Initial Study and Negative Declaration
Heraeus Presioous Metals North America
Rhodium Purification Line

Lead Agency:

City of Santa Fe Springs
Planning and
Development Department
11710 Telegraph Road
Santa Fe Springs, CA
90670

Report Prepared by:

Yorke
ENGINEERING, LLC
www.YorkeEngr.com

Office Locations:
Los Angeles, Orange County, Riverside, Ventura,
San Diego, Fresno, Berkeley, San Jose, Bakersfield
Tel: (949) 248-8490
Fax: (949) 248-8499

September 2021

Initial Study and Negative Declaration Heraeus Precious Metals North America Rhodium Purification Line

Prepared for:

City of Santa Fe Springs
Planning and Development Department
11710 Telegraph Road
Santa Fe Springs, CA 90670

September 2021

NEGATIVE DECLARATION

Project Name	Rhodium Purification Line
Applicant	Mr. Peter Eckert, Heraeus Precious Metals North America LLC
Address	15524 Carmenita Road, Santa Fe Springs, California 90670, Assessor's Parcel Number (APN 7005-014-070)
City/County	Santa Fe Springs, Los Angeles County
Description	This Initial Study evaluates the environmental impacts associated with the construction and subsequent operation of a Rhodium Purification Process Line at Heraeus Precious Metals North America LLC. The process line will be installed within an existing building, 15611 Resin Place. The proposed Project would install three 750-gallon closed reactors with condensers; electrolytic cells for rhodium sponge production; an electrically heated hydrogen furnace for drying and reducing the rhodium sponge; a small grinder to refine the grain size of the rhodium sponge, and various tanks to support the operations. Two scrubbers will be installed outside of and immediately adjacent to the building to control emissions from the new process line, including a nitrogen oxides scrubber and a hydrochloric acid scrubber. The proposed Project will require the transport, storage, and use of a variety of hazardous chemicals, including hydrochloric acid, nitric acid, sodium hydroxide, sodium chlorate, and hydrogen. The proposed Project will increase water consumption at the facility by approximately 8.7 million gallons per year. The Project will create 12 new jobs.
Findings	The environmental analysis provided in the attached Initial Study indicates that the proposed project will not result in any significant adverse impacts to the environment. For this reason, the City of Santa Fe Springs determined that a Negative Declaration is the appropriate CEQA document for the proposed project. The following findings may be made based on the analysis contained in the attached Initial Study: ▪ The proposed project will not have the potential to degrade the quality of the environment. ▪ The proposed project will not have the potential to achieve short-term goals to the disadvantage of long-term environmental goals. ▪ The proposed project will not have impacts that are individually limited, but cumulatively considerable, when considering planned or proposed development in the City. ▪ The proposed project will not have environmental effects that will adversely affect humans, either directly or indirectly. The environmental analysis is provided in the attached Initial Study prepared for the proposed Project. The proposed Project is also described in greater detail in the attached Initial Study.

Signature _____ Date 9/2/2021

City of Santa Fe Springs Planning and Development Department

Table of Contents

List of Tables

List of Figures

Appendices

List of Acronyms and Abbreviations

AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model®
CalPERS	California Public Employees Retirement System
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBWQPP	Central Basin Water Quality Protection Program
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbon
CFM	Cubic Feet per Minute
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
DETA	Diethylenetriamine
DI	Deionized
DPM	Diesel Particulate Matter
DPS	[City of Santa Fe Springs] Department of Police Services
DTSC	[California] Department of Toxic Substances Control
DWR	[California] Department of Water Resources
EIR	Environmental Impact Report
EMS	Emergency Medical Services
GHG	Greenhouse Gas
GLV	Glass Lined Vessel
gpm	Gallons per Minute
H_2	Hydrogen
HCl	Hydrochloric Acid
HFC	Hydrofluorocarbon
HMBP	Hazardous Materials Business Plan
HMCE	Heraeus Multiple Cell Electrolysis
HNO_3	Nitric Acid
HPMN	Heraeus Precious Metals North America LLC
HRA	Health Risk Assessment
IBC	Intermediate Bulk Container

IOX	Ion Exchange
IPCC	International Panel on Climate Change
kg	Kilogram
LACSD	County Sanitation Districts of Los Angeles County
LST	Localized Significance Threshold
M-2	[City of Santa Fe Springs] Heavy Manufacturing Zone
MM	Million
MT	Metric Ton
MWh	Megawatt-Hour
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NaOH	Sodium Hydroxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSR	New Source Review
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PFC	Perfluorocarbon
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter
PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
ppb	Parts per Billion
ppm	Parts per Million
ppt	Parts per Trillion
PTC	Permit to Construct
PTO	Permit to Operate
Rh	Rhodium
$RhCl_3$	Rhodium Chloride
$Rh(OH)_3$	Rhodium Hydroxide
SCAB	South Coast Air Basin
SCAG	Southern California Area of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SRA	Source Receptor Area
STAFU	Stationary Filtration Unit
SWPPP	Storm Water Pollution Prevention Plan

TAC	Toxic Air Contaminant
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WPD	Whittier Police Department

Initial Study
Heraeus Precious Metals North America Rhodium Purification Line

1.0 INTRODUCTION

Heraeus Precious Metals North America LLC (HPMN) is a refiner of precious metals, including gold, silver, and platinum group metals. HPMN receives and treats precious metal-bearing secondary materials for precious metal reclamation under a Conditional Use Permit (CUP) issued by the City of Santa Fe Springs (the City), an air permit issued by the South Coast Air Quality Management District (SCAQMD), and a standardized hazardous waste Part B permit issued by the California Department of Toxic Substances Control (DTSC). The proposed Project is the construction and subsequent operation of a new process line (the "Project" or "proposed Project") designed to purify rhodium (Rh).

1.1 Purpose of the Initial Study

This Initial Study evaluates the environmental impacts associated with the construction and subsequent operation of a Rhodium Purification Line at HPMN. The proposed process line will be installed within an existing building located at 15611 Resin Place. The proposed Project would install three 750-gallon closed reactors with condensers; electrolytic cells for rhodium sponge production; an electrically heated hydrogen furnace for drying and reducing the Rh sponge; a small grinder to refine the grain size of the Rh sponge, and various tanks to support the operations. Two scrubbers will be installed outside of and immediately adjacent to the building to control emissions from the new process line, including a three-tower nitrogen oxides (NO_x) scrubber; and a hydrochloric acid (HCl) scrubber. The proposed Project will require the transport, storage, and use of a variety of hazardous chemicals, including HCl, nitric acid (HNO_3), sodium hydroxide (NaOH), sodium chlorate ($NaClO_3$), and hydrogen. The proposed Project will increase water consumption at the facility by approximately 8.7 million gallons per year. The proposed Project will create 12 new jobs.

The City of Santa Fe Springs is the designated Lead Agency for the proposed Project and will be responsible for the project's environmental review. The operation of the proposed Rhodium Purification Line is considered to be a project under the California Environmental Quality Act (CEQA) and, as a result, the project is subject to the City's environmental review process. The project Applicant is Heraeus Precious Metals North America LLC, 15524 Carmenita Road, Santa Fe Springs, California 90670.

As part of the proposed project's environmental review, the City of Santa Fe Springs has authorized the preparation of this Initial Study. The primary purpose of CEQA is to ensure that decision-makers and the public understand the environmental implications of a specific action or project. An additional purpose of this Initial Study is to ascertain whether the proposed Project will have the potential for significant adverse impacts on the environment once it is implemented. Pursuant to the CEQA Guidelines, additional purposes of this Initial Study include the following:

- To provide the City of Santa Fe Springs with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR), Mitigated Negative Declaration (MND), or Negative Declaration (ND) for a project;
- To facilitate the project's environmental assessment early in the design and development of the proposed project;
- To eliminate unnecessary EIRs; and
- To determine the nature and extent of any impacts associated the proposed project.

Although this Initial Study was prepared with consultant support, the analysis, conclusions, and findings made as part of its preparation fully represent the independent judgment and position of the City of Santa Fe Springs in its capacity as the Lead Agency. The City determined, as part of this Initial Study's preparation, that a Negative Declaration is the appropriate environmental document for the proposed project's CEQA review. This Initial Study and the Notice of Intent to Adopt a Negative Declaration will be forwarded to responsible agencies, trustee agencies, and the public for review and comment. A 20-day public review period will be provided to allow these entities and other interested parties to comment on the proposed project and the findings of this Initial Study. Questions and/or comments should be submitted to the following individual:

Vince Velasco, Associate Planner
City of Santa Fe Springs, Planning and Development Department
11710 East Telegraph Road
Santa Fe Springs, California 90670
562-868-0511

1.2 Statutory Authority and Requirements

In accordance with CEQA (Public Resources Code Section 21000-21177) and pursuant to Section 15063 of Title 14 of the California Code of Regulations (CCR), the City, acting in the capacity of the Lead Agency, required HPMN to undertake the preparation of this Initial Study to determine if the proposed Project would have a significant environmental impact.

If, as a result of the Initial Study, the City finds that there is evidence that any aspect of the proposed Project may cause a significant environmental effect, the City shall determine that an Environmental Impact Report (EIR) is warranted to analyze project-related and cumulative environmental impacts. Alternatively, if the City finds that there is no evidence that the Project may cause a significant effect on the environment, the City shall find that the proposed Project would not have a significant effect on the environment and shall prepare a Negative Declaration. Such determination can be made only if "there is no substantial evidence in light of the whole record before the Lead Agency" that such impacts may occur (Section 21080, Public Resources Code). The City shall prepare a Mitigated Negative Declaration if a determination can be made that no significant environmental effects will occur because revisions to the Project have been made or mitigation measures will be implemented that will reduce all potentially significant impacts to less than significant levels.

The environmental documentation, which is ultimately approved and/or certified by the City in accordance with CEQA, is intended as an informational document undertaken to provide an environmental basis for subsequent discretionary actions upon the Project. The resulting documentation is not, however, a policy document, and its approval and/or certification neither

presupposes nor mandates any actions on the part of any agency from whom permits and/or other discretionary approvals would be required.

The environmental documentation and supporting analysis are subject to a public review period. During this review, comments on the document relative to environmental issues are to be addressed to the City. These comments are anticipated to come from public agencies, public interest groups, and anyone else who has an interest in the Project. Following review of any comments received, the City will consider these comments as a part of the Project's environmental review and include them with the Initial Study documentation.

1.3 Content of the Initial Study

Section 15063 of the CEQA Guidelines identifies specific disclosure requirements for inclusion in an Initial Study. Pursuant to those requirements, an Initial Study shall include:

1. A description of the project, including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4. A discussion of ways to mitigate significant effects identified, if any;
5. An examination of whether the project is compatible with existing zoning, plans, and other applicable land-use controls; and
6. The name(s) of the person or persons who prepared or participated in preparation of the Initial Study.

1.4 Initial Study Checklist Information

The Project background information required for an Initial Study is provided in Table 1-1.

Table 1-1: Initial Study Checklist Information

Project title:	Heraeus Precious Metals North America LLC Proposed Rhodium Purification Line Project
Lead agency name and address:	City of Santa Fe Springs 11710 Telegraph Road Santa Fe Springs, CA 90670
Contact person and phone number:	Mr. Vincent Velasco, City of Santa Fe Springs (562) 868-0511 x7353
Project location:	The Project site is located in the City of Santa Fe Springs, Los Angeles County, California, approximately 0.3 mile west of I-5. The proposed Project would be constructed and operated at 15611 Resin Place and the adjacent area to the east of the building.
Project sponsor's name and address:	Mr. Peter Eckert Heraeus Precious Metals North America 15524 Carmenita Road Santa Fe Springs, California 90670
General plan designation:	Industrial
Zoning:	Heavy Manufacturing (M-2)
Description of Project:	Refer to Section 2.4, Project Characteristics.
Surrounding land uses and setting:	The following land uses are immediately adjacent to the Project site: ▪ North: Existing distribution center (truck loading/unloading); ▪ South: Alondra Boulevard, followed by warehouse and commercial properties; ▪ East: Machine shops/small business of similar height to existing buildings on Project site; and ▪ West: Carmenita Road, followed by the local Fire Department Station 3 and other industrial and commercial businesses.
Other public agencies whose approval is required:	In addition to the CEQA review, other approvals required to construct and operate the proposed Project are: ▪ SCAQMD permit for the construction and operation of the new process reactors and scrubbers; ▪ Building permits for the new process reactors and scrubbers from the City of Santa Fe Springs and Los Angeles County; and ▪ Approvals from the City of Santa Fe Springs Fire Department for hazardous materials storage and use. ▪ Approvals from DTSC for lift station PS305

2.0 PROJECT DESCRIPTION

HPMN is a refiner of precious metals, including gold, silver, and platinum group metals. HPMN receives and treats precious metal-bearing secondary materials for precious metal reclamation under a CUP issued by the City of Santa Fe Springs, an air permit issued by the SCAQMD, and a standardized hazardous waste Part B permit issued by the California DTSC. The proposed Project is the construction of a new process line designed to purify rhodium. A rhodium purification line was operated at the same facility using a different chemical technology until recently. The following sections describe the proposed Project in greater detail.

2.1 Project Overview

HPMN is planning to install a new Rhodium Purification Line at its facility in Santa Fe Springs, CA. The Rhodium Purification Line will consist of the following equipment:

- Three 750-gallon closed reactors with condensers;
- A tank system to recover residual Rh from the mother liquor;
- Electrolytic cells for Rh sponge production;
- An electrically heated hydrogen furnace for drying and reducing the Rh sponge; and
- A small grinder to refine the grain size of the Rh sponge.

Two scrubbers will be installed to control emissions from the new process line:

- One three-tower NO_x scrubber; and
- One one-tower HCl scrubber.

The proposed Project will require the transport, storage, and use of a variety of hazardous chemicals, including HCl, HNO_3, NaOH (a.k.a. "caustic"), $NaClO_3$, and hydrogen. The Project will increase water consumption by approximately 8.7 million (MM) gallons per year. The Project will create 12 new jobs.

2.2 Project Location

The HPMN facility is located in the City of Santa Fe Springs, Los Angeles County, California, approximately 0.3 mile west of Interstate Highway 5 (I-5), near the border of the City of Cerritos and close to the City of Norwalk. The site is located north of Alondra Boulevard and east of Carmenita Road. Within the facility site, HPMN occupies ten industrial buildings located at 13409, 13429, 13443, and 13591 Alondra Boulevard; 15600, 15601, 15610, and 15611 Resin Place; and 15524 and 15536 Carmenita Road.

The proposed Rhodium Purification Line would be constructed in Building 5, at 15611 Resin Place. Hydrogen storage would be installed to the north of the building, and the scrubbers would be installed immediately to the east of the building. An aerial photograph showing the facility and surrounding property is provided as Figure 2-1. A facility layout diagram is provided as Figure 2-2. A Project schematic diagram showing structures and equipment is provided as Figure 2-3.

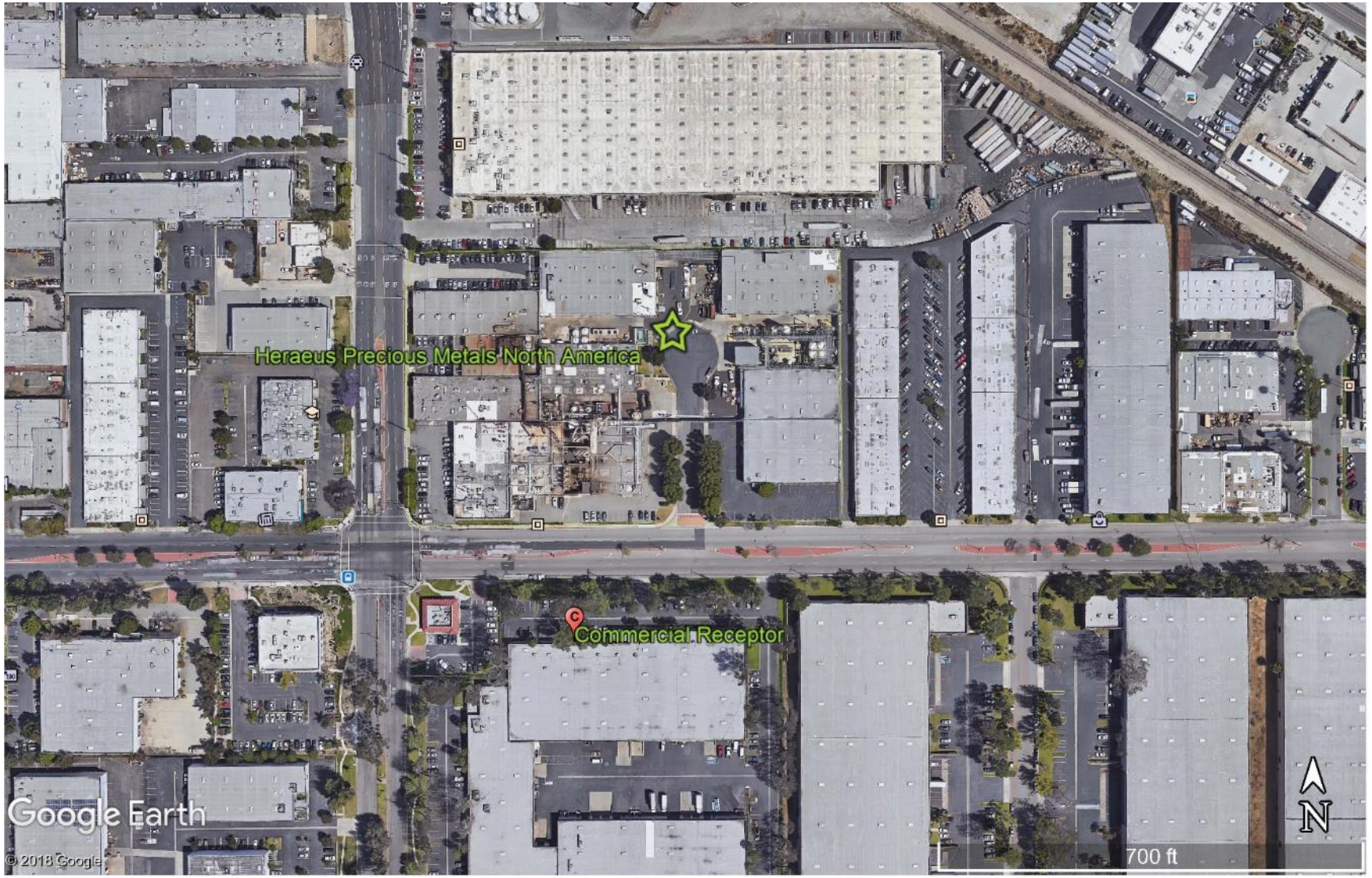


Figure 2-1: HPMN Facility and Surrounding Property

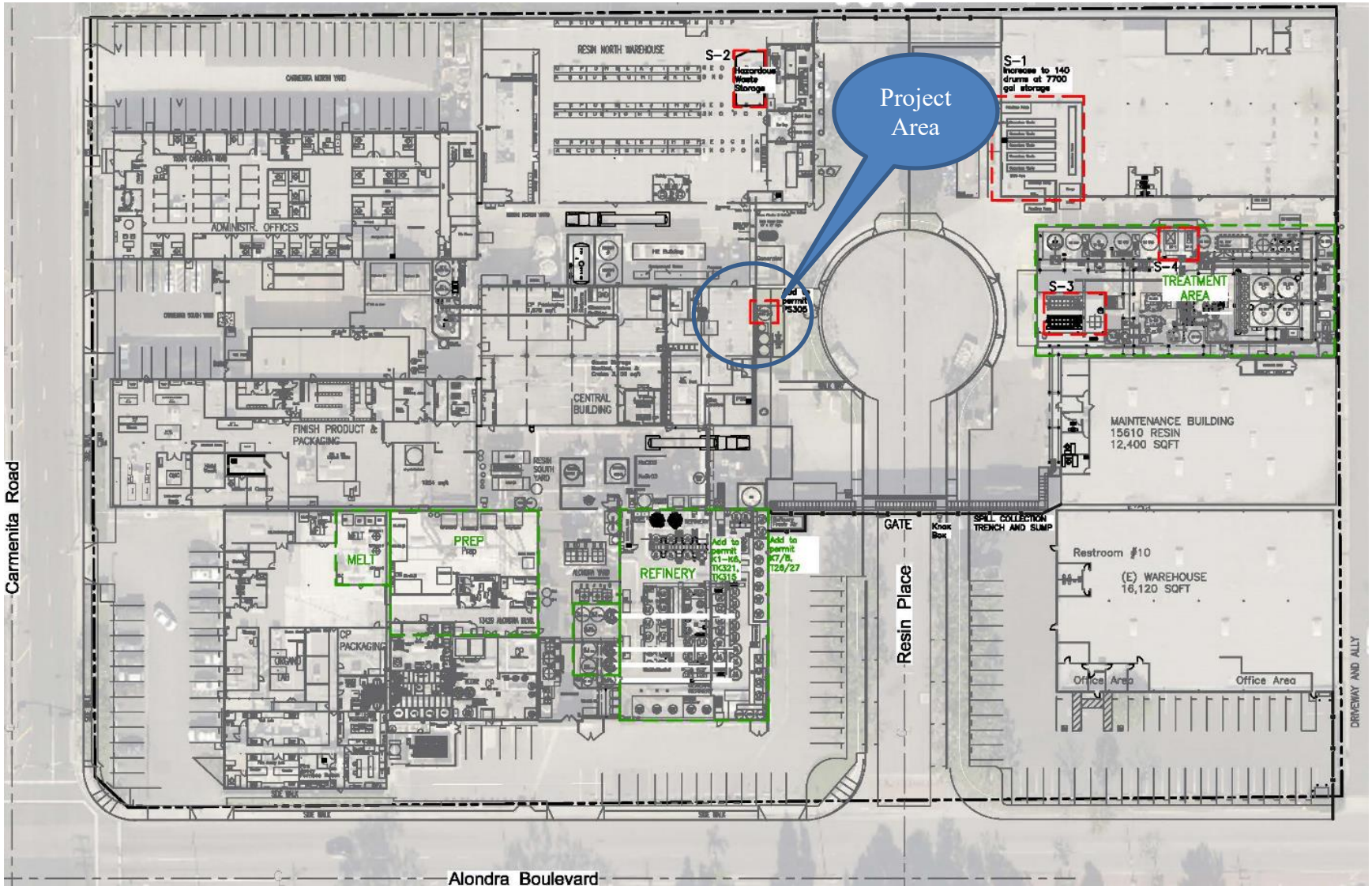


Figure 2-2: HPMN Site Layout Diagram

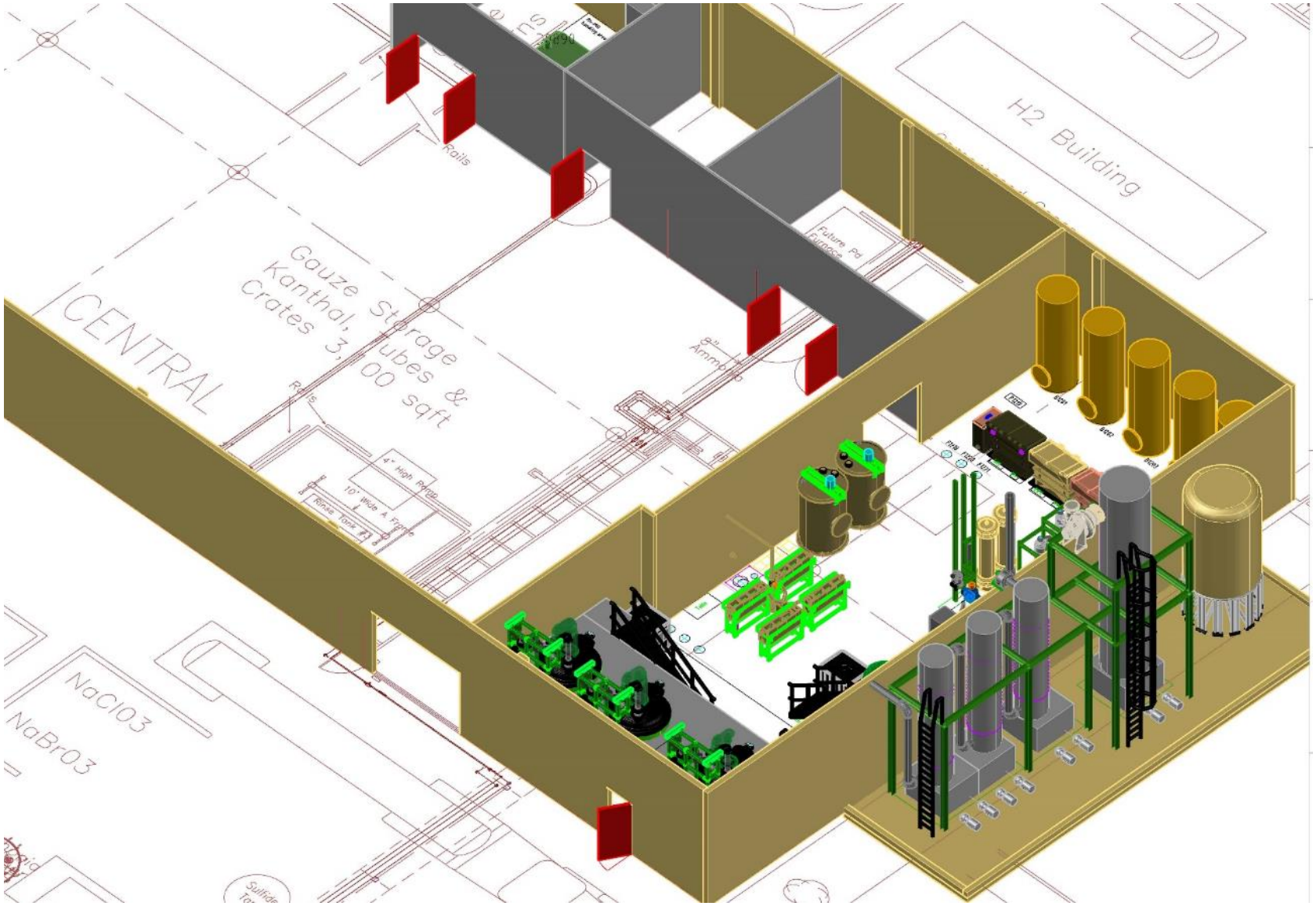


Figure 2-3: Project Schematic

2.3 Environmental Setting

2.3.1 Facility Background

HPMN is a precious metal recycling and chemical compound manufacturing plant. Precious metal-bearing secondary industrial materials such as ores, solutions, or prepared materials are processed at the facility for precious metal recovery and purification. The facility also manufactures a variety of precious metal-bearing chemical compounds and fabricated metals. Processes employed at the facility include ovens and furnaces, hydrometallurgical processes, wastewater treatment, and boilers. Air pollution control equipment at the facility includes baghouses, wet and chemical scrubbers, thermal oxidizers, and low-NO_x burners.

2.3.2 Existing Land Uses

The HPMN facility occupies approximately 5 acres and is developed with industrial buildings. The facility site was originally developed by PGP Industries Inc. (a subsidiary of Gerald Metals) in 1971 as a metal refining process facility. The land and existing metal refining process were purchased by HPMN from PGP Industries in 2000. The facility operates 24 hours a day, 7 days per week, and 360 days per year.

HPMN currently owns nine buildings (Buildings 13429, 13443, 13501 Alondra Blvd., 15600, 15601, 15610, 15611 Resin place, 15524 & 15536 Carmenita Road) and leases one buildings on the Project site (13409 Alondra Blvd.). The facility consists of buildings with open yards between and six gates controlling entry to the facility. The entire site is covered by impervious surface with some decorative planting adjacent to the exterior portions of buildings, in parking areas, and along Resin Place.

2.3.3 Surrounding Land Uses

The following land uses are immediately adjacent to the HPMN facility:

- North: Existing distribution center (truck loading/unloading);
- South: Alondra Boulevard, warehouse, and commercial properties;
- East: Machine shops/small businesses of similar height to existing buildings on Project site; and
- West: Carmenita Road, the local Fire Department (Station 3), and other industrial and commercial businesses.

There is a Southern Pacific rail line that parallels the I-5 corridor approximately 0.2 mile from the HPMN facility. The nearest residential area is approximately 0.5 mile to the south of the facility, and the nearest school, Carmenita Junior High School, is also approximately 0.5 mile to the south.

2.3.4 Existing Zoning and General Plan

According to the City of Santa Fe Springs, approximately 90% of land within its borders is zoned for commercial or industrial use, and 10% for residential use (City of Santa Fe Springs 2021a). The HPMN facility is located in the City of Santa Fe Springs's Heavy Manufacturing (M-2) Zone. The City of Santa Fe Springs General Plan Land Use Map designates the Project site as Industrial.

2.4 Project Characteristics

The proposed Project would construct and operate a Rhodium Purification Line. Equipment information, process information, and additional Project details are provided in this section.

2.4.1 Project Construction

The proposed Project will be installed at an existing, developed industrial property. The basic process equipment will be installed indoors, in an existing building. Generally, the equipment will be installed on the existing foundation; minimal ground disturbance is required.

Equipment will be delivered to the Project site on trucks. Approximately 20 truckloads would be required to deliver the equipment, piping, and ducting supplies. A crew of up to 20 construction workers would be required during construction, and they would be drawn from the local workforce. Construction will take approximately 10 months including commissioning of the new systems.

2.4.2 Equipment

The equipment proposed for installation/operation is identified in Table 2-1.

Table 2-1: Proposed Equipment – Rhodium Purification Line

Equipment	Description
Glass Lined Vessels (3)	750 gallons, 63" ID, Pfaudler, DeDietrich, or equivalent, steam heated using existing, permitted boilers
Reactor	750 gallons steam heated using existing, permitted boilers
Stationary Filtration Unit (STAFU)	Stationary Filtration Unit
Evaporator (2)	DeDietrich Circulating Evaporator, electrically heated
IOX Columns (2)	Ion Exchange
Electrolysis Holding Tanks (2)	900 gallons each
HMCE unit	Heraeus multiple cell electrolysis, steam heated using existing, permitted boilers
Wastewater Holding Tank	4,000 gallons, 11'-9" tall, 7'-6" diameter
Nutsch filter	Nutsch filter
Lab furnace (2)	Electric
Hydrogen Reduction furnace	Electric, hydrogen/Nitrogen atmosphere
Rhodium mill,	Rhodium mill, with built-in particulate filter
HCl Scrubber	One tower, 8,800 CFM, stack height 28 feet, 99.95% control
NO_x Scrubber	Three towers, 412 CFM, stack height 28 feet, 98.5% control

2.4.3 Rhodium Purification Line Process Description

The proposed Rhodium Purification Line will produce purified rhodium metal ("sponge") through the purification of a Rhodium salt. The purification is accomplished through a

series of dissolution and precipitation reactions, followed by ion exchange, electrolytic deposition, and hydrogen reduction. The process steps are described below.

1. The first process step of Rh purification is dissolving a Rh-salt in a 750-gallon glass lined vessel (GLV) with aqua regia[1]. For this process step, three similar 750-gallon GLVs with steam jackets, agitator, condenser, and cooler will be installed. A three-tower scrubber system will be installed to control NO_x emissions from this process step.
2. The next process step is the NO_x "free-off" from the rhodium solution. Nitrates are removed from the solution as NO_x through the addition of HCl and heating. This process step will also be performed in the three new 750-gallon GLVs. The produced condensate is transferred to the existing wastewater treatment plant.
3. To remove further impurities from the rhodium chloride solution, the Rh is precipitated as Rh salt in one of the three new 750-gallon GLVs. A side product of this reaction is mother liquor, which is transferred to existing facility equipment for metal recovery via cementation, and wastewater treatment.

Process steps (1) and (2) are repeated in the same reactors with a similar amount of chemicals, producing NO_x, condensate, and a purified Rhodium solution as intermediate solution for the next step.

4. The intermediate Rhodium solution is pumped into a storage tank or an intermediate bulk container (IBC) from which solution is transferred into the stationary filtration unit (STAFU) vessel for the microfiltration process. All equipment is connected to the HCl scrubber for emissions control. The acidic Rhodium solution is heated and neutralized in the vessel with NaOH solution to produce rhodium hydroxide ($Rh(OH)_3$) precipitate. The $Rh(OH)_3$ suspension is pumped with water through the microfiltration unit to remove impurities. The $Rh(OH)_3$ is washed on the microfiltration unit with DI water. The wash water is combined and transferred to the new Heraeus multiple cell electrolysis (HMCE) unit to remove dissolved Rh and other impurities from the mother liquor. The mother liquor after HMCE treatment is then transferred to the existing wastewater treatment plant. The purified $Rh(OH)_3$ is washed with water back into the STAFU vessel and dissolved with HCl to form Rhodium chloride solution.
5. The purified Rhodium solution is pumped into a storage tank for the two evaporation units. All equipment is connected to the HCl scrubber. The Rhodium solution is boiled to reduce the volume. The concentrated solution is transferred to the ion exchange (IOX) unit storage tank. The condensate from this evaporation is collected in a storage tank, transferred to the HMCE unit, and after further removal of Rh, transferred to the existing wastewater treatment plant.
6. The Rhodium solution is mixed with water and pumped through the two cation exchanger columns (IOX) to remove all cation impurities. The cation IOX resin is washed with water and regenerated with HCl afterwards. These washing and regenerated solutions are transferred to a buffer tank of the HMCE unit and, after

[1] Aqua regia is a mixture of HCl and HNO_3.

removing of Rh and other impurities by HMCE, transferred to existing wastewater treatment plant. All equipment of this process step is connected to the HCl scrubber.

7. The Rh solution is transferred to a buffer tank. The pH of the solution is reduced by addition of HCl to prepare the solution for the electrolysis process. The Rhodium electrolysis cells are heated. All electrolysis cells are connected to the HCl scrubber. Rhodium sponge is produced through electrolysis. The Rh sponge is removed from the electrolysis cells, washed on a pan filter with DI water, and dried in an electric oven to remove moisture. The drying oven is connected to the HCl scrubber.
8. The dried Rh sponge is reduced in a hydrogen (H_2) furnace. The H_2 furnace connected to the HCl scrubber.

Operating parameters are summarized in Table 2-2.

Table 2-2: Summary of Process Parameters

Process Parameter	Data
Total annual production	4,500 kg as Rh
Batch cycle time	4.9 days
Batches Per year Per month Per week	 175 14.4 3.6

The batch and annual process chemicals requirements are summarized in Table 2-3.

Table 2-3: Summary of Chemical Requirements

Chemical	Annual Chemical Requirement (gallons)	Chemical Delivery	Storage
HCl (32% wt)	316,228 gallons	Bulk delivery every day (no change from existing schedule)	Existing bulk tank
HNO_3 (50% wt)	66,250 gallons	Bulk tank delivery every 2 to 3 weeks	Existing bulk tank
Sodium Chlorate ($NaClO_3$)	476 gallons	9 drums per year, delivered on 4 trucks	Drums, in existing chemical warehouse
NaOH (50%) solution	4,386 gallons	Bulk delivery every day except Sunday (no change from existing schedule)	Existing bulk tank
DETA solution	18,571 gallons	338 drums per year, delivered on 12 trucks	Drums, in existing chemical warehouse

Chemical	Annual Chemical Requirement (gallons)	Chemical Delivery	Storage
Hydrogen	572,098 cubic feet	Three times per week, depending on storage approval (increased from once per week current practice)	Compressed gas cylinders, 15-packs
Nitrogen	31,783 cubic feet		Compressed gas cylinders, 15-packs
Process Water	160,000 gallons	City water supply	None
Scrubber water	8.5 MM gallons	City water supply	None

2.4.4 Staffing/Employment

The proposed Project will create 12 new jobs:

- Eight equipment operators;
- Three water control scrubber and wastewater treatment system operators; and
- One maintenance mechanic.

2.5 Project Approvals

In addition to the CEQA review, other approvals required to construct and operate the proposed Project are:

- Reconsideration of the existing CUP by the City of Santa Fe Springs (addressing the changes to the existing use);
- SCAQMD permit for the construction and operation of the new process reactors and scrubbers;
- DTSC permit for new wastewater storage lift station tank;
- Building permits for the new process reactors and scrubbers; and
- Approvals from the City of Santa Fe Springs Fire Department for hazardous materials storage and use.

3.0 ENVIRONMENTAL ANALYSIS

The potential environmental impacts associated with the proposed Project are discussed in this section. The environmental analysis makes use of the Appendix G Environmental Checklist of the 2021 CEQA Guidelines. As a preliminary environmental assessment, this Initial Study determines whether or not potentially significant impacts may exist that warrant additional analysis and/or comprehensive mitigation measures to minimize the environmental impact. On-site, off-site, long-term, direct, indirect, and cumulative impacts are analyzed for the construction and operation of the proposed Project. The Initial Study poses questions with four possible conclusions for each question, which are described below:

- **No Impact**. The environmental issue in question does not apply to the Project, and the project will therefore have no environmental impact.
- **Less Than Significant Impact**. The environmental issue in question does apply to the project, but the associated impact will be below thresholds that are considered to be significant.
- **Potentially Significant Unless Mitigated**. The project will have the potential to produce significant impacts with respect to the environmental issue in question. However, mitigation measures modifying the operational characteristics of the project will reduce impacts to a less than significant level.
- **Potentially Significant Impact**. The project will produce significant impacts, and further analysis will be necessary to develop mitigation measures that could reduce impacts to a less than significant level.

3.1 Aesthetics

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
I. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				✓
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on aesthetics if it results in any of the following:

- Except as provided in Public Resources Code Section 21099, would the project have a substantial adverse effect on a scenic vista?
- Except as provided in Public Resources Code Section 21099, would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Except as provided in Public Resources Code Section 21099, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
- Except as provided in Public Resources Code Section 21099, would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) *Would the project have a substantial adverse effect on a scenic vista?*

No impact. The site of the proposed Project and the surrounding area are flat. There are no scenic vistas in the vicinity of the Project site. Other than existing landscaping, there are no natural rock outcroppings or other scenic resources on the site. The proposed Project includes installation of a new process inside of an existing building and scrubbers inside of a fenced security enclosure adjacent to the building. The proposed Project would have no impact on scenic vistas.

b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

No Impact. While the HPMN facility site is 0.3 mile from I-5, this highway is not a designated scenic highway. There are no natural rock outcroppings or other scenic resources on the facility site. The proposed Project would have no impact on scenic resources.

c) *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

No Impact. The proposed Project is in an urbanized area and includes installation of a new process inside of an existing building and scrubbers inside of a fenced security enclosure adjacent to the building. The proposed Project would not conflict with city zoning or other regulations governing scenic quality.

d) *Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Less Than Significant Impact. The proposed Project would create light sources for exterior building and security lighting near the proposed scrubbers. However, the exterior of the entire HPMN facility is already lighted from dusk until dawn by either metal halide or mercury vapor lights. The lighting is laid out to support the site's closed-circuit television system used for security purposes. The surrounding streets are illuminated with streetlights from dusk until dawn. Several other businesses in the immediate vicinity and the nearby fire station are also lit at night. The proposed Rhodium Purification Line would be constructed in an existing building and would not create a substantial increase in light or glare compared to what already exists. Construction would not occur after dark, so there will be no lighting impacts during the construction phase. Therefore, light or glare impacts from the proposed Project would be less than significant.

CUMULATIVE IMPACTS

The potential aesthetic impacts related to views, aesthetics, and light and glare are site-specific. Furthermore, the analysis determined that the proposed Project would not restrict scenic views along the local streets, damage or interfere with any scenic resources or highways, degrade the

visual character of the Project site and surrounding areas, or result in light and glare impacts. As a result, no cumulative aesthetic impacts will occur.

MITIGATION MEASURES

The analysis of aesthetics indicated that no impact on aesthetic resources would occur as part of the proposed Project's construction or operation. As a result, no mitigation is required.

3.2 Agricultural Resources

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
II. AGRICULTURAL RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on agriculture and forestry resources if it results in any of the following:

- Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Would the project conflict with existing zoning for, or cause rezoning of, forest land [as defined in Public Resources Code section 12220(g)], timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production [as defined by Government Code section 51104(g)]?
- Would the project result in the loss of forest land or conversion of forest land to non-forest use?
- Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

No Impact. The site of the proposed Project is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The proposed Project site is surrounded by land developed for industrial uses. Therefore, the proposed Project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

No Impact. The proposed Project site is designated as Industrial in the City of Santa Fe Springs General Plan and is zoned as Heavy Manufacturing (M-2). The M-2 district is not set aside for agricultural uses. Furthermore, there are no lands under the Williams Act contract in the vicinity of the Project site. The proposed Project will have no impact.

c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land [as defined in Public Resources Code section 12220(g)], timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production [as defined by Government Code section 51104(g)]?*

No Impact. The proposed Project is consistent with the City of Santa Fe Springs General Plan and does not involve any changes to the existing environment that could result in the conversion of farmland or forest land to non-agricultural use.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The proposed Project is consistent with the City of Santa Fe Springs General Plan and does not involve any changes to the existing environment that could result in the conversion of forest land to non-agricultural use.

e) Would the project involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. See Responses 3.2(c) and 3.2(d).

CUMULATIVE IMPACTS

The analysis determined that there are no agricultural or forestry resources in the Project area and that the implementation of the proposed Project would not result in any impacts on farmland or forest land. As a result, no cumulative impacts on agriculture or forestry resources will occur.

MITIGATION MEASURES

The analysis of agricultural and forestry resources indicated that no impact on these resources would occur as part of the proposed Project's implementation. As a result, no mitigation is required.

3.3 Air Quality

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on air quality if it results in any of the following:

- Would the project conflict with or obstruct implementation of the applicable air quality plan?
- Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
- Would the project expose sensitive receptors to substantial pollutant concentrations?
- Would the project result in other emissions (such as those leading to odors adversely affecting a substantial number of people?

The SCAQMD has established quantitative thresholds for short-term (construction) emissions and long-term (operational) emissions for the following criteria pollutants:

- Ozone (O_3) is a nearly colorless gas that irritates the lungs and damages materials and vegetation. Ozone is formed by photochemical reaction (when nitrogen dioxide is broken down by sunlight).
- Carbon monoxide (CO) is a colorless, odorless gas that interferes with the transfer of oxygen to the brain. Carbon monoxide is produced by the incomplete combustion of carbon-containing fuels.

- Nitrogen dioxide (NO_2) is a yellowish-brown gas which at high levels can cause breathing difficulties. NO_2 is formed when nitric oxide (a pollutant from burning processes) combines with oxygen.
- Sulfur dioxide (SO_2) is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children.
- PM_{10} and $PM_{2.5}$ refer to particulate matter less than 10 microns and 2.5 microns in diameter, respectively. Particulates of this size cause a greater health risk than larger-sized particles because fine particles can penetrate the lungs more deeply and more easily cause irritation.

The SCAQMD significance criteria for each of these pollutants are summarized in Table 3-1.

Table 3-1: SCAQMD Air Quality Significance Thresholds

Pollutant	Construction	Operation
Mass Daily Thresholds		
NO_x	100 lb/day	55 lb/day
VOCs	75 lb/day	55 lb/day
PM_{10}	150 lb/day	150 lb/day
$PM_{2.5}$	55 lb/day	55 lb/day
SO_x	150 lb/day	150 lb/day
CO	550 lb/day	550 lb/day
Lead	3 lb/day	3 lb/day
TAC, Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic and Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates a minimal odor nuisance pursuant to SCAQMD Rule 402	
GHGs	10,000 MT/year CO_2e for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants		
NO_2 1-hr average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hr average annual average	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hr average	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operation)	
SO_2 1-hr average 24-hr average	0.25 ppm (state) and 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate (24-hr average)	25 µg/m^3 (state)	

Pollutant	Construction	Operation
CO 1-hr average 8-hr average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following ambient standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day average rolling 3-month average quarterly average	1.5 µg/m^3 (state) 0.15 µg/m^3 (federal) 1.5 µg/m^3 (federal)	

Ref: SCAQMD 2019.

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. As part of its enforcement responsibilities, the United States Environmental Protection Agency (U.S. EPA) requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under State law, the California Clean Air Act (CCAA) requires an air quality attainment plan to be prepared for areas designated as nonattainment regarding the state and federal ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the CCAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. To reduce such emissions, the SCAQMD adopted the 2016 Air Quality Management Plan (AQMP). The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016 AQMP is a regional and multi-agency effort including the SCAQMD, the California Air Resources Board (CARB), the South California Area of Governments (SCAG), and the EPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, updated emissions inventory methodologies for various source categories, and SCAG's latest growth forecasts.

Criteria for determining consistency with the AQMP are defined by the following indicators:

- Consistency Criterion No. 1 – The Project will not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

- Consistency Criterion No. 2 – The Project will not exceed the assumptions noted in the AQMP or increments based on the years of the Project build-out phase.

According to the SCAQMD's CEQA Air Quality Handbook, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with California and national ambient air quality standards (CAAQS and NAAQS).

SCAQMD Regulation XIII, New Source Review (NSR), is a major component of the SCAQMD's attainment strategy. NSR provides mechanisms, including emission trade-offs, by which Permits to Construct/Operate (PTCs/PTOs) may be granted, without interfering with the attainment or maintenance of the NAAQS and CAAQS. SCAQMD implementation of NSR ensures that there is no net increase in emissions above specified thresholds from new and modified stationary sources for all nonattainment pollutants and their precursors. Permitted emissions above offset thresholds must be offset to below the NSR threshold and must provide a net air quality benefit (which requires a purchase of more offsets than the proposed potential emissions for the project). Furthermore, the SCAQMD NSR program is designed to ensure that project-specific emissions increases that are below NSR offset thresholds will not prevent the SCAQMD from achieving attainment. The SCAQMD's attainment plans demonstrate that this level of emissions increase will not interfere with attainment or maintenance of the NAAQS or CAAQS. Consequently, emission impacts from sources permitted consistent with NSR requirements are consistent with the SCAQMD's AQMP, and hence are not individually or cumulatively significant.

b) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Less than Significant Impact. Emissions were estimated for both the construction and operational phases of the proposed Project. The emissions were compared to the mass daily significance criteria to determine if the Project emissions would cause a significant adverse impact. The construction and operational emissions were also compared to the SCAQMD Localized Significance Thresholds (LSTs) to determine if the Project emissions would have the potential to cause a violation of ambient air quality standards.

Construction Emissions

The construction emissions analysis was performed using the California Emissions Estimator Model® (CalEEMod) version 2016.3.2 (CAPCOA 2021), the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant[2] and greenhouse gas (GHG)[3] emissions associated with construction of a land use Project. The model quantifies direct emissions from construction (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid

[2] Criteria pollutants include nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon monoxide (CO), volatile organic compounds (VOC), and particulate matter (PM_{10} and $PM_{2.5}$).

[3] GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O).

waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model – published by CARB – include the Pavley standards and Low Carbon Fuel Standards. The model allows the user to incorporate Project design features, regulatory measures, and mitigation measures to reduce criteria pollutant and GHG emissions and calculates the benefits achieved from selected measures. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the SCAQMD, Bay Area Air Quality Management District, San Joaquin Valley Air Pollution Control District, and other California air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon for construction emissions quantification for this project.

The CalEEMod emission results are compared to the SCAQMD significance thresholds for construction in Table 3-2. As shown, Project construction emissions are less than significant for all pollutants. The CalEEMod emissions reports are provided in Appendix A.

Table 3-2: Comparison of Construction Emissions to CEQA Significance Thresholds

Activity	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Construction Emissions	23.54	2.79	22.40	0.04	1.77	1.24
CEQA Significance Thresholds (lb/day)	*55*	*55*	*550*	*150*	*150*	*55*
Exceed Threshold?	No	No	No	No	No	No

Operating Emissions

Operating emissions fall into two general categories:

1. Mobile source emissions associated with worker commuting and delivery of process chemicals to the facility; and
2. Stationary source emissions associated with the chemical processing of rhodium.

Emissions estimates were prepared for the mobile sources required to operate the proposed Project. Emissions estimates have been prepared for the following source categories:

- Exhaust emissions for worker commute vehicles;
- Exhaust emissions for chemical delivery trucks;
- Fugitive dust from travel on paved roads by worker vehicles and chemical delivery trucks; and
- Diesel exhaust emissions.

The proposed Project would purify rhodium using a series of hydrometallurgical reactions. The process uses HCl and HNO_3 to dissolve rhodium into solution. There are several mechanisms through which regulated air contaminants are emitted, including:

- HCl, HNO_3, and formic acids are volatile and will emit acid fumes when loaded into reactors (i.e., "loading losses"). HCl and HNO_3 are both regulated toxic air contaminants (TACs), and formic acid is a volatile organic compound (VOC).
- The dissolution of rhodium into the acidic solution evolves NO_x due to chemical reaction.
- The chemical reaction process to rid the rhodium solution of nitrates, known as "free-off," emits NO_x.
- The electrolytic cells will emit HCl due to solution loading and surface evaporation and will emit a small amount of particulate matter and HCl acid due to mist generation during the electroplating process.
- HPMN operates two existing, permitted boilers. The proposed Project will require steam heat; it is conservatively assumed that the Project will require the operation of one boiler at 25% load to provide steam for the Project.

All reactors and process vessels are vented to the scrubbers for emissions control.

The predicted operating emissions are compared to the SCAQMD significance thresholds for operations in Table 3-3. As shown, Project operating emissions are less than significant for all pollutants. Emission calculation worksheets are provided in Appendix B.

Table 3-3: Comparison of Operating Emissions to CEQA Significance Thresholds

Activity	NO_x (lb/day)	VOC (lb/day)	CO (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Onroad Vehicle Exhaust	1.32	0.12	1.94	0.01	0.15	0.07
Onroad Vehicle Paved Road Dust	--	--	--	--	0.22	0.06
Boiler	0.82	0.40	2.79	0.04	0.56	0.56
Rhodium Purification Line	7.66	0.00	--	--	0.83	0.83
Total Project Emissions	9.80	0.52	4.73	0.05	1.76	1.51
CEQA Significance Thresholds (lb/day)	55	55	550	150	150	55
Exceed Threshold?	No	No	No	No	No	No

Ambient Air Quality Standards

In addition to the mass daily significance thresholds evaluated in the preceding sections, the proposed Project's construction and operational emissions were evaluated to determine if the Project emissions have the potential to cause a violation of ambient air quality standards.

For small projects, as an alternative to full-scale ambient air quality modeling, the SCAQMD developed LSTs (SCAQMD 2008) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at new project sites (off-site mobile source emissions are not included in the LST

analysis). LSTs represent the maximum emissions that can be generated at a project without expecting to cause or substantially contribute to an exceedance of the most stringent state or federal ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest off-site receptor. LST analysis for construction is applicable for all projects that disturb 5 acres or less on a single day. Projects whose emissions do not exceed LST thresholds are assumed to have no significant impact with respect to NAAQS or CAAQS, and additional analyses (i.e., ambient air quality modeling) are not required.

Santa Fe Springs is located within SCAQMD SRA 5. The proposed Project will occupy an area of less than 1 acre. The distance from the Project site to the nearest off-site receptor is approximately 80 meters. As recommended by the LST guidance, linear interpolation is used to determine the LST thresholds for distances between the distances listed in the LST tables.

The maximum daily construction emissions from CalEEMod are compared to the LST thresholds for construction in Table 3-4. As shown, the construction emissions are less than the LST thresholds for all pollutants. Therefore, Project construction is not expected to have a significant adverse impact on ambient air quality.

Table 3-4: Comparison of Construction Emissions to SCAQMD LST

Project Element	NO_x (lb/day)	CO (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Total Emissions	23.54	22.40	1.77	1.24
SCAQMD LST (1-acre site, 80-meter receptor distance)	88.8	946.8	23.2	6.4
Exceed SCAQMD Threshold?	No	No	No	No

The maximum daily operational emissions were compared to the LST thresholds for operations in Table 3-5. As shown, the operating emissions are less than the LST thresholds for all pollutants. Therefore, Project operation is not expected to have a significant adverse impact on ambient air quality.

Table 3-5: Comparison of Operating Emissions to SCAQMD LST

Project Element	NO_x (lb/day)	CO (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Mobile Sources (On-Site)	1.32	1.94	0.37	0.12
Operations	8.48	2.79	2.60	1.39
Total Emissions	9.80	4.73	2.97	1.51
SCAQMD LST (1-acre site, 80-meter receptor distance)	88.8	946.8	6	1.6
Exceed SCAQMD Threshold?	No	No	No	No

c) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Less than Significant Impact. The proposed Project was evaluated to determine whether it has the potential to expose sensitive receptors to substantial concentrations of TACs. The

following are typically considered sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers, and athletic facilities.

The proposed Project has the potential to generate emissions of TACs, i.e., chemicals that have either carcinogenic or non-cancer chronic or acute health effects, depending on concentration levels and the duration of exposure. The TACs evaluated for health impacts are those constituents that are listed in SCAQMD Rule 1401 and emitted by Project equipment. Potential impacts from the proposed Project TAC emissions are evaluated via a health risk assessment (HRA). The health risk thresholds above which a project would have a significant impact are presented in Table 3-1.

The Rhodium Purification Line may emit HCl, chlorine, and HNO_3, which are Rule 1401-listed TACs. In addition, the diesel-fueled trucks that deliver chemicals to the facility and ship product from the facility would emit diesel particulate matter (DPM), also a Rule 1401-listed TAC. Emissions of TACs from the combustion of gasoline in employee vehicles and the TACs that may be present in fugitive dust emitted during vehicle travel on the facility property have been omitted from the analysis because the low levels of TAC emissions from these activities are unlikely to impact the HRA results. Further, in accordance with Office of Environmental Health Hazard Assessment (OEHHA) guidance, emissions from short-duration construction activities are not evaluated for health risk impacts.

A Tier 2 HRA was prepared using the Risk Assessment Procedure for Rules 1401, 1401.1, and 212 (SCAQMD 2017) to demonstrate that TAC emissions do not cause health risk impacts to exposed workers or residents exceeding the CEQA significance thresholds.

Receptor distances of 80 meters and 438 meters were used for the worker and residential receptors, respectively. For the acute risk calculations, the maximum hourly emission rate of each pollutant was used. For the chronic risk calculations, the annual average hourly emission rate was used because this is a batch operation and the maximum hourly emissions occur intermittently. The annual average hourly emissions are calculated as the maximum annual emissions divided by 8,760 hours per year. As shown in Table 3-5, the Project emissions do not exceed the screening risk thresholds. Therefore, the proposed Project would not have a significant adverse impact with respect to exposing sensitive receptors to pollutants. The risk calculation worksheets are provided in Appendix C.

Table 3-6: Summary of Tier 2 Health Risk Assessment Results

Risk Parameter	Result	CEQA Significance Threshold	Exceed Significance Threshold? (Yes/No)
$MICR_{residential}$	7.99E-10	1.0E-05	No
$MICR_{worker}$	1.40E-09	1.0E-05	No
$HIA_{residential}$	6.67E-03	1.0	No
HIA_{worker}	7.48E-02	1.0	No
$HIC_{residential}$	4.23E-02	1.0	No
HIC_{worker}	8.99E-01	1.0	No

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The SCAQMD CEQA Air Quality Handbook identifies certain land uses as sources of odors. These land uses include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The proposed Project would be characterized as a chemical plant.

Although there are potential operational odor sources at the facility, the equipment is expected to operate in a manner that ensures no significant odorous emissions occur. Operating practices that will ensure that odorous emissions remain low and would not cause significant odor impacts include:

- Use of a multi-stage, high-efficiency scrubber for control of NO_x emissions;
- Use of a high-efficiency wet scrubber for control of HCl emissions; and
- SCAQMD rule compliance, including the application of Best Available Control Technology (BACT) to stationary emissions sources.

CUMULATIVE IMPACTS

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are either significant or "cumulatively considerable," meaning they add considerably to a significant environmental impact. A cumulative impact analysis considers a project over time and in conjunction with other past, present, and reasonably foreseeable future projects whose impacts might compound those of the project being assessed.

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development. Future attainment of State and federal ambient air quality standards is a function of successful implementation of the SCAQMD's attainment plans. Consequently, the SCAQMD's application of thresholds of significance for criteria pollutants is relevant to the determination of whether a project's individual emissions would have a cumulatively significant impact on air quality.

Per CEQA Guidelines §15064(h)(3), a Lead Agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program, including but not limited to an air quality attainment or maintenance plan that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located [CCR §15064(h)(3)].

The SCAQMD's attainment plans demonstrate that Project-specific net emissions increases below NSR offset requirements will not prevent the SCAQMD from achieving attainment. Consequently, emission impacts from sources permitted consistent with NSR requirements are not individually significant and are not cumulatively significant. Because the Project will operate with permitted sources, Project operations will not be cumulatively significant.

MITIGATION MEASURES

The analysis of Project emissions indicates that all impacts would be less than significant: Project emissions would not exceed the mass daily significance thresholds or cause a violation of ambient air quality standards, would not expose sensitive receptors to substantial pollutant concentrations, and would not cause adverse odor impacts. Mitigation is not required.

3.4 Biological Resources

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES. Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				✓
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on biological resources if it results in any of the following:

- Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species

in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

- Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?
- Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
- Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The site is an existing, developed industrial site that is located in an existing, developed industrial area; no undeveloped parcels are within a 3-mile radius. No candidate, sensitive, or special status species are present at or in close proximity to the site.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact. No riparian habitat or other sensitive natural community identified in local or regional plans has been identified on the Project site or within the vicinity of the proposed Project site (City of Santa Fe Springs 2020c, South Coast Wildlands 2008). Therefore, the proposed Project would not have an impact on riparian or sensitive species.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The proposed Project site consists of a mixture of parcels that are developed with industrial and commercial uses and landscaped, and that do not contain any wetlands. Therefore, the Project will have no adverse impact.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. The site proposed for development contains existing buildings, parking lots, and landscaped areas. No wildlife corridors or wildlife nursery sites are known to exist. Therefore, the proposed Project would not interfere with the movement of any wildlife species.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. While the site is landscaped, the site does not support any sensitive or riparian habitat or landscaped features that are designated as sensitive biological resources. All existing trees on the property and the trees along Resin Place will be preserved. There are no local policies or ordinances that apply to the proposed site. The proposed Project would therefore not conflict with any local policies or ordinances that protect biological resources.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. As previously mentioned, the site proposed for development contains existing buildings, parking lots, and landscaped areas. There are no adopted Habitat Conservation Plans or other approved plans that apply to the proposed site (City of Santa Fe Springs 2020c, South Coast Wildlands 2008). The proposed Project would therefore not conflict with Habitat Conservation Plan provisions.

CUMULATIVE IMPACTS

The proposed Project will not involve an incremental loss or degradation of protected habitat. The Project area is surrounded by urban development. Neither the Project site nor any adjacent properties contain natural habitats or wetland areas that could lead to potential impacts related to an incremental loss in sensitive habitat. As a result, no cumulative impacts on biological resources will be associated with the proposed Project's implementation.

MITIGATION MEASURES

The environmental analysis indicated that the proposed Project would not result in significant impacts on biological resources. As a result, no mitigation measures are required.

3.5 Cultural Resources

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historic resource as defined in § 15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				✓
c) Disturb any human remains, including those interred outside of formal cemeteries?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on cultural resources if it results in any of the following:

- Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?
- Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
- Would the project disturb any human remains, including those interred outside of formal cemeteries?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project cause a substantial adverse change in the significance of a historic resource as defined in § 15064.5?

No Impact. No known historic resources are present at or in close proximity to the site. The Clarke Estate at 10211 Pioneer Avenue and the Hawkins-Nimrocks Estate-Patricio Ontiveros Adobe at 1211 Telegraph Road are the only sites in the City of Santa Fe Springs that are listed on the National Register of Historic Places (NRHP) (NRHP 2020, City of Santa Fe Springs 2020a); each of these sites is approximately 6 miles from the Project site. The Pio Pico State Park is over 7 miles from the Project site. The Project site is adjacent to the City of Cerritos, which contains no sites listed on the NRHP, and the EIR prepared for its General Plan noted that the city contains no known historic resources (City of Cerritos 2004a).

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

No Impact. No known archeological resources are present at or in close proximity to the site. Both the site and the surrounding area are fully developed with industrial uses (the

portions of the site where construction would occur are currently paved), and any archeological resources that may have been present likely would have been destroyed during the initial construction in the 1970s. The site is immediately adjacent to the City of Cerritos, and the EIR prepared for its General Plan noted that the city contains no known archeological resources. The only sites in the general Project area that are listed on the NRHP are discussed under (a) above (NRHP 2020, City of Santa Fe Springs 2020a, City of Cerritos 2004a).

c) *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

No Impact. The Project area and its surroundings are completely developed with industrial, residential, and commercial uses. The proposed Rhodium Purification Line would be installed within an existing building. No new ground disturbance is anticipated.

CUMULATIVE IMPACTS

The potential environmental impacts related to cultural resources are site-specific, and the analysis herein determined that the proposed Project would not result in any impacts on cultural resources. The Project area is surrounded by urban development. Neither the Project site nor any adjacent properties have known cultural resources. As a result, no cumulative cultural resources impacts will occur as part of the proposed Project's implementation.

MITIGATION MEASURES

The environmental analysis indicated that the proposed Project would not result in any significant impacts on cultural resources. As a result, no mitigation measures are required.

3.6 Energy

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			✓	

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on cultural resources if it results in any of the following:

- Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Would the project conflict with or obstruct a State or local plan for renewable energy or energy efficiency?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. The proposed Project would involve the installation of a new Rhodium Purification Line in an existing building on the HPMN site in the City of Santa Fe Springs. The proposed Project is anticipated to consume 433 megawatt-hours (MWh) of electricity and 26.8 MM cubic feet of natural gas annually. HPMN will work with the local electrical utility company to identify existing and future strategies that will be effective in reducing energy consumption. The Title 24, Building Standards Code, California Energy Code, and California Green Building standards would be applicable to the Project. Adherence to Title 24 would reduce potential impacts to less than significant level.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. On January 12, 2010, the State Building Standards Commission adopted updates to the California Green Building Standards Code, which became effective on January 1, 2011. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective to aid efforts to reduce GHG emissions associated

with energy consumption. Title 24 now requires that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials. The 2016 version of the standards became effective January 1, 2017. The proposed Project will conform to all pertinent energy conservation requirements. As a result, the potential impacts will be less than significant.

CUMULATIVE IMPACTS

The proposed Project would consume both electricity and natural gas. The Project will not induce or cause additional energy consumption at any other facility. Given that the proposed Project must comply with the applicable energy conservation requirements, the cumulative impacts will be less than significant.

MITIGATION MEASURES

The analysis determined that the proposed Project will not result in significant impacts related to energy, and mitigation measures are not required.

3.7 Geology and Soils

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			✓	
ii) Strong seismic ground-shaking?			✓	
iii) Seismic-related ground failure, including liquefaction?			✓	
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?				✓
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			✓	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			✓	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on geology and soils if it results in any of the following:

- Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42); strong seismic ground shaking; seismic-related ground failure, including liquefaction; and, landslides?
- Would the project result in substantial soil erosion or the loss of topsoil?
- Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Less Than Significant Impact. Surface rupture is considered most likely to occur along an active or potentially major fault trace. Two active blind thrust faults – the Puente Hills and the Elysian Park thrust systems – cross diagonally through central Santa Fe Springs. Blind thrust faults are shallow dipping reverse faults that do not rupture the surface and cannot be detected visually. The Elysian Park and Puente Hills faults could generate substantial ground shaking in an earthquake, causing damage to infrastructure, including roadways and bridges, dams, and essential facilities such as fire and police stations, emergency preparedness centers, as well as structures containing chemicals for manufacturing and storage.

The Norwalk fault, a concealed pre-Quaternary fault, runs parallel to the I-5 freeway along the southern portion of the City. Nearby significant fault lines include the Whittier fault (approximately 3 miles northeast), the Newport-Inglewood-Rose Canyon fault (approximately 8 miles southwest), and the San Andreas fault (approximately 35 miles northeast). These faults have the capability of producing large earthquakes of magnitudes 7.2, 7.4, and 8.0, respectively, that could affect Santa Fe Springs (Santa Fe Springs 2020d).

The proposed Project would adhere to the Los Angeles County Building Code, which contains minimum requirements to mitigate seismic shaking hazards. All equipment

will be installed in conformance with the requirements of the Building Code to withstand any anticipated ground shaking caused by future earthquakes. Conformance to the building codes and seismic standards will reduce impacts to less-than-significant level.

ii) Strong seismic ground-shaking?

Less Than Significant Impact. The Project site is located in the Southern California Region, which is a seismically active area. Thus, the Project could experience strong ground shaking during a seismic event.

The proposed Project would adhere to the Los Angeles County Building Code, which contains minimum requirements to mitigate seismic shaking hazards. All equipment will be installed in conformance with the requirements of the Building Code to withstand any anticipated ground shaking caused by future earthquakes. Conformance to the building codes and seismic standards will reduce impacts to less-than-significant level.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction potential and severity depends on several factors, including soil and slope conditions, proximity to fault, earthquake magnitude, and type of earthquake. In Santa Fe Springs, liquefaction hazards are present along the drainage channels on the periphery of the City, as well as residential and industrial areas in the north, residential neighborhoods west of Norwalk Boulevard, and primarily industrial areas south of Imperial Highway. Although possible, liquefaction is unlikely to occur due to the water table depth of more than 50 feet throughout the City. The soils underlying the general facility area are younger alluvium composed of sand, and they may become unstable during intense ground shaking.

iv) Landslides?

No Impact. The Project area is relatively flat and is not located within an area that is prone to landslides.

b) Would the project result in substantial soil erosion or the loss of topsoil?

No Impact. The existing Project site has been completely paved over for decades, and therefore the organic matter and microorganisms from the deposition of eroded materials and decaying organic matter that form topsoil are not present. It is therefore unlikely that a productive topsoil level still exists. The proposed Project site has flat terrain with a low potential for soil erosion, the project area is paved, and no ground disturbance is expected.

c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less Than Significant Impact. See Response (a)(iii) above.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2001), creating substantial risks to life or property?

Less Than Significant Impact. The Web Soil Survey, which is available on the United States Geological Survey website (USDA 2021), was consulted to identify the soils that underlie the Project site. According to the Web Soil Survey, the Project site is underlain with soils of the Urban Land-Thums-Pierview complex, which is partially composed of clay. Shrinking and swelling is influenced by the amount of clay present in the underlying soils. Clay and silty clay loam are present in the composition of these soils, and these soils possess a moderate shrink-swell potential. Soil shrinkage or swelling also depends on changes in soil moisture content. Because the project area is paved now and will remain so following project implementation, shrinkage and swelling impacts are minimized.

Further, the proposed Project would adhere to the Los Angeles County Building Code, which contains minimum requirements to mitigate seismic shaking hazards. All equipment will be installed in conformance with the requirements of the Building Code to withstand any anticipated ground shaking caused by future earthquakes. Conformance to the building codes and seismic standards will reduce impacts to less-than-significant level.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed Project does not propose to use septic tanks or alternative waste disposal systems. Sanitary sewer services in the area are currently supplied by the County Sanitation Districts of Los Angeles County (LACSD). No further analysis is required.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. No known paleontological resources are present at or in close proximity to the site. Both the site and the surrounding area are fully developed with industrial uses, and any paleontological resources that may have been present likely would have been destroyed during initial construction and development of the area.

CUMULATIVE IMPACTS

A potential project's geology and soils-related impacts are site-specific. The proposed Project will not cause impacts to geology and soils on any adjacent properties, and activities on adjacent properties are unlikely to cause impacts to geology and soils on the Project site. Consequently, significant adverse cumulative impacts on geology and soils are not expected to occur.

MITIGATION MEASURES

The analysis determined that the proposed Project will not result in significant impacts related to geology and soils, and no mitigation measures are required.

3.8 Greenhouse Gas Emissions

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on greenhouse gas emissions if it results in any of the following:

- Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The SCAQMD air quality significance threshold for GHG emissions is equal to or greater than 10,000 metric tons (MT) of carbon dioxide equivalents (CO_2e).

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than significant impact. The State of California requires CEQA documents to include an evaluation of GHG emissions. GHGs that are produced both by natural and industrial processes include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). The accumulation of GHG in the atmosphere regulates the earth's temperature. However, emissions from fossil fuel combustion have elevated the concentrations of GHG in the atmosphere to above natural levels. These man-made GHGs will have the effect of warming atmospheric temperatures with the attendant impacts of changes in the global climate, increased sea levels, and changes to the worldwide biome. The major GHGs that influence global warming are described below.

- Water Vapor. Water vapor is the most abundant GHG present in the atmosphere. Water vapor is not considered a pollutant; while it remains in the atmosphere, it maintains a climate necessary for life. Changes in the atmospheric concentration of water vapor are directly related to the warming of the atmosphere rather than a direct result of industrialization. As the temperature of the atmosphere rises, more water evaporates from rivers, oceans, reservoirs, vegetation, and soil. Higher

concentration of water vapor then absorbs more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. When water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation. This will allow less energy to reach the Earth's surface, thereby affecting surface temperatures.

- Carbon Dioxide (CO_2). The natural production and absorption of CO_2 is achieved through the terrestrial biosphere and the ocean. Man-made sources of CO_2 include burning coal, oil, natural gas, and wood. Since the industrial revolution began in the mid-1700s, these activities have increased the atmospheric concentrations of CO_2. Prior to the industrial revolution, concentrations were fairly stable at 280 parts per million (ppm). The International Panel on Climate Change reports that emissions of CO_2 from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period from 2000 to 2010 (IPCC 2014).
- Methane (CH_4). CH_4 is an extremely effective absorber of radiation, although its atmospheric concentration is less than that of CO_2. Methane's lifetime in the atmosphere is brief (10 to 12 years) compared to some other GHGs [such as CO_2, N_2O, and chlorofluorocarbons (CFCs)]. CH_4 has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other human-related sources of methane production include fossil fuel combustion and biomass burning.
- Nitrous Oxide (N_2O). Concentrations of N_2O also began to increase at the beginning of the industrial revolution. In 1998, the global concentration of this GHG was documented at 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (e.g., fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is also commonly used as an aerosol spray propellant.
- Chlorofluorocarbons (CFC). CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs have no natural source and were first synthesized in 1928. CFCs are used as refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that they destroy stratospheric ozone, a global effort to halt their production was undertaken; in 1989, the European Community agreed to ban CFCs by 2000, and subsequent treaties banned CFCs worldwide by 2010. This effort was extremely successful, and the levels of the major CFCs are now level or declining. However, their long

atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

- Hydrofluorocarbons (HFC). HFCs are synthetic man-made chemicals that are used as a substitute for CFCs. Out of all the GHGs, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric abundances are (in order) HFC-23 (CHF_3), HFC-134a (CF_3CH_2F), and HFC-152a (CH_3CHF_2). Prior to 1990, the only significant emissions were HFC-23. HFC-134a use is increasing due to its use as a refrigerant. Concentrations of HFC-23 and HFC-134a in the atmosphere are now about 10 parts per trillion (ppt) each. Concentrations of HFC-152a are about 1 ppt. HFCs are man-made and used for applications such as automobile air conditioners and refrigerants.
- Perfluorocarbons (PFC). PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). Concentrations of CF_4 in the atmosphere are over 70 ppt. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing.
- Sulfur Hexafluoride (SF_6). SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated: 23,900 times that of CO_2. Concentrations in the 1990s were about 4 ppt. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

GHG emissions are emitted by both natural processes and human activities. The SCAQMD has adopted interim GHG thresholds for development projects within the SCAB. The SCAQMD air quality significance threshold for GHG emissions is equal to or greater than 10,000 MT CO_2e.

This analysis evaluates Project compliance with regulatory programs designed to reduce GHG emissions and that contribute to the achievement of AB 32's goals as the primary significance criterion.

GHG emissions from Project construction were estimated in CalEEMod. Construction emissions were amortized over 30 years, consistent with SCAQMD guidance, and added to operating emissions for analysis purposes.

GHG emissions from the operation of the Project include direct emissions from fossil-fueled boilers and mobile sources (e.g., chemical delivery vehicles and employee commute vehicles), and indirect emissions from operation of the process equipment such as the fans and pumps associated with the scrubbers, the electric ovens, and the rectifiers used for the electrolytic cells. GHG emissions from the Project are summarized in Table 3-7 and compared to the SCAQMD significance thresholds. As shown, the GHG emissions are less than the SCAQMD significance thresholds.

Table 3-7: Comparison of GHG Emissions to Significance Threshold

Project Element	CO_2 (MT/yr)	CH_4 (MT/yr)	N_2O (MT/yr)	CO_2e (MT/yr)
Construction	10.51	0.00	0.00	10.56
Onroad Vehicle Exhaust	84.50	0.00	0.01	86.30
Onroad Vehicle Paved Road Dust	–	–	–	–
Boiler	1463.03	0.03	0.00	1464.47
Indirect Emissions	–	–	–	77.21
Rhodium Purification Line	–	–	–	–
Total Emissions	**1547.53**	**0.03**	**0.01**	**1627.97**
SCAQMD Threshold	–	–	–	10,000
Exceed SCAQMD Threshold?	–	–	–	No

Some of the facility GHG emissions would be mitigated under the AB 32 Cap and Trade program. HPMN does not currently participate in the Cap-and-Trade program, and the additional emissions from the proposed Project will not cause the facility to exceed the threshold which triggers participation. However, while Project emissions do not create a compliance obligation for HPMN under Cap-and-Trade, some of the GHG emissions from the Project are covered by the Cap-and-Trade program in connection with the activities of other source categories, such as electricity generation and fuel suppliers. Thus, the GHG emissions due to facility electricity use, fuel use for employee commuting, and fuel use for truck transport of chemicals to the facility and products from the facility would be considered mitigated under the Cap-and-Trade program.

b) *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

No Impact. There are no specific plans related to GHG emissions that seek to regulate emissions from the purification of rhodium specifically, or chemical plants in general. Thus, the Project does not conflict with any plan, policy, or regulation.

The State has adopted various plans and regulations to improve vehicle fuel milage and mobile source fuel efficiency in an effort to reduce GHGs from the transportation sector. The Project would use vehicles such as delivery tankers that comply with State requirements.

The City of Santa Fe Springs does not presently have an adopted Climate Action Plan. However, the City's General Plan includes a Conservation Element that has an air quality focus. In this section, the following policies related to air quality are identified:

- Policy 2.1: Continue to research alternatives and pollution control measures that influence air quality, including trip reductions, carpooling, and local transit services.
- Policy 2.2: Encourage urban infill and land uses and densities that result in reduced trips and reduced trip lengths, and that support non-motorized modes of travel.
- Policy 2.3: Initiate capital improvement programs that allow for bus turnouts, traffic synchronization, and intersection channelization.

- Policy 2.4: Continue to participate and support cooperative programs between cities which will reduce trips and vehicle miles traveled.

The proposed Project will not involve or require any variance from the aforementioned policies. Furthermore, the proposed Project will not involve or require any other variance from any adopted plan, policy, or regulation governing GHG emissions. As a result, no impacts will occur.

CUMULATIVE IMPACTS

Implementation of the proposed Project would result in the generation of GHG emissions. As discussed, GHG are not individually significant. However, GHG emissions are inherently cumulative in nature. While the facility does not participate in the AB 32 Cap-and-Trade program, some of the GHG emissions from the Project are covered by the Cap-and-Trade program in connection with the activities of other source categories, such as electricity generation and fuel suppliers. Thus, the GHG emissions due to facility electricity use, fuel use for employee commuting, and fuel use for truck transport of chemicals to the facility and products from the facility would be considered mitigated under the Cap-and-Trade program, which would reduce cumulative impacts. As a result, cumulative impacts are expected to have impacts that are less than significant.

MITIGATION MEASURES

The analysis of potential impacts related to GHG emissions indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation measures are required. Note, however, that fuel use in vehicles and electricity use are considered mitigated pursuant to the AB 32 Cap-and-Trade program. No additional mitigation is required.

3.9 Hazards and Hazardous Materials

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on hazards and hazardous materials if it results in any of the following:

- Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

- Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?
- Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. HPMN receives and treats hazardous and non-hazardous waste from off-site sources for precious metal reclamation under a Series B Standardized Permit issued by the DTSC. The Standardized Permit was originally issued by the DTSC on June 2, 1998, and has been modified several times. The most recent permit became effective on October 31, 2011, and expires on October 31, 2021. A revised permit application was submitted to the DTSC on December 18, 2020. If the DTSC does not issue a new permit by October 31, 2021, the facility is allowed to continue to operate under the 2011 permit as most recently modified on August 21, 2020. HPMN will be required to comply with the requirements of the newly issued Standardized Permit and the modified CUP issued by the City.

With the proposed Project, the use and disposal of some hazardous materials would increase from existing levels. The use of hydrochloric acid and nitric acid is fundamental to the operations of the facility, as it is used to dissolve metals. Sodium hydroxide is subsequently used to neutralize the acidic solutions created.

With the proposed Project, HCl and HNO_3 consumption would both increase. HCl usage would increase by 316,228 gallons per year, and HNO_3 usage would increase by 66,250 gallons per year. Bulk tanks for storing HCl and HNO_3 exists on-site.

Caustic is currently used for instant neutralization in the product recovery steps. Annual use would increase by 4,386 gallons. Caustic is stored in a bulk tank.

The new process will draw raw materials from the existing storage tanks. The facility Hazardous Materials Business Plan (HMBP) includes contingency and response measures

should there be any releases of hazardous materials. Since the storage quantities are unchanged, there is no change in risks associated with managing these materials onsite.

The facility also has an automated emission sensor monitoring system that is designed to alert plant employees of any emissions above normal operating levels at the fenceline of the facility. The monitoring system is required by the City of Santa Fe Springs Fire Department, the Certified Unified Program Agency (CUPA), and is used for detecting hydrochloric acid, sulfur dioxide, chlorine, NO_x, and ammonia fumes. Currently, the facility's alarm system and reportable emissions reports to Santa Fe Springs Fire Department and SCAQMD have averaged 5.3 incidents per year from 2018 through the end of July 2021, with no serious releases noted.

Because the use of hazardous materials, primarily hydrochloric and nitric acid, would increase, there would be a small, less than significant increased risk of hazardous material spills or releases. The average incidence of accidents involving hazardous material shipments is 3.2E-07 per mile (Battelle 2001), with not all accidents causing a hazardous material release. With 250 additional hazardous material deliveries per year, assuming a 50-mile shipment distance from within the Los Angeles basin, the increased risk of a hazardous material accident is 0.004 vehicles per year. Thus, there would be one additional truck accident related to hazardous materials shipment every 250 years.

b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less than Significant Impact. Standard institutional and engineering controls will be in place to prevent the release of hazardous materials in case of an accident or upset. Experience at HPMN indicates that the materials used in the new process can be safely handled as they have been in other processes on site for many years. Secondary containment systems are used around hazardous material storage and use areas to confine releases of hazardous materials in storage and for the process reactors. Acids and caustic materials are separated to prevent a reaction as required by Chapter 50 of the California Fire Code. Additionally, there are specific procedures in place in the facility's Contingency Plan that must be followed in case of a fire, accident, or release.

c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

No Impact. There are no schools within ¼ mile of the HPMN facility. The nearest school, Carmenita Middle School, is approximately 0.5 mile south of the facility. Therefore, no impacts are anticipated.

d) *Would the project be located on a site that is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. The project site is not included on the Cortese list of hazardous materials sites maintained by the DTSC (DTSC 2021). Therefore, the construction or operation of the proposed Project would not create an adverse impact.

e) For a project located within an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not located within an airport land-use plan area or within 2 miles of any airport. Therefore, the Project would have no impact on safety levels with respect to airports.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not in the vicinity of a private airstrip. Therefore, the Project would have no impact on safety levels with respect to private airstrips.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant. The proposed Project will be developed within an existing building at the HPMN facility and therefore would not physically interfere with an adopted emergency response plan or evacuation plan, as the project would not affect access for emergency vehicles.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. Surrounding sites are completely developed. No wildlands exist within the Project vicinity.

CUMULATIVE IMPACTS

The potential cumulative impacts with respect to hazards and hazardous materials are generally site-specific. There are no known projects located adjacent to the proposed Project site or in the vicinity of the facility that would use or manage hazardous materials in such a manner as to be cumulative with the proposed Project. Therefore, no cumulative land use impacts will result from the proposed Project's implementation.

MITIGATION MEASURES

The analysis of potential impacts related to hazardous materials indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.10 Hydrology and Water Quality

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			✓	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;				✓
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;				✓
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				✓
iv) impede or redirect flood flows?				✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			✓	

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on hydrology and water quality if it results in any of the following:

- Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
- Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

- Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or, impede or redirect flood flows?
- In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?
- Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less Than Significant Impact. The only water quality standards applicable to this Project are the wastewater discharge requirements contained in Industrial Wastewater Discharge Permit No. 20174 issued by the LACSD (LACSD 2019). The existing wastewater treatment system has sufficient capacity for new process wastewater flows. The proposed Project is not expected to cause the facility to exceed its current water quality standards or waste discharge requirements.

b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Less Than Significant Impact. The proposed Project site is in a developed area that does not contribute significantly to the depletion or recharge of underground water supplies. Furthermore, the Project would not intercept an aquifer. No aspects of the proposed Project would require the extraction or recharge of groundwater by HPMN directly. Thus, the proposed Project is expected to have a less than significant impact.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would:

i) Result in substantial erosion or siltation on- or off-site?

No Impact. There are no streams or rivers on or within the vicinity of the proposed Project site. The Project site is generally paved, and the proposed Project would not alter the paving or existing drainage patterns at the site.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

No Impact. The site is not located within a 100-year flood hazard area. The proposed Project would be constructed inside of an existing building and would not be expected to increase the rate or amount of surface runoff. The Project site is

generally paved, and the proposed Project would not alter the paving or existing drainage patterns at the site.

iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

No Impact. The proposed Project would be constructed inside of an existing building and would not be expected to increase the rate or amount of surface runoff. The site has a developed storm water drainage system, and its capacity would not be affected by the Project because the areas are already paved. All process areas are within bermed enclosures; there is no storm water runoff from the process areas. Additional storm water runoff would not occur as a result.

iv) Impede or redirect flood flows?

No Impact. The site is not located within a 100-year flood hazard area. The proposed Project would be constructed inside of an existing building and would not be expected to impede or redirect surface flows.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

No Impact. The site is not located within a 100-year flood hazard area. Further, the site is not located near the ocean or other water bodies, and it is in a generally level area; thus, it is not subject to inundation by seiche, tsunami, or mudflow (FEMA 2020). Therefore, no impact is anticipated in this regard.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The site is located over the Central Basin. The Central Basin is located in Los Angeles County approximately 20 miles southeast of downtown Los Angeles. To the north, the Central Basin is bounded by the Hollywood Basin, and that boundary runs through the City of Los Angeles. The remainder of the northern boundary of the Central Basin extends along the Merced Hills, across Whittier Narrows, and then along the Puente Hills. The Department of Water Resources (DWR) divided the Central Basin into four sections: the Los Angeles Forebay, the Montebello Forebay, the Whittier Area, and the Pressure Area. The northern Basin boundary terminates at the Orange County line, which forms the eastern boundary of the Central Basin. This boundary is a political and not a geologic one, and the aquifers in this area reach into the East Coastal Plain area of Orange County. The south-southwest boundary of the Central Basin is known as the Newport-Inglewood Uplift, separating the Central and West Basins from Long Beach up to the Baldwin Hills just north of the City of Inglewood. DWR Bulletin 118 does not identify the Central Basin as currently being in overdraft (City of Santa Fe Springs 2017).

No aspects of the proposed Project would require the extraction or recharge of groundwater by HPMN directly. However, the Central Basin Water Quality Protection Program (CBWQPP) provides treated groundwater to some of its retail agencies, including the City of Santa Fe Springs, which has a contracted minimum purchase amount of 2,016 acre-feet

per year. The City purchases treated groundwater from the CBWQPP, which has a capacity of 2,200 gallons per minute, through an interconnection with the City of Whittier. HPMN receives its water used for processing from the City of Santa Fe Springs. The proposed Project will increase water demand by 33,836 gallons per day and 8.7 MM gallons per year (about 27 acre-feet per year). These quantities are a small fraction of the water supply available in the City (about 1.3%), and only a fraction of the water supply is derived from groundwater sources. Thus, the proposed Project is expected to have a less than significant impact.

CUMULATIVE IMPACTS

The potential impacts related to hydrology and storm water runoff are typically site-specific. Storm water is collected and treated on-site. The Project will not induce additional water demand at any other facility. As a result, cumulative impacts are not anticipated.

MITIGATION MEASURES

The analysis of potential impacts related to hydrology and water quality indicates that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.11 Land Use and Planning

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on mineral resources if it results in any of the following:

- Would the project physically divide an established community?
- Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project physically divide an established community?

No Impact. HPMN is zoned M-2, Heavy Manufacturing, in the City of Santa Fe Springs Code of Ordinances. The City of Santa Fe Springs General Plan designation is "Industrial." The processing of metal products is a permitted use in M-2 zones (City of Santa Fe Springs 2020f). The proposed process does not represent a new use and will not divide the community.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Zoning and General Plan designation of the HPMN facility is industrial. The proposed Project is consistent with the General Plan goals and policies. No conflict with existing land use plans or policies would be expected.

CUMULATIVE IMPACTS

The potential cumulative impacts with respect to land use are site-specific. There are no related projects located adjacent to the proposed Project site. The proposed Project will not require any General Plan Amendment or Zoning Change, and the future use will be consistent with the Santa Fe Springs General Plan. Therefore, no cumulative land use impacts will result from the proposed Project's implementation.

MITIGATION MEASURES

The analysis determined that no impacts on land use and planning would result upon implementation of the proposed Project. As a result, no mitigation measures are required.

3.12 Mineral Resources

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land-use plan?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on mineral resources if it results in any of the following:

- Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. No mineral resources of regional value are known to exist at this site (City of Santa Fe Springs 2020f, City of Cerritos 2004b).

b) Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land-use plan?

No Impact. The site is not a delineated mineral resource recovery site (City of Santa Fe Springs 2020f, City of Cerritos 2004b).

CUMULATIVE IMPACTS

The potential impacts on mineral resources are site-specific. Furthermore, the analysis determined that the proposed Project would not result in any impacts on mineral resources. No mineral resources or extraction activities are located within the Project site boundaries. As a result, no cumulative impacts will occur.

MITIGATION MEASURES

The analysis of potential impacts related to mineral resources indicated that no significant adverse impacts would result from the approval of the proposed Project and its subsequent implementation. As a result, no mitigation measures are required.

3.13 Noise

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XIII. NOISE. Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Generation of excessive ground borne vibration or ground borne noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on noise if it results in any of the following:

- Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Would the project result in generation of excessive ground borne vibration or ground borne noise levels?
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant Impact. Since the proposed Rhodium Purification Line would be installed in an existing building and no ground disturbance would take place during construction, a minimal and temporary increase in ambient noise would be expected. Some

noise may be generated by large trucks and other heavy equipment (e.g., crane) during delivery and installation of Project equipment. The two scrubbers both operate with small fans that would create noise. However, given the anticipated noise levels and the distance to the fenceline, any noise generated is expected to attenuate and not cause off-site impacts.

b) Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Less Than Significant Impact. Because the proposed Rhodium Purification Line would be installed in an existing building and no ground-disturbing activities would take place during construction, minimal generation of ground-borne vibration or noise would be expected. Operation of the proposed Project would not generate ground-borne vibration or ground-borne noise levels.

c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

No Impact. The proposed Project is not located within an airport land-use plan, within the vicinity of a private airstrip, or within 2 miles of a public airport.

CUMULATIVE IMPACTS

There are no known construction projects that would occur near the site of the proposed Project contemporaneously with Project construction. Thus, cumulative impacts will not occur during the construction phase of the Project. The proposed Project will not increase ambient noise levels above current levels at the fenceline, so it would not contribute to cumulative impacts with any other projects during operations. As a result, no cumulative noise impacts will result.

MITIGATION MEASURES

The analysis of potential noise impacts indicated that no significant adverse impacts would result from the proposed Project's construction and operation. As a result, no mitigation measures are required.

3.14 Population and Housing

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on population and housing if it results in any of the following:

- Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Growth-inducing impacts are generally associated with the provision of urban services to an undeveloped or rural area. Growth-inducing impacts include the following:

- New development in an area presently undeveloped and economic factors which may influence development. The site is surrounded on all sides by urban development.
- Extension of roadways and other transportation facilities. No roadway extensions will be required to accommodate the proposed development.
- Extension of infrastructure and other improvements. No infrastructure or other improvements are required for the proposed Project.
- Major off-site public projects (treatment plants, etc.). The Project's increase in demand for utility services can be accommodated without the construction or expansion of landfills, water treatment plants, or wastewater treatment plants.

- The removal of housing requiring replacement housing elsewhere. There are no housing units located on the property. As a result, no replacement housing will be required.
- Additional population growth leading to increased demand for goods and services. The Project's operation would result in a modest increase in employment, which can be accommodated by the local labor market.
- Short-term growth-inducing impacts related to the Project's construction. The Project will result in temporary employment during the construction phase, which can be accommodated by the local labor market.

The proposed Project is projected to add 12 new jobs. According to the Growth Forecast Appendix prepared by SCAG for the 2016-2040 RTP/SCS, the City of Santa Fe Springs is projected to have an employment population of 20,300 jobs through the year 2045, which is an increase of 2,400 jobs from the 2020 figure (SCAG 2021). The proposed Project's number of 12 new jobs is well within SCAG's population projections for the City of Santa Fe Springs. The proposed Project will not induce substantial unplanned population growth in the area. As a result, no impacts will occur.

b) Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed Project would be constructed in an existing industrial building. There are no housing units located on the property. As a result, no replacement housing will be required.

CUMULATIVE IMPACTS

The proposed Project's development would not involve any residential development, nor would it result in any displacement of housing units. The projected employment increase from the proposed Project and the population increase resulting from the Project would be consistent with the regional Growth Forecast. As a result, no cumulative housing and population impacts would result.

MITIGATION MEASURES

The analysis of potential population and housing impacts indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.15 Public Services

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES.				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
Fire protection?			✓	
Police protection?			✓	
Schools?				✓
Parks?				✓
Other public facilities?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on public services if it results in any of the following:

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: fire protection, police protection, schools, parks or other public facilities?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

Fire Protection

Less than Significant Impact. The City of Santa Fe Springs Fire Department provides fire prevention and emergency medical services within the City. The department consists of three separate divisions: Operations, Fire Prevention, and Environmental Protection. The Operations Division provides fire suppression, emergency medical services (EMS), hazardous materials response, and urban search and rescue. The Fire Prevention Division provides plan check, inspections, and public education. The Environmental Protection Division is responsible for responding to emergencies involving hazardous materials. The Fire Department operates from four stations: Station No. 1 (11300 Greenstone Avenue),

Station No. 2 (8634 Dice Road), Station No. 3 (15517 Carmenita Road), and Station No. 4 (11736 Telegraph Road). The Fire Department currently reviews all new development plans, and future development will be required to conform to all fire protection and prevention requirements, including, but not limited to, building setbacks and emergency access. The proposed Project would only place an incremental demand on fire services since the Project will involve the construction and operation of equipment that is substantially similar to the existing equipment and operations at the site. New construction will be subject to all pertinent fire and building codes. Like all development projects within the City, the proposed Project will undergo review by the City of Santa Fe Springs Fire Department to ensure that sprinklers, hydrants, fire flow, etc. are adequate in meeting the Department's requirements. The Department will also review the Project's emergency access and clearance. Compliance with the abovementioned requirements, as well as the pertinent codes and ordinances, would reduce the impacts to levels that are less than significant. Construction activities also have the potential to affect fire protection services, such as emergency vehicle response times, by adding construction traffic to local roadways. However, at no time will Carmenita or Alondra Boulevards be completely closed to traffic. All construction staging areas will be located within the Project site. As a result, the Project would not impair the implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Impacts associated with the proposed Project are expected to be less than significant.

Police Enforcement

Less than Significant Impact. The City of Santa Fe Springs Department of Police Services (DPS) is responsible for management of all law enforcement services within the City. The DPS is staffed by both City personnel and officers from the City of Whittier Police Department (WPD) that provide contract law enforcement services to Santa Fe Springs. The police services contract between the two cities provides for a specified number of WPD patrolling officers, though the DPS has the ability to request an increased level of service. WPD law enforcement personnel assigned to the City include 35 sworn officers and six support personnel (City of Whittier 2021). The proposed Project would not place an additional demand on police protection services, since the Project site would be secured at all times by HPMN security officers and the property is secured by fencing and other security measures. The building and layout design would include crime prevention features such as nighttime security lighting and secure parking facilities. Adherence to the abovementioned requirement will reduce potential impacts to levels that are less than significant.

Schools

No Impact. The Project site is served by the following schools and school districts: Carmela Elementary School (South Whittier School District), Richard Graves Middle School (South Whittier School District), and Santa Fe High School (Whittier Union High School District). The nearest other school district to the Project site, the Norwalk-La Mirada School District, does not have any schools within the Project area. Due to the industrial nature of the proposed Project, the proposed Project will not likely place additional demand for school services. As a result, the impacts anticipated are less than

significant. As a result, less than significant impacts will result from the proposed Project's implementation.

Parks

No Impact. Due to the industrial nature of the proposed Project, the proposed Project will not place additional demand for recreational open space and services. As a result, the impacts anticipated are less than significant.

Other Public Facilities

No Impact. No new governmental services will be needed, and the proposed Project is not expected to have any significant impact on existing governmental services. The proposed Project will require governmental services such as CEQA review and building permits for this project; however, the required services are expected to be within the existing capacity of the City departments involved. As a result, no impacts are anticipated.

CUMULATIVE IMPACTS

The demand for fire and police services is site-specific and, as explained above, the impacts are expected to be minimal. There are no known projects in the vicinity of the Project site that would have cumulative impacts with the proposed Project. The Project will have a minimal impact on government services and no impact on school enrolment or demand for recreational facilities. No cumulative impacts are expected.

MITIGATION MEASURES

The analysis of public service impacts indicated that no significant adverse impacts are anticipated, and no mitigation is required with the implementation of the proposed Project.

3.16 Recreation

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XVI. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on recreation if it results in any of the following:

- Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The City of Santa Fe Springs Parks and Recreation Services Department operates and maintains a wide range of active and passive facilities for local residents. These parks include Los Nietos Park, Little Lake Park, Lake Center Athletic Park, Lakeview Park, Santa Fe Springs Park, and Heritage Park. The nearest park to the Project site is the Zimmerman Park, located approximately 2,000 feet to the northwest. This park is owned and operated by Los Angeles County Department of County Parks and Recreation (City of Santa Fe Springs 2020h, City of Cerritos 2004c). Given the industrial nature of the proposed Project, there will be no increase in the demand for recreational use and services.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The proposed Project does not involve recreational facilities or the construction or expansion of recreational facilities. As a result, no impacts are anticipated.

CUMULATIVE IMPACTS

The analysis determined that the proposed Project would not result in adverse impacts on recreational services or facilities. As a result, the potential cumulative impacts will be less than significant.

MITIGATION MEASURES

The analysis of potential impacts related to parks and recreation indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, mitigation measures are not required.

3.17 Transportation

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			✓	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			✓	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
d) Result in inadequate emergency access?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on transportation and circulation if it results in any of the following:

- Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?
- Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?
- Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Would the project result in inadequate emergency access?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The proposed Project would not impact the transportation system in the vicinity of the facility. During normal operations, trucks would be required to periodically deliver chemical reactants, raw materials, and equipment for the normal operation of the facility, pick up of products, byproducts, and dewatered sludges. Employee travel routes to and from the facility will be unchanged as a result of the proposed Project compared to current operations. The addition of Project traffic (construction vehicles, worker commute) will not increase the volume to

capacity ratios at these intersections beyond the significance thresholds of Project-related impacts as defined in the City's Traffic Study Guidelines.

The Santa Fe Springs Active Transportation Plan (City of Santa Fe Springs 2020i) calls for the construction of a pedestrian crossway on Alondra Boulevard in the vicinity of the Project site. However, neither Project construction nor operations are expected to impact either the construction or use of that crosswalk at any time.

b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Less Than Significant Impact. Pursuant to CEQA guidelines Section 15064.3, subdivision (b)(1), for land use projects, "Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact." HPMN is within ½ mile of I-5 and is bordered by Carmenita and Alondra Boulevards. All three of these transit corridors are high-capacity, major traffic corridors. The additional vehicle traffic during construction and operation will have a less than significant impact per the CEQA guidelines.

c) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed Project would not be expected to result in any increased traffic hazards due to a new or altered design feature. All vehicular traffic associated with Project construction and operations would continue to access the HPMN facility using existing roadways. Therefore, no significant impacts are anticipated related to traffic design features.

d) Would the project result in inadequate emergency access?

No Impact. All vehicular traffic associated with Project construction and operations would continue to access the HPMN facility using existing roadways. No emergency access routes would be blocked temporarily or permanently as a result of the Project. Therefore, no significant impacts are anticipated.

CUMULATIVE IMPACTS

The proposed Project will require additional vehicle traffic during the construction phase to accommodate equipment delivery and construction worker commute. There are no known projects in the vicinity of the proposed Project site that would be constructed contemporaneously with the proposed Project; thus, cumulative impacts during construction are not expected.

Operation of the proposed Project will require worker commute for 12 additional employees. The additional traffic is negligible compared to the carrying capacity of the site access roadways (I-5, Alondra Boulevard, Carmenita Boulevard); cumulative impacts are expected to be less than significant.

Chemicals necessary for Rhodium purification would be delivered to the facility by truck. The existing truck traffic requirements are compared to the requirements after project implementation in Table 3-8. As shown, there will be some changes to the truck traffic patterns: some increases in delivery frequency, some decreases, and no change to others. On balance, no net increase in

truck traffic is expected on a daily basis, with a very small increase in truck counts on an annual basis. The proposed Project will not cause an increase in truck traffic at any other facility in the project area. There are no known projects in the area that would have increases in truck traffic that would be cumulative with HPMN's requirements. For these reasons, the proposed Project is not expected to have a cumulative impact.

Table 3-8: Comparison Pre-Project Transportation to Post-Project Transportation

Chemical	Current Practice	Post-Project Requirement
Aqua ammonia	Drum delivery 4 times a week	One bulk tank delivery every 4 to 6 weeks
Nitric acid	Bulk tank delivery every 4 to 6 weeks	Bulk tank delivery every 2 to 3 weeks
Caustic	Bulk delivery every day except Sunday	No change
HCl	Bulk delivery every day	No change
Compressed gases	Once per week	Three times per week, depending on storage approval
Rhodium containing material shipments to Germany	Three times per week	No shipments

MITIGATION MEASURES

The proposed Project would not significantly impact traffic and transportation resources. Therefore, no mitigation measures are necessary for the development of this Project.

3.18 Tribal Cultural Resources

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XVIII. TRIBAL CULTURAL RESOURCES. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				✓
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on tribal cultural resources if it results in any of the following:

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is: listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1 In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe?

ANALYSIS OF ENVIRONMENTAL IMPACTS

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

No Impact. No known historic or cultural resources are present at or in close proximity to the site. The Clarke Estate at 10211 Pioneer Avenue and the Hawkins-Nimrocks Estate-Patricio Ontiveros Adobe at 1211 Telegraph Road are the only sites in the City of Santa Fe Springs that are listed on the NRHP; each of these sites is approximately 6 miles from the Project site (NRHP 2020, City of Santa Fe Springs 2020a). The site is adjacent to the City of Cerritos, which contains no sites listed on the NRHP, and the EIR prepared for its General Plan noted that the city contains no known historic or cultural resources (City of Cerritos 2004a).

b) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

No Impact. See Response 4.18(a).

CUMULATIVE IMPACTS

The potential environmental impacts related to tribal cultural resources are site-specific. The analysis herein determined that the proposed Project would not result in any impacts on tribal cultural resources. As a result, no cumulative tribal cultural resources impacts will occur as part of the proposed Project's implementation.

MITIGATION MEASURES

The analysis of potential impacts related to tribal cultural resources indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation measures are required.

3.19 Utilities and Service Systems

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			✓	

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on utilities if it results in any of the following:

- Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
- Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
- Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

- Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
- Would the project negatively impact the provision of solid waste services or impair the attainment of solid waste reduction goals?
- Would the project comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less Than Significant Impact. There will be a nominal increase in water usage associated with the proposed Project for chemical processing and for scrubber operation, but the water supply system has sufficient capacity, and no new or modified water supply pipelines will be required. The amount of wastewater generated from the proposed Project is well within the capacity of the on-site wastewater treatment system. HPMN operates under current Industrial Wastewater Discharge Permit No. 20174 issued by the LACSD. Wastewater Discharge Permit No. 20174 restricts daily wastewater flow from the Project site to 54,400 gallons per day flowing to Los Coyotes Water Reclamation Plant (LACSD 2019), which has a daily capacity of 37.5 million gallons (LACSD 2021). The proposed process would increase the daily wastewater flowrate by about 9,000 gallons per day, which is about 15% of the existing permitted site limit. Therefore, no expansion in wastewater treatment capacity would be required as a result of the Project. The proposed Project will require steam heat to be supplied by an existing boiler. The natural gas supply to the boiler is adequate for Project needs; no natural gas supply upgrades are required. The Rhodium Purification Line would be constructed inside of an existing building and would utilize existing storm water, electric power, and telecommunication services. Therefore, impacts are expected to be less than significant.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less Than Significant Impact. The CBWQPP provides treated groundwater to some of its retail agencies, including the City of Santa Fe Springs, which has a contracted minimum purchase amount of 2,016 acre-feet per year. The City purchases treated groundwater from the CBWQPP, which has a capacity of 2,200 gallons per minute, through an interconnection with the City of Whittier. HPMN receives its water used for processing from the City of Santa Fe Springs. The proposed Project will increase water demand by 33,836 gallons per day and 8.7 MM gallons per year (about 27 acre-feet per year). These quantities are a small fraction of the water supply available in the City (about 1.3%), and only a fraction of the water supply is derived from groundwater sources. The Project impact is expected to be less than significant.

c) *Would the project result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Less Than Significant Impact. HPMN operates under current Industrial Wastewater Discharge Permit No. 20174 issued by the LACSD; no expansion in wastewater treatment capacity would be required as a result of the Project. The proposed Project is expected to increase facility wastewater discharge volumes by less than 10 gallons per minute and will not significantly increase wastewater discharge volumes to LACSD, which has adequate capacity.

d) *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

Less Than Significant Impact. Minimal amounts of solid waste (e.g., packaging materials) would be generated during construction of the proposed. Rhodium Purification Line,. Once installation is complete, no increase in total solid waste production from the site would be expected. Therefore, impacts are anticipated to be less than significant.

e) *Would the project comply with federal, state, and local statutes and regulations related to solid waste?*

Less Than Significant Impact. Adequate solid waste storage areas already exist at the Project site, and waste is stored in containers in a manner that complies with federal, state, and local statutes and regulations. Solid waste collection vehicles are given adequate access to the waste storage area. In addition, HPMN would take any necessary measures to comply with California Code of Regulations, State Department of Health Services with respect to handling and disposal of solid waste. Therefore, no significant impacts are anticipated with respect to compliance with statutes and regulations.

CUMULATIVE IMPACTS

The potential for projects to have a cumulative impact depends on both their geographic location and the timing of development. There are no known development projects in the vicinity of the HPMN facility that would impact the capacity of utility systems; thus, cumulative impacts are not expected.

MITIGATION MEASURES

The analysis of utilities impacts indicated that no significant adverse impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation is required.

3.20 Wildfire

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XX. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

THRESHOLDS OF SIGNIFICANCE

According to the City of Santa Fe Springs, acting as Lead Agency, a project may be deemed to have a significant adverse impact on wildfire risk and hazards if it results in any of the following:

- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?
- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks,
- and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

- If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

ANALYSIS OF ENVIRONMENTAL IMPACTS

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. The City of Santa Fe Springs is not designated as a very high fire hazard severity zone. Further, the proposed Project would be located in an urban industrialized area and would not involve the closure or alteration of any existing evacuation routes that would be important in the event of a wildfire. Figure 3-1 shows Santa Fe Springs relative to the nearest high fire hazard area (CDFFP 2007, City of Santa Fe Springs 2021b). As a result, no impacts will occur.

b) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. See Response 4.20(a).

Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. See Response 4.20(a).

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

No Impact. See Response 4.20(a).

d) *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

No Impact. See Response 4.20(a).

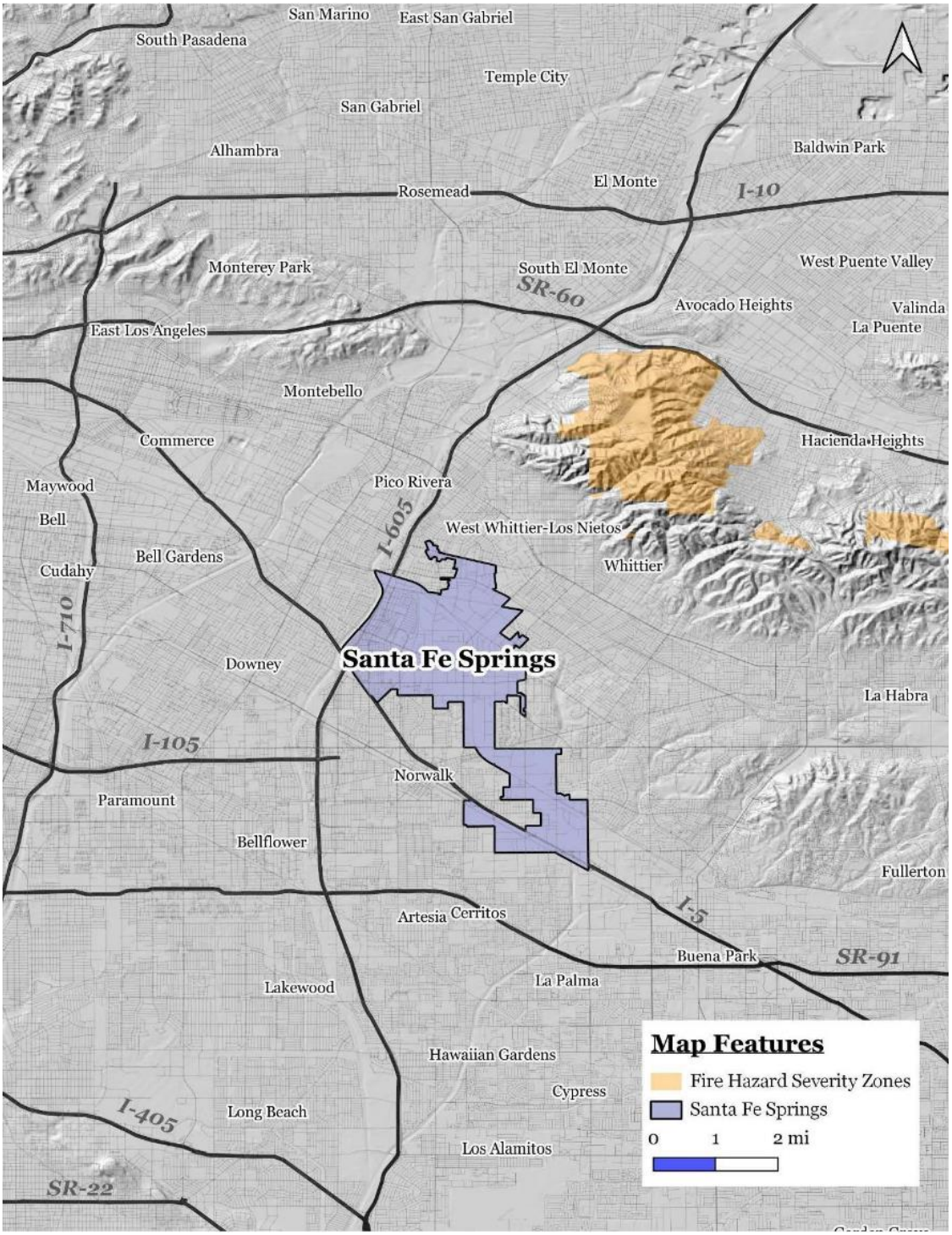
CUMULATIVE IMPACTS

The analysis herein determined that the proposed Project would not result in any significant adverse impacts with respect to potential wildfire. As a result, no cumulative impacts related to wildfire will occur

MITIGATION MEASURES

The analysis of wildfires impacts indicated that less than significant impacts would result from the proposed Project's approval and subsequent implementation. As a result, no mitigation is required.

Figure 3-1: Fire Hazard Zones



Ref: City of Santa Fe Springs 2021b.

3.21 Mandatory Findings of Significance

Issue Area	Potentially Significant Impact	Potentially Significant Impact Unless Mitigated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. Does the project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self- sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?				✓
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)			✓	
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?			✓	

The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this environmental assessment:

a) The proposed Project will not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. As indicated in Sections 3.1 through 3.20, the proposed Project will not result in any significant unmitigable environmental impacts.

b) The proposed Project will not have impacts that are individually limited, but cumulatively considerable. The proposed Project and the attendant environmental impacts will not lead to a cumulatively significant impact on any of the issues analyzed herein.

c) The proposed Project will not have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly. As indicated in Sections 3.1 through 3.20, the proposed Project will not result in any significant unmitigable environmental impacts.

4.0 CONCLUSIONS

4.1 Findings

The Initial Study determined that the proposed project is not expected to have significant adverse environmental impacts. The following findings can be made regarding the Mandatory Findings of Significance set forth in Section 15065 of the CEQA Guidelines based on the results of this Initial Study:

- The proposed project will not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species or eliminate important examples of the major periods of California history or prehistory, with the implementation of the required mitigation.
- The proposed project will not have impacts that are individually limited, but cumulatively considerable.
- The proposed project will not have environmental effects which will cause substantially adverse effects on human beings, either directly or indirectly.

4.2 Mitigation Measures

In addition, pursuant to Section 21081(a) of the Public Resources Code, findings must be adopted by the decision-maker coincidental to the approval of a Negative Declaration. These findings shall be incorporated as part of the decision-maker's findings of fact, in response to AB-3180 and in compliance with the requirements of the Public Resources Code. In accordance with the requirements of Section 21081(a) and 21081.6 of the Public Resources Code, the City of Santa Fe Springs can make the following additional finding that a mitigation monitoring and reporting program will not be required for the proposed project.

5.0 REFERENCES

5.1 Preparers

Yorke Engineering, LLC
31726 Rancho Viejo Rd, Suite 206
San Juan Capistrano, CA 92675

Russell Kingsley
Michael Davidek
Michael Dudasko
John Furlong

5.2 References

Battelle 2001. Battelle Institute, "Comparative Risks of Hazardous Materials and Non-Hazardous Materials Truck Shipment Accidents/Incidents; Prepared for Federal Motor Carrier Safety Administration", March.

CDFFP 2007. California Department of Forestry and Fire Protection, Fire and Resource Assessment Program (FRAP), Fire Hazard Severity Zones in SRA, Los Angeles County, November 7.

CAPCOA 2021. California Air Pollution Officers Association, California Emissions Estimator Model® (CalEEMod), May.

City of Cerritos 2004a. City of Cerritos General Plan Final EIR, page 4.12-1 - 4.12-2.

City of Cerritos 2004b. City of Cerritos General Plan Final EIR, page 7-5.

City of Cerritos 2004c. City of Cerritos General Plan Final EIR, Section 4.10.

City of Santa Fe Springs 2021a. http://www.santafesprings.org/business/default.asp; accessed August 18, 2021.

City of Santa Fe Springs 2021b. Initial Study and Mitigated Negative Declaration, Greenstone Avenue Industrial Development, May 25.

City of Santa Fe Springs 2020a. City of Santa Fe Springs Existing Conditions Technical Report for the 2040 General Plan, Pgs. 3-27 - 3-31, August.

City of Santa Fe Springs 2020c. City of Santa Fe Springs Planning Department, Personal communication (e-mail): Cuong Nguyen, Senior Planner, cuongnguyen@santafesprings.org

City of Santa Fe Springs 2020d. City of Santa Fe Springs Existing Conditions Technical Report for the 2040 General Plan, Pg. 5-10 and Figure 5-3, August.

City of Santa Fe Springs 2020e. City of Santa Fe Springs, Existing Conditions Technical Report for the 2040 General Plan, Pg. 5-12 and Figure 5-4, August.

City of Santa Fe Springs 2020f. City of Santa Fe Springs Existing Conditions Technical Report for the 2040 General Plan, Pg. 5-14 and Figure 5-5, August.

City of Santa Fe Springs 2020g. Re-Imagine Santa Fe Springs 2040 General Plan, Draft Land Use Plan, December 10.

City of Santa Fe Springs 2020h, Existing Conditions Technical Report for the 2040 General Plan, pgs. 3-16 - 3-26, August.

City of Santa Fe Springs 2020i. Santa Fe Springs Active Transportation Plan, Final Adopted Draft, January.

City of Santa Fe Springs 2017. City of Santa Fe Springs, Urban Water Management Plan, pg. 6-3 and 6-4, May.

City of Whittier 2021. City of Whittier, Whittier Police Department, via website: https://www.cityofwhittier.org/government/police/santa-fe-springs, accessed August 18.

DTSC 2021. Department of Toxic Substances Control, EnviroStor, Hazardous Waste and Substances List (the "Cortese List"), via website: https://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,FUDS&status=ACT,BKLG,COM&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+%28CORTESE%29/\, accessed August 18.

ERM 2007. Final Initial Study and Mitigated Negative Declaration, Heraeus Metal Processing, Inc. Proposed Wastewater Treatment System and Pipeline Project, August.

FEMA 2020. Federal Emergency Management Agency, Flood Maps, via website: https://www.fema.gov/flood-maps, accessed October 5, 2020.

IPCC 2014. Intergovernmental Panel on Climate Change, Synthesis Report (SYR) of the IPCC Fifth Assessment Report (AR5).

LACSD 2021. . Los Angeles County Sanitation District, via website: https://www.lacsd.org/services/wastewatersewage/facilities_information/wwtreatmentplant/loscoyoteswrp.asp, accessed August 13.

LACSD 2019. Los Angeles County Sanitation District, Industrial Wastewater Discharge Permit No. 20174, issued September 3.

NRHP 2020. National Register of Historic Places; accessed on October 6, 2020 via website: https://www.nps.gov/subjects/nationalregister/database-research.htm.

SCAG 2021. Southern California Association of Governments. Adopted Growth Forecast Regional Transportation Plan 2016-2040, via website: http://gisdata.scag.ca.gov/Pages/SocioEconomicLibrary.aspx, accessed August 18.

SCAQMD 2019. South Coast AQMD Air Quality Significance Thresholds, accessed: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2, April.

SCAQMD 2017. South Coast Air Quality Management District, Risk Assessment Procedures v8.1 (PDF, 329 KB), Version 8.1, dated September 1, 2017, Procedures, Equations, and Assumptions Effective On or After October 1, 2017.

SCAQMD 2008. South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, June 2003, Revised July 2008.

South Coast Wildlands 2008. South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion. Produced in cooperation with partners in the South Coast Missing Linkages Initiative. Available online at http://www.scwildlands.org.

USDA 2021. United States Department of Agriculture, Natural Resources Conservation Service Web Soil Survey, via website: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx, accessed August 18.

APPENDIX A – CONSTRUCTION EMISSIONS

Heraeus CEQA IS MND

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	181.40	1000sqft	6.15	181,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Heraeus CEQA IS MND - Los Angeles-South Coast County, Summer

Project Characteristics -

Land Use - 6.15 is the lot acerage, 4.15 building acerage.

Construction Phase -

Off-road Equipment - Assuming CalEEMod Defaults, except for additional welders.

Trips and VMT - Assuming 40 one-way trips for workers per day. Assuming 44 total hauling trips for all equipment.

Vehicle Trips - No operational emissions quantified.

Operational Off-Road Equipment - No operational emissions quantified.

Fleet Mix - No operational emissions quantified.

Road Dust - No operational emissions quantified.

Consumer Products - No operational emissions quantified.

Area Coating - No operational emissions quantified.

Landscape Equipment - No operational emissions quantified.

Energy Use - No operational emissions quantified.

Water And Wastewater - No operational emissions quantified.

Solid Waste - No operational emissions quantified.

Area Mitigation - No operational emissions quantified.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	ReapplicationRatePercent	10	0

tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	0.00
tblEnergyUse	T24NG	13.65	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblLandUse	LotAcreage	4.16	6.15
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	0.00

tblOperationalOffRoadEquipment	OperHorsePower	89.00	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	0.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	224.94	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	44.00
tblTripsAndVMT	WorkerTripNumber	76.00	40.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	41,948,750.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	2.7705	23.5318	22.3974	0.0445	0.6489	1.1166	1.7655	0.1764	1.0587	1.2350	0.0000	4,264.6621	4,264.6621	0.7332	0.0000	4,282.9908
2022	2.5074	21.4655	21.9738	0.0442	0.6435	0.9456	1.5892	0.1750	0.8973	1.0723	0.0000	4,242.2330	4,242.2330	0.7217	0.0000	4,260.2760
Maximum	**2.7705**	**23.5318**	**22.3974**	**0.0445**	**0.6489**	**1.1166**	**1.7655**	**0.1764**	**1.0587**	**1.2350**	**0.0000**	**4,264.6621**	**4,264.6621**	**0.7332**	**0.0000**	**4,282.9908**

Mitigated 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	lb/day										lb/day					
2021	2.7705	23.5318	22.3974	0.0445	0.6489	1.1166	1.7655	0.1764	1.0587	1.2350	0.0000	4,264.6621	4,264.6621	0.7332	0.0000	4,282.9908
2022	2.5074	21.4655	21.9738	0.0442	0.6435	0.9456	1.5892	0.1750	0.8973	1.0723	0.0000	4,242.2330	4,242.2330	0.7217	0.0000	4,260.2760
Maximum	**2.7705**	**23.5318**	**22.3974**	**0.0445**	**0.6489**	**1.1166**	**1.7655**	**0.1764**	**1.0587**	**1.2350**	**0.0000**	**4,264.6621**	**4,264.6621**	**0.7332**	**0.0000**	**4,282.9908**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	lb/day										lb/day					
Area	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**	**0.0000**	**0.0423**

Mitigated Operational

	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
Category	lb/day										lb/day					
Area	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**	**0.0000**	**0.0423**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	10/4/2021	8/19/2022	5	230	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	40.00	30.00	44.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.5062	20.4499	20.0128	0.0320		1.1068	1.1068		1.0495	1.0495		2,968.3194	2,968.3194	0.6701		2,985.0705
Total	**2.5062**	**20.4499**	**20.0128**	**0.0320**		**1.1068**	**1.1068**		**1.0495**	**1.0495**		**2,968.3194**	**2,968.3194**	**0.6701**		**2,985.0705**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.6000e-003	0.0513	0.0120	1.5000e-004	9.7700e-003	1.6000e-004	9.9200e-003	2.4900e-003	1.5000e-004	2.6400e-003		16.1929	16.1929	1.1000e-003		16.2204
Vendor	0.0912	2.9127	0.7615	7.7200e-003	0.1921	5.9600e-003	0.1980	0.0553	5.7000e-003	0.0610		824.6419	824.6419	0.0486		825.8564
Worker	0.1715	0.1179	1.6111	4.5700e-003	0.4471	3.6100e-003	0.4507	0.1186	3.3300e-003	0.1219		455.5079	455.5079	0.0134		455.8435
Total	**0.2643**	**3.0819**	**2.3846**	**0.0124**	**0.6489**	**9.7300e-003**	**0.6587**	**0.1764**	**9.1800e-003**	**0.1855**		**1,296.3427**	**1,296.3427**	**0.0631**		**1,297.9203**

Mitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.5062	20.4499	20.0128	0.0320		1.1068	1.1068		1.0495	1.0495	0.0000	2,968.3194	2,968.3194	0.6701		2,985.0705
Total	**2.5062**	**20.4499**	**20.0128**	**0.0320**		**1.1068**	**1.1068**		**1.0495**	**1.0495**	**0.0000**	**2,968.3194**	**2,968.3194**	**0.6701**		**2,985.0705**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.6000e-003	0.0513	0.0120	1.5000e-004	9.7700e-003	1.6000e-004	9.9200e-003	2.4900e-003	1.5000e-004	2.6400e-003		16.1929	16.1929	1.1000e-003		16.2204
Vendor	0.0912	2.9127	0.7615	7.7200e-003	0.1921	5.9600e-003	0.1980	0.0553	5.7000e-003	0.0610		824.6419	824.6419	0.0486		825.8564
Worker	0.1715	0.1179	1.6111	4.5700e-003	0.4471	3.6100e-003	0.4507	0.1186	3.3300e-003	0.1219		455.5079	455.5079	0.0134		455.8435
Total	**0.2643**	**3.0819**	**2.3846**	**0.0124**	**0.6489**	**9.7300e-003**	**0.6587**	**0.1764**	**9.1800e-003**	**0.1855**		**1,296.3427**	**1,296.3427**	**0.0631**		**1,297.9203**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.2597	18.5414	19.7551	0.0320		0.9368	0.9368		0.8889	0.8889		2,969.2890	2,969.2890	0.6616		2,985.8290
Total	**2.2597**	**18.5414**	**19.7551**	**0.0320**		**0.9368**	**0.9368**		**0.8889**	**0.8889**		**2,969.2890**	**2,969.2890**	**0.6616**		**2,985.8290**

3.2 Building Construction - 2022

Unmitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.5200e-003	0.0477	0.0119	1.5000e-004	4.3400e-003	1.4000e-004	4.4800e-003	1.1600e-003	1.3000e-004	1.2900e-003		16.0014	16.0014	1.0800e-003		16.0284
Vendor	0.0856	2.7699	0.7205	7.6400e-003	0.1921	5.2100e-003	0.1973	0.0553	4.9800e-003	0.0603		817.4577	817.4577	0.0469		818.6304
Worker	0.1606	0.1065	1.4864	4.4100e-003	0.4471	3.5000e-003	0.4506	0.1186	3.2200e-003	0.1218		439.4849	439.4849	0.0121		439.7882
Total	**0.2477**	**2.9240**	**2.2188**	**0.0122**	**0.6435**	**8.8500e-003**	**0.6524**	**0.1750**	**8.3300e-003**	**0.1834**		**1,272.9440**	**1,272.9440**	**0.0601**		**1,274.4470**

Mitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.2597	18.5414	19.7551	0.0320		0.9368	0.9368		0.8889	0.8889	0.0000	2,969.2890	2,969.2890	0.6616		2,985.8290
Total	**2.2597**	**18.5414**	**19.7551**	**0.0320**		**0.9368**	**0.9368**		**0.8889**	**0.8889**	**0.0000**	**2,969.2890**	**2,969.2890**	**0.6616**		**2,985.8290**

3.2 Building Construction - 2022

Mitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.5200e-003	0.0477	0.0119	1.5000e-004	4.3400e-003	1.4000e-004	4.4800e-003	1.1600e-003	1.3000e-004	1.2900e-003		16.0014	16.0014	1.0800e-003		16.0284
Vendor	0.0856	2.7699	0.7205	7.6400e-003	0.1921	5.2100e-003	0.1973	0.0553	4.9800e-003	0.0603		817.4577	817.4577	0.0469		818.6304
Worker	0.1606	0.1065	1.4864	4.4100e-003	0.4471	3.5000e-003	0.4506	0.1186	3.2200e-003	0.1218		439.4849	439.4849	0.0121		439.7882
Total	**0.2477**	**2.9240**	**2.2188**	**0.0122**	**0.6435**	**8.8500e-003**	**0.6524**	**0.1750**	**8.3300e-003**	**0.1834**		**1,272.9440**	**1,272.9440**	**0.0601**		**1,274.4470**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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
Category	lb/day										lb/day					
Mitigated	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Unmitigated	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**		**0.0423**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**		**0.0423**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	0	0.00	0	0	0.00	Diesel

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Heraeus CEQA IS MND

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	181.40	1000sqft	6.15	181,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Heraeus CEQA IS MND - Los Angeles-South Coast County, Winter

Project Characteristics -

Land Use - 6.15 is the lot acerage, 4.15 building acerage.

Construction Phase -

Off-road Equipment - Assuming CalEEMod Defaults, except for additional welders.

Trips and VMT - Assuming 40 one-way trips for workers per day. Assuming 44 total hauling trips for all equipment.

Vehicle Trips - No operational emissions quantified.

Operational Off-Road Equipment - No operational emissions quantified.

Fleet Mix - No operational emissions quantified.

Road Dust - No operational emissions quantified.

Consumer Products - No operational emissions quantified.

Area Coating - No operational emissions quantified.

Landscape Equipment - No operational emissions quantified.

Energy Use - No operational emissions quantified.

Water And Wastewater - No operational emissions quantified.

Solid Waste - No operational emissions quantified.

Area Mitigation - No operational emissions quantified.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	ReapplicationRatePercent	10	0

tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	0.00
tblEnergyUse	T24NG	13.65	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblLandUse	LotAcreage	4.16	6.15
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	0.00

tblOperationalOffRoadEquipment	OperHorsePower	89.00	0.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	0.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	224.94	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	44.00
tblTripsAndVMT	WorkerTripNumber	76.00	40.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	41,948,750.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2021	2.7943	23.5390	22.3409	0.0440	0.6489	1.1168	1.7657	0.1764	1.0589	1.2352	0.0000	4,215.1688	4,215.1688	0.7356	0.0000	4,233.5583
2022	2.5303	21.4699	21.9217	0.0438	0.6435	0.9458	1.5893	0.1750	0.8974	1.0725	0.0000	4,193.7494	4,193.7494	0.7241	0.0000	4,211.8511
Maximum	**2.7943**	**23.5390**	**22.3409**	**0.0440**	**0.6489**	**1.1168**	**1.7657**	**0.1764**	**1.0589**	**1.2352**	**0.0000**	**4,215.1688**	**4,215.1688**	**0.7356**	**0.0000**	**4,233.5583**

Mitigated 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	lb/day										lb/day					
2021	2.7943	23.5390	22.3409	0.0440	0.6489	1.1168	1.7657	0.1764	1.0589	1.2352	0.0000	4,215.1687	4,215.1687	0.7356	0.0000	4,233.5583
2022	2.5303	21.4699	21.9217	0.0438	0.6435	0.9458	1.5893	0.1750	0.8974	1.0725	0.0000	4,193.7494	4,193.7494	0.7241	0.0000	4,211.8511
Maximum	**2.7943**	**23.5390**	**22.3409**	**0.0440**	**0.6489**	**1.1168**	**1.7657**	**0.1764**	**1.0589**	**1.2352**	**0.0000**	**4,215.1687**	**4,215.1687**	**0.7356**	**0.0000**	**4,233.5583**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	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
Category	lb/day										lb/day					
Area	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**	**0.0000**	**0.0423**

Mitigated Operational

	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
Category	lb/day										lb/day					
Area	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**	**0.0000**	**7.0000e-005**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**	**0.0000**	**0.0423**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	10/4/2021	8/19/2022	5	230	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	40.00	30.00	44.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.5062	20.4499	20.0128	0.0320		1.1068	1.1068		1.0495	1.0495		2,968.3194	2,968.3194	0.6701		2,985.0705
Total	**2.5062**	**20.4499**	**20.0128**	**0.0320**		**1.1068**	**1.1068**		**1.0495**	**1.0495**		**2,968.3194**	**2,968.3194**	**0.6701**		**2,985.0705**

3.2 Building Construction - 2021

Unmitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.6300e-003	0.0519	0.0128	1.5000e-004	9.7700e-003	1.6000e-004	9.9300e-003	2.4900e-003	1.5000e-004	2.6500e-003		15.9124	15.9124	1.1400e-003		15.9408
Vendor	0.0957	2.9067	0.8423	7.5100e-003	0.1921	6.1500e-003	0.1982	0.0553	5.8800e-003	0.0612		802.0366	802.0366	0.0518		803.3310
Worker	0.1907	0.1305	1.4730	4.3000e-003	0.4471	3.6100e-003	0.4507	0.1186	3.3300e-003	0.1219		428.9004	428.9004	0.0126		429.2160
Total	**0.2881**	**3.0891**	**2.3281**	**0.0120**	**0.6489**	**9.9200e-003**	**0.6589**	**0.1764**	**9.3600e-003**	**0.1857**		**1,246.8494**	**1,246.8494**	**0.0655**		**1,248.4878**

Mitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.5062	20.4499	20.0128	0.0320		1.1068	1.1068		1.0495	1.0495	0.0000	2,968.3194	2,968.3194	0.6701		2,985.0705
Total	**2.5062**	**20.4499**	**20.0128**	**0.0320**		**1.1068**	**1.1068**		**1.0495**	**1.0495**	**0.0000**	**2,968.3194**	**2,968.3194**	**0.6701**		**2,985.0705**

3.2 Building Construction - 2021

Mitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.6300e-003	0.0519	0.0128	1.5000e-004	9.7700e-003	1.6000e-004	9.9300e-003	2.4900e-003	1.5000e-004	2.6500e-003		15.9124	15.9124	1.1400e-003		15.9408
Vendor	0.0957	2.9067	0.8423	7.5100e-003	0.1921	6.1500e-003	0.1982	0.0553	5.8800e-003	0.0612		802.0366	802.0366	0.0518		803.3310
Worker	0.1907	0.1305	1.4730	4.3000e-003	0.4471	3.6100e-003	0.4507	0.1186	3.3300e-003	0.1219		428.9004	428.9004	0.0126		429.2160
Total	**0.2881**	**3.0891**	**2.3281**	**0.0120**	**0.6489**	**9.9200e-003**	**0.6589**	**0.1764**	**9.3600e-003**	**0.1857**		**1,246.8494**	**1,246.8494**	**0.0655**		**1,248.4878**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.2597	18.5414	19.7551	0.0320		0.9368	0.9368		0.8889	0.8889		2,969.2890	2,969.2890	0.6616		2,985.8290
Total	**2.2597**	**18.5414**	**19.7551**	**0.0320**		**0.9368**	**0.9368**		**0.8889**	**0.8889**		**2,969.2890**	**2,969.2890**	**0.6616**		**2,985.8290**

3.2 Building Construction - 2022

Unmitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.5500e-003	0.0482	0.0126	1.4000e-004	4.3400e-003	1.4000e-004	4.4800e-003	1.1600e-003	1.3000e-004	1.2900e-003		15.7217	15.7217	1.1200e-003		15.7497
Vendor	0.0899	2.7624	0.7973	7.4300e-003	0.1921	5.3800e-003	0.1975	0.0553	5.1400e-003	0.0604		794.9108	794.9108	0.0500		796.1598
Worker	0.1791	0.1178	1.3567	4.1500e-003	0.4471	3.5000e-003	0.4506	0.1186	3.2200e-003	0.1218		413.8278	413.8278	0.0114		414.1127
Total	**0.2706**	**2.9284**	**2.1666**	**0.0117**	**0.6435**	**9.0200e-003**	**0.6525**	**0.1750**	**8.4900e-003**	**0.1835**		**1,224.4603**	**1,224.4603**	**0.0625**		**1,226.0221**

Mitigated Construction On-Site

	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
Category	lb/day										lb/day					
Off-Road	2.2597	18.5414	19.7551	0.0320		0.9368	0.9368		0.8889	0.8889	0.0000	2,969.2890	2,969.2890	0.6616		2,985.8290
Total	**2.2597**	**18.5414**	**19.7551**	**0.0320**		**0.9368**	**0.9368**		**0.8889**	**0.8889**	**0.0000**	**2,969.2890**	**2,969.2890**	**0.6616**		**2,985.8290**

3.2 Building Construction - 2022

Mitigated Construction Off-Site

	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
Category	lb/day										lb/day					
Hauling	1.5500e-003	0.0482	0.0126	1.4000e-004	4.3400e-003	1.4000e-004	4.4800e-003	1.1600e-003	1.3000e-004	1.2900e-003		15.7217	15.7217	1.1200e-003		15.7497
Vendor	0.0899	2.7624	0.7973	7.4300e-003	0.1921	5.3800e-003	0.1975	0.0553	5.1400e-003	0.0604		794.9108	794.9108	0.0500		796.1598
Worker	0.1791	0.1178	1.3567	4.1500e-003	0.4471	3.5000e-003	0.4506	0.1186	3.2200e-003	0.1218		413.8278	413.8278	0.0114		414.1127
Total	**0.2706**	**2.9284**	**2.1666**	**0.0117**	**0.6435**	**9.0200e-003**	**0.6525**	**0.1750**	**8.4900e-003**	**0.1835**		**1,224.4603**	**1,224.4603**	**0.0625**		**1,226.0221**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

No Hearths Installed

	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
Category	lb/day										lb/day					
Mitigated	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Unmitigated	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**		**0.0423**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7300e-003	1.7000e-004	0.0186	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005		0.0397	0.0397	1.0000e-004		0.0423
Total	**1.7300e-003**	**1.7000e-004**	**0.0186**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**		**0.0397**	**0.0397**	**1.0000e-004**		**0.0423**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	0	0.00	0	0	0.00	Diesel

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Heraeus CEQA IS MND

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	181.40	1000sqft	6.15	181,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - 6.15 is the lot acerage, 4.15 building acerage.

Construction Phase -

Off-road Equipment - Assuming CalEEMod Defaults, except for additional welders.

Trips and VMT - Assuming 40 one-way trips for workers per day. Assuming 44 total hauling trips for all equipment.

Vehicle Trips - No operational emissions quantified.

Operational Off-Road Equipment - No operational emissions quantified.

Fleet Mix - No operational emissions quantified.

Road Dust - No operational emissions quantified.

Consumer Products - No operational emissions quantified.

Area Coating - No operational emissions quantified.

Landscape Equipment - No operational emissions quantified.

Energy Use - No operational emissions quantified.

Water And Wastewater - No operational emissions quantified.

Solid Waste - No operational emissions quantified.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	0
tblAreaCoating	Area_EF_Nonresidential_Interior	100	0
tblAreaCoating	Area_EF_Parking	100	0
tblAreaCoating	Area_EF_Residential_Exterior	50	0
tblAreaCoating	Area_EF_Residential_Interior	50	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorValue	100	0

tblAreaMitigation	UseLowVOCPaintNonresidentialInteriorValue	100	0
tblAreaMitigation	UseLowVOCPaintParkingValue	100	0
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	50	0
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	50	0
tblEnergyUse	LightingElect	3.10	0.00
tblEnergyUse	NT24E	5.75	0.00
tblEnergyUse	NT24NG	4.45	0.00
tblEnergyUse	T24E	2.25	0.00
tblEnergyUse	T24NG	13.65	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	1.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	6.0250e-003	0.00
tblFleetMix	MCY	4.9150e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.2500e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.3910e-003	0.00
tblFleetMix	SBUS	6.7200e-004	0.00
tblFleetMix	UBUS	2.4690e-003	0.00
tblLandUse	LotAcreage	4.16	6.15
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	0.00
tblOperationalOffRoadEquipment	OperHorsePower	89.00	0.00

tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	0.00
tblOperationalOffRoadEquipment	OperLoadFactor	0.20	0.00
tblRoadDust	MaterialMoistureContent	0.5	0
tblRoadDust	MaterialSiltContent	4.3	0
tblRoadDust	MeanVehicleSpeed	40	0
tblRoadDust	MobileAverageVehicleWeight	2.4	0
tblRoadDust	RoadSiltLoading	0.1	0
tblSolidWaste	SolidWasteGenerationRate	224.94	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	44.00
tblTripsAndVMT	WorkerTripNumber	76.00	40.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	9,727.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	IndoorWaterUseRate	41,948,750.00	0.00

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	0.0901	0.7669	0.7261	1.4400e-003	0.0207	0.0363	0.0570	5.6400e-003	0.0344	0.0401	0.0000	124.8797	124.8797	0.0216	0.0000	125.4208
2022	0.2071	1.7758	1.8084	3.6300e-003	0.0521	0.0780	0.1301	0.0142	0.0740	0.0882	0.0000	315.3777	315.3777	0.0541	0.0000	316.7296
Maximum	**0.2071**	**1.7758**	**1.8084**	**3.6300e-003**	**0.0521**	**0.0780**	**0.1301**	**0.0142**	**0.0740**	**0.0882**	**0.0000**	**315.3777**	**315.3777**	**0.0541**	**0.0000**	**316.7296**

Mitigated 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	0.0901	0.7669	0.7261	1.4400e-003	0.0207	0.0363	0.0570	5.6400e-003	0.0344	0.0400	0.0000	124.8796	124.8796	0.0216	0.0000	125.4207
2022	0.2071	1.7758	1.8084	3.6300e-003	0.0521	0.0780	0.1301	0.0142	0.0740	0.0882	0.0000	315.3774	315.3774	0.0541	0.0000	316.7294
Maximum	**0.2071**	**1.7758**	**1.8084**	**3.6300e-003**	**0.0521**	**0.0780**	**0.1301**	**0.0142**	**0.0740**	**0.0882**	**0.0000**	**315.3774**	**315.3774**	**0.0541**	**0.0000**	**316.7294**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-4-2021	1-3-2022	0.8627	0.8627
2	1-4-2022	4-3-2022	0.7714	0.7714
3	4-4-2022	7-3-2022	0.7791	0.7791
4	7-4-2022	9-30-2022	0.4024	0.4024
		Highest	0.8627	0.8627

2.2 Overall Operational

Unmitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.2 Overall Operational

Mitigated Operational

	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
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	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	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	10/4/2021	8/19/2022	5	230	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	0	40.00	30.00	44.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Building Construction - 2021

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0815	0.6646	0.6504	1.0400e-003		0.0360	0.0360		0.0341	0.0341	0.0000	87.5165	87.5165	0.0198	0.0000	88.0103
Total	**0.0815**	**0.6646**	**0.6504**	**1.0400e-003**		**0.0360**	**0.0360**		**0.0341**	**0.0341**	**0.0000**	**87.5165**	**87.5165**	**0.0198**	**0.0000**	**88.0103**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.7200e-003	4.0000e-004	0.0000	3.1000e-004	1.0000e-005	3.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.4740	0.4740	3.0000e-005	0.0000	0.4748
Vendor	3.0300e-003	0.0962	0.0261	2.5000e-004	6.1400e-003	2.0000e-004	6.3400e-003	1.7700e-003	1.9000e-004	1.9600e-003	0.0000	24.0334	24.0334	1.4700e-003	0.0000	24.0703
Worker	5.5900e-003	4.3500e-003	0.0492	1.4000e-004	0.0143	1.2000e-004	0.0144	3.7800e-003	1.1000e-004	3.8900e-003	0.0000	12.8559	12.8559	3.8000e-004	0.0000	12.8654
Total	**8.6700e-003**	**0.1023**	**0.0757**	**3.9000e-004**	**0.0207**	**3.3000e-004**	**0.0210**	**5.6300e-003**	**3.0000e-004**	**5.9300e-003**	**0.0000**	**37.3633**	**37.3633**	**1.8800e-003**	**0.0000**	**37.4104**

3.2 Building Construction - 2021

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.0815	0.6646	0.6504	1.0400e-003		0.0360	0.0360		0.0341	0.0341	0.0000	87.5164	87.5164	0.0198	0.0000	88.0102
Total	**0.0815**	**0.6646**	**0.6504**	**1.0400e-003**		**0.0360**	**0.0360**		**0.0341**	**0.0341**	**0.0000**	**87.5164**	**87.5164**	**0.0198**	**0.0000**	**88.0102**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	1.7200e-003	4.0000e-004	0.0000	3.1000e-004	1.0000e-005	3.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.4740	0.4740	3.0000e-005	0.0000	0.4748
Vendor	3.0300e-003	0.0962	0.0261	2.5000e-004	6.1400e-003	2.0000e-004	6.3400e-003	1.7700e-003	1.9000e-004	1.9600e-003	0.0000	24.0334	24.0334	1.4700e-003	0.0000	24.0703
Worker	5.5900e-003	4.3500e-003	0.0492	1.4000e-004	0.0143	1.2000e-004	0.0144	3.7800e-003	1.1000e-004	3.8900e-003	0.0000	12.8559	12.8559	3.8000e-004	0.0000	12.8654
Total	**8.6700e-003**	**0.1023**	**0.0757**	**3.9000e-004**	**0.0207**	**3.3000e-004**	**0.0210**	**5.6300e-003**	**3.0000e-004**	**5.9300e-003**	**0.0000**	**37.3633**	**37.3633**	**1.8800e-003**	**0.0000**	**37.4104**

3.2 Building Construction - 2022

Unmitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.1864	1.5297	1.6298	2.6400e-003		0.0773	0.0773		0.0733	0.0733	0.0000	222.2297	222.2297	0.0495	0.0000	223.4676
Total	**0.1864**	**1.5297**	**1.6298**	**2.6400e-003**		**0.0773**	**0.0773**		**0.0733**	**0.0733**	**0.0000**	**222.2297**	**222.2297**	**0.0495**	**0.0000**	**223.4676**

Unmitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.0600e-003	1.0100e-003	1.0000e-005	3.5000e-004	1.0000e-005	3.6000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.1888	1.1888	8.0000e-005	0.0000	1.1909
Vendor	7.2100e-003	0.2321	0.0627	6.2000e-004	0.0156	4.4000e-004	0.0160	4.5000e-003	4.2000e-004	4.9200e-003	0.0000	60.4721	60.4721	3.6100e-003	0.0000	60.5624
Worker	0.0133	9.9800e-003	0.1150	3.5000e-004	0.0362	2.9000e-004	0.0365	9.6000e-003	2.7000e-004	9.8700e-003	0.0000	31.4871	31.4871	8.7000e-004	0.0000	31.5088
Total	**0.0207**	**0.2461**	**0.1787**	**9.8000e-004**	**0.0521**	**7.4000e-004**	**0.0528**	**0.0142**	**7.0000e-004**	**0.0149**	**0.0000**	**93.1480**	**93.1480**	**4.5600e-003**	**0.0000**	**93.2620**

3.2 Building Construction - 2022

Mitigated Construction On-Site

	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
Category	tons/yr										MT/yr					
Off-Road	0.1864	1.5297	1.6298	2.6400e-003		0.0773	0.0773		0.0733	0.0733	0.0000	222.2295	222.2295	0.0495	0.0000	223.4674
Total	**0.1864**	**1.5297**	**1.6298**	**2.6400e-003**		**0.0773**	**0.0773**		**0.0733**	**0.0733**	**0.0000**	**222.2295**	**222.2295**	**0.0495**	**0.0000**	**223.4674**

Mitigated Construction Off-Site

	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
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	4.0600e-003	1.0100e-003	1.0000e-005	3.5000e-004	1.0000e-005	3.6000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	1.1888	1.1888	8.0000e-005	0.0000	1.1909
Vendor	7.2100e-003	0.2321	0.0627	6.2000e-004	0.0156	4.4000e-004	0.0160	4.5000e-003	4.2000e-004	4.9200e-003	0.0000	60.4721	60.4721	3.6100e-003	0.0000	60.5624
Worker	0.0133	9.9800e-003	0.1150	3.5000e-004	0.0362	2.9000e-004	0.0365	9.6000e-003	2.7000e-004	9.8700e-003	0.0000	31.4871	31.4871	8.7000e-004	0.0000	31.5088
Total	**0.0207**	**0.2461**	**0.1787**	**9.8000e-004**	**0.0521**	**7.4000e-004**	**0.0528**	**0.0142**	**7.0000e-004**	**0.0149**	**0.0000**	**93.1480**	**93.1480**	**4.5600e-003**	**0.0000**	**93.2620**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	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
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	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
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	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
Category	tons/yr										MT/yr					
Mitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

6.2 Area by SubCategory

Unmitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	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
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Forklifts	0	0.00	0	0	0.00	Diesel

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B – OPERATING EMISSIONS

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 1: Process Throughput

Table 1: Raw Material Delivery

Material	Liters	Gallons	Annual Number of Drums	Annual Truckloads	Notes
HCl (32% wt)	1195342	316228	---	79	
HNO_3 (50% wt)	250425	66250	---	17	
$NaClO_3$	1800	476	9	4	1
NaOH (50%) solution	16579	4386	80	12	2
DETA solution	70200	18571	338	12	2
			Total Annual Truckloads	124	
			Maximum Daily Truckloads	3	3

Data and Parameters

Daily Operating Hours	16	hours/day
Operating Days per year	260	day/year
Conversion	3.78	l/gal
Truck Capacity	4,000	gallons

Notes:

1. Assume one truck per quarter
2. Assume one truck per month
3. Assume a maximum of three trucks per day

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 2: Onroad Mobile Sources - Vehicle Information

Table 2a: Vehicle Information and Mileage Calculation

Vehicle Type	Vehicle Use	Vehicle Weight (lb)			Days	Veh/day	One-way Trips per Vehicle per Day	One-way Trips per Year	One-way Onsite Trip Mileage[1]	One-way Offsite Trip Mileage[2]	Total One-way Trip Mileage	Onsite Total VMT/yr	Offsite Total VMT/yr	Total VMT/yr
		Gross	Empty	Average										
LDT1	Full-Time Employees	6,250	6,250	6,250	260	12	2	6,240	0.125	30	30.13	780	187,200	187,980
LHD2	Shipping of Finished Rh	15,006	8,200	11,603	12	1	2	24	0.125	50	50.13	3	1,200	1,203
T7 Tractor	Ship Chems to Facility	60,000	40,000	50,000	124	3	2	744	0.125	30	30.13	93	22,320	22,413

Table 2b: Onsite/Offsite Vehicle Usage Information

Vehicle Type	Fuel	# Veh	Trips per Year	Onsite Total VMT/yr	Offsite Total VMT/yr	Total VMT/yr	Peak Day Trips	Peak Day VMT
LDT1	gasoline	12	6,240	780	187,200	187,980	24	723
LHD2	diesel	1	24	3	1,200	1,203	2	100
T7 Tractor	diesel	3	744	93	22,320	22,413	6	181

Notes:

1. Conservative estimate.
2. Conservative estimate.

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 3: Onroad Mobile Sources - Exhaust Emissions

Table 3a: Onroad Mobile Sources - Criteria Pollutant Exhaust Emissions

Pollutant	Vehicle Type	Running Exhaust EF (g/mile)	Idle EF (g/trip)	Start EF (g/trip)	Total Running Exhaust (lb/yr)	Total Idle (lb/yr)	Total Start (lb/yr)	Total Emissions (lb/yr)	Onsite Emissions (lb/yr)	Offsite Emissions (lb/yr)	Peak Day Emissions (lb/day)
NOx	LDT1	0.078	0.00000	0.208	32.31	0.00	2.86	35.17	0.15	35.02	0.14
	LHD2	0.914	0.13513	0.000	2.42	0.01	0.00	2.43	0.01	2.42	0.20
	T7 Tractor	2.346	1.74894	1.860	115.82	2.87	3.05	121.74	0.51	121.23	0.98
ROG	LDT1	0.021	0.00000	0.264	8.70	0.00	3.63	12.34	0.05	12.28	0.05
	LHD2	0.058	0.00873	0.000	0.15	0.00	0.00	0.15	0.00	0.15	0.01
	T7 Tractor	0.018	0.14800	0.000	0.90	0.24	0.00	1.14	0.00	1.13	0.01
CO	LDT1	1.040	0.00000	2.053	430.66	0.00	28.22	458.88	1.90	456.97	1.76
	LHD2	0.298	0.07232	0.000	0.79	0.00	0.00	0.79	0.00	0.79	0.07
	T7 Tractor	0.191	2.18687	0.000	9.45	3.58	0.00	13.03	0.05	12.98	0.11
SOx	LDT1	0.003	0.00000	0.001	1.20	0.00	0.01	1.21	0.01	1.21	0.00
	LHD2	0.005	0.00015	0.000	0.01	0.00	0.00	0.01	0.00	0.01	0.00
	T7 Tractor	0.012	0.00340	0.000	0.58	0.01	0.00	0.59	0.00	0.59	0.00
PM10	LDT1	0.002	0.00000	0.002	0.83	0.00	0.03	0.86	0.00	0.86	0.00
	LHD2	0.014	0.00223	0.000	0.04	0.00	0.00	0.04	0.00	0.04	0.00
	T7 Tractor	0.021	0.00063	0.000	1.06	0.00	0.00	1.06	0.00	1.05	0.01
PM2.5	LDT1	0.002	0.00000	0.002	0.77	0.00	0.03	0.79	0.00	0.79	0.00
	LHD2	0.014	0.00213	0.000	0.04	0.00	0.00	0.04	0.00	0.04	0.00
	T7 Tractor	0.021	0.00060	0.000	1.01	0.00	0.00	1.01	0.00	1.01	0.01

Table 3b: Onroad Mobile Sources - Fugitive ROG Emissions

Pollutant	Vehicle Type	Hot Soak (g/trip)	Running Loss (g/trip)	Resting Loss (g/trip)	Diurnal (g/trip)	Total Hot Soak (lb/yr)	Total Running Loss (lb/yr)	Total Resting Loss (lb/yr)	Total Diurnal (lb/yr)	Total Emissions (lb/yr)	Onsite Emissions (lb/yr)	Offsite Emissions (lb/yr)	Peak Day Emissions (lb/day)
VOC	LDT1	0.16	0.57	0.09	0.11	2.2	7.9	1.2	1.5	12.85	0.05	12.79	0.05
	LHD2	-	-	-	-	-	-	-	-	-	-	-	-
	T7 Tractor	-	-	-	-	-	-	-	-	-	-	-	-

Table 3c: Onroad Mobile Sources - Fugitive PM Emissions

Pollutant	Vehicle Type	Tire Wear (g/mile)	Break Wear (g/mile)	Total Tire Wear (lb/yr)	Total Break Wear (lb/yr)	Total Emissions (lb/yr)	Onsite Emissions (lb/yr)	Offsite Emissions (lb/yr)	Peak Day Emissions (lb/day)
PM10	LDT1	0.0080	0.0368	3.31	15.22	18.53	0.08	18.45	0.071
	LHD2	0.0120	0.0892	0.03	0.24	0.27	0.00	0.27	0.022
	T7 Tractor	0.0360	0.0617	1.78	3.05	4.83	0.02	4.81	0.039
PM2.5	LDT1	0.0020	0.0158	0.83	6.52	7.35	0.03	7.32	0.028
	LHD2	0.0030	0.0382	0.01	0.10	0.11	0.00	0.11	0.009
	T7 Tractor	0.0090	0.0265	0.44	1.31	1.75	0.01	1.74	0.014

Heraeus Precious Metal North America
Rhodium Pricess Line Initial Study
Air Emissions

Table 3d: Summary of Criteria Pollutant Emissions from Onroad Operations Vehicles

Type	NO_x (lb/yr)	VOC (lb/yr)	CO (lb/yr)	SO_x (lb/yr)	PM_{10} (lb/yr)	$PM_{2.5}$ (lb/yr)	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Exhaust	159.34	13.63	472.70	1.81	1.96	1.84	1.32	0.07	1.94	0.01	0.02	0.01
Fugitive	---	12.85	---	---	23.62	9.21	---	0.05	---	---	0.13	0.05
Total (Lb/Yr or Lb/day)	159.34	26.47	472.70	1.81	25.58	11.05	1.32	0.12	1.94	0.01	0.15	0.07
Total (TPY)	0.08	0.01	0.24	0.00	0.01	0.01	---	---	---	---	---	---

Table 3e: Onroad Mobile Sources - Greenhouse Gas Exhaust Emissions

Pollutant	Vehicle Type	Running Exhaust EF (g/mile)	Idle EF (g/trip)	Start EF (g/trip)	Total Running Exhaust (MT/yr)	Total Idle (MT/yr)	Total Start (MT/yr)	Total Emissions (MT/yr)
CO2	LDT1	293.486	0.000	59.016	55.2	0.000	0.4	56
	LHD2	494.500	16.253	0.000	0.6	0.000	0.0	1
	T7 Tractor	1253.674	360.055	0.000	28.1	0.268	0.0	28
CH4	LDT1	0.005	0.000	0.055	0.0	0.000	0.00	0.00
	LHD2	0.003	0.000	0.000	0.0	0.000	0.00	0.00
	T7 Tractor	0.001	0.007	0.000	0.0	0.000	0.00	0.00
N2O	LDT1	0.006	0.000	0.025	0.00	0.000	0.00	0.00
	LHD2	0.078	0.003	0.000	0.00	0.000	0.00	0.00
	T7 Tractor	0.197	0.057	0.000	0.00	0.000	0.00	0.00
CO2e	LDT1							56
	LHD2							1
	T7 Tractor							30
	Total							**86**

Table 3f: GHG Emissions from Onroad Mobile Source Activity

CO_2	CH_4	N_2O	Total CO_2e
(MT/Yr)	(Kg/Yr)	(Kg/Yr)	(MT/Yr)
84	1.29	5.92	86

Table 3g: Global Warming Potential

Pollutant	GWP
CO2	1
CH4	25
N2O	298

Notes:

1. EMFAC Idle EF is reported as g/vehicle/day. It is converted to g/trip by dividing by the EMFAC value by trip/vehicle/day.
2. EMFAC Resting Loss and Diurnal EFs are reported as g/vehicle/day. They are converted to g/trip by dividing by the EMFAC value by trip/vehicle/day.

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 4: Onroad Mobile Sources - Paved Road Dust

Table 4a: Paved Road PM Emission Factors[1]

Vehicle	Average Vehicle Weight (ton)	Silt Loading sL $(g/m^2)^2$	Pollutant	Daily (lb/VMT)	Annual (lb/VMT)
Fleet Average	2.40	0.03	PM10	2.21E-04	2.17E-04
			PM2.5	5.53E-05	5.42E-05

$E = k\ (sL)^{0.91} \times (W)^{1.02}$* **[Annual Only]** C_f

Variable	Value	UOM
k (PM10)	1.00	g/VMT
k(PM2.5)	0.25	g/VMT
Rain Days[3]	30	day/yr
C_f	0.979	

Table 4b: Summary of Onroad VMT by Phase and Road Type

EMFAC Vehicle Type	Activity	Unit of Measure	Offsite	Onsite	Total
LDT1	Full-Time Employees	VMT/day	720	3	723
		VMT/Yr	187,200	780	187,980
LDT1	Shipping of Finished Rh	VMT/day	100	0	100
		VMT/Yr	1,200	3	1,203
T7 Tractor	Ship Chems to Facility	VMT/day	180	1	181
		VMT/Yr	22,320	93	22,413

Table 4c: Entrained Road Dust Emissions from Travel on Paved Roads

EMFAC Vehicle Type	Activity	Pollutant	Offsite (lb/day)	Onsite (lb/day)	Total (lb/day)	Offsite (lb/yr)	Onsite (lb/yr)	Total (lb/yr)
LDT1	Full-Time Employees	PM10	1.59E-01	6.64E-04	1.60E-01	4.06E+01	1.69E-01	4.07E+01
		PM2.5	3.98E-02	1.66E-04	4.00E-02	1.01E+01	4.23E-02	1.02E+01
LHD2	Shipping of Finished Rh	PM10	2.21E-02	5.53E-05	2.22E-02	2.60E-01	6.50E-04	2.61E-01
		PM2.5	5.53E-03	1.38E-05	5.55E-03	6.50E-02	1.63E-04	6.52E-02
T7 Tractor	Ship Chems to Facility	PM10	3.98E-02	1.66E-04	4.00E-02	4.84E+00	2.02E-02	4.86E+00
		PM2.5	9.96E-03	4.15E-05	1.00E-02	1.21E+00	5.04E-03	1.21E+00
Total	All	PM10	0.22	0.00	0.22	45.67	0.19	45.86
		PM2.5	0.06	0.00	0.06	11.42	0.05	11.46

Notes:

1. Methodology per AP-42, 13.2.1 Paved Roads
2. AP-42, Table 13.2.1-2 ; Ubiquitous baseline ; >10,000 ADT
3. CalEEMOd, Appendix D, Table 1.1. Riverside County = 28 days ; San Bernardino County = 32 days. Average = 30 days.
http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-d2020-4-0-full-merge.pdf?sfvrsn=6

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 5: Boiler Emissions

Table 5a: Boiler Criteria Pollutant Emission Estimates

Pollutant	Controlled Emission Factor[1] (lb/mmcf)	AHU (lb/hr)	AHC (lb/hr)	MHU (lb/hr)	MHC (lb/hr)	MDU (lb/day)	MDC (lb/day)	AA[3] (lb/yr)	30DA[4] (lb/day)	TPY
VOC	5.5	0.017	0.017	0.017	0.017	0.40	0.40	147.63	0.40	0.07
NOx	11.2	0.034	0.034	0.034	0.034	0.82	0.82	300.64	0.82	0.15
SOx	0.6	0.002	0.002	0.002	0.002	0.04	0.04	16.11	0.04	0.01
CO	38	0.116	0.116	0.116	0.116	2.79	2.79	1020.01	2.79	0.51
PM10	7.6	0.023	0.023	0.023	0.023	0.56	0.56	204.00	0.56	0.10

Table 5b: Boiler TAC Emission Estimates

Pollutant	Emission Factor <10MMBtu/hr (lb/mmcf)	MHC (lb/hr)	MAC[3] (lb/yr)
Benzene[5]	0.008	2.45E-05	0.21
Formaldehyde[5]	0.017	5.21E-05	0.46
PAHs[5]	0.0004	1.23E-06	0.01
Ammonia[5]	3.2	9.81E-03	85.90
Naphthalene[6]	0.0003	9.19E-07	0.01
Acetaldehyde[6]	0.0043	1.32E-05	0.12
Acrolein[6]	0.0027	8.27E-06	0.07
Propylene[6]	0.731	2.24E-03	19.62
Toluene[6]	0.0366	1.12E-04	0.98
Xylenes[6]	0.0272	8.33E-05	0.73
Ethyl benzene[6]	0.0095	2.91E-05	0.26
Hexane[6]	0.0063	1.93E-05	0.17

Notes, Data and Parameters

1. Default emission factors presented in 2018 AER Help and Support, except:
NOx emission factor adjusted to 9 ppm: 0.011 lb/MMBtu
CO emission factor adjusted to 50 ppm: 0.037 lb/MMBtu
2. HMPN operates two existing 12.6 MMBtu/hr boilers. It is assumed that the Rh process line will require heat at a rate of 25% capacity of one boiler, or 3.15 MMBtu/hr.
Heat input 3.15 MMBtu/hr adjusted to MMCF using 1028 MMBtu/MMCF:
0.003 MMCF/hr
3. Maximum operating hours per year: 8760 hr/yr
4. 30 day average: 1
5. Default emission factors presented in 2018 AER Help and Support
6. Ventura County AB2588 Combustion Emission Factors

Heraeus Precious Metal North America
Rhodium Pricess Line Initial Study
Air Emissions

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 5c: Greenhouse Gas (GHG) Emissions Calculator for Stationary Combustion Sources[1,2]

			CARB GHG Reportable Emissions				EPA GHG Reportable Emissions			
Selected Stationary Source Combustion Fuels for Facility[3]	**Annual Amount Combusted**	**Unit of Measure**	**Non-Biogenic CO_2 Emissions[4] (metric tons)**	**Biogenic CO_2 Emissions[4] (metric tons)**	**CH_4 Emissions[4] (metric tons)**	**N_2O Emissions[4] (metric tons)**	**Non-Biogenic CO_2 Emissions[4] (metric tons)**	**Biogenic CO_2 Emissions[4] (metric tons)**	**CH_4 Emissions[4] (metric tons)**	**N_2O Emissions[4] (metric tons)**
Natural Gas - Weighted U.S. Average (scf)	26842412.45	(scf)	1,463.03		0.0276	0.0028	1,461.29		0.0275	0.0028
GHG Emissions (metric tons/year)			1,463.03		0.03	0.00	1461.29		0.03	0.00
Global Warming Potentials (GWP)			1	1	21	310	1	1	25	298
CO_2e Emissions (metric tons CO_2e/year)			**1,463.03**		**0.58**	**0.86**	**1461.29**		**0.69**	**0.82**
Total Annual Non-Biogenic CO_2e Emissions for Selected Fuels[4]			**1,464 metric tons**				**1,463 metric tons**			
Total Annual CO_2e Emissions for Selected Fuels[5]			**1,464 metric tons**				**1,463 metric tons**			
Total Annual CO_2e Emissions for Selected Fuels[5]			**1,614 short tons**				**1,612 short tons**			
Required Reporting[6,7,8]			**No Reporting Required Except for Source Categories**				**No Reporting Required Except for Source Categories**			

Notes:

1. This calculator is only meant to be used to estimate stationary combustion GHG Emissions to determine if California Air Resources Board (CARB) or Environmental Protection Agency (EPA) thresholds apply. If total emissions for the facility are close to the threshold, please review the appropriate regulation to perform more rigorous analysis to determine reporting requirements.

2. In addition to stationary combustion emissions, many facilities are required to report their GHG Emissions based on source catergory (independent of total GHG Emissions), and other sources are required to report if combined source and process emissions exceeds the reporting threshold [25,000 Metric Tons (MT) CO_2e for EPA and 10,000 MT CO_2e for CARB]. The list of these source categories are given on worksheet titled **"Source List"**. More information determining process GHG Emissions can be found in the EPA and CARB mandatory reporting regulations.

3. Emergency/back-up generating units, fire suppression systems and equipment, portable equipment, and primary and secondary schools with an NAICS code of 611110 (not exempt under EPA) are excluded from the reporting of GHG Emissions under 17 CCR 95101(f). Emergency equipment, irrigation pumps at agricultural operations, flares (unless required under a source category) Mobile Sources are also exempt from reporting and are covered under other regulations.

4. All Higher Heating Values, and CO_2, CH_4, and N_2O emission factors used to calculate CO_2e emisssions from annual fuel usage are from 40 CFR Part 98, Subpart C, Tables C-1 and C-2.

5. The Annual CO_2e emissions are also displayed in short tons to assist in determing CO_2e permitting thresholds for the EPA GHG Tailoring Rule. Also, CO2 Emissions reported under 40 CFR Part 75 are reported in short tons as well.

6. CARB Reporting Thresholds: under 10,000 MT CO2e except source categories, no reporting; 10,000 to less than 25,000 MT CO2e, CARB abbreviated GHG reporting; over 25,000 MT CO2e, CARB Full Reporting and Verification require: over 25,000 MT non-biogenic CO2e, CARB reporting and Cap-and-Trade registration required.

7. EPA Reporting Threshold: under 25,000 MT non-biogenic CO2e, no reporting except source categories; over 25,000 MT CO2e, EPA GHG Reporting; over 100,000 short tons CO2e, EPA GHG Reporting and Title V permitting.

8. Source Categories with no minimum reporting threshold are listed on the tab titled "Source List".

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 6: Indirect Emissions

Table 6a: Electricity Usage

Equipment Category	Equipment Ratings (hp)	Equipment Ratings (kW)	Annual Energy Consumption (kWh)	Intensity Emission Factor[4] (lb/MWh)	CO2e Emissions (MT/yr)
NOx Scrubber Blower	20	14.9	62,067.20	393	11.06
HCl Scrubber Blower	15	11.2	46,550.40	393	8.30
Electrolytic Cells[1]	---	30	124,800.00	393	22.25
Ovens[2]	---	28.8	119,808.00	393	21.36
Evaporators[3]	---	19.2	79,872.00	393	14.24
			433,097.60	**Total**	**77.21**

Notes:

1. Assume 2000 amps and 15 volts for electrolytic cells
2. Assume 480 volt, 20 amp load, three ovens
3. Assume 480 volt, 20 amp load, two evaporators
4. CalEEMod, Appendix D, Table 1.2. Southern California Edison.
http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-d2020-4-0-full-merge.pdf?sfvrsn=6

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 7: Summary of Emissions

Table 7a: Summary of Daily Criteria Pollutant Emissions

Activity	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Onroad Vehicle Exhaust	1.32	0.12	1.94	0.01	0.15	0.07
Onroad Vehicle Paved Road Dust	--	--	--	--	0.22	0.06
Boiler	0.82	0.40	2.79	0.04	0.56	0.56
Indirect Emissions	--	--	--	--	--	--
Total	1.32	0.12	1.94	0.01	0.37	0.12

Table 7b: Summary of Annual Criteria Pollutant Emissions

Activity	NOx (lb/yr)	VOC (lb/yr)	CO (lb/yr)	SOx (lb/yr)	PM10 (lb/yr)	PM2.5 (lb/yr)
Onroad Vehicle Exhaust	159.34	26.47	472.70	1.81	25.58	11.05
Onroad Vehicle Paved Road Dust	--	--	--	--	45.86	11.46
Boiler	300.64	147.63	1,020.01	16.11	204.00	204.00
Indirect Emissions	--	--	--	--	--	--
Total	459.97	174.11	1,492.71	17.92	275.45	226.52
Total (TPY)	0.23	0.09	0.75	0.01	0.14	0.11

Table 7c: Summary of Annual GHG Emissions

Activity	CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (MT/Yr)
Onroad Vehicle Exhaust	84.50	0.00	0.01	86.30
Onroad Vehicle Paved Road Dust	--	--	--	--
Boiler	1463.03	0.03	0.00	1464.47
Indirect Emissions	--	--	--	77.21
Total	**1547.53**	**0.03**	**0.01**	**1627.97**

GHG Threshold	--	--	--	10,000
Emissions > Threshold?	--	--	--	No

Note:

1. Emissions from burner usage are the higher of the emissions from natural gas or propane.

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 8: Summary of Emissions

Table 8a: Summary of HCl Emissions

Process Step	Emission Mechanism	MHU (lb/hr)	MHC (lb/hr)	MAC (lb/yr)
2a	Loading	1.81E-01	9.03E-05	1.58E-02
3b	Loading	4.78E+00	2.39E-03	4.18E-01
5	Loading	9.05E-02	4.53E-05	7.92E-03
8a	Loading	1.81E-01	9.03E-05	1.58E-02
9b	Loading	4.78E+00	2.39E-03	4.18E-01
11	Loading	9.05E-02	4.53E-05	7.92E-03
14a	Loading	1.81E-01	9.03E-05	1.58E-02
15b	Loading	4.78E+00	2.39E-03	4.18E-01
18	Loading	1.25E-02	6.25E-06	1.09E-03
19	Loading	5.14E-02	2.57E-05	4.49E-03
20	Loading	5.22E-02	2.61E-05	4.57E-03
22	Loading	5.50E-03	2.75E-06	4.81E-04
22	Loading	3.06E-05	1.53E-08	2.68E-06
3a	Process Loss	224.42	0.11	98.19
3c	Process Loss	52.63	0.03	23.03
9a	Process Loss	224.42	0.11	98.19
9c	Process Loss	52.63	0.03	23.03
15a	Process Loss	224.42	0.11	98.19
15c	Process Loss	52.63	0.03	23.03
22	Surface Evap	3.00E-05	1.50E-08	6.30E-05
22	Surface Evap	3.00E-05	1.50E-08	6.30E-05
22	Surface Evap	3.00E-05	1.50E-08	6.30E-05
22	Surface Evap	3.00E-05	1.50E-08	6.30E-05
22	Mist	4.33E-04	2.16E-07	9.09E-04
22	Mist	4.33E-04	2.16E-07	9.09E-04
22	Mist	4.33E-04	2.16E-07	9.09E-04
22	Mist	4.33E-04	2.16E-07	9.09E-04
Total	All	846.37	0.42	364.97

Heraeus Precious Metal North America
Rhodium Pricess Line Initial Study
Air Emissions

Table 8b: Summary of Criteria Pollutant Emissions

Pollutant	MHU (lb/hr)	MHC (lb/hr)	MDU (lb/day)	MDC (lb/day)	AA (lb/yr)	30-DA (lb/day)
NOx	113.73	0.57	1532.23	7.66	1340.70	7.66
VOC	6.11E-03	3.06E-06	6.11E-03	3.06E-06	5.35E-04	3.06E-06
$PM10^{1}$	846.71	0.42	4171.58	0.83	365.28	0.83

Table 8c: Summary of TAC Emissions

Pollutant	MHU (lb/hr)	MHC (lb/hr)	MAC (lb/yr)	Annual Average for Chronic HRA (lb/hr)
HCl	846.37	0.42	364.97	0.0417
HNO_3	3.39E-01	1.70E-03	2.97E-01	3.39E-05
Cl_2	151.78	0.08	66.41	0.0076

Notes:
1. Consistent with SCAQMD AB2588 AER guidance, PM10 emissions include acids.

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 9: Summary of Emissions

Tble 9a: Summary of Daily Criteria Pollutant Emissions

Activity	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Onroad Vehicle Exhaust	1.32	0.12	1.94	0.01	0.15	0.07
Onroad Vehicle Paved Road Dust	--	--	--	--	0.22	0.06
Boiler	0.82	0.40	2.79	0.04	0.56	0.56
Rhodium Process Line	7.66	0.00	--	--	0.83	0.83
Total Project Emissions	9.80	0.52	4.73	0.05	1.76	1.51
CEQA Significance Thresholds (lb/day)	55	55	550	150	150	55
Exceed Threshold?	No	No	No	No	No	No

Table 9b: Summary of Daily Construction Emissions

Activity	NOx (lb/day)	VOC (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Summer	23.53	2.77	22.40	0.04	1.77	1.24
Winter	23.54	2.79	22.34	0.04	1.77	1.06
Maximum	23.54	2.79	22.40	0.04	1.77	1.24
CEQA Significance Thresholds (lb/day)	55	55	550	150	150	55
Exceed Threshold?	No	No	No	No	No	No

Table 9c: Construction LST Interpolation

Distance (m)	NOx (lb/day)	CO (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
50	81	735	13	4
100	94	1088	30	8
80	88.8	946.8	23.2	6.4

Table 9d: Construction LST Evaluation

Project Element	NOx (lb/day)	CO (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Total Emissions	23.54	22.40	1.77	1.24
SCAQMD Localized Screening Threshold (adjusted for 1 acre and 80 meters)	88.8	946.8	23.2	6.4
Exceed SCAQMD Threshold?	No	No	No	No

Heraeus Precious Metal North America
Rhodium Pricess Line Initial Study
Air Emissions

Table 9e: Operations LST Interpolation

Distance (m)	NOx (lb/day)	CO (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
50	81	735	3	1
100	94	1088	8	2
80	88.8	946.8	6	1.6

Table 9f: Operations LST Evaluation

Project Element	NOx (lb/day)	CO (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Mobile Sources (On-Site)	1.32	1.94	0.37	0.12
Operations	8.48	2.79	2.60	1.39
Total Emissions	9.80	4.73	2.97	1.51
SCAQMD Localized Screening Threshold (adjusted for 1 acre and 80 meters)	88.8	946.8	6	1.6
Exceed SCAQMD Threshold?	No	No	No	No

Table 9g: Construction GHG

	CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (MT/Yr)
Total	315.38	0.05	0.00	316.73
Amortized over 30 years	10.51	0.00	0.00	10.56

Table 9h: Summary of Annual GHG Emissions

Activity	CO2 (MT/yr)	CH4 (MT/yr)	N2O (MT/yr)	CO2e (MT/Yr)
Construction	10.51	0.00	0.00	10.56
Onroad Vehicle Exhaust	84.50	0.00	0.01	86.30
Onroad Vehicle Paved Road Dust	--	--	--	--
Boiler	1463.03	0.03	0.00	1464.47
Indirect Emissions	--	--	--	77.21
Rhodium Process Line	--	--	--	--
Total	**1547.53**	**0.03**	**0.01**	**1627.97**
GHG Threshold	--	--	--	10,000
Emissions > Threshold?	--	--	--	No

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Table 10: Diesel and Gasoline Vehicle TAC Emissions

Table 10a: DPM Emissions

Vehicle	Onsite Exhaust		
	PM10 Emissions (lb/hr)	PM10 Emissions (lb/day)	PM10 Emissions (lb/yr)
LHD2	2.28E-08	3.65E-07	9.50E-05
T7 Tractor	1.06E-06	1.69E-05	4.40E-03
Total PM10 = DPM	1.08E-06	1.73E-05	4.49E-03

Table 10b: Gasoline Vehicle Mileage and Fuel Consumption

Parameter	Onsite
VMT/Hr	0.19
Fuel Consumption (gal/hr)	0.01
VMT/Year	780
Fuel Consumption (gal/yr)	48.15

Average Fuel Economy Light Truck[1] 16.2 MPG

Table 10c: TAC Emissions from Onroad Gasoline Vehicles

TAC	CAS#	Emission Factor[2] (lb/mgal)	Onsite (lb/hr)	Onsite (lb/yr)
1,2,4-Trimethylbenzene	95636	5.89E-01	6.817E-06	2.836E-02
1,3-Butadiene	106990	3.24E-01	3.750E-06	1.560E-02
Acetaldehyde	75070	1.47E-01	1.701E-06	7.078E-03
Acrolein	107028	8.25E-02	9.549E-07	3.972E-03
Benzene	71432	1.57E+00	1.817E-05	7.559E-02
Chlorine	7782505	4.55E-01	5.266E-06	2.191E-02
Copper	7440508	3.30E-03	3.819E-08	1.589E-04
Ethyl benzene	100414	6.42E-01	7.431E-06	3.091E-02
Formaldehyde	50000	1.01E+00	1.169E-05	4.863E-02
Hexane	110543	9.42E-01	1.090E-05	4.536E-02
Manganese	7439965	3.30E-03	3.819E-08	1.589E-04
Methanol	67561	2.42E-01	2.801E-06	1.165E-02
Methyl ethyl ketone {2-Butanone}	78933	1.18E-02	1.366E-07	5.681E-04
Methyl tert-butyl ether	1634044	1.15E+00	1.331E-05	5.537E-02
m-Xylene	108383	2.17E+00	2.512E-05	1.045E-01
Naphthalene	91203	2.95E-02	3.414E-07	1.420E-03
Nickel	7440020	3.30E-03	3.819E-08	1.589E-04
o-Xylene	95476	7.54E-01	8.727E-06	3.630E-02
Styrene	100425	7.07E-02	8.183E-07	3.404E-03
Toluene	108883	3.50E+00	4.051E-05	1.685E-01

Notes:

1. Average fuel economy from:
https://en.wikipedia.org/wiki/Fuel_efficiency
2. SJVAPCD, AB 2588 "Hot Spots" Air Toxics Profiles, March 27, 2017, District Toxic Profile ID 176, Gasoline-Fired Portable Catalyst ICE
https://www.valleyair.org/busind/pto/AB-2588-Toxics-Profiles.docx

Table 11: TAC from Paved Road Dust

Table 11a: Criteria Pollutant Information

Pollutant	Onsite (lb/hr)	Onsite (lb/day)	Onsite (lb/yr)
PM10	5.53E-05	8.85E-04	1.90E-01

Table 11b: TAC from Paved Road Dust

TAC	Wt. Fraction[1]	TAC Emissions	
		lb/hr	lb/yr
Arsenic	0.000013	7.19E-10	2.47E-06
Cadmium	0.000003	1.66E-10	5.70E-07
Chromium[3]	0.00000085	4.70E-11	1.61E-07
Cobalt	0.000023	1.27E-09	4.37E-06
Copper	0.000148	8.19E-09	2.81E-05
Lead	0.000124	6.86E-09	2.35E-05
Manganese	0.0008	4.43E-08	1.52E-04
Nickel	0.000012	6.64E-10	2.28E-06
Mercury	0.000009	4.98E-10	1.71E-06
Selenium	0.000002	1.11E-10	3.80E-07
Vanadium (Fume Or Dust)	0.000071	3.93E-09	1.35E-05

Notes:

1. CARB speciation profile for Paved Roads (#471), accessed:
https://ww2.arb.ca.gov/speciation-profiles-used-carb-modeling
2. Hexavalent chromium is assumed to be 5% of total chromium per SJVAPCD guidance.

APPENDIX C – HEALTH RISK ASSESSMENT

TIER 1/TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

Application Deemed Complete Date	08/20/21
A/N	ACUTE
Facility Name	Heraeus Metal Processing Inc

1. Stack Data	**Input**	**Units**
Hours/Day	24	hrs/day
Days/Week	7	days/wk
Weeks/Year	52	wks/yr
Control Efficiency	0.000	
Does source have T-BACT?	YES	
Source type (Point or Volume)	P	P or V
Stack Height or Building Height	35	feet
Building Area	5000	ft^2
Distance-Residential	438	meters
Distance-Commercial	80	meters
Meteorological Station	Pico Rivera	
Project Duration (Short term options: 2, 5, or 9 years; Else 30 years)	30	years

Conversion Units (select unit

From

1 feet

To

0.3048 meter

Source Type	Other
Screening Mode (**NO** = Tier 1 or Tier 2; **YES** = Tier 3)	NO

FOR SOURCE TYPE OTHER THAN BOILER, CREMATORY, ICE, PRESSURE WASHER, OR SPRAY BOOTH, FILL IN THE USER DEFINED TABLE BELOW

Fac Name: Heraeus Metal Processing Inc A/N: ACUTE

TAC Code	Compound	Emission Rate (lbs/hr)	Molecular Weight	R1 - Uncontrolled (lbs/hr)	Efficiency Factor (Fraction range 0-1)	R2-Controlled (lbs/hr)
H9	Hydrochloric Acid (Hydrogen Chloride)	4.23E-01	36.46	4.23E-01	0.00000	0.423183039
N21	Nitric Acid	1.70E-03	63.02	1.70E-03	0.00000	0.001695586
C7	Chlorine	7.59E-02	70.906	7.59E-02	0.00000	0.075892183

EMISSIONS ARE ENTERED ON THE EMISSIONS WORKSHEET OR ON ONE OF EQUIPMENT WORKSHEETS

INPUT PARAMETERS ENTERED ON THE EMISSIONS SHEET ARE USED FOR TIERS 1 AND TIER 2 ANALYSES

TIER 2 SCREENING RISK ASSESSMENT REPORT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

A/N: ACUTE **Fac:** Heraeus Metal Processing Inc **Application deemed complete date:** 8/20/2021

1. Stack Data

Equipment Type: Other

Combustion Eff: 0.0

With T-BACT

Operation Schedule: 24 hrs/day; 7 days/week; 52 weeks/year

Stack Height: 35 ft

Distance to Residential: 438 m

Distance to Commercial: 80 m

Meteorological Station: Pico Rivera

2. Tier 2 Data

Dispersion Factors tables	Point Source
For Chronic X/Q	Table 6
For Acute X/Q max	Table 6.4

Dilution Factors

Receptor	X/Q (µg/m³)/(tons/yr)	X/Qmax (µg/m³)/(lbs/hr)
Residential	0.23	11.45
Commercial - Worker	4.53	124.16

Intake and Adjustment Factors

	Residential	Worker
Year of Exposure	30	
Combined Exposure Factor (CEF) - Table 4	677.40	55.86
Worker Adjustment Factor (WAF) - Table 5	1	1.00

A/N: ACUTE Application deemed complete date: 08/20/21

3. Rule 1401 Compound Data

Compound	R1 - Uncontrolled (lbs/hr)	R2 - Controlled (lbs/hr)	CP $(mg/kg\text{-}day)^{-1}$	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic ($\mu g/m^3$)	REL 8-hr Chronic ($\mu g/m^3$)	REL Acute ($\mu g/m^3$)	MWAF
Hydrochloric Acid (Hydrogen Chloride)	4.23E-01	4.23E-01		1.00	1.00	1.00	1.00	9.00E+00		2.10E+03	1
Nitric Acid	1.70E-03	1.70E-03		1.00	1.00	1.00	1.00			8.60E+01	1
Chlorine	7.59E-02	7.59E-02		1.00	1.00	1.00	1.00	2.00E-01		2.10E+02	1

4. Emission Calculations

Compound	R1 (lbs/hr)	R2 (lbs/hr)	R1 (lbs/day)	R2 (lbs/day)	R2 (lbs/yr)	R2 (tons/yr)
Hydrochloric Acid (Hydrogen Chloride)	4.23E-01	4.23E-01	1.02E+01	1.02E+01	3.70E+03	1.85E+00
Nitric Acid	1.70E-03	1.70E-03	4.07E-02	4.07E-02	1.48E+01	7.41E-03
Chlorine	7.59E-02	7.59E-02	1.82E+00	1.82E+00	6.63E+02	3.31E-01
Total	**5.01E-01**	**5.01E-01**	**1.20E+01**	**1.20E+01**	**4.37E+03**	**2.19E+00**

TIER 2 RESULTS

A/N: ACUTE **Application deemed complete date:** 08/20/21

5a. MICR

MICR Resident = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Resident * CEF Resident * MP Resident * 1e-6 * MWAF

MICR Worker = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Worker * CEF Worker* MP Worker* WAF Worker* 1e-6 * MWAF

Compound	Residential	Commercial
Hydrochloric Acid (Hydrogen Chloride)		
Nitric Acid		
Chlorine		
Total		
	No Cancer Risk	**No Cancer Risk**

5b. Is Cancer Burden Calculation Needed (MICR >1E-6)? **NO**

New X/Q at which $MICR_{70yr}$ is one-in-a-million [(µg/m³)/(tons/yr)]:
New Distance, interpolated from X/Q table using New X/Q (meter):
Zone Impact Area (km²):
Zone of Impact Population (7000 person/km²):
Cancer Burden:

6. Hazard Index Summary **A/N:** ACUTE **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max * MWAF]/ Acute REL
HIC = [Q(ton/yr) * (X/Q) * MP * MWAF] / Chronic REL
HIC 8-hr= [Q(ton/yr) * (X/Q) * WAF * MWAF] / 8-hr Chronic REL

Target Organs	Acute	Chronic	8-hr Chronic	Acute Pass/Fail	Chronic Pass/Fail	8-hr Chronic Pass/Fail
Alimentary system (liver) - AL				Pass	Pass	Pass
Bones and teeth - BN				Pass	Pass	Pass
Cardiovascular system - CV				Pass	Pass	Pass
Developmental - DEV				Pass	Pass	Pass
Endocrine system - END				Pass	Pass	Pass
Eye	6.99E-02			Pass	Pass	Pass
Hematopoietic system - HEM				Pass	Pass	Pass
Immune system - IMM				Pass	Pass	Pass
Kidney - KID				Pass	Pass	Pass
Nervous system - NS				Pass	Pass	Pass
Reproductive system - REP				Pass	Pass	Pass
Respiratory system - RESP	7.23E-02	8.44E+00		Pass	**Fail**	Pass
Skin				Pass	Pass	Pass

6a. Hazard Index Acute - Resident

HIA = [Q(lb/hr) * (X/Q)max resident * MWAF] / Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)				2.31E-03					2.31E-03	
Nitric Acid									2.26E-04	
Chlorine				4.14E-03					4.14E-03	
Total				6.45E-03					6.67E-03	

6a. Hazard Index Acute - Worker **A/N:** ACUTE **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max Worker * MWAF] / Acute REL

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)				2.50E-02					2.50E-02	
Nitric Acid									2.45E-03	
Chlorine				4.49E-02					4.49E-02	
Total				6.99E-02					7.23E-02	

6b. Hazard Index Chronic - Resident

HIC = [Q(ton/yr) * (X/Q) Resident * MP Chronic Resident * MWAF] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)												4.67E-02	
Nitric Acid													
Chlorine												3.77E-01	
Total												4.24E-01	

A/N: ACUTE Application deemed complete date: 08/20/21

6b. Hazard Index Chronic - Worker

HIC = [Q(ton/yr) * (X/Q) * MP Chronic Worker * MWAF] / Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)												9.30E-01	
Nitric Acid													
Chlorine												7.51E+00	
Total												**8.44E+00**	

6c. 8-hour Hazard Index Chronic - Resident **A/N:** ACUTE **Application deemed complete date:** 08/20/21

HIC 8-hr = [Q(ton/yr) * (X/Q) Resident * WAF Resident * MWAF] / 8-hr Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride) Nitric Acid Chlorine													
Total													

6c. 8-hour Hazard Index Chronic - Worker

HIC 8-hr = [Q(ton/yr) * (X/Q) Worker * WAF Worker * MWAF] / 8-hr Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)													
Nitric Acid													
Chlorine													
Total													

TIER 1/TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

Application Deemed Complete Date	08/20/21
A/N	CHRONIC
Facility Name	Heraeus Metal Processing Inc

1. Stack Data	**Input**	**Units**
Hours/Day	24	hrs/day
Days/Week	7	days/wk
Weeks/Year	52	wks/yr
Control Efficiency	0.000	
Does source have T-BACT?	YES	
Source type (Point or Volume)	P	P or V
Stack Height or Building Height	35	feet
Building Area	5000	ft^2
Distance-Residential	438	meters
Distance-Commercial	80	meters
Meteorological Station	Pico Rivera	
Project Duration (Short term options: 2, 5, or 9 years; Else 30 years)	30	years

Conversion Units (select unit

From

1 feet

To

0.3048 meter

Source Type	Other
Screening Mode (**NO** = Tier 1 or Tier 2; **YES** = Tier 3)	NO

FOR SOURCE TYPE OTHER THAN BOILER, CREMATORY, ICE, PRESSURE WASHER, OR SPRAY BOOTH, FILL IN THE USER DEFINED TABLE BELOW

Fac Name: Heraeus Metal Processing Inc A/N: CHRONIC

TAC Code	Compound	Emission Rate (lbs/hr)	Molecular Weight	R1 - Uncontrolled (lbs/hr)	Efficiency Factor (Fraction range 0-1)	R2-Controlled (lbs/hr)
H9	Hydrochloric Acid (Hydrogen Chloride)	4.17E-02	36.46	4.17E-02	0.00000	0.041663397
N21	Nitric Acid	3.39E-05	63.02	3.39E-05	0.00000	3.3873E-05
C7	Chlorine	7.58E-03	70.906	7.58E-03	0.00000	0.007580555

EMISSIONS ARE ENTERED ON THE EMISSIONS WORKSHEET OR ON ONE OF EQUIPMENT WORKSHEETS

INPUT PARAMETERS ENTERED ON THE EMISSIONS SHEET ARE USED FOR TIERS 1 AND TIER 2 ANALYSES

TIER 2 SCREENING RISK ASSESSMENT REPORT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

A/N: CHRONIC **Fac:** Heraeus Metal Processing Inc **Application deemed complete date:** 8/20/2021

1. Stack Data

Equipment Type: Other

Combustion Eff: 0.0

With T-BACT

Operation Schedule: 24 hrs/day; 7 days/week; 52 weeks/year

Stack Height: 35 ft

Distance to Residential: 438 m

Distance to Commercial: 80 m

Meteorological Station: Pico Rivera

2. Tier 2 Data

Dispersion Factors tables	Point Source
For Chronic X/Q	Table 6
For Acute X/Q max	Table 6.4

Dilution Factors

Receptor	X/Q (µg/m³)/(tons/yr)	X/Qmax (µg/m³)/(lbs/hr)
Residential	0.23	11.45
Commercial - Worker	4.53	124.16

Intake and Adjustment Factors

	Residential	Worker
Year of Exposure	30	
Combined Exposure Factor (CEF) - Table 4	677.40	55.86
Worker Adjustment Factor (WAF) - Table 5	1	1.00

A/N: CHRONIC Application deemed complete date: 08/20/21

3. Rule 1401 Compound Data

Compound	R1 - Uncontrolled (lbs/hr)	R2 - Controlled (lbs/hr)	CP $(mg/kg\text{-}day)^{-1}$	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic ($\mu g/m^3$)	REL 8-hr Chronic ($\mu g/m^3$)	REL Acute ($\mu g/m^3$)	MWAF
Hydrochloric Acid (Hydrogen Chloride)	4.17E-02	4.17E-02		1.00	1.00	1.00	1.00	9.00E+00		2.10E+03	1
Nitric Acid	3.39E-05	3.39E-05		1.00	1.00	1.00	1.00			8.60E+01	1
Chlorine	7.58E-03	7.58E-03		1.00	1.00	1.00	1.00	2.00E-01		2.10E+02	1

4. Emission Calculations

Compound	R1 (lbs/hr)	R2 (lbs/hr)	R1 (lbs/day)	R2 (lbs/day)	R2 (lbs/yr)	R2 (tons/yr)
Hydrochloric Acid (Hydrogen Chloride)	4.17E-02	4.17E-02	1.00E+00	1.00E+00	3.64E+02	1.82E-01
Nitric Acid	3.39E-05	3.39E-05	8.13E-04	8.13E-04	2.96E-01	1.48E-04
Chlorine	7.58E-03	7.58E-03	1.82E-01	1.82E-01	6.62E+01	3.31E-02
Total	**4.93E-02**	**4.93E-02**	**1.18E+00**	**1.18E+00**	**4.30E+02**	**2.15E-01**

TIER 2 RESULTS

A/N: CHRONIC Application deemed complete date: 08/20/21

5a. MICR

MICR Resident = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Resident * CEF Resident * MP Resident * 1e-6 * MWAF

MICR Worker = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Worker * CEF Worker* MP Worker* WAF Worker* 1e-6 * MWAF

Compound	Residential	Commercial
Hydrochloric Acid (Hydrogen Chloride)		
Nitric Acid		
Chlorine		
Total		
	No Cancer Risk	**No Cancer Risk**

5b. Is Cancer Burden Calculation Needed (MICR >1E-6)? **NO**

New X/Q at which $MICR_{70yr}$ is one-in-a-million [(µg/m³)/(tons/yr)]:
New Distance, interpolated from X/Q table using New X/Q (meter):
Zone Impact Area (km²):
Zone of Impact Population (7000 person/km²):
Cancer Burden:

6. Hazard Index Summary **A/N:** CHRONIC **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max * MWAF]/ Acute REL
HIC = [Q(ton/yr) * (X/Q) * MP * MWAF] / Chronic REL
HIC 8-hr= [Q(ton/yr) * (X/Q) * WAF * MWAF] / 8-hr Chronic REL

Target Organs	Acute	Chronic	8-hr Chronic	Acute Pass/Fail	Chronic Pass/Fail	8-hr Chronic Pass/Fail
Alimentary system (liver) - AL				Pass	Pass	Pass
Bones and teeth - BN				Pass	Pass	Pass
Cardiovascular system - CV				Pass	Pass	Pass
Developmental - DEV				Pass	Pass	Pass
Endocrine system - END				Pass	Pass	Pass
Eye	6.95E-03			Pass	Pass	Pass
Hematopoietic system - HEM				Pass	Pass	Pass
Immune system - IMM				Pass	Pass	Pass
Kidney - KID				Pass	Pass	Pass
Nervous system - NS				Pass	Pass	Pass
Reproductive system - REP				Pass	Pass	Pass
Respiratory system - RESP	6.99E-03	8.42E-01		Pass	Pass	Pass
Skin				Pass	Pass	Pass

6a. Hazard Index Acute - Resident

HIA = [Q(lb/hr) * (X/Q)max resident * MWAF] / Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)				2.27E-04					2.27E-04	
Nitric Acid									4.51E-06	
Chlorine				4.13E-04					4.13E-04	
Total				6.41E-04					6.45E-04	

6a. Hazard Index Acute - Worker **A/N:** CHRONIC **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max Worker * MWAF] / Acute REL

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)				2.46E-03					2.46E-03	
Nitric Acid									4.89E-05	
Chlorine				4.48E-03					4.48E-03	
Total				6.95E-03					6.99E-03	

6b. Hazard Index Chronic - Resident

HIC = [Q(ton/yr) * (X/Q) Resident * MP Chronic Resident * MWAF] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)												4.60E-03	
Nitric Acid													
Chlorine												3.77E-02	
Total												4.23E-02	

A/N: CHRONIC Application deemed complete date: 08/20/21

6b. Hazard Index Chronic - Worker

HIC = [Q(ton/yr) * (X/Q) * MP Chronic Worker * MWAF] / Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride)												9.16E-02	
Nitric Acid													
Chlorine												7.50E-01	
Total												8.42E-01	

6c. 8-hour Hazard Index Chronic - Resident **A/N:** CHRONIC **Application deemed complete date:** 08/20/21

HIC 8-hr = [Q(ton/yr) * (X/Q) Resident * WAF Resident * MWAF] / 8-hr Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride) Nitric Acid Chlorine													
Total													

6c. 8-hour Hazard Index Chronic - Worker

HIC 8-hr = [Q(ton/yr) * (X/Q) Worker * WAF Worker * MWAF] / 8-hr Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Hydrochloric Acid (Hydrogen Chloride) Nitric Acid Chlorine													
Total													

TIER 1/TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

Application Deemed Complete Date	08/20/21
A/N	Cancer/DPM
Facility Name	HPMN

1. Stack Data	**Input**	**Units**
Hours/Day	24	hrs/day
Days/Week	7	days/wk
Weeks/Year	52	wks/yr
Control Efficiency	0.000	
Does source have T-BACT?	YES	
Source type (Point or Volume)	P	P or V
Stack Height or Building Height	35	feet
Building Area	5000	ft^2
Distance-Residential	438	meters
Distance-Commercial	80	meters
Meteorological Station	Pico Rivera	
Project Duration (Short term options: 2, 5, or 9 years; Else 30 years)	30	years

Conversion Units (select unit

From

1	feet

To

0.3048	meter

Source Type	Other
Screening Mode (**NO** = Tier 1 or Tier 2; **YES** = Tier 3)	NO

FOR SOURCE TYPE OTHER THAN BOILER, CREMATORY, ICE, PRESSURE WASHER, OR SPRAY BOOTH, FILL IN THE USER DEFINED TABLE BELOW

Fac Name: HPMN A/N: Cancer/DPM

TAC Code	Compound	Emission Rate (lbs/hr)	Molecular Weight	R1 - Uncontrolled (lbs/hr)	Efficiency Factor (Fraction range 0-1)	R2-Controlled (lbs/hr)
P1	Particulate Emissions from Diesel-Fueled Engines	1.08E-06	350	1.08E-06	0.00000	1.07941E-06

EMISSIONS ARE ENTERED ON THE EMISSIONS WORKSHEET OR ON ONE OF EQUIPMENT WORKSHEETS

INPUT PARAMETERS ENTERED ON THE EMISSIONS SHEET ARE USED FOR TIERS 1 AND TIER 2 ANALYSES

TIER 2 SCREENING RISK ASSESSMENT REPORT

(Procedure Version 8.1 & Package N, September 1, 2017) - Risk Tool V1.103

A/N: Cancer/DPM **Fac:** HPMN **Application deemed complete date:** 8/20/2021

1. Stack Data

Equipment Type	Other	
Combustion Eff	0.0	
	With T-BACT	
Operation Schedule	24	hrs/day
	7	days/week
	52	weeks/year
Stack Height	35	ft
Distance to Residential	438	m
Distance to Commercial	80	m
Meteorological Station	Pico Rivera	

2. Tier 2 Data

Dispersion Factors tables	Point Source
For Chronic X/Q	Table 6
For Acute X/Q max	Table 6.4

Dilution Factors

Receptor	X/Q (µg/m³)/(tons/yr)	X/Qmax (µg/m³)/(lbs/hr)
Residential	0.23	11.45
Commercial - Worker	4.53	124.16

Intake and Adjustment Factors

	Residential	Worker
Year of Exposure	30	
Combined Exposure Factor (CEF) - Table 4	677.40	55.86
Worker Adjustment Factor (WAF) - Table 5	1	1.00

A/N: Cancer/DPM Application deemed complete date: 08/20/21

3. Rule 1401 Compound Data

Compound	R1 - Uncontrolled (lbs/hr)	R2 - Controlled (lbs/hr)	CP $(mg/kg\text{-}day)^{-1}$	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic ($\mu g/m^3$)	REL 8-hr Chronic ($\mu g/m^3$)	REL Acute ($\mu g/m^3$)	MWAF
Particulate Emissions from Diesel-Fueled En	1.08E-06	1.08E-06	1.10E+00	1.00	1.00	1.00	1.00	5.00E+00			1

4. Emission Calculations

Compound	R1 (lbs/hr)	R2 (lbs/hr)	R1 (lbs/day)	R2 (lbs/day)	R2 (lbs/yr)	R2 (tons/yr)
Particulate Emissions from Diesel-Fueled En	1.08E-06	1.08E-06	2.59E-05	2.59E-05	9.43E-03	4.71E-06
Total	**1.08E-06**	**1.08E-06**	**2.59E-05**	**2.59E-05**	**9.43E-03**	**4.71E-06**

TIER 2 RESULTS

A/N: Cancer/DPM Application deemed complete date: 08/20/21

5a. MICR

MICR Resident = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Resident * CEF Resident * MP Resident * 1e-6 * MWAF

MICR Worker = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) Worker * CEF Worker* MP Worker* WAF Worker* 1e-6 * MWAF

Compound	Residential	Commercial
Particulate Emissions from Diesel-Fueled En	7.99E-10	1.31E-09
Total	**7.99E-10**	**1.31E-09**
	PASS	**PASS**

5b. Is Cancer Burden Calculation Needed (MICR >1E-6)? **NO**

New X/Q at which $MICR_{70yr}$ is one-in-a-million [(µg/m³)/(tons/yr)]:
New Distance, interpolated from X/Q table using New X/Q (meter):
Zone Impact Area (km²):
Zone of Impact Population (7000 person/km²):
Cancer Burden:

6. Hazard Index Summary **A/N:** Cancer/DPM **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max * MWAF]/ Acute REL
HIC = [Q(ton/yr) * (X/Q) * MP * MWAF] / Chronic REL
HIC 8-hr= [Q(ton/yr) * (X/Q) * WAF * MWAF] / 8-hr Chronic REL

Target Organs	Acute	Chronic	8-hr Chronic	Acute Pass/Fail	Chronic Pass/Fail	8-hr Chronic Pass/Fail
Alimentary system (liver) - AL				Pass	Pass	Pass
Bones and teeth - BN				Pass	Pass	Pass
Cardiovascular system - CV				Pass	Pass	Pass
Developmental - DEV				Pass	Pass	Pass
Endocrine system - END				Pass	Pass	Pass
Eye				Pass	Pass	Pass
Hematopoietic system - HEM				Pass	Pass	Pass
Immune system - IMM				Pass	Pass	Pass
Kidney - KID				Pass	Pass	Pass
Nervous system - NS				Pass	Pass	Pass
Reproductive system - REP				Pass	Pass	Pass
Respiratory system - RESP		4.27E-06		Pass	Pass	Pass
Skin				Pass	Pass	Pass

6a. Hazard Index Acute - Resident

HIA = [Q(lb/hr) * (X/Q)max resident * MWAF] / Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En										
Total										

6a. Hazard Index Acute - Worker **A/N:** Cancer/DPM **Application deemed complete date:** 08/20/21

HIA = [Q(lb/hr) * (X/Q)max Worker * MWAF] / Acute REL

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En										
Total										

6b. Hazard Index Chronic - Resident

HIC = [Q(ton/yr) * (X/Q) Resident * MP Chronic Resident * MWAF] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En												2.15E-07	
Total												2.15E-07	

6b. Hazard Index Chronic - Worker

HIC = [Q(ton/yr) * (X/Q) * MP Chronic Worker * MWAF] / Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En												4.27E-06	
Total												4.27E-06	

6c. 8-hour Hazard Index Chronic - Resident **A/N:** Cancer/DPM **Application deemed complete date:** 08/20/21

HIC 8-hr = [Q(ton/yr) * (X/Q) Resident * WAF Resident * MWAF] / 8-hr Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En													
Total													

6c. 8-hour Hazard Index Chronic - Worker

HIC 8-hr = [Q(ton/yr) * (X/Q) Worker * WAF Worker * MWAF] / 8-hr Chronic REL

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Particulate Emissions from Diesel-Fueled En													
Total													