

May 3, 2023

Mr. Eugene Kang
Planning & Rules Manager
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

Subject: **2019 AB 2588 Health Risk Assessment**

Facility: Carpenter Company
7809 Lincoln Avenue
Riverside, CA 92504
Facility ID No. 7730

Dear Mr. Kang:

Per your letter dated August 17, 2022, letter dated December 1, 2022, and subsequent communications with our offices (last communications dated May 2, 2023), please find enclosed the revised 2019 AB 2588 Health Risk Assessment (HRA) for Carpenter Company. As required, this revised HRA report has incorporated all required modifications outlined in your letter and has been prepared in accordance with applicable South Coast AQMD and OEHHA health risk assessment guidelines. The modeling input and output files for AERMOD and HARP2, which were utilized in the preparation of the HRA report, have been submitted via the OnBase system.

If there are any questions, please contact our office to discuss the matter further.

Sincerely,

TRINITY CONSULTANTS



Steven R. Walters, P.E.
Director

Encl.

cc: 



HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : Carpenter Company
 Facility Address: 7809 Lincoln Avenue
Riverside, CA 92504
 Type of Business: Flexible Polyurethane Foam Manufacturing
 SCAQMD ID No.: 7730

A. Cancer Risk

(One in a million means one chance in a million of getting cancer from being constantly exposed to a certain level of a chemical over a period of time)

1. Inventory Reporting Year : 2019
2. Maximum Cancer Risk to Receptors : *(Offsite and residence = 30-year exposure, worker = 25-year exposure)*

a. Offsite	<u>1.58</u>	in a million	Location:	<u>Receptor 3395 462688.9 E, 3754097.2 N</u>
b. Residence	<u>1.12</u>	in a million	Location:	<u>Receptor 1207 462718.1 E, 3754183.9 N</u>
c. Worker	<u>0.21</u>	in a million	Location:	<u>Receptor 1162 462693.1 E, 3754058.9 N</u>
3. Substances Accounting for 90% of Cancer Risk: Toluene Diisocyanate, Diesel Particulate Matter
 Processes Accounting for 90% of Cancer Risk: Rebond Pour Line, Fire Pump Engine 1, Fire Pump Engine 2
4. Cancer Burden for a 70-yr exposure: *(Cancer Burden = [cancer risk] x [# of people exposed to specific cancer risk])*

a. Cancer Burden	<u>0.00001</u>
b. Number of people exposed to >1 per million cancer risk for a 70-yr exposure	<u>495</u>
c. Maximum distance to edge of 70-year, 1×10^{-6} cancer risk isopleth (meters)	<u>35 meters</u>

B. Hazard Indices

*[Long Term Effects (chronic) and Short Term Effects (acute)]
 (non-carcinogenic impacts are estimated by comparing calculated concentration to identified Reference Exposure Levels, and expressing this comparison in terms of a "Hazard Index")*

1. Maximum Chronic Hazard Indices:

a. Residence HI:	<u>2.28</u>	Location:	<u>Receptor 1251 462743.1 E, 3754</u>	toxicological endpoint:	<u>Respiratory System</u>
b. Worker HI :	<u>1.92</u>	Location:	<u>Receptor 1204 462718.1 E, 3754</u>	toxicological endpoint:	<u>Respiratory System</u>
2. Substances Accounting for 90% of Chronic Hazard Index: Toluene Diisocyanate
3. Maximum 8-hour Chronic Hazard Index:

8-Hour Chronic HI:	<u>3.19</u>	Location:	<u>Receptor 1204 462718.1 E, 3754</u>	toxicological endpoint:	<u>Respiratory System</u>
--------------------	-------------	-----------	---	-------------------------	---------------------------
4. Substances Accounting for 90% of 8-hour Chronic Hazard Index: Toluene Diisocyanate
5. Maximum Acute Hazard Index:

PMI:	<u>0.36</u>	Location:	<u>Receptor 3410 462610.3 E, 3754</u>	toxicological endpoint:	<u>Respiratory System</u>
------	-------------	-----------	---	-------------------------	---------------------------
6. Substances Accounting for 90% of Acute Hazard Index: Toluene Diisocyanate

C. Public Notification and Risk Reduction

1. Public Notification Required? Yes No
 - a. If 'Yes', estimated population exposed to risks > 10 in a million for a 30-year exposure, or an HI > 1
100
2. Risk Reduction Required? Yes No

FORM A	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AB 2588 Program, 21865 COPLEY DR., DIAMOND BAR CA 91765-0949	INVENTORY YEAR 20 <u>19</u>
-------------------	--	--------------------------------

AB 2588 AIR TOXICS DOCUMENT CERTIFICATION & SUBMITTAL FORM

Please check the appropriate boxes for purpose of submittal:

<input type="checkbox"/> INITIAL INFORMATION for ATIR	<input type="checkbox"/> EARLY ACTION REDUCTION PLAN (EARP)	<input type="checkbox"/> INITIAL
<input type="checkbox"/> AIR TOXICS INVENTORY REPORT (ATIR)	<input type="checkbox"/> VOLUNTARY RISK REDUCTION PLAN (VRRP)	<input checked="" type="checkbox"/> REVISION
<input checked="" type="checkbox"/> HEALTH RISK ASSESSMENT (HRA)	<input type="checkbox"/> IMPLEMENTATION PROGRESS REPORT for VRRP/RRP	<input type="checkbox"/> FINAL
<input type="checkbox"/> RISK REDUCTION PLAN (RRP)	<input type="checkbox"/> OTHER: _____	

Does your facility participate or wish to participate in VRRP program pursuant to Rule 1402(h)? YES NO

Please provide the following information:

Facility name <input style="width:90%;" type="text" value="Carpenter Company"/>	South Coast AQMD ID <input style="width:80%;" type="text" value="7730"/>	Facility SIC/NAICS CODE <input style="width:80%;" type="text" value="3086"/>
--	---	---

Facility Location Address <input style="width:90%;" type="text" value="7809 Lincoln Avenue"/> <input style="width:90%;" type="text" value="Riverside, CA 92504"/>	Mailing Address <input style="width:90%;" type="text"/> <input style="width:90%;" type="text"/>
---	---

Contact Person (Company Official)

Name: <input style="width:80%;" type="text"/>	Title: <input style="width:80%;" type="text"/>
Telephone: <input style="width:80%;" type="text"/>	eMail: <input style="width:80%;" type="text"/>

Preparer (if different from above)

Name: <input style="width:80%;" type="text" value="Tiffany Wang"/>	Title: <input style="width:80%;" type="text" value="Senior Consultant"/>
Company: <input style="width:80%;" type="text" value="Trinity Consultants"/>	
Telephone: <input style="width:80%;" type="text" value="949-567-9880 X5557"/>	eMail: <input style="width:80%;" type="text" value="twang@trinityconsultants.com"/>

FAILURE TO SUBMIT REQUIRED INFORMATION OR KNOWINGLY SUPPLYING FALSE INFORMATION IS PUNISHABLE TO THE EXTENT DEFINED IN HEALTH AND SAFETY CODE SECTIONS 44381(a) AND 44381(b), WHICH INCLUDES MINIMUM FINES OF NOT LESS THAN FIVE HUNDRED DOLLARS.

Signature Of Responsible Company Official <input style="width:90%; height: 40px;" type="text" value="Handwritten Signature"/>	Date <input style="width:90%; height: 40px;" type="text" value="5/3/23"/>
Name Of Responsible Company Official <input style="width:90%;" type="text" value="Frank K. Vasicek"/>	Title <input style="width:90%;" type="text" value="Division Manager"/>

AB 2588 HEALTH RISK ASSESSMENT

Carpenter Company / Riverside, CA



AB 2588 California Air Toxics "Hot Spots" Information and Assessment Act of 1987

Site Address:

Carpenter Company
7809 Lincoln Avenue
Riverside, CA 92504
Facility ID No. 7730

Prepared By:

Trinity Consultants
20 Corporate Park, Suite 285
Irvine, CA 92606

November 2022 (revised January 2023, May 2023)

Project No. 220501.0148



TABLE OF CONTENTS

1. EXECUTIVE SUMMARY	1-1
1.1 Facility Overview.....	1-1
1.2 Health Risk Modeling	1-1
1.3 Summary of Results	1-2
1.3.1 Potential Carcinogenic Results.....	1-2
1.3.2 Chronic Noncarcinogenic Health Hazards.....	1-2
1.3.3 Chronic 8-hour Noncarcinogenic Health Hazards	1-3
1.3.4 Acute Noncarcinogenic Health Hazards.....	1-3
2. INTRODUCTION	2-1
2.1 Facility Identification	2-1
2.2 Applicable Regulations.....	2-1
2.3 Report Format.....	2-2
2.4 Abbreviations and Definitions	2-3
2.4.1 Abbreviations.....	2-3
2.4.2 Key Definitions.....	2-3
3. HAZARD IDENTIFICATION	3-1
3.1 Facility Description	3-1
3.2 Process Description.....	3-1
3.2.1 Prime Pour Line	3-1
3.2.2 Rebond Pour Line.....	3-1
3.2.3 Storage Tanks	3-2
3.2.4 Slab Gluing Loop.....	3-2
3.2.5 Combustion Sources.....	3-2
3.3 Chemicals of Interest.....	3-2
4. EXPOSURE ASSESSMENT	4-1
4.1 Air Dispersion Model	4-1
4.1.1 Model Options	4-1
4.1.2 Source Parameters.....	4-2
4.1.3 Receptors.....	4-3
4.1.4 Building Downwash.....	4-3
4.1.5 Meteorological and Elevation Data	4-4
4.2 Assessment of Chemical Exposure	4-4
4.2.1 HARP2 Analysis.....	4-5
4.2.2 Exposure Pathways	4-5
4.2.3 Carcinogenic Health Impacts.....	4-6
4.2.4 Noncarcinogenic Health Impacts.....	4-6
4.2.5 Worker Adjustment Factor	4-7
5. RISK CHARACTERIZATION	5-1
5.1 Dose-Response and Dose Estimates.....	5-1
5.2 Zone of Impact.....	5-1
5.3 Carcinogenic Health Effects	5-1
5.3.1 Point of Maximum Impact.....	5-1
5.3.2 Maximum Exposed Individual Resident.....	5-2

5.3.3	<i>Maximum Exposed Individual Worker</i>	5-2
5.3.4	<i>Sensitive Receptors</i>	5-2
5.3.5	<i>Population Cancer Burden</i>	5-2
5.4	Noncancer Chronic Health Effects	5-3
5.4.1	<i>Point of Maximum Impact</i>	5-3
5.4.2	<i>Maximum Exposed Individual Resident</i>	5-3
5.4.3	<i>Maximum Exposed Individual Worker</i>	5-3
5.4.4	<i>Sensitive Receptors</i>	5-4
5.5	Noncancer Chronic 8-Hour Health Effects	5-4
5.5.1	<i>Maximum Exposed Individual Worker (MEIW)</i>	5-4
5.6	Noncancer Acute Health Effects	5-4
5.6.1	<i>Point of Maximum Impact</i>	5-4
5.6.2	<i>Maximum Exposed Individual Resident</i>	5-5
5.6.3	<i>Maximum Exposed Individual Worker</i>	5-5
5.6.4	<i>Sensitive Receptors</i>	5-5
6.	REFERENCES	6-1
	APPENDIX A. FIGURES	A-1
	APPENDIX B. TABLES	B-1
	APPENDIX C. SOUTH COAST AQMD CORRESPONDENCE	C-1
	APPENDIX D. 2019 ATIR	D-1
	APPENDIX E. SOUTH COAST AQMD PERMITS	E-1

LIST OF FIGURES

Figure A-1. Location Map	A-2
Figure A-2. Vicinity Map	A-3
Figure A-3. Site Plot Plan	A-4
Figure A-4. Building Downwash	A-5
Figure A-5. Cancer Risk Isopleths – Residential	A-6
Figure A-6. Chronic Hazard Isopleths – Residential	A-7
Figure A-7. Cancer Risk Isopleths – Worker	A-8
Figure A-8. Chronic Hazard Isopleths – Worker	A-9
Figure A-9. 8-hr Chronic Hazard Isopleths – Worker	A-10
Figure A-10. Acute Hazard Isopleths	A-11
Figure A-11. Sensitive Receptors	A-12

LIST OF TABLES

Table B-1. Summary of Health Risk Results	B-1-1
Table B-2. Emission Rate by Substance and Source	B-2-1
Table B-3. Toxicity Data by Substance - Exposure Pathways	B-3-1
Table B-4. Toxicity Data by Substance - Target Organs	B-4-1
Table B-5. Emission Source Parameters	B-5-1
Table B-6. Building Dimensions	B-6-1
Table B-7a. Sensitive Receptors	B-7a-1
Table B-7b. Sensitive Receptor Ground Level Concentration	B-7b-1
Table B-8. PMI Cancer Risk by Substance and Exposure Pathway	B-8-1
Table B-9. PMI Cancer Risk by Source and Exposure Pathway	B-9-1
Table B-10. MEIR Cancer Risk by Substance and Exposure Pathway	B-10-1
Table B-11. MEIR Cancer Risk by Source and Exposure Pathway	B-11-1
Table B-12. MEIW Cancer Risk by Substance and Exposure Pathway	B-12-1
Table B-13. MEIW Cancer Risk by Source and Exposure Pathway	B-13-1
Table B-14. PMI Chronic Hazard by Substance	B-14-1
Table B-15. PMI Chronic Hazard by Source	B-15-1
Table B-16. MEIR Chronic Hazard by Substance	B-16-1
Table B-17. MEIR Chronic Hazard by Source	B-17-1
Table B-18. MEIW Chronic Hazard by Substance	B-18-1
Table B-19. MEIW Chronic Hazard by Source	B-19-1
Table B-20. PMI Acute Hazard by Substance	B-20-1
Table B-21. PMI Acute Hazard by Source	B-21-1
Table B-22. MEIR Acute Hazard by Substance	B-22-1
Table B-23. MEIR Acute Hazard by Source	B-23-1
Table B-24. MEIW Acute Hazard by Substance	B-24-1

Table B-25. MEIW Acute Hazard by Source	B-25-1
Table B-26. MEIW Chronic 8-hour Hazard by Substance	B-26-1
Table B-27. MEIW Chronic 8-hour Hazard by Source	B-27-1
Table B-28. Cancer Burden	B-28-1

1. EXECUTIVE SUMMARY

The Air Toxics “Hot Spots” Information and Assessment Act of 1987 (AB 2588) is a community right-to-know act designed to inform the general public of significant health risks from air emissions of nearby facilities and to reduce significant risks to acceptable levels. The intent of AB 2588 is to require specified facilities to develop and implement comprehensive plans for the creation of air toxics emission inventories. It also requires local air quality agencies to prioritize those facilities for the purpose of selecting the facilities that will be required to perform health risk assessments.

Carpenter, Co. (Carpenter or facility), Facility ID 7730, submitted an Air Toxics Inventory Report (ATIR) pursuant to AB 2588 for Calendar Year (CY) 2019 to South Coast Air Quality Management District (South Coast AQMD). South Coast AQMD reviewed and assessed the ATIR and determined that the ATIR classified the facility as a “High Priority”, meaning the emissions from compounds with cancer, acute non-cancer, or chronic non-cancer impacts has a total prioritization score greater than or equal to ten (10) for cancer or 1 for non-cancer. South Coast AQMD requested Carpenter to submit a Health Risk Assessment (HRA) for the CY 2019 to evaluate the risk impacts from the facility’s operations. South Coast AQMD requires all HRAs to be prepared in accordance with the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics “Hot Spots” Program Risk Assessment Guidelines (OEHHA 2015). In response to South Coast AQMD’s request, Carpenter has engaged Trinity Consultants, Inc. (Trinity) to assist with developing the HRA. The approved 2019 ATIR and the OEHHA Guidelines will serve as parameters for the HRA (South Coast AQMD 2022).

1.1 Facility Overview

Carpenter manufactures flexible polyurethane foam products for use in furniture, carpet cushion underlayment, bedding, and other applications. The facility is located in the City of Riverside at approximately 877 feet above sea level (See Figure A-1). As shown in Figure A-2, the facility is located on Lincoln Avenue, between Jefferson Street and Grace Street. The facility is surrounded by residential homes to the northwest and east of the facility and by commercial and industrial to the south. The Pacific Ocean is approximately 35 miles southwest of the facility.

1.2 Health Risk Modeling

As required by South Coast AQMD, this HRA has been prepared in accordance with Section 9.1 of the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA Guidelines). This HRA utilizes the Hot Spots Analysis Reporting Program (HARP2) based on air dispersion modeling output from U.S. EPA’s AERMOD software. The results obtained from HARP2 provide the necessary information to generate the zones of impact and identify the potentially exposed populations. In addition, potential health effects were evaluated for the maximum exposed individual resident (MEIR) and the maximum exposed individual worker (MEIW) for both noncancer and carcinogenic health impacts. Data projections were based on NAD 1983 Datum.

In this HRA, there were twenty-five (25) AB 2588 chemicals that were modeled based on the facility’s ATIR emissions. These chemicals are emitted from combustion processes, fugitive emissions from tanks, and fugitive emissions from the foam manufacturing lines. For reference, Table B-2 provides emissions rates for all modeled sources in this HRA. Table B-3 identifies non-inhalation exposure pathways modeled for residential receptors, which are dermal absorption, soil ingestion, and mother’s milk. For worker receptors, non-inhalation exposure pathways included dermal absorption and soil ingestion. For those receptors that

are impacted by noncancer health hazards, these chemicals may potentially affect certain human target organs, including, respiratory system, reproductive system, developmental, and others, as identified in Table B-4.

1.3 Summary of Results

Table B-1 summarizes the cancer risk, chronic hazard, chronic 8-hour hazard, and acute hazard results of this HRA. The MEIR and MEIW values for cancer and non-cancer acute do not exceed the level for which South Coast AQMD requires public notification. The MEIR and MEIW values for non-cancer chronic and the MEIW for non-cancer 8-hour chronic do exceed the levels for which South Coast AQMD require public notification.

1.3.1 Potential Carcinogenic Results

Table B-1 summarizes the cancer risk results of this HRA. The receptor ID, UTM coordinates, and cancer risk for the Point of Maximum Impact (PMI) are listed below. The PMI is located along southeast side of the facility boundary, near the intersection of Lincoln Avenue and Grace Street.

- ▶ Receptor ID – #3395
- ▶ UTM Coordinates – 462688.9 E, 3754097.2 N
- ▶ Cancer Risk – 1.58×10^{-6}

The receptor ID, UTM coordinates, and cancer risk for the MEIR are listed below. The MEIR is located to the east of the facility, along Grace Street between Lincoln Avenue and Freda Avenue.

- ▶ Receptor ID – #1207
- ▶ UTM Coordinates – 462718.1 E, 3754183.9 N
- ▶ Cancer Risk – 1.12×10^{-6}

The receptor ID, UTM coordinates, and cancer risk for the MEIW are listed below. The MEIW is located to the south of the facility, along Lincoln Avenue.

- ▶ Receptor ID – #1162
- ▶ UTM Coordinates – 462693.1 E, 3754058.9 N
- ▶ Cancer Risk – 2.08×10^{-7}

Figure A-5 identifies the location of the PMI and MEIR, and Figure A-7 identifies the location of the MEIW. Predicted off-site concentrations decrease rapidly with distance from the facility. For the MEIR, emissions of diesel particulate matter make up 50.55% of the contribution to cancer risk. For the MEIW, emissions of TDI make up 50.24% of the contribution to cancer risk. The MEIR and MEIW values do not exceed the level (10×10^{-6}) for which South Coast AQMD requires public notification.

1.3.2 Chronic Noncarcinogenic Health Hazards

Table B-1 summarizes the noncancer chronic health hazard results of this HRA. The receptor ID, UTM coordinates, and chronic hazard for the PMI are listed below. The PMI is located along the southeast side of the facility boundary, near the intersection of Lincoln Avenue and Grace Street.

- ▶ Receptor ID – #3395
- ▶ UTM Coordinates – 462688.9 E, 3754097.2 N

- ▶ Chronic Hazard – 3.80

The receptor ID, UTM coordinates, and chronic hazard for the MEIR are listed below. The MEIR is located to the east of the facility, along Grace Street between Lincoln Avenue and Freda Avenue.

- ▶ Receptor ID – #1251
- ▶ UTM Coordinates – 462743.1 E, 3754158.9 N
- ▶ Chronic Hazard – 2.28

The receptor ID, UTM coordinates, and chronic hazard for the MEIW are listed below. The MEIW is located to the south of the facility, along Lincoln Avenue.

- ▶ Receptor ID – #1204
- ▶ UTM Coordinates – 462718.1 E, 3754083.9 N
- ▶ Chronic Hazard – 1.92

Figure A-6 identifies the location of the PMI and MEIR, and Figure A-8 identifies the location of the MEIW. Predicted off-site concentrations decrease rapidly with distance from the facility. For the MEIW and MEIR, emissions of TDI make up at least 99.4% of the contribution to chronic health hazard. The MEIR and MEIW values do exceed the level (1.0) for which South Coast AQMD requires public notification.

1.3.3 Chronic 8-hour Noncarcinogenic Health Hazards

Table B-1 summarizes the noncancer chronic 8-hour health hazard results of this HRA. The receptor ID, UTM coordinates, and chronic 8-hour hazard for the MEIW are listed below. The MEIW is located to the south of the facility, along Lincoln Avenue.

- ▶ Receptor ID – #1204
- ▶ UTM Coordinates – 462718.1 E, 3754083.9 N
- ▶ Chronic Hazard – 3.19

Figure A-9 identifies the location of the MEIW. Predicted off-site concentrations decrease rapidly with distance from the facility. For the MEIW, emissions of TDI make up 99.4% of the contribution to chronic 8-hour health hazard. The MEIW value does exceed the level (1.0) for which South Coast AQMD requires public notification and the level (3.0) for which South Coast AQMD requires risk reduction.

1.3.4 Acute Noncarcinogenic Health Hazards

Table B-1 summarizes the noncancer acute health hazard results of this HRA. The receptor ID, UTM coordinates, and acute hazard for the PMI are listed below. The PMI is located along east side of the facility boundary, along Grace Street between Emerald Street and Fern Avenue.

- ▶ Receptor ID – #3410
- ▶ UTM Coordinates – 462610.3 E, 3754312.2 N
- ▶ Acute Hazard – 0.355

The receptor ID, UTM coordinates, and acute hazard for the MEIR are listed below. The MEIR is located to the east of the facility, along Grace Street between Emerald Street and Peters Street.

- ▶ Receptor ID – #1019

- ▶ UTM Coordinates – 462593.1 E, 3754383.9 N
- ▶ Acute Hazard – 0.342

The receptor ID, UTM coordinates, and acute hazard for the MEIW are listed below. The MEIW is located to the south of the facility, along Lincoln Avenue.

- ▶ Receptor ID – #1017
- ▶ UTM Coordinates – 462593.1 E, 3754008.9 N
- ▶ Acute Hazard – 0.284

Figure A-10 identifies the location of the PMI, MEIR, and MEIW. Predicted off-site concentrations decrease rapidly with distance from the facility. For the MEIW and MEIR, emissions of TDI make up at least 98.9% of the contribution to acute health hazard. The MEIR and MEIW values do not exceed the level (1.0) for which South Coast AQMD requires public notification.

2. INTRODUCTION

Trinity was retained to prepare an HRA for the facility identified below in Section 2.1. As required, this HRA was prepared pursuant to California Air Resources Board's Air Toxics Hot Spots Program (Hot Spots Program), which is implemented per the requirements of AB 2588. Guidelines used in the preparation of this HRA included OEHHA's "Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (May 2015)".

The objectives of this HRA are to: (1) estimate off-site air concentrations of the substances identified in AB 2588 and emitted from the facility, (2) evaluate potential exposures to the surrounding community, (3) characterize the potential health risks to individuals and the exposed population associated with those levels of exposure, and (4) determine if additional actions are required. This report presents the results of the HRA analysis utilizing refined air dispersion modeling based on OEHHA Guidelines.

2.1 Facility Identification

Located at approximately 877 feet above sea level, the Carpenter facility is located within an urbanized area of the City of Riverside with light industrial and residential uses within close proximity (refer to Figure A-2). As shown by Figure A-2, the facility is located on the corner of Lincoln Avenue and Jefferson Street. In general, the local topography around the facility is flat terrain within a highly urbanized environmental setting. Other pertinent facility information for Carpenter's operations is summarized below:

Facility Name	Carpenter Company
Address	7809 Lincoln Avenue Riverside, CA 92504
South Coast AQMD ID No.	7730
SIC	3086
County	Riverside County
Air Basin	South Coast Air Basin
Air District	South Coast Air Quality Management District
Contact Person	[REDACTED]
Contact Phone Number	[REDACTED]

For reference, Appendix A provides a site plot of the facility including, boundaries, building heights and emission sources and stack locations, which are identified on Figures A-3. As shown by the figures, light industrial and commercial businesses operate in the immediate areas on the west and south sides of the Carpenter facility. On the north and east sides of the facility are comprised largely of residential neighborhoods. The 91 Freeway is located approximately 1,700 feet to the northeast of the facility along Jefferson Street.

2.2 Applicable Regulations

South Coast AQMD Rule 1402 implements AB 2588 for facilities within its jurisdiction, which requires health risk assessment, public notification and risk reduction measures for facilities which exceed applicable risk levels. Rule 1402 identifies public notification and action risk levels for carcinogenic impacts, as well as non-

cancer acute and chronic hazard impacts. The following key requirements are provided per South Coast AQMD Rule 1402:

- ▶ **Public Notification Risk Levels** – The South Coast AQMD requires public notification to affected populations which equal or exceed the following health risk levels: MICR = 10 in 1 million, HIC = 1.0, or HIA = 1.0
- ▶ **Action Risk Levels** – The South Coast AQMD requires facilities to implement risk reduction measures if affected populations are exposed to health risk levels that equal or exceed the following: MICR = 25 in 1 million, Cancer Burden = 0.5, HIC = 3.0, or HIA = 3.0
- ▶ **Significant Risk Levels** – The South Coast AQMD requires facilities to implement risk reduction measures if affected populations are exposed to health risk levels that equal or exceed the following: MICR = 100 in 1 million, HIC = 5.0, or HIA = 5.0

2.3 Report Format

The report format for this HRA is consistent with South Coast AQMD requirements and based on guidance by the OEHHA.

- Section 1.0 **Executive Summary** – This section summarizes facility information, emission sources, modeling parameters, and key findings of this HRA.
- Section 2.0 **Introduction** – This section discusses applicable regulatory requirements, project background, and report format.
- Section 3.0 **Hazard Identification** – This section identifies the reported substances emitted from the facility. The substances evaluated for cancer and noncancer endpoints are identified for Appendix A-I substances.
- Section 4.0 **Exposure Assessment** – This section describes the estimated emissions for the chemicals of interest, the air dispersion modeling for determining airborne concentrations, the exposure pathways evaluated, and off-site receptors evaluated.
- Section 5.0 **Risk Characterization** – This section presents the results of the risk assessment for the exposure scenarios evaluated. An evaluation of the zone of impact (ZOI), sensitive receptors, and population health risks are presented where appropriate.
- Section 6.0 **References** – This section identifies the various publications, sources, and other references used to prepare this HRA.

In addition to this HRA report, a File Transfer Protocol (FTP) link has been submitted which includes required and supplemental electronic files, including, modeling input and output files. Electronic files included are as follows:

- ▶ AERMOD Input File [Carpenter_v0.2.ami, Carpenter_v0.2_acute.ami]
- ▶ AERMOD File [Carpenter_v0.2.amz, Carpenter_v0.2_acute.amz]
- ▶ AERMOD Output File
- ▶ AERMAP Input and Output Text Files
- ▶ BPIP-PRIME Input and Output Text Files
- ▶ AERMOD Plot Files by 1 Hour and Period by Source (.plt)

- ▶ USGS Terrain File (Carpenter.tif)
- ▶ Meteorological Files (KRAL_v9.PFL, KRAL_v9.SFC)
- ▶ HARP2 input files (*HRAInput.hra)
- ▶ Supplemental input file with health values (*PoIDB.csv)
- ▶ Supplemental input file with GLCs (*GLCList.csv)
- ▶ Output log file (*output.txt)
- ▶ Output file with cancer risk details (*CancerRisk.csv)
- ▶ Output file with chronic non-cancer risk details (*NCChronicRisk.csv)
- ▶ Output file with acute non-cancer risk details (*NCAcuteRisk.csv)
- ▶ Refined acute non-cancer risk file (RefinedMaxHISummary.csv)
- ▶ Pathway Receptor Information (*PathwayRec.csv)
- ▶ HARP2 Generated Risk Plot Files (.plt)

2.4 Abbreviations and Definitions

2.4.1 Abbreviations

- | | |
|--------------------|---|
| ▶ AB 2588 | Air Toxics "Hot Spots" Information and Assessment Act |
| ▶ ADMRT | Air Dispersion Modeling Risk Tool |
| ▶ AERMOD | American Meteorological Society Regulatory Model |
| ▶ AMS | American Meteorological Society |
| ▶ BPIP-PRIME | Building Profile Input Program PRIME |
| ▶ CARB | California Air Resources Board |
| ▶ CAS | Chemical Abstract System |
| ▶ HARP2 | Hot Spots Analysis and Reporting Program |
| ▶ HI | Hazard Index |
| ▶ HRA | Health Risk Assessment |
| ▶ MEIR | Maximally Exposed Individual Resident |
| ▶ MEIW | Maximally Exposed Individual Worker |
| ▶ OEHHA | Office of Environmental Health Hazard Assessment |
| ▶ PMI | Point of Maximum Impact |
| ▶ REL | Reference Exposure Level |
| ▶ South Coast AQMD | South Coast Air Quality Management District |
| ▶ USEPA | United States Environmental Protection Agency |
| ▶ USGS | United States Geological Survey |
| ▶ UTM | Universal Transverse Mercator |
| ▶ ZOI | Zone of Impact |

2.4.2 Key Definitions

- ▶ **Acute Health Impacts** - An effect caused by initial exposure of a hazardous chemical on the body. The effects are generally severe but are often reversible after exposure stops.
- ▶ **Cancer Health Impacts** - An increase in the likelihood for cancer in the exposed individual, caused by exposure to a carcinogenic substance.
- ▶ **Chronic Health Impacts** - An effect caused by prolonged or repeated exposures over time. Symptoms may not be apparent immediately but develop over time and are often irreversible.
- ▶ **Chronic 8-hour Health Impacts** - An effect caused by exposures that occur on a recurrent basis, but only during a portion of the day.

- ▶ **Dose-Response Assessment** - The process of characterizing the relationship between the exposure to an agent and the incidence of an adverse health effect in exposed populations.
- ▶ **MEI** - Maximum exposed individual (theoretical)
- ▶ **MEIR** - Maximum exposed individual resident (actual)
- ▶ **MEIW** - Maximum exposed individual worker (actual)
- ▶ **Multi-pathway Substances** - A substance or chemical that once airborne from an emission source can, under environmental conditions, be taken into a human receptor by multiple exposure routes, such as inhalation, skin contact with contaminated surfaces, ingestion of soil contaminated by the emission, etc.
- ▶ **PMI** - Off-site point of maximum impact. A location, with or without people currently present, at which the total cancer risk, or the total noncancer risk, has the highest numerical value.
- ▶ **Reference Exposure Level** - The REL is an exposure level at or below which no noncancer adverse health effect is anticipated to occur in a human population, including sensitive subpopulations, exposed for a specific duration. One-hour acute RELs are designed to be protective for infrequent one-hour maximum exposures. Eight-hour RELs are designed to be protective for repeated 8-hour exposures. Chronic RELs are designed to be protective for continuous long-term exposures. RELs are used to evaluate toxicity endpoints other than cancer. RELs are expressed in units of $\mu\text{g}/\text{m}^3$ for inhalation exposures and of $\text{mg}/\text{kg}\text{-day}$ for non-inhalation exposures.
- ▶ **Risk** - The estimated probability of adverse effects to human health, in this instance from the exposure to environmental hazards.
- ▶ **Sensitive Receptor** - A location where the human occupants are considered to be more sensitive to air toxic pollutants than the "average" population, such as, K-12 schools, hospitals, nursing/convalescent homes, daycares, and senior centers.
- ▶ **ZOI** - The area in the vicinity of the facility in which an individual is exposed to greater than or equal to one in a million cancer risk (1.0×10^{-6}) or greater than or equal to one half (0.5) non-cancer hazard.

3. HAZARD IDENTIFICATION

In this initial step of HRA development, hazard identification involves identifying if a hazard exists, and if so, what are the pollutant(s) of concern and whether a pollutant has potential human carcinogen and/or other adverse health effects. In general, OEHHA Guidelines require chemicals identified as Appendix A-I Substances per AB 2588 regulations to be included in HRAs. This section provides descriptions of the facility, applicable processes, pollutants of concern, and emission estimates.

3.1 Facility Description

Carpenter manufacturers flexible polyurethane foam products for use in furniture, carpet cushion underlayment, bedding, and other applications. As shown by Figure A-1, Carpenter operates [REDACTED] located in Riverside, CA. In general, the local topography around the plant is flat terrain within an urban environmental setting (refer to Figure A-2). To support its manufacturing operations, Carpenter operates nine (9) emission sources, which are identified on Figure A-3. Emission rates for each modeled source for this HRA are provided in Table B-2, which includes source names, chemical CAS numbers, maximum hourly emissions, and annual average emissions. Emission rates are based on the ATIR submittal for Reporting Year 2019 and updated emission calculations approved by South Coast AQMD on August 17, 2022 (refer to Appendix D).

3.2 Process Description

To produce its foam products, Carpenter operates two (2) primary production lines referred to as Prime Pour Line and Rebond Pour Line. Foam production occurs by the reaction of mixed chemicals along with additives, catalysts, and others, which are described further below. In addition, there are combustion sources, storage tanks and gluing operations, which are also modeled as emission sources in this HRA. All South Coast AQMD permits are provided in Appendix E. Emission source locations are depicted in Figure A-3, and summary descriptions of the principal operations are provided as follows.

3.2.1 Prime Pour Line

The Prime Pour Line produces flexible polyurethane foam in batches. Chemicals are mixed prior to introduction to the prime pour line. [REDACTED]

[REDACTED] After the foam is poured, it is transported to storage areas for curing before shipment. Emission calculations for TDI emissions from the Prime Pour Line are based on permitted emission rates provided in Permit No. G66773. Emission calculations for MDI emissions from the Prime Pour Line are based on approved emission factor per communications with South Coast AQMD staff per email from Vanessa Tanik dated July 6, 2022. The Prime Pour Line emissions are controlled through a [REDACTED].

3.2.2 Rebond Pour Line

[REDACTED] The bonded foam produced from this process is eventually processed into rolls of carpet cushion underlayment. Emission calculations for TDI emissions from the Rebond Line are based on permitted emission rates provided in Permit No. F62238. Emission calculations for MDI emissions from the Rebond Line are based on approved emission factor per communications with South

Coast AQMD staff per email from Vanessa Tanik dated July 6, 2022. The Rebond Pour Line emissions are controlled through [REDACTED].

3.2.3 Storage Tanks

The facility utilizes aboveground storage tanks for TDI and MDI, which are utilized in the Prime Pour Line and Rebond Line. Emission calculations for TDI emissions from storage tanks are based on permitted emission rates provided in Permit No. G48365. Emission calculations for MDI emissions from the storage tanks are based on approved emission factor per communications with agency staff per email from Vanessa Tanik dated July 6, 2022.

3.2.4 Slab Gluing Loop

In this process, foam slab blocks are placed on a loop track and glued together to form larger blocks. [REDACTED]

[REDACTED] Per communications with South Coast AQMD staff, the agency recommended an emission calculation methodology in the MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry as published by the Alliance for Polyurethane Industries (page 111), which estimate emissions from open processes such as boardstock production. Emission estimates utilizing this methodology were approved by the South Coast AQMD staff per email from Vanessa Tanik dated June 4, 2022. Based on process information from Carpenter, the following assumptions are applied for the slab glue loop process, which are reflected in the approved emission calculations:

[REDACTED]

[REDACTED] Consequently, MDI emissions from the gluing process are determined to be negligible (< 0.0001 lbs/year).

3.2.5 Combustion Sources

The facility operates several combustion sources which were part of the 2019 ATIR, which include: (1) a natural gas steam generator (Permit No. G20595); (2) a natural gas fiber line oven (Permit No. F49010); and (3) two emergency diesel fire pumps (Permit Nos. D22228 and D43309). Air toxic combustion emissions from the steam generator were calculated using approved South Coast AQMD default factors for natural gas boilers (< 10 MMBtu/hr). Air toxic combustion emissions from the fiber line oven were calculated using approved South Coast AQMD default factors for natural gas ovens (< 10 MMBtu/hr). Combustion emissions from the fire pumps were calculated using approved South Coast AQMD default factors for diesel fired stationary internal combustion engines.

3.3 Chemicals of Interest

Per OEHHA Guidelines, the modeled chemicals in this HRA from the facility emission sources were identified from AB 2588 Appendix A-I list of substances. The chemicals that were identified from the listed Appendix A-I substances are displayed in Table B-2. Chemical profiles of these air toxics are well established by OEHHA and regulatory authorities, such as physical characteristics, general uses, and toxicity information. As shown by Table B-3, of the 25 identified AB 2588 emitted substances, 14 substances have carcinogenic impacts, 22 substances have chronic noncancer hazard impacts, and 21 substances have acute noncancer hazard impacts. Some substances have multiple health impacts. As shown by Table B-4, potential target

organs for the acute and chronic noncancer health effects are as follows: cardiovascular system (CV), central nervous system (CNS), immune system (IMMUN), kidney (KIDN), alimentary liver system (GILV), reproductive system (REPRO), respiratory system (RESP), skin (SKIN), eye (EYE), bone and teeth (BONE), endocrine system (ENDO), hematopoietic system (HEM), and odor (ODOR).

4. EXPOSURE ASSESSMENT

In this step of HRA development, exposure assessment involves estimating the extent of public exposure to each regulated substance for which there exists potential cancer risk and/or noncancer health hazard effects. This involves modeling of environmental transport, evaluation of environmental fate, identification of exposure routes, identification of exposed populations, and estimation of short-term and long-term exposure levels.

This section describes air dispersion modeling and associated parameters used to estimate the potential for human exposure to the AB 2588 emissions from this facility, including: (1) summarize and describe the source information and emission estimates used in the environmental transport models; (2) describe potentially exposed populations; (3) describe the assumptions used in the assessment of chemical exposure model; and (4) identify primary methodologies for calculating health risk impacts.

4.1 Air Dispersion Model

Air dispersion modeling is used to estimate off-site air concentrations of chemicals associated with facility emissions. Developed to replace the Industrial Source Complex Short-Term Version 3 (ISCST3) model, AERMOD is a steady-state Gaussian plume model that can be used to assess ground level pollutant concentrations from a wide variety of sources (point, line, area, or volume) for distances up to approximately 50 km, including urban and rural terrains. AERMOD can calculate ground level concentrations for various averaging periods, such as acute short-term exposures (1-hour averaging), chronic long-term exposures (annual averages), or other required meteorological data periods (i.e., 3-hour, 8-hour, 24-hour). The assumptions used for this model are discussed in more detail below.

4.1.1 Model Options

The following AERMOD Version was used for the HRA:

- ▶ AERMOD Version 21112

The following AERMOD model options were used in the modeling analysis:

- | | |
|---------------------------|-------------------------------------|
| ▶ AERMOD | Version 21112 |
| ▶ HARP2 ADMRT | Version 22118 |
| ▶ Projection | Universal Transverse Mercator (UTM) |
| ▶ Datum | North American Datum 1983 |
| ▶ UTM Zone | 11 |
| ▶ Hemisphere | Northern |
| ▶ Selection | Hourly and Period |
| ▶ AERMOD File | .AMI and .AMZ |
| ▶ AERMOD Output File | Plot File by Source |
| ▶ Use Regulatory Default? | Yes |
| ▶ Urban or Rural? | Urban |
| ▶ Building Downwash? | Yes |

All the sources at the facility are identified on Figure A-3. To determine noncarcinogenic acute health hazards, AERMOD model calculated ground level concentrations for the maximum 1-hour averaging period. To determine noncarcinogenic chronic health hazards and carcinogenic health impacts, AERMOD model

calculated ground level concentrations for the annual average period. The dispersion coefficients (urban or rural) were determined based on the surrounding area (refer to Figure A-1 and A-2).

4.1.2 Source Parameters

The AERMOD model supports a variety of source types, including point, area, volume, and line. Based on current facility operations and reported emissions, modeling sources were identified for purposes of this HRA. Modeling sources are generally identified as point, line, volume, or area sources. There are nine (9) sources of AB 2588-listed substance emissions, six (6) of which are characterized as point sources. The following inputs are defined for the point source:

- ▶ Source ID
- ▶ X Coordinate
- ▶ Y Coordinate
- ▶ Base Elevation
- ▶ Release Height above Ground
- ▶ Emission Rate
- ▶ Stack Gas Exit Temperature
- ▶ Stack Gas Exit Velocity
- ▶ Stack Diameter

The point source stacks are vertical and there is no source grouping.

Three (3) sources are characterized as area sources. The following inputs are defined for the area source:

- ▶ Source ID
- ▶ X Coordinate
- ▶ Y Coordinate
- ▶ Base Elevation
- ▶ Release Height above Ground
- ▶ Emission Rate
- ▶ X Length
- ▶ Y Length

Zero sources are characterized as volume sources.

All relevant emissions source parameters that were applied for this model are provided in Table B-5. Maximum 1-hour and annual average emission rates for each source and regulated chemical are provided in Table B-2. For inputted sources, AERMOD calculates ground level concentrations based on inputted source-specific parameters, including the emission rate, stack height, stack inside diameter, stack exit velocity, and stack gas temperature.

4.1.2.1 Variable Emission Rates

Variable emission rates were applied to each source in AERMOD based on the respective operating schedule. The operating schedule for each source is provided in the table below.

Source ID	Source Description				Variable Rate
1	Prime Pour Line				4.2
2	Rebond Pour Line				4.2
3	Fire Pump Engine 1				3.73
4	Fire Pump Engine 2				3.73
5	Fiber Line 1 Oven				4.2
6	Steam Generator				1.98
7	MDI Storage Tank				1
8	Prime Pour TDI Tanks				1
9	Slab Gluing Loop 1				3.36

4.1.3 Receptors

According to OEHHA Guidelines, HRAs must provide a detailed analysis of the potentially exposed population. This analysis includes identification of the maximum exposed individuals (MEIs) for nearby workers (MEIW) and residences (MEIR), identification of sensitive receptors within the ZOI, identification of fence line receptors, and evaluation of potential population impacts within the ZOI. As required, various receptor locations were inputted into AERMOD which covered the property fenceline, nearby residences and workers, sensitive receptors, and census blocks. Additional detail for each receptor type is provided as follows:

- ▶ **Facility Boundary** – Facility boundary receptors were defined at 20-meter increments along the property border. Figure A-3 shows the fenceline for this HRA. The facility boundary receptors are identified as receptors 3383-3461.
- ▶ **Receptor Grid** – A tiered receptor grid was used to identify locations of potential MEIs. The first tier has spacing of 25 meters out to 500 meters from the facility boundary. Tier 2 has spacing of 50 meters from 500 meters to 1 kilometer. Tier 3 has spacing of 100 meters from 1 kilometer to 2 kilometer. Tier 4 has spacing of 250 meters from 2 kilometers to 4 kilometers. The receptor grid receptors are identified as receptors 1-3377.
- ▶ **Discrete Receptors** – Discrete receptors were added to identify the potential MEIs. Discrete receptors were also added for residences, workplaces, and census blocks preliminarily identified to have a 30-year cancer risk higher than 1 in a million. The discrete receptors are identified as receptors 3378-3382.
- ▶ **Sensitive Receptors** - In accordance with OEHHA Guidelines, sensitive receptors must be identified within the ZOI, such as K-12 schools, hospitals, nursing/convalescent homes, daycares, and senior centers. As applicable, to determine the location of nearby sensitive receptors within the ZOI, Trinity reviewed applicable public sources of information and databases, including, Google and online search. Sensitive receptors are identified as receptors 1444, 1445, 1488-1491, 1534-1536, 1580-1582, and 1625-1627. A breakdown of the sensitive receptors is identified in Table B-7a, and ground level concentrations for the sensitive receptors is provided in Table B-7b.

4.1.4 Building Downwash

The purpose of this evaluation is to determine if stack releases might become caught in the turbulent wakes of structures within close proximity. Wind blowing around a building creates zones of turbulence that are greater than if the building was absent. The USEPA-approved Building Profile Input Program PRIME (BPIMP-PRIME) will be used to simulate the building downwash, which is the effect of nearby structures on the flow of the plumes from their respective emission sources. USEPA has promulgated stack height regulations that

restrict the use of stack heights in excess of “Good Engineering Practice” (GEP) in air dispersion modeling analyses. Under these regulations, that portion of a stack in excess of the GEP height is generally not creditable when modeling to determine source impacts. This essentially prevents the use of excessively tall stacks to reduce the ground-level pollutant concentrations. The stack height not subject to the effects of downwash, called the GEP stack height, is defined by the following formula from USEPA’s Guideline for Determination of Good Engineering Practice Stack Height:

$$H_{GEP} = H + 1.5L$$

Where:

H_{GEP} = GEP stack height,
H = structure height, and
L = lesser dimension of the structure (height or projected width).

This equation is limited to stacks located within 5L of a structure. Stacks located at a distance greater than 5L are not subject to the wake effects of the structure. If there is more than one stack at a given facility, the above equation must be successively applied to each stack. If more than one structure is involved, the equations must also be successively applied to each structure. To calculate downwash effects, if any, building coordinates and height of nearby structures were inputted into BPIP-PRIME and can be seen on Table B-6. Six (6) buildings were modeled for building downwash. Figure A-4 shows a model plan of the boundary, buildings, and sources.

4.1.5 Meteorological and Elevation Data

CARB provides AERMOD-ready meteorological data. The appropriate regional meteorological data set was chosen based on station proximity to the facility. The Riverside Airport meteorological data set was identified as most applicable.

OEHHA Guidelines recommend five years of meteorological data be used in the model if available. The following five-year AERMET processed meteorological data files for years 2012 through 2016 were downloaded from the South Coast AQMD Met Data site:

- ▶ KRAL_v9.SFC
- ▶ KRAL_v9.PFL

The surface file and profile file were inputted into AERMAP and processed with all receptors and sources.

Topography classification (Simple, Intermediate, Complex) is not required with the AERMOD dispersion model. Terrain options employed within AERMOD, using AERMAP to obtain source, building, and receptor elevations from the following file downloaded and resized from the USGS National Map (USGS 2022):

- ▶ Carpenter.tif

4.2 Assessment of Chemical Exposure

South Coast AQMD requires that all AB 2588 HRAs be prepared using the HARP2 ADMRT. The most recent version of HARP2 was used to prepare this HRA. The ADMRT module of HARP2 incorporates the current OEHHA Guidelines, exposure factors, and most recent toxicity values for modeled substances.

4.2.1 HARP2 Analysis

AERMOD estimates off-site ambient air concentrations for each averaging period (i.e., 1-hour, annual average, etc.) based on source parameters and a normalized emission rate (1 gram/sec) from each emission source. The AERMOD output provides a theoretical concentration based on this normalized emission rate for each chemical at each receptor location from each source. This normalized emission rate for each source was used to generate a file that contained the partial contribution of each source to the total air concentration in units of micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) at each receptor. This AERMOD model output file was used as an input file to the HARP2 model, which combined the partial contributions with actual source emission rates to estimate the chemical-specific air concentrations at each receptor location. HARP2 sums up the contribution from each source at a given receptor in order to estimate the total pollutant concentration for each emitted chemical. HARP2 also contains updated toxicity information (cancer potency, RELs, etc.) for listed regulated substances, which are applied to estimate cancer and noncancer health hazard impacts for relevant exposure pathways and applicable target organs.

As required, the HARP2 model input and output files were submitted with this HRA report in electronic format, as listed in Section 2.3.

4.2.2 Exposure Pathways

Exposure pathways are generally classified as primary pathways and secondary pathways. Inhalation is the primary exposure pathway for all modeled sources and substances. For multi-pathway substances, there are non-inhalation exposure pathways that should also be evaluated. As applicable, the non-inhalation pathways include dermal exposure, water ingestion, crop ingestion (direct deposition), soil ingestion, ingestion of mother's milk, fish, and dairy products, or other.

In general, most air toxics assessed under the Hot Spots program are volatile organic compounds that remain as gases when emitted into the air. These volatile chemicals are not subject to appreciable deposition to soil, surface waters, or plants. Therefore, human exposure does not normally occur to any appreciable extent via ingestion or dermal exposure. Rather, the primary exposure pathway to these volatiles occurs through the inhalation pathway. A small subset of regulated substances, i.e. semi-volatile organic and metals, is emitted partially or totally as particles subject to deposition. In these cases, ingestion and dermal pathways as well as the inhalation pathway must be evaluated.

Based on OEHHA Guidelines the multi-pathway analyses that will be included in this HRA will consider exposure via the mandatory minimum pathways of:

- ▶ Inhalation
- ▶ Soil Ingestion
- ▶ Dermal Absorption
- ▶ Mother's Milk
- ▶ Homegrown Produce

The area surrounding the facility is primarily industrial, commercial, and residential. There is no local potable surface water supply in the vicinity of the facility. Therefore, it is assumed that there is no risk involved in the exposure through ingestion of local fish nor through ingestion of surface water or groundwater. There is no adjustment to exposure time, worker adjustment, and time away from home applied to this HRA.

Particle deposition will be predicted using the procedures and the values presented in the OEHHA Air Toxics "Hot Spots" Program Risk Assessment Guidelines, February 2015. The deposition rate of 2 cm/s will be used in this HRA.

4.2.3 Carcinogenic Health Impacts

In accordance with the OEHHA Guidelines, cancer risk estimates based on the theoretical upper-bound cancer risk were evaluated for the MEIR, MEIW, and PMI. The guidelines also require cancer risk to be evaluated for affected sensitive receptors and populations within the ZOI.

The HARP2 model computes the total cancer risk from both inhalation and non-inhalation pathways at each receptor location. For example, the inhalation risk for each pollutant at a receptor location is calculated by multiplying the inhalation dosage by its cancer potency factor (example below). The estimated risks for individual substances emitted by the facility are added to provide the total cancer risk for individual receptor locations. For inhalation exposures, cancer risk must be separately calculated for specified age groups because of age differences in sensitivity to carcinogens and age differences in intake rates. Some substances are subject to deposition onto soil, plants, and water bodies and therefore need to be evaluated by the appropriate non-inhalation pathway. Cancer risk for both inhalation and non-inhalation pathways is calculated using Equation 8.2.4 A and 8.2.5 from the OEHHA Guidelines, generalized in the following equation:

$$\text{Cancer Risk}_i = \text{Dose} \times \text{CPF} \times \text{ASF} \times \frac{\text{ED}}{\text{AT}} \times \text{FAH}$$

Where:

Cancer Risk _i	=	Cancer risk for specific exposure pathway <i>i</i> (inhalation/non-inhalation)
Dose	=	Daily Inhalation Dose (mg/kg-day)
CPF	=	Cancer Potency (or Unit Risk Factor) (mg/kg-day) ⁻¹
ASF	=	Age sensitivity factor for a specified age group (unitless)
ED	=	Exposure duration (in years) for a specified age group
AT	=	Averaging time for lifetime cancer risk (years)
FAH	=	Fraction of time spent at home (unitless) (residential inhalation pathway only)

Per OEHHA Guidelines, South Coast AQMD assumes an exposure duration of 30 years for residential and sensitive receptors. For worker receptors, the exposure duration is reduced to 25 years.

4.2.4 Noncarcinogenic Health Impacts

Potential noncarcinogenic health effects (acute HI and chronic HI) associated with exposure to chemical emissions have been evaluated using the HARP2 model. Acute and chronic health hazards for different substances impact different target human organs (e.g., central nervous system, reproductive system, liver, etc.). For inhalation exposures, the model divides the predicted average air concentrations for each chemical at the receptor locations by the appropriate inhalation Reference Exposure Levels (RELs) provided by OEHHA. These ratios are chemical-specific to the chronic or acute hazard quotients.

Noncarcinogenic health effects were also evaluated in terms of their assumed potential additive effect on target organs or systems. For inhalation exposures, the target organ-specific HI is the sum of the individual hazard quotients for each chemical affecting a specific target organ as defined in Section 8.3.1 of the OEHHA Guidelines, as shown below:

$$\text{Hazard Index (HI)}_{\text{Organ}} = \sum \left[\frac{\text{GLC}}{\text{REL}_{\text{Organ}}} \right]_{\text{Chemical}}$$

Where:

- GLC = ground level concentration ($\mu\text{g}/\text{m}^3$), annual average concentration for chronic and 1-hour max concentration for acute
- REL = Reference Exposure Level ($\mu\text{g}/\text{m}^3$)

In the case of a multi-pathway pollutant (i.e., pollutants with non-inhalation exposures), health risk impacts consider the additional noncancer risks associated with non-inhalation routes of exposure from certain pollutants.

4.2.5 Worker Adjustment Factor

Per South Coast AQMD's AB 2588 and Rule 1402 Supplemental Guidelines, worker adjustment factors (WAFs) are needed for facilities that do not operate continuously. The adjustment reflects the pollutant concentration that an offsite worker breathes. WAFs are only applicable when estimating worker cancer risks and non-cancer chronic 8-hour HI, and the WAFs only affect the inhalation pathway. WAFs were calculated per source based on the potential operating hours, and it is conservatively assumed that the offsite worker and the facility have the same operating schedule, meaning the operating schedules completely overlap.

WAFs can typically be entered into HARP2 via the Inhalation Pathway. This method allows for one WAF to be used for the entire facility. For Carpenter, [REDACTED], the WAFs were directly applied to the worker cancer inhalation risk and the non-cancer chronic 8-hour risk for each source through post-processing in Microsoft Excel. [REDACTED]

Source ID	Permit ID	Source Name	[REDACTED]	[REDACTED]	[REDACTED]	WAF
1	G66773	Prime Pour Line	[REDACTED]	[REDACTED]	[REDACTED]	4.20
2	F62238	Rebond Pour Line	[REDACTED]	[REDACTED]	[REDACTED]	3.36
3	D22228	Fire Pump Engine 1	[REDACTED]	[REDACTED]	[REDACTED]	3.73
4	D43309	Fire Pump Engine 2	[REDACTED]	[REDACTED]	[REDACTED]	3.73
5	F49010	Fiber Line 1 Oven	[REDACTED]	[REDACTED]	[REDACTED]	4.20
6	G20595	Clayton Natural Gas Fired Steam Generator	[REDACTED]	[REDACTED]	[REDACTED]	1.98
7	G48365	MDI Storage Tank	[REDACTED]	[REDACTED]	[REDACTED]	1
8	G48365	Prime Pour TDI Tanks	[REDACTED]	[REDACTED]	[REDACTED]	1
9	NA	Slab Gluing Loop 1	[REDACTED]	[REDACTED]	[REDACTED]	3.36

5. RISK CHARACTERIZATION

The risk characterization section discusses the results of the modeling, including, noncancer health hazards, carcinogenic health hazards, zones of impact, maximum exposures, cancer burden calculations, and affected populations. The following summarizes the key modeling parameters and results from this HRA.

5.1 Dose-Response and Dose Estimates

Dose-response assessment describes the quantitative relationship between the amount of exposure to a substance (the dose) and the incidence or occurrence of an adverse health impact (the response). For cancer health risk, CARB's Scientific Review Panel on Toxic Air Contaminants has approved a list of cancer potency factors developed by OEHHA or USEPA. The potency factors are provided in Appendix A of the OEHHA Guidelines and used in HARP2 ADMRT. The potency factors for the facility are listed in Table B-3. For noncancer health effects, the dose-response information is used to determine the RELs. The RELs are provided in Appendix B of the OEHHA Guidelines and used in HARP2 ADMRT. The RELs for the facility are listed in Table B-3.

5.2 Zone of Impact

As required, modeling receptor points were identified to include the property fence line, nearby workers, and local residential neighborhoods. In addition, any sensitive receptors within the ZOI were identified (see Figure A-5 for ZOI residential cancer risk). The ZOI is commonly defined as the area surrounding the facility where receptors have a potential cancer risk equal or greater than 1 in 1 million, acute hazards equal or greater than 0.5, or chronic hazards equal or greater than 0.5. The ZOI is defined once the air dispersion modeling process has determined the pollutant concentrations at each designated off-site receptor and a risk analysis has been performed. The results from the HARP2 model provides the information necessary to identify the ZOI by generating the associated risk isopleths (i.e., a geographical presentation of areas of equal risk). Maps depicting the ZOIs for this HRA are provided in Figures A-5 through A-11, as applicable.

5.3 Carcinogenic Health Effects

5.3.1 Point of Maximum Impact

Results for the PMI by each pollutant and by each source are presented in Tables B-8 and B-9, respectively. The receptor ID, UTM coordinates, cancer risk, driving compound, driving emission source, and driving pathway for the PMI are listed below.

- ▶ Receptor ID – #3395
- ▶ UTM Coordinates – 462688.9 E, 3754097.2 N
- ▶ Cancer Risk – 1.58×10^{-6}
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Pathway – Inhalation

The PMI is located along southeast side of the facility boundary, near the intersection of Lincoln Avenue and Grace Street, shown on Figure A-5.

5.3.2 Maximum Exposed Individual Resident

Results for the MEIR by each pollutant and by each source are presented in Tables B-10 and B-11, respectively. The receptor ID, UTM coordinates, cancer risk, driving compound, driving emission source, and driving pathway for the MEIR are listed below.

- ▶ Receptor ID – #1207
- ▶ UTM Coordinates – 462718.1 E, 3754183.9 N
- ▶ Cancer Risk – 1.12×10^{-6}
- ▶ Driving Compound – Diesel Particulate Matter
- ▶ Driving Emission Source – Fire Pump Engine 1 and Fire Pump Engine 2 (Source ID 3 and 4)
- ▶ Driving Pathway – Inhalation

The MEIR is located to the east of the facility, along Grace Street between Lincoln Avenue and Freda Avenue, shown on Figure A-5. Figure A-5 presents the cancer risk isopleths identifying the ZOI for residential modeling scenarios.

5.3.3 Maximum Exposed Individual Worker

Results for the MEIW by each pollutant and by each source are presented in Tables B-12 and B-13, respectively. The receptor ID, UTM coordinates, cancer risk, driving compound, driving emission source, and driving pathway for the MEIW are listed below.

- ▶ Receptor ID – #1162
- ▶ UTM Coordinates – 462693.1 E, 3754058.9 N
- ▶ Cancer Risk – 2.08×10^{-7}
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Pathway – Inhalation

The MEIW is located to the south of the facility, along Lincoln Avenue, shown on Figure A-7. Figure A-7 presents the cancer risk isopleths identifying the ZOI for worker modeling scenarios.

5.3.4 Sensitive Receptors

Table B-7a identifies the location of the sensitive receptors, which are also shown in Figure A-11. None of the sensitive receptors that were modeled exceeded the level requiring public notification or a risk audit and reduction plan.

5.3.5 Population Cancer Burden

AB 2588 requires an estimate of the number of impacted individuals in residences and off-site workplaces within the ZOI. Census data is used to determine affected populations within geographic areas defined by census tracts. A census tract centroid (geographical center) is identified as a receptor location, which represents exposure to the population within that census tract. Census tract information was obtained directly from the HARP2 ADMRT background data for census tracts located with the ZOI.

The ZOI is within Tract 313. For this HRA, affected populations were estimated based on census data from Calendar Year 2010, as published by the United States Census Bureau. The census tract receptors were

inputted into AERMOD and are identified as receptors 3457-3461. The cancer burden results are presented in Tables B-28 and shown below.

- ▶ Total cancer burden – 0.00001

5.4 Noncancer Chronic Health Effects

5.4.1 Point of Maximum Impact

Results for the PMI by each pollutant and by each source are presented in Tables B-14 and B-15, respectively. The receptor ID, UTM coordinates, chronic hazard, driving compound, driving emission source, and driving target organ for the PMI are listed below.

- ▶ Receptor ID – #3395
- ▶ UTM Coordinates – 462688.9 E, 3754097.2 N
- ▶ Chronic Hazard – 3.80
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The PMI is located along the southeast side of the facility boundary, near the intersection of Lincoln Avenue and Grace Street, shown on Figure A-6.

5.4.2 Maximum Exposed Individual Resident

Results for the MEIR by each pollutant and by each source are presented in Tables B-16 and B-17, respectively. The receptor ID, UTM coordinates, chronic hazard, driving compound, driving emission source, and driving target organ for the MEIR are listed below.

- ▶ Receptor ID – #1251
- ▶ UTM Coordinates – 462743.1 E, 3754158.9 N
- ▶ Chronic Hazard – 2.28
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The MEIR is located to the east of the facility, along Grace Street between Lincoln Avenue and Freda Avenue, shown on Figure A-6. Figure A-6 presents the chronic hazard isopleths identifying the ZOI for residential modeling scenarios.

5.4.3 Maximum Exposed Individual Worker

Results for the MEIW by each pollutant and by each source are presented in Tables B-18 and B-19, respectively. The receptor ID, UTM coordinates, chronic hazard, driving compound, driving emission source, and driving target organ for the MEIW are listed below.

- ▶ Receptor ID – #1204
- ▶ UTM Coordinates – 462718.1 E, 3754083.9 N
- ▶ Chronic Hazard – 1.92

- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The MEIW is located to the south of the facility, along Lincoln Avenue, shown on Figure A-8. Figure A-8 presents the chronic hazard isopleths identifying the ZOI for worker modeling scenarios.

5.4.4 Sensitive Receptors

Table B-7a identifies the location of the sensitive receptors, which are also shown in Figure A-11. None of the sensitive receptors that were modeled exceeded the level requiring public notification or a risk audit and reduction plan.

5.5 Noncancer Chronic 8-Hour Health Effects

5.5.1 Maximum Exposed Individual Worker (MEIW)

Results for the MEIW by each pollutant and by each source are presented in Tables B-26 and B-27, respectively. The receptor ID, UTM coordinates, chronic 8-hour hazard, driving compound, driving emission source, and driving target organ for the MEIW are listed below.

- ▶ Receptor ID – #1204
- ▶ UTM Coordinates – 462718.1 E, 3754083.9 N
- ▶ Chronic Hazard – 3.19
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The MEIW is located to the south of the facility, along Lincoln Avenue, shown on Figure A-9. Figure A-9 presents the chronic hazard isopleths identifying the ZOI for worker modeling scenarios.

5.6 Noncancer Acute Health Effects

5.6.1 Point of Maximum Impact

Results for the PMI by each pollutant and by each source are presented in Tables B-20 and B-21, respectively. The receptor ID, UTM coordinates, acute hazard, driving compound, driving emission source, and driving target organ for the PMI are listed below.

- ▶ Receptor ID – #3408
- ▶ UTM Coordinates – 462633.2 E, 3754279.4 N
- ▶ Acute Hazard – 0.355
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The PMI is located along east side of the facility boundary, along Grace Street between Freda Avenue and Fern Avenue, shown on Figure A-10.

5.6.2 Maximum Exposed Individual Resident

Results for the MEIR by each pollutant and by each source are presented in Tables B-22 and B-23, respectively. The receptor ID, UTM coordinates, acute hazard, driving compound, driving emission source, and driving target organ for the MEIR are listed below.

- ▶ Receptor ID – #1019
- ▶ UTM Coordinates – 462593.1 E, 3754383.9 N
- ▶ Acute Hazard – 0.342
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The MEIR is located to the east of the facility, along Grace Street between Emerald Street and Peters Street, shown on Figure A-10. Figure A-10 presents the acute hazard isopleths identifying the ZOI for residential modeling scenarios.

5.6.3 Maximum Exposed Individual Worker

Results for the MEIW by each pollutant and by each source are presented in Tables B-24 and B-25, respectively. The receptor ID, UTM coordinates, acute hazard, driving compound, driving emission source, and driving target organ for the MEIW are listed below.

- ▶ Receptor ID – #1017
- ▶ UTM Coordinates – 462593.1 E, 3754008.9 N
- ▶ Acute Hazard – 0.284
- ▶ Driving Compound – Toluene Diisocyanate (TDI)
- ▶ Driving Emission Source – Rebond Pour Line (Source ID 2)
- ▶ Driving Target Organ – Respiratory System

The MEIW is located to the south of the facility, along Lincoln Avenue, shown on Figure A-10. Figure A-10 presents the acute hazard isopleths identifying the ZOI for worker modeling scenarios.

5.6.4 Sensitive Receptors

Table B-7a identifies the location of the sensitive receptors, which are also shown in Figure A-11. None of the sensitive receptors that were modeled exceeded the level requiring public notification or a risk audit and reduction plan.

BREEZE AERMOD, 3D Analyst, Downwash Analyst, <https://www.breeze-software.com/>

California Air Resources Board (CARB). 2015. AB 2588 District Prioritization Scores and Risk Threshold Levels, <https://ww2.arb.ca.gov/ab-2588-district-prioritization-scores-and-risk-threshold-levels-0>

California Air Resources Board (CARB). 2015. User Manual for The Hotspots Analysis and Reporting Program Air Dispersion Modeling and Risk Assessment Tool Version 2. <https://ww3.arb.ca.gov/toxics/harp/docs2/harp2rastuserguide.pdf>

Google Earth, <http://www.earth.google.com>

Office of Environmental Health Hazard Assessment (OEHHA). 2015. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. <https://oehha.ca.gov/media/downloads/crn/2015guidancemanual.pdf>

United States Environmental Protection Agency. 1985. Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document for the Stack Height Regulations). <https://www3.epa.gov/ttn/scram/guidance/guide/gep.pdf>

United States Environmental Protection Agency. 2019. User's Guide for the AMS/EPA Regulatory Model (AERMOD). EPA-454/B-19-027, April 2019. https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf

South Coast Air Quality Management District (South Coast AQMD). 2022. Approval of Air Toxics Inventory Report and Notice to Prepare a Health Risk Assessment for Carpenter Co. (South Coast AQMD Facility ID No.: 7730).

-----, 2020. AB 2588 and Rule 1402 Supplemental Guidelines (Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information Assessment Act)

APPENDIX A. FIGURES



Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-1. Location Map

Project

220501.0148

Date

May 2023

Page

A-2



Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-2. Vicinity Map

Project

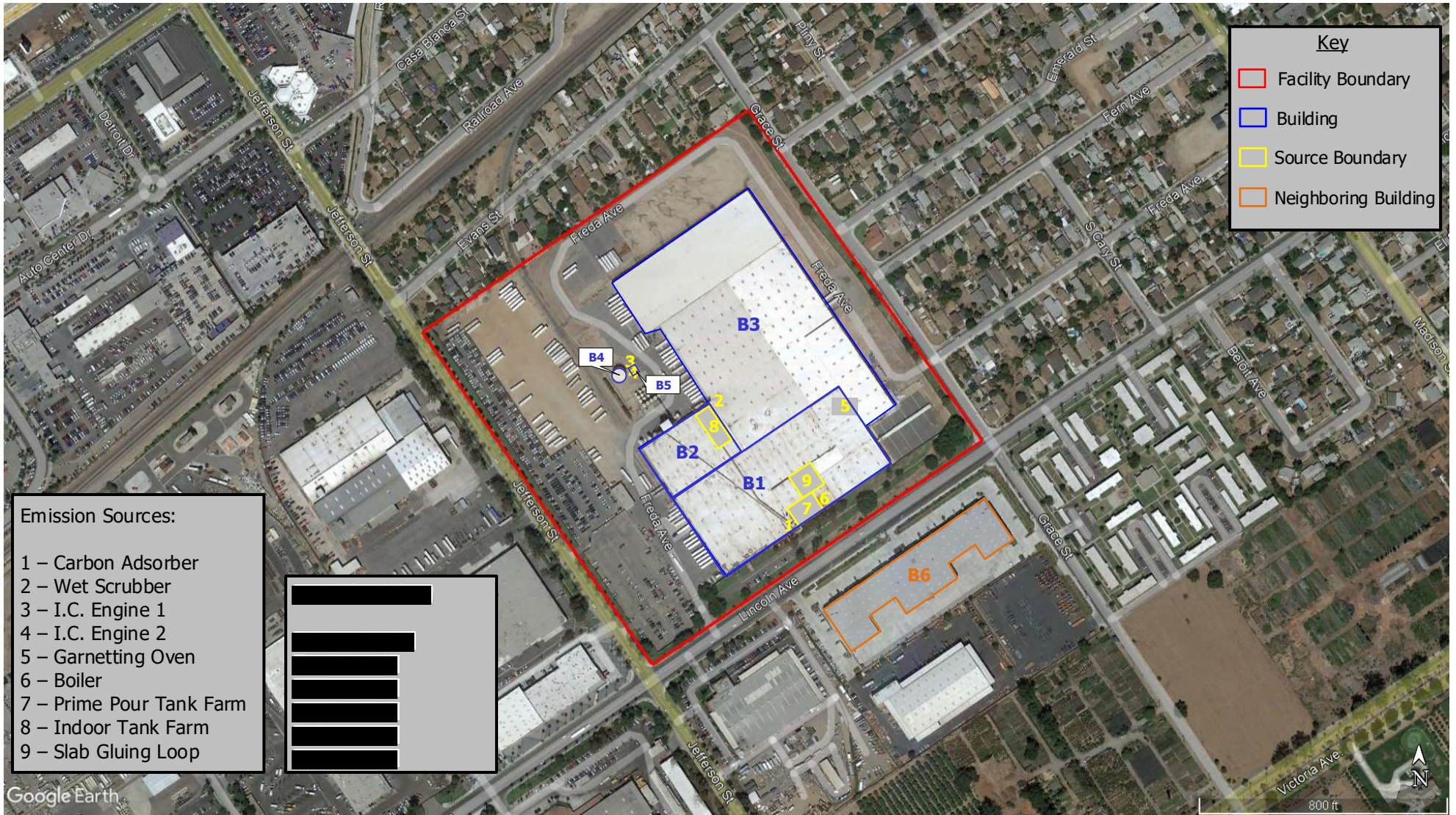
220501.0148

Date

May 2023

Page

A-3



Key

- Facility Boundary
- Building
- Source Boundary
- Neighboring Building

Emission Sources:

- 1 – Carbon Adsorber
- 2 – Wet Scrubber
- 3 – I.C. Engine 1
- 4 – I.C. Engine 2
- 5 – Garnetting Oven
- 6 – Boiler
- 7 – Prime Pour Tank Farm
- 8 – Indoor Tank Farm
- 9 – Slab Gluing Loop



Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-3. Site Plot Plan

Project

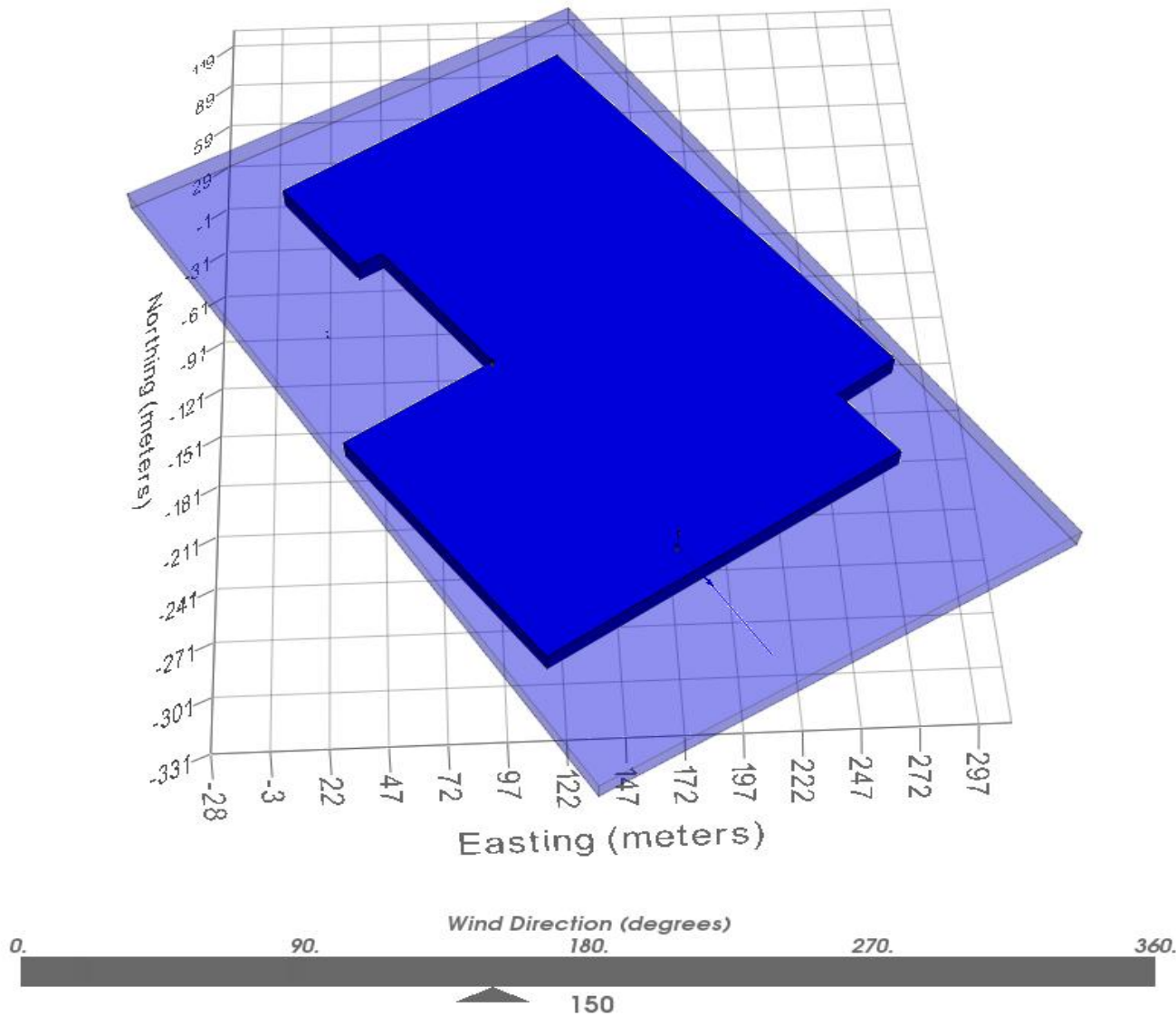
220501.0148

Date

May 2023

Page

A-4



BREEZE Downwash Analyst



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description		Figure A-4. Building Downwash	
Project	220501.0148	Date	May 2023
			Page
			A-5



Google Earth

800 ft

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-5. Cancer Risk Isopleths - Residential

Project

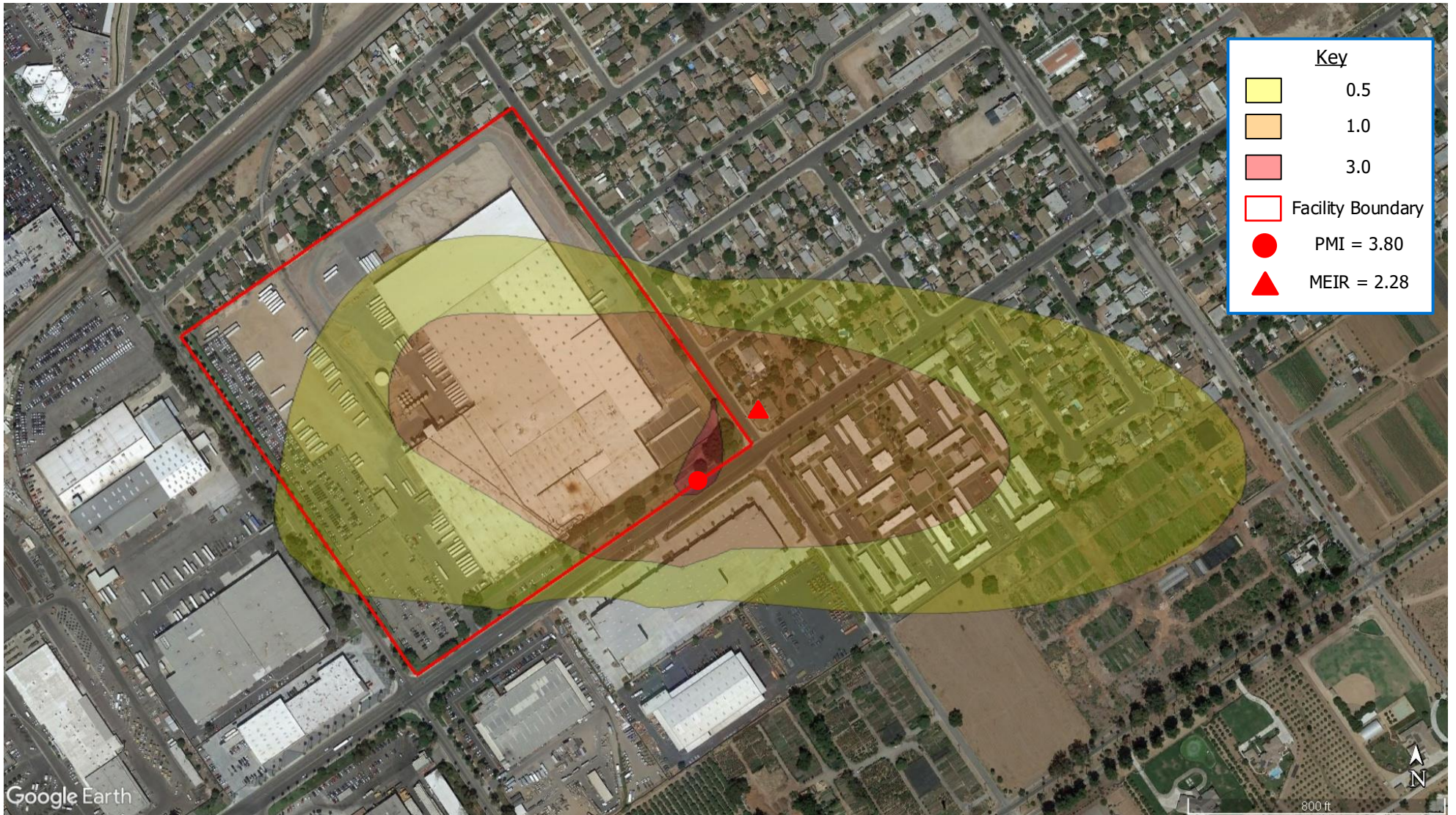
220501.0148

Date

May 2023

Page

A-6



Google Earth

800 ft

462000 E, 3753800 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-6. Chronic Hazard Isopleths - Residential

Project

220501.0148

Date

May 2023

Page

A-7

463100 E, 3754500 N



462000 E, 3753900 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-7. Cancer Risk Isopleths - Worker

Project

220501.0148

Date

May 2023

Page

A-8



Google Earth

800 ft

462000 E, 3753800 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-8. Chronic Hazard Isopleths - Worker

Project

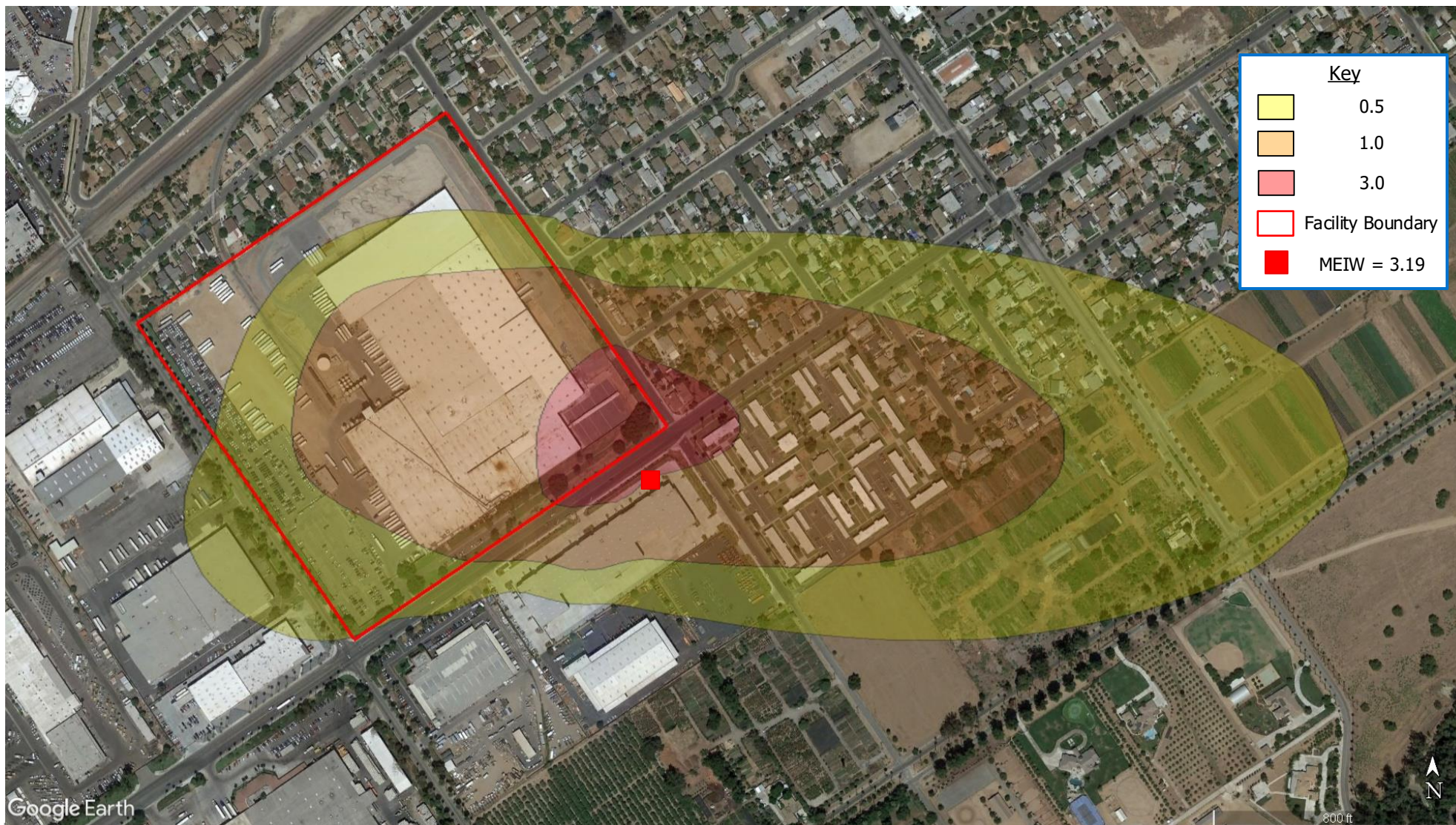
220501.0148

Date

May 2023

Page

A-9



Google Earth

800 ft

462000 E, 3753700 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-9. 8-HR Chronic Hazard Isopleths - Worker

Project

220501.0148

Date

May 2023

Page

A-10



Google Earth

900 ft

461800 E, 3753800 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-10. Acute Hazard Isopleths

Project

220501.0148

Date

May 2023

Page

A-11



461600 E, 3753600 N

Prepared By:



Prepared For:



Carpenter Company
7809 Lincoln Ave
Riverside, CA 92504

Description

Figure A-11. Sensitive Receptors

Project

220501.0148

Date

May 2023

Page

A-12

APPENDIX B. TABLES

Table B-1. Summary of Health Risk Results

Carpenter Company
Facility ID: 7730

Receptor Description	Cancer Risk	Receptor ID	Chronic ¹ Hazard Index	Receptor ID	Chronic 8-hr ² Hazard Index	Receptor ID	Acute ³ Hazard Index	Receptor ID
PMI (Point of Maximum Impact)	1.58E-06	3395	3.80E+00	3395			3.55E-01	3408
MEIR (Residence)	1.12E-06	1207	2.28E+00	1251			3.42E-01	1019
MEIW (Worker)	2.08E-07	1162	1.92E+00	1204	3.19E+00	1204	2.84E-01	1017

1. Chronic hazard index is presented for the respiratory system, because the respiratory system had the maximum chronic hazard index.
2. Chronic 8-hr hazard index is presented for the respiratory system, because the respiratory system had the maximum chronic 8-hr hazard index.
3. Acute hazard index is presented for the respiratory system, because the respiratory system had the maximum acute hazard index.

Table B-2a. Emission Rate by Substance and Source

Carpenter Company
 Facility ID: 7730

Stack ID	Device ID	Permit ID	Source Name	Substance Name	CAS No.	1-hour Maximum (lb/hr)	1-Hour Maximum (g/s)	Annual Average (lb/yr)	Annual Average (g/s)
1	42	G66773	Prime Pour Line	Methyl Diphenyl Diisocyanate	101688	2.99E-07	3.77E-08	6.22E-04	8.95E-09
	36			Toluene Diisocyanate	26471625	1.74E-03	2.19E-04	3.61E+00	5.20E-05
2	9	F62238	Rebond Pour Line	Methyl Diphenyl Diisocyanate	101688	1.70E-03	2.15E-04	4.43E+00	6.37E-05
				Toluene Diisocyanate	26471625	2.59E-02	3.26E-03	6.73E+01	9.68E-04
3	1	D22228	Fire Pump Engine 1	PAHs	1151	8.42E-07	1.06E-07	1.97E-03	2.84E-08
				Diesel Particulate Matter	9901	7.80E-04	9.82E-05	1.82E+00	2.62E-05
				Formaldehyde	50000	4.02E-05	5.06E-06	9.40E-02	1.35E-06
				Benzene	71432	4.34E-06	5.46E-07	1.01E-02	1.46E-07
				Acetaldehyde	75070	1.82E-05	2.30E-06	4.27E-02	6.13E-07
				Napthalene	91203	4.58E-07	5.78E-08	1.07E-03	1.54E-08
				Ethyl Benzene	100414	2.54E-07	3.20E-08	5.94E-04	8.54E-09
				Butadiene [1,3]	106990	5.06E-06	6.37E-07	1.18E-02	1.70E-07
				Acrolein	107028	7.89E-07	9.94E-08	1.85E-03	2.65E-08
				Toluene	108883	2.45E-06	3.09E-07	5.74E-03	8.25E-08
				Hexane	110543	6.26E-07	7.89E-08	1.46E-03	2.11E-08
				Xylenes	1330207	9.87E-07	1.24E-07	2.31E-03	3.32E-08
				Lead Compounds	7439921	1.93E-07	2.43E-08	4.52E-04	6.50E-09
				Manganese	7439965	7.21E-08	9.09E-09	1.69E-04	2.43E-09
				Mercury	7439976	4.65E-08	5.86E-09	1.09E-04	1.57E-09
				Nickel	7440020	9.08E-08	1.14E-08	2.12E-04	3.05E-09
				Arsenic Compounds	7440382	3.72E-08	4.69E-09	8.71E-05	1.25E-09
				Cadmium	7440439	3.49E-08	4.40E-09	8.17E-05	1.17E-09
				Copper	7440508	9.54E-08	1.20E-08	2.23E-04	3.21E-09
				Hydrochloric Acid	7647010	4.34E-06	5.46E-07	1.01E-02	1.46E-07
Ammonia	7664417	1.86E-05	2.35E-06	4.36E-02	6.27E-07				
Selenium	7782492	5.12E-08	6.45E-09	1.20E-04	1.72E-09				
Chromium, Hexavalent	18540299	2.33E-09	2.93E-10	5.45E-06	7.83E-11				

Table B-2a. Emission Rate by Substance and Source

Carpenter Company
 Facility ID: 7730

Stack ID	Device ID	Permit ID	Source Name	Substance Name	CAS No.	1-hour Maximum (lb/hr)	1-Hour Maximum (g/s)	Annual Average (lb/yr)	Annual Average (g/s)
4	2	D43309	Fire Pump Engine 2	PAHs	1151	8.42E-07	1.06E-07	1.97E-03	2.84E-08
				Diesel Particulate Matter	9901	7.80E-04	9.82E-05	1.82E+00	2.62E-05
				Formaldehyde	50000	4.02E-05	5.06E-06	9.40E-02	1.35E-06
				Benzene	71432	4.34E-06	5.46E-07	1.01E-02	1.46E-07
				Acetaldehyde	75070	1.82E-05	2.30E-06	4.27E-02	6.13E-07
				Napthalene	91203	4.58E-07	5.78E-08	1.07E-03	1.54E-08
				Ethyl Benzene	100414	2.54E-07	3.20E-08	5.94E-04	8.54E-09
				Butadiene [1,3]	106990	5.06E-06	6.37E-07	1.18E-02	1.70E-07
				Acrolein	107028	7.89E-07	9.94E-08	1.85E-03	2.65E-08
				Toluene	108883	2.45E-06	3.09E-07	5.74E-03	8.25E-08
				Hexane	110543	6.26E-07	7.89E-08	1.46E-03	2.11E-08
				Xylenes	1330207	9.87E-07	1.24E-07	2.31E-03	3.32E-08
				Lead Compounds	7439921	1.93E-07	2.43E-08	4.52E-04	6.50E-09
				Manganese	7439965	7.21E-08	9.09E-09	1.69E-04	2.43E-09
				Mercury	7439976	4.65E-08	5.86E-09	1.09E-04	1.57E-09
				Nickel	7440020	9.08E-08	1.14E-08	2.12E-04	3.05E-09
				Arsenic Compounds	7440382	3.72E-08	4.69E-09	8.71E-05	1.25E-09
				Cadmium	7440439	3.49E-08	4.40E-09	8.17E-05	1.17E-09
				Copper	7440508	9.54E-08	1.20E-08	2.23E-04	3.21E-09
				Hydrochloric Acid	7647010	4.34E-06	5.46E-07	1.01E-02	1.46E-07
Ammonia	7664417	1.86E-05	2.35E-06	4.36E-02	6.27E-07				
Selenium	7782492	5.12E-08	6.45E-09	1.20E-04	1.72E-09				
Chromium, Hexavalent	18540299	2.33E-09	2.93E-10	5.45E-06	7.83E-11				
5	32	F49010	Fiber Line 1 Oven	PAHs	1151	1.09E-07	1.37E-08	2.26E-04	3.25E-09
				Formaldehyde	50000	1.85E-05	2.33E-06	3.84E-02	5.53E-07
				Benzene	71432	8.69E-06	1.10E-06	1.81E-02	2.60E-07
				Acetaldehyde	75070	4.67E-06	5.89E-07	9.72E-03	1.40E-07
				Napthalene	91203	3.26E-07	4.11E-08	6.78E-04	9.75E-09
				Ethyl Benzene	100414	1.03E-05	1.30E-06	2.15E-02	3.09E-07
				Acrolein	107028	2.93E-06	3.70E-07	6.10E-03	8.78E-08
				Toluene	108883	3.98E-05	5.01E-06	8.27E-02	1.19E-06
				Hexane	110543	6.85E-06	8.62E-07	1.42E-02	2.05E-07
				Xylenes	1330207	2.96E-05	3.72E-06	6.15E-02	8.84E-07
				Ammonia	7664417	3.48E-03	4.38E-04	7.23E+00	1.04E-04

Table B-2a. Emission Rate by Substance and Source

Carpenter Company
 Facility ID: 7730

Stack ID	Device ID	Permit ID	Source Name	Substance Name	CAS No.	1-hour Maximum (lb/hr)	1-Hour Maximum (g/s)	Annual Average (lb/yr)	Annual Average (g/s)
6	21	G20595	Clayton Natural Gas Fired Steam Generator	PAHs	1151	4.61E-07	5.80E-08	2.04E-03	2.93E-08
				Formaldehyde	50000	7.83E-05	9.87E-06	3.46E-01	4.98E-06
				Benzene	71432	3.69E-05	4.64E-06	1.63E-01	2.34E-06
				Acetaldehyde	75070	1.98E-05	2.50E-06	8.75E-02	1.26E-06
				Napthalene	91203	1.38E-06	1.74E-07	6.11E-03	8.79E-08
				Ethyl Benzene	100414	4.38E-05	5.51E-06	1.93E-01	2.78E-06
				Acrolein	107028	1.24E-05	1.57E-06	5.50E-02	7.91E-07
				Toluene	108883	1.69E-04	2.12E-05	7.45E-01	1.07E-05
				Hexane	110543	2.90E-05	3.66E-06	1.28E-01	1.84E-06
				Xylenes	1330207	1.25E-04	1.58E-05	5.54E-01	7.97E-06
Ammonia	7664417	1.47E-02	1.86E-03	6.52E+01	9.37E-04				
7	27	G48365	MDI Storage Tank	Methyl Diphenyl Diisocyanate	101688	8.47E-08	1.07E-08	7.42E-04	1.07E-08
8	35	G48365	Prime Pour TDI Tanks	Toluene Diisocyanate	26471625	3.98E-04	5.01E-05	3.49E+00	5.01E-05
9	39	NA	Slab Gluing Loop 1	Methyl Diphenyl Diisocyanate	101688	1.35E-11	1.70E-12	3.52E-08	5.06E-13

Table B-2b. Total Emission Rate by Substance

Carpenter Company
Facility ID: 7730

Substance Name	CAS No.	1-Hour Maximum (lb/hr)	1-Hour Maximum (g/s)	Annual Average (lb/yr)	Annual Average (g/s)
PAHs	1151	2.25E-06	2.84E-07	6.20E-03	8.92E-08
Diesel Exhaust Particulates	9901	1.56E-03	1.96E-04	3.65E+00	5.25E-05
Formaldehyde	50000	1.77E-04	2.23E-05	5.73E-01	8.23E-06
Benzene	71432	5.42E-05	6.83E-06	2.01E-01	2.89E-06
Acetaldehyde	75070	6.09E-05	7.68E-06	1.83E-01	2.63E-06
Napthalene	91203	2.62E-06	3.31E-07	8.93E-03	1.28E-07
Ethyl Benzene	100414	5.46E-05	6.88E-06	2.16E-01	3.11E-06
Methyl Diphenyl Diisocyanate	101688	1.70E-03	2.15E-04	4.43E+00	6.37E-05
Butadiene [1,3]	106990	1.01E-05	1.27E-06	2.37E-02	3.41E-07
Acrolein	107028	1.69E-05	2.14E-06	6.48E-02	9.32E-07
Toluene	108883	2.13E-04	2.69E-05	8.39E-01	1.21E-05
Hexane	110543	3.71E-05	4.68E-06	1.45E-01	2.09E-06
Xylenes	1330207	1.57E-04	1.98E-05	6.20E-01	8.92E-06
Lead Compounds	7439921	3.86E-07	4.87E-08	9.04E-04	1.30E-08
Manganese	7439965	1.44E-07	1.82E-08	3.38E-04	4.86E-09
Mercury	7439976	9.31E-08	1.17E-08	2.18E-04	3.13E-09
Nickel	7440020	1.82E-07	2.29E-08	4.25E-04	6.11E-09
Arsenic Compounds	7440382	7.45E-08	9.38E-09	1.74E-04	2.51E-09
Cadmium	7440439	6.98E-08	8.80E-09	1.63E-04	2.35E-09
Copper	7440508	1.91E-07	2.40E-08	4.46E-04	6.42E-09
Hydrochloric Acid	7647010	8.67E-06	1.09E-06	2.03E-02	2.92E-07
Ammonia	7664417	1.83E-02	2.30E-03	7.25E+01	1.04E-03
Selenium	7782492	1.02E-07	1.29E-08	2.40E-04	3.45E-09
Chromium, Hexavalent	18540299	4.65E-09	5.86E-10	1.09E-05	1.57E-10
Toluene Diisocyanate	26471625	2.80E-02	3.53E-03	7.44E+01	1.07E-03

Table B-3. Toxicity Data by Substance - Exposure Pathways

Carpenter Company
 Facility ID: 7730

Substance Name	CAS No.	Cancer Potency Values ¹		Chronic RELs ²		Chronic 8-HR ² Inhalation REL (µg/m ³)	Acute ² Inhalation REL (µg/m ³)	Multi Pathway Substance	Modeled Exposure Pathways ³				
		Inhalation (mg/kg-day) ⁻¹	Oral (mg/kg-day) ⁻¹	Inhalation (µg/m ³)	Oral (mg/kg BW-day)				Inhalation	Soil Ingestion	Dermal	Mother's Milk	Home-Grown Produce
PAHs	1151	3.90E+00	12	-	-	-	-	X	W,R	W,R	W,R	R	R
Diesel Particulate Matter	9901	1.10E+00	-	5.00E+00	-	-	-		W,R				
Formaldehyde	50000	2.10E-02	-	9.00E+00	-	9.00E+00	5.50E+01		W,R				
Benzene	71432	1.00E-01	-	3.00E+00	-	3.00E+00	2.70E+01		W,R				
Acetaldehyde	75070	1.00E-02	-	1.40E+02	-	3.00E+02	4.70E+02		W,R				
Napthalene	91203	1.20E-01	-	9.00E+00	-	-	-		W,R				
Ethyl Benzene	100414	8.70E-03	-	2.00E+03	-	-	-		W,R				
Methyl Diphenyl Diisocyanate	101688	-	-	8.00E-02	-	1.60E-01	1.20E+01		W,R				
Butadiene [1,3]	106990	6.00E-01	-	2.00E+00	-	9.00E+00	6.60E+02		W,R				
Acrolein	107028	-	-	3.50E-01	-	7.00E-01	2.50E+00		W,R				
Toluene	108883	-	-	4.20E+02	-	8.30E+02	5.00E+03		W,R				
Hexane	110543	-	-	7.00E+03	-	-	-		W,R				
Xylenes	1330207	-	-	7.00E+02	-	-	2.20E+04		W,R				
Lead Compounds	7439921	4.20E-02	0.0085	-	-	-	-	X	W,R	W,R	W,R	R	R
Manganese	7439965	-	-	9.00E-02	-	1.70E-01	-		W,R				
Mercury	7439976	-	-	3.00E-02	0.00016	6.00E-02	6.00E-01	X	W,R	W,R	W,R		R
Nickel	7440020	9.10E-01	-	1.40E-02	0.011	6.00E-02	2.00E-01	X	W,R	W,R	W,R		R
Arsenic Compounds	7440382	1.20E+01	1.50E+00	1.50E-02	3.50E-06	1.50E-02	2.00E-01	X	W,R	W,R	W,R		R
Cadmium	7440439	1.50E+01	-	2.00E-02	5.00E-04	-	-	X	W,R	W,R	W,R		R
Copper	7440508	-	-	-	-	-	1.00E+02		W,R				
Hydrochloric Acid	7647010	-	-	9.00E+00	-	-	2.10E+03		W,R				
Ammonia	7664417	-	-	2.00E+02	-	-	3.20E+03		W,R				
Selenium	7782492	-	-	2.00E+01	5.00E-03	-	-		W,R				
Chromium, Hexavalent	18540299	5.10E+02	5.00E-01	2.00E-01	2.00E-02	-	-	X	W,R	W,R	W,R		R
Toluene Diisocyanate	26471625	3.90E-02	-	8.00E-03	-	1.50E-02	2.00E+00		W,R				

1. Cancer potency values from OEHHA Appendix A: Hot Spots Unit Risk and Cancer Potency Values, updated October 2020, and CARB HARP2 pollutant database.
 2. Noncancer chronic and acute RELs from OEHHA Acute, 8-hour and Chronic Reference Exposure Level (REL) Summary, updated November 2019, and CARB HARP2 pollutant database.
 3. W: Modeled for worker receptors, R: Modeled for residential receptors

Table B-4. Toxicity Data by Substance - Target Organs

Carpenter Company
 Facility ID: 7730

Substance Name	CAS No.	Acute Target Organs												Chronic Target Organs														
		CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	
PAHs	1151																											
Diesel Particulate Matter	9901																											
Formaldehyde	50000								X																			
Benzene	71432			X			X						X														X	
Acetaldehyde	75070							X		X																		
Naphthalene	91203																											
Ethyl Benzene	100414																											
Methyl Diphenyl Diisocyanate	101688							X																				
Butadiene [1,3]	106990						X																					
Acrolein	107028							X		X																		
Toluene	108883		X					X		X																		
Hexane	110543																											
Xylenes	1330207		X					X		X																		
Lead	7439921																											
Manganese	7439965																											
Mercury	7439976		X				X																					
Nickel	7440020			X																								
Arsenic	7440382	X	X				X																					X
Cadmium	7440439																											
Copper	7440508							X																				
Hydrochloric acid	7647010							X		X																		
Ammonia	7664417							X		X																		
Selenium	7782492																											
Chromium, hexavalent	18540299																											X
Toluene Diisocyanate	26471625							X																				

CV: Cardiovascular System
 CNS: Central Nervous System
 IMMUN: Immune System
 KIDN: Kidney
 GILV: Alimentary System (Liver)
 REPRO: Reproductive and Development System
 RESP: Respiratory System
 SKIN: Skin
 EYE: Eye
 BONE: Bone and Teeth
 ENDO: Endocrine System
 HEM: Hematologic System

Table B-5. Emission Source Parameters

Carpenter Company
 Facility ID: 7730

Stack ID	Device ID	Permit ID	Source Name	UTM East (m)	UTM North (m)	Base Elevation (m)	Release Height (ft)	Diameter (ft)	Temperature (F)	Velocity (ft/s)	X (ft) ¹	Y (ft) ¹	Emission Rate ² (g/s-m2)	Angle
1	36	648365	Prime Pour Line			268.10								
2	9	F62238	Rebond Pour Line			267.26								
3	1	D22228	Fire Pump Engine 1			265.80								
4	2	D43309	Fire Pump Engine 2			265.80								
5	32	F49010	Fiber Line 1 Oven			268.09								
6	21	G20595	Clayton Natural Gas Fired Steam Generator			268.18								
7	27	G48365	MDI Storage Tank			268.08					48.2	98.4	2.27E-03	55.3
8	35	G48365	Prime Pour TDI Tanks			267.34					101.7	51.5	2.05E-03	55.5
9	39	NA	Slab Gluing Loop 1			268.04					67.3	102.4	1.56E-03	145.9

1. Square length or rectangular side.
2. Calculated assumed 1 g/s.

Table B-6. Building Dimensions

Carpenter Company
 Facility ID: 7730

	Receptor	Height (m) ¹	East UTM ²	North UTM ²
Facility Center	-	-	462468.1	3754183.9
Facility Boundary	3383	-	462491.7	3753960.4
	3384	-	462508.1	3753971.8
	3385	-	462524.5	3753983.2
	3386	-	462541	3753994.6
	3387	-	462557.4	3754006
	3388	-	462573.8	3754017.4
	3389	-	462590.3	3754028.8
	3390	-	462606.7	3754040.2
	3391	-	462623.1	3754051.6
	3392	-	462639.6	3754063
	3393	-	462656	3754074.4
	3394	-	462672.4	3754085.8
	3395	-	462688.9	3754097.2
	3396	-	462705.3	3754108.6
	3397	-	462721.7	3754120
	3398	-	462737	3754130.6
	3399	-	462736.2	3754131.8
	3400	-	462724.8	3754148.2
	3401	-	462713.3	3754164.6
	3402	-	462701.9	3754181
3403	-	462690.4	3754197.4	
3404	-	462679	3754213.8	
3405	-	462667.5	3754230.2	
3406	-	462656.1	3754246.6	
3407	-	462644.7	3754263	
3408	-	462633.2	3754279.4	
3409	-	462621.8	3754295.8	
3410	-	462610.3	3754312.2	
3411	-	462598.9	3754328.6	

Table B-6. Building Dimensions

Carpenter Company
 Facility ID: 7730

	Receptor	Height (m) ¹	East UTM ²	North UTM ²
Facility Boundary	3412	-	462587.4	3754345
	3413	-	462576	3754361.4
	3414	-	462564.6	3754377.8
	3415	-	462553.1	3754394.2
	3416	-	462541.7	3754410.6
	3417	-	462530.2	3754427
	3418	-	462518.8	3754443.4
	3419	-	462507.3	3754459.8
	3420	-	462505.9	3754461.9
	3421	-	462491.5	3754452
	3422	-	462475	3754440.8
	3423	-	462458.5	3754429.5
	3424	-	462441.9	3754418.2
	3425	-	462425.4	3754406.9
	3426	-	462408.9	3754395.6
	3427	-	462392.4	3754384.3
	3428	-	462375.9	3754373
	3429	-	462359.4	3754361.8
	3430	-	462342.9	3754350.5
	3431	-	462326.4	3754339.2
	3432	-	462309.8	3754327.9
	3433	-	462293.3	3754316.6
	3434	-	462276.8	3754305.3
	3435	-	462260.3	3754294.1
3436	-	462243.8	3754282.8	
3437	-	462227.3	3754271.5	
3438	-	462210.8	3754260.2	
3439	-	462194.3	3754248.9	
3440	-	462179.9	3754239.1	
3441	-	462181.4	3754236.9	

Table B-6. Building Dimensions

Carpenter Company
 Facility ID: 7730

	Receptor	Height (m) ¹	East UTM ²	North UTM ²
Facility Boundary	3442	-	462192.7	3754220.4
	3443	-	462204	3754203.9
	3444	-	462215.2	3754187.4
	3445	-	462226.5	3754170.9
	3446	-	462237.8	3754154.4
	3447	-	462249.1	3754137.9
	3448	-	462260.4	3754121.4
	3449	-	462271.7	3754104.9
	3450	-	462283	3754088.4
	3451	-	462294.3	3754071.9
	3452	-	462305.6	3754055.4
	3453	-	462316.9	3754038.9
	3454	-	462328.2	3754022.3
	3455	-	462339.4	3754005.8
	3456	-	462350.7	3753989.3
	3457	-	462362	3753972.8
	3458	-	462373.3	3753956.3
3459	-	462384.6	3753939.8	
3460	-	462395.9	3753923.3	
3461	-	462407.2	3753906.8	
Carpenter Building 1	-	12.04	462653.5	3754109.2
Carpenter Building 2	-	7.62	462471.5	3754172.5
Fire Pump House	-	3.35	462397.5	3754197.9
Water Tank	-	10.97	462381.2	3754201.8
Carpenter Building 3	-	10.36	462372.9	3754291.9
Neighboring Business	-	12.19	462584.7	3753968.1

1. Heights for facility building is based on information supplied by Carpenter.

2. UTM coordinates based on NAD 83.

Table B-7a. Sensitive Receptors

Carpenter Company
Facility ID: 7730

Receptor Name	Receptor ID	UTM East (m)	UTM North (m)
Casa Blanca School	1444	462843.1	3754483.9
	1445	462843.1	3754508.9
	1488	462868.1	3754458.9
	1489	462868.1	3754483.9
	1490	462868.1	3754508.9
	1491	462868.1	3754533.9
	1534	462893.1	3754483.9
	1535	462893.1	3754508.9
	1536	462893.1	3754533.9
	1580	462918.1	3754508.9
	1581	462918.1	3754533.9
	1582	462918.1	3754558.9
	1625	462943.1	3754508.9
	1626	462943.1	3754533.9
	1627	462943.1	3754558.9

Table B-7b. Sensitive Receptor Ground Level Concentrations

Carpenter Company

Facility ID: 7730

Receptor ID: 1488 (Casa Blanca School)

Location: 462868.1 UTM E, 3754458.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)		
		Annual	8-hour	Hourly
PAHs	1151	7.85E-08	7.85E-08	1.73E-05
Diesel Particulate Matter	9901	5.61E-05	5.61E-05	1.37E-02
Formaldehyde	50000	5.93E-06	5.93E-06	1.14E-03
Benzene	71432	1.74E-06	1.74E-06	2.78E-04
Acetaldehyde	75070	2.08E-06	2.08E-06	4.28E-04
Napthalene	91203	8.65E-08	8.65E-08	1.56E-05
Ethyl Benzene	100414	1.71E-06	1.71E-06	2.44E-04
Methyl Diphenyl Diisocyanate	101688	4.53E-05	4.53E-05	8.30E-03
Butadiene [1,3]	106990	3.64E-07	3.64E-07	8.90E-05
Acrolein	107028	5.38E-07	5.38E-07	8.17E-05
Toluene	108883	6.71E-06	6.71E-06	9.65E-04
Hexane	110543	1.17E-06	1.17E-06	1.70E-04
Xylenes	1330207	4.92E-06	4.92E-06	7.02E-04
Lead Compounds	7439921	1.39E-08	1.39E-08	3.40E-06
Manganese	7439965	5.20E-09	5.20E-09	1.27E-06
Mercury	7439976	3.35E-09	3.35E-09	8.18E-07
Nickel	7440020	6.54E-09	6.54E-09	1.60E-06
Arsenic Compounds	7440382	2.68E-09	2.68E-09	6.55E-07
Cadmium	7440439	2.51E-09	2.51E-09	6.14E-07
Copper	7440508	6.87E-09	6.87E-09	1.68E-06
Hydrochloric Acid	7647010	3.12E-07	3.12E-07	7.64E-05
Ammonia	7664417	5.72E-04	5.72E-04	8.09E-02
Selenium	7782492	3.69E-09	3.69E-09	9.01E-07
Chromium, Hexavalent	18540299	1.68E-10	1.68E-10	4.10E-08
Toluene Diisocyanate	26471625	8.47E-04	8.47E-04	1.39E-01

Table B-8. PMI Cancer Risk by Substance and Exposure Pathway

Carpenter Company

Facility ID: 7730

Receptor ID: 3395

Location: 462688.9 UTM E, 3754097.2 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
PAHs	1151	1.90E-06	3.54E-09	1.32E-08	3.28E-09	3.14E-08	8.92E-08	1.41E-07	8.89%
Diesel Particulate Matter	9901	8.41E-04	6.26E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.26E-07	39.60%
Formaldehyde	50000	2.12E-04	3.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-09	0.19%
Benzene	71432	8.40E-05	5.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.68E-09	0.36%
Acetaldehyde	75070	6.23E-05	4.22E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-10	0.03%
Napthalene	91203	3.47E-06	2.82E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E-10	0.02%
Ethyl Benzene	100414	9.45E-05	5.56E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.56E-10	0.04%
Methyl Diphenyl Diisocyanate	101688	1.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Butadiene [1,3]	106990	5.46E-06	2.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-09	0.14%
Acrolein	107028	2.76E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	3.66E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hexane	110543	6.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	2.71E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Lead Compounds	7439921	2.08E-07	4.18E-12	5.10E-11	1.24E-12	9.26E-13	1.41E-11	7.15E-11	0.00%
Manganese	7439965	7.79E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Mercury	7439976	5.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	9.79E-08	6.03E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.03E-11	0.00%
Arsenic Compounds	7440382	4.02E-08	2.30E-10	1.74E-09	8.45E-11	0.00E+00	1.50E-09	3.55E-09	0.22%
Cadmium	7440439	3.77E-08	3.82E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.82E-10	0.02%
Copper	7440508	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hydrochloric Acid	7647010	4.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ammonia	7664417	3.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Selenium	7782492	5.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Chromium, Hexavalent	18540299	2.51E-09	8.67E-10	1.53E-11	5.87E-13	0.00E+00	6.52E-10	1.53E-09	0.10%
Toluene Diisocyanate	26471625	3.02E-02	7.97E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.97E-07	50.38%
Total			1.44E-06	1.50E-08	3.37E-09	3.14E-08	9.14E-08	1.58E-06	100.00%

Table B-9. PMI Cancer Risk by Source and Exposure Pathway

Carpenter Company
 Facility ID: 7730
 Receptor ID: 3395
 Location: 462688.9 UTM E, 3754097.2 UTM N

Source ID	Source Name	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1	Prime Pour Line	2.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.74E-08	1.73%
2	Rebond Pour Line	7.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.08E-07	44.80%
3	Fire Pump Engine 1	3.16E-07	4.04E-09	8.27E-10	7.48E-09	2.24E-08	3.50E-07	22.16%
4	Fire Pump Engine 2	3.17E-07	4.06E-09	8.31E-10	7.51E-09	2.25E-08	3.52E-07	22.26%
5	Fiber Line 1 Oven	2.73E-10	1.76E-10	4.38E-11	4.18E-10	1.19E-09	2.10E-09	0.13%
6	Clayton Natural Gas Fired Steam Generator	1.04E-08	6.70E-09	1.67E-09	1.59E-08	4.53E-08	8.01E-08	5.06%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
8	Prime Pour TDI Tanks	6.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.09E-08	3.85%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		1.44E-06	1.50E-08	3.37E-09	3.14E-08	9.14E-08	1.58E-06	100.00%

Table B-10. MEIR Cancer Risk by Substance and Exposure Pathway

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1207
 Location: 462718.1 UTM E, 3754183.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
PAHs	1151	9.63E-07	1.79E-09	6.68E-09	1.66E-09	1.59E-08	4.52E-08	7.12E-08	6.35%
Diesel Particulate Matter	9901	7.62E-04	5.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.67E-07	50.55%
Formaldehyde	50000	6.30E-05	8.95E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.95E-10	0.08%
Benzene	71432	1.54E-05	1.04E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-09	0.09%
Acetaldehyde	75070	2.38E-05	1.61E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-10	0.01%
Napthalene	91203	8.67E-07	7.04E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.04E-11	0.01%
Ethyl Benzene	100414	1.35E-05	7.95E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.95E-11	0.01%
Methyl Diphenyl Diisocyanate	101688	1.05E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Butadiene [1,3]	106990	4.95E-06	2.01E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-09	0.18%
Acrolein	107028	4.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	5.35E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hexane	110543	9.41E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	3.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Lead Compounds	7439921	1.89E-07	3.79E-12	4.62E-11	1.13E-12	8.39E-13	1.28E-11	6.48E-11	0.01%
Manganese	7439965	7.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Mercury	7439976	4.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	8.87E-08	5.46E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-11	0.00%
Arsenic Compounds	7440382	3.64E-08	2.09E-10	1.57E-09	7.66E-11	0.00E+00	1.36E-09	3.22E-09	0.29%
Cadmium	7440439	3.41E-08	3.46E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-10	0.03%
Copper	7440508	9.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hydrochloric Acid	7647010	4.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ammonia	7664417	4.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Selenium	7782492	5.01E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Chromium, Hexavalent	18540299	2.28E-09	7.85E-10	1.39E-11	5.32E-13	0.00E+00	5.90E-10	1.39E-09	0.12%
Toluene Diisocyanate	26471625	1.80E-02	4.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.74E-07	42.27%
Total			1.05E-06	8.31E-09	1.74E-09	1.59E-08	4.72E-08	1.12E-06	100.00%

Table B-11. MEIR Cancer Risk by Source and Exposure Pathway

Carpenter Company

Facility ID: 7730

Receptor ID: 1207

Location: 462718.1 UTM E, 3754183.9 UTM N

Source ID	Source Name	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1	Prime Pour Line	5.44E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.44E-09	0.49%
2	Rebond Pour Line	4.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.20E-07	37.39%
3	Fire Pump Engine 1	2.86E-07	3.66E-09	7.49E-10	6.78E-09	2.03E-08	3.17E-07	28.27%
4	Fire Pump Engine 2	2.87E-07	3.68E-09	7.53E-10	6.81E-09	2.04E-08	3.19E-07	28.43%
5	Fiber Line 1 Oven	3.67E-10	2.36E-10	5.88E-11	5.61E-10	1.60E-09	2.82E-09	0.25%
6	Clayton Natural Gas Fired Water-Tube Type Steam Generator	1.14E-09	7.32E-10	1.82E-10	1.74E-09	4.96E-09	8.75E-09	0.78%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
8	Prime Pour TDI Tanks	4.94E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.94E-08	4.40%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		1.05E-06	8.31E-09	1.74E-09	1.59E-08	4.72E-08	1.12E-06	100%

Table B-12. MEIW Cancer Risk by Substance and Exposure Pathway

Carpenter Company

Facility ID: 7730

Receptor ID: 1162

Location: 462693.1 UTM E, 3754058.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Inhalation ¹	Soil	Dermal	Total	Contribution
PAHs	1151	1.78E-06	7.06E-10	1.23E-09	1.07E-09	3.01E-09	1.45%
Diesel Particulate Matter	9901	4.23E-04	9.77E-08	0.00E+00	0.00E+00	9.77E-08	46.98%
Formaldehyde	50000	2.47E-04	6.28E-10	0.00E+00	0.00E+00	6.28E-10	0.30%
Benzene	71432	1.08E-04	1.24E-09	0.00E+00	0.00E+00	1.24E-09	0.60%
Acetaldehyde	75070	6.69E-05	8.49E-11	0.00E+00	0.00E+00	8.49E-11	0.04%
Napthalene	91203	4.23E-06	5.99E-11	0.00E+00	0.00E+00	5.99E-11	0.03%
Ethyl Benzene	100414	1.26E-04	1.23E-10	0.00E+00	0.00E+00	1.23E-10	0.06%
Methyl Diphenyl Diisocyanate	101688	7.93E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Butadiene [1,3]	106990	2.75E-06	3.46E-10	0.00E+00	0.00E+00	3.46E-10	0.17%
Acrolein	107028	3.62E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	4.87E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hexane	110543	8.39E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	3.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Lead Compounds	7439921	1.05E-07	9.25E-13	1.08E-12	1.13E-13	2.12E-12	0.00%
Manganese	7439965	3.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Mercury	7439976	2.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	4.93E-08	9.41E-12	0.00E+00	0.00E+00	9.41E-12	0.00%
Arsenic Compounds	7440382	2.02E-08	3.76E-11	3.69E-11	1.47E-11	8.92E-11	0.04%
Cadmium	7440439	1.90E-08	5.97E-11	0.00E+00	0.00E+00	5.97E-11	0.03%
Copper	7440508	5.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Hydrochloric Acid	7647010	2.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ammonia	7664417	4.25E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Selenium	7782492	2.78E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Chromium, Hexavalent	18540299	1.26E-09	1.35E-10	7.68E-13	5.32E-14	1.36E-10	0.07%
Toluene Diisocyanate	26471625	1.50E-02	1.05E-07	0.00E+00	0.00E+00	1.05E-07	50.24%
Total			2.06E-07	1.27E-09	1.08E-09	2.08E-07	100.00%

1. Inhalation risk for MEIW is adjusted by Worker Adjustment Factors (WAFs). WAFs for each source was calculated based on the source's potential operating hours. The WAFs were then applied to the inhalation risk from each pollutant based on the source then summed.

Table B-13. MEIW Cancer Risk by Source and Exposure Pathway

Carpenter Company

Facility ID: 7730

Receptor ID: 1162

Location: 462693.1 UTM E, 3754058.9 UTM N

Source ID	Source Name	Inhalation	Soil	Dermal	Total	Contribution
1	Prime Pour Line	1.24E-08	0.00E+00	0.00E+00	1.24E-08	5.94%
2	Rebond Pour Line	8.87E-08	0.00E+00	0.00E+00	8.87E-08	42.62%
3	Fire Pump Engine 1	4.93E-08	1.77E-10	1.44E-10	4.97E-08	23.86%
4	Fire Pump Engine 2	4.95E-08	1.78E-10	1.45E-10	4.98E-08	23.92%
5	Fiber Line 1 Oven	3.78E-11	6.88E-12	5.96E-12	5.06E-11	0.02%
6	Clayton Natural Gas Fired Water-Tube Type Steam Generator	2.36E-09	9.10E-10	7.89E-10	4.06E-09	1.95%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
8	Prime Pour TDI Tanks	3.50E-09	0.00E+00	0.00E+00	3.50E-09	1.68%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		2.06E-07	1.27E-09	1.08E-09	2.08E-07	100%

1. Inhalation risk for MEIW is adjusted by Worker Adjustment Factors (WAFs). WAFs for each source was calculated based on the source's potential operating hours. The WAFs were then applied to the inhalation risk from each source.

Table B-14. PMI Chronic Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 3395
 Location: 462688.9 UTM E, 3754097.2 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
PAHs	1151	1.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Diesel Particulate Matter	9901	8.41E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.68E-04	0.0%
Formaldehyde	50000	2.12E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.35E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.35E-05	0.0%
Benzene	71432	8.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.80E-05	0.00E+00	Respiratory System	0.00E+00	0.0%
Acetaldehyde	75070	6.23E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	4.45E-07	0.0%
Napthalene	91203	3.47E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.86E-07	0.0%
Ethyl Benzene	100414	9.45E-05	0.00E+00	0.00E+00	0.00E+00	4.72E-08	4.72E-08	4.72E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-08	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	1.77E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.21E-02	0.6%
Butadiene [1,3]	106990	5.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acrolein	107028	2.76E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	7.89E-05	0.0%
Toluene	108883	3.66E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.70E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hexane	110543	6.31E-05	0.00E+00	9.02E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Xylenes	1330207	2.71E-04	0.00E+00	3.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.87E-07	0.00E+00	3.87E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.87E-07	0.0%
Lead Compounds	7439921	2.08E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Manganese	7439965	7.79E-08	0.00E+00	8.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Mercury	7439976	5.02E-08	0.00E+00	6.85E-06	0.00E+00	6.85E-06	0.00E+00	6.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Nickel	7440020	9.79E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.40E-07	7.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.00E-06	0.00E+00	Respiratory System	7.00E-06	0.0%
Arsenic Compounds	7440382	4.02E-08	2.61E-04	2.61E-04	0.00E+00	0.00E+00	0.00E+00	2.61E-04	2.61E-04	2.61E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.61E-04	0.0%
Cadmium	7440439	3.77E-08	0.00E+00	0.00E+00	0.00E+00	3.94E-06	0.00E+00	0.00E+00	1.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.88E-06	0.0%
Copper	7440508	1.03E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hydrochloric Acid	7647010	4.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	5.20E-07	0.0%
Ammonia	7664417	3.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.59E-04	0.0%
Selenium	7782492	5.53E-08	6.22E-07	6.22E-07	0.00E+00	0.00E+00	6.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Chromium, Hexavalent	18540299	2.51E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.58E-08	Respiratory System	1.26E-08	0.0%
Toluene Diisocyanate	26471625	3.02E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.77E+00	99.4%
Total			2.62E-04	2.70E-04	0.00E+00	1.08E-05	6.69E-07	2.71E-04	3.80E+00	2.61E-04	1.26E-06	0.00E+00	4.72E-08	3.50E-05	0.00E+00		3.80E+00	100.0%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table B-15. PMI Chronic Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 3395
 Location: 462688.9 UTM E, 3754097.2 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.30E-01	3.4%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.38E+00	89.0%
3	Fire Pump Engine 1	1.31E-04	1.34E-04	0.00E+00	5.38E-06	3.10E-07	1.35E-04	2.23E-04	1.30E-04	3.90E-09	0.00E+00	6.83E-11	4.29E-06	0.00E+00		2.23E-04	0.0%
4	Fire Pump Engine 2	1.31E-04	1.35E-04	0.00E+00	5.41E-06	3.12E-07	1.36E-04	2.24E-04	1.31E-04	3.92E-09	0.00E+00	6.86E-11	4.31E-06	0.00E+00		2.24E-04	0.0%
5	Fiber Line 1 Oven	0.00E+00	1.01E-08	0.00E+00	1.20E-09	1.20E-09	1.20E-09	6.51E-06	0.00E+00	3.19E-08	0.00E+00	1.20E-09	6.75E-07	0.00E+00		6.51E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	3.84E-07	0.00E+00	4.59E-08	4.59E-08	4.59E-08	2.48E-04	0.00E+00	1.22E-06	0.00E+00	4.59E-08	2.58E-05	0.00E+00		2.48E-04	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.16E-05	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.88E-01	7.6%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.88E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.88E-10	0.0%
Total		2.62E-04	2.70E-04	0.00E+00	1.08E-05	6.69E-07	2.71E-04	3.80E+00	2.61E-04	1.26E-06	0.00E+00	4.72E-08	3.50E-05	0.00E+00	3.80E+00	100.0%	

1. Contribution by source is based on the target organ with the maximum chronic hazard.

Table B-16. MEIR Chronic Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1251
 Location: 462743.1 UTM E, 3754158.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
PAHs	1151	7.33E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Diesel Particulate Matter	9901	4.88E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.75E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	9.75E-05	0.0%
Formaldehyde	50000	6.01E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	6.68E-06	0.0%
Benzene	71432	1.92E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.39E-06	0.00E+00	Respiratory System	0.00E+00	0.0%
Acetaldehyde	75070	2.03E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.45E-07	0.0%
Napthalene	91203	9.04E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.00E-07	0.0%
Ethyl Benzene	100414	1.97E-05	0.00E+00	0.00E+00	0.00E+00	9.86E-09	9.86E-09	9.86E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.86E-09	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	1.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.33E-02	0.6%
Butadiene [1,3]	106990	3.16E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acrolein	107028	6.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.73E-05	0.0%
Toluene	108883	7.69E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hexane	110543	1.34E-05	0.00E+00	1.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Xylenes	1330207	5.66E-05	0.00E+00	8.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.09E-08	0.00E+00	8.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	8.09E-08	0.0%
Lead Compounds	7439921	1.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Manganese	7439965	4.51E-08	0.00E+00	5.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Mercury	7439976	2.91E-08	0.00E+00	3.97E-06	0.00E+00	3.97E-06	0.00E+00	3.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Nickel	7440020	5.68E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.12E-08	4.05E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-06	0.00E+00	Respiratory System	4.05E-06	0.0%
Arsenic Compounds	7440382	2.33E-08	1.51E-04	1.51E-04	0.00E+00	0.00E+00	0.00E+00	1.51E-04	1.51E-04	1.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.51E-04	0.0%
Cadmium	7440439	2.18E-08	0.00E+00	0.00E+00	0.00E+00	2.29E-06	0.00E+00	0.00E+00	1.09E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.09E-06	0.0%
Copper	7440508	5.97E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hydrochloric Acid	7647010	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.01E-07	0.0%
Ammonia	7664417	6.60E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.30E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.30E-05	0.0%
Selenium	7782492	3.20E-08	3.60E-07	3.60E-07	0.00E+00	0.00E+00	3.60E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Chromium, Hexavalent	18540299	1.46E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-08	0.00E+00	Respiratory System	7.28E-09	0.0%
Toluene Diisocyanate	26471625	1.82E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.27E+00	99.4%
Total			1.52E-04	1.56E-04	0.00E+00	6.26E-06	3.70E-07	1.57E-04	2.28E+00	1.51E-04	2.64E-07	0.00E+00	9.86E-09	1.05E-05	0.00E+00		2.28E+00	100.0%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table B-17. MEIR Chronic Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1251
 Location: 462743.1 UTM E, 3754158.9 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.12E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.12E-02	1.4%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.03E+00	88.8%
3	Fire Pump Engine 1	7.57E-05	7.79E-05	0.00E+00	3.12E-06	1.80E-07	7.83E-05	1.29E-04	7.55E-05	2.26E-09	0.00E+00	3.96E-11	2.48E-06	0.00E+00		1.29E-04	0.0%
4	Fire Pump Engine 2	7.61E-05	7.83E-05	0.00E+00	3.13E-06	1.81E-07	7.87E-05	1.30E-04	7.59E-05	2.27E-09	0.00E+00	3.98E-11	2.50E-06	0.00E+00		1.30E-04	0.0%
5	Fiber Line 1 Oven	0.00E+00	1.39E-08	0.00E+00	1.66E-09	1.66E-09	1.66E-09	8.97E-06	0.00E+00	4.40E-08	0.00E+00	1.66E-09	9.30E-07	0.00E+00		8.97E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	6.80E-08	0.00E+00	8.12E-09	8.12E-09	8.12E-09	4.40E-05	0.00E+00	2.15E-07	0.00E+00	8.12E-09	4.56E-06	0.00E+00		4.40E-05	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.88E-06	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.25E-01	9.8%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.59E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		9.59E-11	0.0%
Total		1.52E-04	1.56E-04	0.00E+00	6.26E-06	3.70E-07	1.57E-04	2.28E+00	1.51E-04	2.64E-07	0.00E+00	9.86E-09	1.05E-05	0.00E+00	2.28E+00	100%	

1. Contribution by source is based on the target organ with the maximum chronic hazard.

Table B-18. MEIW Chronic Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1204
 Location: 462718.1 UTM E, 3754083.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
PAHs	1151	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Diesel Particulate Matter	9901	3.53E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.05E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	7.05E-05	0.0%
Formaldehyde	50000	1.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.48E-05	0.0%
Benzene	71432	5.61E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-05	0.00E+00	Respiratory System	0.00E+00	0.0%
Acetaldehyde	75070	3.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.67E-07	0.0%
Napthalene	91203	2.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.49E-07	0.0%
Ethyl Benzene	100414	6.44E-05	0.00E+00	0.00E+00	0.00E+00	3.22E-08	3.22E-08	3.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.22E-08	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	8.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.06E-02	0.6%
Butadiene [1,3]	106990	2.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acrolein	107028	1.86E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.32E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	5.32E-05	0.0%
Toluene	108883	2.49E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.92E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hexane	110543	4.29E-05	0.00E+00	6.13E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Xylenes	1330207	1.84E-04	0.00E+00	2.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-07	0.00E+00	2.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.63E-07	0.0%
Lead Compounds	7439921	8.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Manganese	7439965	3.26E-08	0.00E+00	3.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Mercury	7439976	2.10E-08	0.00E+00	1.48E-06	0.00E+00	1.48E-06	0.00E+00	1.48E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Nickel	7440020	4.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-08	2.93E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-06	0.00E+00	Respiratory System	2.93E-06	0.0%
Arsenic Compounds	7440382	1.68E-08	3.19E-05	3.19E-05	0.00E+00	0.00E+00	0.00E+00	3.19E-05	3.19E-05	3.19E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.19E-05	0.0%
Cadmium	7440439	1.58E-08	0.00E+00	0.00E+00	0.00E+00	9.48E-07	0.00E+00	0.00E+00	7.89E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	7.89E-07	0.0%
Copper	7440508	4.31E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hydrochloric Acid	7647010	1.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.18E-07	0.0%
Ammonia	7664417	2.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.08E-04	0.0%
Selenium	7782492	2.32E-08	2.74E-08	2.74E-08	0.00E+00	0.00E+00	2.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Chromium, Hexavalent	18540299	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-10	0.00E+00	Respiratory System	5.26E-09	0.0%
Toluene Diisocyanate	26471625	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.91E+00	99.4%
Total			3.19E-05	3.40E-05	0.00E+00	2.46E-06	5.96E-08	3.45E-05	1.92E+00	3.19E-05	8.56E-07	0.00E+00	3.22E-08	2.16E-05	0.00E+00		1.92E+00	100.0%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table B-19. MEIW Chronic Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1204
 Location: 462718.1 UTM E, 3754083.9 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ₁
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	7.08E-02	3.7%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.63E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.63E+00	84.7%
3	Fire Pump Engine	1.59E-05	1.68E-05	0.00E+00	1.21E-06	1.37E-08	1.72E-05	5.46E-05	1.59E-05	1.64E-09	0.00E+00	2.86E-11	1.79E-06	0.00E+00		5.46E-05	0.0%
4	Fire Pump Engine	1.60E-05	1.69E-05	0.00E+00	1.22E-06	1.38E-08	1.73E-05	5.48E-05	1.60E-05	1.64E-09	0.00E+00	2.87E-11	1.80E-06	0.00E+00		5.48E-05	0.0%
5	Fiber Line 1 Oven	0.00E+00	7.65E-09	0.00E+00	9.14E-10	9.14E-10	9.14E-10	4.95E-06	0.00E+00	2.43E-08	0.00E+00	9.14E-10	5.13E-07	0.00E+00		4.95E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	2.61E-07	0.00E+00	3.12E-08	3.12E-08	3.12E-08	1.69E-04	0.00E+00	8.28E-07	0.00E+00	3.12E-08	1.75E-05	0.00E+00		1.69E-04	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.04E-05	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.24E-01	11.6%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.55E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.55E-10	0.0%
Total		3.19E-05	3.40E-05	0.00E+00	2.46E-06	5.96E-08	3.45E-05	1.92E+00	3.19E-05	8.56E-07	0.00E+00	3.22E-08	2.16E-05	0.00E+00	1.92E+00	100.0%	

1. Contribution by source is based on the target organ with the maximum chronic hazard.

Table B-20. PMI Acute Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 3408
 Location: 462633.2 UTM E, 3754279.4 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution ¹
PAHs	1151	4.38E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.65E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.65E-03	1.0%
Diesel Particulate Matter	9901	7.02E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.51E-01	98.9%
Formaldehyde	50000	4.66E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Benzene	71432	3.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acetaldehyde	75070	2.98E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Napthalene	91203	7.00E-04	0.00E+00	0.00E+00	2.59E-05	0.00E+00	0.00E+00	2.59E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-05	0.00E+00	Respiratory System	0.00E+00	0.0%
Ethyl Benzene	100414	1.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-06	0.00E+00	2.42E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.42E-06	0.0%
Methyl Diphenyl Diisocyanate	101688	4.04E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Butadiene [1,3]	106990	5.96E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acrolein	107028	2.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.68E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Toluene	108883	2.03E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.13E-05	0.00E+00	8.13E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	8.13E-05	0.0%
Hexane	110543	2.37E-03	0.00E+00	4.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.73E-07	0.00E+00	4.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	4.73E-07	0.0%
Xylenes	1330207	4.17E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Lead Compounds	7439921	1.72E-03	0.00E+00	7.81E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.81E-08	0.00E+00	7.81E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	7.81E-08	0.0%
Manganese	7439965	9.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Mercury	7439976	3.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Nickel	7440020	2.23E-06	0.00E+00	3.72E-06	0.00E+00	0.00E+00	0.00E+00	3.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Arsenic Compounds	7440382	4.36E-06	0.00E+00	0.00E+00	2.18E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Cadmium	7440439	1.79E-06	8.94E-06	8.94E-06	0.00E+00	0.00E+00	0.00E+00	8.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Copper	7440508	1.68E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hydrochloric Acid	7647010	4.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.58E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	4.58E-08	0.0%
Ammonia	7664417	2.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.93E-08	0.00E+00	9.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	9.93E-08	0.0%
Selenium	7782492	1.97E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-05	0.00E+00	6.17E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	6.17E-05	0.0%
Chromium, Hexavalent	18540299	2.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Toluene Diisocyanate	26471625	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Total			8.94E-06	1.32E-05	4.78E-05	0.00E+00	0.00E+00	3.90E-05	3.55E-01	0.00E+00	2.00E-04	0.00E+00	0.00E+00	2.59E-05	0.00E+00		3.55E-01	100.0%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table B-21. PMI Acute Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 3408
 Location: 462633.2 UTM E, 3754279.4 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution 1
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	8.90E-03	2.5%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.36E-01	94.7%
3	Fire Pump Engine	4.39E-06	6.24E-06	1.45E-05	0.00E+00	0.00E+00	1.02E-05	8.59E-06	0.00E+00	2.58E-05	0.00E+00	0.00E+00	3.80E-06	0.00E+00		8.59E-06	0.0%
4	Fire Pump Engine	4.54E-06	6.45E-06	1.50E-05	0.00E+00	0.00E+00	1.05E-05	8.88E-06	0.00E+00	2.67E-05	0.00E+00	0.00E+00	3.93E-06	0.00E+00		8.88E-06	0.0%
5	Fiber Line 1 Oven	0.00E+00	2.85E-08	9.85E-07	0.00E+00	0.00E+00	9.85E-07	6.97E-06	0.00E+00	8.00E-06	0.00E+00	0.00E+00	9.85E-07	0.00E+00		6.97E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	4.97E-07	1.72E-05	0.00E+00	0.00E+00	1.72E-05	1.22E-04	0.00E+00	1.40E-04	0.00E+00	0.00E+00	1.72E-05	0.00E+00		1.22E-04	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.93E-07	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		9.69E-03	2.7%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		5.29E-11	0.0%
Total		8.94E-06	1.32E-05	4.78E-05	0.00E+00	0.00E+00	3.90E-05	3.55E-01	0.00E+00	2.00E-04	0.00E+00	0.00E+00	2.59E-05	0.00E+00	3.55E-01	100.0%	

1. Contribution by source is based on the target organ with the maximum acute hazard.

Table B-22. MEIR Acute Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1019
 Location: 462593.1 UTM E, 3754383.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution ¹
PAHs	1151	3.57E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Diesel Particulate Matter	9901	2.81E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Formaldehyde	50000	2.35E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-05	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Benzene	71432	5.82E-04	0.00E+00	0.00E+00	2.15E-05	0.00E+00	0.00E+00	2.15E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E-05		0.00E+00	0.0%
Acetaldehyde	75070	8.84E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-06	0.00E+00	1.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.88E-06	0.0%
Napthalene	91203	3.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Ethyl Benzene	100414	5.14E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	4.26E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.55E-03	1.0%
Butadiene [1,3]	106990	1.82E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Acrolein	107028	1.71E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.85E-05	0.00E+00	6.85E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00		6.85E-05	0.0%
Toluene	108883	2.03E-03	0.00E+00	4.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-07	0.00E+00	4.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00		4.06E-07	0.0%
Hexane	110543	3.57E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Xylenes	1330207	1.48E-03	0.00E+00	6.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.73E-08	0.00E+00	6.73E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	6.73E-08	0.0%
Lead Compounds	7439921	6.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Manganese	7439965	2.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Mercury	7439976	1.68E-06	0.00E+00	2.79E-06	0.00E+00	0.00E+00	0.00E+00	2.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Nickel	7440020	3.27E-06	0.00E+00	0.00E+00	1.64E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Arsenic Compounds	7440382	1.34E-06	6.71E-06	6.71E-06	0.00E+00	0.00E+00	0.00E+00	6.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Cadmium	7440439	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Copper	7440508	3.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.44E-08	0.0%
Hydrochloric Acid	7647010	1.56E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.45E-08	0.00E+00	7.45E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00		7.45E-08	0.0%
Ammonia	7664417	1.71E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.33E-05	0.00E+00	5.33E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00		5.33E-05	0.0%
Selenium	7782492	1.85E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Chromium, Hexavalent	18540299	8.40E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Toluene Diisocyanate	26471625	6.76E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.38E-01	98.9%
Total			6.71E-06	9.97E-06	3.79E-05	0.00E+00	0.00E+00	3.13E-05	3.42E-01	0.00E+00	1.67E-04	0.00E+00	0.00E+00	2.15E-05	0.00E+00		3.42E-01	100.0%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table B-23. MEIR Acute Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1019
 Location: 462593.1 UTM E, 3754383.9 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution ¹
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.89E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	6.89E-03	2.0%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.28E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		3.28E-01	95.9%
3	Fire Pump Engine	3.31E-06	4.70E-06	1.09E-05	0.00E+00	0.00E+00	7.68E-06	6.47E-06	0.00E+00	1.95E-05	0.00E+00	0.00E+00	2.86E-06	0.00E+00		6.47E-06	0.0%
4	Fire Pump Engine	3.40E-06	4.82E-06	1.12E-05	0.00E+00	0.00E+00	7.89E-06	6.64E-06	0.00E+00	2.00E-05	0.00E+00	0.00E+00	2.94E-06	0.00E+00		6.64E-06	0.0%
5	Fiber Line 1 Oven	0.00E+00	2.08E-08	7.18E-07	0.00E+00	0.00E+00	7.18E-07	5.08E-06	0.00E+00	5.83E-06	0.00E+00	0.00E+00	7.18E-07	0.00E+00		5.08E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	4.33E-07	1.50E-05	0.00E+00	0.00E+00	1.50E-05	1.06E-04	0.00E+00	1.22E-04	0.00E+00	0.00E+00	1.50E-05	0.00E+00		1.06E-04	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.66E-07	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		7.11E-03	2.1%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.52E-11	0.0%
Total		6.71E-06	9.97E-06	3.79E-05	0.00E+00	0.00E+00	3.13E-05	3.42E-01	0.00E+00	1.67E-04	0.00E+00	0.00E+00	2.15E-05	0.00E+00	3.42E-01	100.0%	

1. Contribution by source is based on the target organ with the maximum acute hazard.

Table B-24. MEIW Acute Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1017
 Location: 462593.1 UTM E, 3754008.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution ¹
PAHs	1151	4.75E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Diesel Particulate Matter	9901	3.54E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Formaldehyde	50000	3.41E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Benzene	71432	9.44E-04	0.00E+00	0.00E+00	3.50E-05	0.00E+00	0.00E+00	3.50E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.50E-05		0.00E+00	0.0%
Acetaldehyde	75070	1.23E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-06	0.00E+00	2.61E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.61E-06	0.0%
Napthalene	91203	4.87E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Ethyl Benzene	100414	8.99E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	3.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.72E-03	1.0%
Butadiene [1,3]	106990	2.30E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Acrolein	107028	2.87E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-04	0.00E+00	1.15E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.15E-04	0.0%
Toluene	108883	3.53E-03	0.00E+00	7.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.05E-07	0.00E+00	7.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00		7.05E-07	0.0%
Hexane	110543	6.16E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Xylenes	1330207	2.58E-03	0.00E+00	1.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-07	0.00E+00	1.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.17E-07	0.0%
Lead Compounds	7439921	8.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Manganese	7439965	3.27E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Mercury	7439976	2.11E-06	0.00E+00	3.52E-06	0.00E+00	0.00E+00	0.00E+00	3.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Nickel	7440020	4.12E-06	0.00E+00	0.00E+00	2.06E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Arsenic Compounds	7440382	1.69E-06	8.44E-06	8.44E-06	0.00E+00	0.00E+00	0.00E+00	8.44E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Cadmium	7440439	1.58E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Copper	7440508	4.33E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.33E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		4.33E-08	0.0%
Hydrochloric Acid	7647010	1.97E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.37E-08	0.00E+00	9.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00		9.37E-08	0.0%
Ammonia	7664417	2.99E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.36E-05	0.00E+00	9.36E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00		9.36E-05	0.0%
Selenium	7782492	2.32E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Chromium, Hexavalent	18540299	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		0.00E+00	0.0%
Toluene Diisocyanate	26471625	5.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.81E-01	99.0%
Total			8.44E-06	1.28E-05	5.56E-05	0.00E+00	0.00E+00	4.73E-05	2.84E-01	0.00E+00	2.74E-04	0.00E+00	0.00E+00	3.50E-05	0.00E+00		2.84E-01	100.0%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table B-25. MEIW Acute Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1017
 Location: 462593.1 UTM E, 3754008.9 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Acute Risk @ Max Target Organ	Contribution ₁
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.23E-02	7.9%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.51E-01	88.4%
3	Fire Pump Engine 1	4.17E-06	5.92E-06	1.38E-05	0.00E+00	0.00E+00	9.68E-06	8.15E-06	0.00E+00	2.45E-05	0.00E+00	0.00E+00	3.60E-06	0.00E+00		8.15E-06	0.0%
4	Fire Pump Engine 2	4.27E-06	6.06E-06	1.41E-05	0.00E+00	0.00E+00	9.91E-06	8.35E-06	0.00E+00	2.51E-05	0.00E+00	0.00E+00	3.69E-06	0.00E+00		8.35E-06	0.0%
5	Fiber Line 1 Oven	0.00E+00	8.63E-08	2.98E-06	0.00E+00	0.00E+00	2.98E-06	2.11E-05	0.00E+00	2.42E-05	0.00E+00	0.00E+00	2.98E-06	0.00E+00		2.11E-05	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	7.12E-07	2.47E-05	0.00E+00	0.00E+00	2.47E-05	1.74E-04	0.00E+00	2.00E-04	0.00E+00	0.00E+00	2.47E-05	0.00E+00		1.74E-04	0.1%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.03E-06	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.04E-02	3.7%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.99E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.99E-10	0.0%
Total		8.44E-06	1.28E-05	5.56E-05	0.00E+00	0.00E+00	4.73E-05	2.84E-01	0.00E+00	2.74E-04	0.00E+00	0.00E+00	3.50E-05	0.00E+00	2.84E-01	100.0%	

1. Contribution by source is based on the target organ with the maximum acute hazard.

Table B-26. MEIW Chronic 8-hour Hazard by Substance

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1204
 Location: 462718.1 UTM E, 3754083.9 UTM N

Chemical Name	CAS	Concentration (ug/m ³)	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
PAHs	1151	1.06E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Diesel Particulate Matter	9901	3.53E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Formaldehyde	50000	1.33E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.36E-05	0.0%
Benzene	71432	5.61E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-05	0.00E+00	Respiratory System	0.00E+00	0.0%
Acetaldehyde	75070	3.73E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.01E-07	0.0%
Napthalene	91203	2.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Ethyl Benzene	100414	6.44E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Methyl Diphenyl Diisocyanate	101688	8.51E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.79E-02	0.6%
Butadiene [1,3]	106990	2.29E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.48E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Acrolein	107028	1.86E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	5.52E-05	0.0%
Toluene	108883	2.49E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hexane	110543	4.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Xylenes	1330207	1.84E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Lead Compounds	7439921	8.74E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Manganese	7439965	3.26E-08	0.00E+00	7.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Mercury	7439976	2.10E-08	0.00E+00	1.31E-06	0.00E+00	1.31E-06	0.00E+00	1.31E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Nickel	7440020	4.10E-08	0.00E+00	0.00E+00	2.55E-06	0.00E+00	0.00E+00	0.00E+00	2.55E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	2.55E-06	0.0%
Arsenic Compounds	7440382	1.68E-08	4.19E-06	4.19E-06	0.00E+00	0.00E+00	0.00E+00	4.19E-06	4.19E-06	4.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	4.19E-06	0.0%
Cadmium	7440439	1.58E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Copper	7440508	4.31E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Hydrochloric Acid	7647010	1.96E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Ammonia	7664417	2.17E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Selenium	7782492	2.32E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Chromium, Hexavalent	18540299	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	0.00E+00	0.0%
Toluene Diisocyanate	26471625	1.53E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	3.17E+00	99.4%
Total			4.19E-06	6.21E-06	2.55E-06	1.31E-06	0.00E+00	6.44E-06	3.19E+00	4.19E-06	6.14E-07	0.00E+00	0.00E+00	3.93E-05	0.00E+00		3.19E+00	100.0%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table B-27. MEIW Chronic 8-hour Hazard by Source

Carpenter Company
 Facility ID: 7730
 Receptor ID: 1204
 Location: 462718.1 UTM E, 3754083.9 UTM N

Source ID	Source Name	Cardiovascular System	Central Nervous System	Immune System	Kidney	GILV	Reproductive System	Respiratory System	Skin	Eye	Bone/Teeth	Endocrine System	Blood	Odor	Max Target Organ	Chronic Risk @ Max Target Organ	Contribution ¹
1	Prime Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Respiratory System	1.59E-01	5.0%
2	Rebond Pour Line	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.91E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		2.91E+00	91.3%
3	Fire Pump Engine 1	2.09E-06	3.10E-06	1.27E-06	6.53E-07	0.00E+00	3.22E-06	8.12E-06	2.09E-06	2.49E-09	0.00E+00	0.00E+00	1.22E-06	0.00E+00		8.12E-06	0.0%
4	Fire Pump Engine 2	2.10E-06	3.11E-06	1.28E-06	6.56E-07	0.00E+00	3.23E-06	8.15E-06	2.10E-06	2.50E-09	0.00E+00	0.00E+00	1.22E-06	0.00E+00		8.15E-06	0.0%
5	Fiber Line 1 Oven	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-06	0.00E+00	3.57E-08	0.00E+00	0.00E+00	2.16E-06	0.00E+00		4.66E-06	0.0%
6	Clayton Natural Gas Fired Steam Generator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.50E-05	0.00E+00	5.74E-07	0.00E+00	0.00E+00	3.47E-05	0.00E+00		7.50E-05	0.0%
7	MDI Storage Tank	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		5.18E-06	0.0%
8	Prime Pour TDI Tanks	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		1.19E-01	3.7%
9	Slab Gluing Loop 1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.28E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00		4.28E-10	0.0%
Total		4.19E-06	6.21E-06	2.55E-06	1.31E-06	0.00E+00	6.44E-06	3.19E+00	4.19E-06	6.14E-07	0.00E+00	0.00E+00	3.93E-05	0.00E+00	3.19E+00	100.0%	

1. Contribution by source is based on the target organ with the maximum chronic hazard.

Table B-28. Cancer Burden

Carpenter Company
Facility ID: 7730

Census Tract	Census Block	Cancer Risk	Receptor	Population ¹	Cancer Burden ²
313	1004	3.01E-08	3457	70	2.11E-06
	1006	3.55E-08	3458	135	4.79E-06
	2028	3.55E-08	3459	86	3.05E-06
	2031	1.65E-08	3460	100	1.65E-06
	2033	1.29E-08	3461	104	1.34E-06
			Total	495	0.00001

1. Population from 2010 Census data, pulled from HARP2 ADMRT database
2. Cancer Burden = (Maximum Cancer Risk) x (Population)

APPENDIX C. SOUTH COAST AQMD CORRESPONDENCE



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Via Email and Certified Mail with Return Receipt

August 17, 2022

████████████████████
Carpenter Co.
7809 Lincoln Ave.
Riverside, CA 92504

Subject: Approval of Air Toxics Inventory Report and Notice to Prepare a Health Risk Assessment for **Carpenter Co.** (South Coast AQMD Facility ID No.: **7730**)

Dear ██████████:

In accordance with the State of California's Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and South Coast Air Quality Management District's (South Coast AQMD) Rule 1402, South Coast AQMD staff notified you by letter dated March 5, 2021 to prepare either an Air Toxics Inventory Report (ATIR) or a Voluntary Risk Reduction Report (VRRP) for your facility. You elected to prepare an ATIR for your facility which was submitted on August 3, 2021. South Coast AQMD staff reviewed the submittals and required you to revise the ATIR. You provided a revised ATIR for your facility on July 6, 2022. Your ATIR submittal on July 6, 2022 for calendar year 2019 has been reviewed and approved.

Subsequently, pursuant to Rule 1402 (e)(1), you are required to prepare and submit a Health Risk Assessment (HRA), based on the approved ATIR, for your facility within **90 days** from the date of this letter which is **November 15, 2022**.

The remainder of this letter informs you of the following:

- Guidelines and procedures for preparing the HRA;
- Process used to review and approve the HRA; and
- Availability of further assistance.

Guidelines and Procedures for Preparing the HRA

The California Air Resources Board (CARB) has developed a "Hot Spots" Analysis and Reporting Program (HARP)¹ which streamlines the emissions inventory and risk assessment requirements of the "Hot Spots" Program into a single integrated analysis tool. You are required to submit your HRA using the HARP software. The latest version of the software must be used.

¹ <http://www.arb.ca.gov/toxics/harp/harp.htm>

The U.S. EPA AERMOD² air quality dispersion model is used by HARP to estimate the concentration of pollutants released by the facility. In addition, South Coast AQMD provides guidance on preparing an HRA, as well as air dispersion modeling.³ Meteorological data sets for South Coast AQMD are also available for download.⁴

The HRA must be prepared in accordance with *The Air Toxics Hot Spots Program Risk Assessments Guidelines (February 2015)* developed by the State of California Office of Environmental Health Hazard Assessment (OEHHA).⁵

Diesel particulate matter emissions were identified as a toxic air contaminant by CARB in 1998 and were added to South Coast AQMD Rule 1401 list of compounds on March 7, 2008. Under the current AB 2588 Air Toxics “Hot Spots” Emission Inventory Criteria and Guidelines Regulation, amended on August 18, 2021, you are required to include health risk impacts of any diesel exhaust particulate emissions from stationary emergency and prime compression ignition internal combustion engines, as well as portable diesel engines. Please clearly identify emergency diesel internal combustion engines and their corresponding emissions.

Air emissions of any substances listed in Appendix A-I of the OEHHA guidelines must be quantified and evaluated in the HRA. Please follow the detailed outline for the HRA report, which is contained in Appendix C of the South Coast AQMD supplemental guidelines mentioned above. Lastly, please also include a signed copy of the AB 2588 Air Toxics Document Certification & Submittal Form (Attachment B) along with your HRA submittal.

Process for Reviewing and Approving the HRA

The HRA will be reviewed by staff from both South Coast AQMD and OEHHA. You will be notified of the status of your HRA within a few weeks after it is returned to South Coast AQMD from OEHHA. An HRA that is not consistent with state and South Coast AQMD guidelines will be returned to the facility with a list of necessary corrections, prior to approval.

If the HRA shows that your facility poses a maximum individual lifetime cancer risk of ten in one million or greater, or the non-cancer health effects hazard index exceeds one, you will be required to provide public notice to all individuals exposed above notification levels. The determination of whether the facility is subject to notification will be made upon approval of the HRA. You will receive further information regarding the public notification process at that time.

In addition, if your facility poses a maximum individual lifetime cancer risk of 25 in a million or greater, cancer burden of 0.5 or greater, or non-cancer health effects hazard index of 3 or greater, you will be also subject to risk reduction provisions of Rule 1402 (f).

² <https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models>

³ <http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf>
<http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance>

⁴ <http://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod>

⁵ <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>

Further Assistance

If you have questions regarding the guidelines, the HARP software, or need any other assistance, please contact Vanessa Tanik, Air Quality Specialist at (909) 396-2578, or Victoria Moaveni, Program Supervisor at (909) 396-2455.

Sincerely,

A handwritten signature in black ink, appearing to read "Eugene Kang". The signature is fluid and cursive, with the first name "Eugene" written in a larger, more prominent script than the last name "Kang".

Eugene Kang
Planning & Rules Manager
Planning, Rule Development & Implementation

Attachment: AB2588 Air Toxics Document Certification & Submittal Form

EK:VM:FC:TT:VT

FORM A	SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	INVENTORY YEAR
	AB 2588 Program, 21865 COPLEY DR., DIAMOND BAR CA 91765-0949	20_____

AB 2588 AIR TOXICS DOCUMENT CERTIFICATION & SUBMITTAL FORM

Please check the appropriate boxes for purpose of submittal:

<i>INITIAL INFORMATION for ATIR</i>	<i>EARLY ACTION REDUCTION PLAN (EARP)</i>	<i>INITIAL</i>
<i>AIR TOXICS INVENTORY REPORT (ATIR)</i>	<i>VOLUNTARY RISK REDUCTION PLAN (VRRP)</i>	<i>REVISION</i>
<i>HEALTH RISK ASSESSMENT (HRA)</i>	<i>IMPLEMENTATION PROGRESS REPORT for VRRP/RRP</i>	<i>FINAL</i>
<i>RISK REDUCTION PLAN (RRP)</i>	<i>OTHER:</i> _____	

Does your facility participate or wish to participate in VRRP program pursuant to Rule 1402(h)? **YES**

Please provide the following information:

Facility name	South Coast AQMD ID	Facility SIC/NAICS CODE
Facility Location Address	Mailing Address	
Contact Person (Company Official)		
Name: _____ Title: _____		
Telephone: _____ eMail: _____		
Preparer (if different from above)		
Name: _____ Title: _____		
Company: _____		
Telephone: _____ eMail: _____		

FAILURE TO SUBMIT REQUIRED INFORMATION OR KNOWINGLY SUPPLYING FALSE INFORMATION IS PUNISHABLE TO THE EXTENT DEFINED IN HEALTH AND SAFETY CODE SECTIONS 44381(a) AND 44381(b), WHICH INCLUDES MINIMUM FINES OF NOT LESS THAN FIVE HUNDRED DOLLARS.

Signature Of Responsible Company Official	Date
Name Of Responsible Company Official	Title



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Via Email and CERTIFIED RETURN RECEIPT TO ADDRESSEE

December 1, 2022

██████████
Carpenter Company
7809 Lincoln Ave.
Riverside, CA 92504

Subject: Notice of Rejection of the AB2588 Health Risk Assessment for Carpenter Company (South Coast AQMD ID 7730)

Dear ██████████:

In a letter dated August 17, 2022, South Coast Air Quality Management District (South Coast AQMD) notified Carpenter Company (Carpenter) that the facility is required to submit a Health Risk Assessment (HRA) in accordance with the State of California's Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and South Coast AQMD Rule 1402. The HRA is required to be based on the Air Toxics Inventory Report (ATIR) that was approved in that same letter. We received the HRA on November 14, 2022.

After a review by staff, South Coast AQMD is rejecting the HRA submitted on November 14, 2022. The HRA was not prepared in accordance with the most current version of South Coast AQMD AB 2588 and Rule 1402 Supplemental Guidelines. In addition, some information provided in the HRA was either incomplete and/or not accurate. The details on these deficiencies are provided as an attachment to this letter.

Please be advised that pursuant to Rule 1402 (e)(2)(C), all the deficiencies identified must be addressed in a revised HRA and submitted to South Coast AQMD within 60 days of this letter, or by January 31, 2023. However, South Coast AQMD encourages Carpenter to submit the revised HRA sooner, if possible. If all deficiencies are not addressed in the revised HRA by January 31, 2023, then South Coast AQMD staff has the option of modifying the HRA and approving it as modified, in accordance with Rule 1402 (e)(2)(D). Your facility will then be charged a Special Review Fee according to Rule 307.1 (d)(3).

If you have any questions regarding the contents of this letter or need any assistance with the upcoming submittal, please contact either Vanessa Tanik, Air Quality Specialist, at (909) 396-2578, or myself at (909) 396-3524.

Sincerely,



Eugene Kang
Planning & Rules Manager
Planning, Rule Development & Implementation

cc: [REDACTED]
Tiffany Wang, Trinity Consultants
Steven Walters, Trinity Consultants

EK:VM:TT:VT

Attachment: List of Identified Deficiencies with HRA

Attachment A – List of Identified Deficiencies with HRA

1. The HRA Summary form was not submitted along with the report. For your reference, the form can be found here: <http://www.aqmd.gov/docs/default-source/aqmd-forms/AB2588/ab2588-hra-summary-form.pdf>
2. The facility main structure has two height tiers, but the building was modeled with only one tier in the submitted HRA. The revised HRA shall include both tiers for the building.
3. There are buildings/structures which could potentially have downwash effects on release stacks that were not included in the model. The revised HRA shall include and evaluate the buildings and structures at the following locations:
 - a. Storage tank - UTM coordinates: [REDACTED]
 - b. Fire pump housing - UTM coordinates: [REDACTED]
 - c. Business Southeast of the facility - UTM coordinates: [REDACTED]
[REDACTED]
4. The facility's operating schedule (hours per day, hours per year, days per week, and weeks per year) were not included in the report. A schedule also should be provided for each variable emissions scenario as required under the AB 2588 and Rule 1402 Supplemental Guidelines (Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act), October 2020 (henceforth referred to as Supplemental Guidelines). See requirements listed in Appendix B, Section III, B.2.
5. The hourly emission rates should be based on the operating schedule of the equipment. Please correct the lb/hr and 1-hour max g/s emission rates for each source that utilizes variable emissions.
6. When resubmitting the HRA, please provide the inputs and calculations for worker adjustment factor as well as an explanation for the value selected for each applicable worker adjustment factor calculation.
7. Description of emission control equipment and efficiency by source and by substance as required under the Supplemental Guidelines, Appendix B, Section III, B.2 are missing.
8. Table reporting facility total emission rates by substance for all devices as required under the Supplemental Guidelines, Appendix B, Section III, B.2 is missing.
9. Emissions profiles for S0003, S0004, S0005 and S0006 used in the modeling for the HRA do not match the summary tables in the HRA report.
10. For risk scenarios that utilize dermal absorption, the climate option "Warm" should be selected.
11. For residential cancer risk analysis method, "RMP using Derived Method" should be selected.

APPENDIX D. 2019 ATIR

July 6, 2022

Vanessa Tanik
Air Quality Engineer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
vtanik@aqmd.gov

*Subject: 2019 Air Toxics Inventory Report
Facility: Carpenter, Co.
7809 Lincoln Ave.
Riverside, CA 92504
Facility ID No. 7730*

Dear Vanessa:

As requested, please find enclosed the revised 2019 Air Toxics Inventory Report (ATIR) for Carpenter Co., which includes detailed emission calculations for all process tanks, spray coating operations, combustion equipment, and other miscellaneous sources.

If there are any questions, please contact our office to discuss the matter further.

Sincerely,

TRINITY CONSULTANTS



Tiffany Wang
Senior Consultant

Encl.

cc: [REDACTED]
Steve Walters, Trinity Consultants

LIST OF SOURCES

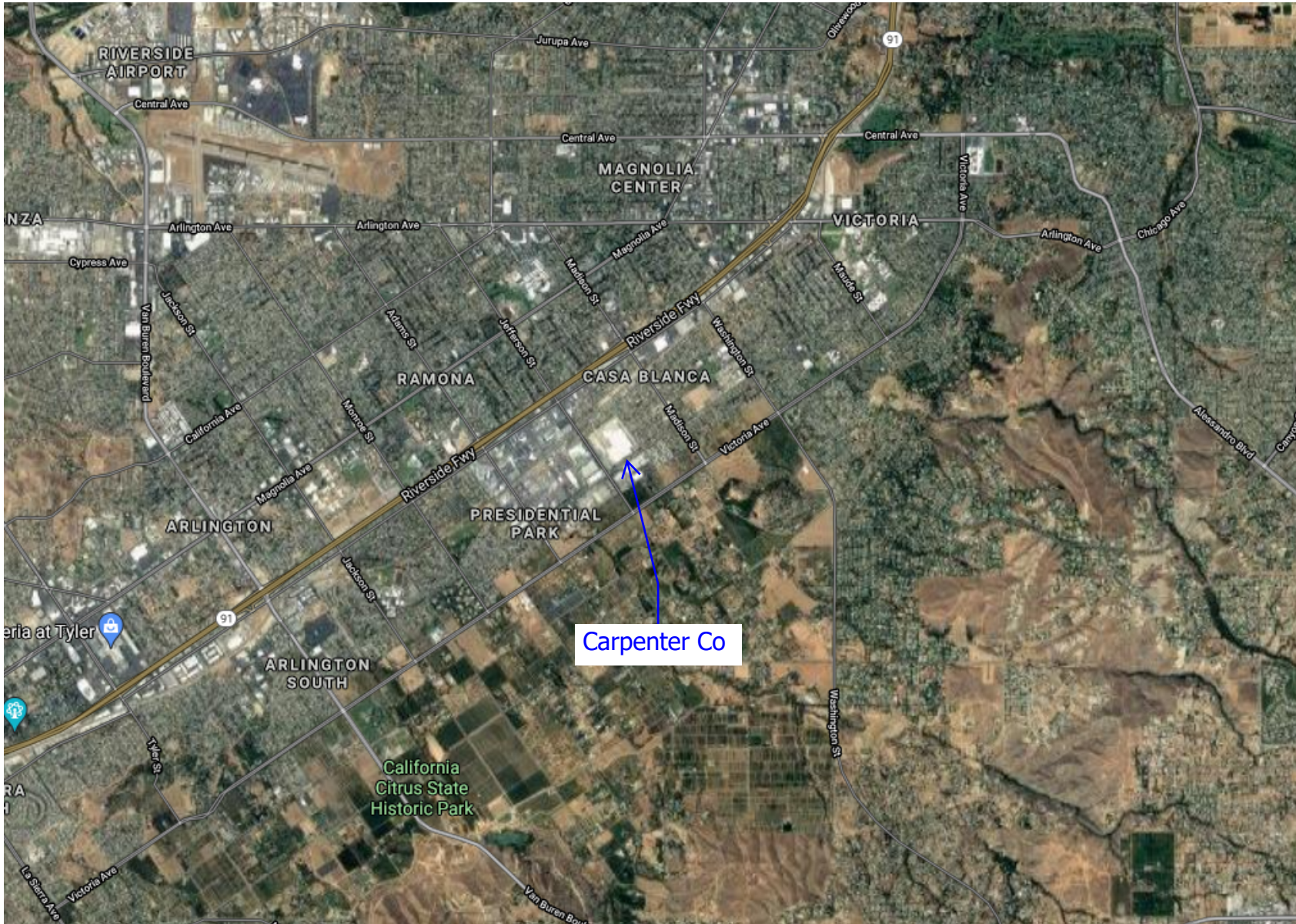


2019 AIR TOXIC INVENTORY REPORT - LIST OF MODELING SOURCES

Carpenter Company
7809 Lincoln Avenue
Riverside, CA 92504
South Coast AQMD Facility ID No. 7730

Stack ID	Permit No.	Equipment Name	AER ID	Comments
3	D22228	Fire Pump Engine 1	ES1	
4	D43309	Fire Pump Engine 2	ES2	
6	G20595	Steam Generator	ES21	
7	G48365	MDI Storage Tank	ES27	
5	F49010	Fiber Line 1 Oven	ES32	
8	G48365	Prime Pour TDI Tanks	ES35	
1	G48365	Prime Pour Line TDI Emissions	ES36	
9	N/A	Slab Gluing Loop 1	ES39	
1	G48365	Prime Pour Line MDI Emissions	ES42	
2	F62238	Rebond Pour Line	ES9	

SITE MAPS



Prepared By:



Carpenter Co
 7809 Lincoln Ave
 Riverside CA, 92504

Description

Location Map

Project

210501.0127

Date

July 2021

Figure

1



Legend:
 Facility Boundary

Carpenter Co

Prepared By:



Carpenter Co
 7809 Lincoln Ave
 Riverside CA, 92504

Description

Vicinity Map

Project

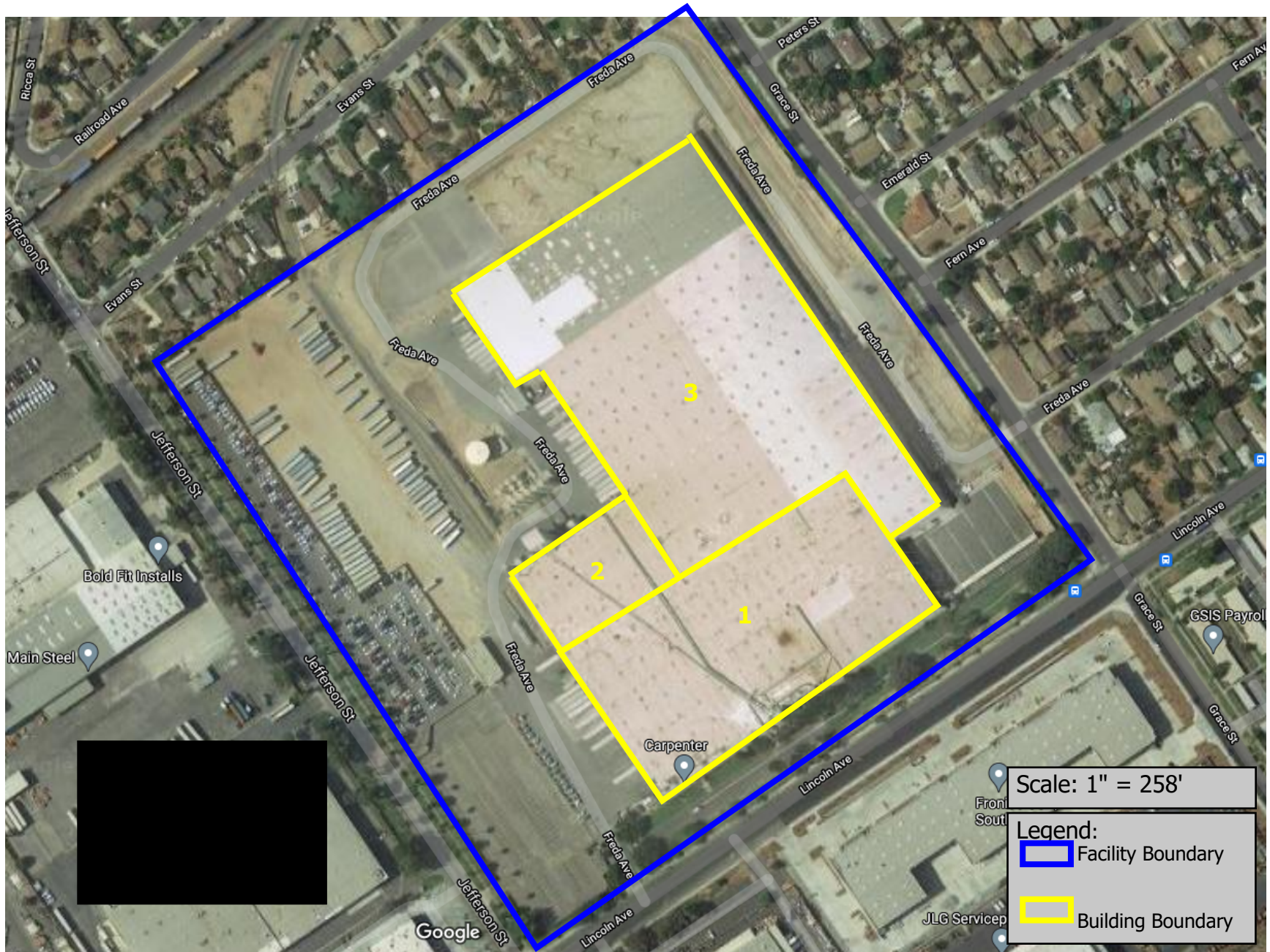
210501.0127

Date

July 2021

Figure

2



Prepared By:



Carpenter Co
7809 Lincoln Ave
Riverside CA, 92504

Description

Site Layout Plan

Project

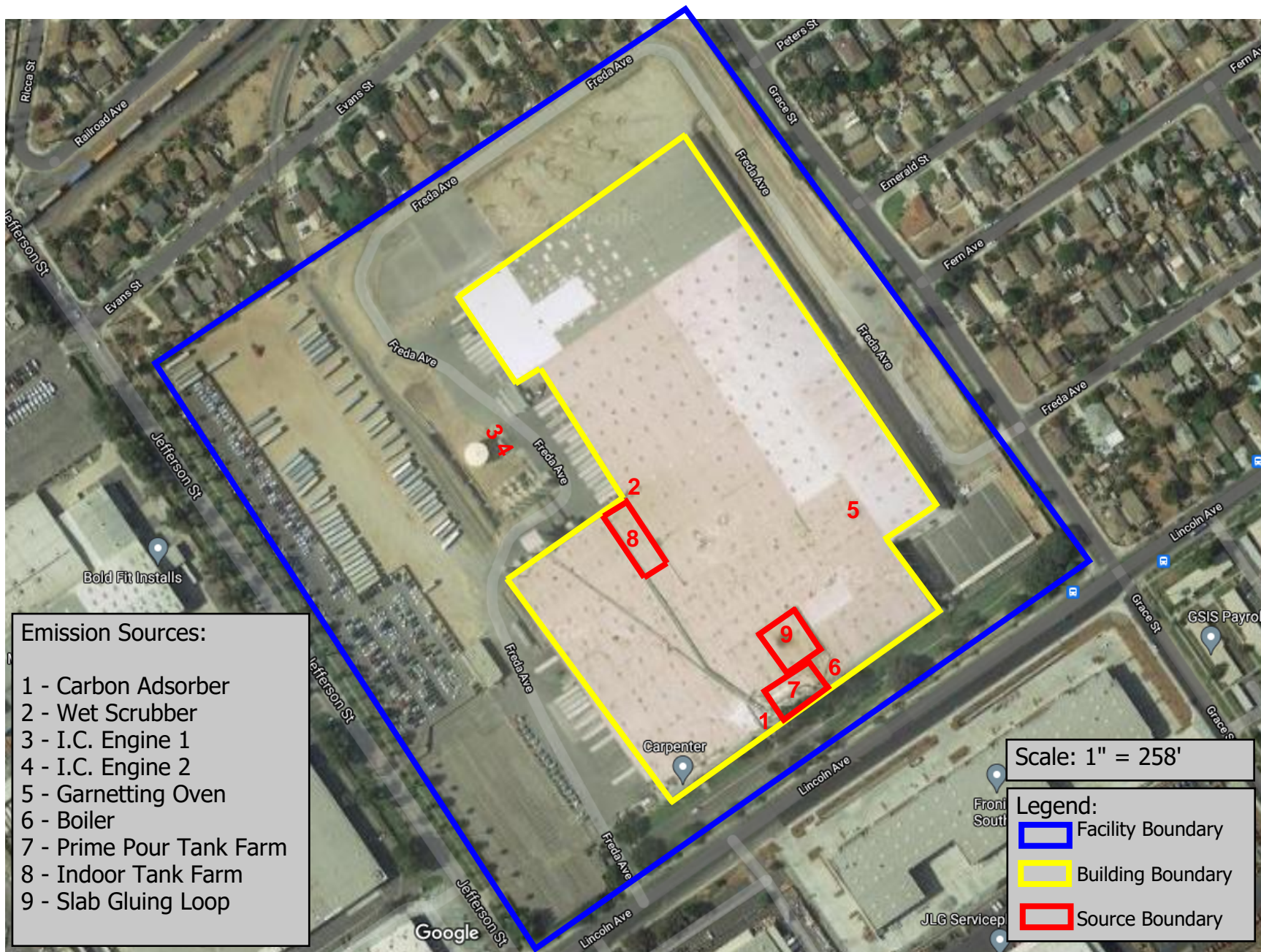
210501.0127

Date

July 2021

Figure

3



- Emission Sources:**
- 1 - Carbon Adsorber
 - 2 - Wet Scrubber
 - 3 - I.C. Engine 1
 - 4 - I.C. Engine 2
 - 5 - Garnetting Oven
 - 6 - Boiler
 - 7 - Prime Pour Tank Farm
 - 8 - Indoor Tank Farm
 - 9 - Slab Gluing Loop

Scale: 1" = 258'

Legend:

- Facility Boundary
- Building Boundary
- Source Boundary

Description		Emission Sources	
Project	210501.0127	Date	July 2021
			Figure 4

EMISSIONS



2019 AIR TOXIC INVENTORY REPORT - LIST OF MODELING SOURCES

Carpenter Company
 7809 Lincoln Avenue
 Riverside, CA 92504
 South Coast AQMD Facility ID No. 7730

Stack ID	Source Type	Equipment Name	Substance Name	CAS No.	Emissions (lb/hr)	Emissions (lb/yr)
3	Point	Fire Pump Engine 1	Diesel Exhaust Particulates	9901	3.90E-04	1.8241
			Arsenic	7440382	1.86E-08	0.0001
			Benzene	71432	2.17E-06	0.0101
			Butadiene [1,3]	106990	2.53E-06	0.0118
			Cadmium	7440439	1.75E-08	0.0001
			Chromium, Hexavalent	18540299	1.16E-09	0.0000
			Formaldehyde	50000	2.01E-05	0.0940
			Lead Compounds	7439921	9.66E-08	0.0005
			Nickel	7440020	4.54E-08	0.0002
			PAHs	1151	4.21E-07	0.0020
			Napthalene	91203	2.29E-07	0.0011
			Acetaldehyde	75070	9.11E-06	0.0427
			Acrolein	107028	3.94E-07	0.0018
			Copper	7440508	4.77E-08	0.0002
			Ethyl Benzene	100414	1.27E-07	0.0006
			Hexane	110543	3.13E-07	0.0015
			Hydrochloric Acid	7647010	2.17E-06	0.0101
			Manganese	7439965	3.61E-08	0.0002
			Mercury	7439976	2.33E-08	0.0001
			Selenium	7782492	2.56E-08	0.0001
Toluene	108883	1.23E-06	0.0057			
Xylenes	1330207	4.93E-07	0.0023			
Ammonia	7664417	9.31E-06	0.0436			



2019 AIR TOXIC INVENTORY REPORT - LIST OF MODELING SOURCES

Carpenter Company
 7809 Lincoln Avenue
 Riverside, CA 92504
 South Coast AQMD Facility ID No. 7730

Stack ID	Source Type	Equipment Name	Substance Name	CAS No.	Emissions (lb/hr)	Emissions (lb/yr)
4	Point	Fire Pump Engine 2	Benzene	71432	2.17E-06	0.0101
			Diesel Exhaust Particulates	9901	3.90E-04	1.8241
			Arsenic	7440382	1.86E-08	0.0001
			Butadiene [1,3]	106990	2.53E-06	0.0118
			Cadmium	7440439	1.75E-08	0.0001
			Chromium, Hexavalent	18540299	1.16E-09	0.0000
			Formaldehyde	50000	2.01E-05	0.0940
			Lead Compounds	7439921	9.66E-08	0.0005
			Nickel	7440020	4.54E-08	0.0002
			PAHs	1151	4.21E-07	0.0020
			Napthalene	91203	2.29E-07	0.0011
			Acetaldehyde	75070	9.11E-06	0.0427
			Acrolein	107028	3.94E-07	0.0018
			Copper	7440508	4.77E-08	0.0002
			Ethyl Benzene	100414	1.27E-07	0.0006
			Hexane	110543	3.13E-07	0.0015
			Hydrochloric Acid	7647010	2.17E-06	0.0101
			Manganese	7439965	3.61E-08	0.0002
			Mercury	7439976	2.33E-08	0.0001
			Selenium	7782492	2.56E-08	0.0001
Toluene	108883	1.23E-06	0.0057			
Xylenes	1330207	4.93E-07	0.0023			
Ammonia	7664417	9.31E-06	0.0436			



2019 AIR TOXIC INVENTORY REPORT - LIST OF MODELING SOURCES

Carpenter Company
 7809 Lincoln Avenue
 Riverside, CA 92504
 South Coast AQMD Facility ID No. 7730

Stack ID	Source Type	Equipment Name	Substance Name	CAS No.	Emissions (lb/hr)	Emissions (lb/yr)
6	Point	Steam Generator	Benzene	71432	3.48E-05	0.1629
			Formaldehyde	50000	7.40E-05	0.3461
			PAHs [PAH, POM]	1151	4.35E-07	0.0020
			Napthalene [PAH, POM]	91203	1.31E-06	0.0061
			Acetaldehyde	75070	1.87E-05	0.0875
			Acrolein	107028	1.17E-05	0.0550
			Ethyl Benzene	100414	4.13E-05	0.1934
			Hexane	110543	2.74E-05	0.1283
			Ammonia	7664417	1.39E-02	65.1520
			Toluene	108883	1.59E-04	0.7452
			Xylenes	1330207	1.18E-04	0.5538
7		MDI Storage Tank	Methyl Diphenyl Diisocyanate	101688	1.59E-07	0.0007
5		Fiber Line 1 Oven	Xylenes	1330207	1.31E-05	0.0615
			Benzene	71432	3.86E-06	0.0181
			Formaldehyde	50000	8.21E-06	0.0384
			PAHs [PAH, POM]	1151	4.83E-08	0.0002
			Napthalene [PAH, POM]	91203	1.45E-07	0.0007
			Acetaldehyde	75070	2.08E-06	0.0097
			Acrolein	107028	1.30E-06	0.0061
			Ethyl Benzene	100414	4.59E-06	0.0215
			Hexane	110543	3.04E-06	0.0142
			Toluene	108883	1.77E-05	0.0827
			Ammonia	7664417	1.55E-03	7.2320
8		Prime Pour TDI Tanks	Toluene Diisocyanate	26471625	7.45E-04	3.4859
1		Prime Pour Line	Toluene Diisocyanate	26471625	7.72E-04	3.6142
			Methyl Diphenyl Diisocyanate	101688	1.33E-07	0.0006
9		Slab Gluing Loop 1	Methyl Diphenyl Diisocyanate	101688	7.51E-12	0.0000
2		Rebond Pour Line	Methyl Diphenyl Diisocyanate	101688	9.47E-04	4.4308
			Toluene Diisocyanate	26471625	1.44E-02	67.3346

APPENDIX E. SOUTH COAST AQMD PERMITS



South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
PERMIT TO CONSTRUCT/OPERATE

Page 1

Permit No.
G66773
A/N 631215

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

**Legal Owner
or Operator:**

CARPENTER CO
7809 LINCOLN AVE
RIVERSIDE, CA 92504-4442

ID 7730

Equipment Location: 7809 LINCOLN AVE, RIVERSIDE, CA 92504-4497

Equipment Description :

Flexible Polyurethane Foam (Slabstock) Manufacturing System consisting of:

1. Line Mixer, 20 HP, 1-Gallon Capacity.
2. Pour Belt Conveyor, 5 HP, with Two 3-HP Side Conveyors and One Hooded Enclosure.
3. Seven Polyol Metering Pumps, each Positive Displacement with a 100-HP Motor.
4. One Polyol Metering Pump, Viking, Positive Displacement with a 7.5-HP Motor.
5. One Polyol Metering Pump, Bosch, Positive Displacement with a 40-HP Motor.
6. Polyol/CaCO₃ Metering Pump, Positive Displacement with a 4-HP Motor.
7. Toluene Diisocyanate (TDI) Metering Pump, Positive Displacement with a 75-HP Motor.
8. One MDI Metering Pump, Bosch, Positive Displacement with a 75-HP Motor.
9. Water Metering Pump, Positive Displacement with a 15-HP Motor.
10. Carbon Dioxide Metering Pump, Positive Displacement with a 17-HP Motor.
11. Methyl Formate Metering Pump, Positive Displacement with a 5-HP Motor.

Conditions :

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
2. This equipment shall be properly maintained and kept in good operating condition at all times.
3. This equipment shall not be operated unless it is vented to air pollution control equipment which is in full use and which has been issued a valid permit by the South Coast AQMD.

ORIGINAL



South Coast Air Quality Management District
 21865 Copley Drive, Diamond Bar, CA 91765-4178
PERMIT TO CONSTRUCT/OPERATE

Page 2
 Permit No.
 G66773
 A/N 631215

4. This equipment shall not be operated unless the hooded enclosure is fully closed (except during operations of start-up, changeover, platen adjustments, and/or flushing, not to exceed 5 minutes per event).
5. This equipment shall comply with all applicable requirements of Rule 1175.
6. The total quantity of cleaning solvent emitted to the atmosphere from the cleaning operations of this equipment shall not exceed 15 pounds per month.
7. The operator shall not use, in this equipment, any blowing agent except for carbon dioxide and methyl formate.
8. This equipment shall not process more than 3,412.5 tons of TDI in any one calendar month, nor 23,270.41 tons per year.
9. Materials used in this equipment shall not contain any toxic compound identified in Rule 1401, Table I, with effective date of September 1, 2017 or earlier, except for the following at the annual limits shown below:

Toxic Compound	CAS No.	Annual Usage (Lb/Year)
Toluene-2, 4-diisocyanate	584-84-9	37,232,654
Toluene-2, 6-diisocyanate	91-08-7	9,308,164
Methylene diphenyl diisocyanate	101-68-8	5,214,727
Diethanolamine	111-42-2	71,749
Methanol	67-56-1	23,000
Styrene	100-42-5	226
Acrylonitrile	107-13-1	44

10. Safety data sheets for all materials used in this equipment shall be kept current and be made available to the Executive Officer or his representative upon request.
11. The total amount of TDI emissions from this facility shall not exceed 1,890 pounds in one year.

For the purpose of this condition, "total amount of TDI emissions" shall be calculated as follows:

For flexible polyurethane foam (slabstock) manufacturing system, pounds of TDI emissions (pounds of TDI processed) x (0.000000318).

For polyurethane foam reprocessing system, pounds of TDI emissions = (pounds of TDI processed) x (0.000265).

For TDI storage tank(s), pounds of TDI emissions = (pounds of TDI processed) x (0.0000003).

12. Records shall be maintained to demonstrate compliance with Condition Nos. 6, 8, 9 and 11 in this permit. Records shall be kept in a format acceptable to the South Coast AQMD, shall be retained at the facility for a minimum of two years, and shall be made available to South Coast AQMD personnel upon request.

ORIGINAL



South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
PERMIT TO CONSTRUCT/OPERATE

Page 3
Permit No.
G66773
A/N 631215

NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer

A handwritten signature in black ink, appearing to read "J. Aspell".

BY JASON ASPELL/GJ02

10/22/2021

ORIGINAL



PERMIT TO OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

*Reband
10/24/02*

LEGAL OWNER
OR OPERATOR:

CARPENTER CO
P O BOX 7788
RIVERSIDE, CA 92513-7788

ID 007730

Equipment Location: 7809 LINCOLN AVE, RIVERSIDE, CA 92504-4497

Equipment Description:

POLYURETHANE FOAM REPROCESSING SYSTEM CONSISTING OF:

1. HAMMERMILL GRINDER.
2. AIR SEPARATOR
3. BOTTOM CONVEYOR, 2 HP.
4. TWO TOPSIDE CONVEYORS, 1 HP.
5. TOP/COMPRESSION CONVEYOR, 2 HP.
6. FOUR COMPARTMENT BIN HOPPER
7. BLENDER/SEPARATOR.
8. WET MIXER, 20 HP.
9. MOLDER

Conditions:

- 1) OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
- 2) THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
- 3) THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE GRINDER, AIR SEPARATOR, BLENDER/SEPARATOR, WET MIXER, AND MOLDER ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT BY THE EXECUTIVE OFFICER.

ORIGINAL



AQMD

PERMIT TO OPERATE

CONTINUATION OF PERMIT TO OPERATE

- 4) EXCEPT WHEN METHYLENE BISPHENYL DIISOCYANATE (MDI) IS USED IN PLACE OF TOLUENE DIISOCYANATE (TDI), THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE WET MIXER AND MOLDER ARE VENTED ONLY TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT BY THE EXECUTIVE OFFICER.
- 5) THE TOTAL AMOUNT OF MATERIALS PROCESSED BY THIS EQUIPMENT SHALL NOT EXCEED 5,085,000 IN ANY ONE MONTH.
- 6) THE TOTAL AMOUNT OF TDI PREPOLYMER PROCESSED BY THIS EQUIPMENT SHALL NOT EXCEED 560,000 POUNDS IN ANY ONE MONTH.
- 7) THE OPERATOR SHALL KEEP RECORDS OF THE MONTHLY AMOUNT OF TDI PREPOLYMER PROCESSED THROUGH THIS EQUIPMENT AND MONTHLY TDI EMISSIONS WHICH IS TO BE CALCULATED USING 0.265 POUNDS OF TDI EMISSION FOR EVERY 1,000 POUNDS OF TDI PREPOLYMER PROCESSED THROUGH THIS EQUIPMENT.
- 8) THE TOTAL AMOUNT OF TDI EMISSIONS FROM THIS FACILITY SHALL NOT EXCEED 1,890 POUNDS IN ONE YEAR WHICH IS CALCULATED BY ACCUMULATING THE MONTHLY EMISSION RECORDS AS SPECIFIED UNDER CONDITION NO. 7 ABOVE.
- 9) THE OPERATOR SHALL KEEP ADEQUATE RECORDS TO DEMONSTRATE COMPLIANCE WITH CONDITION NOS. 5, 6, 7, AND 8. SUCH RECORDS SHALL BE RETAINED AT FOR LEAST TWO YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M. Bailey/rs04
7/29/2003

ORIGINAL



South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
PERMIT TO CONSTRUCT/OPERATE

Page 1
Permit No.
G46661
A/N 592188

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

ID 7730

**Legal Owner
or Operator:**

CARPENTER CO
P O BOX 7788
RIVERSIDE, CA 92513-7788

Equipment Location: 7809 LINCOLN AVE, RIVERSIDE, CA 92504-4497

Equipment Description :

Air Pollution Control System consisting of:

1. Carbon Adsorption Canister, Camfil, Model VDB/35/31, 20'L × 10'W × 9'H., with 21,500 Pounds Activated Carbon and a Pre-Filter.
2. Exhaust System with a 125 HP Blower venting Polyurethane Foam (Slabstock) Manufacturing System and Wet Mixer of the Polyurethane Foam Reprocessing System.

Conditions :

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
2. This equipment shall be properly maintained and kept in good operating condition at all times.
3. The TDI emissions concentration at the exhaust outlet of the carbon adsorption system shall not exceed 125 parts per billion in volumes (ppbv).
4. The spent carbon shall be disposed of by a licensed recycler to a permitted disposal facility.
5. The operator shall measure and record TDI concentrations under the following conditions:
 - A. The operator shall perform the TDI concentration measurements at the outlet of the carbon adsorption system.
 - B. The operator shall perform the TDI concentration measurements at the time when the flexible polyurethane foam (slabstock) manufacturing system and/or the wet mixer of the polyurethane foam reprocessing system is in operation.
 - C. The operator shall perform the TDI concentration measurements using a monitoring device with a TDI detection range of 0-200 ppb in volumes, and a minimum accuracy of $\pm 15\%$ of reading ± 1 ppb.
 - D. The operator shall perform the TDI concentration measurements at least two times in an operation day.

ORIGINAL



PERMIT TO CONSTRUCT/OPERATE

- E. The emission monitoring equipment shall be maintained and calibrated according to the manufacturer's specifications.
6. The operator shall replace the activated carbon in the carbon adsorption canister whenever a TDI concentration measurement obtained at the outlet of the carbon adsorption system is greater than 125 ppb.
7. The operator shall install and maintain an operation non-resettable totalizing time meter on the blower (display reading shall be readily available) to determine this equipment elapsed operation time.
8. The operator shall perform at least one active carbon capacity test to monitor the remaining carbon service life every 1,035 blower operation hours, or within the number of blower operation hours as follows:
- Number of blower operation hours between the two carbon activity tests = $4,140 \text{ hours} \times (R - 25\%)$
- Where:
R = % of the remaining carbon service life resulted from the most recent carbon capacity test, or
R = 100% when the canister is replaced with the fresh activated carbon
9. The operator shall replace the activated carbon in the carbon adsorption canister within 1,035 blower operation hours after a test result has indicated the remaining adsorption capacity is less than a quarter ($\frac{1}{4}$) of its original capacity.
10. The operator shall maintain adequate records to verify compliance with condition nos. 5, 6, 8 and 9 above. Such records shall be kept on the premises for at least two years and be made available to the executive officer or his representative upon request. The records shall include, at minimum, the following information:
- A. The TDI concentration from the outlet of the adsorption system.
 - B. The TDI concentration measurement time and date.
 - C. The date and blower operation hours at time of the active carbon capacity test.
 - D. The carbon capacity test results.
 - E. The date and blower operation hours at time of the active carbon was replaced.
 - F. The reason(s) for the replacement of activated carbon.

ORIGINAL



NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer

A handwritten signature in black ink that reads "Dorris M. Bailey". The signature is written in a cursive, flowing style.

By Dorris M. Bailey/SJ02
5/27/2017

ORIGINAL



PERMIT TO OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner
or Operator:

CARPENTER CO
P O BOX 7788
RIVERSIDE, CA 92513-7788

ID 7730

Equipment Location: 7809 LINCOLN AVE, RIVERSIDE, CA 92504-4497

Equipment Description :

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. WET ELECTROSTATIC SCRUBBER, PERFHLEX USA LTD., MODEL NO. TAS 55-7500, 35'-0" L. X 8'-0" W. X 16'-0" H., AND TWO 100-HP AND ONE 7½-HP WATER PUMPS.
2. EXHAUST SYSTEM WITH 125-HP BLOWER VENTING THE MOLDER OF THE POLYURETHANE FOAM REPROCESSING SYSTEM.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS EQUIPMENT SHALL NOT BE OPERATED AT A WATER PRESSURE OF LESS THAN 15 PSIG.
4. THE OPERATOR SHALL INSTALL AND MAINTAIN A PRESSURE GAUGE TO ACCURATELY INDICATE THE WATER PRESSURE DURING OPERATION OF THIS EQUIPMENT.
5. THE SPENT WASTE WATER SHALL BE DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATORY REQUIREMENTS. IF IT IS DETERMINED TO BE HAZARDOUS, A HAZARDOUS WASTE TRANSPORTER SHALL HANDLE THE PROPER DISPOSAL OF ANY AND ALL WASTE FROM THIS EQUIPMENT.
6. THE OPERATOR OF THIS EQUIPMENT SHALL CONDUCT SOURCE TESTS IN ACCORDANCE WITH THE FOLLOWING CONDITIONS:
 - A. AT LEAST ONE SOURCE TEST SHALL BE CONDUCTED FOR EVERY 8,142,074 POUNDS OF TDI PROCESSED IN THE MOLDER OF THE POLYURETHANE FOAM REPROCESSING SYSTEM.

ORIGINAL



PERMIT TO OPERATE

- B. THE SOURCE TEST SHALL BE CONDUCTED TO VERIFY COMPLIANCE WITH THE TDI EMISSION RATE SPECIFIED BY THE PERMIT TO OPERATE FOR THE POLYURETHANE FOAM REPROCESSING SYSTEM.
 - C. SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH A SOURCE TEST PROTOCOL PREVIOUSLY APPROVED BY THE DISTRICT.
7. THE OPERATOR SHALL MAINTAIN ADEQUATE RECORDS TO VERIFY COMPLIANCE WITH CONDITION NO. 6 ABOVE. SUCH RECORDS SHALL BE KEPT ON THE PREMISES FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO THE EXECUTIVE OFFICER OR HIS REPRESENTATIVE UPON REQUEST.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M. Bailey/SJ02

3/6/2012

ORIGINAL

**PERMIT TO OPERATE**

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D22228 A/N 208120 Page 1
--

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

**Legal Owner
Or Operator:**

E.R. CARPENTER CO., INC.
P.O. BOX 7788
RIVERSIDE, CA 92513
ATTN: WAYNE H. MILLER

ID 007730

Equipment

located at: 7809 LINCOLN AVENUE, RIVERSIDE, CA 92513

Equipment Description:

INTERNAL COMBUSTION ENGINE, CUMMINS, DIESEL-FUELED, MODEL NO. NT-280-IF, SERIAL NO. 10228403, 6 CYLINDERS, FOUR CYCLE, TURBO-CHARGED, 255 BHP, WITH 1 EXHAUST.
--

Conditions:

1. Operation of this equipment must be conducted in compliance with all data and specifications submitted with the application under which this Permit is issued unless otherwise noted below.
2. This equipment must be properly maintained and kept in good operating conditions at all times.
3. The ignition timing of this engine shall be inspected, adjusted, and certified at a minimum of once every three years of operation. Inspections, adjustments, and certifications must be performed by a qualified mechanic and done in accordance with the engine manufacturer's specifications and procedures.

ORIGINAL



PERMIT TO OPERATE

9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No.
D22228
A/N 208120
Page 2

CONTINUATION OF PERMIT TO OPERATE

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY MUST BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Raquel Puerta/Creighton
May 22, 1990

ORIGINAL



PERMIT TO OPERATE
9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No. D43309 A/N 217581 Page 1

This initial permit shall be renewed by 11/01 ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

**Legal Owner
Or Operator:**

E.R. CARPENTER CO., INC.
P. O. BOX 7788
RIVERSIDE, CALIFORNIA 92513
ATTN: WAYNE H. MILLER

ID 7730

Equipment

located at: 7809 LINCOLN AVENUE, RIVERSIDE, CA. 92504

Equipment Description:

INTERNAL COMBUSTION ENGINE, CUMMINS, DIESEL-FUELED, EMERGENCY FIRE WATER PUMP DRIVER, MODEL NO. NT-280-IF, S/N 10227170, TURBOCHARGED, 6 CYLINDERS, FOUR CYCLE, 255 BHP, WITH 1 EXHAUST.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. AN ELAPSED TIME METER SHALL BE INSTALLED/MAINTAINED, SO AS TO INDICATE IN CUMULATIVE HOURS, THE AMOUNT OF TIME THE ENGINE HAS OPERATED.
4. THE ENGINE IS LIMITED TO AN OPERATING SCHEDULE OF NO MORE THAN 13.8 HOURS IN ANY ONE DAY AND NO MORE THAN 125 HOURS (CUMULATIVE) IN ANY ONE CALENDAR YEAR UNLESS ADDITIONAL HOURS ARE OTHERWISE AUTHORIZED BY THE EXECUTIVE OFFICER. THIS EQUIPMENT SHALL ONLY OPERATE DURING MAINTENANCE TESTING, PERFORMANCE TESTING, OR IN CASES OF EMERGENCY.
5. THE UNCONTROLLED EMISSION RATE OF REACTIVE ORGANIC GASES SHALL NOT EXCEED 0.45 LB/HR; THE UNCONTROLLED EMISSION RATE OF OXIDES OF NITROGEN SHALL NOT EXCEED 6.57 LB/HR.
6. AN OPERATING RECORD OF THIS EQUIPMENT SHALL BE MAINTAINED IN A FORMAT APPROVED IN WRITING BY THE DIRECTOR OF ENFORCEMENT. THE RECORD SHALL INCLUDE, AT A MINIMUM, THE HOURS AND DAYS OF OPERATION AND THE QUANTITY OF FUEL USED. THE OPERATING RECORD SHALL BE KEPT FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE UPON REQUEST OF DISTRICT PERSONNEL.

ORIGINAL



PERMIT TO OPERATE
9150 FLAIR DRIVE, EL MONTE, CALIFORNIA 91731

Permit No.
D43309
A/N 217581
Page 2

CONTINUATION OF PERMIT TO OPERATE

7. FUEL OIL SUPPLIED TO THIS ENGINE SHALL BE NO. 2 OR LIGHTER GRADE AS DESCRIBED BY THE LATEST ASTM SPECIFICATIONS AND SHALL HAVE A SULFUR CONTENT OF NOT MORE THAN 0.05% BY WEIGHT.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M. Bailey/eb
September 24, 1991

ORIGINAL



AQMD

APR 04 2002

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

PERMIT TO OPERATE

page 1
Permit No.
F49010
A/N 335120

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner
or Operator:

CARPENTER CO
P O BOX 7788
RIVERSIDE, CA 92513

ID 007730

Equipment Location: 7809 LINCOLN AVE RIVERSIDE CA 92504 4497

Equipment Description:

POLYESTER FIBER GARNETTING AND BONDING SYSTEM CONSISTING OF:

1. THREE BALE FEEDERS, EACH WITH AN OPENER, A BEATER, AND A VERTICAL FINE OPENER, MODEL M10X60, FIBER CONTROLS CORP.
2. THREE PNEUMATIC TRANSFER BLOWERS, EACH 5 HP.
3. VERTICAL FINE OPENER WITH EXTENDED FEED TABLE, MODEL 310VFOX60W, FIBER CONTROLS CORP.
4. RESERVE BLENDING BOX WITH TWO BLOW-IN HOODS AND TWO TRANSFER BLOWERS, EACH 5HP, FIBER CONTROL CORP.
5. VIBRATING CHUTE HOPPER-FEEDER, SPINNBAU BREMEN.
6. FIBER CARDING (GARNETTING) MACHINE, MODEL DOUBLE DOFFER CARD TYPE 1866, SPINNBAU BREMEN.
7. TOPLINER, MODEL CL-4004, AUTEFA.
8. LAP DRAFTING, MODEL LAP DRAWING FRAME, TYPE VSTG-4, SPINNBAU BREMEN.
9. THERMAL BONDING OVEN, MODEL VARIO AIR WE, FLEISNER, INC., WITH THREE CYCLOMAX, LOW NOX GAS BURNERS, EACH 1,600,000 BTU PER HR.
10. CUTTING AND ROLL-UP MACHINE, FLEISSNER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIME.

ORIGINAL



PERMIT TO OPERATE

CONTINUATION OF PERMIT TO OPERATE

3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS THE GARNETTING SECTION IS VENTED ONLY TO THE AIR POLLUTION CONTROL SYSTEM WHICH IS IN FULL USE AND WHICH HAS BEEN ISSUED A PERMIT TO OPERATE BY THE EXECUTIVE OFFICER.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

A handwritten signature in cursive script that reads "Dorris M. Bailey".

By Dorris M. Bailey/PIRP
2/13/2002

ORIGINAL



Group III Unit
Installed 12/21/12

PERMIT TO CONSTRUCT/OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Source test every 5 years

Legal Owner
or Operator:

CARPENTER CO
P O BOX 7788
RIVERSIDE, CA 92513-7788

ID 7730

Equipment Location: 7809 LINCOLN AVE, RIVERSIDE, CA 92504-4497

Equipment Description :

BOILER, CLAYTON, WATER-TUBE TYPE, MODEL SFG200M-1FMB-SE, WITH A LOW NOX BURNER, MODEL UH-33887, 7,876,471 BTU PER HOUR, NATURAL GAS FIRED, WITH A 15-HP COMBUSTION AIR BLOWER.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS EQUIPMENT SHALL EMIT NO MORE THAN 9 PPM OF OXIDES OF NITROGEN (NOX), CALCULATED AS NO₂, AND NO MORE THAN 100 PPM OF CARBON MONOXIDE (CO), ALL MEASURED BY VOLUME ON A DRY BASIS AT 3% O₂.
4. THIS EQUIPMENT SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULE 1146.
5. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT SOURCE TESTS UNDER THE FOLLOWING CONDITIONS:
 - A. THE SOURCE TESTS SHALL BE CONDUCTED NO LATER THAN 180 DAYS AFTER THE INITIAL START-UP OF THIS EQUIPMENT UNLESS OTHERWISE APPROVED IN WRITING BY THE DISTRICT.
 - B. THE SOURCE TESTS SHALL BE CONDUCTED TO VERIFY COMPLIANCE WITH THE NOX AND CO EMISSION LIMITS SPECIFIED IN CONDITION NO. 3, ABOVE.
 - C. SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SCAQMD METHOD 100.1.

ORIGINAL



PERMIT TO CONSTRUCT/OPERATE

- D. THE TESTS SHALL BE CONDUCTED WHILE THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND NORMAL FIRING RATES. THE SAMPLING TIMES SHALL BE AT LEAST 15 CONSECUTIVE MINUTES FOR MAXIMUM AND MINIMUM LOADS AND AT LEAST 30 CONSECUTIVE MINUTES FOR NORMAL OPERATING LOAD.
 - E. TWO COMPLETE COPIES OF THE SOURCE TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT [ADDRESSED TO SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, P.O. BOX 4941, DIAMOND BAR, CA 91765] WITHIN 45 DAYS AFTER THE SOURCE TESTING DATE. THE SOURCE TEST REPORT SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, EMISSIONS RATE IN POUNDS PER HOUR AND CONCENTRATION IN PPMV AT THE OUTLET OF THE BOILER.
 - F. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANTS TO BE MEASURED, AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TEST.
 - G. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.
6. THE OPERATOR SHALL NOT OPERATE THE BOILER AT THIS FACILITY UNDER PERMIT TO OPERATE (D93227). ONCE THIS EQUIPMENT IS CONSTRUCTED AND OPERATING, THE BOILER UNDER PERMIT TO OPERATE (D93227) SHALL BE REMOVED AND THE PERMIT TO OPERATE (D93227) SHALL BE INACTIVATED.
7. THE OPERATOR SHALL MAINTAIN ADEQUATE RECORDS TO VERIFY COMPLIANCE WITH CONDITION NO. 3 ABOVE. SUCH RECORDS SHALL BE KEPT ON THE PREMISES FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO THE EXECUTIVE OFFICER OR HIS REPRESENTATIVE UPON REQUEST.

ORIGINAL



PERMIT TO CONSTRUCT/OPERATE

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

A handwritten signature in cursive script that reads "Dorris M. Bailey".

By Dorris M. Bailey/SJ02

9/19/2012

ORIGINAL