
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	CO	0.813532012
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	NOx	0.023406574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	SOx	0.005520437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	PM	0.001571049
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	TOG	0.003598322

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	ROG	0.002465959
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	CO2	551.8282863
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	CH4	0.001080805
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	PM10	0.001404518
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	85	PM2_5	0.001291403
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	HC	0.0033234
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	CO	0.813532012
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	NOx	0.023406574
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	SOx	0.005520437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	PM	0.001571049
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	TOG	0.003598322
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	ROG	0.002465959
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	CO2	551.8282863
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	CH4	0.001080805
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	PM10	0.001404518
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	50	RUNEX	90	PM2_5	0.001291403
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		HC	20.15150102
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		CO	155.23
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		NOx	1.301867363
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		SOx	0.045973655
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		TOG	21.81849442
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		ROG	14.9523914
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		CO2	4299.209912
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019			IDLEX		CH4	2.011567343
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	HC	0.018994222
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	CO	0.670368891
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	NOx	0.450765244
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	SOx	0.000126871
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	PM	2.42E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	TOG	0.019824661
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	ROG	0.018106795
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	CO2	11.62340714
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	CH4	0.004876764
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	PM10	2.16E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	5	PM2_5	1.99E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	HC	0.03781526
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	CO	1.328001982
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	NOx	0.458226894
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	SOx	0.000151028
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	PM	4.79E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	TOG	0.039468565
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	ROG	0.036048496
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	CO2	12.97394245
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	CH4	0.008843551
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	PM10	4.28E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	10	PM2_5	3.94E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	HC	0.074937781
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	CO	2.605060761
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	NOx	0.472797317
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	SOx	0.00020354
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	PM	9.40E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	TOG	0.078214104
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	ROG	0.071436617
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	CO2	16.15607909
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	CH4	0.015972859
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	PM10	8.40E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	20	PM2_5	7.73E-05
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	HC	0.111367562
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	CO	3.831176339
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	NOx	0.486897237
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	SOx	0.000261648
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	PM	0.000138256
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	TOG	0.116236617
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	ROG	0.106164365
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	CO2	19.97963711
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	CH4	0.022496217
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	PM10	0.000123601
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	30	PM2_5	0.000113647
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	HC	0.147104605
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	CO	5.006348715
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	NOx	0.500526654
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	SOx	0.000325352
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	PM	0.000180665
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	TOG	0.153536103
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50		STREX	40	ROG	0.140231739

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	40	CO2	24.44461651
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	40	CH4	0.028614582
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	40	PM10	0.000161515
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	40	PM2_5	0.000148507
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	HC	0.182148907
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	CO	6.13057789
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	NOx	0.513685568
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	SOx	0.000394652
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	PM	0.000221235
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	TOG	0.190112563
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	ROG	0.173638739
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	CO2	29.55101729
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	CH4	0.034419455
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	PM10	0.000197784
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	50	PM2_5	0.000181855
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	HC	0.216500471
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	CO	7.203863862
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	NOx	0.526373979
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	SOx	0.000469548
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	PM	0.000259967
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	TOG	0.225965997
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	ROG	0.206385365
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	CO2	35.29883944
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	CH4	0.03996335
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	PM10	0.000232411
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	60	PM2_5	0.000213693
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	HC	0.400566051
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	CO	11.951925
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	NOx	0.585858097
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	SOx	0.001022936
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	PM	0.000431312
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	TOG	0.41807903
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	ROG	0.381851228
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	CO2	82.88382945
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	CH4	0.068020964
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	PM10	0.000385592
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	120	PM2_5	0.000354538
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	HC	0.646949271
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	CO	29.88663442
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	NOx	0.573340299
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	SOx	0.001157046
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	PM	0.000483671
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	TOG	0.675234267
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	ROG	0.616723192
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	CO2	94.00187506
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	CH4	0.102945528
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	PM10	0.000432402
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	180	PM2_5	0.000397577
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	HC	0.689200834
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	CO	32.75921875
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	NOx	0.568630386
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	SOx	0.001288651
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	PM	0.000530159
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	TOG	0.719333093
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	ROG	0.657000723
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	CO2	105.1199207
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	CH4	0.108731997
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	PM10	0.000473962
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	240	PM2_5	0.000435791
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	HC	0.731452398
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	CO	35.26903799
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	NOx	0.560673391
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	SOx	0.001417752
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	PM	0.000570777
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	TOG	0.763431919
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	ROG	0.697278253
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	CO2	116.2379663
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	CH4	0.114470531
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	PM10	0.000510275
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	300	PM2_5	0.000469179
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	HC	0.773703961
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	CO	37.41609212
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	NOx	0.549469315
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	SOx	0.001544349
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	PM	0.000605524

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	TOG	0.807530746
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	ROG	0.737555784
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	CO2	127.3560119
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	CH4	0.120164265
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	PM10	0.000541338
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	360	PM2_5	0.000497741
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	HC	0.815955525
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	CO	39.20038116
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	NOx	0.535018157
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	SOx	0.001668441
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	PM	0.0006344
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	TOG	0.851629572
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	ROG	0.777833315
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	CO2	138.4740575
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	CH4	0.12581597
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	PM10	0.000567154
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	420	PM2_5	0.000521477
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	HC	0.858207088
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	CO	40.62190511
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	NOx	0.517319917
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	SOx	0.00179003
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	PM	0.000657405
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	TOG	0.895728398
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	ROG	0.818110845
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	CO2	149.5921031
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	CH4	0.131428112
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	PM10	0.00058772
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	480	PM2_5	0.000540387
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	HC	0.900458652
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	CO	41.68066395
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	NOx	0.496374596
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	SOx	0.001909114
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	PM	0.00067454
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	TOG	0.939827224
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	ROG	0.858388376
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	CO2	160.7101487
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	CH4	0.137002896
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	PM10	0.000603039
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	540	PM2_5	0.000554472
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	HC	0.942710215
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	CO	42.3766577
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	NOx	0.472182193
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	SOx	0.002025694
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	PM	0.000685803
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	TOG	0.983926051
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	ROG	0.898665907
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	CO2	171.8281944
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	CH4	0.142542308
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	PM10	0.000613108
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	600	PM2_5	0.00056373
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	HC	0.984961779
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	CO	42.70988636
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	NOx	0.444742708
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	SOx	0.00213977
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	PM	0.000691196
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	TOG	1.028024877
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	ROG	0.938943437
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	CO2	182.94624
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	CH4	0.148048145
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	PM10	0.000617929
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	660	PM2_5	0.000568163
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	HC	1.027213301
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	CO	42.68025516
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	NOx	0.414050279
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	SOx	0.002251341
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	PM	0.000690717
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	TOG	1.07212366
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	ROG	0.979220929
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	CO2	194.0643166
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	CH4	0.153522032
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	PM10	0.000617501
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	50	STREX	720	PM2_5	0.000567769
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019		HOTSOAK		HC	0.007549176
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019		HOTSOAK		TOG	0.008071045
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019		HOTSOAK		ROG	0.008071045

2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	RUNLOSS	HC	0.332091308
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	RUNLOSS	TOG	0.355048537
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	RUNLOSS	ROG	0.355048537
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	DIURN	HC	0.01774949
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	DIURN	TOG	0.019278854
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	DIURN	ROG	0.019278854
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMTW	PM	0.008
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMTW	PM10	0.008
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMTW	PM2_5	0.002
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	5 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	5 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	5 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	10 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	10 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	10 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	15 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	15 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	15 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	20 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	20 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	20 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	25 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	25 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	25 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	30 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	30 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	30 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	35 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	35 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	35 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	40 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	40 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	40 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	45 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	45 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	45 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	50 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	50 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	50 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	55 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	55 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	55 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	60 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	60 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	60 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	65 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	65 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	65 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	70 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	70 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	70 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	75 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	75 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	75 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	80 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	80 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	80 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	85 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	85 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	85 PM2_5	0.0273
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	90 PM	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	90 PM10	0.078
2024	Annual	Santa Clara (SF)	LHD1	Gas	2019	PMBW	90 PM2_5	0.0273

Toxic Speciation of TOG due to Tailpipe Exhaust and Composite Toxicity Factors for Gasoline Vehicles

6/11/2021

Toxic Compound	EMFAC Gasoline Speciation*	Cancer Potency Factor **	Weighted Cancer Potency Factor	Chronic REL	Weighted Chronic REL	Acute REL	Weighted Acute REL
	(% TOG)	$(mg/kg\text{-}day)^{-1}$	$(mg/kg\text{-}day)^{-1}$	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)
Acetaldehyde	0.28	0.01	2.80E-05	140	0.392	470	1.316
Acrolein	0.13	-	-	0.35	0.000455	2.5	0.00325
Benzene	2.47	0.1	2.47E-03	60	1.482	1300	32.11
1,3 Butadiene	0.55	0.6	3.30E-03	20	0.11	0	0
Ethybenzene	1.05	0.0087	9.14E-05	2000	21	0	0
Formaldehyde	1.58	0.021	3.32E-04	9	0.1422	55	0.869
Hexane	1.6	-	-	7000	112	0	0
Methanol	0.12	-	-	4000	4.8	28000	33.6
Methyl Ethyl Ketone	0.02	-	-	0	0	13000	2.6
Naphthalene	0.05	0.12	6.00E-05	9	0.0045	0	0
Propylene	3.06	-	-	3000	91.8	0	0
Styrene	0.12	-	-	900	1.08	21000	25.2
Toluene	5.76	-	-	300	17.28	37000	2131.2
Xylene	4.8	-	-	700	33.6	22000	1056
		Total =	**6.28E-03**		**284**		**3,283**
			$(mg/kg\text{-}day)^{-1}$		(ug/m^3)		(ug/m^3)

Notes:

* Recommended Methods for Screening and Modeling Local Risks and Hazards. Table 14. Page 87.

** CONSOLIDATED TABLE OF OEHHA/ARB APPROVED RISK ASSESSMENT HEALTH VALUES. Table 1.

https://ww2.arb.ca.gov/sites/default/files/classic//toxics/healthval/contable.pdf

BREEZE AERMOD
Sensitive Receptor Results
Emissions from DSL Trucks
(Buffer area travel + idling + onsite travel)
Gasoline TOG

Pollutant: Other, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.00085	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Emissions from DSL Trucks
(Buffer area travel + idling + onsite travel)
PM10

Pollutant: PM10   Type: CONC (ug/m3) 5 YEAR AVG.,   Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.00004	

http://www.breeze-software.com/

BREEZE AERMOD
Sensitive Receptor Results
Emissions from Vans and Trucks
(Buffer area travel + idling + onsite travel)
$PM_{2.5}$

Pollutant: PM25, Type: CONC (ug/m3) 5 YEAR AVG., Group: ALL**

Sen. Rcpt. #	Dsc. Rcpt. #	Description	UTM		Conc.	
			East(m)	North(m)		
1	1	House to the east	630033.00	4096517.00	0.00014	

http://www.breeze-software.com/

Project Garlic - Opertional Impacts, Unmitigated Gasoline Exhaust TOG and Exhaust DPM PM10 - Cancer Risk

Maximum Cancer Risk Calculations from Operations (Phase 1 and Phase 2)
Impacts at Off-site MEI location - 1.5 meter receptor height
(Using San Martin Airport Met Data)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E+06

Where:
CPF = Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
ASF = Age Sentivity Factor for specified age group
ED = Exposure Duration (years)
AT = Averaging Time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where:
Cair = Concentration in air ($\mu g/m^3$)
DBR = Daily Breathing Rate (L/kg body weight-day)
A = Inhalation Absorption Factor
EF = Exposure Frequency (days/year)
10^{-6} = Conversion Factor

	Infant/Child				Adult
Age --> Parameter	3rd Trimester	0 - 2	2 - 9	2 - 16	16 - 30
ASF=	10	10	3	3	1
CPF=	1.1	1.1	1.1	1.1	1.1
DBR*=	361	1090	631	572	261
A=	1	1	1	1	1
EF=	350	350	350	350	350
AT=	70	70	70	70	70
FAH=	1	1	1	1	0.73

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03

*95th percentile breathing rates for infants and 80th percentile for children and adults

Cancer Risk by Year - @ The Maximum Exposed Individual, MEI (House nearly 1000 feet east of the project)

Maximum Exposure Information					Concentration ($\mu g/m^3$)		Cancer Risk per million			Hazard Index DPM PM10
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM PM10	Exhaust TOG	DPM PM10	Exhaust TOG	Total	HI=DPM PM10 Concentration divided by 5 $\mu g/m^3$
0	0.25	-0.25 - 0*	2024	10	0.000040	0.00085	5.440E-04	6.60E-05	0.00061	0.000008
1	1	0 - 1	2024	10	0.000040	0.00085	6.570E-03	7.97E-04	0.00737	0.000008
2	1	1 - 2	2025	10	0.000040	0.00085	6.570E-03	7.97E-04	0.00737	0.000008
3	1	2 - 3	2026	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
4	1	3 - 4	2027	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
5	1	4 - 5	2028	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
6	1	5 - 6	2029	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
7	1	6 - 7	2030	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
8	1	7 - 8	2031	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
9	1	8 - 9	2032	3	0.000040	0.00085	1.141E-03	1.38E-04	0.00128	0.000008
10	1	9 - 10	2033	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
11	1	10 - 11	2034	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
12	1	11 - 12	2035	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
13	1	12 - 13	2036	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
14	1	13 - 14	2037	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
15	1	14 - 15	2038	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
16	1	15 - 16	2039	3	0.000040	0.00085	1.034E-03	1.25E-04	0.00116	0.000008
17	1	16 - 17	2040	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
18	1	17 - 18	2041	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
19	1	18 - 19	2042	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
20	1	19 - 20	2043	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
21	1	20 - 21	2044	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
22	1	21 - 22	2045	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
23	1	22 - 23	2046	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
24	1	23 - 24	2047	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
25	1	24 - 25	2048	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
26	1	25 - 26	2049	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
27	1	26 - 27	2050	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
28	1	27 - 28	2051	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
29	1	28 - 29	2052	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
30	1	29 - 30	2053	1	0.000040	0.00085	1.148E-04	1.39E-05	0.00013	0.000008
Total Increased Cancer Risk per 1 million cases =							**0.031**	**0.0037**	**0.034**	**0.00025**

* Third Trimester of Pregnancy

Project Garlic

Notes:

1. Traffic Report shows the applicant estimated that the Delivery Station would have 1406 vans and 42 trucks for a total of 1448 vehicles that will be used for phase 1 (p.28, Table 3)
   The Traffic Report also shows 1711 total delivery vehicles to be used for Phase 1 according to the calculations in the Traffice Report, also shown in table 3, p. 28.
   Using the 1711 total, scale as follows:
   (42/1448)=(X/1711)

	Phase 1	Trips/Day	1 way Trips
X =	50 trucks	100	50
1448-50 =	1398 vans	2796	1398

Phase 2	Trips/Day	1 way Trips
	1320	581
	0	0

2. Hexagon's Trip Generation Table, Table 3, overall, both phases would generate more trips during the PM peak hour (300). They represent a worst-case scenario.
3. Daily trips: The delivery station (Phase 1) would generate 33.8% total daily trips (traffic) and the warehouse (Phase 2) would generate 65.2%
4. For Renz Lane, 222 AM trips (18+204) and 136 PM trips (78+58), which represents 79% (222/282x100) of all Phase 1 and 2 in/out trips, and is 21% of trips on Pacheco **during the AM Peak Hour**.
5. I get 45.3% (136/300x100) in and out trips for both phases, and 54.7% for Pacheco **during the PM peak hour**.
6. Overall we could assume that these percentages apply for the daily trips as well, since we don't have any other information that would show otherwise for the roadways.
7. Emission Factors from the HRA prepared September 17, 2020, by Illingworth & Rodkin, Inc., for a project at 1073 Winchester Blvd. San Jose.
8. Emissions Factors from CT-EMFAC2017

Road Segment	Road Length (m)	AERMOD Width (m)	Road Area (m2)
SR 152	1360	21	28,560
Renz Lane	420	15	6,300
Camino	250	20	5,000

Width on one way + 6 meters

sec/day
86,400

PHASE 1 Offsite - buffer area	Phase 1 PM	Phase 1 AM	Phase 2 PM	Phase 2 AM
% on SR 152	54.7	21	85	5
% on Renz	22.65	39.5	15	95
% on Camino Arroyo	22.65	39.5	0	0

Phase 1 - PM Scenario

All Gasoline Vans enter and exit at SR 152
All Line Haul Truck enter and exit at Renz

										Gasoline TOG Exhaust (Vans)					Gasoline PM2.5 Exhaust			DSL PM10 exhaust (Trucks)					DSL PM2.5 Exhaust		
Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Length (m)	Link Width (m)	Link Width (ft)	Vehicle TOG Release Height (m)	Average Speed (mph)	Vehicles Trips (Trips/Day)	Total Distance travelled within 1000 ft buffer (Veh-miles/Day)	Gasoline TOG Emission Factors* (g/VMT)	Gasoline TOG Emissions (g/day)	AERMOD Input Gasoline TOG Emissions/ Road Area (g/s-m^2)	Gasoline PM2.5 Emission Factors* (g/VMT)	Gasoline PM2.5 Emissions (g/day)	AERMOD Input Gasoline PM2.5 Emissions/ Road Area (g/s-m^2)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled within 1000 ft buffer (Veh miles/Day)	DPM PM10 Exhaust Emission Factors* (g/VMT)	DPM PM10 Emissions (g/day)	AERMOD Input DSL PM10 Emissions/ Road Area (g/s-m2)	DSL PM2.5 Emission Factors* (g/VMT)	DSL PM2.5 Emissions (g/day)	AERMOD Input DSL PM2.5 Emissions/ Road Area (g/s-m2)
1	State Route 152	EB	2	0.85	1360	15	60	1.3	40	1,398	650	0.02561	16.65	**6.7E-09**	0.001499	0.97	**3.9E-10**	-	-	-	-	-	-	-	-
2		WB	2	0.85	1360	15	60	1.3	40	1,398	650	0.02561	16.65	**6.7E-09**	0.001499	0.97	**3.9E-10**	-	-	-	-	-	-	-	-
														1.3E-08			**7.9E-10**								
3	Renz Lane	EB	1	0.26	148	9	30	3.4	35	-	-	-	-	-	-	-	-	50	3	0.00057	0.00167837	**3.1E-12**	0.001499	0.0044138	**8.1E-12**
4		WB	1	0.26	148	9	30	3.4	35	-	-	-	-	-	-	-	-	50	3	0.00057	0.00167837	**3.1E-12**	0.001499	0.0044138	**8.1E-12**
																						6.2E-12			**1.6E-11**
5	Camino Arroyo	EB	2	0.16	250	14	49	3.4	35	-	-	-	-	-	-	-	-	50	2	0.00057	0.00103284	**2.4E-12**	0.001499	0.0027162	**6.3E-12**
6		WB	2	0.16	250	14	49	3.4	35	-	-	-	-	-	-	-	-	50	2	0.00057	0.00103284	**2.4E-12**	0.001499	0.0027162	**6.3E-12**
													33.293			**1.949**					**0.003**	**4.8E-12**		**0.009**	**1.3E-11**
													Max			Max					Max			Max	

Running Emissions (Add 6 m for AERMOD inputs)

Use the max values to model. Use PM scenario.

PHASE 2 Offsite - buffer area

Phase 2 - PM Scenario

No delivery vans would be used in Phase 2
All Line Haul Truck enter and exit at SR152

Assume 85% of traffic heads north using 152, 15% used Renz to travel east.

Running Emissions

										Gasoline TOG Exhaust (Vans)					Gasoline PM2.5 Exhaust			DSL PM10 exhaust (Trucks)					DSL PM2.5 Exhaust		
Road Link	Description	Direction	No. Lanes	Link Length (miles)	Link Length (m)	Link Width (m)	Link Width (ft)	Vehicle TOG Release Height (m)	Average Speed (mph)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled within 1000 ft buffer (Veh-miles/Day)	Gasoline TOG Emission Factors* (g/VMT)	Gasoline TOG Emissions (g/day)	Gasoline TOG Emissions/ Road Area (g/s-m^2)	Gasoline PM2.5 Emission Factors* (g/VMT)	Gasoline PM2.5 Emissions (g/day)	Gasoline PM2.5 Emissions/ Road Area (g/s-m^2)	Vehicles Trips (Trips/Day)	Total Distance travelled within 1000 ft buffer (Veh miles/Day)	DPM PM10 Exhaust Emission Factors* (g/VMT)	DPM PM10 Emissions (g/day)	DSL PM10 Emissions/ Road Area (g/s-m2)	DSL PM2.5 Emission Factors* (g/VMT)	DSL PM2.5 Emissions (g/day)	DSL PM2.5 Emissions/ Road Area (g/s-m2)
1	State Route 152	EB	2	0.22	400	15	60	3.4	40	-	-	-	-	-	-	-	-	99	19	0.00057	0.0106	**4.3E-12**	0.001499	0.0278	**1.1E-11**
2		WB	2	0.3	965	15	60	3.4	40	-	-	-	-	-	-	-	-	561	143	0.00057	0.0815	**3.3E-11**	0.001499	0.2144	**8.7E-11**
																						3.7E-11			**9.8E-11**
3	Renz Lane	EB	1	0.26	420	9	30	1.3	35	-	-	-	-	-	-	-	-	561	124	0.00057	0.0707	**1.3E-10**	0.001499	0.1858	**3.4E-10**
4		WB	1	0.26	420	9	30	1.3	35	-	-	-	-	-	-	-	-	99	22	0.00057	0.0125	**2.3E-11**	0.001499	0.0328	**6.0E-11**
																						1.5E-10			**4.0E-10**

PHASE 1 Onsite - PM

Startup emissions happen in the morning 2xs. Initial startup and queue startup.
Employee vehicles are started up in the evening.

Running Emissions

										Gasoline TOG Exhaust (Vans)					Gasoline PM2.5 Exhaust			DSL PM10 exhaust (Trucks)					DSL PM2.5 Exhaust		
onsite segment	Exit/Entrance	Direction	No. Lanes	Link Length (miles)	Link Length (m)	Link Width (m)	Link Width (ft)	Vehicle TOG Release Height (m)	Average Speed (mph)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled onsite (Veh-miles/Day)	Gasoline TOG Emission Factors* (g/VMT)	Gasoline TOG Emissions (g/day)	AERMOD Input Gasoline TOG Emissions/ Road Area (g/s-m^2)	Gasoline PM2.5 Emission Factors* (g/VMT)	Gasoline PM2.5 Emissions (g/day)	AERMOD Input Gasoline PM2.5 Emissions/ Road Area (g/s-m^2)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled onsite (Veh miles/Day)	DPM PM10 Exhaust Emission Factors* (g/VMT)	DPM PM10 Emissions (g/day)	AERMOD Input DSL PM10 Emissions/ Road Area (g/s-m2)	DSL PM2.5 Emission Factors* (g/VMT)	DSL PM2.5 Emissions (g/day)	AERMOD Input DSL PM2.5 Emissions/ Road Area (g/s-m2)
7	**State Route 152 (Delivery Vans)**	EB	2	0.41	1360	15	60	1.3	5	1,398	314	0.02561	8.03	**4.56E-09**	0.001499	0.47	**2.67E-10**	-	-	-	-	-	-	-	-
8		WB	2	0.41	1360	15	60	1.3	5	1,398	314	0.02561	8.03	**4.56E-09**	0.001499	0.47	**2.67E-10**	-	-	-	-	-	-	-	-
														9.11E-09			**5.33E-10**								
9	**Renz Lane (Trucks)**	EB	1	0.96	148	9	30	3.4	10	-	-	-	-	-	-	-	-	50	11	0.0071	0.0771912	**4.38E-11**	0.0068	0.0739296	4.19E-11
10		WB	1	0.96	148	9	30	3.4	10	-	-	-	-	-	-	-	-	50	11	0.0071	0.0771912	**4.38E-11**	0.0068	0.0739296	4.19E-11
																						8.76E-11			**8.39E-11**

State Route 152 Onsite Travel Area = 20400 m2
Renz Lane Onsite Travel Area = 1332 m2
Conversion factor = 86,400 sec/day

Emission factors for <10 mph are not available in EMFAC for DSL
Emission factors for 5 mph are available in EMFAC for Gasoline powered vehicles

PHASE 2 Onsite - PM

Startup emissions happen when the line haul trucks leave in the afternoon. Initial startup, no queue.

Running Emissions

										Gasoline TOG Exhaust (Vans)					Gasoline PM2.5 Exhaust			DSL PM10 exhaust (Trucks)					DSL PM2.5 Exhaust		
Road Link	Exit/Entrance	Direction	No. Lanes	Link Length (miles)	Link Length (m)	Link Width (m)	Link Width (ft)	Vehicle TOG Release Height (m)	Average Speed (mph)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled onsite (Veh-miles/Day)	Gasoline TOG Emission Factors* (g/VMT)	Gasoline TOG Emissions (g/day)	AERMOD Input Gasoline TOG Emissions/ Road Area (g/s-m^2)	Gasoline PM2.5 Emission Factors* (g/VMT)	Gasoline PM2.5 Emissions (g/day)	AERMOD Input Gasoline PM2.5 Emissions/ Road Area (g/s-m^2)	1-way Vehicles Trips (Trips/Day)	Total Distance travelled onsite (Veh miles/Day)	DPM PM10 Exhaust Emission Factors* (g/VMT)	DPM PM10 Emissions (g/day)	AERMOD Input DSL PM10 Emissions/ Road Area (g/s-m2)	DSL PM2.5 Emission Factors* (g/VMT)	DSL PM2.5 Emissions (g/day)	AERMOD Input DSL PM2.5 Emissions/ Road Area (g/s-m2)
11	**Renz Trucks**	EB	2	0.48	773	15	60	3.4	10	-	-	-	-	-	-	-	-	581	237	0.0071	1.68246144	**1.68E-09**	0.0068	1.6113715	**1.61E-09**
12	**State Route 152 Trucks**	WB	2	0.5	805	15	60	3.4	10	-	-	-	-	-	-	-	-	581	247	0.0071	1.752564	**1.75E-09**	0.0068	1.678512	**1.68E-09**
																						3.43E-09			**3.28E-09**

State Route 152 Onsite Travel Area = 11595 m2
Conversion factor = 86,400 sec/day

IDLING EMISSIONS

5 minutes of Idling emissions for each truck and van were assumed base on information submitted.

EMFAC 2021 Gasoline Emission Factors:

idling	TOG	21.818	grams/veh-idle hour
5 mph	PM10	0.025	
5 mph	PM2.5	0.024	

	Gasoline TOG Exhaust (Vans)					Gasoline PM2.5 Exhaust			DSL PM10 exhaust (Trucks)					DSL PM2.5 Exhaust		
	Vehicles idling (Vehicles)	Total idling from all veh idling for 5 minutes (veh-hours/Day)	Gasoline TOG Emission Factors (grams/veh-idle hour)	Gasoline TOG Emissions (g/day)	AERMOD Input Gasoline TOG Emissions/ Road Area (g/s-m^2)	Gasoline PM2.5 Emission Factors (grams/veh-idle hour)	Gasoline PM2.5 Emissions (g/day)	AERMOD Input Gasoline PM2.5 Emissions/ Road Area (g/s-m^2)	1-way Vehicles Trips (Trips/Day)	Total idling time (base on 5 min/truck) (hours/Day)	DPM PM10 Exhaust Emission Factors (g/veh-hour)	DPM PM10 Emissions (g/day)	AERMOD Input DSL PM10 Emissions/ Road Area (g/s-m2)	DSL PM2.5 Exhaust Emission Factors (g/veh-hour)	DSL PM2.5 Emissions (g/day)	AERMOD Input DSL PM2.5 Emissions/ Road Area (g/s-m2)
Phase 2 -State Route 152 Trucks	-	-	-	-	-	-	-	-	581	121.00	0.156	18.897	**1.89E-08**	0.144	17.385	**1.74E-08**
Phase 1 - State Route 152 Vans	1,398	117	21.82	2542	**1.44E-06**	0.024	2.750	**1.56E-09**	-	-	-	-	-	-	-	-
Phase 1 - Renz Lane Trucks	-	-	-	-	-	-	-	-	50	10.42	0.156	1.627	**1.62E-09**	0.144	1.497	**1.49E-09**
													2.05E-08			**1.88E-08**