RULE 1402 RISK REDUCTION PLAN

Bowman Plating Co. Inc. > Compton, CA

Bowman Plating Company
aerospace division

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS / ACRONYMS

AB2588	Air Toxics "Hot Spots" Information and Assessment Act
AERMOD	American Meteorological Society Regulatory Model
AMS	American Meteorological Society
AER	Annual Emissions Report
BPIPPRIME	Building Profile Input Program PRIME
CARB	California Air Resources Board
CAS	Chemical Abstract System
CPF	Cancer Potency Factors
DTSC	Department of Toxic Substances Control
GIS	Geographic Information System
HARP	Hot Spots Analysis and Reporting Program
HI	Hazard Index
HIA	Acute Hazard Index
HIC	Chronic Hazard Index
HRA	Health Risk Assessment
NED	National Elevation Datasets
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
MICR	Maximum Individual Cancer Risk
OEHHA	Office of Environmental Health Hazard Assessment
PM	Particulate Matter
PMI	Point of Maximum Impact
REL	Reference Exposure Level
RRP	Risk Reduction Plan
RfD	Reference Dose
SCAQMD	South Coast Air Quality Management District
TAC	Toxic Air Contaminants
URF	Unit Risk Factor
USEPA	United States Environmental Protection Agency USGS United States Geological Survey
UTM	Universal Transverse Mercator
ZOI	Zone of Impact

LIST OF KEY DEFINITIONS

- 2003 OEHHA Guidelines - Office of Environmental Health Hazard Assessment (OEHHA), Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003
- 2015 OEHHA Guidelines - Office of Environmental Health Hazard Assessment (OEHHA), Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015
- Action Risk Level - An MICR of twenty-five in one million (25×10^{-6}), a total acute hazard index (HIA) of 3.0, or chronic hazard index (HIC) of 3.0 for any target organ system at any receptor location
- 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 Burden - Cancer burden is the estimated number of theoretical cancer cases in a defined population resulting from lifetime exposure to pollutants emitted from a facility.

- 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.
- Cancer Health Impacts - An exposure to a carcinogenic substance that causes an increase in the likelihood for cancer in the exposed individual.
- 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.
- Maximum Individual Cancer Risk (MICR) - The estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminants calculated pursuant to applicable OEHHA and SCAQMD health risk assessment procedures.
- Multipathway Substances - A substance or chemical that once airborne from an emission source can, under environmental conditions, be taken into a human receptor by inhalation and by other non-inhalation exposure routes, such as deposition on skin or ingestion of soil contaminated by the emission.
- Risk Reduction Measure - A control measure which will reduce or eliminate the health risk associated with emissions of toxic air contaminants, is real, permanent, quantifiable, and enforceable through District permit conditions if applicable. Risk reduction measures may include, but are not limited to feedstock modification; product reformulations; production system modifications; system enclosure, emissions control, capture or conversion; operational standards or practices modifications; emissions collection and exhaust; source control; or alternative technologies.
- Significant Risk Level - An MICR of one hundred in one million (1.0 x 10-4), a total acute hazard index (HIA) of 5.0, or chronic hazard index (HIC) of 5.0 for any target organ system at any receptor location

1. EXECUTIVE SUMMARY

On behalf of Bowman Plating Co. Inc. (Bowman), Trinity Consultants, Inc. (Trinity) has prepared this Rule 1402 Risk Reduction Plan (RRP) for Bowman's facility (Facility ID #18989) located at 2631 East 126th Street in the city of Compton, California. In accordance with AB 2588 and SCAQMD Rule 1402, Bowman has prepared this RRP in response to SCAQMD's notice dated December 11, 2015, and a subsequent notice by the SCAQMD dated September 15, 2016.

1.1. PROJECT OVERVIEW

On October 24, 2014, Bowman prepared and submitted a Health Risk Assessment (HRA) based on its reported emissions for Calendar Year 2013 (2013 HRA). As per SCAQMD requirements, Bowman was required to prepare the 2013 HRA utilizing the applicable state and local regulatory guidance for health risk assessments in effect at that time, which were the *2003 OEHHA Guidelines*. Per H&S Code 44362 (a), the SCAQMD is required to approve (or return for revision and resubmission) an HRA prepared pursuant to AB 2588 within one (1) year of receipt.

On November 24, 2015, the SCAQMD approved the 2013 HRA (refer to Appendix A), and revised the cancer risk estimates for the Bowman facility. Subsequently, the SCAQMD issued an amended approval letter for the 2013 HRA dated December 11, 2015 (refer to Appendix A), which included further revisions to the stated cancer risk estimates. The SCAQMD based its revised cancer risk estimates on the *2015 OEHHA Guidelines*, which were adopted in February 2015 and incorporated into local SCAQMD supplemental guidance in June 2015. The *2015 OEHHA Guidelines* included numerous substantive changes in the State of California's health risk procedures and modeling assumptions, which were anticipated to increase future cancer risk estimates for regulated air pollution sources throughout the state. Although the *2015 OEHHA Guidelines* were not applicable to the 2013 HRA, the SCAQMD retroactively applied these guidelines nevertheless, which greatly increased the estimated cancer risk in the 2013 HRA. The cancer risk increases claimed by the SCAQMD were strictly the result of changes in state policy relating to health risk assessment in the *2015 OEHHA Guidelines*, and were not due to increased emissions, production changes nor any other substantive actions by Bowman relating to its 2013 HRA nor its reported emissions for Calendar Year 2013.

Between the respective HRAs prepared by Bowman and SCAQMD revisions, there was agreement that over 90% of the cancer risks were due to emissions of hexavalent chrome from the facility spray booths. However, the SCAQMD revisions to the 2013 HRA significantly increased the cancer risk estimates for the Maximum Exposed Individual Resident (MEIR) above Rule 1402 Action Risk Levels. Bowman disputed these SCAQMD revised cancer risk estimates on numerous procedural and substantive grounds (refer to Appendix A). Irrespective, the SCAQMD required the distribution of an AB 2588 public notice for affected receptors near the facility, which Bowman completed and verified on February 5, 2016 (refer to Appendix A). As per the distributed public notice, a community meeting was subsequently held by the SCAQMD on February 9, 2016. In its amended approval letter dated December 11, 2015, the SCAQMD also required Bowman to prepare this RRP per the requirements of Rule 1402 to address the agency's revised cancer risk impacts for the 2013 HRA.

In response to the SCAQMD's letter dated December 11, 2015, Bowman submitted its original RRP in June 2016. In its letter dated September 15, 2016, the SCAQMD rejected the submitted RRP for specified reasons and required amendments to the RRP (refer to Appendix A). Further, the SCAQMD approved an extension to file this amended RRP to October 26, 2016 (refer to Appendix A).

1.2. FACILITY RISK CHARACTERIZATION

Per applicable Rule 1402 requirements, this RRP contains a complete facility risk characterization, including, an updated HRA based on the most recent available facility emissions data for Calendar Year 2015 (2015 HRA or Updated HRA). To ensure consistency in the evaluation of health risk impacts, this updated HRA could have utilized the *2003 OEHHA Guidelines*, which applied to the 2013 HRA. However, for purposes of this RRP only, the enclosed updated HRA utilized the *2015 OEHHA Guidelines*, which is far more conservative in its modeling assumptions and would result in significantly higher cancer risk estimates. As a consequence, if the planned risk reduction measures in this RRP reduces cancer risks below Action Risk Levels utilizing the *2015 OEHHA Guidelines*, a similar result is anticipated had the *2003 OEHHA Guidelines* been used.

The Updated HRA utilized the Hot Spots Analysis and Reporting Program Version 2 (HARP2) and air dispersion modeling output from the most recent version of 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.

Bowman operates spray booths, process tanks and combustion sources (permits provided in Appendix C). Based on the 2013 HRA submitted by Bowman and 2013 HRA approved by the SCAQMD, emissions of hexavalent chromium from the spray booths constitutes over 90% of the cancer risk impacts for MEIR and MEIW. For purposes of the Updated HRA, emissions data was based on the 2015 Annual Emissions Report (2015 AER) submitted by Bowman. Risk reduction measures were evaluated and specified for the spray booths, which are the main driver of cancer risks. Expedited applications were submitted in February 2016 to modify operating permits providing for Ultra Low Particulate Air (ULPA) filters on the spray booths emitting chrome. While these spray booths currently utilize HEPA filters, the upgraded ULPA filters will provide 99.999% control efficiency for hexavalent chrome emissions. The facility risk characterization and post-implementation health risk assessment contained in this RRP applied these risk reduction measures.

1.3. SUMMARY OF RESULTS

Based on the facility risk characterization and Updated HRA, Bowman is anticipated to reduce its cancer risk impacts to less than Action Risk Levels. Table ES-1 provides a summary of all health risk impacts from this Updated HRA. Note that Rule 1402 risk reduction measures were not required for acute and chronic non-cancer risk impacts; however, the Updated HRA indicate these non-cancer health risk impacts remain well below applicable Action Risk Levels. Summary discussions of the key health risk impacts are provided below, including, Point of Maximum Impact (PMI), Maximum Exposed Individual Residence (MEIR) and Maximum Exposed Individual Worker (MEIW). For reference, Appendices D and E provide list of approximately the top 100 receptors with the highest cancer and non-cancer health impacts for residences and workers, respectively.

1.3.1. Comparison of Health Risk Results

Table ES-2 compares the various cancer risk estimates relative to the 2013 HRA, which was used as the Baseline for comparison purposes. As stated above, the submitted 2013 HRA indicated the MEIR was approximately 11 x 10^{-06} (or 11 in 1 million) based on the *2003 OEHHA Guidelines*. Subsequently, the SCAQMD's revised 2013 HRA significantly increased the MEIR impacts to 1.10 x 10^{-04} (or 110 in 1 million) based on the *2015 OEHHA Guidelines*. The SCAQMD's revised cancer risk estimates did not significantly change the MEIW impacts from Bowman's submitted 2013 HRA, which were approximately 16.6 x 10^{-06} (or 16.6 in 1 million).

As shown by Table ES-2, this Updated HRA indicates cancer risks for MEIR and MEIW have significantly declined as a result of the proposed risk reduction measures for hexavalent chrome emissions from the spray booths. The updated MEIR and MEIW cancer risks are 5.01 x 10^{-06} and 4.33 x 10^{-07}, respectively. These updated cancer

risk estimates are based on the *2015 OEHHA Guidelines*, which indicate the post-implementation cancer risks for Bowman are substantially lower than the 2013 HRA, and well below Rule 1402 Action Risk Levels. As shown by Table ES-2, the MEIR and MEIW for chronic and acute health hazards (HIA and HIC) also remain well below Rule 1402 Action Risk Levels. Further details on the results of the Updated HRA are summarized below.

1.3.2. Maximum Carcinogenic Risks

Table 1 summarizes the key results of this Updated HRA for cancer risk. Figure 7a identifies the location of the PMI, MEIW and MEIR. For the MEIW and MEIR, emissions of hexavalent chromium from the spray coating operation still constitute well over 85% of the contribution to excess cancer risk, however, the overall facility cancer risk has been significantly reduced since the 2013 HRA. Cancer risk isopleths for residences are shown on Figure 8a. Key results for PMI, MEIR and MEIW are as follows:

- The PMI (Receptor #2289, UTM 386792E 3753792N) for carcinogenic health risks is located on the facility fence line (northeast side of property) with a predicted excess cancer risk of 7.26×10^{-06}.
- The MEIR (Receptor #2280, UTM 386766E 3753797N) for carcinogenic health risk is located towards the northeast of the facility on a nearby property across an alley from the Bowman facility, which has a predicted excess cancer risk of 5.01×10^{-06}. Per its approval letter for the 2013 HRA and subsequent discussions with agency staff, the SCAQMD has claimed this property is a residential home, which has not been confirmed. However, as shown on Figure 5a, per Los Angeles County Department of Regional Planning, the immediate areas surrounding the Bowman facility is zoned for M-1 and extends north to 124th Street and south to 127th Street. Per county requirements, zone M-1 is light manufacturing with permitted uses for light manufacturing, and prohibitions for residential and school uses.
- The MEIW (Receptor #2289, UTM 386792E 3753792N) for carcinogenic health risks is located on the facility fenceline with an estimated excess cancer risk of 4.33×10^{-07}. The nearest commercial receptor is approximately 5 meters northeast of the facility boundary, and the next nearest receptor is 20 meters.

Estimated cancer risks for MEIW and MEIR are both below 25 in 1 million, which is the Action Risk Level as defined by SCAQMD Rule 1402. Moreover, the values for the MEIR and MEIW do not exceed 1×10^{-5} (or 10 in 1 million), which the SCAQMD requires the distribution of public notices pursuant Rule 1402. No sensitive receptors exist in the zone of impact for cancer risks. Census tracts were included in the zone of impact (ZOI), e.g., boundary in which the lifetime cancer risk is greater than 1×10^{-6}. Census maps are shown on Figures 6a and 6b. Since carcinogenic risk were above 1 in 1 million, cancer burden for affected populations was estimated to be 0.00102. Sensitive receptors were modeled, however these locations were outside of the cancer ZOI.

1.3.3. Chronic Noncarcinogenic Health Hazards

Table 1 summarizes the results of this HRA for chronic noncancer health hazards. The PMI (Receptor #2289, UTM 386792E 3753792N) for chronic noncancer health effects is located on the facility fence line (northeast side of property) with a predicted excess chronic hazard of 1.15×10^{-02}. The MEIR (Receptor #2280, UTM 386766E 3753797N) for chronic noncancer health effects is located north of the facility boundary lines with a predicted excess chronic hazard of 7.33×10^{-03}. The MEIW (Receptor #2289, UTM 386792E 3753792N) chronic noncancer health effects is located on the facility fence line with a predicted excess chronic risk of 1.15×10^{-02}.

With respect to the MEIW, the land is zoned for commercial/industrial use and is currently occupied. As similar to the MEIR for cancer risk as discussed above, this receptor point (#2280) is unconfirmed as a residential property. Irrespective, the MEIW and MEIR do not exceed the chronic hazard index of 3.0, which is the Action Risk Level as defined by Rule 1402(c)(2). Moreover, the values for the MEIR and MEIW do not exceed the chronic hazard index of 1.0, which the SCAQMD requires the distribution of public notice pursuant to Rule 1402.

1.3.4. Acute Noncarcinogenic Health Hazards

Table 1 summarizes the results of this HRA for acute noncancer health hazards. The PMI (Receptor #2297, UTM 386766E 3753752N) for acute noncancer health effects is located on the facility fence line (northeast side of property) with a predicted excess acute hazard risk of 1.41×10^{-02}. The MEIR (Receptor #2280, UTM 386766E 3753797N) for acute noncancer health effects is located southeast of the facility boundary lines with a predicted excess acute hazard risk of 1.36×10^{-02}. The MEIW (Receptor #2297, UTM 386766E 3753752N) for acute noncancer health effects is located on the facility fence line with a predicted excess acute hazard risk of 1.41×10^{-02}. The MEIW and MEIR do not exceed the acute hazard index of 3.0, which is the Action Risk Level as defined by Rule 1402(c)(2). Moreover, the values for the MEIR and MEIW do not exceed the acute hazard index of 1.0, which the SCAQMD requires the distribution of public notice pursuant to Rule 1402.

2. INTRODUCTION

In response to an SCAQMD notice, this Risk Reduction Plan (RRP) was prepared pursuant to California Air Resources Board Air Toxics Hot Spots Program (Hot Spots Program), which is implemented per the requirements of California Assembly Bill 2588 (AB 2588). SCAQMD Rule 1402 implements the key requirements of AB 2588, which is intended to reduce the health risk associated with emissions of toxic air contaminants from existing sources by specifying limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI). Further, Rule 1402 requires applicable facilities to implement risk reduction plans to achieve specified risk limits, as required by the Hot Spots Program. This RRP contains the required plan elements to satisfy the requirements of SCAQMD Rule 1402, as described herein.

2.1. APPLICABLE REQUIREMENTS

SCAQMD 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. SCAQMD Rule 1402 specifies the following key requirements:

- Public Notification - The SCAQMD 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 SCAQMD 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, HIC = 3.0 or HIA = 3.0
- Significant Risk Levels - The SCAQMD considers the following health risk impacts of affected populations to be significant: MICR = 100 in 1 million, HIC = 5.0 or HIA = 5.0
- Risk Reduction Plan (RRP) - Rule 1402 specifies the following minimum plan elements for submittal of RRPs for subject facilities: (1) Facility Identification; (2) Facility Risk Characterization; (3) Identification of sources requiring risk reduction; (4) Evaluation of risk reduction measures for applicable sources; (5) Specification of selected risk reduction measures for applicable sources; (6) Implementation schedule; (7) Time extensions, if required; (8) Estimation of residual health risk; and (9) Proof of certification.

As per Rule 1402 (g)(2), if the RRP contains a facility risk characterization demonstrating to the satisfaction of the Executive Officer that the facility does not exceed the Action Risk Levels, the RRP may be approved without the inclusion of the minimum plan elements described above.

2.2. BACKGROUND

In June 2007, Bowman prepared an AB 2588 HRA (the "2007 HRA") which was subsequently approved by the SCAQMD. Based on the results of the 2007 HRA, Bowman was required to perform public notification, however, health risk impacts were determined to be less than Action Risk Levels. Based on filed AERs for Reporting Years 2011 to 2013, the SCAQMD notified Bowman to prepare an updated HRA to reflect current operations. In response, Bowman reviewed its prior AERs and filed corrections citing one error in reported air toxic emissions, which included an erroneous control efficiency for its HEPA filters. Bowman submitted corrected AERs for Reporting Years 2009 to 2013. As a result, the reported emissions were substantially higher than otherwise reflected by actual operations. Irrespective, the SCAQMD required Bowman to prepare an HRA based on facility operations for Calendar Year 2013, which Bowman prepared and submitted on October 24, 2014 (the "2013

HRA"). The preparation of the 2013 HRA utilized applicable state regulatory guidance in effect at that time, which were the *2003 OEHHA Guidelines*.

On November 24, 2015, the SCAQMD approved the 2013 HRA (refer to Appendix A), and revised the cancer risk estimates for the Bowman facility. Subsequently, the SCAQMD issued an amended approval letter for the 2013 HRA dated December 11, 2015 (refer to Appendix A), which included further revisions to the cancer risk estimates. The SCAQMD based its revised cancer risk estimates on the *2015 OEHHA Guidelines*. Bowman disputed the SCAQMD revisions to its 2013 HRA on procedural and substantive grounds (refer to Appendix A). Nevertheless, the SCAQMD required the distribution of a public notice for affected receptors near the facility, which Bowman completed and verified on February 5, 2016 (refer to Appendix A). As per the distributed public notice, a community meeting was subsequently held by the SCAQMD on February 9, 2016 in which interested members of the public were present. In its amended approval letter, the SCAQMD also required Bowman to prepare a RRP per the requirements of Rule 1402 to address the revised Maximum Individual Cancer Risk (MICR) impacts reported in the 2013 HRA.

Between the respective HRAs prepared by Bowman and SCAQMD revisions, there was agreement that over 90% of the cancer risks resulted from hexavalent chrome emissions. Further, there was agreement that over 90% of the cancer risk resulted from the spray booth operations. However, the SCAQMD significantly increased the cancer risk estimates for the Maximum Exposed Individual Resident (MEIR) above Action Risk Levels based on its use of the *2015 OEHHA Guidelines*, which were adopted the following year after Bowman submitted its 2013 HRA. The *2015 OEHHA Guidelines* included numerous substantive changes in the State of California's health risk procedures and modeling assumptions, which were anticipated to increase future cancer risk estimates for regulated air pollution sources throughout the state. Although the *2015 OEHHA Guidelines* were not applicable to the 2013 HRA, the SCAQMD's retroactively applied these guidelines nevertheless, which greatly increased the estimated cancer risk in the 2013 HRA. The cancer risk increases claimed by the SCAQMD were the result of changes in state policy relating to health risk assessment in the *2015 OEHHA Guidelines*, and were not due to the increased emissions, production changes nor any other substantive actions by Bowman.

2.3. RISK REDUCTION PLAN ELEMENTS

As per Rule 1402, the RRP must contain minimum plan elements. The following describes the minimum plan elements, and the relevant section of this RRP where the information can be located.

Rule 1402 (f)(3)(A) The RRP must include the name, address, SCAQMD identification number and SIC code of the facility. This required facility identification can be found in Section 2.1 of this RRP.

Rule 1402 (f)(3)(B) The RRP requires a facility risk characterization which includes an updated air toxics emission inventory and health risk assessment, if the risk due to total facility emissions has increased above or decreased below the levels indicated in the previously approved health risk assessment.

Rule 1402 (f)(3)(C) The RRP must include identification of each source from which risk needs to be reduced in order to achieve a risk below the action risk level.

Rule 1402 (f)(3)(D) The RRP must include an evaluation of the risk reduction measures available for applicable sources identified in (f)(3)(C), including emission and risk reduction potential, estimated costs, and time necessary for implementation.

Rule 1402 (f)(3)(E) The RRP must specify the risk reduction measures that shall be implemented by the operator to achieve the action risk level or the lowest achievable level.

Rule 1402 (f)(3)(F) The RRP must specify a schedule for implementing the specified risk reduction measures as quickly as feasible. The schedule shall include the submittal of all necessary applications for permits to construct or modify within 180 days of approval of the plan, or in accordance with another schedule subject to approval of the Executive Officer, and specify the dates for other increments of progress associated with implementation of the risk reduction measures.

Rule 1402 (f)(3)(G) If requesting a time extension, the RRP must specify information required to demonstrate that the request meets the required criteria specified under paragraph (e)(2) and the length of time up to two years requested. This requirement does not apply to this RRP, as a time extension is not being requested.

Rule 1402 (f)(3)(H) The RRP must provide an estimation of the residual health risk after implementation of the specified risk reduction measures.

Rule 1402 (f)(3)(I) The RRP must provide proof of certification of the risk reduction plan as meeting all requirements by an individual who is officially responsible for the processes and operations of the facility.

In addition, an accompanying CD-ROM has been submitted which includes required and supplemental electronic files, including, modeling input and output files:

- AERMOD Input File (BowmanS8.ami)
- AERMOD File (BowmanS8.amz)
- AERMOD Text File (S8.txt)
- AERMAP Input and Output Text Files
- BPIP Input and Output Text Files
- AERMOD Plot Files by 1 Hour and Period by Source (.plt)
- USGS Terrain File (00206861)
- SCAQMD Met File (cmpt8)
- HARP2/ADMRT Files (data, glc, hra, plt, sa)
- HARP2/ADMRT Excel Risk Files (Cancer, Chronic, and Acute for Residential)
- HARP2/ADMRT Excel Risk Files (Cancer, Chronic, and Acute for Worker)
- HARP2/ADMRT Generated KML Files
- HARP2/ADMRT Risk Reports Text Files
- Emission Tables

As per SCAQMD Rule 1402, the RRP must contain minimum plan elements to reduce health impacts from the approved health risk assessment. This section identifies the minimum plan elements, including a discussion of the baseline health risk impacts from which risk reduction can be measured.

3.1. FACILITY IDENTIFICATION

Name:	Bowman Plating Company, Inc.
Address:	2631 East 126th Street
	Compton, California
Facility ID:	18989
SIC:	3471

3.2. BASELINE HEALTH RISKS

For purposes of this RRP, the 2013 HRA will serve as initial baseline to evaluate the extent of health risk reductions required to meet Action Risk Levels. The following discusses the health risk impacts that were reported in the 2013 HRA:

- On October 24, 2014, Bowman submitted its 2013 HRA which estimated health risk impacts based upon the *2003 OEHHA Guidelines*. Table 1 summarizes the results of the 2013 HRA for cancer risks, chronic hazards and acute hazards, which includes the PMI, MEIR and MEIW for all health risk impacts. As shown by Table 1, chronic and acute hazard indices are well below Action Risk Levels, and therefore, an RRP was not deemed required to address these health risk impacts. For carcinogenic health risks, the MEIR and MEIW were estimated to be 11 in 1 million and 16.70 in 1 million, respectively. The 2013 HRA indicated that over 90% of the cancer risks were caused by hexavalent chromium emissions from the spray booth stacks.
- On November 24, 2015, the SCAQMD issued an initial approval of the 2013 HRA (refer to Appendix A). In its initial approval, the SCAQMD revised the results of the 2013 HRA based on its use of the *2015 OEHHA Guidelines*. Based on its revised HRA results, the SCAQMD claimed a maximum cancer risk of 97.72 in 1 million for a residential receptor and 16.61 in 1 million for a worker receptor. In this approval letter, the SCAQMD further indicated that over 90% of these cancer risks were primarily caused by hexavalent chromium emissions from the spray booths.
- On December 11, 2015, the SCAQMD issued an amended approval of the 2013 HRA (refer to Appendix A). In its amended approval, the SCAQMD further revised the HRA results based on its use of the *2015 OEHHA Guidelines*. Based on this amended revised assessment, the SCAQMD claimed a maximum cancer risk of 110 in 1 million for a residential receptor and 16.6 in 1 million for a worker receptor. In its approval letter, the SCAQMD similarly indicated that over 90% of these cancer risks were primarily caused by hexavalent chromium emissions from the spray booths.

As noted above, the SCAQMD revised HRA estimates greatly increase cancer risks for the 2013 HRA. However, between the respective HRAs prepared by Bowman and SCAQMD, there was agreement that over 90% of the cancer risks resulted from the hexavalent chrome emissions. Further, there was agreement that over 90% of the cancer risk resulted from the spray booth operations.

3.3. SOURCE IDENTIFICATION

As per Rule 1402 (f)(3)(C), the RRP must include identification of each source from which risk needs to be reduced in order to achieve a risk below the action risk level. As discussed above, there was agreement by Bowman and SCAQMD that over 90% of the cancer risks in the 2013 HRA resulted from the hexavalent chrome emissions and spray booths. As a consequence, the primary sources subject to this RRP are identified below:

- Device ID No. 1 – Spray Booth (Permit No. F95562)
- Device ID No. 2 – Spray Booth (Permit No. F95563)
- Device ID No. 3 – Spray Booth (Permit No. F95564)

Note that a fourth spray booth (Device ID Nos. 4, 5, 6 and 7) was previously modeled in the 2013 HRA as a source of hexavalent chromium, which was incorrect. Permit conditions for this fourth spray booth does not allow the use of coating products with hexavalent chromium, and therefore, this device and stack(s) were removed as a source of hexavalent chromium for purposes of this RRP and updated HRA. However, this change does not affect the modeling emission rates for chrome. Irrespective, it is anticipated that risk reduction measures for the above referenced 3 spray booths will be sufficient to reduce cancer risk impacts below Action Risk Levels, which is discussed further below.

3.4. RISK REDUCTION EVALUATION

As per Rule 1402 (f)(3)(D), the RRP must include an evaluation of the risk reduction measures available for applicable sources identified in paragraph (f)(3)(C), including emission and risk reduction potential, estimated costs, and time necessary for implementation.

3.4.1. Ultra Low Particulate Filters

At the time the 2013 HRA was submitted, the subject spray booths were equipped with High Efficiency Particulate Air (HEPA) filters which provided a minimum particulate control efficiency of 99.97% for applied coating products. The 2013 HRA was based on reported chrome emissions utilizing this particulate control efficiency.

A potential risk reduction measure for these spray booths would be to upgrade the spray booths to Ultra Low Particulate Air (ULPA or Super HEPA) filters, which would increase the particulate control efficiency to 99.999% for applied coating products. The ULPA filter upgrade would significantly decrease chrome emissions and cancer risk impacts over the existing HEPA filters. By way of example, an upgrade to ULPA filters would further reduce the controlled emissions by an order of magnitude of 30 times. Cancer risk impacts are expected to be similarly reduced by the same order of magnitude to less than Action Risk Levels.

Note that as part of the same permit modification project involving the spray booths, Bowman submitted an application to install ULPA filters on a mist eliminator (Permit No. G21425) which controls hexavalent chrome emissions from its chrome anodizing tank. While this source did not significantly contribute to cancer risk impacts in the 2013 HRA (less than 1%), Bowman elected to upgrade this equipment nevertheless. The enclosed facility risk characterization and residual risk estimates also includes the incremental risk reductions from this equipment upgrade.

3.4.2. Costs and Implementation

To implement this measure, Bowman has already submitted applications to modify the permits to operate for the subject spray booths (Application Nos. 581750, 581751, 581753). Expedited permit applications were submitted to the SCAQMD on February 9, 2016, and approval is pending.

SCAQMD application fees to expedite permit processing for these spray booths equated to $10,910.84. The estimated initial capital costs to purchase the ULPA filters is approximately $40,000. Estimated annual costs for filter replacements is estimated to be $40,000 per year.

3.5. MEASURE SPECIFICATION

As per Rule 1402 (f)(3)(E), the RRP must specify the risk reduction measures implemented that will achieve the Action Risk Level. In this case, the implementation of ULPA filters are anticipated to achieve the Action Risk Levels. As previously described, the upgrade to ULPA filters will provide a 30 fold decrease in hexavalent chromium emissions and cancer risk impacts. Expedited permit applications have already been submitted for the spray booths, and operating permits are pending with the SCAQMD. ULPA filters are beyond the source specific requirements of SCAQMD Rule 1469.1, which requires the use of regular HEPA filters for spray booths with chrome emissions. Even assuming the worst case baseline cancer risk based on the SCAQMD estimates, the ULPA filters are expected to reduce these baseline cancer risks to well below 25 in 1 million, which is the Rule 1402 Action Risk Level. Given that the spray booths and hexavalent chrome are at least 90% of the cancer risk impacts, the upgrade to ULPA filters will be sufficient to achieve compliance with Rule 1402. For reference, the Updated HRA and facility risk characterization is provided in subsequent sections of this RRP, which further demonstrates the effectiveness of this risk reduction measure.

3.6. SCHEDULE

As per Rule 1402 (f)(3)(F), the RRP must specify a schedule for implementing the specified risk reduction measures as quickly as feasible. The schedule shall include the submittal of all necessary applications for permits to construct or modify within 180 days of approval of the plan, or in accordance with another schedule subject to approval of the Executive Officer, and specify the dates for other increments of progress associated with implementation of the risk reduction measures. As previously noted, SCAQMD applications to modify operating permits were already submitted on February 9, 2016. Bowman requested (and paid for) expedited permit issuance. Bowman anticipates that ULPA filters can be immediately installed once the permit modifications are approved by the SCAQMD.

3.7. TIME EXTENSION

As per Rule 1402 (f)(3)(G), if requesting a time extension, the RRP must specify information required to demonstrate that the request meets the required criteria specified under paragraph (e)(2) and the length of time up to two years requested. This requirement does not apply, as a time extension is not being requested.

3.8. RESIDUAL RISK ESTIMATE

As per Rule 1402 (f)(3)(H), the RRP must provide an estimation of the residual health risk after implementation of the specified risk reduction measures. As discussed, the post-implementation risk estimates are being provided in this facility risk characterization and updated HRA, which are summarized in the subsequent sections of this RRP. For reference, Table 1 identifies the post-implementation health risks for the facility based on the 2015 AER, which indicates residual risks will remain well below Rule 1402 Action Risk Levels. As shown by Table 1, the existing air toxic emissions can increase over four times from 2015 levels, and residual risks will still remain below Rule 1402 Action Risk Levels.

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 health risk assessment for chemicals identified as Appendix A-I Substances per AB 2588 regulations. This section provides descriptions of the facility, applicable plant processes, pollutants of concern, and emission estimates.

4.1. FACILITY DESCRIPTION

Bowman operates a 102,000 square foot industrial plant that is located at 2631 East 126th Street in Compton, California. In general, the local topography around the plant is flat terrain within an urban environmental setting. The facility is located in an unincorporated area of Willowbrook city under the jurisdiction of Los Angeles County. As shown by Figure 2 – Vicinity Map, Bowman's facility boundary is located on 126th Street and East Alameda Street. A site plot of the facility including, facility boundary, building heights and emission sources are identified on Figure 3a and 4. Bowman is located in an unincorporated area of Los Angeles County, also referred to as Willowbrook. As shown on Figure 5a, per Los Angeles County Department of Regional Planning, the immediate areas surrounding the facility is zoned for M-1 and extends north to 124th Street and south to 127th Street. Per county requirements, zone M-1 is light manufacturing with permitted uses for light manufacturing and prohibitions for residential and school uses. However, as shown on Figure 5b, some portions of the immediate surrounding areas are currently mixed uses that include residential homes combined with industrial uses, which do not conform with the designated county zoning.

4.2. PROCESS DESCRIPTION

Bowman provides various metal finishing capabilities for aerospace customers and products, including, plating, anodizing, spray coatings and others. For purposes of this HRA, the primary air toxic emission sources for Bowman's operations are as follows: four (4) spray booths, a natural gas dryer, three (3) natural gas boilers, four (4) natural gas ovens and three (3) metal finishing tanks. Emissions of regulated air toxics from Bowman's operations result from pigments and volatiles from liquid spray coating operations, volatiles from metal finishing and products of natural gas combustion.

4.2.1. Spray Booths

Bowman operates four (4) permitted SCAQMD spray booths (Permit Nos. F42974, F95562, F95563, and F95564). Figure 4 provides the location of the spray booths/stacks. Three of the spray booths apply liquid coatings per customer specifications, some of which contain regulated AB 2588 chemicals. The principal toxic of concern from these spray booths is hexavalent chromium that exists within chromated pigments, such as strontium chromate, barium chromate and others. Pigments can be emitted from the spray booths due to the overspray of coatings onto aerospace parts and components, which are then exhausted through existing roof top vertical stacks. For purposes of this Updated HRA (and post-implementation risk estimates), ULPA control efficiencies were applied to the three spray booths emitting hexavalent chrome due to the pending permit modifications. Other toxics emitted from the spray booths based on 2015 product usages include toluene, xylenes, ethyl benzene, methyl ethyl ketone, ethylene glycol butyl ether, isopropyl alcohol, and propylene glycol methyl ether.

4.2.2. Process Tanks

Bowman operates two (2) main processing tanks, including cadmium and chrome anodizing, which are permitted by the SCAQMD (Permit Nos. D56896 and G21426). Refer to Figure 4 for the location of the metal

processing tanks. Based on aerospace specifications, different metal aerospace parts are anodized or treated with chemicals for required specifications. The cadmium tank is vented through a stack. The chrome anodizing tank has a covered hood with small openings on the ends, in which air is pulled from one end to a mist eliminator (Permit No. G21425). For purposes of this updated HRA (and post-implementation risk estimates), ULPA control efficiencies were applied to the mist eliminator as well due to the pending permit modification. A nickel strike tank was modeled with emissions in the original HRA; however, after further review (and confirmation from SCAQMD emission inventory group), it was determined that this tank is not a source of nickel emissions.

4.2.3. Combustion Sources

Bowman operates several natural gas sources which are permitted and exempted. Sources include four (4) ovens, one (1) dryer and three (3) permit exempt boilers. Equipment permitted with the SCAQMD have permit numbers F98451, F42818, F42817, and F98450. AB 2588 chemicals are emitted from the combustion of natural gas from these sources. Air toxic emissions from natural gas combustion are principally benzene, formaldehyde, ammonia, naphthalene, PAHs, acetaldehyde, acrolein, propylene, toluene, xylene, ethyl benzene, and hexane. Emission factors for natural gas combustion are based on Ventura County Air Pollution Control District's AB 2588's Combustion Emission Factors.

4.3. UPDATED EMISSIONS INVENTORY

For purposes of this HRA, Trinity utilized the material usages from Bowman's amended 2015 AER, which was submitted to the SCAQMD (refer to Appendix B). For spray booth coatings, Trinity identified SCAQMD Rule 1401 toxics from the associated Safety Data Sheets. Based on this AER, emission calculations applied emission factors for estimates of pigment loss and volatiles from spray booth operations, volatile emissions from metal finishing and default AB 2588 air toxic emission factors for natural gas combustion. These processes were modeled as point sources that operate continuously during normal business hours, which are typically up to 18 hours per day, Monday through Friday, Saturday (half-day), and approximately 49 weeks per year.

Note that additional air toxic compounds were included in the spray booth permit applications submitted on February 9, 2016, which associated emissions were modeled in this updated HRA. Modeling emission rates for air toxic sources are provided on Table 2, which include source names, CAS numbers for chemicals, maximum hourly emissions and annual average emissions. Table 4 provides the emission source parameters used for modeling purposes. In order to develop post-implementation risk estimates, the modeled emission rates for this HRA factored the planned risk reduction measures.

4.4. POLLUTANTS 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. Collectively, the facility's sources emit acetaldehyde, acrolein, benzene, 2-butoxyethanol, cadmium, hexavalent chromium, ethyl benzene, formaldehyde, hexane, isopropyl alcohol, 1-methoxy-2-propanol, methyl ethyl ketone, naphthalene, nickel, polyaromatic hydrocarbons, propylene, toluene and xylene, which were identified from the listed Appendix A-I substances. 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 Tables 3a and 3b, of the 14 identified AB 2588 emitted substances, 8 substances have carcinogenic impacts, 15 substances have chronic noncancer hazard impacts, and 10 substances have acute noncancer hazard impacts. Target organs for the acute and chronic noncancer health effects are as follows: central nervous system (CNS), kidney, alimentary liver system (AL), reproductive system (REPRO), respiratory system (RESP), eye, developmental (DEVEL), endocrine system (ENDO), immune system (IMMUN), and hematopoietic system (HEM).

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 AB2588 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 air dispersion and Assessment of Chemical Exposure model; and (4) identify primary methodologies for calculating health risk impacts.

5.1. AIR DISPERSION MODELING

Air dispersion modeling is used to estimate off-site air concentrations of chemicals associated with facility emissions. For this HRA, Trinity used the most recent version of the American Meteorological Society (AMS)/EPA Regulatory Model (AERMOD) version 15181. 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.

5.1.1. Model Options

For this updated HRA, SCAQMD recommends single and multi-source dispersion modeling in urban or rural areas with "simple terrain" (flat or gently rolling, with ground elevations below the pollutant release heights), which is typical of the area immediately surrounding the facility. The following AERMOD model options were used in the modeling analysis:

- AERMOD Version: 15181
- HARP: 2
- ADMRT: 16217
- Projection: Universal Transverse Mercator (UTM)
- Datum: World Geodetic System 1984
- UTM Zone: 11
- Hemisphere: Northern
- Selection: Hourly and Period
- AERMOD File: .AMI and .AMZ
- AERMOD Output File: Plot File by Source

The following default model options were used in accordance with SCAQMD guidelines:

- Use regulatory default? Yes
- Urban or Rural? Urban
- Include building downwash? Yes

All the point sources at the facility are identified on various manufacturing buildings (refer to Figure 4). 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.

5.1.2. Source Parameters

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. For purposes of this HRA, the majority of the emission sources for this facility are point sources. Table 2 identifies each modeled source, which also provides maximum 1-hour and annual average emission rates by each source and regulated chemical. In addition, Table 4 contains the key parameters that were applied for applicable emission sources, which includes source ID, source name, UTM coordinates, rain cap, base elevation, heights, stack velocity, stack temperature, operating hours and operating days. 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. As previously discussed above, all relevant emissions source parameters that were applied for this model is presented in the attached tables.

5.1.3. Receptors

According to SCAQMD and OEHHA guidance, 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:

- Fenceline - As required, fence line receptors were defined at 20-meter increments along the property border, in accordance with SCAQMD guidelines for facilities occupying less than 4 acres. Figure 3 shows the fenceline for this HRA. The fenceline boundary UTM coordinates are located on Table 6a. The fenceline grids are identified as receptors 2282-2308.
- Nearby Residences and Workers (Cartesian Grid) - The general locations of potential MEIs were determined based on the location of sources and the surrounding land use (Figure 2). The nearest immediate residential receptors are located west of the facility boundary and across 126th Street to south of the facility. Worker receptors from nearby commercial and industrial land uses are located immediately north and east of the facility boundary. As required by the SCAQMD, receptor grid points must be spaced at 20 meter increments out to 200 meters and 50 meters spacing from 201 meter to 1000 meters. Figure 5 shows the surrounding land uses within the immediate vicinity of the facility. The Cartesian grid receptors are identified as receptors 1-2017. Two additional receptors were added to the South corner ends of the alleged residential property identified by SCAQMD. These are identified as receptors 2280-2281.
- Sensitive Receptors - In accordance with SCAQMD and OEHHA guidance, 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 2018-2164. A breakdown of the sensitive receptors are identified in Table 6b.
- Census Block Receptors - AB2588 also requires an estimates 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. For this HRA, affected populations were estimated based on data provided by ADMRT. Figure 6a and 6b shows the impacted census tracts for this HRA. Census tract information were obtained directly from ADMRT

dispersion modeling by inputting the facility center and a distance of 1000 meters. The receptors were inputted into AERMOD and are identified as receptors 2165-2279.

5.1.4. Building Downwash

The purpose of this evaluation is to determine if stack discharge 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 (BPIP-PRIME) was used to simulate the building downwash, which is the effect of nearby structures on the flow of the plumes from their respective emission sources. U.S. EPA has promulgated stack height regulations that restrict the use of stack heights in excess of "Good Engineering Practice" (GEP) in air dispersion modeling analyses.[1] 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:

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

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 6a. A total of eight (8) facility buildings and a total of seven (7) external buildings were modeled for building downwash. Figure 3b shows a model plan of the boundary, buildings, and sources.

5.1.5. Meteorological and Elevation Data

Three years of pre-processed meteorological data supplied by the SCAQMD was used in this analysis, which consisted of data from a surface station in Compton, California (Station #91919)[2]. The Compton station includes completeness for years 2009, 2010 and 2012. The elevation of the station is 22 meters and an upper station number of 3190. Given the flat terrain of the area and station's proximity to the facility, data from this monitoring station provides the best available estimate of local facility meteorological conditions. The surface file (cmpt8.sfc) and profile file (compt8.pfl) were inputted into AERMAP and processed with all receptors and sources. Terrain data was obtained from the United States Geological Survey (USGS) with a large extent. The tif file (00206861.tif) was loaded into AERMAP and processed with all receptors and sources.

[1] U.S. Environmental Protection Agency, Good Engineering Practice Stack Height Regulations, October 1988
[2] http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/aermod-table-1

5.2. ASSESSMENT OF CHEMICAL EXPOSURE

For this updated HRA, SCAQMD requires the use of the Hotspots Analysis and Reporting Program, Version 2 (HARP2). The health risk module of HARP2 incorporates the current OEHHA guidelines, exposure factors and most recent toxicity values for modeled substances.

5.2.1. 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 ($\mu g/m^3$) 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. The following modeling parameters were used for the risk analysis:

- Residential Exposure Duration (Individual) — 30 years for individual receptor cancer
- Residential Exposure Duration (Burden) — 70 years for cancer burden
- Residential Cancer Analysis Option — RMP using the Derived Method
- Worker Cancer Exposure Duration — 25 years
- Worker Cancer Analysis Option — OEHHA Derived Method
- Residential/Worker Non-Cancer Analysis — OEHHA Derived Method

As required, the HARP2 model input and output files were submitted with this HRA report in electronic format, which included the following: (1) AERMOD input file; (2) AERMOD annual and 1-hour output plot files; (3) HARP2 output files

5.2.2. 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 multipathway 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 SCAQMD guidelines, in addition to the inhalation pathway, residential cancer risk for multipathway substances evaluated the following exposure pathways: dermal (warm climate & deposition rate = 0.02 m/s, soil ingestion (deposition rate = 0.02 m/s), homegrown produce, and mother's milk. In addition to the inhalation pathway, worker cancer risks for multipathway substances were modeled with the pathways of dermal

absorption (warm climate & deposition rate = 0.02 m/s) and soil ingestion (deposition rate = 0.02 m/s). The water ingestion pathway was not considered since the drinking water supply in the vicinity is not derived from local surface water. The exposure pathways of ingesting fish, dairy, animal, and agricultural product are negligible in the facility's zone of impact (ZOI).

5.2.3. Carcinogenic Health Impacts

In accordance with the SCAQMD and OEHHA guidance, cancer risk estimates based on the theoretical upper-bound excess 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 zone of impact.

The HARP2 model computes the total excess cancer risk from both inhalation and noninhalation 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 excess cancer risk for individual receptor locations. For inhalation exposures, the theoretical upper-bound excess cancer risk is estimated assuming that an individual is exposed continuously to the annual average air concentrations over a 30-year lifetime. Once these annual average air concentrations are estimated for each receptor, the excess cancer risk is calculated for the carcinogenic effects using the following generalized equation:

$$\textbf{Cancer Risk} = \textbf{Dose} \times \textbf{CP} \times \textbf{LEA}$$

Where:

Cancer Risk = Theoretical upper bound lifetime cancer risk
Dose = Inhalation Dose (mg/kg-day)
CP = Cancer Potency (or Unit Risk Factor) $(mg/kg\text{-}day)^{-1}$
LEA = Lifetime Adjustment Factor (or exposure duration factor), if applicable

For residential and sensitive receptors, LEA equals 1.0 which assumes a lifetime exposure of 40 years. At a minimum, the HRA must show the results of cancer risk assuming a 30-year exposure duration for all residential (and sensitive) receptors. Cancer burden risk was ran with assuming a 70-year exposure duration.

In the case of worker receptors, exposure durations can be reduced to account for a 25-year exposure period (rather than 30 years) depending upon the type of worker. OEHHA guidelines provide adjustment factors for inhalation risks for offsite workers. For the typical full time, non-teacher worker (18 hrs/day, 5.5 days/week), OEHHA guidelines provide an adjustment of 1.9 to inhalation rates based on high-end breathing rates point estimates. HARP2 model incorporates the above guidance into its calculations.

5.2.4. 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 RELs provided by the SCAQMD and 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 shown below:

$$\textbf{Hazard Index (HI)}_{\textbf{Organ}} = \sum [\textbf{GLC/REL}_{\textbf{Organ}}]_{\textbf{Chemical}}$$

Where:

GLC = Ground level air concentration at a receptor location $(\mu g/m^3)$

REL = Reference Exposure Level ($\mu g/m^3$)

In the case of a multipathway pollutant (i.e., pollutants with noninhalation exposures), health risk impacts take into account the additional noncancer risks associated with noninhalation routes of exposure from certain pollutants.

The facility 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.

6.1. ZONE OF IMPACT

As required, modeling receptor points were identified to include the property fence line, nearby workers and local residential neighborhoods (see Figure 5). In addition, any sensitive receptors within the ZOI were identified, plus nearby census tract centroid receptors (see Figure 6b 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). Note that acute and chronic hazards are under 0.5, and worker cancer risk were below 1 in 1 million, which do not meet the minimum requirement for ZOI. Cancer risks did exceed 1 in 1 million for residence, and therefore, a ZOI was defined for these results as shown on Figures 8a and 9a. Note that for any health impacts (cancer, non-cancer chronic, non-cancer acute) which did not exceed the above referenced ZOI levels, risk isopleths are provided in this RRP for illustration purposes only.

6.2. CARCINOGENIC HEALTH EFFECTS

6.2.1. Point of Maximum Impact (PMI)

As shown in Figure 7, the PMI (Receptor #2289, UTM 386792E 3753792N) for carcinogenic health effects is located on the facility fence line (northeast side of property) with a predicted excess cancer risk of 7.26×10^{-06}. Hexavalent chromium is the highest contributing pollutant for cancer risk, which is estimated to be 76%. The largest contributing source to the PMI are collectively the spray booths emitting chrome (Sources 1-3), which is estimated to be 85% of cancer risks.

6.2.2. Maximum Exposed Individual Resident (MEIR)

Estimated excess cancer risks for the MEIR by each pollutant and by each source are presented in Tables 8a and 8b. As shown in Figure 7, the MEIR (Receptor #2280, UTM 386766E 3753797N) for carcinogenic health risk is located towards the northeast of the facility on a nearby property across an alley way, which has a predicted excess cancer risk of 5.01×10^{-06}. Per its approval letter for the 2013 HRA and subsequent discussions with agency staff, the SCAQMD has claimed this property is a residential home, which has not been confirmed. However, as shown on Figure 5a, per Los Angeles County Department of Regional Planning, the immediate areas surrounding the Bowman facility is zoned for M-1 and extends north to 124th Street and south to 127th Street. Per county requirements, zone M-1 is light manufacturing with permitted uses for light manufacturing, and prohibitions for residential and school uses.

Hexavalent chromium is the highest contributing pollutant to cancer risk, which is estimated to be 77% of the total risk. The primary source contributor are the spray booths (Sources 1-3), which is collectively estimated to be 86% of the total cancer risk. Based on this Updated HRA, the MEIR is below the action risk level of 25 in 1 million as per SCAQMD Rule 1402. For reference, Figure 8 presents the cancer risk isopleths identifying the ZOI for residential modeling scenarios.

The MEIR value is also below 1 x 10^{-5} (or 10 in 1 million), which the SCAQMD requires the distribution of public notices pursuant Rule 1402. Census tracts were included in the zone of impact (ZOI), e.g., boundary in which the lifetime cancer risk is greater than 1 x 10^{-6}. Census maps are shown on Figures 6a and 6b. Sensitive receptors were modeled, however these locations were located outside of the cancer ZOI.

6.2.3. Maximum Exposed Individual Worker (MEIW)

Estimated excess cancer risks for the MEIW by each pollutant and by each source are presented in Tables 9a and 9b. As shown in Figure 7, the MEIW for cancer risk was estimated to be 4.33 x 10^{-07}, which is located at receptor #2289 (UTM 386792E 3753792N), which is the fenceline of the property. The nearest commercial receptor is approximately 5 meters northeast of the facility boundary and the next nearest receptor is 20 meters. Hexavalent chromium is the highest contributing pollutant to cancer risk for the MEIW, which is estimated to be over 66% of the total risk. The primary source contributor are the spray booths (Sources 1-3), which are collectively estimated to be 80% of the total cancer risk. Based on this Updated HRA, the MEIW is below the action risk level of 25 in 1 million as per SCAQMD Rule 1402. The MEIW value is also below 1 x 10^{-5} (or 10 in 1 million), which the SCAQMD requires the distribution of public notices pursuant Rule 1402.

6.2.4. Sensitive Receptors

The closest sensitive receptor to the facility is Dr. Ralph Bunche Middle School, which is approximately 200 meters north of the facility. 20 meter receptors were placed around the boundary of the school and the highest cancer risk is estimated at 3.34 x 10^{-07}. All sensitive receptors were located outside of the ZOI.

6.2.5. Population Cancer Burden

Population cancer burdens were calculated for affected populations within the ZOI. Cancer burden is calculated by multiplying residential cancer risk by the estimated affected residential population based on data from the U.S. Census Bureau (refer to Table 5). Census tract receptors were obtained from HARP2, however for the purposes of this HRA, the highest cancer risk in each census tract was multiplied by the estimated population within our ZOI. In this case, the total cancer burden for the affected population is estimated to be 0.00102, which is below the SCAQMD Rule 1402 action risk level of 0.5.

6.3. NONCANCER CHRONIC HEALTH EFFECTS

6.3.1. Point of Maximum Impact (PMI)

The PMI (Receptor #2289, UTM 386792E 3753792N) for chronic noncancer health effects is located on the facility fence line (northeast side of property) with a predicted excess chronic hazard of 1.15 x 10^{-02}. Toluene is the highest contributing pollutant noncancer HIC, which is estimated to be 54%. The largest contributing source to the PMI are the spray booths (Source #1-7), which is estimated to be 68%.

6.3.2. Maximum Exposed Individual Resident (MEIR)

The MEIR (Receptor #2280, UTM 386766E 3753797N) for chronic noncancer health effects is located north of the facility boundary lines with a predicted excess chronic hazard of 7.33 x 10^{-03}. Toluene is the highest contributing pollutant to the HIC, which is estimated to be 57% of the total noncancer HIC. The primary source contributors are Sources 1-7, spray booths, which are estimated to be 72% of the total noncancer HIC. Based on this Updated HRA, the MEIR is below the action risk level of 3.0 as per SCAQMD Rule 1402. The MEIR value is also below 1.0, which the SCAQMD requires the distribution of public notices pursuant Rule 1402. While chronic health risks did not exceed ZOI levels, Figure 8b provides a risk isopleth for illustration purposes only.

6.3.3. Maximum Exposed Individual Worker (MEIW)

The MEIW (Receptor #2289, UTM 386792E 3753792N) chronic noncancer health effects is located on the facility fence line with a predicted excess chronic risk of 1.15 x 10^{-02}. Toluene is the highest contributing pollutant to the HIC, which is estimated to be 54% of the total noncancer HIC. The primary source contributors are the spray booths (Sources 1-7), which are estimated to be 68% of the total noncancer HIC. Based on this HRA, the MEIW is below the action risk level of 3.0 as per SCAQMD Rule 1402. The MEIW value is also below 1.0, which the SCAQMD requires the distribution of public notices pursuant Rule 1402. While chronic health risks did not exceed ZOI levels, Figure 9b provides a risk isopleth for illustration purposes only.

6.3.4. Sensitive Receptors

The closest sensitive receptor to the facility is Dr. Ralph Bunche Middle School, which is approximately 200 meters north of the facility. 20 meter receptors were placed around the boundary of the school as receptor points. There is no ZOI for chronic health hazards which impacts any sensitive receptors.

6.4. NONCANCER ACUTE HEALTH EFFECTS

6.4.1. Point of Maximum Impact (PMI)

The PMI (Receptor #2297, UTM 386766E 3753752N) for acute noncancer health effects is located on the facility fence line (northeast side of property) with a predicted excess acute hazard risk of 1.41 x 10^{-02}. Acrolein is the highest contributing pollutant noncancer HIA, which is estimated to be 48%. The largest contributing source to the PMI are the boilers (Source 9 - 11), which is estimated to be 52%.

6.4.2. Maximum Exposed Individual Resident (MEIR)

The MEIR (Receptor #2280, UTM 386766E 3753797N) for acute noncancer health effects is located north of the facility boundary lines with a predicted excess acute hazard risk of 1.36 x 10^{-02}. Acrolein is the highest contributing pollutant to the HIA, which is estimated to be 30% of the total noncancer HIA. The primary source contributor are the spray booths (Source 1 - 7), which is estimated to be over 60% of the total noncancer HIA. Based on this HRA, the MEIR is below the action risk level of 3.0 as per SCAQMD Rule 1402. The MEIR value is also below 1.0, which the SCAQMD requires the distribution of public notices pursuant Rule 1402. While acute health risks did not exceed ZOI levels, Figure 8c provides a risk isopleth for illustration purposes only.

6.4.3. Maximum Exposed Individual Worker (MEIW)

The MEIW (Receptor #2297, UTM 3867656E 3753752N) acute noncancer health effects is located on the facility fence line with a predicted excess acute hazard risk of 1.41 x 10^{-02}. Acrolein is the highest contributing pollutant to the HIA, which is estimated to be 48% of the total noncancer HIA. The primary source contributor are the boilers (Source 9 - 11), which is estimated to be 52% of the total noncancer HIA. Based on this HRA, the MEIW is below the action risk level of 3.0 as per SCAQMD Rule 1402. The MEIW value is also below 1.0, which the SCAQMD requires the distribution of public notices pursuant Rule 1402. While acute health risks did not exceed ZOI levels, Figure 9c provides a risk isopleth for illustration purposes only.

6.4.4. Sensitive Receptors

The closest sensitive receptor to the facility is Dr. Ralph Bunche Middle School, which is approximately 200 meters north of the facility. 20 meter receptors were placed around the boundary of the school as receptor points. There is no ZOI for acute health hazards which impact any sensitive receptors.

I, as the undersigned, certify that this Risk Reduction Plan meets the requirements set forth in South Coast Air Quality Management District Rule 1402, and that I am a officially responsible for the processes and operations of this facility.

X _____
Signature

October 24, 2016
Date

David A. Cunningham
Printed Name

Executive Vice President
Title

8. REFERENCES

(1) U.S. Environmental Protection Agency (USEPA), AERMOD Implementation Guide, August 2015

(2) Office of Environmental Health Hazard Assessment (OEHHA), California Environmental Protection Agency, Toxicity Criteria Database, http://www.oehha.ca.gov/risk

(3) Office of Environmental Health Hazard Assessment (OEHHA), The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, August 2003 (the "2003 OEHHA Guidelines")

(4) Office of Environmental Health Hazard Assessment (OEHHA), The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015 (the "2015 OEHHA Guidelines")

(5) South Coast Air Quality Management District (SCAQMD), Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588): Stationary Source Compliance, June 2011 (the "2011 SCAQMD Guidelines")

(6) South Coast Air Quality Management District (SCAQMD), Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588): Stationary Source Compliance, June 2015 (the "2015 SCAQMD Guidelines")

(7) California Environmental Protection Agency, Air Resources Board (ARB), User Manual For The Hotspots Analysis and Reporting Program Air Dispersion Modeling and Risk Assessment Tool, Version 2 ("HARP 2.0 User Guide"), Stationary Source Division, Sacramento, CA, February 2015

(8) United States Census Bureau, the 2010 Census, http://www.factfinder.census.gov

(9) Google Earth, http://www.earth.google.com

TABLES

TABLE ES-1

HEALTH RISK ASSESSMENT SUMMARY FORM

Facility Name : **Bowman Plating Co. Inc.**

Facility Address: **2631 East 126th Street**
Compton, CA 90222

Type of Business: **Metal Finishing, Anodizing, Plating, NDT, Coating & Paint**

SCAQMD ID No.: **18989**

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 70 years)

1. Inventory Reporting Year : **2015**
2. Maximum Cancer Risk to Receptors :

a. Offsite	7.26	in a million	Location:	**386792E ; 3753792N (Fenceline)**
b. Residence	5.01	in a million	Location:	**386766E ; 3753797N**
c. Worker	0.43	in a million	Location:	**386792E ; 3753792N (Fenceline)**

3. Substances Accounting for 90% of Cancer Risk: **Hexavalent Chromium, Ethyl Benzene**
   Processes Accounting for 90% of Cancer Risk: **Spray Booth Operation**

4. Estimated Population Exposed to Specific Risk Levels (including worker population)

a. 1 to <10 in a million	**170**
b. 10 to <100 in a million	**0**
c. 100 to <1000 in a million	**0**
d. >=1000 in a million	**0**
e. Total >= 1 in a million	**170**

5. Cancer Burden: **0.00102** (including worker population)
   Cancer Burden = (cancer risk) x (no. of people exposed to specific cancer risk)
6. Maximum Distance to Edge of 1 x 10^{-6} Cancer Risk Isopleth (meters) **188**
7. Screening Cancer Risk to Most Exposed Individual
   a. Residence (without silica)
   b. Residence (silica only)

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:	**7.33E-03**	Location: **386766E : 3753797N**	Health Effects:	**See Table 3**
b. Worker HI :	**1.15E-02**	Location: **386792E ; 3753792N (Fenceline)**	Health Effects:	**See Table 3**

2. Substances Accounting for 90% of Chronic Hazard Index: **Acrolein, Cadmium, Toluene, Xylenes**
3. Maximum Acute Hazard Indices:

a. Residence HI:	**1.36E-02**	Location: **386766E : 3753797N**	Health Effects:	**See Table 3**
b. Worker HI :	**1.41E-02**	Location: **386766E ; 3753752N (Fenceline)**	Health Effects:	**See Table 3**

4. Substances Accounting for 90% of Acute Hazard Index: **Acrolein, Methyl Ethyl Ketone, Formaldehyde, Isopropyl Alcohol,**

*Provide Tables listing contribution of each substance to Cancer Risk, Acute HI, and Chronic HI.

TABLE ES-2. Comparison of Health Risk Results

Bowman Plating Company, Compton, CA
Facility ID #18989

Risk		2013 HRA (Original Submittal)				2013 HRA (SCAQMD Revisions)				2015 HRA (RRP - October 2016)			
		Risk	**Receptor**	**X**	**Y**	**Risk**	**Receptor**	**X**	**Y**	**Risk**	**Receptor**	**X**	**Y**
Cancer	PMI	4.45E-05	2255	386792	3753792	1.65E-04	2255	386792	3753792	7.26E-06	2289	386792	3753792
	MEIR	1.10E-05	264	386790	3753732	1.10E-04	2253	386752	3753792	5.01E-06	2280	386766	3753797
	MEIW	1.67E-05	2255	386792	3753792	1.66E-05	2255	386792	3753792	4.33E-07	2289	386792	3753792
Chronic	PMI	0.196	2255	386792	3753792	0.100	2255	386792	3753792	1.15E-02	2289	386792	3753792
	MEIR	0.027	264	386790	3753732	0.050	2253	386752	3753792	7.33E-03	2280	386766	3753797
	MEIW	0.196	2255	386792	3753792	0.100	2255	386792	3753792	1.15E-02	2289	386792	3753792
Acute	PMI	0.069	2255	386792	3753792	0.070	2255	386792	3753792	1.41E-02	2297	386766	3753752
	MEIR	0.047	264	386790	3753732	0.068	2253	386752	3753792	1.36E-02	2280	386766	3753797
	MEIW	0.069	2255	386792	3753792	0.070	2255	386792	3753792	1.41E-02	2297	386766	3753752

TABLE 1. Post-Implementation Health Risks (Based on 2015 AER)

Bowman Plating Company, Compton, CA
Facility ID #18989

Receptor Description	Grid ID	Cancer Risk	Grid ID	Chronic Hazard Index	Grid ID	Acute Hazard Index
PMI (Point of Max Impact)	2289	7.26E-06	2289	0.012	2297	0.014
MEIR (Residence)	2280	5.01E-06	2280	0.007	2280	0.014
MEIW (Worker)	2289	4.33E-07	2289	0.012	2297	0.014

Notes:

[1] Chronic hazard index is presented for the respiratory system. Hazard indices for all other target organ systems evaluated were significantly lower.

[2] Acute hazard index is presented for the respiratory system. Hazard indices for all other target organ systems evaluated were significantly lower.

TABLE 2. EMISSION RATE BY SUBSTANCE AND SOURCE

Bowman Plating Company, Compton, CA
Facility ID #18989

Device ID	Source Name	Substance Name	CAS No.	Annual (lb/yr)	Annual[1] (g/s)	1-Hour Maximum (lb/hr)	1-Hour Maximum (g/s)
1	Spray Booth 1	Hexavalent Chromium	18540-29-9	2.18E-03	2.75E-04	4.50E-07	8.76E-12
		Toluene	108-88-3	2.20E+02	2.78E+01	4.54E-02	8.84E-07
		Xylenes	1330-20-7	1.32E+02	1.66E+01	2.72E-02	5.29E-07
		Ethyl Benzene	100-41-4	2.55E+01	3.22E+00	5.26E-03	1.02E-07
		Methyl Ethyl Ketone	78-93-3	3.67E+02	4.63E+01	7.57E-02	1.48E-06
		Ethylene Glycol Butyl Ether	111-76-2	2.08E+01	2.62E+00	4.28E-03	8.34E-08
		Isopropyl Alcohol	67-63-0	5.08E+01	6.40E+00	1.05E-02	2.04E-07
		Propylene Glycol Methyl Ether	107-98-2	1.07E+01	1.34E+00	2.20E-03	4.28E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	Spray Booth 2	Hexavalent Chromium	18540-29-9	2.18E-03	2.75E-04	4.50E-07	8.76E-12
		Toluene	108-88-3	2.20E+02	2.78E+01	4.54E-02	8.84E-07
		Xylenes	1330-20-7	1.32E+02	1.66E+01	2.72E-02	5.29E-07
		Ethyl Benzene	100-41-4	2.55E+01	3.22E+00	5.26E-03	1.02E-07
		Methyl Ethyl Ketone	78-93-3	3.67E+02	4.63E+01	7.57E-02	1.48E-06
		Ethylene Glycol Butyl Ether	111-76-2	2.08E+01	2.62E+00	4.28E-03	8.34E-08
		Isopropyl Alcohol	67-63-0	5.08E+01	6.40E+00	1.05E-02	2.04E-07
		Propylene Glycol Methyl Ether	107-98-2	1.07E+01	1.34E+00	2.20E-03	4.28E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	Spray Booth 3	Hexavalent Chromium	18540-29-9	2.18E-03	2.75E-04	4.50E-07	8.76E-12
		Toluene	108-88-3	2.20E+02	2.78E+01	4.54E-02	8.84E-07
		Xylenes	1330-20-7	1.32E+02	1.66E+01	2.72E-02	5.29E-07
		Ethyl Benzene	100-41-4	2.55E+01	3.22E+00	5.26E-03	1.02E-07
		Methyl Ethyl Ketone	78-93-3	3.67E+02	4.63E+01	7.57E-02	1.48E-06
		Ethylene Glycol Butyl Ether	111-76-2	2.08E+01	2.62E+00	4.28E-03	8.34E-08
		Isopropyl Alcohol	67-63-0	5.08E+01	6.40E+00	1.05E-02	2.04E-07
		Propylene Glycol Methyl Ether	107-98-2	1.07E+01	1.34E+00	2.20E-03	4.28E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
4	Spray Booth 4-1	Toluene	108-88-3	5.51E+01	6.94E+00	1.14E-02	2.21E-07
		Xylenes	1330-20-7	3.30E+01	4.15E+00	6.79E-03	1.32E-07
		Ethyl Benzene	100-41-4	6.38E+00	8.04E-01	1.32E-03	2.56E-08
		Methyl Ethyl Ketone	78-93-3	9.19E+01	1.16E+01	1.89E-02	3.69E-07
		Ethylene Glycol Butyl Ether	111-76-2	5.19E+00	6.54E-01	1.07E-03	2.08E-08
		Isopropyl Alcohol	67-63-0	1.27E+01	1.60E+00	2.62E-03	5.10E-08
		Propylene Glycol Methyl Ether	107-98-2	2.66E+00	3.36E-01	5.49E-04	1.07E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
5	Spray Booth 4-2	Toluene	108-88-3	5.51E+01	6.94E+00	1.14E-02	2.21E-07
		Xylenes	1330-20-7	3.30E+01	4.15E+00	6.79E-03	1.32E-07
		Ethyl Benzene	100-41-4	6.38E+00	8.04E-01	1.32E-03	2.56E-08
		Methyl Ethyl Ketone	78-93-3	9.19E+01	1.16E+01	1.89E-02	3.69E-07
		Ethylene Glycol Butyl Ether	111-76-2	5.19E+00	6.54E-01	1.07E-03	2.08E-08
		Isopropyl Alcohol	67-63-0	1.27E+01	1.60E+00	2.62E-03	5.10E-08
		Propylene Glycol Methyl Ether	107-98-2	2.66E+00	3.36E-01	5.49E-04	1.07E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
6	Spray Booth 4-3	Toluene	108-88-3	5.51E+01	6.94E+00	1.14E-02	2.21E-07
		Xylenes	1330-20-7	3.30E+01	4.15E+00	6.79E-03	1.32E-07
		Ethyl Benzene	100-41-4	6.38E+00	8.04E-01	1.32E-03	2.56E-08
		Methyl Ethyl Ketone	78-93-3	9.19E+01	1.16E+01	1.89E-02	3.69E-07
		Ethylene Glycol Butyl Ether	111-76-2	5.19E+00	6.54E-01	1.07E-03	2.08E-08
		Isopropyl Alcohol	67-63-0	1.27E+01	1.60E+00	2.62E-03	5.10E-08
		Propylene Glycol Methyl Ether	107-98-2	2.66E+00	3.36E-01	5.49E-04	1.07E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
7	Spray Booth 4-4	Toluene	108-88-3	5.51E+01	6.94E+00	1.14E-02	2.21E-07
		Xylenes	1330-20-7	3.30E+01	4.15E+00	6.79E-03	1.32E-07
		Ethyl Benzene	100-41-4	6.38E+00	8.04E-01	1.32E-03	2.56E-08
		Methyl Ethyl Ketone	78-93-3	9.19E+01	1.16E+01	1.89E-02	3.69E-07
		Ethylene Glycol Butyl Ether	111-76-2	5.19E+00	6.54E-01	1.07E-03	2.08E-08
		Isopropyl Alcohol	67-63-0	1.27E+01	1.60E+00	2.62E-03	5.10E-08
		Propylene Glycol Methyl Ether	107-98-2	2.66E+00	3.36E-01	5.49E-04	1.07E-08
		Methanol	67-56-1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		Phosphoric Acid	7664-38-2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
8	Dryer	Benzene	71-43-2	1.74E-02	2.19E-03	3.58E-06	6.97E-11
		Formaldehyde	50-00-0	3.69E-02	4.65E-03	7.60E-06	1.48E-10
		PAH's	1151	8.68E-04	1.09E-04	1.79E-07	3.48E-12
		Naphthalene	91-20-3	6.51E-04	8.20E-05	1.34E-07	2.61E-12
		Acetaldehyde	75-07-0	9.33E-03	1.18E-03	1.92E-06	3.75E-11
		Acrolein	107-02-8	5.86E-03	7.38E-04	1.21E-06	2.35E-11
		Propylene	115-07-1	1.59E+00	2.00E-01	3.27E-04	6.37E-09
		Toluene	108-88-3	7.94E-02	1.00E-02	1.64E-05	3.19E-10
		Xylene	1330-20-7	5.90E-02	7.44E-03	1.22E-05	2.37E-10
		Ethyl Benzene	100-41-4	2.06E-02	2.60E-03	4.25E-06	8.28E-11
		Hexane	110-54-3	1.37E-02	1.72E-03	2.82E-06	5.49E-11

TABLE 2. EMISSION RATE BY SUBSTANCE AND SOURCE

Bowman Plating Company, Compton, CA
Facility ID #18989

Device ID	Source Name	Substance Name	CAS No.	Annual (lb/yr)	Annual[1] (g/s)	1-Hour Maximum (lb/hr)	1-Hour Maximum (g/s)
9	Boiler 1	Benzene	71-43-2	4.06E-02	5.11E-03	8.37E-06	1.63E-10
		Formaldehyde	50-00-0	8.62E-02	1.09E-02	1.78E-05	3.46E-10
		PAH's	1151	2.03E-03	2.56E-04	4.18E-07	8.15E-12
		Naphthalene	91-20-3	1.52E-03	1.92E-04	3.14E-07	6.11E-12
		Acetaldehyde	75-07-0	2.18E-02	2.75E-03	4.50E-06	8.76E-11
		Acrolein	107-02-8	1.37E-02	1.73E-03	2.82E-06	5.50E-11
		Propylene	115-07-1	3.71E+00	4.67E-01	7.64E-04	1.49E-08
		Toluene	108-88-3	1.86E-01	2.34E-02	3.83E-05	7.45E-10
		Xylene	1330-20-7	1.38E-01	1.74E-02	2.84E-05	5.54E-10
		Ethyl Benzene	100-41-4	4.82E-02	6.07E-03	9.94E-06	1.93E-10
		Hexane	110-54-3	3.20E-02	4.03E-03	6.59E-06	1.28E-10

TABLE 2. EMISSION RATE BY SUBSTANCE AND SOURCE

Bowman Plating Company, Compton, CA
Facility ID #18989

Device ID	Source Name	Substance Name	CAS No.	Annual (lb/yr)	Annual[1] (g/s)	1-Hour Maximum (lb/hr)	1-Hour Maximum (g/s)
10	Boiler 2	Benzene	71-43-2	4.06E-02	5.11E-03	8.37E-06	1.63E-10
		Formaldehyde	50-00-0	8.62E-02	1.09E-02	1.78E-05	3.46E-10
		PAH's	1151	2.03E-03	2.56E-04	4.18E-07	8.15E-12
		Naphthalene	91-20-3	1.52E-03	1.92E-04	3.14E-07	6.11E-12
		Acetaldehyde	75-07-0	2.18E-02	2.75E-03	4.50E-06	8.76E-11
		Acrolein	107-02-8	1.37E-02	1.73E-03	2.82E-06	5.50E-11
		Propylene	115-07-1	3.71E+00	4.67E-01	7.64E-04	1.49E-08
		Toluene	108-88-3	1.86E-01	2.34E-02	3.83E-05	7.45E-10
		Xylene	1330-20-7	1.38E-01	1.74E-02	2.84E-05	5.54E-10
		Ethyl Benzene	100-41-4	4.82E-02	6.07E-03	9.94E-06	1.93E-10
		Hexane	110-54-3	3.20E-02	4.03E-03	6.59E-06	1.28E-10
11	Boiler 3	Benzene	71-43-2	4.06E-02	5.11E-03	8.37E-06	1.63E-10
		Formaldehyde	50-00-0	8.62E-02	1.09E-02	1.78E-05	3.46E-10
		PAH's	1151	2.03E-03	2.56E-04	4.18E-07	8.15E-12
		Naphthalene	91-20-3	1.52E-03	1.92E-04	3.14E-07	6.11E-12
		Acetaldehyde	75-07-0	2.18E-02	2.75E-03	4.50E-06	8.76E-11
		Acrolein	107-02-8	1.37E-02	1.73E-03	2.82E-06	5.50E-11
		Propylene	115-07-1	3.71E+00	4.67E-01	7.64E-04	1.49E-08
		Toluene	108-88-3	1.86E-01	2.34E-02	3.83E-05	7.45E-10
		Xylene	1330-20-7	1.38E-01	1.74E-02	2.84E-05	5.54E-10
		Ethyl Benzene	100-41-4	4.82E-02	6.07E-03	9.94E-06	1.93E-10
		Hexane	110-54-3	3.20E-02	4.03E-03	6.59E-06	1.28E-10
12	Oven 1	Benzene	71-43-2	8.70E-03	1.10E-03	1.79E-06	3.49E-11
		Formaldehyde	50-00-0	1.85E-02	2.33E-03	3.81E-06	7.42E-11
		PAH's	1151	4.35E-04	5.48E-05	8.97E-08	1.75E-12
		Naphthalene	91-20-3	3.26E-04	4.11E-05	6.73E-08	1.31E-12
		Acetaldehyde	75-07-0	4.68E-03	5.89E-04	9.64E-07	1.88E-11
		Acrolein	107-02-8	2.94E-03	3.70E-04	6.05E-07	1.18E-11
		Propylene	115-07-1	7.95E-01	1.00E-01	1.64E-04	3.19E-09
		Toluene	108-88-3	3.98E-02	5.02E-03	8.21E-06	1.60E-10
		Xylene	1330-20-7	2.96E-02	3.73E-03	6.10E-06	1.19E-10
		Ethyl Benzene	100-41-4	1.03E-02	1.30E-03	2.13E-06	4.15E-11
		Hexane	110-54-3	6.85E-03	8.63E-04	1.41E-06	2.75E-11
13	Oven 2	Benzene	71-43-2	8.70E-03	1.10E-03	1.79E-06	3.49E-11
		Formaldehyde	50-00-0	1.85E-02	2.33E-03	3.81E-06	7.42E-11
		PAH's	1151	4.35E-04	5.48E-05	8.97E-08	1.75E-12
		Naphthalene	91-20-3	3.26E-04	4.11E-05	6.73E-08	1.31E-12
		Acetaldehyde	75-07-0	4.68E-03	5.89E-04	9.64E-07	1.88E-11
		Acrolein	107-02-8	2.94E-03	3.70E-04	6.05E-07	1.18E-11
		Propylene	115-07-1	7.95E-01	1.00E-01	1.64E-04	3.19E-09
		Toluene	108-88-3	3.98E-02	5.02E-03	8.21E-06	1.60E-10
		Xylene	1330-20-7	2.96E-02	3.73E-03	6.10E-06	1.19E-10
		Ethyl Benzene	100-41-4	1.03E-02	1.30E-03	2.13E-06	4.15E-11
		Hexane	110-54-3	6.85E-03	8.63E-04	1.41E-06	2.75E-11
14	Oven 3	Benzene	71-43-2	8.70E-03	1.10E-03	1.79E-06	3.49E-11
		Formaldehyde	50-00-0	1.85E-02	2.33E-03	3.81E-06	7.42E-11
		PAH's	1151	4.35E-04	5.48E-05	8.97E-08	1.75E-12
		Naphthalene	91-20-3	3.26E-04	4.11E-05	6.73E-08	1.31E-12
		Acetaldehyde	75-07-0	4.68E-03	5.89E-04	9.64E-07	1.88E-11
		Acrolein	107-02-8	2.94E-03	3.70E-04	6.05E-07	1.18E-11
		Propylene	115-07-1	7.95E-01	1.00E-01	1.64E-04	3.19E-09
		Toluene	108-88-3	3.98E-02	5.02E-03	8.21E-06	1.60E-10
		Xylene	1330-20-7	2.96E-02	3.73E-03	6.10E-06	1.19E-10
		Ethyl Benzene	100-41-4	1.03E-02	1.30E-03	2.13E-06	4.15E-11
		Hexane	110-54-3	6.85E-03	8.63E-04	1.41E-06	2.75E-11
15	Oven 4	Benzene	71-43-2	8.70E-03	1.10E-03	1.79E-06	3.49E-11
		Formaldehyde	50-00-0	1.85E-02	2.33E-03	3.81E-06	7.42E-11
		PAH's	1151	4.35E-04	5.48E-05	8.97E-08	1.75E-12
		Naphthalene	91-20-3	3.26E-04	4.11E-05	6.73E-08	1.31E-12
		Acetaldehyde	75-07-0	4.68E-03	5.89E-04	9.64E-07	1.88E-11
		Acrolein	107-02-8	2.94E-03	3.70E-04	6.05E-07	1.18E-11
		Propylene	115-07-1	7.95E-01	1.00E-01	1.64E-04	3.19E-09
		Toluene	108-88-3	3.98E-02	5.02E-03	8.21E-06	1.60E-10
		Xylene	1330-20-7	2.96E-02	3.73E-03	6.10E-06	1.19E-10
		Ethyl Benzene	100-41-4	1.03E-02	1.30E-03	2.13E-06	4.15E-11
		Hexane	110-54-3	6.85E-03	8.63E-04	1.41E-06	2.75E-11
16	Cadmium Plating	Cadmium	7440-43-9	2.78E-03	3.51E-04	5.74E-07	1.12E-11
17	Chrome Anodizing	Hexavalent Chromium	18540-29-9	2.43E-05	3.06E-06	5.01E-09	9.75E-14
18	Nickel Strike	Nickel	7440-02-0	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1) Annual Average (g/s) based on 5.5 days per week, 49 weeks per year.
2) Methanol and Phosphoric Acid not emitted in 2015.

TABLE 3a. TOXICITY DATA BY SUBSTANCE - EXPOSURE PATHWAYS

Bowman Plating Company, Compton, CA
Facility ID #18989

						Modeled Exposure Pathways							
Substance Name	**CAS No.**	**Cancer**	**Chronic**	**Acute**	**Multipathway Substance**	**Inhalation**	**Dermal**	**Soil Ingestion**	**Home Grown Produce**	**Mother's Milk**	**Water**	**Dairy**	**Fish**
Acetaldehyde	75070	X	X	X		W,R							
Acrolein	107028		X	X		W,R							
Benzene	71432	X	X	X		W,R							
2-Butoxyethanol	111762			X		W,R							
Cadmium	7440439	X	X		X	W,R	W,R	W,R	R	R			
Hexavalent Chromium	18540299	X	X		X	W,R	W,R	W,R	R	R			
Ethylbenzene	100414	X	X			W,R							
Formaldehyde	50000	X	X	X		W,R							
Hexane	110543		X			W,R							
Isopropyl Alcohol	67630		X	X		W,R							
Methanol	67-56-1		X	X		W,R							
1-Methoxy-2-Propanol	107982		X			W,R							
Methyl Ethyl Ketone	78933			X		W,R							
Naphthalene	91203	X	X			W,R							
Nickel	7440020	X	X	X	X	W,R	W,R	W,R	R	R			
Phosphoric Acid	7664-38-2		X			W,R							
Propylene	115071		X			W,R							
Toluene	108883		X	X		W,R							
Total PAHs (excl. Naphthalene)	1151	X		X		W,R							
Xylenes	1330207		X	X		W,R							

Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" AB2588. Table 11 - Summary of SCAQMD Health Risk Assessment Guidance
W: Modeled for worker receptors
R: Modeled for residential receptors

TABLE 3b. TOXICITY DATA BY SUBSTANCE - TARGET ORGANS

Bowman Plating Company, Compton, CA
Facility ID #18989

		Acute Target Organs									Chronic Target Organs										
Substance Name	**CAS No.**	**CV**	**CNS**	**IMMUN**	**GILV**	**REPRO**	**RESP**	**EYE**	**DEVEL**	**HEM**	**CV**	**CNS**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**ENDO**	**DEVEL**	**HEM**
Acetaldehyde	75070						X	X								X					
Acrolein	107028						X	X								X		X			
Benzene	71432			X		X			X	X		X								X	X
2-Butoxyethanol	111762						X	X													
Cadmium	7440439												X			X					
Hexavalent Chromium	18540299															X					X
Ethylbenzene	100414												X	X					X	X	
Formaldehyde	50000			X			X	X								X		X			
Hexane	110543											X									
Isopropyl Alcohol	67630						X	X					X							X	
Methanol	67-56-1		X												X					X	
1-Methoxy-2-Propanol	107982													X							
Methyl Ethyl Ketone	78933						X	X													
Naphthalene	91203															X					
Nickel	7440020			X			X									X				X	X
Phosphoric Acid	7664-38-2															X					
Propylene	115071															X					
Toluene	108883		X			X	X	X	X			X				X				X	
Total PAHs (excl. Naphthalene)	1151																				
Xylenes	1330207						X	X				X				X					

GILV: Alimentary System (Liver)
CNS: Central Nervous System
CV: Cardiovascular System
DEVEL: Developmental
ENDO: Endocrine System
EYE: Eye
HEM: Hematologic System
IMMUN: Immune System
KIDNEY: Kidney
REPRO: Reproductive System
RESP: Respiratory System
SKIN: Skin

TABLE 4. EMISSION SOURCE PARAMETERS

Bowman Plating Company, Compton, CA
Facility ID #18989

Stack ID	Stack Name	*	UTM (Meters) Easting	UTM (Meters) Northing	Raincap	Height (ft)	Diameter (ft)	Temp (F)	Flow Rate (ACFM)	Exit Velocity (m/s)	Avg (hr/dy)	Avg (dy/yr)	Max (hr/dy)	Max (dy/yr)
1	Spray Booth 1	a,b	386718	3753755	No	30.5	2.5	75	14,400	15	16	255	24	306
2	Spray Booth 2	a,b	386712	3753755	No	30.5	2.5	75	14,400	15	16	255	24	306
3	Spray Booth 3	a,b	386706	3753755	No	30.5	2.5	75	14,400	15	16	255	24	306
4	Spray Booth 4	c	386702	3753764	No	24	2.5	75	6,300	6.51	16	255	24	306
5	Spray Booth 4	c	386700	3753764	No	24	2.5	75	6,300	6.51	16	255	24	306
6	Spray Booth 4	c	386700	3753768	No	24	2.5	75	6,300	6.51	16	255	24	306
7	Spray Booth 4	c	386702	3753768	No	24	2.5	75	6,300	6.51	16	255	24	306
8	Dryer	a	386688	3753774	Yes	19	0.67	140	7	0.10	16	255	24	306
9	Boiler 1	a	386758	3753776	Yes	19	1.5	200	35	0.10	16	255	24	306
10	Boiler 2	d	386760	3753774	Yes	19	1.5	200	35	0.10	16	255	24	306
11	Boiler 3	d	386762	3753774	Yes	19	1.5	200	35	0.10	16	255	24	306
12	Oven 1	e,f	386701	3753772	Yes	24	1	160	35	0.10	16	255	24	306
13	Oven 2	e,f	386707	3753769	Yes	19	1	158	34.8	0.10	16	255	24	306
14	Oven 3	a	386724	3753768	Yes	19	1.5	198	34.8	0.10	16	255	24	306
15	Oven 4	e,f	386786	3753763	Yes	19	1	160	34.8	0.10	16	255	24	306
16	Cadmium Barrel Stack	a	386784	3753789	No	30	1.67	150	4	0.10	16	255	24	306
17	Chrome Anodizing	g	386783	3753787	No	25	1.166667	90	1,700	8.1	16	255	24	306
18	Nickel Strike	h	386766	3753791	No	Area	Area	75	--	--	16	255	24	306
18	Nickel Strike	h	386788	3753790	No	Area	Area	75	--	--	16	255	24	306
18	Nickel Strike	h	386787	3753778	No	Area	Area	75	--	--	16	255	24	306
18	Nickel Strike	h	386766	3753779	No	Area	Area	75	--	--	16	255	24	306

a. Diameter, temperature, flow, velocity is based on prior 05-06 Health Risk Assessment
b. Height based on information supplied by Massoud Akhavi on September 29, 2014.
c. Information based on blueprints provided by Massoud Akhavi on September 22, 2014. Blueprint specifies 6' above roof height.
d. Boiler 2 and 3 data elements assumed to be similar to Boiler 1.
e. Oven 1, 2, and 4 data elements for flow and velocity assumed to be similar to Oven 3.
f. Diameter, temperature based on oven operating temperature.
g. Data elements provided from source test.
h. Nickel strike modeled as volume source. Elevation 24.82 meters. Emission rate 1 g/s. Release height 29 feet. Initial lateral dimention 4.96 meters. Initial vertical dimension 13.499 feet.

TABLE 5. CANCER BURDEN

Bowman Plating Company, Compton, CA
Facility ID #18989

Census Tract	Census Block	Maximum Cancer Risk	Receptor	Census Tract Population[1]	Estimated Percentage of census block within ZOI[2]	Zone of Impact Population	Cancer Burden[3]
5415	1000	N/A	N/A	N/A	0%	0	0
5415	1001	8.76E-06	2289	121	80%	97	0.00085
5415	1002	2.33E-06	264	235	30%	71	0.00016
5416.03	1007	2.00E-06	408	5	50%	3	0.00000
5416.03	1008	N/A	N/A	N/A	0%	0	0
5416.03	1012	1.21E-06	405	0	5%	0	0.00000
5416.03	1013	2.23E-06	387	0	50%	0	0.00000
5416.03	1014	2.73E-06	345	0	50%	0	0.00000
						Total:	0.00102

[1] Population from 2010 Census data

[2] Percentage of risk in census tract estimated from 2010 Census data.

[3] Cancer Burden = (Maximum Cancer Risk) x (Zone of Impact Population)

TABLE 6a. BUILDING DIMENSIONS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	Height (ft)	East UTM	North UTM	Rel East	Rel North
Facility Center			386730.15	3753771.95	0	0
Building						
Boundary	2282	--	**386632**	**3753792.4**	-98.15	20.45
	2283	--	386652	3753792.4	-78.15	20.45
	2284	--	386672	3753792.3	-58.15	20.35
	2285	--	386692	3753792.3	-38.15	20.35
	2286	--	386712	3753792.2	-18.15	20.25
	2287	--	386732	3753792.2	1.85	20.25
	2288	--	386752	3753792.2	21.85	20.25
	2289	--	386772	3753792.1	41.85	20.15
	2290	--	386792	3753792.1	61.85	20.15
	2291	--	386812	3753792	81.85	20.05
	2292	--	**386828.7**	**3753792**	98.55	20.05
	2293	--	386828.7	3753788.7	98.55	16.75
	2294	--	386828.5	3753768.7	98.35	-3.25
	2295	--	**386828.3**	**3753751.5**	98.15	-20.45
	2296	--	386825.5	3753751.5	95.35	-20.45
	2297	--	386805.5	3753751.6	75.35	-20.35
	2298	--	386785.5	3753751.7	55.35	-20.25
	2299	--	386765.5	3753751.8	35.35	-20.15
	2300	--	386745.5	3753751.8	15.35	-20.15
	2301	--	386725.5	3753751.9	-4.65	-20.05
	2302	--	386705.5	3753752	-24.65	-19.95
	2303	--	386685.5	3753752.1	-44.65	-19.85
	2304	--	386665.5	3753752.2	-64.65	-19.75
	2305	--	386645.5	3753752.2	-84.65	-19.75
	2306	--	**386629.8**	**3753752.3**	-100.35	-19.65
	2307	--	386630	3753756.6	-100.15	-15.35
	2308	--	386631.1	3753776.6	-99.05	4.65
Building 1	1	14	386674	3753759	-56.15	-12.95
	2	14	386685	3753759	-45.15	-12.95
	3	14	386685	3753768	-45.15	-3.95
	4	14	386674	3753768	-56.15	-3.95
Building 2	1	25	386703	3753776	-27.15	4.05
	2	25	386710	3753776	-20.15	4.05
	3	25	386710	3753784	-20.15	12.05
	4	25	386703	3753784	-27.15	12.05
Building 3	1	25	386725	3753780	-5.15	8.05
	2	25	386753	3753779	22.85	7.05
	3	25	386753	3753792	22.85	20.05
	4	25	386726	3753792	-4.15	20.05
Building 4	1	22.5	386763	3753751	32.85	-20.95
	2	22.5	386784	3753751	53.85	-20.95
	3	22.5	386784	3753757	53.85	-14.95
	4	22.5	386763	3753757	32.85	-14.95
	1	16	386788	3753757	57.85	-14.95
	2	16	386787	3753772	56.85	0.05
	3	16	386770	3753773	39.85	1.05
	4	16	386770	3753779	39.85	7.05
	5	16	386766	3753779	35.85	7.05
	6	16	386766	3753791	35.85	19.05

TABLE 6a. BUILDING DIMENSIONS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	Height (ft)	East UTM	North UTM	Rel East	Rel North
Building 5	7	16	386753	3753792	22.85	20.05
	8	16	386753	3753779	22.85	7.05
	9	16	386725	3753780	-5.15	8.05
	10	16	386726	3753792	-4.15	20.05
	11	16	386704	3753792	-26.15	20.05
	12	16	386703	3753784	-27.15	12.05
	13	16	386710	3753784	-20.15	12.05
	14	16	386710	3753776	-20.15	4.05
	15	16	386703	3753776	-27.15	4.05
	16	16	386703	3753774	-27.15	2.05
	17	16	386686	3753774	-44.15	2.05
	18	16	386685	3753768	-45.15	-3.95
	19	16	386685	3753759	-45.15	-12.95
	20	16	386703	3753759	-27.15	-12.95
	21	16	386703	3753752	-27.15	-19.95
	22	16	386763	3753751	32.85	-20.95
	23	16	386763	3753757	32.85	-14.95
Building 6	1	18	386704	3753792	-26.15	20.05
	2	18	386703	3753774	-27.15	2.05
	3	18	386686	3753774	-44.15	2.05
	4	18	386686	3753792	-44.15	20.05
Building 7	1	29	386766	3753791	35.85	19.05
	2	29	386766	3753779	35.85	7.05
	3	29	386770	3753779	39.85	7.05
	4	29	386770	3753780	39.85	8.05
	5	29	386787	3753780	56.85	8.05
	6	29	386788	3753790	57.85	18.05
Building 8	1	19	386787	3753780	56.85	8.05
	2	19	386770	3753780	39.85	8.05
	3	19	386770	3753773	39.85	1.05
	4	19	386787	3753772	56.85	0.05
Building Downwash						
Downwash 1	1	23	386673	3753805	-57.15	33.05
	2	23	386673	3753819	-57.15	47.05
	3	23	386690	3753819	-40.15	47.05
	4	23	386690	3753817	-40.15	45.05
	5	23	386695	3753817	-35.15	45.05
	6	23	386695	3753806	-35.15	34.05
	7	23	386687	3753805	-43.15	33.05
Downwash 2	1	18	386722	3753814	-8.15	42.05
	2	18	386747	3753814	16.85	42.05
	3	18	386747	3753796	16.85	24.05
	4	18	386729	3753797	-1.15	25.05
	5	18	386729	3753801	-1.15	29.05
	6	18	386722	3753801	-8.15	29.05
Downwash 3	1	20	386846	3753794	115.85	22.05
	2	20	386847	3753786	116.85	14.05
	3	20	386835	3753786	104.85	14.05
	4	20	386835	3753794	104.85	22.05
Downwash 4	1	41	386854	3753753	123.85	-18.95
	2	41	386854	3753751	123.85	-20.95

TABLE 6a. BUILDING DIMENSIONS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	Height (ft)	East UTM	North UTM	Rel East	Rel North
Downwash 4	3	41	386841	3753751	110.85	-20.95
	4	41	386841	3753753	110.85	-18.95
Downwash 5	1	22	386839	3753725	108.85	-46.95
	2	22	386838	3753714	107.85	-57.95
	3	22	386830	3753714	99.85	-57.95
	4	22	386831	3753725	100.85	-46.95
Downwash 6	1	20	386794	3753715	63.85	-56.95
	2	20	386794	3753703	63.85	-68.95
	3	20	386779	3753703	48.85	-68.95
	4	20	386779	3753715	48.85	-56.95
Downwash 7	1	25	386661	3753729	-69.15	-42.95
	2	25	386661	3753715	-69.15	-56.95
	3	25	386650	3753716	-80.15	-55.95
	4	25	386650	3753730	-80.15	-41.95

Notes:
UTM coordinates based on WGS 84.
Heights for facility buildings are based on information supplied by client.
Heights for building downwash are estimated using Google Earth.

TABLE 6b. SENSITIVE RECEPTORS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	East UTM	North UTM	Rel East	Rel North
Facility Center		386730.15	3753771.95	0	0
Sensitive Receptors					
Dr. Ralph Bunche Middle School	2018	386492	3753952	-238.15	180.05
	2019	386512	3753950.8	-218.15	178.85
	2020	386525	3753950	-205.15	178.05
	2021	386525	3753956.9	-205.15	184.95
	2022	386525	3753965	-205.15	193.05
	2023	386536.8	3753966.6	-193.35	194.65
	2024	386556.7	3753969.2	-173.45	197.25
	2025	386576.5	3753971.9	-153.65	199.95
	2026	386596.3	3753974.5	-133.85	202.55
	2027	386616.1	3753977.2	-114.05	205.25
	2028	386636	3753979.8	-94.15	207.85
	2029	386645	3753981	-85.15	209.05
	2030	386655.8	3753982.3	-74.35	210.35
	2031	386675.6	3753984.7	-54.55	212.75
	2032	386695.5	3753987.2	-34.65	215.25
	2033	386715.4	3753989.6	-14.75	217.65
	2034	386735	3753992	4.85	220.05
	2035	386735	3753992.2	4.85	220.25
	2036	386732.7	3754012.1	2.55	240.15
	2037	386730.5	3754032	0.35	260.05
	2038	386728.2	3754051.8	-1.95	279.85
	2039	386726	3754071.7	-4.15	299.75
	2040	386723.8	3754091.6	-6.35	319.65
	2041	386721.5	3754111.4	-8.65	339.45
	2042	386721	3754116	-9.15	344.05
	2043	386719.3	3754131.3	-10.85	359.35
	2044	386717.1	3754151.2	-13.05	379.25
	2045	386714.9	3754171.1	-15.25	399.15
	2046	386712.7	3754191	-17.45	419.05
	2047	386710.5	3754210.8	-19.65	438.85
	2048	386708.3	3754230.7	-21.85	458.75
	2049	386706.1	3754250.6	-24.05	478.65
	2050	386703.9	3754270.5	-26.25	498.55
	2051	386701.7	3754290.4	-28.45	518.45
	2052	386701	3754297	-29.15	525.05
	2053	386687.8	3754295.5	-42.35	523.55
	2054	386667.9	3754293.1	-62.25	521.15
	2055	386648	3754290.8	-82.15	518.85
	2056	386628.2	3754288.5	-101.95	516.55
	2057	386608.3	3754286.2	-121.85	514.25
	2058	386588.4	3754283.9	-141.75	511.95
	2059	386568.6	3754281.6	-161.55	509.65
	2060	386548.7	3754279.3	-181.45	507.35
	2061	386528.8	3754277	-201.35	505.05
	2062	386509	3754274.7	-221.15	502.75
	2063	386489.1	3754272.3	-241.05	500.35
	2064	386469.2	3754270	-260.95	498.05
	2065	386449.4	3754267.7	-280.75	495.75
	2066	386429.5	3754265.4	-300.65	493.45
	2067	386426	3754265	-304.15	493.05

TABLE 6b. SENSITIVE RECEPTORS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	East UTM	North UTM	Rel East	Rel North
	2068	386429	3754248.8	-301.15	476.85
	2069	386432.6	3754229.1	-297.55	457.15
	2070	386436.2	3754209.5	-293.95	437.55
	2071	386439.8	3754189.8	-290.35	417.85
	2072	386443.4	3754170.1	-286.75	398.15
	2073	386447	3754150.5	-283.15	378.55
	2074	386450.6	3754130.8	-279.55	358.85
	2075	386454.3	3754111.1	-275.85	339.15
	2076	386457.9	3754091.4	-272.25	319.45
	2077	386461.5	3754071.8	-268.65	299.85
	2078	386464	3754058	-266.15	286.05
	2079	386465.5	3754052.2	-264.65	280.25
	2080	386470.6	3754032.9	-259.55	260.95
	2081	386475.7	3754013.5	-254.45	241.55
	2082	386480.9	3753994.2	-249.25	222.25
	2083	386486	3753974.8	-244.15	202.85
	2084	386491.1	3753955.5	-239.05	183.55
Martin Luther King Elementary	2085	386442	3754049	-288.15	277.05
	2086	386438.1	3754068.6	-292.05	296.65
	2087	386434.2	3754088.2	-295.95	316.25
	2088	386430.2	3754107.8	-299.95	335.85
	2089	386426.3	3754127.4	-303.85	355.45
	2090	386424	3754139	-306.15	367.05
	2091	386415.8	3754139	-314.35	367.05
	2092	386395.8	3754139	-334.35	367.05
	2093	386375.8	3754139	-354.35	367.05
	2094	386355.8	3754139	-374.35	367.05
	2095	386335.8	3754139	-394.35	367.05
	2096	386315.8	3754139	-414.35	367.05
	2097	386295.8	3754139	-434.35	367.05
	2098	386275.8	3754139	-454.35	367.05
	2099	386255.8	3754139	-474.35	367.05
	2100	386235.8	3754139	-494.35	367.05
	2101	386215.8	3754139	-514.35	367.05
	2102	386195.8	3754139	-534.35	367.05
	2103	386179	3754139	-551.15	367.05
	2104	386178.8	3754135.8	-551.35	363.85
	2105	386177.4	3754115.8	-552.75	343.85
	2106	386176	3754095.9	-554.15	323.95
	2107	386174.7	3754075.9	-555.45	303.95
	2108	386173.3	3754056	-556.85	284.05
	2109	386173	3754052	-557.15	280.05
	2110	386189	3754051.8	-541.15	279.85
	2111	386209	3754051.6	-521.15	279.65
	2112	386229	3754051.4	-501.15	279.45
	2113	386249	3754051.2	-481.15	279.25
	2114	386269	3754050.9	-461.15	278.95
	2115	386289	3754050.7	-441.15	278.75
	2116	386309	3754050.5	-421.15	278.55
	2117	386329	3754050.3	-401.15	278.35
	2118	386349	3754050	-381.15	278.05
	2119	386369	3754049.8	-361.15	277.85

TABLE 6b. SENSITIVE RECEPTORS

Bowman Plating Company, Compton, CA
Facility ID #18989

	Receptor	East UTM	North UTM	Rel East	Rel North
	2120	386389	3754049.6	-341.15	277.65
	2121	386409	3754049.4	-321.15	277.45
	2122	386429	3754049.1	-301.15	277.15
Sunshine Daycare Preschool Center	2123	387456	3753657	725.85	-114.95
	2124	387475.9	3753659.2	745.75	-112.75
	2125	387495.8	3753661.4	765.65	-110.55
	2126	387501	3753662	770.85	-109.95
	2127	387488.7	3753653.8	758.55	-118.15
	2128	387472.1	3753642.7	741.95	-129.25
	2129	387459	3753634	728.85	-137.95
	2130	387463.2	3753634.5	733.05	-137.45
	2131	387483	3753637.1	752.85	-134.85
	2132	387502.9	3753639.7	772.75	-132.25
	2133	387505	3753640	774.85	-131.95
	2134	387488.1	3753645.9	757.95	-126.05
	2135	387469.2	3753652.4	739.05	-119.55
Ella Fitzgerald Child Care Center	2136	386578	3754362	-152.15	590.05
	2137	386574	3754381.6	-156.15	609.65
	2138	386570	3754401.2	-160.15	629.25
	2139	386566	3754420.8	-164.15	648.85
	2140	386562	3754440.4	-168.15	668.45
	2141	386560	3754450	-170.15	678.05
	2142	386570.1	3754451.2	-160.05	679.25
	2143	386590	3754453.6	-140.15	681.65
	2144	386609.8	3754456.1	-120.35	684.15
	2145	386629.7	3754458.5	-100.45	686.55
	2146	386634	3754459	-96.15	687.05
	2147	386636.1	3754443.5	-94.05	671.55
	2148	386638.9	3754423.7	-91.25	651.75
	2149	386641.6	3754403.9	-88.55	631.95
	2150	386644.4	3754384.1	-85.75	612.15
	2151	386647	3754365	-83.15	593.05
	2152	386646.3	3754365	-83.85	593.05
	2153	386626.3	3754364.1	-103.85	592.15
	2154	386606.3	3754363.2	-123.85	591.25
	2155	386586.3	3754362.4	-143.85	590.45
CDI Head Start	2156	386672	3753148	-58.15	-623.95
	2157	386667.8	3753167.6	-62.35	-604.35
	2158	386666	3753176	-64.15	-595.95
	2159	386677.4	3753175.7	-52.75	-596.25
	2160	386697.4	3753175.1	-32.75	-596.85
	2161	386701	3753175	-29.15	-596.95
	2162	386700.4	3753158.7	-29.75	-613.25
	2163	386700	3753148	-30.15	-623.95
	2164	386690.7	3753148	-39.45	-623.95

TABLE 6c. CENSUS TRACT RECEPTORS

Bowman Plating Company, Compton, CA
Facility ID #18989

Receptor	Description	East UTM	North UTM	Rel East	Rel North	Population
Facility Center		386730.15	3753771.95	0	0	0
Census Tract						
2165	2008	386596.80	3754612.47	-133.35	840.52	0
2166	2012	386773.11	3754729.14	42.96	957.19	0
2167	2019	386832.03	3754421.46	101.88	649.51	0
2168	2020	386827.78	3754275.01	97.63	503.06	0
2169	2021	386804.08	3754473.48	73.93	701.53	0
2170	2022	386495.79	3754452.76	-234.36	680.81	0
2171	2023	386628.99	3754296.24	-101.16	524.29	0
2172	2024	387031.98	3754481.85	301.83	709.90	0
2173	2025	387269.49	3754459.51	539.34	687.56	155
2174	2027	387357.75	3754386.71	627.60	614.75	258
2175	2028	387339.28	3754193.51	609.13	421.56	0
2176	2029	387058.60	3754279.69	328.45	507.74	0
2177	4002	387513.98	3754354.80	783.83	582.85	182
2178	4005	387496.08	3754248.10	765.93	476.15	192
2179	4006	387477.82	3754143.18	747.67	371.23	135
2180	4007	387458.15	3754050.92	728.00	278.97	92
2181	4008	387393.39	3754047.92	663.24	275.97	0
2182	4009	387652.30	3754020.12	922.15	248.17	187
2183	1000	387604.30	3753909.12	874.15	137.17	228
2184	1001	387537.97	3753968.58	807.82	196.63	0
2185	1002	387472.81	3753915.67	742.66	143.72	241
2186	1003	387410.85	3753898.66	680.70	126.71	60
2187	1006	387446.70	3753826.15	716.55	54.20	0
2188	1007	387493.92	3753707.26	763.77	-64.69	267
2189	1008	387434.39	3753700.42	704.24	-71.53	4
2190	1009	387458.52	3753498.19	728.37	-273.77	0
2191	1010	387516.60	3753507.03	786.45	-264.92	467
2192	2001	387541.23	3753306.68	811.08	-465.27	285
2193	2002	387481.28	3753304.06	751.13	-467.89	1
2194	2003	387499.35	3753151.25	769.20	-620.71	6
2195	1000	386265.27	3754403.29	-464.88	631.34	149
2196	1001	385983.85	3754411.32	-746.30	639.37	315
2197	1002	385898.33	3754218.83	-831.82	446.88	0
2198	1003	385870.03	3754225.60	-860.12	453.65	0
2199	1004	385873.65	3754003.97	-856.50	232.02	78
2200	1009	386054.33	3754160.28	-675.82	388.33	278
2201	1010	386213.67	3754086.50	-516.48	314.55	441
2202	1011	386204.50	3754277.59	-525.65	505.64	225
2203	2016	386251.81	3754553.39	-478.34	781.44	242
2204	1000	386027.28	3753855.18	-702.87	83.23	0
2205	1001	385742.23	3753855.17	-987.92	83.22	559
2206	1002	385783.76	3753656.49	-946.39	-115.46	551
2207	1003	386111.24	3753655.88	-618.91	-116.07	0
2208	1004	386155.74	3753550.10	-574.41	-221.85	0
2209	1005	385988.04	3753551.89	-742.11	-220.06	15
2210	1006	385822.65	3753553.88	-907.50	-218.07	0
2211	1007	385765.52	3753554.57	-964.63	-217.38	0
2212	1010	385861.03	3753446.62	-869.12	-325.33	771
2213	1011	386200.52	3753444.98	-529.63	-326.97	0
2214	2000	386323.95	3753151.16	-406.20	-620.79	0
2215	2001	386056.00	3753290.56	-674.15	-481.39	0
2216	2002	386216.09	3753170.09	-514.06	-601.86	81
2217	2003	386268.12	3753183.66	-462.03	-588.29	90
2218	2004	386006.53	3753190.13	-723.62	-581.82	130
2219	2005	386158.70	3753141.50	-571.45	-630.45	121
2220	2006	386020.02	3753119.65	-710.13	-652.30	155
2221	3000	386336.13	3753024.92	-394.02	-747.03	101
2222	3001	386284.89	3753008.90	-445.26	-763.05	68
2223	3002	386207.98	3752979.32	-522.17	-792.63	127
2224	3005	386358.51	3752901.78	-371.64	-870.18	68

TABLE 6c. CENSUS TRACT RECEPTORS

Bowman Plating Company, Compton, CA
Facility ID #18989

Receptor	Description	East UTM	North UTM	Rel East	Rel North	Population
2225	4000	386465.82	3752813.66	-264.33	-958.30	0
2226	4001	386386.73	3752834.23	-343.42	-937.72	93
2227	1000	386674.09	3753892.57	-56.06	120.62	189
2228	1001	386692.96	3753792.98	-37.19	21.03	121
2229	1002	386709.15	3753692.97	-21.00	-78.98	235
2230	1003	386726.44	3753591.85	-3.71	-180.10	219
2231	1004	386744.83	3753490.82	14.68	-281.13	283
2232	1005	386763.88	3753389.89	33.73	-382.06	338
2233	1006	386779.78	3753289.22	49.63	-482.73	282
2234	1007	386796.90	3753189.65	66.75	-582.30	206
2235	2000	386813.72	3753080.43	83.57	-691.52	192
2236	2001	386844.77	3752923.80	114.62	-848.15	156
2237	2003	386680.10	3752831.61	-50.05	-940.34	80
2238	2004	386565.93	3752803.03	-164.22	-968.92	91
2239	2005	386488.15	3752817.38	-242.00	-954.57	0
2240	3000	386456.07	3753266.36	-274.08	-505.59	407
2241	3001	386347.38	3753153.77	-382.77	-618.18	0
2242	3002	386455.96	3753063.86	-274.19	-708.09	212
2243	3003	386557.62	3753097.80	-172.53	-674.15	229
2244	3004	386634.08	3753136.14	-96.07	-635.81	135
2245	3005	386635.13	3752968.67	-95.02	-803.28	140
2246	3006	386509.29	3752937.68	-220.86	-834.27	116
2247	3007	386537.6971	3752870.021	-192.45	-901.93	66
2248	3008	386657.5237	3752900.196	-72.63	-871.75	72
2249	4000	386285.4576	3753850.863	-444.69	78.91	589
2250	4001	386053.5866	3753851.759	-676.56	79.81	0
2251	4002	386136.8385	3753654.795	-593.31	-117.16	0
2252	4003	386322.9166	3753651.345	-407.23	-120.60	673
2253	4004	386525.0097	3753634.065	-205.14	-137.89	83
2254	4005	386418.5689	3753446.916	-311.58	-325.03	412
2255	4006	386180.4298	3753550.468	-549.72	-221.48	0
2256	4007	386224.9427	3753445.797	-505.21	-326.15	0
2257	1000	387250.7117	3754263.877	520.56	491.93	0
2258	1001	387068.1526	3754189.083	338.00	417.13	0
2259	1002	386959.0285	3754209.901	228.88	437.95	0
2260	1003	386855.6114	3754073.504	125.46	301.55	0
2261	1004	386642.0102	3754117.309	-88.14	345.36	67
2262	1005	387177.7227	3754073.55	447.57	301.60	26
2263	1006	386933.7782	3754046.067	203.63	274.12	3
2264	1007	386958.486	3753846.149	228.34	74.20	5
2265	1008	387164.1192	3753870.318	433.97	98.37	32
2266	1009	387362.4417	3753894.024	632.29	122.07	26
2267	1010	387385.7723	3753694.124	655.62	-77.83	147
2268	1011	387187.5369	3753670.306	457.39	-101.64	296
2269	1012	386982.2599	3753645.355	252.11	-126.60	0
2270	1013	386913.7638	3753739.772	183.61	-32.18	0
2271	1014	386889.2263	3753736.738	159.08	-35.21	0
2272	1015	386948.2158	3753240.082	218.07	-531.87	0
2273	1016	386975.0763	3753228.45	244.93	-543.50	0
2274	1017	387162.1636	3753464.774	432.01	-307.18	59
2275	1018	387409.6548	3753493.885	679.50	-278.07	143
2276	1019	387227.7208	3753270.471	497.57	-501.48	92
2277	1020	387460.1905	3753092.82	730.04	-679.13	162
2278	1021	387210.494	3753065.729	480.34	-706.22	9
2279	1024	387004.0633	3752836.178	273.91	-935.77	0

Table 7a. PMI Cancer Risk By Substance and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Chemical Name	CAS #	Inhalation	Soil	Dermal	Mother's Milk	Crops	Total	Contribution
Acetaldehyde	75070	7.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.31E-09	0.10%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Benzene	71432	1.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-07	1.87%
Cadmium	7440439	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-07	3.56%
Cr(VI)	18540299	3.47E-06	6.01E-08	2.30E-09	0.00E+00	1.97E-06	5.50E-06	75.68%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-06	17.87%
Formaldehyde	50000	6.07E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-08	0.84%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	6.11E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.11E-09	0.08%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		5.24E-06	6.01E-08	2.30E-09	0.00E+00	1.97E-06	7.26E-06	100.00%

Table 7b. PMI Cancer Risk By Source and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Source ID	Source Name	Inhalation	Dermal	Soil	Mother's Milk	Plants	Total	Contribution
Source 9	Boiler 1	6.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-08	0.89%
Source 10	Boiler 2	5.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.96E-08	0.82%
Source 11	Boiler 3	6.51E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.51E-08	0.90%
Source 16	Cadmium	2.59E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.59E-07	3.56%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	1.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-08	0.15%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	3.77E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-09	0.05%
Source 13	Oven 2	9.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-09	0.13%
Source 14	Oven 3	7.44E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.44E-09	0.10%
Source 15	Oven 4	3.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.24E-09	0.04%
Source 1	SB1	1.46E-06	8.09E-10	2.11E-08	0.00E+00	6.91E-07	2.18E-06	29.94%
Source 2	SB2	1.38E-06	7.64E-10	1.99E-08	0.00E+00	6.52E-07	2.05E-06	28.26%
Source 3	SB3	1.32E-06	7.30E-10	1.90E-08	0.00E+00	6.23E-07	1.96E-06	27.00%
Source 4	SB4-1	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-07	2.12%
Source 5	SB4-2	1.49E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-07	2.04%
Source 6	SB4-3	1.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-07	1.98%
Source 7	SB4-4	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-07	2.00%
Total		5.24E-06	2.30E-09	6.01E-08	0.00E+00	1.97E-06	7.26E-06	100.00%

Table 8a. MEIR Cancer Risk By Substance and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Chemical Name	CAS #	Inhalation	Soil	Dermal	Mother's Milk	Crops	Total	Contribution
Acetaldehyde	75070	3.14E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.14E-09	0.06%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Benzene	71432	5.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.84E-08	1.16%
Cadmium	7440439	2.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07	4.12%
Cr(VI)	18540299	2.42E-06	4.20E-08	1.61E-09	0.00E+00	1.37E-06	3.84E-06	76.63%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	8.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.74E-07	17.45%
Formaldehyde	50000	2.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-08	0.52%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	2.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.62E-09	0.05%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		3.59E-06	4.20E-08	1.61E-09	0.00E+00	1.37E-06	5.01E-06	100.00%

Table 8b. MEIR Cancer Risk By Source and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Source ID	Source Name	Inhalation	Dermal	Soil	Mother's Milk	Plants	Total	Contribution
Source 9	Boiler 1	2.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-08	0.59%
Source 10	Boiler 2	1.27E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-08	0.25%
Source 11	Boiler 3	1.54E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-08	0.31%
Source 16	Cadmium	2.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07	4.12%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	1.34E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-08	0.27%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	4.14E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-09	0.08%
Source 13	Oven 2	6.75E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.75E-09	0.13%
Source 14	Oven 3	7.53E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.53E-09	0.15%
Source 15	Oven 4	6.64E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.64E-09	0.13%
Source 1	SB1	1.03E-06	5.72E-10	1.49E-08	0.00E+00	4.88E-07	1.54E-06	30.67%
Source 2	SB2	9.60E-07	5.32E-10	1.39E-08	0.00E+00	4.54E-07	1.43E-06	28.51%
Source 3	SB3	9.13E-07	5.05E-10	1.32E-08	0.00E+00	4.32E-07	1.36E-06	27.10%
Source 4	SB4-1	1.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-07	2.09%
Source 5	SB4-2	9.76E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.76E-08	1.95%
Source 6	SB4-3	9.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.10E-08	1.82%
Source 7	SB4-4	9.15E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.15E-08	1.83%
Total		3.59E-06	1.61E-09	4.20E-08	0.00E+00	1.37E-06	5.01E-06	100.00%

Table 9a. MEIW Cancer Risk By Substance and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Chemical Name	CAS #	Inhalation	Soil	Dermal	Total	Contribution
Acetaldehyde	75070	5.96E-10	0.00E+00	0.00E+00	5.96E-10	0.14%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Benzene	71432	1.11E-08	0.00E+00	0.00E+00	1.11E-08	2.56%
Cadmium	7440439	2.11E-08	0.00E+00	0.00E+00	2.11E-08	4.87%
Cr(VI)	18540299	2.83E-07	5.99E-09	4.15E-10	2.89E-07	66.75%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	1.06E-07	0.00E+00	0.00E+00	1.06E-07	24.43%
Formaldehyde	50000	4.95E-09	0.00E+00	0.00E+00	4.95E-09	1.14%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	4.98E-10	0.00E+00	0.00E+00	4.98E-10	0.12%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Xylenes	1330207	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Total		4.27E-07	5.99E-09	4.15E-10	4.33E-07	100.00%

Table 9b. MEIW Cancer Risk By Source and Exposure Pathway

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Source ID	Source Name	Inhalation	Dermal	Soil	Mother's Milk	Plants	Total	Contribution
Source 9	Boiler 1	5.28E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-09	1.22%
Source 10	Boiler 2	4.86E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.86E-09	1.12%
Source 11	Boiler 3	5.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.31E-09	1.23%
Source 16	Cadmium	2.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-08	4.87%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	8.96E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-10	0.21%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	3.08E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-10	0.07%
Source 13	Oven 2	7.59E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.59E-10	0.18%
Source 14	Oven 3	6.06E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-10	0.14%
Source 15	Oven 4	2.64E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-10	0.06%
Source 1	SB1	1.19E-07	1.46E-10	2.10E-09	0.00E+00	0.00E+00	1.21E-07	28.04%
Source 2	SB2	1.12E-07	1.38E-10	1.99E-09	0.00E+00	0.00E+00	1.15E-07	26.46%
Source 3	SB3	1.07E-07	1.32E-10	1.90E-09	0.00E+00	0.00E+00	1.10E-07	25.28%
Source 4	SB4-1	1.26E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-08	2.90%
Source 5	SB4-2	1.21E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-08	2.79%
Source 6	SB4-3	1.17E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-08	2.71%
Source 7	SB4-4	1.19E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-08	2.74%
Total		4.27E-07	4.15E-10	5.99E-09	0.00E+00	0.00E+00	4.33E-07	100.00%

Table 10a. PMI Chronic Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-06	0.07%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	16.51%
Benzene	71432	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.57E-04	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	2.47E-03	0.00E+00	0.00E+00	1.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	10.85%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.93E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-04	4.93E-05	0.43%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	1.08E-04	1.08E-04	1.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	4.04%
Hexane	110543	0.00E+00	2.22E-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	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	6.08E-05	0.00E+00	6.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-06	0.07%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-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	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-05	0.52%
Toluene	108883	0.00E+00	6.18E-03	0.00E+00	0.00E+00	0.00E+00	6.18E-03	6.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.18E-03	53.70%
Xylenes	1330207	0.00E+00	1.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-03	0.00E+00	1.59E-03	0.00E+00	0.00E+00	0.00E+00	1.59E-03	13.81%
Total		0.00E+00	7.77E-03	0.00E+00	2.64E-03	1.21E-04	6.35E-03	1.15E-02	0.00E+00	1.59E-03	0.00E+00	1.08E-04	7.77E-04	1.15E-02	100.00%

Table 10b. PMI Chronic Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	1.15E-05	0.00E+00	3.38E-07	3.38E-07	9.04E-06	7.17E-04	0.00E+00	2.77E-06	0.00E+00	3.38E-07	1.90E-04	7.17E-04	6.22%
Source 10	Boiler 2	0.00E+00	1.06E-05	0.00E+00	3.11E-07	3.11E-07	8.31E-06	6.60E-04	0.00E+00	2.54E-06	0.00E+00	3.11E-07	1.75E-04	6.60E-04	5.73%
Source 11	Boiler 3	0.00E+00	1.16E-05	0.00E+00	3.40E-07	3.40E-07	9.08E-06	7.21E-04	0.00E+00	2.78E-06	0.00E+00	3.40E-07	1.91E-04	7.21E-04	6.26%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	2.47E-03	0.00E+00	0.00E+00	1.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	10.85%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	1.95E-06	0.00E+00	5.72E-08	5.72E-08	1.53E-06	1.21E-04	0.00E+00	4.68E-07	0.00E+00	5.72E-08	3.22E-05	1.21E-04	1.05%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	6.71E-07	0.00E+00	1.96E-08	1.96E-08	5.25E-07	4.18E-05	0.00E+00	1.61E-07	0.00E+00	1.96E-08	1.11E-05	4.18E-05	0.36%
Source 13	Oven 2	0.00E+00	1.66E-06	0.00E+00	4.85E-08	4.85E-08	1.30E-06	1.03E-04	0.00E+00	3.98E-07	0.00E+00	4.85E-08	2.73E-05	1.03E-04	0.90%
Source 14	Oven 3	0.00E+00	1.32E-06	0.00E+00	3.87E-08	3.87E-08	1.04E-06	8.24E-05	0.00E+00	3.18E-07	0.00E+00	3.87E-08	2.18E-05	8.24E-05	0.72%
Source 15	Oven 4	0.00E+00	5.76E-07	0.00E+00	1.69E-08	1.69E-08	4.51E-07	3.59E-05	0.00E+00	1.38E-07	0.00E+00	1.69E-08	9.49E-06	3.59E-05	0.31%
Source 1	SB1	0.00E+00	1.46E-03	0.00E+00	3.18E-05	2.27E-05	1.20E-03	1.48E-03	0.00E+00	3.00E-04	0.00E+00	2.03E-05	4.22E-05	1.48E-03	12.87%
Source 2	SB2	0.00E+00	1.38E-03	0.00E+00	3.00E-05	2.14E-05	1.13E-03	1.40E-03	0.00E+00	2.83E-04	0.00E+00	1.91E-05	3.98E-05	1.40E-03	12.15%
Source 3	SB3	0.00E+00	1.32E-03	0.00E+00	2.87E-05	2.05E-05	1.08E-03	1.34E-03	0.00E+00	2.70E-04	0.00E+00	1.83E-05	3.80E-05	1.34E-03	11.60%
Source 4	SB4-1	0.00E+00	9.30E-04	0.00E+00	2.02E-05	1.44E-05	7.60E-04	9.30E-04	0.00E+00	1.90E-04	0.00E+00	1.28E-05	0.00E+00	9.30E-04	8.07%
Source 5	SB4-2	0.00E+00	8.95E-04	0.00E+00	1.94E-05	1.38E-05	7.31E-04	8.95E-04	0.00E+00	1.83E-04	0.00E+00	1.24E-05	0.00E+00	8.95E-04	7.77%
Source 6	SB4-3	0.00E+00	8.67E-04	0.00E+00	1.88E-05	1.34E-05	7.09E-04	8.67E-04	0.00E+00	1.77E-04	0.00E+00	1.20E-05	0.00E+00	8.67E-04	7.53%
Source 7	SB4-4	0.00E+00	8.76E-04	0.00E+00	1.90E-05	1.35E-05	7.16E-04	8.76E-04	0.00E+00	1.79E-04	0.00E+00	1.21E-05	0.00E+00	8.76E-04	7.61%
Total		0.00E+00	7.77E-03	0.00E+00	2.64E-03	1.21E-04	6.35E-03	1.15E-02	0.00E+00	1.59E-03	0.00E+00	1.08E-04	7.77E-04	1.15E-02	100.00%

Table 11a. MEIR Chronic Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.24E-06	0.04%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.16E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.16E-04	11.13%
Benzene	71432	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.82E-04	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	1.97E-03	0.00E+00	0.00E+00	9.97E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.97E-04	13.61%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.38E-05	3.44E-05	0.47%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	7.28E-05	7.28E-05	7.28E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.28E-05	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-04	2.72%
Hexane	110543	0.00E+00	9.52E-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	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	4.11E-05	0.00E+00	4.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	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	3.52E-06	0.05%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.65E-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	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.58E-05	0.35%
Toluene	108883	0.00E+00	4.17E-03	0.00E+00	0.00E+00	0.00E+00	4.17E-03	4.17E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.17E-03	56.97%
Xylenes	1330207	0.00E+00	1.07E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-03	0.00E+00	1.07E-03	0.00E+00	0.00E+00	0.00E+00	1.07E-03	14.65%
Total		0.00E+00	5.25E-03	0.00E+00	2.08E-03	8.15E-05	4.29E-03	7.33E-03	0.00E+00	1.07E-03	0.00E+00	7.28E-05	3.66E-04	7.33E-03	100.00%

Table 11b. MEIR Chronic Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	5.27E-06	0.00E+00	1.55E-07	1.55E-07	4.13E-06	3.28E-04	0.00E+00	1.26E-06	0.00E+00	1.55E-07	8.68E-05	3.28E-04	4.47%
Source 10	Boiler 2	0.00E+00	2.26E-06	0.00E+00	6.62E-08	6.62E-08	1.77E-06	1.40E-04	0.00E+00	5.42E-07	0.00E+00	6.62E-08	3.72E-05	1.40E-04	1.92%
Source 11	Boiler 3	0.00E+00	2.74E-06	0.00E+00	8.05E-08	8.05E-08	2.15E-06	1.71E-04	0.00E+00	6.58E-07	0.00E+00	8.05E-08	4.52E-05	1.71E-04	2.33%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	1.97E-03	0.00E+00	0.00E+00	9.97E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.97E-04	13.61%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	2.38E-06	0.00E+00	7.00E-08	7.00E-08	1.87E-06	1.49E-04	0.00E+00	5.73E-07	0.00E+00	7.00E-08	3.94E-05	1.49E-04	2.03%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	7.36E-07	0.00E+00	2.16E-08	2.16E-08	5.77E-07	4.59E-05	0.00E+00	1.77E-07	0.00E+00	2.16E-08	1.21E-05	4.59E-05	0.63%
Source 13	Oven 2	0.00E+00	1.20E-06	0.00E+00	3.51E-08	3.51E-08	9.40E-07	7.48E-05	0.00E+00	2.88E-07	0.00E+00	3.51E-08	1.98E-05	7.48E-05	1.02%
Source 14	Oven 3	0.00E+00	1.34E-06	0.00E+00	3.92E-08	3.92E-08	1.05E-06	8.34E-05	0.00E+00	3.22E-07	0.00E+00	3.92E-08	2.21E-05	8.34E-05	1.14%
Source 15	Oven 4	0.00E+00	1.18E-06	0.00E+00	3.45E-08	3.45E-08	9.24E-07	7.35E-05	0.00E+00	2.84E-07	0.00E+00	3.45E-08	1.94E-05	7.35E-05	1.00%
Source 1	SB1	0.00E+00	1.03E-03	0.00E+00	2.25E-05	1.60E-05	8.45E-04	1.05E-03	0.00E+00	2.12E-04	0.00E+00	1.43E-05	2.98E-05	1.05E-03	14.29%
Source 2	SB2	0.00E+00	9.62E-04	0.00E+00	2.09E-05	1.49E-05	7.86E-04	9.73E-04	0.00E+00	1.97E-04	0.00E+00	1.33E-05	2.77E-05	9.73E-04	13.29%
Source 3	SB3	0.00E+00	9.14E-04	0.00E+00	1.98E-05	1.42E-05	7.47E-04	9.25E-04	0.00E+00	1.87E-04	0.00E+00	1.26E-05	2.63E-05	9.25E-04	12.63%
Source 4	SB4-1	0.00E+00	6.31E-04	0.00E+00	1.37E-05	9.76E-06	5.16E-04	6.31E-04	0.00E+00	1.29E-04	0.00E+00	8.72E-06	0.00E+00	6.31E-04	8.61%
Source 5	SB4-2	0.00E+00	5.88E-04	0.00E+00	1.28E-05	9.10E-06	4.81E-04	5.88E-04	0.00E+00	1.20E-04	0.00E+00	8.13E-06	0.00E+00	5.88E-04	8.03%
Source 6	SB4-3	0.00E+00	5.48E-04	0.00E+00	1.19E-05	8.48E-06	4.48E-04	5.48E-04	0.00E+00	1.12E-04	0.00E+00	7.58E-06	0.00E+00	5.48E-04	7.48%
Source 7	SB4-4	0.00E+00	5.52E-04	0.00E+00	1.20E-05	8.53E-06	4.51E-04	5.52E-04	0.00E+00	1.13E-04	0.00E+00	7.62E-06	0.00E+00	5.52E-04	7.53%
Total		0.00E+00	5.25E-03	0.00E+00	2.08E-03	8.15E-05	4.29E-03	7.33E-03	0.00E+00	1.07E-03	0.00E+00	7.28E-05	3.66E-04	7.33E-03	100.00%

Table 12a. MEIW Chronic Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-06	0.07%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	16.51%
Benzene	71432	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.57E-04	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	1.50E-03	0.00E+00	0.00E+00	1.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	10.85%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.93E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.68E-06	4.93E-05	0.43%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	1.08E-04	1.08E-04	1.08E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-04	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-04	4.04%
Hexane	110543	0.00E+00	2.22E-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	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	6.08E-05	0.00E+00	6.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.20E-06	0.07%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-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	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.01E-05	0.52%
Toluene	108883	0.00E+00	6.18E-03	0.00E+00	0.00E+00	0.00E+00	6.18E-03	6.18E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.18E-03	53.70%
Xylenes	1330207	0.00E+00	1.59E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-03	0.00E+00	1.59E-03	0.00E+00	0.00E+00	0.00E+00	1.59E-03	13.81%
Total		0.00E+00	7.77E-03	0.00E+00	1.67E-03	1.21E-04	6.35E-03	1.15E-02	0.00E+00	1.59E-03	0.00E+00	1.08E-04	6.60E-04	1.15E-02	100.00%

Table 12b. MEIW Chronic Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2289 | UTME 386792 | UTMN 3753792

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	1.15E-05	0.00E+00	3.38E-07	3.38E-07	9.04E-06	7.17E-04	0.00E+00	2.77E-06	0.00E+00	3.38E-07	1.90E-04	7.17E-04	6.22%
Source 10	Boiler 2	0.00E+00	1.06E-05	0.00E+00	3.11E-07	3.11E-07	8.31E-06	6.60E-04	0.00E+00	2.54E-06	0.00E+00	3.11E-07	1.75E-04	6.60E-04	5.73%
Source 11	Boiler 3	0.00E+00	1.16E-05	0.00E+00	3.40E-07	3.40E-07	9.08E-06	7.21E-04	0.00E+00	2.78E-06	0.00E+00	3.40E-07	1.91E-04	7.21E-04	6.26%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	1.50E-03	0.00E+00	0.00E+00	1.25E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	10.85%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	1.95E-06	0.00E+00	5.72E-08	5.72E-08	1.53E-06	1.21E-04	0.00E+00	4.68E-07	0.00E+00	5.72E-08	3.22E-05	1.21E-04	1.05%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	6.71E-07	0.00E+00	1.96E-08	1.96E-08	5.25E-07	4.18E-05	0.00E+00	1.61E-07	0.00E+00	1.96E-08	1.11E-05	4.18E-05	0.36%
Source 13	Oven 2	0.00E+00	1.66E-06	0.00E+00	4.85E-08	4.85E-08	1.30E-06	1.03E-04	0.00E+00	3.98E-07	0.00E+00	4.85E-08	2.73E-05	1.03E-04	0.90%
Source 14	Oven 3	0.00E+00	1.32E-06	0.00E+00	3.87E-08	3.87E-08	1.04E-06	8.24E-05	0.00E+00	3.18E-07	0.00E+00	3.87E-08	2.18E-05	8.24E-05	0.72%
Source 15	Oven 4	0.00E+00	5.76E-07	0.00E+00	1.69E-08	1.69E-08	4.51E-07	3.59E-05	0.00E+00	1.38E-07	0.00E+00	1.69E-08	9.49E-06	3.59E-05	0.31%
Source 1	SB1	0.00E+00	1.46E-03	0.00E+00	3.18E-05	2.27E-05	1.20E-03	1.48E-03	0.00E+00	3.00E-04	0.00E+00	2.03E-05	9.42E-07	1.48E-03	12.87%
Source 2	SB2	0.00E+00	1.38E-03	0.00E+00	3.00E-05	2.14E-05	1.13E-03	1.40E-03	0.00E+00	2.83E-04	0.00E+00	1.91E-05	8.89E-07	1.40E-03	12.15%
Source 3	SB3	0.00E+00	1.32E-03	0.00E+00	2.87E-05	2.05E-05	1.08E-03	1.34E-03	0.00E+00	2.70E-04	0.00E+00	1.83E-05	8.50E-07	1.34E-03	11.60%
Source 4	SB4-1	0.00E+00	9.30E-04	0.00E+00	2.02E-05	1.44E-05	7.60E-04	9.30E-04	0.00E+00	1.90E-04	0.00E+00	1.28E-05	0.00E+00	9.30E-04	8.07%
Source 5	SB4-2	0.00E+00	8.95E-04	0.00E+00	1.94E-05	1.38E-05	7.31E-04	8.95E-04	0.00E+00	1.83E-04	0.00E+00	1.24E-05	0.00E+00	8.95E-04	7.77%
Source 6	SB4-3	0.00E+00	8.67E-04	0.00E+00	1.88E-05	1.34E-05	7.09E-04	8.67E-04	0.00E+00	1.77E-04	0.00E+00	1.20E-05	0.00E+00	8.67E-04	7.53%
Source 7	SB4-4	0.00E+00	8.76E-04	0.00E+00	1.90E-05	1.35E-05	7.16E-04	8.76E-04	0.00E+00	1.79E-04	0.00E+00	1.21E-05	0.00E+00	8.76E-04	7.61%
Total		0.00E+00	7.77E-03	0.00E+00	1.67E-03	1.21E-04	6.35E-03	1.15E-02	0.00E+00	1.59E-03	0.00E+00	1.08E-04	6.60E-04	1.15E-02	100.00%

Table 13a. PMI Acute Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2297 | UTME 386766 | UTMN 3753752

Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-05	0.00E+00	5.76E-05	0.00E+00	0.00E+00	0.00E+00	5.76E-05	0.41%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.80E-03	0.00E+00	6.80E-03	0.00E+00	0.00E+00	0.00E+00	6.80E-03	48.15%
Benzene	71432	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-04	0.00E+00	1.37E-04	0.00E+00	0.00E+00	0.00E+00	1.37E-04	0.97%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-03	0.00E+00	0.00E+00	0.00E+00	1.95E-03	13.78%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E-03	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	1.46E-03	10.36%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-03	0.00E+00	2.60E-03	0.00E+00	0.00E+00	0.00E+00	2.60E-03	18.44%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	5.55E-04	0.00E+00	0.00E+00	0.00E+00	5.55E-04	5.55E-04	0.00E+00	5.55E-04	0.00E+00	0.00E+00	0.00E+00	5.55E-04	3.93%
Xylenes	1330207	0.00E+00	5.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-04	0.00E+00	5.60E-04	0.00E+00	0.00E+00	0.00E+00	5.60E-04	3.96%
Total		0.00E+00	1.11E-03	1.87E-03	0.00E+00	0.00E+00	2.42E-03	1.22E-02	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.87E-03	1.41E-02	100.00%

Table 13b. PMI Acute Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2297 | UTME 386766 | UTMN 3753752

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	3.68E-06	4.90E-04	0.00E+00	0.00E+00	4.92E-04	1.80E-03	0.00E+00	2.32E-03	0.00E+00	0.00E+00	4.90E-04	2.32E-03	16.40%
Source 10	Boiler 2	0.00E+00	4.00E-06	5.33E-04	0.00E+00	0.00E+00	5.35E-04	1.96E-03	0.00E+00	2.52E-03	0.00E+00	0.00E+00	5.33E-04	2.52E-03	17.84%
Source 11	Boiler 3	0.00E+00	3.89E-06	5.18E-04	0.00E+00	0.00E+00	5.20E-04	1.91E-03	0.00E+00	2.45E-03	0.00E+00	0.00E+00	5.18E-04	2.45E-03	17.35%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	8.64E-07	1.15E-04	0.00E+00	0.00E+00	1.15E-04	4.24E-04	0.00E+00	5.44E-04	0.00E+00	0.00E+00	1.15E-04	5.44E-04	3.85%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	2.19E-07	2.92E-05	0.00E+00	0.00E+00	2.93E-05	1.07E-04	0.00E+00	1.38E-04	0.00E+00	0.00E+00	2.92E-05	1.38E-04	0.98%
Source 13	Oven 2	0.00E+00	3.51E-07	4.67E-05	0.00E+00	0.00E+00	4.69E-05	1.72E-04	0.00E+00	2.21E-04	0.00E+00	0.00E+00	4.67E-05	2.21E-04	1.56%
Source 14	Oven 3	0.00E+00	2.64E-07	3.52E-05	0.00E+00	0.00E+00	3.53E-05	1.30E-04	0.00E+00	1.66E-04	0.00E+00	0.00E+00	3.52E-05	1.66E-04	1.18%
Source 15	Oven 4	0.00E+00	7.39E-07	9.84E-05	0.00E+00	0.00E+00	9.88E-05	3.63E-04	0.00E+00	4.65E-04	0.00E+00	0.00E+00	9.84E-05	4.65E-04	3.29%
Source 1	SB1	0.00E+00	2.39E-04	0.00E+00	0.00E+00	0.00E+00	1.19E-04	1.15E-03	0.00E+00	1.15E-03	0.00E+00	0.00E+00	0.00E+00	1.15E-03	8.14%
Source 2	SB2	0.00E+00	2.16E-04	0.00E+00	0.00E+00	0.00E+00	1.08E-04	1.04E-03	0.00E+00	1.04E-03	0.00E+00	0.00E+00	0.00E+00	1.04E-03	7.36%
Source 3	SB3	0.00E+00	2.05E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-04	9.89E-04	0.00E+00	9.89E-04	0.00E+00	0.00E+00	0.00E+00	9.89E-04	7.00%
Source 4	SB4-1	0.00E+00	1.12E-04	0.00E+00	0.00E+00	0.00E+00	5.57E-05	5.39E-04	0.00E+00	5.39E-04	0.00E+00	0.00E+00	0.00E+00	5.39E-04	3.82%
Source 5	SB4-2	0.00E+00	1.09E-04	0.00E+00	0.00E+00	0.00E+00	5.45E-05	5.27E-04	0.00E+00	5.27E-04	0.00E+00	0.00E+00	0.00E+00	5.27E-04	3.73%
Source 6	SB4-3	0.00E+00	1.09E-04	0.00E+00	0.00E+00	0.00E+00	5.44E-05	5.26E-04	0.00E+00	5.26E-04	0.00E+00	0.00E+00	0.00E+00	5.26E-04	3.73%
Source 7	SB4-4	0.00E+00	1.11E-04	0.00E+00	0.00E+00	0.00E+00	5.52E-05	5.34E-04	0.00E+00	5.34E-04	0.00E+00	0.00E+00	0.00E+00	5.34E-04	3.78%
Total		0.00E+00	1.11E-03	1.87E-03	0.00E+00	0.00E+00	2.42E-03	1.22E-02	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.87E-03	1.41E-02	100.00%

Table 14a. MEIR Acute Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.51E-05	0.00E+00	3.51E-05	0.00E+00	0.00E+00	0.00E+00	3.51E-05	0.26%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-03	0.00E+00	4.14E-03	0.00E+00	0.00E+00	0.00E+00	4.14E-03	30.35%
Benzene	71432	0.00E+00	0.00E+00	1.14E-03	0.00E+00	0.00E+00	1.14E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-03	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.13E-04	0.00E+00	2.13E-04	0.00E+00	0.00E+00	0.00E+00	2.13E-04	1.56%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-03	0.00E+00	0.00E+00	0.00E+00	1.19E-03	8.69%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-03	0.00E+00	2.28E-03	0.00E+00	0.00E+00	0.00E+00	2.28E-03	16.73%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-03	0.00E+00	4.06E-03	0.00E+00	0.00E+00	0.00E+00	4.06E-03	29.77%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	8.60E-04	0.00E+00	0.00E+00	0.00E+00	8.60E-04	8.60E-04	0.00E+00	8.60E-04	0.00E+00	0.00E+00	0.00E+00	8.60E-04	6.30%
Xylenes	1330207	0.00E+00	8.66E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-04	0.00E+00	8.66E-04	0.00E+00	0.00E+00	0.00E+00	8.66E-04	6.34%
Total		0.00E+00	1.73E-03	1.14E-03	0.00E+00	0.00E+00	2.00E-03	1.25E-02	0.00E+00	1.36E-02	0.00E+00	0.00E+00	1.14E-03	1.36E-02	100.00%

Table 14b. MEIR Acute Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2280 | UTME 386766 | UTMN 3753797

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	4.28E-06	5.69E-04	0.00E+00	0.00E+00	5.71E-04	2.10E-03	0.00E+00	2.69E-03	0.00E+00	0.00E+00	5.69E-04	2.69E-03	19.71%
Source 10	Boiler 2	0.00E+00	1.09E-06	1.46E-04	0.00E+00	0.00E+00	1.46E-04	5.37E-04	0.00E+00	6.89E-04	0.00E+00	0.00E+00	1.46E-04	6.89E-04	5.05%
Source 11	Boiler 3	0.00E+00	9.61E-07	1.28E-04	0.00E+00	0.00E+00	1.28E-04	4.71E-04	0.00E+00	6.05E-04	0.00E+00	0.00E+00	1.28E-04	6.05E-04	4.43%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	8.33E-07	1.11E-04	0.00E+00	0.00E+00	1.11E-04	4.09E-04	0.00E+00	5.24E-04	0.00E+00	0.00E+00	1.11E-04	5.24E-04	3.84%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	2.31E-07	3.07E-05	0.00E+00	0.00E+00	3.08E-05	1.13E-04	0.00E+00	1.45E-04	0.00E+00	0.00E+00	3.07E-05	1.45E-04	1.06%
Source 13	Oven 2	0.00E+00	3.47E-07	4.62E-05	0.00E+00	0.00E+00	4.64E-05	1.70E-04	0.00E+00	2.18E-04	0.00E+00	0.00E+00	4.62E-05	2.18E-04	1.60%
Source 14	Oven 3	0.00E+00	3.37E-07	4.49E-05	0.00E+00	0.00E+00	4.50E-05	1.65E-04	0.00E+00	2.12E-04	0.00E+00	0.00E+00	4.49E-05	2.12E-04	1.55%
Source 15	Oven 4	0.00E+00	4.58E-07	6.10E-05	0.00E+00	0.00E+00	6.12E-05	2.25E-04	0.00E+00	2.88E-04	0.00E+00	0.00E+00	6.10E-05	2.88E-04	2.11%
Source 1	SB1	0.00E+00	3.81E-04	0.00E+00	0.00E+00	0.00E+00	1.90E-04	1.83E-03	0.00E+00	1.83E-03	0.00E+00	0.00E+00	0.00E+00	1.83E-03	13.44%
Source 2	SB2	0.00E+00	3.79E-04	0.00E+00	0.00E+00	0.00E+00	1.89E-04	1.83E-03	0.00E+00	1.83E-03	0.00E+00	0.00E+00	0.00E+00	1.83E-03	13.39%
Source 3	SB3	0.00E+00	3.09E-04	0.00E+00	0.00E+00	0.00E+00	1.54E-04	1.49E-03	0.00E+00	1.49E-03	0.00E+00	0.00E+00	0.00E+00	1.49E-03	10.90%
Source 4	SB4-1	0.00E+00	1.84E-04	0.00E+00	0.00E+00	0.00E+00	9.17E-05	8.87E-04	0.00E+00	8.87E-04	0.00E+00	0.00E+00	0.00E+00	8.87E-04	6.50%
Source 5	SB4-2	0.00E+00	1.72E-04	0.00E+00	0.00E+00	0.00E+00	8.59E-05	8.31E-04	0.00E+00	8.31E-04	0.00E+00	0.00E+00	0.00E+00	8.31E-04	6.09%
Source 6	SB4-3	0.00E+00	1.46E-04	0.00E+00	0.00E+00	0.00E+00	7.30E-05	7.06E-04	0.00E+00	7.06E-04	0.00E+00	0.00E+00	0.00E+00	7.06E-04	5.17%
Source 7	SB4-4	0.00E+00	1.46E-04	0.00E+00	0.00E+00	0.00E+00	7.28E-05	7.04E-04	0.00E+00	7.04E-04	0.00E+00	0.00E+00	0.00E+00	7.04E-04	5.16%
Total		0.00E+00	1.73E-03	1.14E-03	0.00E+00	0.00E+00	2.00E-03	1.25E-02	0.00E+00	1.36E-02	0.00E+00	0.00E+00	1.14E-03	1.36E-02	100.00%

Table 15a. MEIW Acute Hazard By Substance

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2297 | UTME 386766 | UTMN 3753752

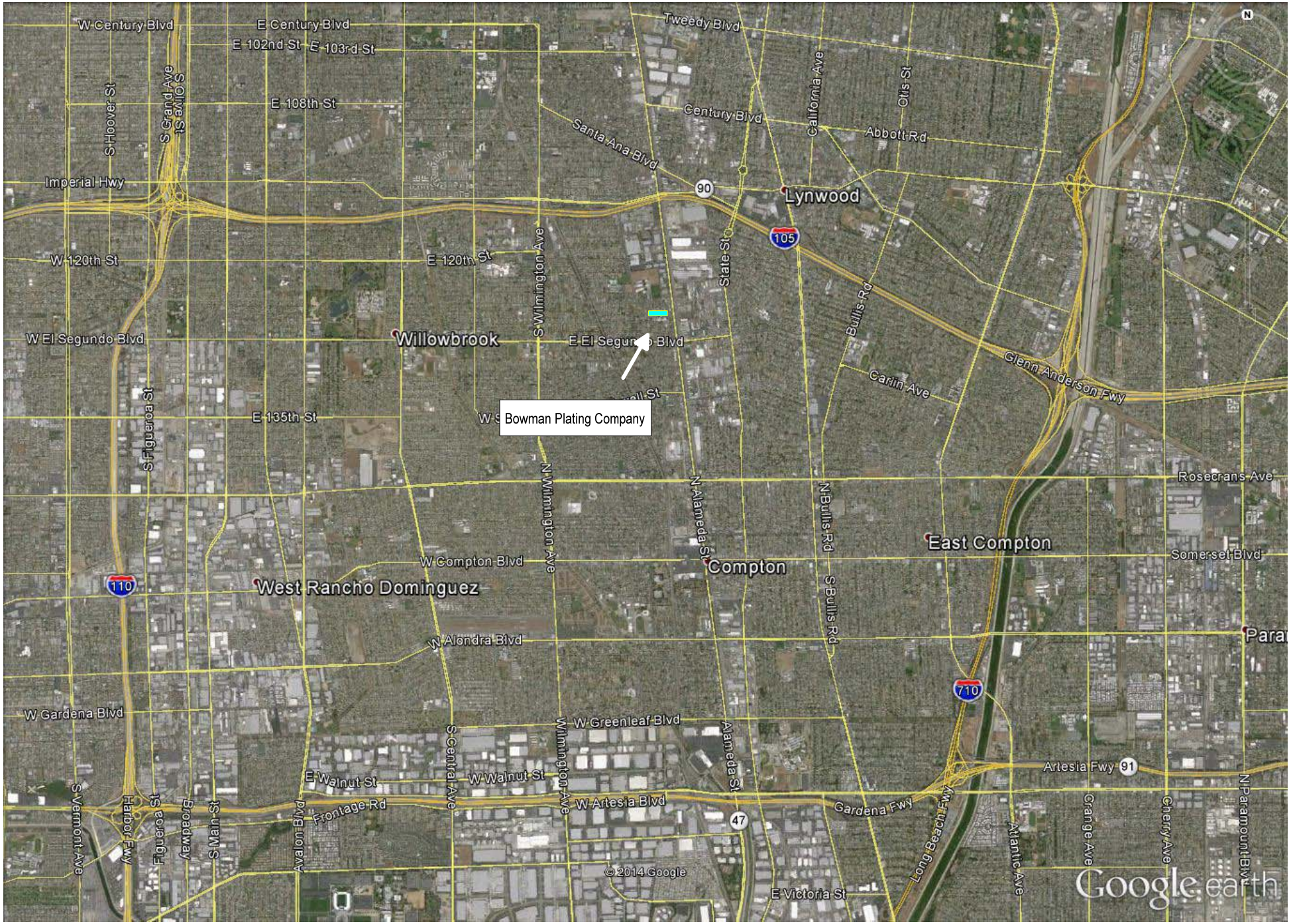
Chemical Name	CAS #	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Acetaldehyde	75070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-05	0.00E+00	5.76E-05	0.00E+00	0.00E+00	0.00E+00	5.76E-05	0.41%
Acrolein	107028	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.80E-03	0.00E+00	6.80E-03	0.00E+00	0.00E+00	0.00E+00	6.80E-03	48.15%
Benzene	71432	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.87E-03	0.00E+00	0.00%
Cadmium	7440439	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Cr(VI)	18540299	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
EGBE	111762	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-04	0.00E+00	1.37E-04	0.00E+00	0.00E+00	0.00E+00	1.37E-04	0.97%
Ethyl Benzene	100414	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Formaldehyde	50000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-03	0.00E+00	0.00E+00	0.00E+00	1.95E-03	13.78%
Hexane	110543	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Isopropyl Alcoh	67630	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.46E-03	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	1.46E-03	10.36%
MEK	78933	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-03	0.00E+00	2.60E-03	0.00E+00	0.00E+00	0.00E+00	2.60E-03	18.44%
Naphthalene	91203	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Nickel	7440020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PAHs-w/	1150	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
PGME	107982	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Propylene	115071	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Toluene	108883	0.00E+00	5.55E-04	0.00E+00	0.00E+00	0.00E+00	5.55E-04	5.55E-04	0.00E+00	5.55E-04	0.00E+00	0.00E+00	0.00E+00	5.55E-04	3.93%
Xylenes	1330207	0.00E+00	5.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.60E-04	0.00E+00	5.60E-04	0.00E+00	0.00E+00	0.00E+00	5.60E-04	3.96%
Total		0.00E+00	1.11E-03	1.87E-03	0.00E+00	0.00E+00	2.42E-03	1.22E-02	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.87E-03	1.41E-02	100.00%

Table 15b. MEIW Acute Hazard By Source

Bowman Plating Company, Compton, CA
Facility ID #18989
Receptor 2297 | UTME 386766 | UTMN 3753752

Source ID	Source Name	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE/TEETH	ENDO	BLOOD	MAX	Contribution
Source 9	Boiler 1	0.00E+00	3.68E-06	4.90E-04	0.00E+00	0.00E+00	4.92E-04	1.80E-03	0.00E+00	2.32E-03	0.00E+00	0.00E+00	4.90E-04	2.32E-03	16.40%
Source 10	Boiler 2	0.00E+00	4.00E-06	5.33E-04	0.00E+00	0.00E+00	5.35E-04	1.96E-03	0.00E+00	2.52E-03	0.00E+00	0.00E+00	5.33E-04	2.52E-03	17.84%
Source 11	Boiler 3	0.00E+00	3.89E-06	5.18E-04	0.00E+00	0.00E+00	5.20E-04	1.91E-03	0.00E+00	2.45E-03	0.00E+00	0.00E+00	5.18E-04	2.45E-03	17.35%
Source 16	Cadmium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 17	Chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 8	Dryer	0.00E+00	8.64E-07	1.15E-04	0.00E+00	0.00E+00	1.15E-04	4.24E-04	0.00E+00	5.44E-04	0.00E+00	0.00E+00	1.15E-04	5.44E-04	3.85%
Source 18	Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00%
Source 12	Oven 1	0.00E+00	2.19E-07	2.92E-05	0.00E+00	0.00E+00	2.93E-05	1.07E-04	0.00E+00	1.38E-04	0.00E+00	0.00E+00	2.92E-05	1.38E-04	0.98%
Source 13	Oven 2	0.00E+00	3.51E-07	4.67E-05	0.00E+00	0.00E+00	4.69E-05	1.72E-04	0.00E+00	2.21E-04	0.00E+00	0.00E+00	4.67E-05	2.21E-04	1.56%
Source 14	Oven 3	0.00E+00	2.64E-07	3.52E-05	0.00E+00	0.00E+00	3.53E-05	1.30E-04	0.00E+00	1.66E-04	0.00E+00	0.00E+00	3.52E-05	1.66E-04	1.18%
Source 15	Oven 4	0.00E+00	7.39E-07	9.84E-05	0.00E+00	0.00E+00	9.88E-05	3.63E-04	0.00E+00	4.65E-04	0.00E+00	0.00E+00	9.84E-05	4.65E-04	3.29%
Source 1	SB1	0.00E+00	2.39E-04	0.00E+00	0.00E+00	0.00E+00	1.19E-04	1.15E-03	0.00E+00	1.15E-03	0.00E+00	0.00E+00	0.00E+00	1.15E-03	8.14%
Source 2	SB2	0.00E+00	2.16E-04	0.00E+00	0.00E+00	0.00E+00	1.08E-04	1.04E-03	0.00E+00	1.04E-03	0.00E+00	0.00E+00	0.00E+00	1.04E-03	7.36%
Source 3	SB3	0.00E+00	2.05E-04	0.00E+00	0.00E+00	0.00E+00	1.02E-04	9.89E-04	0.00E+00	9.89E-04	0.00E+00	0.00E+00	0.00E+00	9.89E-04	7.00%
Source 4	SB4-1	0.00E+00	1.12E-04	0.00E+00	0.00E+00	0.00E+00	5.57E-05	5.39E-04	0.00E+00	5.39E-04	0.00E+00	0.00E+00	0.00E+00	5.39E-04	3.82%
Source 5	SB4-2	0.00E+00	1.09E-04	0.00E+00	0.00E+00	0.00E+00	5.45E-05	5.27E-04	0.00E+00	5.27E-04	0.00E+00	0.00E+00	0.00E+00	5.27E-04	3.73%
Source 6	SB4-3	0.00E+00	1.09E-04	0.00E+00	0.00E+00	0.00E+00	5.44E-05	5.26E-04	0.00E+00	5.26E-04	0.00E+00	0.00E+00	0.00E+00	5.26E-04	3.73%
Source 7	SB4-4	0.00E+00	1.11E-04	0.00E+00	0.00E+00	0.00E+00	5.52E-05	5.34E-04	0.00E+00	5.34E-04	0.00E+00	0.00E+00	0.00E+00	5.34E-04	3.78%
Total		0.00E+00	1.11E-03	1.87E-03	0.00E+00	0.00E+00	2.42E-03	1.22E-02	0.00E+00	1.41E-02	0.00E+00	0.00E+00	1.87E-03	1.41E-02	100.00%

FIGURES



Facility:

Bowman Plating Company
aerospace division

2631 E. 126th Street
Compton, CA 90222

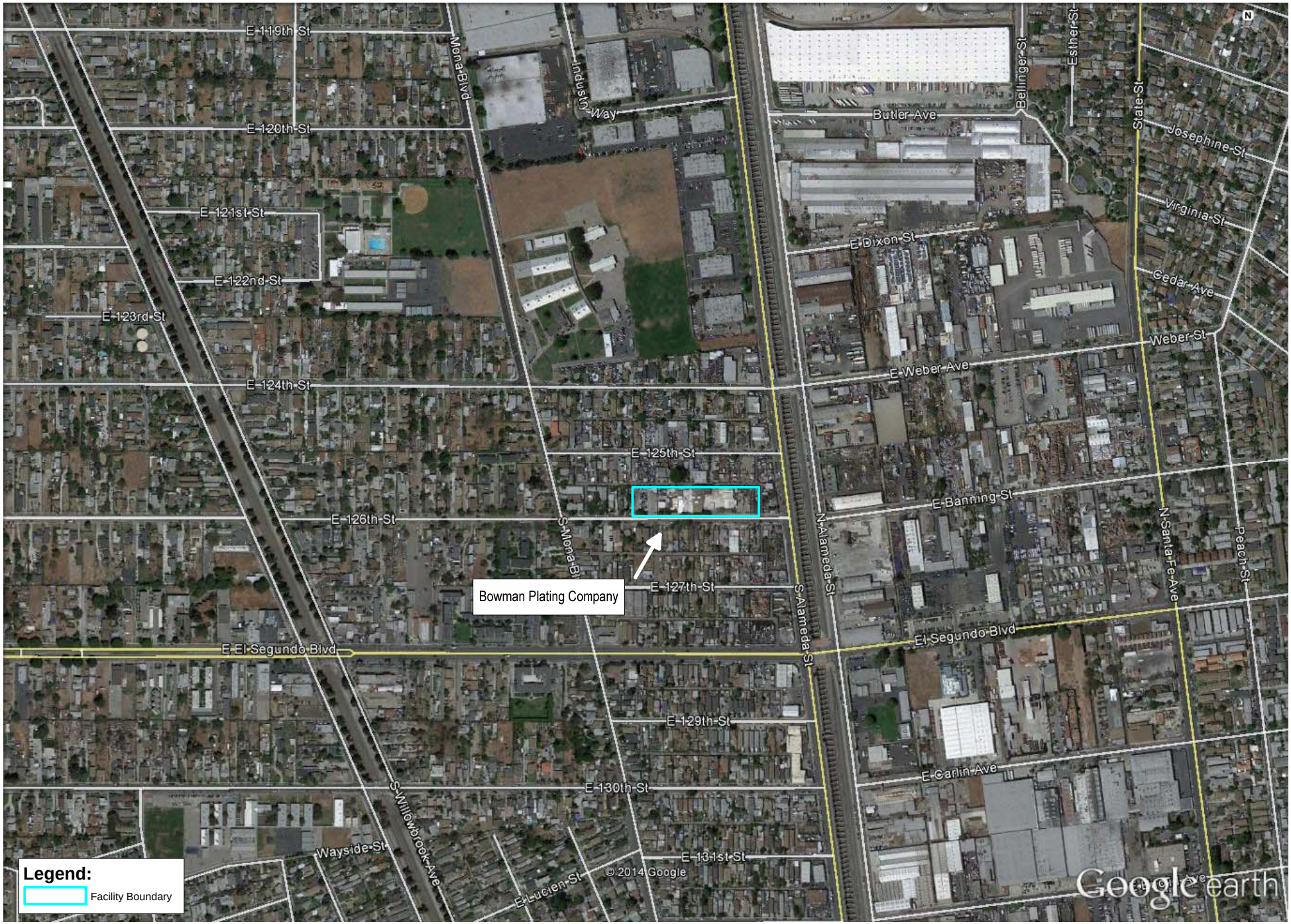
Prepared By:

Trinity Consultants

20 Corporate Park Suite 200
Irvine, CA 92606

Location Map

Project	Date	Figure
150501.0270	October 2016	1



Facility:

Bowman Plating Company
aerospace division

2631 E. 126th Street
Compton, CA 90222

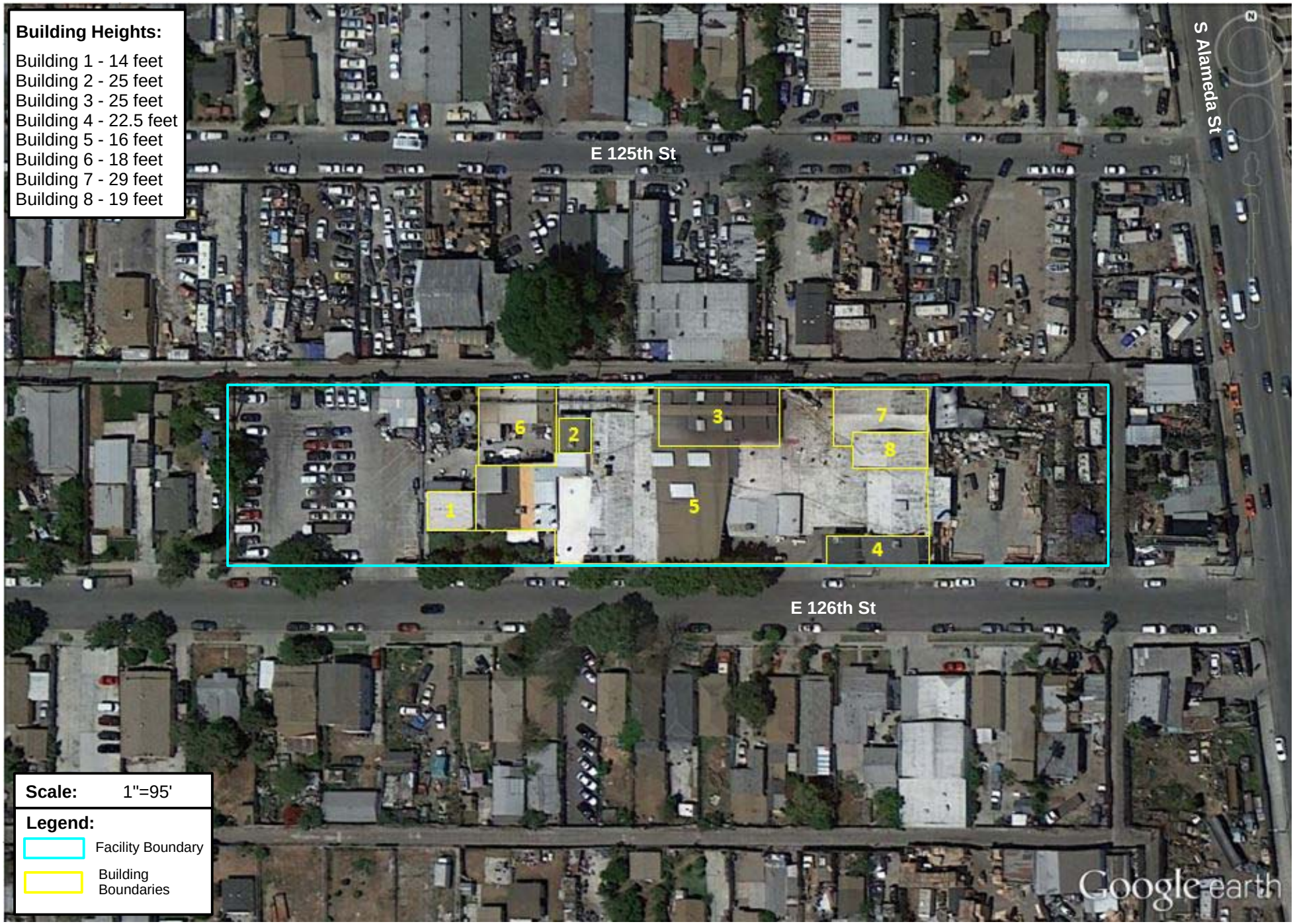
Prepared By:

Trinity Consultants

20 Corporate Park Suite 200
Irvine, CA 92606

Vicinity Map

Project	Date	Figure
150501.0270	October 2016	2

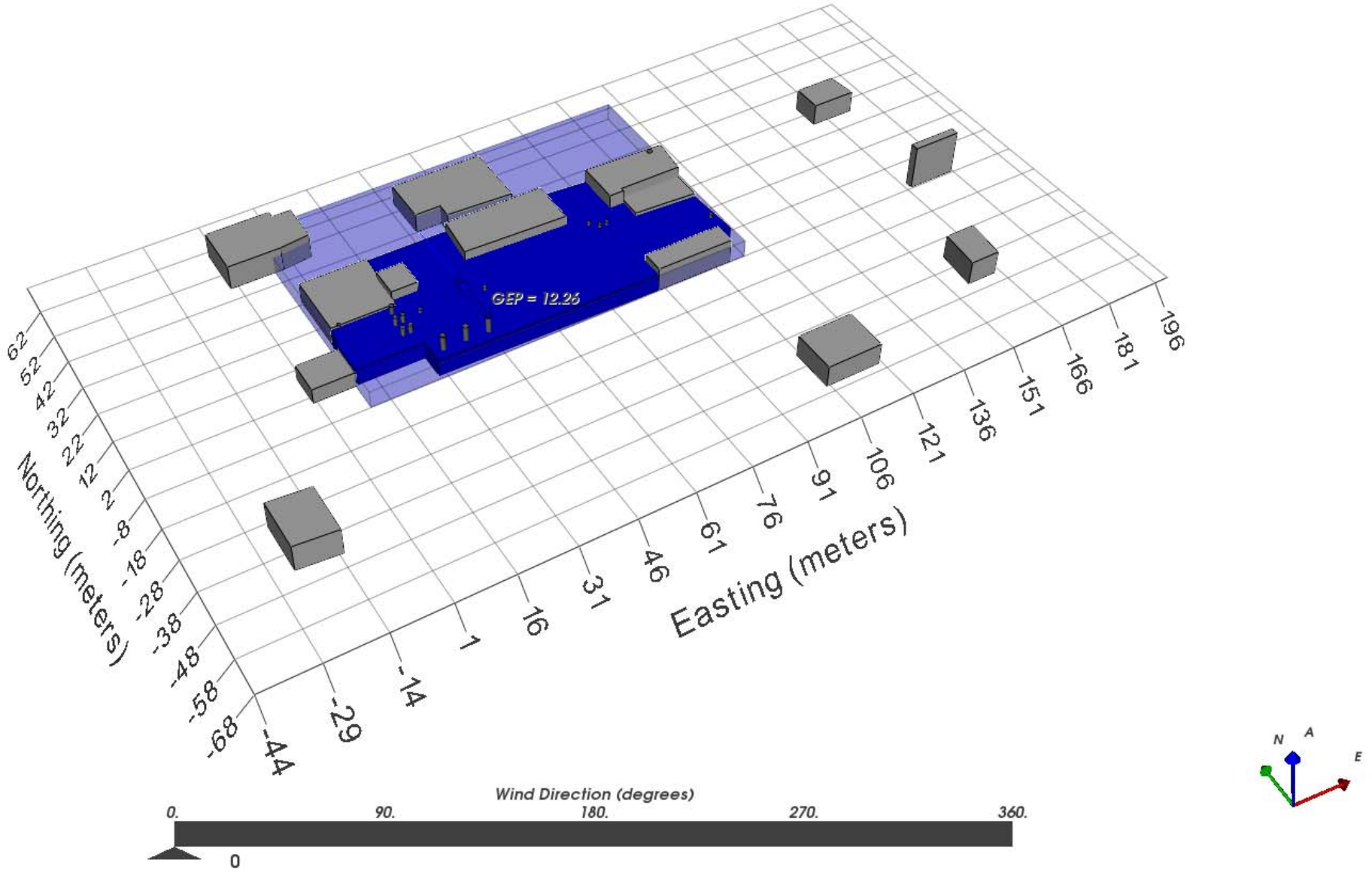


Facility:
Bowman Plating Company
aerospace division
2631 E. 126th Street
Compton, CA 90222

Prepared By:
Trinity Consultants
20 Corporate Park Suite 200
Irvine, CA 92606

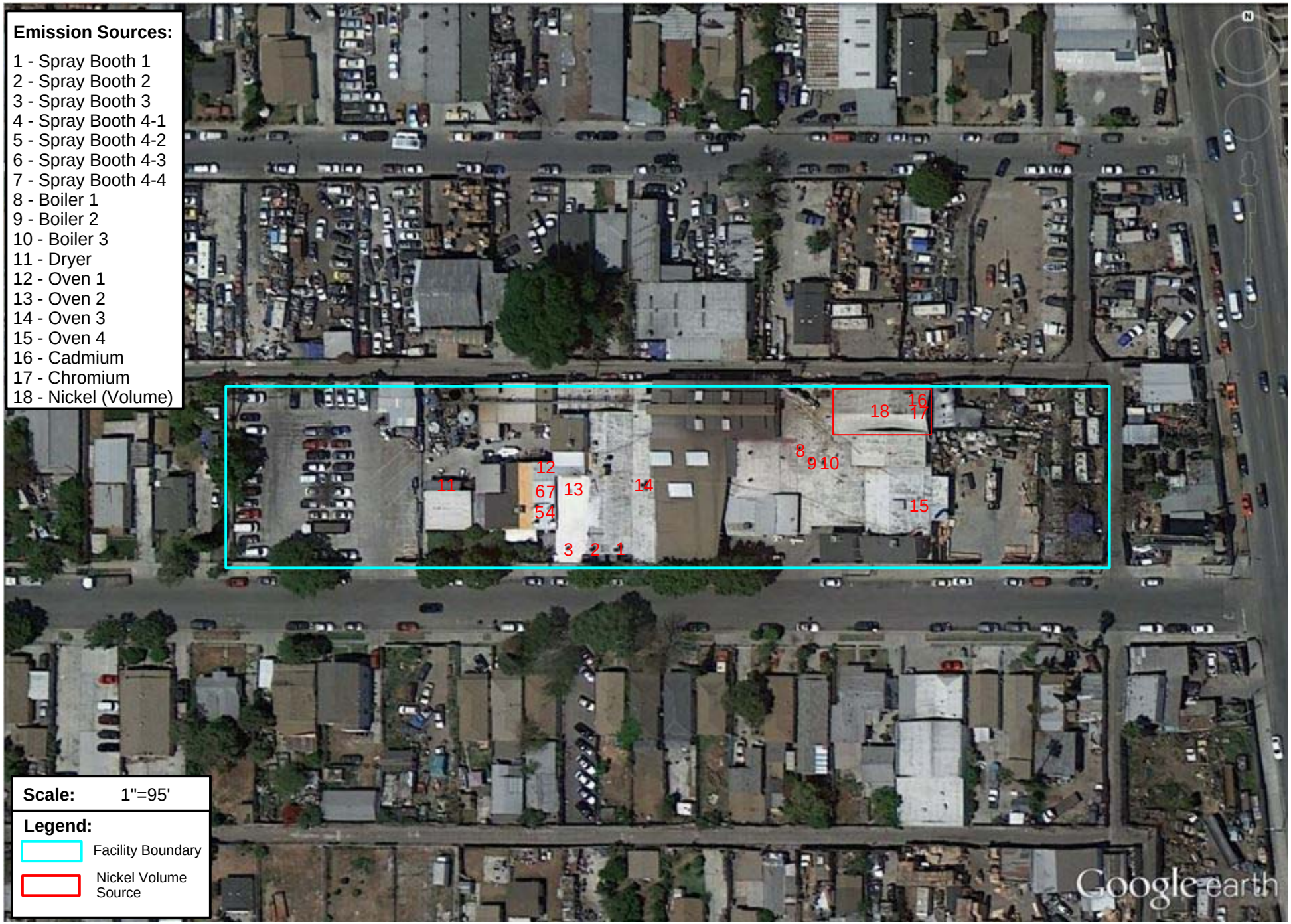
Site Plot Plan

Project	Date	Figure
150501.0270	October 2016	3a



BREEZE Downwash Analyst

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Model Plan**	
		Project: 150501.0270	Date: October 2016
			Figure: 3b



Facility:

Bowman Plating Company
aerospace division

2631 E. 126th Street
Compton, CA 90222

Prepared By:

Trinity Consultants

20 Corporate Park Suite 200
Irvine, CA 92606

Emission Sources

Project	Date	Figure
150501.0270	October 2016	4

Facility:
Bowman Plating Company
aerospace division
2631 E. 126th Street
Compton, CA 90222

Prepared By:
Trinity Consultants
20 Corporate Park Suite 200
Irvine, CA 92606

Zoning Map

Project	Date	Figure
150501.0270	October 2016	5a

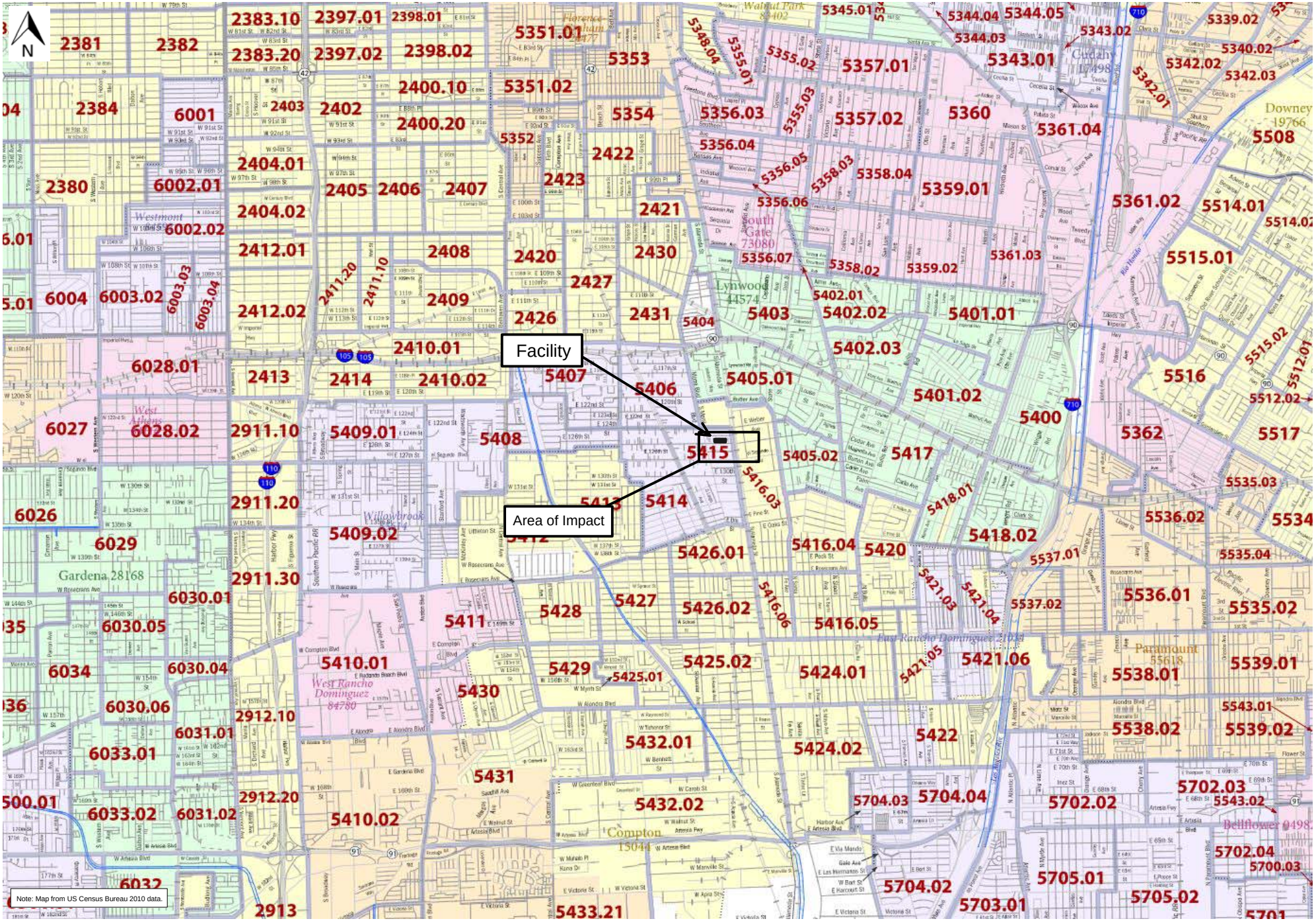
WGS 1984 Datum | UTM Zone 11N

Facility:
Bowman Plating Company
aerospace division
2631 E. 126th Street
Compton, CA 90222

Prepared By:
Trinity Consultants
20 Corporate Park Suite 200
Irvine, CA 92606

Surrounding Land Use

Project	Date	Figure
150501.0270	October 2016	5b



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Census Tract Map

Project	Date	Figure
150501.0270	October 2016	6a

WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:	Census Tract Map - Zone of Impact		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	Project 150501.0270	Date October 2016	Figure 6b

WGS 1984 Datum | UTM Zone 11N

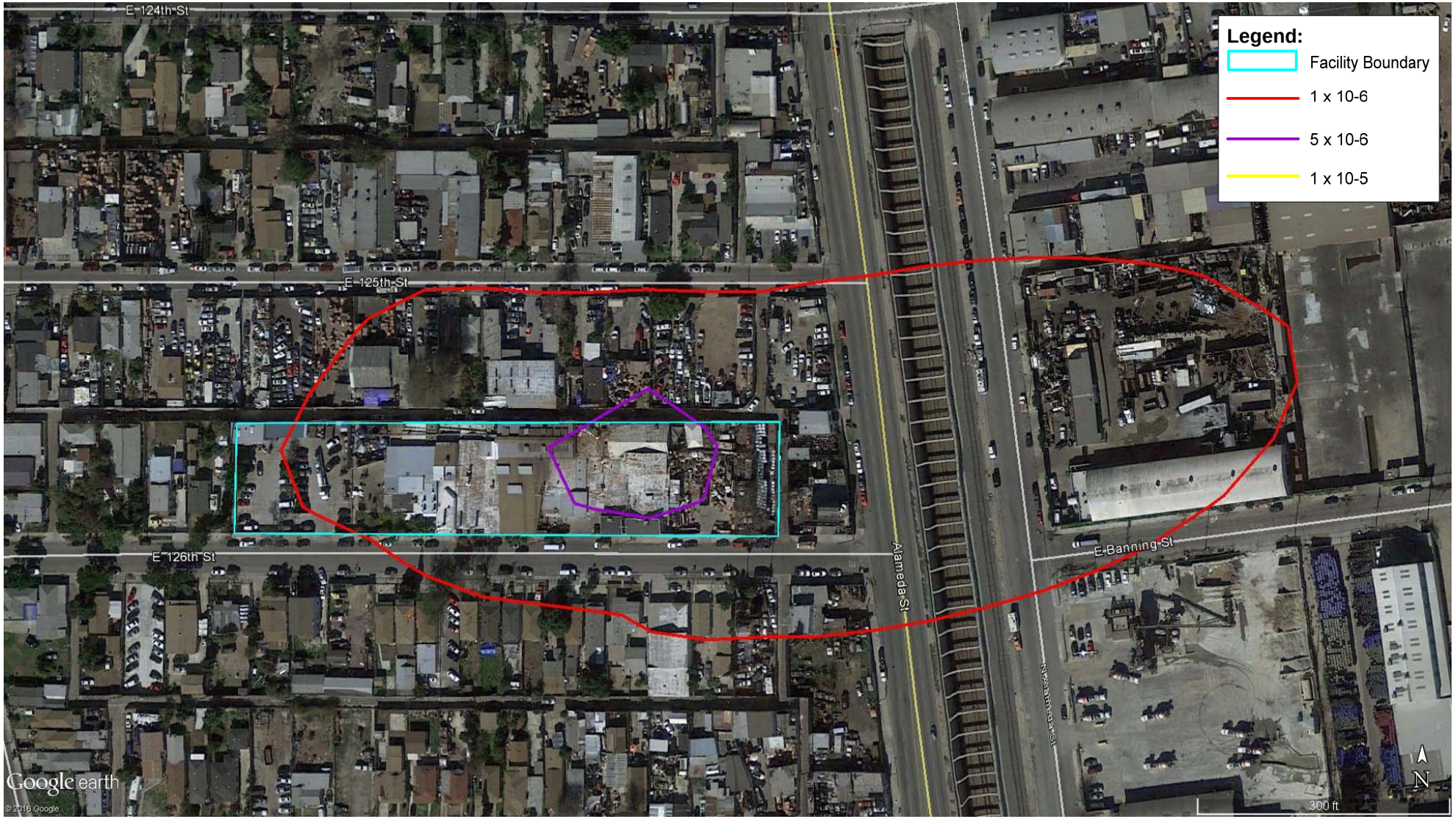
Facility:	Prepared By:	PMI, MEIR, MEIW for Cancer		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	Project 150501.0270	Date October 2016	Figure 7a

WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:	PMI, MEIR, MEIW for Chronic Hazards		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	Project 150501.0270	Date October 2016	Figure 7b

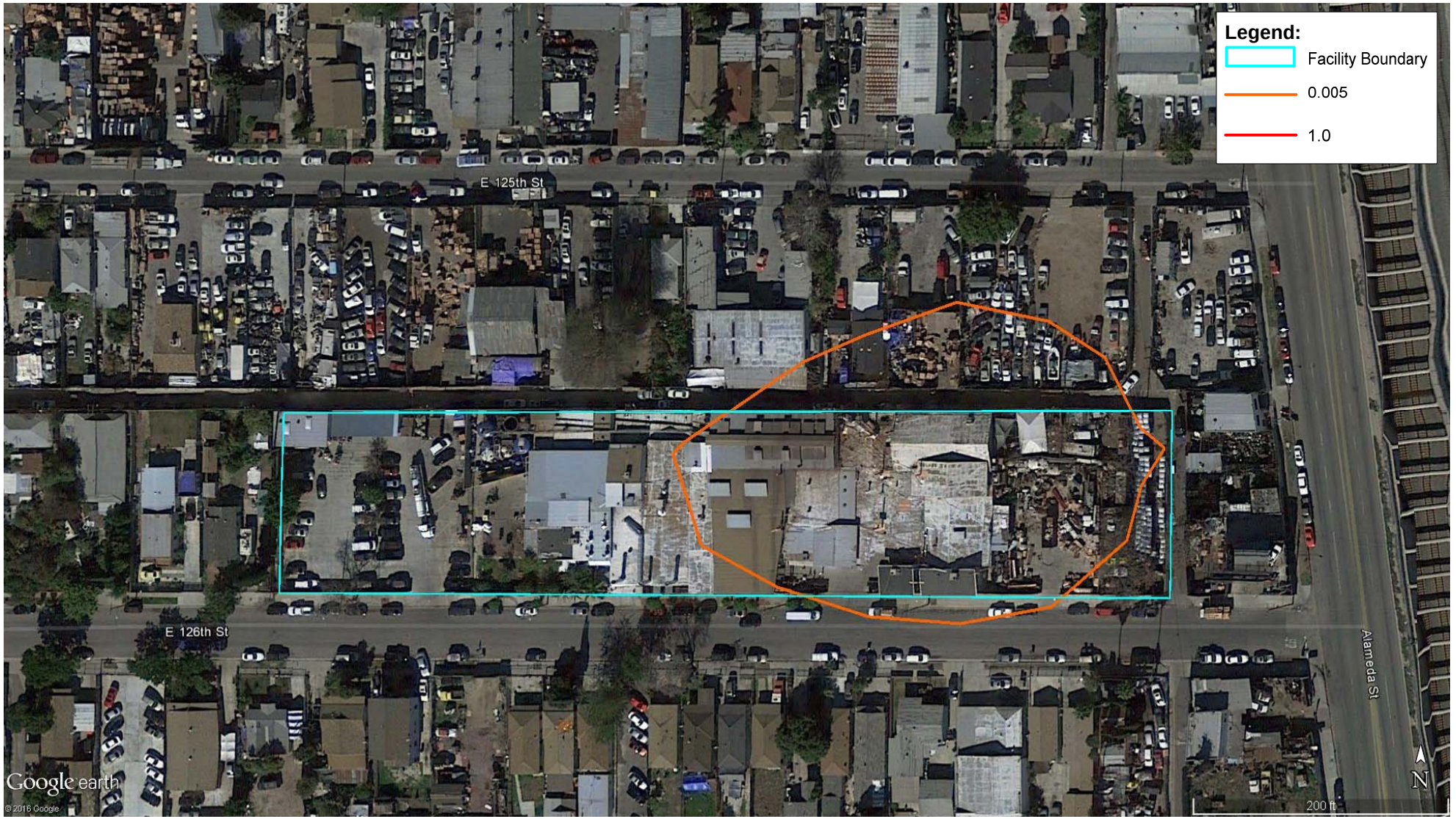
WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:	PMI, MEIR, MEIW for Acute Hazards		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	Project 150501.0270	Date October 2016	Figure 7c



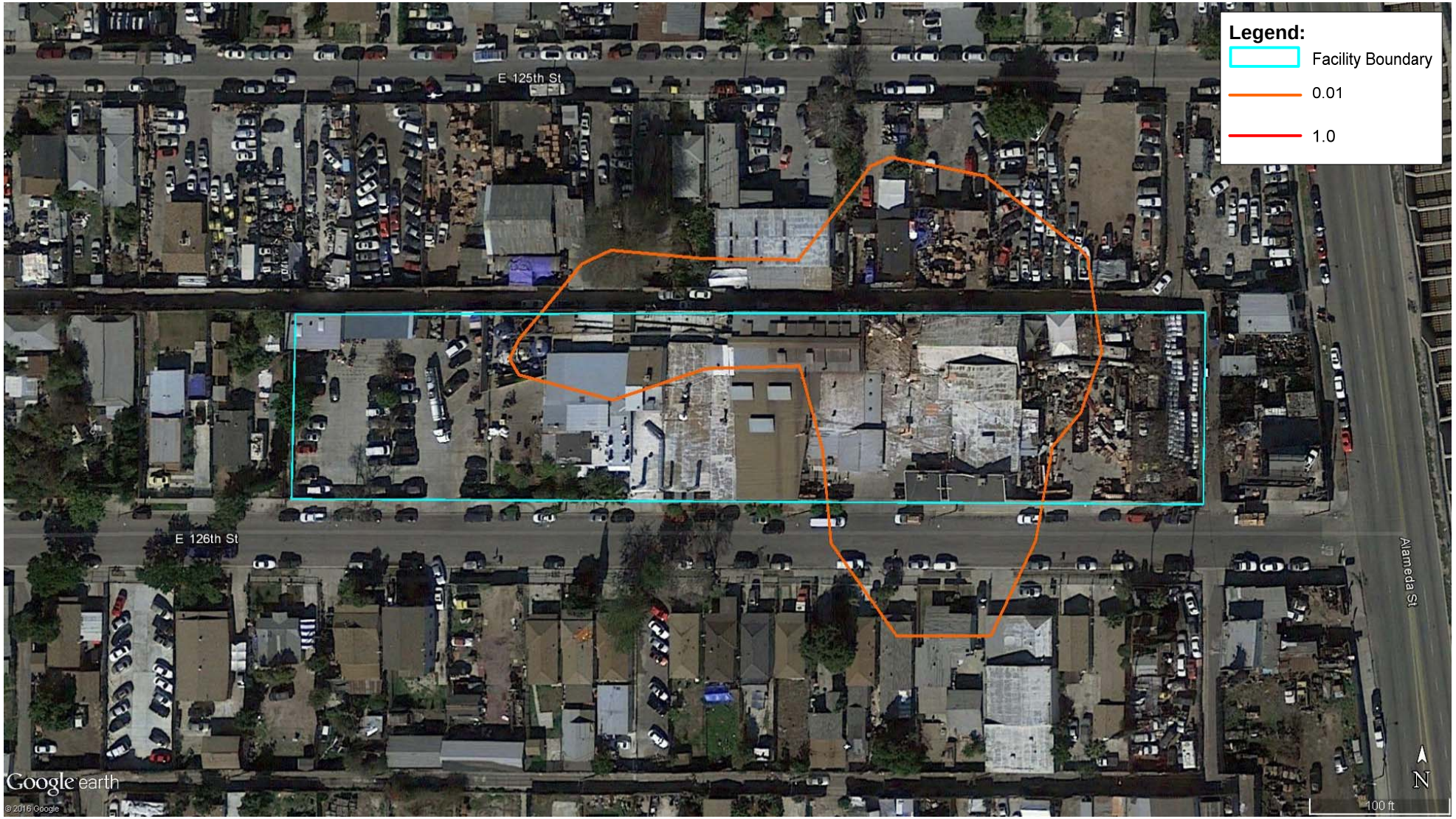
WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Residential Cancer Risk Isopleth**	
		Project: 150501.0270	Date: October 2016
			Figure: 8a



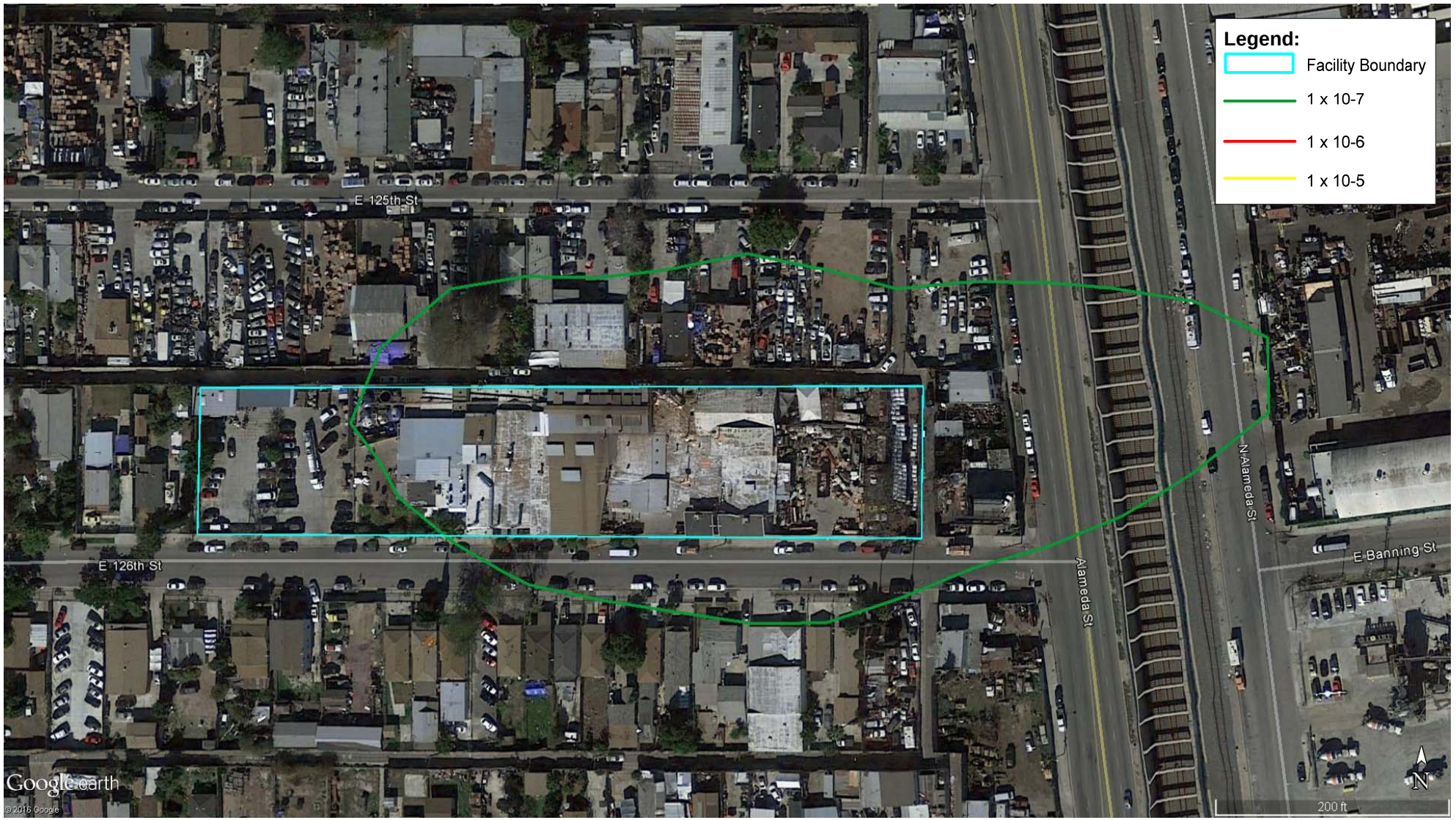
WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Residential Chronic Hazard Isopleth**	
		Project: 150501.0270	Date: October 2016
			Figure: 8b



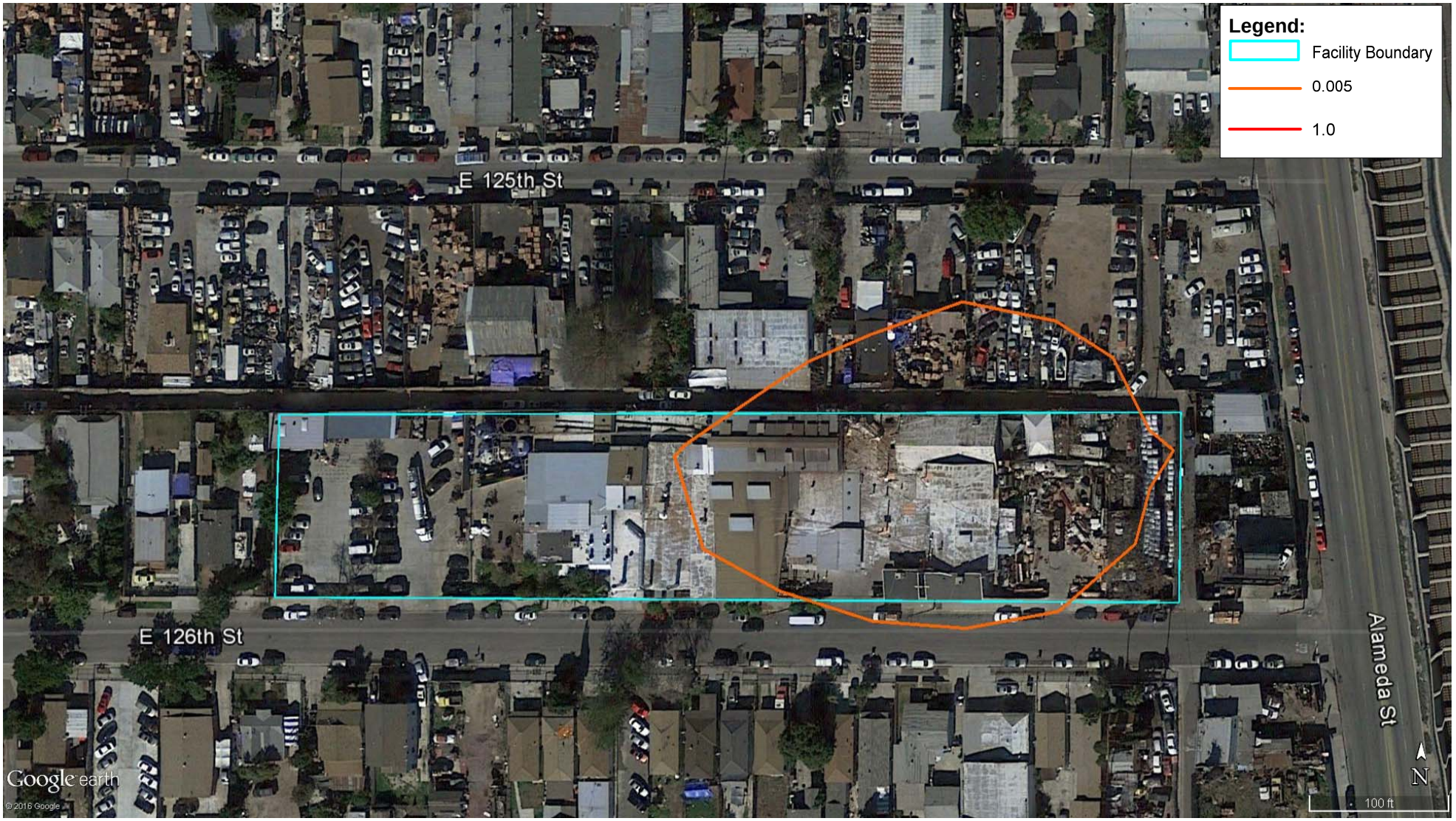
WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Residential Acute Hazard Isopleth**	
		Project: 150501.0270	Date: October 2016
			Figure: 8c



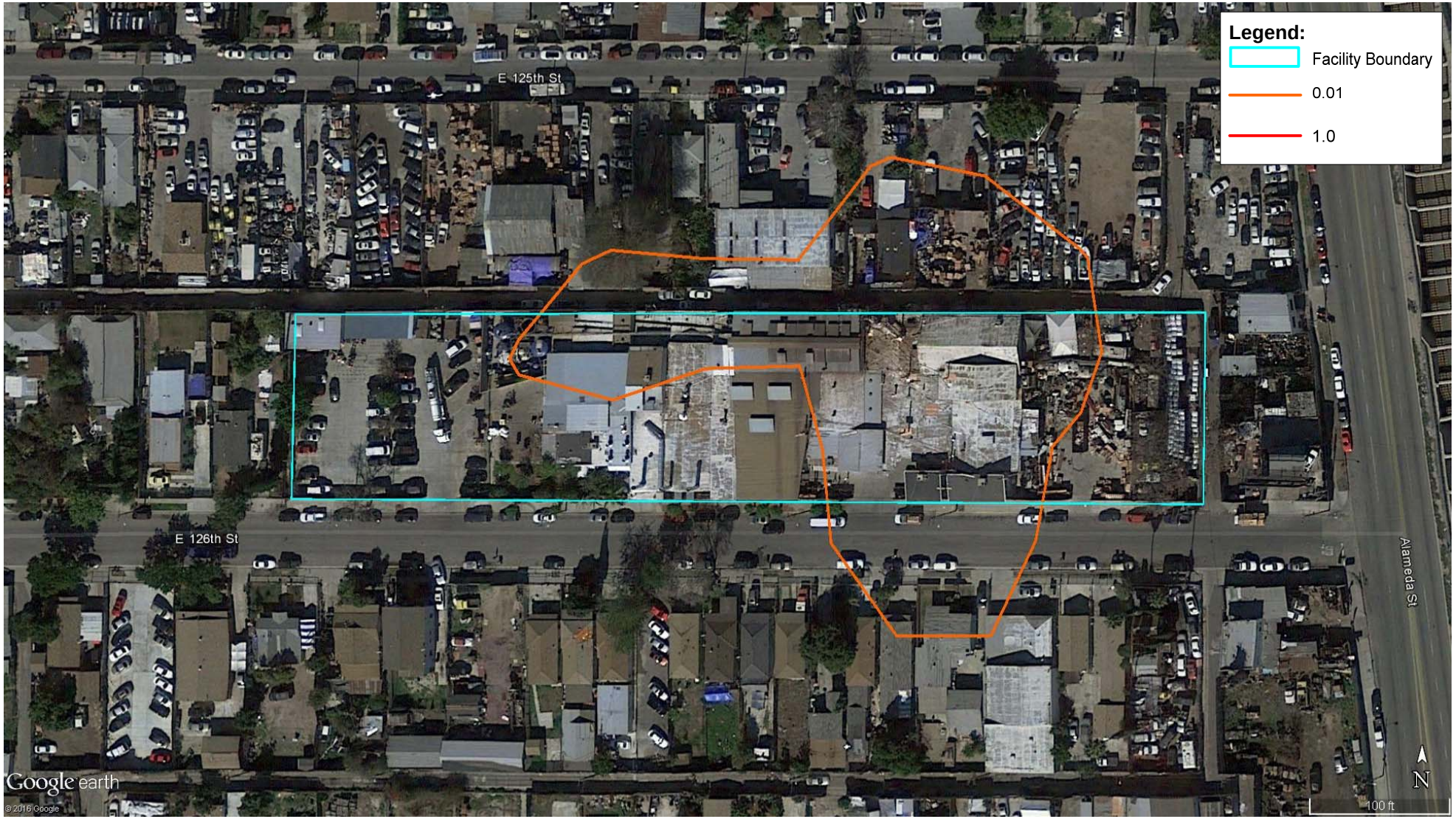
WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Worker Cancer Risk Isopleth**	
		Project: 150501.0270	Date: October 2016
			Figure: 9a



WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	**Worker Chronic Hazard Isopleth**	
		Project: 150501.0270	Date: October 2016
			Figure: 9b



WGS 1984 Datum | UTM Zone 11N

Facility:	Prepared By:	Worker Acute Hazard Isopleth		
Bowman Plating Company aerospace division 2631 E. 126th Street Compton, CA 90222	Trinity Consultants 20 Corporate Park Suite 200 Irvine, CA 92606	Project: 150501.0270	Date: October 2016	Figure: 9c