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JE Compliance Services

Health Risk Assessment
September 2019

Lubeco, Inc.

Prepared For:

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Limitations

This Health Risk Assessment Report ("Report") has been prepared for Lubeco, Inc. ("Lubeco") in accordance with the terms and conditions in the proposal and agreements under which these services have been provided as they pertain to the property located at 6859 Downey Avenue in Long Beach, California. Any reliance on this Report by third parties shall be at the sole risk and liability of the third party. JECS's services have been performed in accordance with applicable local, state, and federal statutes and regulations and with generally accepted professional practices in the field at the time of the services.

Neither JECS nor any of its affiliates is responsible or liable for any claims or damages associated with interpretation of available information provided by other entities.

In the event that changes to the facility occur or additional, relevant information about the property, process, and related operations is disclosed to JECS or its affiliates, the options contained in this Report may not be valid unless these changes and additional relevant information are reviewed and the recommendations of this report are modified or verified in writing.

Executive Summary

Facility Description

Lubeco is located at 6859 Downey Avenue in Long Beach, California (the "facility") within the southern portion of Los Angeles County. The facility is located in a commercial and industrial area. The facility occupies approximately 0.8 acres of land. The geographic coordinates of the facility are 33°52'47" latitude and 118°09'07" longitude, and the Universal Transverse Mercator (UTM) coordinates are 393.463 kilometers east, 3,749.443 kilometers north. **Table 1** (see **Appendix B**) provides facility information, including facility identification number and address. A map of the area is provided as **Figure 1** on page 4.

Process Description

Lubeco is a job-shop metal finishing facility. Operations conducted at the facility included painting, anodizing, sealing, and coloring of metal parts for the aerospace industry. Ancillary operations include abrasive blasting, wastewater treatment, and operation of a natural gas-fired boiler and ovens.

The facility currently operates six spray booths, anodizing line, and passivation line that potentially result in atmospheric emissions of hexavalent chromium. One of the six spray booths was not operated the 2015 calendar year.

Overview of Facility Emissions

According to the Air Toxic Inventory Report (ATIR) for the facility, approximately 80 substances listed under the Air Toxics Hot Spots Information and Assessment Act of 1987 were emitted from the facility. **Table 2** (see **Appendix B**) summarizes the maximum one-hour and average annual emissions for each of these eighty listed substances at the facility. **Table 3** (see **Appendix B**) summarizes the maximum one-hour and average annual emissions by device for the substances emitted at the facility.

The Hot Spots Analysis and Reporting Program (HARP2) risk assessment algorithm contained methods for calculating the risk for certain pollutants potentially created by exposures other than inhalations, including soil ingestion, dermal absorption, mother's milk, water ingestion, fish and beef consumption, and homegrown vegetables. These substances are referred to as multipathway substances. To determine total predicted exposure at each receptor, the applicable pathways of exposure for each pollutant were included in the assessment. The exposure routes for each pollutant for which multipathway exposures were considered are listed in **Table 9** (see **Appendix B**).

Overview of Dispersion Modeling and Assessment

The purpose of the exposure assessment was to estimate the extent of public exposure to each listed substance for which cancer potency or non-cancer reference exposure levels have been developed. This involved emission quantification, modeling of environmental fate and transport, identification of exposure routes, identification of exposed populations, and estimation of short-term and long-term exposure levels. Air dispersion modeling employing the American Meteorological Society/Environmental Protection Agency Regulatory Model, version 18081 ("AERMOD") and health risk assessment using the HARP2 software, version 19121 (HARP2) was conducted to predict air concentrations of emitted listed substances in the area surrounding the facility.

Overview of Dose-Response Assessment for Cancer and Non-Cancer Impacts

Cancer potency factors were used to calculate the probability or risk of cancer associated with the estimated exposure to listed substances emitted from the facility. The cancer risk created by the emission of each substance was calculated by multiplying the estimated average daily dose at a particular receptor by the chemical specific cancer potency factor. The total cancer risk at a given receptor location is the sum of the individual risks for each substance.

Hazard indices were used to quantify the acute or chronic exposure of a substance at its toxicological endpoints. To estimate the acute and chronic non-cancer health hazards presented by emissions from the facility, a hazard index was developed. Hazard indices were developed for both short-term (acute) and long-term (chronic) exposures using reference exposure levels (RELs). The hazard index was calculated at each receptor by dividing the concentration, maximum hourly for acute exposures or average annual for chronic exposures, of each substance by its corresponding acute or chronic REL. RELs are concentrations or doses at or below the level at which no adverse health effects are likely to occur. A hazard index of one or less indicates that an adverse health effect is not expected to result from exposure to the given substance.

Individual pollutants may affect the human body differently. For example, scientific research has shown that exposure to acrolein or copper may affect the respiratory system at certain concentrations, but do not adversely affect the skin. Human organs or organ systems that may be affected differently are referred to as “toxicological endpoints”. The total hazard index was calculated by summing the index derived for each substance and each toxicological endpoint.

A summary of cancer unit risks, RELs, and toxicological endpoint organs and organ systems affected by non-cancer impacts of the fifty substances included in this Report is provided in **Table 10a** (see **Appendix B**). A summary of the chemicals included in the ATIR with no risk factors are provided in **Table 10b** (see **Appendix B**).

Summary of Results

The potential health risks posed from emissions of listed substances from the facility were estimated using the HARP2 software. No subpopulations such as subsistence fishers were identified within the zone of impact. Cancer and non-cancer health risks were determined for the off-site point of maximum impact (PMI), the maximum exposed individual resident (MEIR), the maximum exposed individual worker (MEIW). No sensitive receptors were located within the vicinity of the facility with cancer risk of ten in one million of above. UTM coordinates for the PMI, MEIR, and MEIW are provided in the Health Risk Assessment Summary Form located in **Appendix C.** Three sensitive receptors were further assessed for health risk concerns due to their location within the one in one million zone of impact (ZOI) for cancer risk. These three receptors were assessed for cancer risk contributions by source and substance. No sensitive receptors were located within the 0.5 hazard index isopleth.

Total Cancer Health Risks

The overall risk of cancer associated with emissions of listed substances from the facility was measured in terms of a cancer risk factor.

The predicted cancer risk represents the theoretical probability of extra cancer cases occurring in the exposed population over a lifetime of thirty years. An off-site worker’s cancer risk is based on a 25-year work schedule. Based upon this Report, the cancer risk at the PMI was determined to be 219 per million. The PMI is located UTM coordinates 393,450 East and 3,749,400 North on the right of way directly to the south of the facility. The cancer risk at the MEIW located at 393,400 East and 3,749,450 North to the west of the facility was determined to be 39 per million. The cancer risk at the MEIR located at 393,534 East and 3,749,434 North to the northeast of the facility was determined to be 129 per million. Hexavalent chromium appeared to contribute the most potential cancer risk at the PMI. Hexavalent chromium appeared to contribute the most potential cancer risk at the MEIR and MEIW. A cancer risk summary by listed substance at the PMI, MEIW, and MEIR is provided in **Table 12** (see **Appendix B**).

A 30-year cancer risk isopleth map for the one in one million ZOI is provided in **Figure 3** (see **Appendix A**). The locations of the PMI, MEIW, MEIR, and sensitive receptors are provided in **Figure 4** (see **Appendix A**).

Cancer burden is the estimated number of people in a defined population that could potentially contract cancer from a lifetime exposure to emitted substances from the facility. The cancer burden was calculated by multiplying the cancer risk by the number of people exposed. The one in one million ZOI for the 70-year cancer risk isopleth had a residential population of 20,651 people according to the 2010 Census data utilized by the HARP2 software which resulted in an estimated cancer burden of 0.0797. **Table 14** (see **Appendix B**) summarizes the cancer burden for the one in one million ZOI.

Total Chronic, Acute and 8-Hour Non-Cancer Health Risks

The chronic, acute, and 8-hour non-cancer health risks were measured in terms of level of exposure relative to the reference level. The reference exposure level is the level of exposure considered to cause no adverse health effects.

The chronic hazard index was determined to be 0.535 at the PMI. The chronic hazard index was determined to be 0.352 at the MEIR and 0.447 at the MEIW. Sulfuric acid appeared to contribute the most potential chronic hazards at the PMI and MEIW. Methylene diphenyl diisocyanate and sulfuric acid appeared to contribute the most potential chronic hazards at the MEIR. Primary target organ system impacted by chronic exposure is expected to be respiratory. Toxicological endpoints chronically affected by these substances are provided in **Table 10a** (see **Appendix B**). The locations of the PMI, MEIW, MEIR, and sensitive receptors for chronic hazards are provided in **Figure 5** (see **Appendix A**). The isopleth map for chronic hazard index level of 0.5 is provided in **Figure 6** (see **Appendix A).**

The acute hazard index was determined to be 0.176 at the PMI and 0.120 at the MEIW. The acute hazard index was determined to be 0.102 at the MEIR. Emissions of methylene diphenyl diisocyanate and sulfuric acid appeared to contribute the most potential acute hazards at the PMI, MEIW, and MEIR. Primary target organ system impacted by acute exposure is expected to be respiratory. Toxicological endpoints acutely affected by these substances are provided in **Table 10a** (see **Appendix B**). The locations of the PMI, MEIW, MEIR, and sensitive receptors for acute hazards are provided in **Figure 7** (see **Appendix A**). There is no isopleth map for acute hazard index since the level is below 0.5.

The 8-hour hazard index was determined to be 0.111 at the PMI. Emissions of methylene diphenyl diisocyanate appeared to contribute the most potential acute hazards at the PMI. Primary target organ system impacted by 8-hour exposure is expected to be respiratory. Toxicological endpoints acutely affected by these substances are provided in **Table 10a** (see **Appendix B**). The location of the PMI and sensitive receptors for 8-hour hazards are provided in **Figure 8** (see **Appendix A**). Risk isopleths for the

8-hour hazard index are not included in this Report because the estimated hazard risk did not exceed 0.5.

Introduction

This Health Risk Assessment Report ("Report") has been prepared at the request and direction of Lubeco, Inc. ("Lubeco") for the facility located at 6859 Downey Avenue in Long Beach, California (the "facility"). In a letter dated 28 September 2017 the District required that a health risk assessment be completed for the facility for reporting year 2015 (see **Appendix D**).

This Report has been prepared in accordance with the California Office of Environmental Health Hazard Assessment *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments, February 2015* and South Coast Air Quality Management District (the "District") *Supplemental Guidelines for Preparing Risk Assessments and Risk Reduction Plan for the Air Toxics "Hot Spots" Information and Assessment Act, November 2016).*

Air dispersion modeling employing the Meteorological Society/Environmental Protection Agency Regulatory Model, version 18081 ("AERMOD") and health risk assessment using the Hot Spots Analysis and Reporting (HARP2) software, version 19121 (HARP2) was conducted in accordance with District and California Office of Environmental Health Hazard Assessment recommended practices.

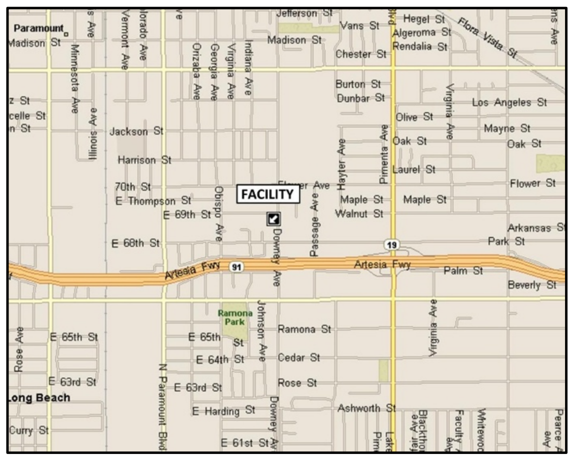


Figure 1 – Area map

Facility Information

The facility is located in a commercial and industrial area. An area map is provided as **Figure 1**. A facility map showing the approximate locations of the emission sources, property boundaries, and building dimensions of the facility is provided as **Figure 2** (see **Appendix A**). See **Table 1** (see **Appendix B**) for facility information including facility address, and facility ID.

Process Description

Lubeco is a job-shop metal finishing facility. Operations conducted at the facility included painting, anodizing, sealing, and coloring of metal parts for the aerospace industry. Ancillary operations include abrasive blasting, wastewater treatment, and operation of a natural gas-fired boiler and ovens.

The facility currently operates six spray booths, anodizing line, and passivation line that potentially result in atmospheric emissions of hexavalent chromium. One of the six spray booths was not operated the 2015 calendar year.

Hazard Identification

Approximately eighty substances listed under the Air Toxics Hot Spots Information and Assessment Act 1987 are emitted from the facility. **Table 2** (see **Appendix B**) summarize the maximum one-hour and average annual emissions for each of these eighty listed substances for emission sources at the facility. Emission sources at the site are identified in the section titled **Emissions Inventory**.

Multipathway Analysis

The HARP2 risk assessment algorithm includes methods for calculating the risk for certain pollutants potentially created by exposures other than inhalation, including soil ingestion, dermal absorption, water ingestion, and homegrown vegetables. These substances are referred to as multipathway substances.

To determine total predicted exposure at each receptor, the applicable pathways of exposure for each pollutant were included in the assessment.

Pathways enabled in the HARP2 software for the analysis in addition to inhalation included dermal absorption, soil ingestion, mother's milk, and homegrown produce (vegetable).

Pathways that were disabled during the evaluation include drinking water, fish, pasture (dairy), beef, pigs, chickens, and eggs. The exposure routes for each pollutant for which multipathway exposures were considered are listed in **Table 9** (see **Appendix B**).

Exposure Assessment

Cancer potency factors were used to calculate the probability or risk of cancer associated with the estimated exposure to listed substances emitted from the facility. Cancer potency factors represent the theoretical probability of extra cancer cases occurring in the exposed population assuming 70-year lifetime exposure. The cancer risk created by the emission of each substance was calculated by multiplying the estimated average daily dose at a particular receptor by the chemical specific cancer potency factor. The total cancer risk at a given receptor location was the sum of the individual risks for each substance, including multipathway contributors.

Hazard indices quantify the acute, chronic, or 8-hour exposure of a substance at its toxicological endpoints. To estimate the acute, chronic, or 8-hour non-cancer health hazards presented by emissions from the facility, a hazard index was developed. Hazard indices were developed for both short-term (acute) and long-term (chronic) exposures using reference exposure levels (RELs). The hazard index was calculated at each receptor by dividing the concentration, maximum hourly for acute exposures or average annual for chronic exposures, of each substance by its corresponding acute or chronic REL. RELs are concentrations or doses at or below the level at which no adverse health effects are likely to occur. A hazard index of one or less indicates that an adverse health effect is not expected to result from exposure to the given substance.

Individual pollutants may affect the human body differently. For example, scientific research has shown that long-term exposure to acrolein or copper may affect the respiratory system above certain concentrations, but do not adversely affect the skin. Human organs or organ systems that may be affected differently are referred to as "toxicological endpoints". The total hazard index was calculated by summing the index derived for each substance and each toxicological endpoint.

The determination of risk values for listed substances carries a level of uncertainty. In some cases, the uncertainty may be quite large. Most acceptable risk or exposure levels are based on animal studies or epidemiological studies on workers. Uncertainty is enhanced when the results of these studies are applied to human beings or to a general population.

Predicated doses calculated by pathway for each listed substance are contained in the attached electronic file. Air dispersion modeling inputs for assessment reproduction are also provided in the attached electronic file (see **Appendix E**).

Emissions Inventory

Average annual emissions were determined from the average daily process rate. Maximum hourly emissions were determined from the maximum hourly process rate. **Table 2** (see **Appendix B**) summarizes the annual emissions by substance for the facility in pounds per year and grams per second, and maximum hourly emissions in pounds per hour and grams per second. **Table 3** (see **Appendix B**) summarizes annual emissions by source in pounds per year and grams per second, and the maximum hourly emissions by source in pounds per hour and grams per second.

Predictable emissions from the facility include combustion emissions from the boiler, oven #2, oven #3, and oven #4 were calculated using factors from AP-42 and the District. Emissions from spray booths were calculated based on the District factors. Emission from process tanks in production were calculated based on the District factors and facility specific risk reduction emission factors for calculating hexavalent chromium from heated tanks containing chromic acid. Emissions from the mist eliminator were calculated based on a District approved source test conducted by World Environmental in February 2010. No unpredictable emissions from activities such as spilling or leaking occurred during the 2015 calendar year. A description of methodologies used to calculate emissions are provided in **Table 4** (see **Appendix B**).

Multiple devices at the facility utilize air pollution control devices. The Chrome Anodizing Tank 16 and Ticermet A Tank 37 on the anodizing and passivation lines are vented to a mist eliminator with HEPA filtration. Spray booths 1 through 3 utilize filters with a 99.8% control efficiency while spray booths 4 and 6 utilize filters with a 95% control efficiency. A description of emission control equipment used to control emissions are provided in **Table 5** (see **Appendix B**). The Air Toxic Inventory Report (ATIR) is provided in **Appendix E.**

Tables 6A and **6B** (see **Appendix B**) contain information about the emission sources at the facility. Source parameters including UTM coordinates, elevations, stack height and diameters, flow rates, and temperature. Operational hours are also provided in **Table 7** (see **Appendix B**).

Air Dispersion Modeling

Air dispersion modeling employing the Meteorological Society/Environmental Protection Agency Regulatory Model, version 18081 (“AERMOD”) and health risk assessment using the Hot Spots Analysis and Reporting (HARP2) software, version 19121 (HARP2) was conducted to predict air concentrations of emitted listed substances in the area surrounding Lubeco. The AERMOD model is typically used by air pollution control agencies for risk assessment in the types of terrain represented in the site vicinity and for the types of emissions sources present at the site. AERMOD was developed by the US Environmental Protection Agency and is integrated into the HARP2 software. HARP is an integrated health risk assessment program that includes modules for air dispersion modeling and health risk assessment. The risk analysis algorithms used in HARP2 are based on the guidelines provided in *Air Toxics Hot Spots*

Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments (OEHHA, February 2015).

HARP2 was used to enter receptor, source, emissions, and building wake effect data and model the emissions of listed substances from the facility using AERMOD. Execution of the AERMOD model produced a series of dispersion coefficients calculated by setting emissions from emission sources to one gram per second and running the AERMOD program using only one pollutant. Essentially, this process produced a number at each receptor and for each separate emission source representing the concentration of the pollutant that would be produced if one gram per second were emitted from that source. This data file of dispersion coefficients was used as an input to the health risk assessment module.

To cover the site vicinity, 4,624 grid receptors on 50-meter centers were used to cover approximately 3,400-meter by 3,400-meter receptor grid. An additional discrete residential receptor was added at 393,534 meters East and 3,749,434 meters North to further define residential receptor risk. The Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD) require a minimum of 100-meter centers to ensure sufficient receptor density. The grid was situated to capture the one in a million zone of influence. Sensitive receptors such as schools, hospitals, and day-care facilities within the general area of the facility were captured by the spacing on the grid. There were three sensitive receptors such within the general area of the facility. In addition, sixteen boundary receptors at 20 meter spacing and 1,079 Census Block receptors were included in the analysis. Population data from the 2010 Census and aerial terrain maps were used to define residential and worker exposures.

SCAQMD maintains data for twenty-four meteorological surface air monitoring stations throughout the South Coast Air Basin. At the request of SCAQMD in an email dated 26 February 2019, data was used for a station not maintained on the SCAQMD website. Pre-processed hourly meteorological data supplied from SCAQMD from the Compton surface and upper air monitoring station 2012, 2015, and 2016 were used in the modeling. The Compton monitoring station was requested by SCAQMD as a more representative station to the site.

Regulatory default options were turned on. The AERMOD modeling program was run using the urban Pasquill-Gifford dispersion coefficients with six stability classes. Stack-tip downwash calculations and building wake effects were included. To be conservative, gravitational settling calculations were not included. **Table 8** (see **Appendix B**) summarizes the AERMOD modeling options selected for the assessment.

Risk Characterization and Results

The potential health risks posed from emissions of listed substances from the facility were estimated using the HARP2 software. Cancer and non-cancer health risks were determined at the following locations:

1. Point of Maximum Impact (PMI) – offsite receptor location where the highest health risk occurs; receptor 2074 for cancer risks, acute health risks, and chronic health risks, and 2141 for 8-hour health risks.
2. Maximum Exposed Individual Resident (MEIR) – offsite receptor location where the maximum exposure occurs at an existing residential receptor; receptor 4625 for cancer risks, acute health risks, and chronic health risks.

3. Maximum Exposed Individual Worker (MEIW) – offsite receptor location where the highest health risk occurs; receptor 2141 for cancer risks, acute health risks, and chronic health risks.
4. Sensitive Receptor – offsite receptor location where people are more vulnerable to health risks due to age or health (see **Table 12**, **Appendix B**).

The determination of risk values for listed substances carries a level of uncertainty. In some cases, the uncertainty may be quite large. Most acceptable risk or exposure levels are based on animal studies or epidemiological studies on workers. Uncertainty is enhanced when the results of these studies are applied to human beings or to a general population.

Sensitive Receptors

Sensitive receptors may include hospitals, day-care facilities, and schools (K-12). Three sensitive receptors were identified in the general vicinity of the facility. The sensitive receptors initially evaluated consisted of two elementary schools and a middle school. The following three sensitive receptors were identified to be within the one in a million ZOI: McKinley Elementary School, Mokler Elementary School, and Alondra Middle School.

The sensitive receptors were assessed for initial total cancer. No sensitive receptors were found within the 0.5 hazard index. Potential health risks determined for the sensitive receptors did not exceed the District's criteria of ten in one million for cancer risk or a hazard index of one for non-cancer health risks. The three sensitive receptors within the one in a million ZOI were assessed for cancer contributions by substance and source (see **Tables 40** through **43, Appendix B**).

Cancer Health Risks

Potential multipathway cancer risks contributed by source at the PMI, MEIW, and MEIR are provided in **Tables 15** through **17** (see **Appendix B**). The 30-year potential cancer risks at the PMI, MEIW, and MEIR are provided in **Tables 18** (see **Appendix B**). Potential multipathway cancer risks contributed by substance at the PMI, MEIW, MEIR are provided in **Tables 19** through **21** (see **Appendix B**).

Based upon this Report, the cancer risk at the PMI was determined to be 219 per million. The PMI is located at 393,450 meters East and 3,749,400 meters North. The cancer risk at the MEIW was determined to be 39 per million. The cancer risk at the MEIR was determined to be 129 per million. Hexavalent chromium appeared to contribute the most potential cancer risk at the PMI, MEIR, and MEIW.

Total cancer risk values for the PMI, MEIW, and MEIR by each substance are provided in **Table 12** (see **Appendix B**). A 30-year cancer risk isopleth map for the one in one million ZOI is provided in **Figure 3** (see **Appendix A**). The locations of the PMI, MEIW, MEIR, and sensitive receptors are provided in **Figure 4** (see **Appendix A**).

Chronic and Acute Non-Cancer Health Risks

Chronic hazard indices contributed by each source and toxicological endpoint at the PMI, MEIW, and MEIR are provided in **Tables 22** through **24** (see **Appendix B**). Chronic hazard indices contribution by each substance and to each toxicological endpoint at the PMI, MEIW, and MEIR are provided in **Tables 25** through **27** (see **Appendix B**).

The chronic hazard index was determined to be 0.535 at the PMI. The chronic hazard index was determined to be 0.352 at the MEIR and 0.447 at the MEIW. Sulfuric acid appeared to contribute the most potential chronic hazards at the PMI and MEIW. Sulfuric acid and methylene diphenyl diisocyanate appeared to contribute the most potential chronic hazards at the MEIR. The locations of the PMI, MEIW, MEIR, and sensitive receptors for chronic hazards are provided in **Figure 5** (see **Appendix A**). The isopleth map for acute hazard index level of 0.5 and 1.0 is provided in **Figure 6** (see **Appendix A).**

Acute hazard indices contributed by each source and toxicological endpoint at the PMI, MEIW, and MEIR are provided in **Tables 28** through **30** (see **Appendix B**). Acute hazard indices contributed by each substance and at each toxicological endpoint at the PMI, MEIW, and MEIR are provided in **Tables 31** through **33** (see **Appendix B**).

The acute hazard index was determined to be 0.176 at the PMI and 0.120 at the MEIW. The acute hazard index was determined to be 0.102 at the MEIR. Emissions of methylene diphenyl diisocyanate and sulfuric acid appeared to contribute the most potential acute hazards at the PMI, MEIW, and MEIR. The locations of the PMI, MEIW, MEIR, and sensitive receptors for acute hazards are provided in **Figure 7** (see **Appendix A**). There is no isopleth map for acute hazard index since the level is below 0.5.

8-hour hazard indices contributed by each source and toxicological endpoint at the PMI are provided in **Tables 34** and **35** (see **Appendix B**).

The 8-hour hazard index was determined to be 0.111 at the PMI. Emissions of methylene diphenyl diisocyanate appeared to contribute the most potential 8-hour hazards at the PMI. The location of the PMI, and sensitive receptors for acute hazards are provided in **Figure 8** (see **Appendix A**). Risk isopleths for the 8-hour hazard index are not included in this Report because the estimated hazard risk did not exceed 0.5.

Cancer Burden

Cancer burden is the estimated number of people in a defined population that could potentially contract cancer from a lifetime exposure to emitted substances from the facility. The cancer burden was calculated by summing the product of the cancer risk in each receptor in a one in one million ZOI and the number of people exposed in each receptor. The ZOI for the 70-year cancer risk isopleth has a residential population of 20,651 according to the 2010 Census data utilized by the HARP2 software. The resulting cancer burden was estimated to be 0.0797.

Table 14 (see **Appendix B**) summarizes the cancer burden for the residential receptors included for one in one million ZOI for cancer risks.

Summary of Findings

Based upon this Report, the cancer risk at the PMI was determined to be 219 per million. The cancer risk at the MEIW was determined to be 39 per million. The cancer risk at the MEIR was determined to be 129 per million. Hexavalent chromium appeared to contribute the most potential cancer risk at the PMI, MEIR, and MEIW.

The chronic hazard index was determined to be 0.535 at the PMI. The chronic hazard index was determined to be 0.352 at the MEIR and 0.447 at the MEIW. Sulfuric acid appeared to contribute the most potential chronic hazards at the PMI and MEIW. Sulfuric acid and methylene diphenyl diisocyanate contribute the most potential chronic hazards at the MEIR.

The acute hazard index was determined to be 0.176 at the PMI and 0.120 at the MEIW. The acute hazard index was determined to be 0.102 at the MEIR. Emissions of methylene diphenyl diisocyanate and sulfuric acid appeared to contribute the most potential acute hazards at the PMI, MEIW, and MEIR.

The 8-hour hazard index was determined to be 0.111 at the PMI. Emissions of methylene diphenyl diisocyanate appeared to contribute the most potential 8-hour hazards at the PMI.

References

California Air Resources Board, *Hotspots Analysis and Reporting Program Air Dispersion Modeling and Risk Assessment Tool User's Manual*, 2015.

OEHHA, *Air Toxics Hot Spots Program Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

South Coast Air Quality Management District (SCAQMD), *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588)*, November 2016.

USEPA, AERMOD Implementation Guide, 19 March 2009.

USEPA, *Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I*: *Stationary Point and Area Sources*, 1995.

USEPA, User's Guide for AMS/EPA Regulatory Model – AERMOD, (EPA)454/B-03-001.

World Environmental, *Hexavalent and Total Chromium Emissions Source Test, February 2010.*

Definitions and Abbreviations

8- hour health impacts - health effect that occurs from short term exposure to substances with 8 hour chronic RELs.

Acute health impacts - health effect that occurs from short term exposure to substances with acute RELs.

Cancer burden - the estimated number of theoretical cancer cases in a defined population resulting from lifetime exposure to pollutants emitted from a facility.

Cancer health impacts - health effect that occurs from exposure to carcinogenic substances.

Census tract - a physical area used by the U.S. Census Bureau to compile population and other statistical data.

Chronic health impacts - health effect that occurs from long term exposure to substances with chronic RELs.

HARP2- Hot Spots Analysis and Reporting Program.

Hazard index, acute - health risk index created by dividing the concentration of a substance by its corresponding acute REL.

Hazard index, chronic - health risk index created by dividing the concentration of a substance by its corresponding chronic REL.

MEIW - maximum exposed individual worker.

MEIR - maximum exposed individual resident.

Multipathway substances - substances that can be taken into a human receptor by inhalation and by other exposure routes.

OEHHA - Office of Environmental Health Hazard Assessment.

PMI - point of maximum impact; offsite receptor location where the highest health risk occurs.

REL - reference exposure level - An exposure level at or below which no noncancer adverse health effect is anticipated to occur in a human population exposed for a specific duration.

SCAQMD - South Coast Air Quality Management District.

Sensitive receptors - a location such as a school, hospital, or daycare center, where the human occupants are considered to be more sensitive to pollutants than average.

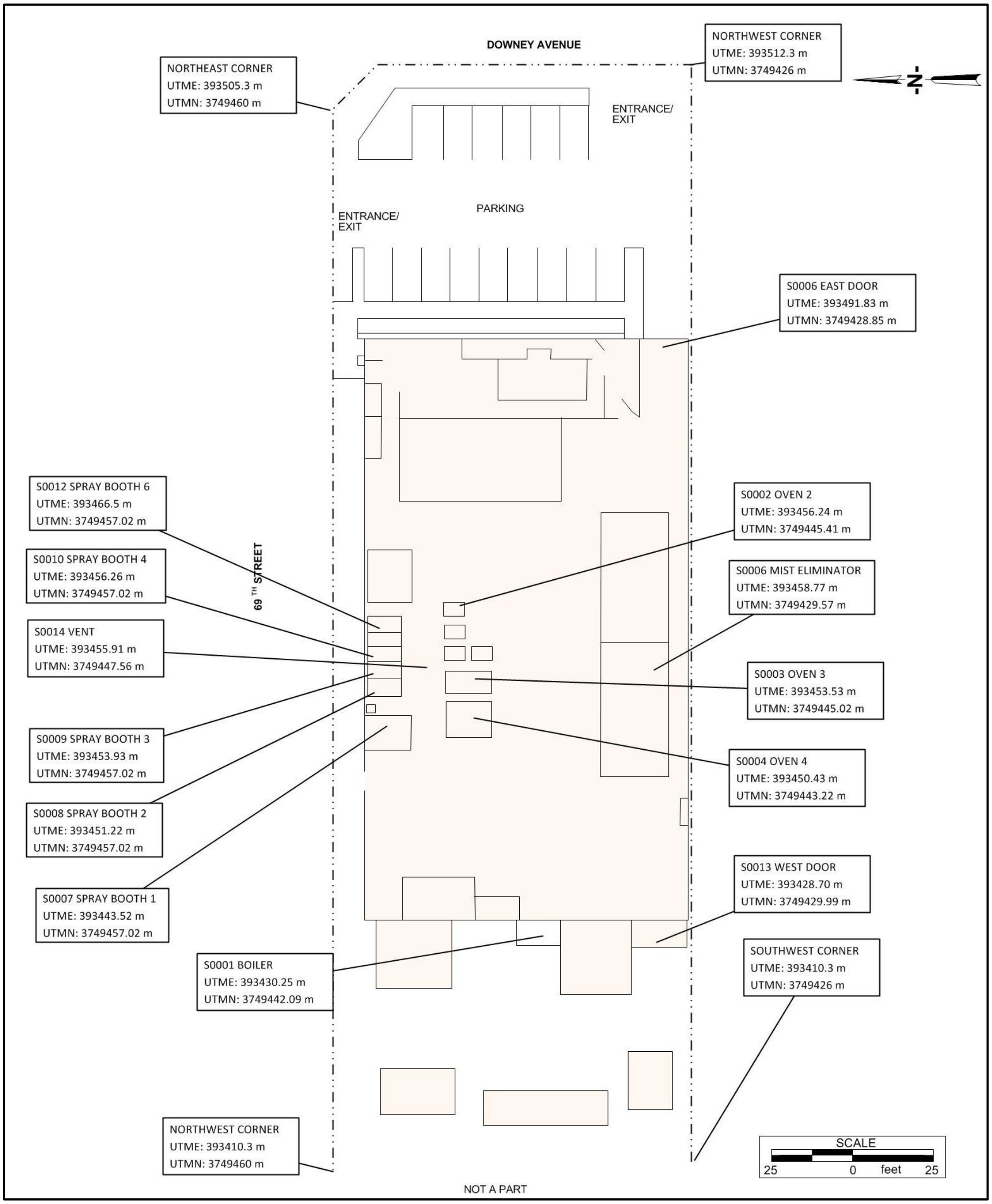
Toxicological endpoint - an organ or organ system that could potentially be adversely affected by a substance if above a certain concentration.

ZOI - zone of impact - the area in the vicinity of the facility in which an individual is exposed to a cancer risk greater than one in a million, or a non-cancer health risk (acute or chronic) greater than one.

Appendices

Appendix A – Figures

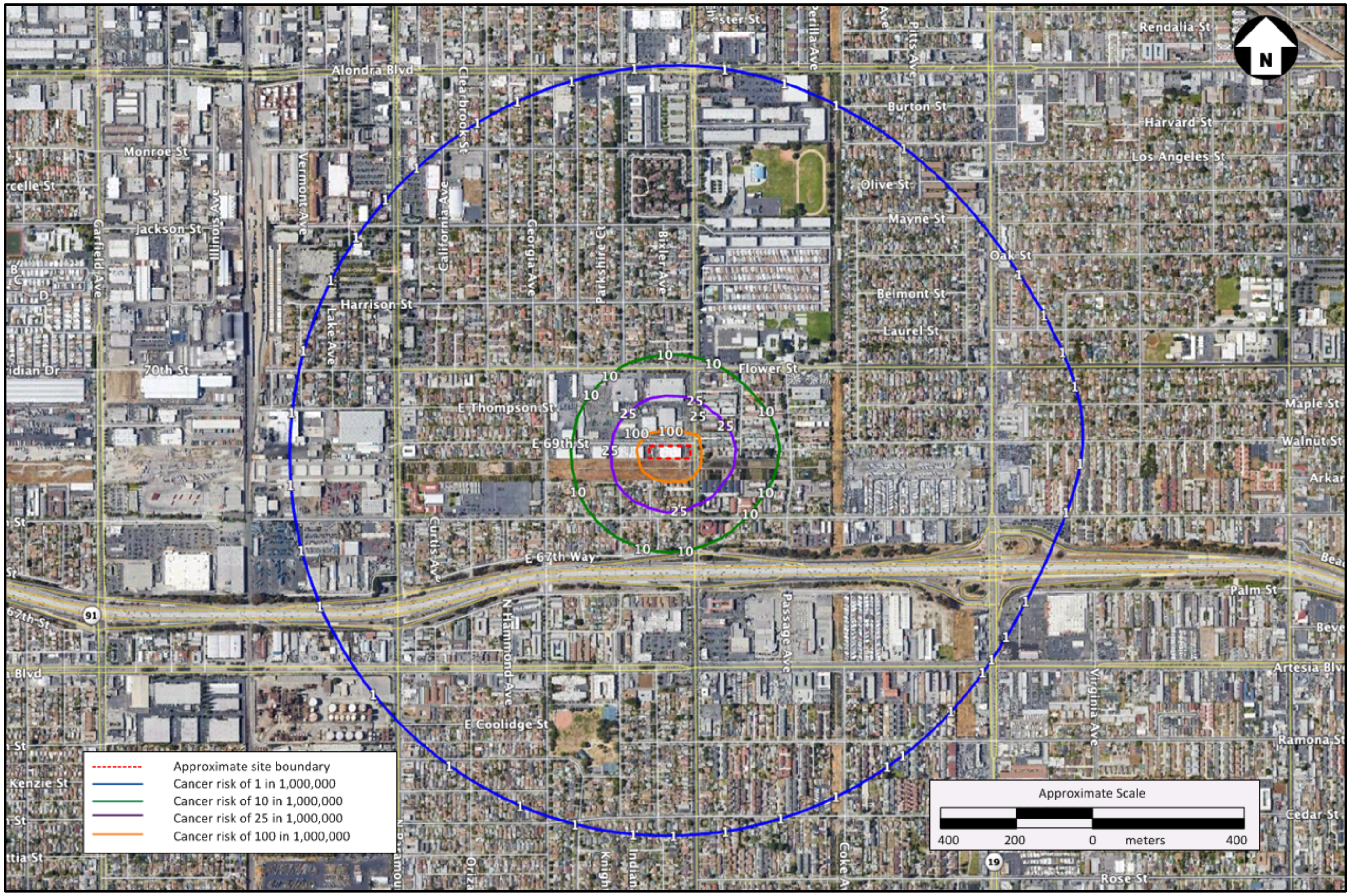
Figure 2 – Site Map



Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

Base Map Link: DWG-908

Figure 3 – 30 Year Cancer Risk Isopleth for Zone of Impact

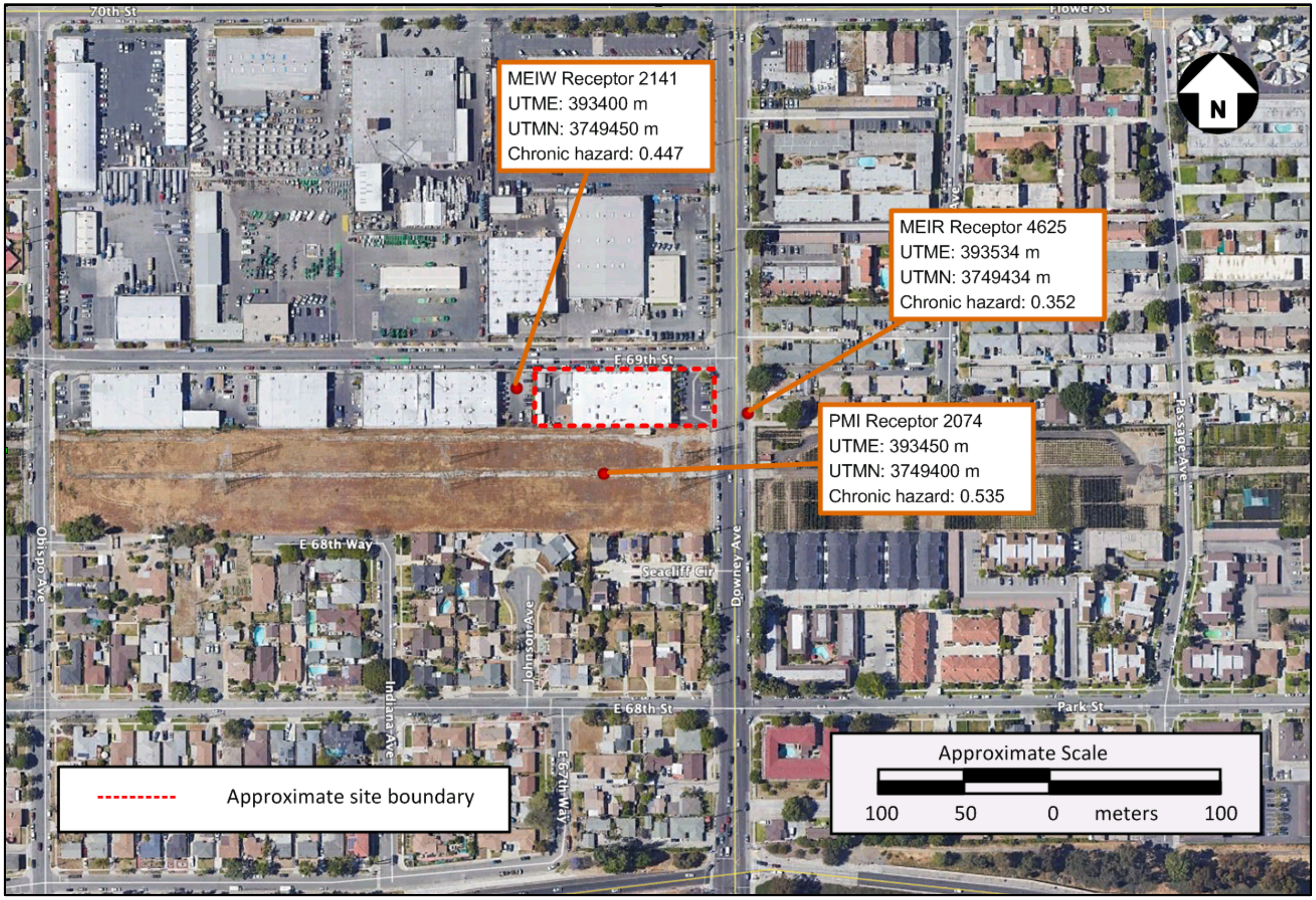


Lubeco, Inc. **6859 Downey Avenue** **Long Beach, California**	**Base Map Link: DWG-1240**

Figure 4 – Cancer Risk for PMI, MEIW, MEIR, and Sensitive Receptors

Lubeco, Inc. **6859 Downey Avenue** **Long Beach, California**	**Base Map Link: DWG-1241**

Figure 5 – Chronic Hazard for PMI, MEIW, and MEIR



Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

Base Map Link: DWG-1242

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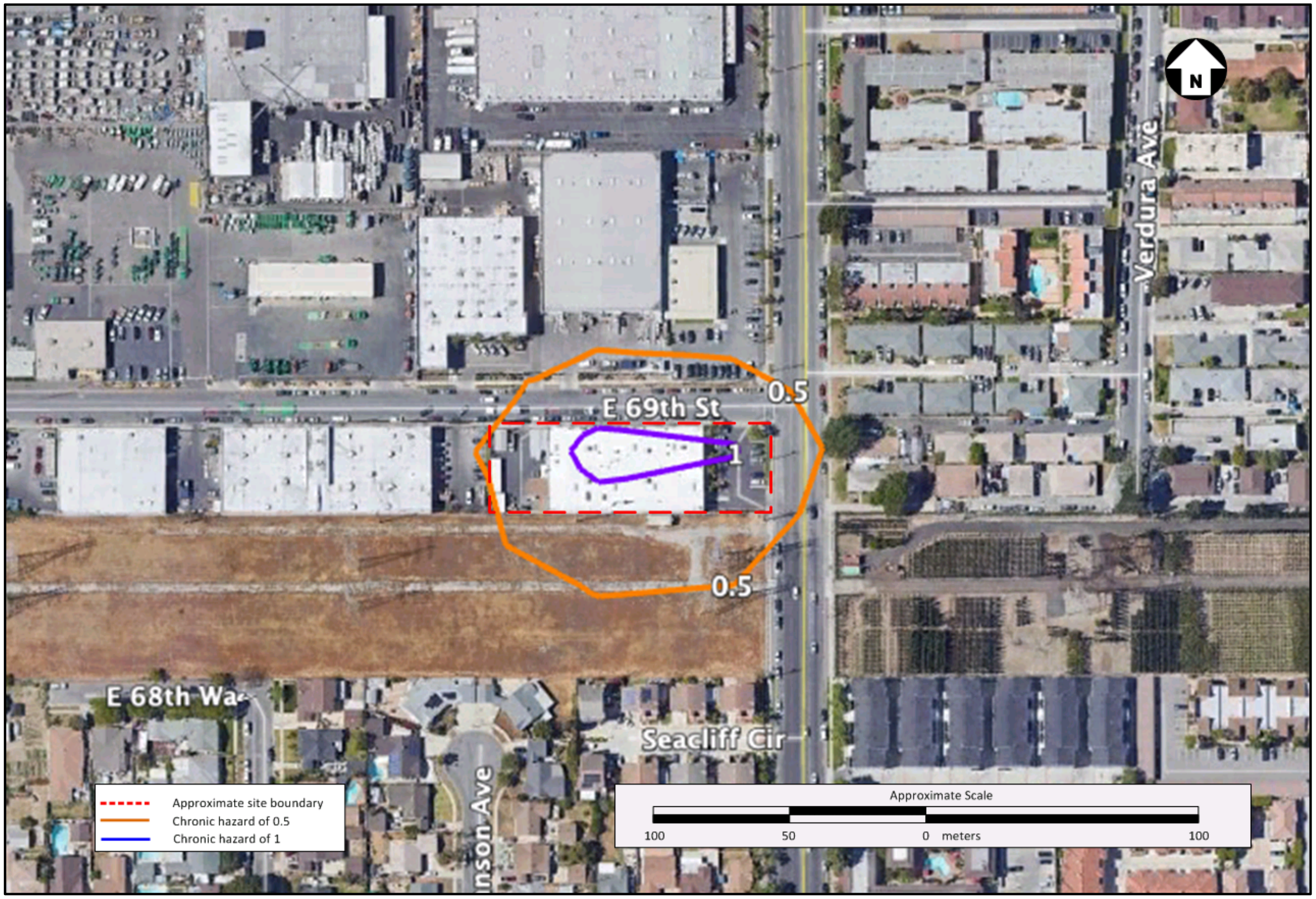
Figure 6 – Chronic Hazard Isopleths



Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

Base Map Link: DWG-1243

Figure 7 – Acute Hazard for PMI, MEIW, and MEIR

Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

Base Map Link: [DWG-1244]

Figure 8 – 8-Hour Risk for PMI

Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

Base Map Link: DWG-1245

Appendix B – Tables

Table 1 - Business Identification Information

Business Name	Lubeco, Inc.
Facility Address	6859 Downey Avenue in Long Beach, California
Mailing Address	6859 Downey Avenue in Long Beach, California
County	Los Angeles
Phone	562.602.1791
Facility ID	41229
Principle Business Activity	Anodizing and painting
Contact Person	Steve Rossi
SIC	3471
NAICS	332813

Table 2 - Maximum One-Hour and Annual Emissions for All Sources at Facility

Listed substance	CAS/CARB Number	Maximum 1-Hour Emissions		Average Annual Emissions	
		lbs/hr	grams/sec	lbs/yr	grams/sec
Acenaphthene	83329	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Acenaphthylene	208968	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Acetaldehyde	75070	1.53E-05	1.92E-06	1.29E-02	1.85E-07
Acrolein	107028	9.59E-06	1.21E-06	8.07E-03	1.16E-07
Aluminum	7429905	3.77E-07	4.75E-08	4.90E-04	7.05E-09
Ammonia	7664417	1.14E-02	1.43E-03	9.57E+00	1.38E-04
Anthracene	120127	8.52E-09	1.07E-09	7.18E-06	1.03E-10
Antimony	7440360	1.45E-07	1.83E-08	1.89E-04	2.71E-09
Antimony trioxide	1309644	4.02E-04	5.07E-05	5.23E-01	7.52E-06
Barium	7440393	1.82E-07	2.29E-08	2.36E-04	3.40E-09
Barium chromate	10294403	3.30E-07	4.16E-08	4.29E-04	6.18E-09
Benzene	71432	2.84E-05	3.58E-06	2.39E-02	3.44E-07
Benzo (a) anthracene	56553	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Benzo (a) pyrene	50328	4.26E-09	5.37E-10	3.59E-06	5.16E-11
Benzo (b) fluoranthene	205992	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Benzo (g,h,i) perylene	191242	4.26E-09	5.37E-10	3.59E-06	5.16E-11
Benzo (k) fluoranthene	207089	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Butyl alcohol, n-	71363	4.30E-03	5.42E-04	5.59E+00	8.04E-05
Butyl alcohol, sec	78922	2.94E-02	3.71E-03	3.83E+01	5.50E-04
Calcium chromate	13765190	8.11E-09	1.02E-09	1.05E-05	1.52E-10
Carbon black	1050	3.62E-06	4.56E-07	4.70E-03	6.76E-08
Carbon monoxide	630080	1.24E-01	1.57E-02	1.05E+02	1.51E-03
Chromium	7440473	4.43E-06	5.58E-07	2.99E-03	4.29E-08
Chromium trioxide	1333820	2.87E-06	3.62E-07	3.73E-03	5.37E-08
Chrysene	218019	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Cobalt	7440484	2.09E-09	2.64E-10	2.72E-06	3.91E-11
Cresol	1319773	4.06E-03	5.12E-04	5.28E+00	7.60E-05
Crystalline silica	1175	5.92E-06	7.46E-07	7.70E-03	1.11E-07
Cumene	98828	7.43E-05	9.37E-06	9.66E-02	1.39E-06
Dibenz (a,h) anthracene	53703	4.26E-09	5.37E-10	3.59E-06	5.16E-11
Dichlorobenzene	106467	4.26E-06	5.37E-07	3.59E-03	5.16E-08
Diethylene glycol monobutyl ether	112345	2.37E-03	2.98E-04	1.70E+01	2.44E-04
Dimethyl formamide	68122	2.86E-03	3.60E-04	3.72E+00	5.34E-05
Dimethylbenz(a)anthracene, 7,12-	57976	5.68E-08	7.16E-09	4.78E-05	6.88E-10
Dioxane, 1,4-	123911	5.54E-04	6.98E-05	7.20E-01	1.04E-05
Epoxy resin	1091	2.09E-02	2.63E-03	2.71E+01	3.90E-04
Ethylbenzene	100414	5.93E-03	7.47E-04	7.70E+00	1.11E-04
Ethylene dichloride	107062	5.54E-04	6.98E-05	7.20E-01	1.04E-05
Ethylene glycol monobutyl ether	111762	1.94E-02	2.45E-03	2.53E+01	3.63E-04
Fluoranthene	206440	1.07E-08	1.34E-09	8.97E-06	1.29E-10
Fluorene	86737	9.94E-09	1.25E-09	8.37E-06	1.20E-10
Fluoride	1101	7.64E-07	9.63E-08	6.46E-04	9.29E-09
Formaldehyde	50000	1.10E-03	1.39E-04	1.41E+00	2.02E-05
Hexamethylene- 1,6 diisocyanate	822060	9.88E-05	1.24E-05	1.28E-01	1.85E-06
Hexane, n-	110543	2.24E-05	2.82E-06	1.88E-02	2.71E-07
Hexavalent chromium	18540299	2.96E-04	3.73E-05	8.29E-02	1.19E-06
Hydrochloric acid	7647010	6.12E-07	7.71E-08	4.29E-03	6.18E-08
Hydrogen fluoride	7664393	9.01E-06	1.14E-06	7.61E-03	1.10E-07
Indeno(1,2,3-cd)pyrene	193395	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Isopropyl alcohol	67630	9.87E-02	1.24E-02	1.28E+02	1.85E-03
Isopropylidenediphenol, 4,4-	80057	1.00E-05	1.26E-06	1.30E-02	1.87E-07
Lead	7439921	4.07E-06	5.13E-07	5.30E-03	7.62E-08
Manganese	7439965	8.52E-06	1.07E-06	7.20E-03	1.04E-07
Methanol	67561	4.59E-02	5.78E-03	5.96E+01	8.57E-04
Methyl ethyl ketone	78933	2.46E-01	3.09E-02	3.19E+02	4.59E-03

Table 2 - Maximum One-Hour and Annual Emissions for All Sources at Facility

Listed substance	CAS/CARB Number	Maximum 1-Hour Emissions		Average Annual Emissions	
		lbs/hr	grams/sec	lbs/yr	grams/sec
Methyl isobutyl ketone	108101	7.95E-02	1.00E-02	1.03E+02	1.49E-03
Methylcholanthrene, 3-	56495	6.39E-09	8.05E-10	5.38E-06	7.74E-11
Methylene diphenyl diisocyanate	101688	3.14E-03	3.96E-04	4.08E+00	5.87E-05
Methylenedianiline, 4,4'-	101779	1.77E-04	2.23E-05	2.30E-01	3.31E-06
Methylnaphthalene,2-	91576	8.52E-08	1.07E-08	7.18E-05	1.03E-09
Naphthalene	91203	5.03E-06	6.34E-07	6.05E-03	8.71E-08
Nickel	7440020	4.43E-06	5.58E-07	3.76E-03	5.40E-08
PAH	1151	3.33E-11	4.19E-12	4.33E-08	6.22E-13
PAH (unspeciated)	1150	4.19E-08	5.28E-09	3.53E-05	5.07E-10
Perchloroethylene	127184	1.82E-06	2.29E-07	2.37E-03	3.40E-08
Phenanthrene	85018	6.04E-08	7.61E-09	5.08E-05	7.31E-10
Phenol	108952	5.00E-02	6.30E-03	6.50E+01	9.35E-04
Phosphoric acid	7664382	4.56E-02	5.74E-03	5.93E+01	8.53E-04
Phosphorous	7723140	6.52E-05	8.22E-06	5.51E-02	7.93E-07
Propylene glycol monomethyl ether	107982	8.39E-03	1.06E-03	1.09E+01	1.57E-04
Propylene glycol monomethyl ether acetate	108656	3.92E-03	4.94E-04	5.10E+00	7.33E-05
Pyrene	129000	1.78E-08	2.24E-09	1.50E-05	2.15E-10
Sodium hydroxide	1310732	7.90E-05	9.95E-06	6.67E-02	9.60E-07
Strontium chromate	7789062	2.10E-05	2.65E-06	2.73E-02	3.93E-07
Sulfur dioxide	7446095	2.13E-03	2.68E-04	1.79E+00	2.58E-05
Sulfuric acid	7664939	1.37E-01	1.73E-02	1.07E+02	1.55E-03
Toluene	108883	3.50E-01	4.40E-02	4.54E+02	6.54E-03
Trimethylbenzene, 1,2,4-	95636	1.11E-03	1.40E-04	1.45E+00	2.08E-05
Xylenes	1330207	1.10E-02	1.38E-03	1.42E+01	2.04E-04
Zinc compounds	7440666	2.25E-05	2.83E-06	2.92E-02	4.20E-07

Table 3 - Annual Average and Maximum Hourly Emissions Summary by Source

Source Name	Source ID	Substance Name	CAS Number	Average Annual Emissions, lbs/yr	Average Annual Emissions, grams/sec	Maximum One Hour Emissions, lbs/hr	Maximum One Hour Emissions, grams/sec
S0001	Boiler	Acenaphthene	83329	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Acenaphthylene	208968	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Acetaldehyde	75070	7.05E-03	1.01E-07	8.37E-06	1.05E-06
S0001	Boiler	Acrolein	107028	4.43E-03	6.36E-08	5.25E-06	6.62E-07
S0001	Boiler	Ammonia	7664417	5.25E+00	7.54E-05	6.23E-03	7.84E-04
S0001	Boiler	Anthracene	120127	3.94E-06	5.66E-11	4.67E-09	5.88E-10
S0001	Boiler	Benzene	71432	1.31E-02	1.89E-07	1.56E-05	1.96E-06
S0001	Boiler	Benzo (a) anthracene	56553	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Benzo (a) pyrene	50328	1.97E-06	2.83E-11	2.33E-09	2.94E-10
S0001	Boiler	Benzo (b) fluoranthene	205992	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Benzo (g,h,i) perylene	191242	1.97E-06	2.83E-11	2.33E-09	2.94E-10
S0001	Boiler	Benzo (k) fluoranthene	207089	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Carbon monoxide	630080	5.74E+01	8.25E-04	6.81E-02	8.58E-03
S0001	Boiler	Chrysene	218019	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Dibenz (a,h) anthracene	53703	1.97E-06	2.83E-11	2.33E-09	2.94E-10
S0001	Boiler	Dichlorobenzene	106467	1.97E-03	2.83E-08	2.33E-06	2.94E-07
S0001	Boiler	Dimethylbenz(a)anthracene, 7,12-	57976	2.62E-05	3.77E-10	3.11E-08	3.92E-09
S0001	Boiler	Ethylbenzene	100414	1.56E-02	2.24E-07	1.85E-05	2.33E-06
S0001	Boiler	Fluoranthene	206440	4.92E-06	7.07E-11	5.84E-09	7.35E-10
S0001	Boiler	Fluorene	86737	4.59E-06	6.60E-11	5.45E-09	6.86E-10
S0001	Boiler	Formaldehyde	50000	2.79E-02	4.01E-07	3.31E-05	4.17E-06
S0001	Boiler	Hexane, n-	110543	1.03E-02	1.49E-07	1.23E-05	1.54E-06
S0001	Boiler	Indeno(1,2,3-cd)pyrene	193395	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Methylcholanthrene, 3-	56495	2.95E-06	4.24E-11	3.50E-09	4.41E-10
S0001	Boiler	Methylnaphthalene,2-	91576	3.94E-05	5.66E-10	4.67E-08	5.88E-09
S0001	Boiler	Naphthalene	91203	4.92E-04	7.07E-09	5.84E-07	7.35E-08
S0001	Boiler	PAH (unspeciated)	1150	1.94E-05	2.78E-10	2.30E-08	2.89E-09
S0001	Boiler	Phenanthrene	85018	2.79E-05	4.01E-10	3.31E-08	4.17E-09
S0001	Boiler	Pyrene	129000	8.20E-06	1.18E-10	9.73E-09	1.23E-09
S0001	Boiler	Sulfur dioxide	7446095	9.84E-01	1.41E-05	1.17E-03	1.47E-04
S0001	Boiler	Toluene	108883	6.00E-02	8.63E-07	7.12E-05	8.97E-06
S0001	Boiler	Xylenes	1330207	4.46E-02	6.41E-07	5.29E-05	6.67E-06
S0002	Oven #2	Acenaphthene	83329	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Acenaphthylene	208968	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Acetaldehyde	75070	1.94E-03	2.78E-08	2.30E-06	2.90E-07
S0002	Oven #2	Acrolein	107028	1.22E-03	1.75E-08	1.44E-06	1.82E-07
S0002	Oven #2	Ammonia	7664417	1.44E+00	2.07E-05	1.71E-03	2.16E-04
S0002	Oven #2	Anthracene	120127	1.08E-06	1.55E-11	1.28E-09	1.62E-10
S0002	Oven #2	Benzene	71432	3.60E-03	5.17E-08	4.28E-06	5.39E-07
S0002	Oven #2	Benzo (a) anthracene	56553	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Benzo (a) pyrene	50328	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0002	Oven #2	Benzo (b) fluoranthene	205992	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Benzo (g,h,i) perylene	191242	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0002	Oven #2	Benzo (k) fluoranthene	207089	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Carbon monoxide	630080	1.58E+01	2.26E-04	1.87E-02	2.36E-03
S0002	Oven #2	Chrysene	218019	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Dibenz (a,h) anthracene	53703	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0002	Oven #2	Dichlorobenzene	106467	5.40E-04	7.76E-09	6.42E-07	8.09E-08
S0002	Oven #2	Dimethylbenz(a)anthracene, 7,12-	57976	7.20E-06	1.03E-10	8.56E-09	1.08E-09
S0002	Oven #2	Ethylbenzene	100414	4.28E-03	6.14E-08	5.08E-06	6.40E-07
S0002	Oven #2	Fluoranthene	206440	1.35E-06	1.94E-11	1.61E-09	2.02E-10
S0002	Oven #2	Fluorene	86737	1.26E-06	1.81E-11	1.50E-09	1.89E-10
S0002	Oven #2	Formaldehyde	50000	7.65E-03	1.10E-07	9.10E-06	1.15E-06
S0002	Oven #2	Hexane, n-	110543	2.84E-03	4.07E-08	3.37E-06	4.25E-07
S0002	Oven #2	Indeno(1,2,3-cd)pyrene	193395	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Methylcholanthrene, 3-	56495	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0002	Oven #2	Methylnaphthalene,2-	91576	1.08E-05	1.55E-10	1.28E-08	1.62E-09
S0002	Oven #2	Naphthalene	91203	1.35E-04	1.94E-09	1.61E-07	2.02E-08
S0002	Oven #2	PAH (unspeciated)	1150	5.31E-06	7.63E-11	6.31E-09	7.95E-10
S0002	Oven #2	Phenanthrene	85018	7.65E-06	1.10E-10	9.10E-09	1.15E-09
S0002	Oven #2	Pyrene	129000	2.25E-06	3.23E-11	2.68E-09	3.37E-10
S0002	Oven #2	Sulfur dioxide	7446095	2.70E-01	3.88E-06	3.21E-04	4.04E-05
S0002	Oven #2	Toluene	108883	1.65E-02	2.37E-07	1.96E-05	2.47E-06
S0002	Oven #2	Xylenes	1330207	1.22E-02	1.76E-07	1.46E-05	1.83E-06
S0003	Oven #3	Acenaphthene	83329	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Acenaphthylene	208968	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Acetaldehyde	75070	1.94E-03	2.78E-08	2.30E-06	2.90E-07

Table 3 - Annual Average and Maximum Hourly Emissions Summary by Source

Source Name	Source ID	Substance Name	CAS Number	Average Annual Emissions, lbs/yr	Average Annual Emissions, grams/sec	Maximum One Hour Emissions, lbs/hr	Maximum One Hour Emissions, grams/sec
S0003	Oven #3	Acrolein	107028	1.22E-03	1.75E-08	1.44E-06	1.82E-07
S0003	Oven #3	Ammonia	7664417	1.44E+00	2.07E-05	1.71E-03	2.16E-04
S0003	Oven #3	Anthracene	120127	1.08E-06	1.55E-11	1.28E-09	1.62E-10
S0003	Oven #3	Benzene	71432	3.60E-03	5.17E-08	4.28E-06	5.39E-07
S0003	Oven #3	Benzo (a) anthracene	56553	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Benzo (a) pyrene	50328	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0003	Oven #3	Benzo (b) fluoranthene	205992	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Benzo (g,h,i) perylene	191242	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0003	Oven #3	Benzo (k) fluoranthene	207089	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Carbon monoxide	630080	1.58E+01	2.26E-04	1.87E-02	2.36E-03
S0003	Oven #3	Chrysene	218019	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Dibenz (a,h) anthracene	53703	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0003	Oven #3	Dichlorobenzene	106467	5.40E-04	7.76E-09	6.42E-07	8.09E-08
S0003	Oven #3	Dimethylbenz(a)anthracene, 7,12-	57976	7.20E-06	1.03E-10	8.56E-09	1.08E-09
S0003	Oven #3	Ethylbenzene	100414	4.28E-03	6.14E-08	5.08E-06	6.40E-07
S0003	Oven #3	Fluoranthene	206440	1.35E-06	1.94E-11	1.61E-09	2.02E-10
S0003	Oven #3	Fluorene	86737	1.26E-06	1.81E-11	1.50E-09	1.89E-10
S0003	Oven #3	Formaldehyde	50000	7.65E-03	1.10E-07	9.10E-06	1.15E-06
S0003	Oven #3	Hexane, n-	110543	2.84E-03	4.07E-08	3.37E-06	4.25E-07
S0003	Oven #3	Indeno(1,2,3-cd)pyrene	193395	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Methylcholanthrene, 3-	56495	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0003	Oven #3	Methylnaphthalene,2-	91576	1.08E-05	1.55E-10	1.28E-08	1.62E-09
S0003	Oven #3	Naphthalene	91203	1.35E-04	1.94E-09	1.61E-07	2.02E-08
S0003	Oven #3	PAH (unspeciated)	1150	5.31E-06	7.63E-11	6.31E-09	7.95E-10
S0003	Oven #3	Phenanthrene	85018	7.65E-06	1.10E-10	9.10E-09	1.15E-09
S0003	Oven #3	Pyrene	129000	2.25E-06	3.23E-11	2.68E-09	3.37E-10
S0003	Oven #3	Sulfur dioxide	7446095	2.70E-01	3.88E-06	3.21E-04	4.04E-05
S0003	Oven #3	Toluene	108883	1.65E-02	2.37E-07	1.96E-05	2.47E-06
S0003	Oven #3	Xylenes	1330207	1.22E-02	1.76E-07	1.46E-05	1.83E-06
S0004	Oven #4	Acenaphthene	83329	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Acenaphthylene	208968	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Acetaldehyde	75070	1.94E-03	2.78E-08	2.30E-06	2.90E-07
S0004	Oven #4	Acrolein	107028	1.22E-03	1.75E-08	1.44E-06	1.82E-07
S0004	Oven #4	Ammonia	7664417	1.44E+00	2.07E-05	1.71E-03	2.16E-04
S0004	Oven #4	Anthracene	120127	1.08E-06	1.55E-11	1.28E-09	1.62E-10
S0004	Oven #4	Benzene	71432	3.60E-03	5.17E-08	4.28E-06	5.39E-07
S0004	Oven #4	Benzo (a) anthracene	56553	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Benzo (a) pyrene	50328	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0004	Oven #4	Benzo (b) fluoranthene	205992	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Benzo (g,h,i) perylene	191242	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0004	Oven #4	Benzo (k) fluoranthene	207089	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Carbon monoxide	630080	1.58E+01	2.26E-04	1.87E-02	2.36E-03
S0004	Oven #4	Chrysene	218019	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Dibenz (a,h) anthracene	53703	5.40E-07	7.76E-12	6.42E-10	8.09E-11
S0004	Oven #4	Dichlorobenzene	106467	5.40E-04	7.76E-09	6.42E-07	8.09E-08
S0004	Oven #4	Dimethylbenz(a)anthracene, 7,12-	57976	7.20E-06	1.03E-10	8.56E-09	1.08E-09
S0004	Oven #4	Ethylbenzene	100414	4.28E-03	6.14E-08	5.08E-06	6.40E-07
S0004	Oven #4	Fluoranthene	206440	1.35E-06	1.94E-11	1.61E-09	2.02E-10
S0004	Oven #4	Fluorene	86737	1.26E-06	1.81E-11	1.50E-09	1.89E-10
S0004	Oven #4	Formaldehyde	50000	7.65E-03	1.10E-07	9.10E-06	1.15E-06
S0004	Oven #4	Hexane, n-	110543	2.84E-03	4.07E-08	3.37E-06	4.25E-07
S0004	Oven #4	Indeno(1,2,3-cd)pyrene	193395	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Methylcholanthrene, 3-	56495	8.10E-07	1.16E-11	9.63E-10	1.21E-10
S0004	Oven #4	Methylnaphthalene,2-	91576	1.08E-05	1.55E-10	1.28E-08	1.62E-09
S0004	Oven #4	Naphthalene	91203	1.35E-04	1.94E-09	1.61E-07	2.02E-08
S0004	Oven #4	PAH (unspeciated)	1150	5.31E-06	7.63E-11	6.31E-09	7.95E-10
S0004	Oven #4	Phenanthrene	85018	7.65E-06	1.10E-10	9.10E-09	1.15E-09
S0004	Oven #4	Pyrene	129000	2.25E-06	3.23E-11	2.68E-09	3.37E-10
S0004	Oven #4	Sulfur dioxide	7446095	2.70E-01	3.88E-06	3.21E-04	4.04E-05
S0004	Oven #4	Toluene	108883	1.65E-02	2.37E-07	1.96E-05	2.47E-06
S0004	Oven #4	Xylenes	1330207	1.22E-02	1.76E-07	1.46E-05	1.83E-06
S0005	Mist Eliminator	Chromium	7440473	6.75E-04	9.71E-09	1.69E-06	2.13E-07
S0005	Mist Eliminator	Hexavalent chromium	18540299	6.75E-05	9.71E-10	1.69E-07	2.13E-08
S0006	East Door	Chromium	7440473	7.70E-04	1.11E-08	9.11E-07	1.15E-07
S0006	East Door	Diethylene glycol monobutyl ether	112345	5.44E+00	7.82E-05	6.21E-04	7.82E-05
S0006	East Door	Fluoride	1101	2.15E-04	3.10E-09	2.55E-07	3.21E-08
S0006	East Door	Hexavalent chromium	18540299	2.76E-02	3.97E-07	9.86E-05	1.42E-09

Table 3 - Annual Average and Maximum Hourly Emissions Summary by Source

Source Name	Source ID	Substance Name	CAS Number	Average Annual Emissions, lbs/yr	Average Annual Emissions, grams/sec	Maximum One Hour Emissions, lbs/hr	Maximum One Hour Emissions, grams/sec
S0006	East Door	Hydrochloric acid	7647010	1.43E-03	2.06E-08	2.04E-07	2.57E-08
S0006	East Door	Hydrogen fluoride	7664393	2.54E-03	3.65E-08	3.00E-06	3.78E-07
S0006	East Door	Manganese	7439965	2.40E-03	3.45E-08	2.84E-06	3.58E-07
S0006	East Door	Nickel	7440020	1.24E-03	1.78E-08	1.46E-06	1.84E-07
S0006	East Door	Phosphorous	7723140	1.84E-02	2.64E-07	2.17E-05	2.74E-06
S0006	East Door	Sodium hydroxide	1310732	2.22E-02	3.20E-07	2.63E-05	3.32E-06
S0006	East Door	Sulfuric acid	7664939	3.29E+01	4.73E-04	4.34E-02	5.47E-03
S0007	Spray Booth 1	Aluminum	7429905	3.83E-04	5.51E-09	2.95E-07	3.71E-08
S0007	Spray Booth 1	Antimony	7440360	7.99E-05	1.15E-09	6.15E-08	7.75E-09
S0007	Spray Booth 1	Antimony trioxide	1309644	1.51E-03	2.17E-08	1.16E-06	1.46E-07
S0007	Spray Booth 1	Barium	7440393	2.36E-04	3.40E-09	1.82E-07	2.29E-08
S0007	Spray Booth 1	Barium chromate	10294403	2.09E-04	3.00E-09	1.61E-07	2.02E-08
S0007	Spray Booth 1	Butyl alcohol, n-	71363	7.67E-01	1.10E-05	5.90E-04	7.43E-05
S0007	Spray Booth 1	Butyl alcohol, sec	78922	2.70E+01	3.89E-04	2.08E-02	2.62E-03
S0007	Spray Booth 1	Carbon black	1050	7.79E-04	1.12E-08	5.99E-07	7.55E-08
S0007	Spray Booth 1	Chromium trioxide	1333820	2.04E-04	2.94E-09	1.57E-07	1.98E-08
S0007	Spray Booth 1	Cresol	1319773	9.96E-02	1.43E-06	7.67E-05	9.66E-06
S0007	Spray Booth 1	Crystalline silica	1175	5.57E-03	8.02E-08	4.29E-06	5.40E-07
S0007	Spray Booth 1	Cumene	98828	3.98E-02	5.72E-07	3.06E-05	3.85E-06
S0007	Spray Booth 1	Diethylene glycol monobutyl ether	112345	4.42E-01	6.35E-06	3.40E-04	4.28E-05
S0007	Spray Booth 1	Dioxane, 1,4-	123911	1.03E-01	1.49E-06	7.96E-05	1.00E-05
S0007	Spray Booth 1	Epoxy resin	1091	1.12E+00	1.61E-05	8.59E-04	1.08E-04
S0007	Spray Booth 1	Ethylbenzene	100414	1.33E+00	1.91E-05	1.02E-03	1.29E-04
S0007	Spray Booth 1	Ethylene dichloride	107062	1.03E-01	1.49E-06	7.96E-05	1.00E-05
S0007	Spray Booth 1	Ethylene glycol monobutyl ether	111762	9.82E-01	1.41E-05	7.55E-04	9.52E-05
S0007	Spray Booth 1	Formaldehyde	50000	3.24E-01	4.66E-06	2.49E-04	3.14E-05
S0007	Spray Booth 1	Hexamethylene- 1,6 diisocyanate	822060	1.01E-01	1.45E-06	7.74E-05	9.75E-06
S0007	Spray Booth 1	Isopropyl alcohol	67630	3.55E+00	5.10E-05	2.73E-03	3.44E-04
S0007	Spray Booth 1	Isopropylidenediphenol, 4,4-	80057	5.65E-03	8.13E-08	4.35E-06	5.47E-07
S0007	Spray Booth 1	Lead	7439921	1.71E-04	2.47E-09	1.32E-07	1.66E-08
S0007	Spray Booth 1	Methanol	67561	7.95E-01	1.14E-05	6.11E-04	7.70E-05
S0007	Spray Booth 1	Methyl ethyl ketone	78933	2.07E+01	2.98E-04	1.60E-02	2.01E-03
S0007	Spray Booth 1	Methyl isobutyl ketone	108101	8.62E+00	1.24E-04	6.63E-03	8.35E-04
S0007	Spray Booth 1	Methylene diphenyl diisocyanate	101688	1.69E+00	2.44E-05	1.30E-03	1.64E-04
S0007	Spray Booth 1	Naphthalene	91203	5.16E-03	7.42E-08	3.97E-06	5.00E-07
S0007	Spray Booth 1	Nickel	7440020	1.93E-05	2.77E-10	1.48E-08	1.87E-09
S0007	Spray Booth 1	PAH	1151	7.17E-09	1.03E-13	5.51E-12	6.95E-13
S0007	Spray Booth 1	Perchloroethylene	127184	1.41E-03	2.03E-08	1.09E-06	1.37E-07
S0007	Spray Booth 1	Phenol	108952	9.92E-01	1.43E-05	7.63E-04	9.61E-05
S0007	Spray Booth 1	Phosphoric acid	7664382	3.53E+00	5.08E-05	2.72E-03	3.42E-04
S0007	Spray Booth 1	Propylene glycol monomethyl ether	107982	4.25E+00	6.11E-05	3.27E-03	4.11E-04
S0007	Spray Booth 1	Propylene glycol monomethyl ether acetate	108656	8.68E-01	1.25E-05	6.68E-04	8.41E-05
S0007	Spray Booth 1	Strontium chromate	7789062	1.44E-02	2.06E-07	1.10E-05	1.39E-06
S0007	Spray Booth 1	Sulfuric acid	7664939	2.35E-01	3.38E-06	1.81E-04	2.28E-05
S0007	Spray Booth 1	Toluene	108883	1.63E+01	2.35E-04	1.26E-02	1.58E-03
S0007	Spray Booth 1	Trimethylbenzene, 1,2,4-	95636	2.46E-01	3.54E-06	1.89E-04	2.39E-05
S0007	Spray Booth 1	Xylenes	1330207	3.81E+00	5.48E-05	2.93E-03	3.69E-04
S0007	Spray Booth 1	Zinc compounds	7440666	2.14E-03	3.08E-08	1.65E-06	2.08E-07
S0008	Spray Booth 2	Aluminum	7429905	7.78E-05	1.12E-09	5.99E-08	7.54E-09
S0008	Spray Booth 2	Antimony	7440360	1.09E-04	1.56E-09	8.35E-08	1.05E-08
S0008	Spray Booth 2	Antimony trioxide	1309644	1.00E-02	1.44E-07	7.72E-06	9.73E-07
S0008	Spray Booth 2	Barium chromate	10294403	1.98E-04	2.85E-09	1.53E-07	1.92E-08
S0008	Spray Booth 2	Butyl alcohol, n-	71363	1.14E+00	1.64E-05	8.78E-04	1.11E-04
S0008	Spray Booth 2	Butyl alcohol, sec	78922	1.01E+01	1.46E-04	7.81E-03	9.83E-04
S0008	Spray Booth 2	Carbon black	1050	1.41E-04	2.03E-09	1.09E-07	1.37E-08
S0008	Spray Booth 2	Chromium trioxide	1333820	2.22E-04	3.20E-09	1.71E-07	2.15E-08
S0008	Spray Booth 2	Cobalt	7440484	2.72E-06	3.91E-11	2.09E-09	2.64E-10
S0008	Spray Booth 2	Cresol	1319773	1.97E+00	2.83E-05	1.51E-03	1.91E-04
S0008	Spray Booth 2	Crystalline silica	1175	1.20E-03	1.73E-08	9.27E-07	1.17E-07
S0008	Spray Booth 2	Cumene	98828	5.25E-02	7.55E-07	4.04E-05	5.09E-06
S0008	Spray Booth 2	Diethylene glycol monobutyl ether	112345	1.42E-01	2.05E-06	1.09E-04	1.38E-05
S0008	Spray Booth 2	Dioxane, 1,4-	123911	2.07E-01	2.97E-06	1.59E-04	2.00E-05
S0008	Spray Booth 2	Epoxy resin	1091	2.78E+00	4.00E-05	2.14E-03	2.69E-04
S0008	Spray Booth 2	Ethylbenzene	100414	1.57E+00	2.26E-05	1.21E-03	1.52E-04
S0008	Spray Booth 2	Ethylene dichloride	107062	2.07E-01	2.97E-06	1.59E-04	2.00E-05
S0008	Spray Booth 2	Ethylene glycol monobutyl ether	111762	1.37E+00	1.98E-05	1.06E-03	1.33E-04
S0008	Spray Booth 2	Formaldehyde	50000	2.78E-01	4.01E-06	2.14E-04	2.70E-05

Table 3 - Annual Average and Maximum Hourly Emissions Summary by Source

Source Name	Source ID	Substance Name	CAS Number	Average Annual Emissions, lbs/yr	Average Annual Emissions, grams/sec	Maximum One Hour Emissions, lbs/hr	Maximum One Hour Emissions, grams/sec
S0008	Spray Booth 2	Hexamethylene- 1,6 diisocyanate	822060	8.17E-03	1.18E-07	6.29E-06	7.92E-07
S0008	Spray Booth 2	Hexavalent chromium	18540299	9.21E-05	1.32E-09	7.08E-08	8.92E-09
S0008	Spray Booth 2	Isopropyl alcohol	67630	1.58E+01	2.28E-04	1.22E-02	1.54E-03
S0008	Spray Booth 2	Isopropylidenediphenol, 4,4-	80057	7.35E-03	1.06E-07	5.65E-06	7.12E-07
S0008	Spray Booth 2	Lead	7439921	1.66E-03	2.38E-08	1.27E-06	1.60E-07
S0008	Spray Booth 2	Methanol	67561	1.53E+00	2.20E-05	1.18E-03	1.48E-04
S0008	Spray Booth 2	Methyl ethyl ketone	78933	1.85E+01	2.66E-04	1.42E-02	1.79E-03
S0008	Spray Booth 2	Methyl isobutyl ketone	108101	1.61E+01	2.32E-04	1.24E-02	1.56E-03
S0008	Spray Booth 2	Methylene diphenyl diisocyanate	101688	2.37E+00	3.41E-05	1.82E-03	2.30E-04
S0008	Spray Booth 2	Nickel	7440020	2.62E-05	3.76E-10	2.01E-08	2.54E-09
S0008	Spray Booth 2	PAH	1151	1.30E-09	1.87E-14	9.99E-13	1.26E-13
S0008	Spray Booth 2	Perchloroethylene	127184	9.52E-04	1.37E-08	7.33E-07	9.23E-08
S0008	Spray Booth 2	Phenol	108952	3.53E+00	5.07E-05	2.71E-03	3.42E-04
S0008	Spray Booth 2	Phosphoric acid	7664382	3.12E+00	4.49E-05	2.40E-03	3.02E-04
S0008	Spray Booth 2	Propylene glycol monomethyl ether	107982	4.33E+00	6.23E-05	3.33E-03	4.19E-04
S0008	Spray Booth 2	Propylene glycol monomethyl ether acetate	108656	2.16E-01	3.11E-06	1.66E-04	2.09E-05
S0008	Spray Booth 2	Strontium chromate	7789062	1.12E-02	1.62E-07	8.64E-06	1.09E-06
S0008	Spray Booth 2	Sulfuric acid	7664939	3.79E-01	5.46E-06	2.92E-04	3.68E-05
S0008	Spray Booth 2	Toluene	108883	4.23E+01	6.08E-04	3.25E-02	4.10E-03
S0008	Spray Booth 2	Trimethylbenzene, 1,2,4-	95636	2.72E-01	3.91E-06	2.09E-04	2.63E-05
S0008	Spray Booth 2	Xylenes	1330207	1.48E+00	2.13E-05	1.14E-03	1.44E-04
S0008	Spray Booth 2	Zinc compounds	7440666	2.05E-03	2.95E-08	1.58E-06	1.99E-07
S0009	Spray Booth 3	Aluminum	7429905	2.90E-05	4.18E-10	2.23E-08	2.81E-09
S0009	Spray Booth 3	Antimony trioxide	1309644	6.62E-02	9.52E-07	5.09E-05	6.41E-06
S0009	Spray Booth 3	Barium chromate	10294403	2.22E-05	3.20E-10	1.71E-08	2.16E-09
S0009	Spray Booth 3	Butyl alcohol, n-	71363	2.69E+00	3.87E-05	2.07E-03	2.61E-04
S0009	Spray Booth 3	Butyl alcohol, sec	78922	7.37E-01	1.06E-05	5.67E-04	7.14E-05
S0009	Spray Booth 3	Calcium chromate	13765190	1.05E-05	1.52E-10	8.11E-09	1.02E-09
S0009	Spray Booth 3	Carbon black	1050	2.88E-05	4.14E-10	2.22E-08	2.79E-09
S0009	Spray Booth 3	Chromium trioxide	1333820	3.30E-03	4.75E-08	2.54E-06	3.20E-07
S0009	Spray Booth 3	Cresol	1319773	3.22E+00	4.62E-05	2.47E-03	3.12E-04
S0009	Spray Booth 3	Crystalline silica	1175	5.23E-05	7.52E-10	4.02E-08	5.06E-09
S0009	Spray Booth 3	Cumene	98828	4.36E-03	6.27E-08	3.35E-06	4.22E-07
S0009	Spray Booth 3	Dimethyl formamide	68122	3.72E+00	5.34E-05	2.86E-03	3.60E-04
S0009	Spray Booth 3	Epoxy resin	1091	1.25E+01	1.79E-04	9.60E-03	1.21E-03
S0009	Spray Booth 3	Ethylbenzene	100414	3.34E+00	4.80E-05	2.57E-03	3.23E-04
S0009	Spray Booth 3	Ethylene glycol monobutyl ether	111762	2.09E+01	3.01E-04	1.61E-02	2.03E-03
S0009	Spray Booth 3	Formaldehyde	50000	9.01E-02	1.30E-06	6.93E-05	8.73E-06
S0009	Spray Booth 3	Isopropyl alcohol	67630	7.72E+01	1.11E-03	5.94E-02	7.48E-03
S0009	Spray Booth 3	Lead	7439921	3.47E-03	4.99E-08	2.67E-06	3.36E-07
S0009	Spray Booth 3	Methanol	67561	4.56E+01	6.56E-04	3.51E-02	4.42E-03
S0009	Spray Booth 3	Methyl ethyl ketone	78933	2.33E+02	3.34E-03	1.79E-01	2.25E-02
S0009	Spray Booth 3	Methyl isobutyl ketone	108101	6.50E+01	9.35E-04	5.00E-02	6.30E-03
S0009	Spray Booth 3	Methylene diphenyl diisocyanate	101688	2.22E-02	3.20E-07	1.71E-05	2.15E-06
S0009	Spray Booth 3	Methylenedianiline, 4,4'-	101779	2.30E-01	3.31E-06	1.77E-04	2.23E-05
S0009	Spray Booth 3	PAH	1151	2.65E-10	3.81E-15	2.04E-13	2.57E-14
S0009	Spray Booth 3	Phenol	108952	4.88E+01	7.02E-04	3.76E-02	4.73E-03
S0009	Spray Booth 3	Phosphoric acid	7664382	5.26E+01	7.57E-04	4.05E-02	5.10E-03
S0009	Spray Booth 3	Propylene glycol monomethyl ether	107982	1.92E-01	2.76E-06	1.48E-04	1.86E-05
S0009	Spray Booth 3	Propylene glycol monomethyl ether acetate	108656	1.63E+00	2.34E-05	1.25E-03	1.58E-04
S0009	Spray Booth 3	Strontium chromate	7789062	1.75E-03	2.52E-08	1.35E-06	1.70E-07
S0009	Spray Booth 3	Sulfuric acid	7664939	8.19E+00	1.18E-04	6.30E-03	7.94E-04
S0009	Spray Booth 3	Toluene	108883	2.93E+02	4.21E-03	2.25E-01	2.84E-02
S0009	Spray Booth 3	Trimethylbenzene, 1,2,4-	95636	1.58E-02	2.27E-07	1.22E-05	1.53E-06
S0009	Spray Booth 3	Xylenes	1330207	3.37E+00	4.85E-05	2.59E-03	3.27E-04
S0009	Spray Booth 3	Zinc compounds	7440666	2.50E-02	3.60E-07	1.92E-05	2.42E-06
S0010	Spray Booth 4	Antimony trioxide	1309644	2.58E-01	3.72E-06	1.99E-04	2.51E-05
S0010	Spray Booth 4	Butyl alcohol, n-	71363	8.11E-01	1.17E-05	6.24E-04	7.86E-05
S0010	Spray Booth 4	Butyl alcohol, sec	78922	3.31E-01	4.76E-06	2.55E-04	3.21E-05
S0010	Spray Booth 4	Carbon black	1050	3.45E-03	4.96E-08	2.65E-06	3.34E-07
S0010	Spray Booth 4	Crystalline silica	1175	8.69E-04	1.25E-08	6.69E-07	8.42E-08
S0010	Spray Booth 4	Diethylene glycol monobutyl ether	112345	6.17E-02	8.87E-07	4.74E-05	5.98E-06
S0010	Spray Booth 4	Dioxane, 1,4-	123911	3.69E-01	5.31E-06	2.84E-04	3.58E-05
S0010	Spray Booth 4	Epoxy resin	1091	6.37E+00	9.15E-05	4.90E-03	6.17E-04
S0010	Spray Booth 4	Ethylbenzene	100414	1.35E+00	1.94E-05	1.04E-03	1.31E-04
S0010	Spray Booth 4	Ethylene dichloride	107062	3.69E-01	5.31E-06	2.84E-04	3.58E-05
S0010	Spray Booth 4	Ethylene glycol monobutyl ether	111762	1.41E+00	2.03E-05	1.09E-03	1.37E-04

Table 3 - Annual Average and Maximum Hourly Emissions Summary by Source

Source Name	Source ID	Substance Name	CAS Number	Average Annual Emissions, lbs/yr	Average Annual Emissions, grams/sec	Maximum One Hour Emissions, lbs/hr	Maximum One Hour Emissions, grams/sec
S0010	Spray Booth 4	Formaldehyde	50000	6.15E-01	8.83E-06	4.73E-04	5.96E-05
S0010	Spray Booth 4	Hexamethylene- 1,6 diisocyanate	822060	1.96E-02	2.81E-07	1.51E-05	1.90E-06
S0010	Spray Booth 4	Isopropyl alcohol	67630	2.28E+01	3.28E-04	1.75E-02	2.21E-03
S0010	Spray Booth 4	Methanol	67561	8.12E+00	1.17E-04	6.24E-03	7.87E-04
S0010	Spray Booth 4	Methyl ethyl ketone	78933	3.05E+01	4.39E-04	2.35E-02	2.96E-03
S0010	Spray Booth 4	Methyl isobutyl ketone	108101	9.61E+00	1.38E-04	7.39E-03	9.31E-04
S0010	Spray Booth 4	PAH	1151	3.17E-08	4.56E-13	2.44E-11	3.07E-12
S0010	Spray Booth 4	Phenol	108952	8.13E+00	1.17E-04	6.25E-03	7.88E-04
S0010	Spray Booth 4	Propylene glycol monomethyl ether	107982	1.92E+00	2.76E-05	1.48E-03	1.86E-04
S0010	Spray Booth 4	Propylene glycol monomethyl ether acetate	108656	1.59E+00	2.29E-05	1.22E-03	1.54E-04
S0010	Spray Booth 4	Toluene	108883	7.71E+01	1.11E-03	5.93E-02	7.47E-03
S0010	Spray Booth 4	Trimethylbenzene, 1,2,4-	95636	8.81E-01	1.27E-05	6.78E-04	8.54E-05
S0010	Spray Booth 4	Xylenes	1330207	5.19E+00	7.46E-05	3.99E-03	5.03E-04
S0012	Spray Booth 6	Antimony trioxide	1309644	1.87E-01	2.68E-06	1.44E-04	1.81E-05
S0012	Spray Booth 6	Butyl alcohol, n-	71363	1.77E-01	2.54E-06	1.36E-04	1.72E-05
S0012	Spray Booth 6	Carbon black	1050	3.04E-04	4.38E-09	2.34E-07	2.95E-08
S0012	Spray Booth 6	Diethylene glycol monobutyl ether	112345	1.12E-02	1.61E-07	8.61E-06	1.08E-06
S0012	Spray Booth 6	Dioxane, 1,4-	123911	4.06E-02	5.84E-07	3.13E-05	3.94E-06
S0012	Spray Booth 6	Epoxy resin	1091	4.38E+00	6.30E-05	3.37E-03	4.25E-04
S0012	Spray Booth 6	Ethylbenzene	100414	8.48E-02	1.22E-06	6.52E-05	8.22E-06
S0012	Spray Booth 6	Ethylene dichloride	107062	4.06E-02	5.84E-07	3.13E-05	3.94E-06
S0012	Spray Booth 6	Ethylene glycol monobutyl ether	111762	5.99E-01	8.61E-06	4.61E-04	5.80E-05
S0012	Spray Booth 6	Formaldehyde	50000	4.78E-02	6.87E-07	3.68E-05	4.63E-06
S0012	Spray Booth 6	Isopropyl alcohol	67630	8.91E+00	1.28E-04	6.85E-03	8.64E-04
S0012	Spray Booth 6	Methanol	67561	3.54E+00	5.09E-05	2.72E-03	3.43E-04
S0012	Spray Booth 6	Methyl ethyl ketone	78933	1.70E+01	2.44E-04	1.31E-02	1.65E-03
S0012	Spray Booth 6	Methyl isobutyl ketone	108101	4.02E+00	5.77E-05	3.09E-03	3.89E-04
S0012	Spray Booth 6	PAH	1151	2.80E-09	4.03E-14	2.15E-12	2.71E-13
S0012	Spray Booth 6	Phenol	108952	3.54E+00	5.08E-05	2.72E-03	3.43E-04
S0012	Spray Booth 6	Propylene glycol monomethyl ether	107982	2.17E-01	3.12E-06	1.67E-04	2.10E-05
S0012	Spray Booth 6	Propylene glycol monomethyl ether acetate	108656	7.92E-01	1.14E-05	6.09E-04	7.68E-05
S0012	Spray Booth 6	Toluene	108883	2.57E+01	3.70E-04	1.98E-02	2.49E-03
S0012	Spray Booth 6	Trimethylbenzene, 1,2,4-	95636	3.09E-02	4.45E-07	2.38E-05	3.00E-06
S0012	Spray Booth 6	Xylenes	1330207	2.71E-01	3.89E-06	2.08E-04	2.62E-05
S0013	West Door	Chromium	7440473	7.70E-04	1.11E-08	9.11E-07	1.15E-07
S0014	West Door	Diethylene glycol monobutyl ether	112345	5.44E+00	7.82E-05	6.21E-04	7.82E-05
S0015	West Door	Fluoride	1101	2.15E-04	3.10E-09	2.55E-07	3.21E-08
S0016	West Door	Hexavalent chromium	18540299	2.76E-02	3.97E-07	9.86E-05	1.42E-09
S0017	West Door	Hydrochloric acid	7647010	1.43E-03	2.06E-08	2.04E-07	2.57E-08
S0018	West Door	Hydrogen fluoride	7664393	2.54E-03	3.65E-08	3.00E-06	3.78E-07
S0019	West Door	Manganese	7439965	2.40E-03	3.45E-08	2.84E-06	3.58E-07
S0020	West Door	Nickel	7440020	1.24E-03	1.78E-08	1.46E-06	1.84E-07
S0021	West Door	Phosphorous	7723140	1.84E-02	2.64E-07	2.17E-05	2.74E-06
S0022	West Door	Sodium hydroxide	1310732	2.22E-02	3.20E-07	2.63E-05	3.32E-06
S0023	West Door	Sulfuric acid	7664939	3.29E+01	4.73E-04	4.34E-02	5.47E-03
S0014	Vent	Chromium	7440473	7.70E-04	1.11E-08	9.11E-07	1.15E-07
S0014	Vent	Diethylene glycol monobutyl ether	112345	5.44E+00	7.82E-05	6.21E-04	7.82E-05
S0014	Vent	Fluoride	1101	2.15E-04	3.10E-09	2.55E-07	3.21E-08
S0014	Vent	Hexavalent chromium	18540299	2.76E-02	3.97E-07	9.86E-05	1.42E-09
S0014	Vent	Hydrochloric acid	7647010	1.43E-03	2.06E-08	2.04E-07	2.57E-08
S0014	Vent	Hydrogen fluoride	7664393	2.54E-03	3.65E-08	3.00E-06	3.78E-07
S0014	Vent	Manganese	7439965	2.40E-03	3.45E-08	2.84E-06	3.58E-07
S0014	Vent	Nickel	7440020	1.24E-03	1.78E-08	1.46E-06	1.84E-07
S0014	Vent	Phosphorous	7723140	1.84E-02	2.64E-07	2.17E-05	2.74E-06
S0014	Vent	Sodium hydroxide	1310732	2.22E-02	3.20E-07	2.63E-05	3.32E-06
S0014	Vent	Sulfuric acid	7664939	3.29E+01	4.73E-04	4.34E-02	5.47E-03

Table 4 - Emission Inventory Methods

Source ID	Source Description	Method
S0001	Boiler	Estimated using SCAQMD Emission Factors[1] and USEPA AP-42[2]
S0002	Oven #2	Estimated using SCAQMD Emission Factors[1] and USEPA AP-42[2]
S0003	Oven #3	Estimated using SCAQMD Emission Factors[1] and USEPA AP-42[2]
S0004	Oven #4	Estimated using SCAQMD Emission Factors[1] and USEPA AP-42[2]
S0005	Mist eliminator	SCAQMD Approved Source Test[3]
S0006	East Door	Estimated using SCAQMD Emission Factors[1]
S0007	Spray booth 1	Estimated using SCAQMD Emission Factors[1]
S0008	Spray booth 2	Estimated using SCAQMD Emission Factors[1]
S0009	Spray booth 3	Estimated using SCAQMD Emission Factors[1]
S0010	Spray booth 4	Estimated using SCAQMD Emission Factors[1]
S0012	Spray booth 6	Estimated using SCAQMD Emission Factors[1]
S0013	West Door	Estimated using SCAQMD Emission Factors[1]
S0014	Vent	Estimated using SCAQMD Emission Factors[1]

1. SCAQMD, Reporting Procedures for AB2588 Faciliites Reporting their Quadrennial Air Toxics Emission Inventory, December 2016.
2. USEPA AP-42, Fifth Edition, Chapter 1.4 Natural Gas Combustion, Table 1.4-3.
3. World Environmental, February 2010.

Table 5 - Emission Control Equipment

Source ID	Device	Efficiency, %	Source	Substances
S0005	Mist eliminator with HEPA filtration	99.97	S0005[1]	Chromium
S0005	Mist eliminator with HEPA filtration	99.97	S0005[1]	Hexavalent chromium
S0007	Spray booth 1 filters	99.8	S0007	Non volatile TAC
S0008	Spray booth 2 filters	99.8	S0008	Non volatile TAC
S0009	Spray booth 3 filters	99.8	S0009	Non volatile TAC
S0010	Spray booth 4 filters	95	S0010	Non volatile TAC
S0012	Spray booth 6 filters	95	S0012	Non volatile TAC

1. Select tanks in production are controlled.

Table 6a - Point Source Parameters

Source ID	Source Name	Source Type	WGS 84 UTM East (m)	WGS 84 UTM North (m)	Elevation (m)	Release Height (m)	Stack Temp (k)	Stack diameter (m)	Exit Velocity,
S0001	Boiler	Point	393,430.25	3,749,442.09	18.59	7.523	451.76	0.381	1.65
S0002	Oven #2	Point	393,456.24	3,749,445.41	18.59	7.650	616.48	0.508	0.58
S0003	Oven #3	Point	393,453.53	3,749,445.02	18.59	7.752	505.37	0.508	0.59
S0004	Oven #4	Point	393,450.43	3,749,443.22	18.59	6.736	505.37	0.508	1.61
S0005	Mist eliminator	Point	393,458.77	3,749,429.57	18.38	9.606	Ambient	1.321	2.97
S0007	Spray booth 1	Point	393,443.52	3,749,457.02	18.59	7.777	294.00	0.965	9.30
S0008	Spray booth 2	Point	393,451.22	3,749,457.02	18.59	7.498	294.00	0.762	10.60
S0009	Spray booth 3	Point	393,453.93	3,749,457.02	18.59	7.447	294.00	0.737	10.60
S0010	Spray booth 4	Point	393,456.26	3,749,457.02	18.59	7.498	294.00	0.737	10.60
S0012	Spray booth 6	Point	393,466.50	3,749,457.02	18.59	7.498	294.00	0.737	10.30

Table 6b - Volume Source Parameters

Source ID	Source Name	Source Type	WGS 84 UTM East (m)	WGS 84 UTM North (m)	Elevation (m)	Release Height (m)	Init. Late. Dime., m	Init. Vert. Dime., m
S0006	East door	Volume	393,491.83	3,749,428.85	19.04	0	1.134	1.535
S0013	West door	Volume	393,428.70	3,749,429.99	19.32	0	1.521	1.535
S0014	Vent	Volume	393,455.91	3,749,447.56	19.29	7.925	2.13	2.835

Table 7 - Source Operating Parameters

Source ID	Source Description	Hours/day	Days/week	Weeks/year	Hours/yr
S0001	Boiler	16	5	52	4,160
S0002	Oven #2	8	5	52	2,080
S0003	Oven #3	8	5	52	2,080
S0004	Oven #4	8	5	52	2,080
S0005	Mist eliminator	3	5	52	780
S0006	East Door	8	5	52	2,080
S0007	Spray booth 1	5	5	52	1,300
S0008	Spray booth 2	5	5	52	1,300
S0009	Spray booth 3	5	5	52	1,300
S0010	Spray booth 4	5	5	52	1,300
S0012	Spray booth 6	5	5	52	1,300
S0013	West Door	8	5	52	2,080
S0014	Vent	8	5	52	2,080

Table 8 - AERMOD Modeling Options

Model Control Options
Regulatory Default
Urban
Population - 9,818,605
Roughness Length - 1
Source Options
No Variable Emissions
Receptor Grid
50 Meter Spacing Centered on Facility
20 Meter Property Boundary Receptors
No Pathway Receptors
Flag Pole Height - 0 meters
Meteorology Options
Compton
Period - 1 January 2012 to 31 December 2012 and 1 January 2015 to 31 December 2016
Terrain
CARB DEM
Building Downwash
BPIP Prime Run

Table 9 - Multipathway Substances Summary

Listed substance	Potential Health Risk	CAS/CARB Number	Route of Exposure	Route of Exposure (Pending actual exposure)
Acenaphthene		83329	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Acenaphthylene		208968	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Acetaldehyde	Cancer, chronic, acute	75070		
Acrolein	Chronic, acute	107028		
Aluminum		7429905		
Ammonia	Chronic, acute	7664417		
Anthracene		120127	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Antimony		7440360		
Antimony trioxide		1309644		
Barium		7440393		
Barium chromate	Cancer	10294403	Inhalation, Soil ingestion, Dermal	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
Benzene	Cancer, chronic, acute	71432		
Benzo (a) anthracene	Cancer	56553	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Benzo (a) pyrene	Cancer	50328	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Benzo (b) fluoranthene	Cancer	205992	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Benzo (g,h,i) perylene		191242	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Benzo (k) fluoranthene	Cancer	207089	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Butyl alcohol, n-		71363		
Butyl alcohol, sec		78922		
Calcium chromate	Cancer, chronic	13765190	Inhalation, Soil ingestion, Dermal	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
Carbon black		1050		
Carbon monoxide		630080		
Chromium		7440473		
Chromium trioxide	Cancer, chronic	1333820		
Chrysene	Cancer	218019	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Cobalt		7440484		
Cresol	Chronic	1319773		
Crystalline silica	Chronic	1175		
Cumene		98828		
Dibenz (a,h) anthracene	Cancer	53703	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Dichlorobenzene	Cancer, chronic	106467		
Diethylene glycol monobutyl ether		112345		
Dimethyl formamide	Chronic	68122		
Dimethylbenz(a)anthracene, 7,12-	Cancer	57976	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Dioxane, 1,4-	Cancer, chronic, acute	123911		
Epoxy resin		1091		
Ethylbenzene	Cancer, chronic	100414		
Ethylene dichloride	Cancer, chronic	107062		
Ethylene glycol monobutyl ether	Acute	111762		
Fluoranthene		206440	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Fluorene		86737	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Fluoride	Chronic	1101		
Formaldehyde	Cancer, chronic, acute	50000		
Hexamethylene- 1,6 diisocyanate		822060		
Hexane, n-	Chronic	110543		
Hexavalent chromium	Cancer, chronic	18540299	Inhalation, Soil ingestion, Dermal	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
Hydrochloric acid	Chronic, acute	7647010		
Hydrogen fluoride	Chronic, acute	7664393		
Indeno(1,2,3-cd)pyrene	Cancer	193395	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Isopropyl alcohol	Acute	67630		
Isopropylidenediphenol, 4,4-		80057		
Lead	Cancer	7439921	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
Manganese	Chronic	7439965		
Methanol	Chronic, acute	67561		
Methyl ethyl ketone	Acute	78933		
Methyl isobutyl ketone		108101		
Methylcholanthrene, 3-	Cancer	56495	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Methylene diphenyl diisocyanate	Chronic	101688		
Methylenedianiline, 4,4'-	Cancer, chronic	101779		
Methylnaphthalene,2-		91576	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Naphthalene	Cancer, chronic	91203	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Nickel	Cancer, chronic, acute	7440020	Inhalation, Soil ingestion, Dermal	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
PAH	Cancer	1151	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
PAH (unspeciated)		1150	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Perchloroethylene	Cancer, chronic, acute	127184		
Phenanthrene		85018	Inhalation, Soil ingestion, Dermal, Mother's milk	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Water ingestion
Phenol	Chronic, acute	108952		
Phosphoric acid	Chronic	7664382		
Phosphorous		7723140		
Propylene glycol monomethyl ether	Chronic	107982		
Propylene glycol monomethyl ether acetate		108656		
Pyrene		129000		
Sodium hydroxide	Acute	1310732		
Strontium chromate	Cancer, chronic	7789062	Inhalation, Soil ingestion, Dermal	Meat, milk, & egg ingestion, Fish ingestion, Exposed vegetable ingestion, Leafy vegetable ingestion, Protected vegetable ingestion, Root vegetable ingestion, Water ingestion
Sulfur dioxide	Acute	7446095		
Sulfuric acid	Acute, chronic	7664939		
Toluene	Acute, chronic	108883		
Trimethylbenzene, 1,2,4-		95636		
Xylenes	Acute, chronic	1330207		
Zinc compounds		7440666		

Table 10a - Risk Factors and Affected Body Systems and Organs

Listed substance	CAS/CARB Number	Unit Risk $(ug/m^3)^{-1}$	Acute REL[1] (ug/m^3)	Chronic REL[1] (ug/m^3)	CV	CNS	IMMUN	KIDNEY	GILV	REPRO/DEVEL	RESP	SKIN	EYE	BONE	ENDO	BLOOD
					Toxicological Endpoint: System or Organ Affected[2]											
Acetaldehyde	75070	2.70E-06	4.70E+02	1.40E+02							a,c		a			
Acrolein	107028		2.50E+00	3.50E-01							a,c		a			
Ammonia	7664417		3.20E+03	2.00E+02							a,c		a			
Barium chromate	10294403	1.50E-01		2.00E-01												
Benzene	71432	2.90E-05	2.70E+01	3.00E+00			a			a						a,c
Benzo (a) anthracene	56553	1.10E-04														
Benzo (a) pyrene	50328	1.10E-03														
Benzo (b) fluoranthene	205992	1.10E-04														
Benzo (k) fluoranthene	207089	1.10E-04														
Calcium chromate	13765190	1.50E-01		2.00E-01						c			c			
Chromium trioxide	1333820	1.50E-01		2.00E-03							c					c
Chrysene	218019	1.10E-05														
Cresol	1319773			6.00E+02		c										
Crystalline silica	1175			3.00E+00							c					
Dibenz (a,h) anthracene	53703	1.20E-03														
Dichlorobenzene	106467	1.10E-05		8.00E+02		c		c	c		c					
Dimethyl formamide	68122			8.00E+01					c		c					
Dimethylbenz(a)anthracene, 7,12-	57976	7.10E-02														
Dioxane, 1,4-	123911	7.70E-06	3.00E+03	3.00E+03	c			c	c		a		a			
Ethylbenzene	100414	2.50E-06		2.00E+03				c	c	c					c	
Ethylene dichloride	107062	2.10E-05		4.00E+02					c							
Ethylene glycol monobutyl ether	111762		1.40E+04								a		a			
Fluoride	1101		2.40E+02	1.30E+01							c			c		
Formaldehyde	50000	6.00E-06	5.50E+01	9.00E+00							c		a			
Hexane, n-	110543			7.00E+03		c										
Hexavalent chromium	18540299	1.50E-01		2.00E-01						c						c
Hydrochloric acid	7647010		2.10E+03	9.00E+00							a,c		a			
Hydrogen fluoride	7664393		2.40E+02	1.40E+01							a,c		a	c		
Indeno(1,2,3-cd)pyrene	193395	1.10E-04														
Isopropyl alcohol	67630		3.20E+03	7.00E+03							a		a			
Lead	7439921	1.20E-05														
Manganese	7439965			9.00E-02		c										
Methanol	67561		2.80E+04	4.00E+03		a				c						
Methyl ethyl ketone	78933		1.30E+04								a		a			
Methylcholanthrene, 3-	56495	6.30E-03														
Methylene diphenyl diisocyanate	101688		1.20E+01	8.00E-02							c					
Methylenedianiline, 4,4'-	101779	4.60E-04		2.00E+01					c				c			
Naphthalene	91203	3.40E-05		9.00E+00							c					
Nickel	7440020	2.60E-04	2.00E-01	1.40E-02			a			c	c					c
PAH	1151	1.10E-03														
Perchloroethylene	127184	6.10E-06	2.00E+04	3.50E+01		a		c	c		a		a			
Phenol	108952		5.80E+03	2.00E+02	c	c		c	c		a		a			
Phosphoric acid	7664382			7.00E+00							c					
Propylene glycol monomethyl ether	107982			7.00E+03					c							
Sodium hydroxide	1310732		8.00E+00								a		a			
Strontium chromate	7789062	1.50E-01		2.00E-01							c					c
Sulfur dioxide	7446095		6.60E+02								a					
Sulfuric acid	7664939		1.20E+02	1.00E+00							a,c					
Toluene	108883		3.70E+04	3.00E+02		a,c				a,c	a,c		a			
Xylenes	1330207		2.20E+04	7.00E+02		a,c					a,c		a,c			

1. REL = Reference Exposure Level
2. a = acute response
   c. chronic response
3. No data for cancer or non-cancer health effects

Table 10b- Chemicals without Hazard Indices

Listed substance	CAS/CARB Number
Acenaphthene	83329
Acenaphthylene	208968
Aluminum	7429905
Anthracene	120127
Antimony	7440360
Antimony trioxide	1309644
Barium	7440393
Benzo (g,h,i) perylene	191242
Butyl alcohol, n-	71363
Butyl alcohol, sec	78922
Carbon black	1050
Carbon monoxide	42101
Chromium	7440473
Cobalt	7440484
Cumene	98828
Diethylene glycol monobutyl ether	112345
Epoxy resin	1091
Fluoranthene	206440
Fluorene	86737
Hexamethylene- 1,6 diisocyanate	822060
Isopropylidenediphenol, 4,4-	80057
Methyl isobutyl ketone	108101
Methylnaphthalene,2-	91576
PAH (unspeciated)	1150
Phenanthrene	85018
Phosphorous	7723140
Propylene glycol monomethyl ether acetate	108656
Pyrene	129000
Trimethylbenzene, 1,2,4-	95636
Zinc compounds	7440666

Table 11 - Risk Assessment Assumptions

Parameter	Assumption
Pathway	
Inhalation	Included
Dermal	Included
Soil ingestion	Included
Mother's milk	Included
Home grown produce	Included
Fraction of homegrown produce	13.7
Drinking water	Not included
Fish	Not included
Beef and dairy	Not included
Pig, chicken, and egg	Not included
Deposition velocity	0.02 meters per second
Climate	Warm
Residential Cancer Risk Assumptions	
Exposure duration	30 years
Analysis method	RMP with OEHHA derived
Worker Cancer Risk Assumptions	
Exposure duration	25 years
Analysis method	OEHHA derived
GLC adjustment	4.2
Residential Chronic Risk Assumptions	
Analysis method	OEHHA derived
Worker Chronic Risk Assumptions	
Analysis method	OEHHA derived
Residential Acute Risk Assumptions	
Analysis method	OEHHA derived
Worker Acute Risk Assumptions	
Analysis method	OEHHA derived
Residential 8 hour	
Analysis method	OEHHA derived
Worker 8 hour	
Analysis method	OEHHA derived
Population Wide Cancer Risk Assumptions	
Exposure duration	70 years
Analysis method	OEHHA derived
Sensitive Cancer Risk Assumptions	
Exposure duration	30 years
Analysis method	RMP with OEHHA derived

Table 12 - Cancer Risk for PMI, MEIR, and MEIW

WGS 84					
Type	Receptor	UTM East (m)	UTM North (m)	Risk	Risk in a million
PMI	2074	393,450	3,749,400	2.19E-04	219
MEIR	4625	393,534	3,749,434	1.29E-04	129
MEIW	2141	393,400	3,749,450	3.88E-05	39
McKinley Elementary School Cancer					
Sensitive	1998	393,050	3,749,350	4.56E-06	5
Mokler Elementary School Cancer					
Sensitive	2487	393,700	3,749,700	6.20E-06	6
Alondra Middle School Cancer					
Sensitive	3028	393,550	3,750,100	2.12E-06	2

Table 12b - Hazard Index for PMI, MEIR, and MEIW

WGS 84				
Type	Receptor	UTM East (m)	UTM North (m)	Hazard Index
Chronic				
PMI	2074	393,450	3,749,400	0.535
MEIR	4625	393,534	3,749,434	0.352
MEIW	2141	393,400	3,749,450	0.447
Acute				
PMI	2074	393,450	3,749,400	0.176
MEIR	4625	393,534	3,749,434	0.102
MEIW	2141	393,400	3,749,450	0.120
8 hour				
PMI	2141	393,400	3,749,450	0.111

Table 13- Listed Substances Cancer Risk Summary at PMI, MEIW, MEIR

Listed substance	PMI (Rec 2074)	MEIW (Rec 2141)	MEIR (Rec 4625)
Acetaldehyde	1.58E-10	2.96E-11	1.76E-10
Acrolein	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00
Barium chromate	4.62E-08	9.80E-09	5.34E-08
Benzene	2.94E-09	5.51E-10	3.27E-09
Benzo (a) anthracene	5.86E-11	1.01E-12	6.63E-11
Benzo (a) pyrene	3.91E-10	6.74E-12	4.43E-10
Benzo (b) fluoranthene	5.86E-11	1.01E-12	6.63E-11
Benzo (k) fluoranthene	5.86E-11	1.01E-12	6.63E-11
Calcium chromate	2.29E-09	4.30E-10	2.50E-09
Chromium trioxide	1.24E-06	2.36E-07	1.36E-06
Chrysene	5.86E-12	1.01E-13	6.63E-12
Cresol	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	1.42E-10	4.59E-12	1.61E-10
Dichlorobenzene	1.77E-10	3.31E-11	1.96E-10
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	1.15E-07	3.73E-09	1.31E-07
Dioxane, 1,4-	1.47E-08	4.43E-09	1.59E-08
Ethylbenzene	5.04E-08	1.54E-08	5.53E-08
Ethylene dichloride	3.92E-08	1.18E-08	4.24E-08
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.22E-08	6.65E-09	2.42E-08
Hexane, n-	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	2.12E-04	3.76E-05	1.20E-04
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	5.86E-11	1.01E-12	6.63E-11
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00
Lead	1.95E-09	1.13E-10	2.18E-09
Manganese	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	1.14E-09	3.69E-11	1.29E-09
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	2.11E-06	1.19E-07	2.33E-06
Naphthalene	4.65E-10	1.47E-10	5.40E-10
Nickel	1.07E-08	3.00E-09	6.06E-09
PAH	2.93E-12	7.99E-14	3.18E-12
Perchloroethylene	3.09E-11	1.06E-11	3.57E-11
Phenol	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	3.62E-06	7.72E-07	4.18E-06
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00

Table 14 - Summary of Cancer Burden at Receptors for One in 1,000,000 ZOI

Receptor	UTM East	UTM North	Cancer Risk	Cummulative Population	Cummulative Cancer Burden
5025	393,590	3,749,442	2.57E-03	51	2.57E-03
5022	393,591	3,749,467	2.62E-03	107	5.20E-03
5021	393,592	3,749,509	2.73E-03	183	7.93E-03
5458	393,326	3,749,366	6.22E-03	370	1.42E-02
5454	393,327	3,749,568	0.00E+00	370	1.42E-02
5191	393,656	3,749,346	6.65E-03	729	2.08E-02
5016	393,594	3,749,604	3.75E-03	937	2.45E-02
5024	393,722	3,749,443	1.12E-03	1,011	2.57E-02
5023	393,721	3,749,477	1.68E-03	1,125	2.73E-02
5465	393,374	3,749,217	6.71E-04	1,171	2.80E-02
5020	393,721	3,749,510	7.96E-04	1,229	2.88E-02
5005	393,493	3,749,690	5.30E-04	1,269	2.93E-02
5017	393,710	3,749,560	1.33E-03	1,377	3.07E-02
5464	393,374	3,749,168	7.94E-04	1,451	3.15E-02
5002	393,493	3,749,727	3.48E-04	1,484	3.18E-02
5018	393,764	3,749,576	2.88E-04	1,516	3.21E-02
5015	393,720	3,749,634	2.86E-04	1,548	3.24E-02
5463	393,224	3,749,215	8.17E-04	1,643	3.32E-02
5466	393,520	3,749,120	0.00E+00	1,643	3.32E-02
5001	393,424	3,749,767	2.64E-03	1,956	3.59E-02
5197	393,647	3,749,146	1.21E-04	1,972	3.60E-02
5467	393,409	3,749,094	0.00E+00	1,972	3.60E-02
5000	393,278	3,749,758	1.13E-03	2,134	3.71E-02
5019	393,857	3,749,547	2.98E-03	2,591	4.01E-02
5230	393,625	3,749,097	0.00E+00	2,591	4.01E-02
5193	393,809	3,749,239	7.85E-04	2,720	4.09E-02
5468	393,217	3,749,088	0.00E+00	2,720	4.09E-02
5012	393,581	3,749,867	0.00E+00	2,720	4.09E-02
4989	393,155	3,749,760	7.80E-04	2,875	4.16E-02
5194	393,841	3,749,200	0.00E+00	2,875	4.16E-02
5462	393,069	3,749,213	4.79E-04	2,973	4.21E-02
5184	393,951	3,749,565	2.09E-04	3,019	4.23E-02
5470	393,418	3,748,960	1.21E-03	3,296	4.35E-02
5003	393,491	3,749,950	6.96E-04	3,469	4.42E-02
5007	393,740	3,749,866	5.90E-04	3,616	4.48E-02
5192	393,918	3,749,204	6.22E-04	3,772	4.54E-02
4997	393,395	3,749,950	8.78E-04	3,994	4.63E-02
4998	393,309	3,749,950	4.01E-04	4,102	4.67E-02
5469	393,217	3,748,967	1.87E-03	4,607	4.86E-02
4988	393,034	3,749,760	6.59E-04	4,787	4.92E-02
5008	393,718	3,749,918	6.98E-04	4,980	4.99E-02
5457	392,923	3,749,371	7.91E-04	5,201	5.07E-02
5456	392,924	3,749,522	1.12E-03	5,515	5.19E-02
5009	393,571	3,749,980	9.93E-05	5,543	5.20E-02
5471	392,967	3,749,207	2.76E-04	5,621	5.22E-02
4999	393,248	3,749,951	3.60E-04	5,725	5.26E-02
5189	394,032	3,749,309	0.00E+00	5,725	5.26E-02
5455	392,924	3,749,621	1.24E-03	6,098	5.38E-02
5186	394,064	3,749,363	1.05E-03	6,416	5.49E-02
5196	393,935	3,749,121	0.00E+00	6,416	5.49E-02
4979	393,188	3,749,952	2.45E-04	6,493	5.51E-02
5013	393,758	3,749,964	5.33E-04	6,669	5.57E-02
5010	393,670	3,750,008	0.00E+00	6,669	5.57E-02
5486	393,470	3,748,836	0.00E+00	6,669	5.57E-02
4980	393,127	3,749,952	3.00E-04	6,772	5.60E-02
5487	393,367	3,748,833	0.00E+00	6,772	5.60E-02

Table 14 - Summary of Cancer Burden at Receptors for One in 1,000,000 ZOI

Receptor	UTM East	UTM North	Cancer Risk	Cummulative Population	Cummulative Cancer Burden
5484	393,069	3,748,963	8.92E-04	7,082	5.68E-02
5190	394,098	3,749,308	1.20E-04	7,124	5.70E-02
5231	393,852	3,748,962	0.00E+00	7,124	5.70E-02
5011	393,763	3,750,007	0.00E+00	7,124	5.70E-02
5185	394,151	3,749,512	6.33E-04	7,357	5.76E-02
5459	392,869	3,749,194	4.56E-04	7,526	5.81E-02
5179	393,953	3,749,866	2.59E-04	7,623	5.83E-02
5237	393,631	3,748,817	2.38E-05	7,632	5.83E-02
4981	393,066	3,749,953	2.11E-04	7,712	5.85E-02
5183	394,152	3,749,613	6.44E-04	7,968	5.92E-02
5188	394,153	3,749,308	5.51E-05	7,990	5.92E-02
5488	393,219	3,748,814	4.55E-04	8,172	5.97E-02
5233	393,937	3,748,957	1.24E-04	8,223	5.98E-02
5182	394,121	3,749,714	4.99E-04	8,431	6.03E-02
4982	393,004	3,749,954	2.10E-04	8,519	6.05E-02
4987	392,849	3,749,761	7.31E-04	8,828	6.13E-02
5482	392,968	3,748,949	8.82E-04	9,203	6.21E-02
5234	393,964	3,748,961	2.42E-04	9,306	6.24E-02
5004	393,452	3,750,147	4.88E-04	9,516	6.29E-02
5489	393,469	3,748,735	2.08E-04	9,607	6.31E-02
5006	393,743	3,750,097	2.94E-04	9,736	6.34E-02
5460	392,795	3,749,182	2.86E-04	9,863	6.37E-02
5490	393,367	3,748,733	3.58E-04	10,022	6.40E-02
4996	393,387	3,750,159	0.00E+00	10,022	6.40E-02
5187	394,208	3,749,308	4.66E-05	10,043	6.41E-02
5232	393,997	3,748,961	1.90E-04	10,129	6.43E-02
4994	393,310	3,750,157	7.16E-05	10,162	6.43E-02
5461	392,819	3,749,084	2.86E-04	10,295	6.46E-02
5236	393,726	3,748,759	1.49E-03	10,986	6.61E-02
5181	394,120	3,749,814	3.36E-04	11,145	6.64E-02
5481	392,863	3,749,001	1.27E-04	11,205	6.66E-02
4993	393,249	3,750,158	7.72E-05	11,242	6.66E-02
5235	394,033	3,748,960	0.00E+00	11,242	6.66E-02
4983	392,913	3,749,953	3.31E-04	11,403	6.70E-02
4978	393,189	3,750,159	1.43E-04	11,475	6.71E-02
5483	392,870	3,748,932	4.53E-04	11,708	6.76E-02
5501	393,019	3,748,790	8.05E-04	12,128	6.84E-02
4995	393,510	3,750,235	0.00E+00	12,128	6.84E-02
4977	393,128	3,750,160	1.66E-04	12,216	6.85E-02
5491	393,225	3,748,674	0.00E+00	12,216	6.85E-02
5180	394,121	3,749,914	3.20E-04	12,389	6.89E-02
5472	392,679	3,749,622	6.62E-05	12,425	6.89E-02
5195	394,244	3,749,159	0.00E+00	12,425	6.89E-02
4976	393,067	3,750,160	8.17E-05	12,471	6.90E-02
4984	392,822	3,749,954	2.03E-04	12,586	6.92E-02
4861	392,702	3,749,763	0.00E+00	12,586	6.92E-02
5228	394,224	3,749,077	0.00E+00	12,586	6.92E-02
5229	394,127	3,748,918	6.92E-05	12,627	6.93E-02
4975	393,005	3,750,162	7.14E-05	12,670	6.94E-02
4860	392,658	3,749,763	1.41E-04	12,757	6.95E-02
5178	394,121	3,750,016	2.75E-04	12,927	6.98E-02
4986	392,759	3,749,955	2.56E-05	12,943	6.98E-02
5492	393,468	3,748,560	2.86E-04	13,124	7.01E-02
5126	394,362	3,749,688	0.00E+00	13,124	7.01E-02
5493	393,365	3,748,561	2.24E-04	13,267	7.03E-02
5473	392,593	3,749,623	1.03E-04	13,333	7.04E-02

Table 14 - Summary of Cancer Burden at Receptors for One in 1,000,000 ZOI

Receptor	UTM East	UTM North	Cancer Risk	Cummulative Population	Cummulative Cancer Burden
5505	393,016	3,748,668	2.93E-04	13,522	7.07E-02
5502	392,819	3,748,816	2.88E-04	13,709	7.10E-02
4974	392,916	3,750,162	0.00E+00	13,709	7.10E-02
4856	392,616	3,749,764	1.22E-04	13,790	7.11E-02
4990	393,436	3,750,361	6.40E-04	14,220	7.18E-02
5177	394,301	3,749,864	1.06E-04	14,292	7.19E-02
5215	393,723	3,748,559	1.04E-03	15,000	7.29E-02
4854	392,695	3,749,954	0.00E+00	15,000	7.29E-02
4991	393,311	3,750,363	4.33E-05	15,030	7.29E-02
4992	393,251	3,750,363	4.52E-05	15,062	7.30E-02
5014	393,535	3,750,394	0.00E+00	15,062	7.30E-02
5212	394,103	3,750,143	6.52E-04	15,527	7.36E-02
4857	392,574	3,749,763	1.44E-04	15,630	7.38E-02
5476	392,515	3,749,429	0.00E+00	15,630	7.38E-02
5494	393,263	3,748,512	4.61E-05	15,663	7.38E-02
5503	392,816	3,748,741	1.53E-04	15,773	7.40E-02
5238	394,127	3,748,758	5.55E-04	16,175	7.45E-02
5495	393,164	3,748,531	1.13E-04	16,257	7.46E-02
4965	393,190	3,750,365	0.00E+00	16,257	7.46E-02
4973	392,830	3,750,165	0.00E+00	16,257	7.46E-02
4985	392,768	3,750,110	0.00E+00	16,257	7.46E-02
5125	394,447	3,749,715	5.39E-05	16,297	7.47E-02
5506	393,016	3,748,578	2.15E-04	16,457	7.49E-02
5474	392,508	3,749,623	5.76E-05	16,500	7.50E-02
4855	392,632	3,749,955	0.00E+00	16,500	7.50E-02
4966	393,129	3,750,365	7.39E-05	16,556	7.50E-02
4858	392,531	3,749,764	9.01E-05	16,625	7.51E-02
5479	392,519	3,749,144	1.16E-04	16,714	7.53E-02
4853	392,727	3,750,110	0.00E+00	16,714	7.53E-02
5127	394,534	3,749,560	4.05E-04	17,030	7.57E-02
4967	393,068	3,750,365	1.04E-04	17,112	7.58E-02
5504	392,815	3,748,669	2.46E-04	17,306	7.60E-02
4934	393,442	3,750,470	0.00E+00	17,306	7.60E-02
5211	394,036	3,750,291	6.90E-05	17,362	7.61E-02
4859	392,488	3,749,764	7.08E-05	17,420	7.61E-02
4968	393,007	3,750,366	7.40E-05	17,481	7.62E-02
4919	393,659	3,750,469	0.00E+00	17,481	7.62E-02
4935	393,311	3,750,472	0.00E+00	17,481	7.62E-02
5509	393,015	3,748,492	1.52E-04	17,609	7.64E-02
4936	393,251	3,750,473	0.00E+00	17,609	7.64E-02
5475	392,424	3,749,624	1.17E-05	17,619	7.64E-02
5115	394,347	3,750,046	0.00E+00	17,619	7.64E-02
4969	392,946	3,750,367	1.13E-04	17,717	7.65E-02
4836	392,535	3,749,953	1.04E-05	17,726	7.65E-02
5480	392,520	3,748,942	0.00E+00	17,726	7.65E-02
5206	394,036	3,750,342	6.56E-05	17,783	7.66E-02
4937	393,160	3,750,473	0.00E+00	17,783	7.66E-02
5213	394,214	3,750,213	2.19E-04	17,976	7.68E-02
5507	392,814	3,748,579	2.85E-04	18,228	7.71E-02
4920	393,820	3,750,468	0.00E+00	18,228	7.71E-02
4839	392,602	3,750,099	0.00E+00	18,228	7.71E-02
5241	394,544	3,749,160	0.00E+00	18,228	7.71E-02
5497	393,313	3,748,358	1.73E-04	18,385	7.73E-02
5120	394,503	3,749,878	2.90E-04	18,648	7.75E-02
4970	392,886	3,750,368	6.05E-05	18,703	7.76E-02
5216	393,721	3,748,376	5.74E-04	19,228	7.82E-02

Table 14 - Summary of Cancer Burden at Receptors for One in 1,000,000 ZOI

Receptor	UTM East	UTM North	Cancer Risk	Cummulative Population	Cummulative Cancer Burden
4964	393,069	3,750,473	0.00E+00	19,228	7.82E-02
4837	392,612	3,750,142	0.00E+00	19,228	7.82E-02
5205	394,036	3,750,392	6.58E-05	19,289	7.82E-02
4838	392,668	3,750,209	0.00E+00	19,289	7.82E-02
5214	394,126	3,748,556	4.18E-04	19,678	7.87E-02
4921	393,902	3,750,468	0.00E+00	19,678	7.87E-02
5498	393,474	3,748,328	1.34E-04	19,803	7.88E-02
5244	394,470	3,748,953	1.07E-06	19,804	7.88E-02
4972	392,765	3,750,311	0.00E+00	19,804	7.88E-02
5510	393,015	3,748,405	1.56E-04	19,953	7.90E-02
5217	393,597	3,748,323	1.88E-05	19,971	7.90E-02
4963	393,007	3,750,473	0.00E+00	19,971	7.90E-02
4933	393,436	3,750,579	5.12E-05	20,020	7.90E-02
4971	392,824	3,750,369	6.06E-05	20,078	7.91E-02
5210	394,215	3,750,290	4.37E-05	20,120	7.91E-02
4932	393,535	3,750,581	0.00E+00	20,120	7.91E-02
5124	394,636	3,749,710	7.68E-05	20,194	7.92E-02
4918	393,640	3,750,578	8.64E-05	20,278	7.93E-02
5111	394,348	3,750,171	0.00E+00	20,278	7.93E-02
4929	393,312	3,750,581	5.83E-05	20,335	7.93E-02
5508	392,814	3,748,493	2.24E-04	20,555	7.96E-02
5200	394,037	3,750,438	4.67E-05	20,601	7.96E-02
4828	392,728	3,750,319	0.00E+00	20,601	7.96E-02
4928	393,251	3,750,581	5.04E-05	20,651	7.97E-02
4962	392,946	3,750,474	0.00E+00	20,651	7.97E-02

Table 15 - Cancer Risk by Emission Source at PMI

		Exposure Pathway												
Source ID	**Source Description**	**INHAL**	**SOIL**	**DERM**	**MOTHER**	**WATER**	**FISH**	**VEG**	**BEEF**	**DAIRY**	**PIG**	**CHICK**	**EGG**	**TOTAL**
S0001	Boiler	7.63E-09	6.14E-09	1.53E-09	1.46E-08	0.00E+00	0.00E+00	3.01E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-08
S0002	Oven #2	3.15E-09	2.53E-09	6.31E-10	6.03E-09	0.00E+00	0.00E+00	1.24E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-08
S0003	Oven #3	3.47E-09	2.79E-09	6.95E-10	6.64E-09	0.00E+00	0.00E+00	1.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-08
S0004	Oven #4	1.33E-09	1.07E-09	2.66E-10	2.54E-09	0.00E+00	0.00E+00	5.24E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-08
S0005	Mist eliminator	7.24E-08	1.25E-09	4.81E-11	0.00E+00	0.00E+00	0.00E+00	4.11E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-07
S0006	East door	3.63E-05	6.29E-07	2.41E-08	0.00E+00	0.00E+00	0.00E+00	2.06E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.76E-05
S0007	Spray booth 1	1.06E-06	1.81E-08	6.95E-10	6.85E-13	0.00E+00	0.00E+00	5.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-06
S0008	Spray booth 2	1.22E-06	2.10E-08	8.01E-10	8.00E-12	0.00E+00	0.00E+00	6.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.92E-06
S0009	Spray booth 3	1.13E-06	6.46E-07	5.17E-08	1.81E-11	0.00E+00	0.00E+00	1.73E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.56E-06
S0010	Spray booth 4	4.97E-08	2.59E-13	6.45E-14	6.16E-13	0.00E+00	0.00E+00	1.27E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.97E-08
S0012	Spray booth 6	4.77E-09	2.33E-14	5.80E-15	5.53E-14	0.00E+00	0.00E+00	1.14E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.77E-09
S0013	West door	6.60E-05	1.14E-06	4.38E-08	0.00E+00	0.00E+00	0.00E+00	3.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.05E-04
S0014	Vent	3.13E-05	5.43E-07	2.08E-08	0.00E+00	0.00E+00	0.00E+00	1.78E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.97E-05
	Total Risk	1.37E-04	3.01E-06	1.45E-07	2.98E-08	0.00E+00	0.00E+00	7.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-04

Table 16 - Cancer Risk by Emission Source at MEIW

								Exposure Pathway						
Source ID	**Source Description**	**INHAL**	**SOIL**	**DERM**	**MOTHER**	**WATER**	**FISH**	**VEG**	**BEEF**	**DAIRY**	**PIG**	**CHICK**	**EGG**	**TOTAL**
S0001	Boiler	1.57E-09	2.87E-10	1.29E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.99E-09
S0002	Oven #2	8.77E-10	1.60E-10	7.23E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-09
S0003	Oven #3	9.27E-10	1.70E-10	7.64E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-09
S0004	Oven #4	3.58E-10	6.55E-11	2.95E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.53E-10
S0005	Mist eliminator	1.69E-08	8.51E-11	5.90E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-08
S0006	East door	4.04E-06	2.03E-08	1.41E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-06
S0007	Spray booth 1	3.92E-07	1.95E-09	1.35E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E-07
S0008	Spray booth 2	3.81E-07	1.89E-09	1.32E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-07
S0009	Spray booth 3	3.61E-07	2.43E-08	8.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.94E-07
S0010	Spray booth 4	1.43E-08	2.17E-14	9.77E-15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-08
S0012	Spray booth 6	1.25E-09	1.78E-15	8.02E-16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-09
S0013	West door	2.48E-05	1.25E-07	8.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-05
S0014	Vent	8.59E-06	4.33E-08	3.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.64E-06
	Total Risk	3.86E-05	2.18E-07	2.17E-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	3.88E-05

Table 17 - Cancer Risk by Emission Source at MEIR

		Exposure Pathway												
Source ID	Source Description	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
S0001	Boiler	8.83E-09	7.25E-09	1.81E-09	1.72E-08	0.00E+00	0.00E+00	3.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.07E-08
S0002	Oven #2	3.04E-09	2.50E-09	6.22E-10	5.94E-09	0.00E+00	0.00E+00	1.22E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.43E-08
S0003	Oven #3	3.13E-09	2.57E-09	6.41E-10	6.12E-09	0.00E+00	0.00E+00	1.26E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-08
S0004	Oven #4	2.28E-09	1.87E-09	4.66E-10	4.45E-09	0.00E+00	0.00E+00	9.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-08
S0005	Mist eliminator	5.42E-08	9.58E-10	3.67E-11	0.00E+00	0.00E+00	0.00E+00	3.14E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.66E-08
S0006	East door	5.00E-05	8.83E-07	3.39E-08	0.00E+00	0.00E+00	0.00E+00	2.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.98E-05
S0007	Spray booth 1	1.26E-06	2.19E-08	8.38E-10	8.26E-13	0.00E+00	0.00E+00	7.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.99E-06
S0008	Spray booth 2	1.37E-06	2.42E-08	9.19E-10	9.19E-12	0.00E+00	0.00E+00	7.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.17E-06
S0009	Spray booth 3	1.23E-06	7.14E-07	5.72E-08	2.00E-11	0.00E+00	0.00E+00	1.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.91E-06
S0010	Spray booth 4	5.28E-08	2.80E-13	6.99E-14	6.67E-13	0.00E+00	0.00E+00	1.37E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.28E-08
S0012	Spray booth 6	4.29E-09	2.13E-14	5.32E-15	5.08E-14	0.00E+00	0.00E+00	1.05E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-09
S0013	West door	9.97E-06	1.76E-07	6.75E-09	0.00E+00	0.00E+00	0.00E+00	5.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.59E-05
S0014	Vent	1.53E-05	2.71E-07	1.04E-08	0.00E+00	0.00E+00	0.00E+00	8.88E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.45E-05
	Total Risk	7.93E-05	2.11E-06	1.13E-07	3.38E-08	0.00E+00	0.00E+00	4.71E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-04

Table 18 - 30 Year Cancer Risks and PMI, MEIW, MEIR, and Sensitive Receptors

	UTM Coordinates		Exposure Pathway													
Receptor	Easting	Northing	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
PMI	393,450	3,749,400	1.37E-04	3.01E-06	1.45E-07	2.98E-08	0.00E+00	0.00E+00	7.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-04
MEIW	393,534	3,749,434	3.86E-05	2.18E-07	2.17E-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	3.88E-05
MEIR	393,400	3,749,450	7.93E-05	2.11E-06	1.13E-07	3.38E-08	0.00E+00	0.00E+00	4.71E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-04

Table 19 - Cancer Risk by Substances at PMI

Substance	Exposure Pathway												
	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
Acetaldehyde	1.58E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.58E-10
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	2.92E-08	5.05E-10	1.94E-11	0.00E+00	0.00E+00	0.00E+00	1.65E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.62E-08
Benzene	2.94E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.94E-09
Benzo (a) anthracene	1.83E-12	6.66E-12	1.66E-12	1.58E-11	0.00E+00	0.00E+00	3.26E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E-11
Benzo (a) pyrene	1.22E-11	4.44E-11	1.11E-11	1.06E-10	0.00E+00	0.00E+00	2.18E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.91E-10
Benzo (b) fluoranthene	1.83E-12	6.66E-12	1.66E-12	1.58E-11	0.00E+00	0.00E+00	3.26E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E-11
Benzo (k) fluoranthene	1.83E-12	6.66E-12	1.66E-12	1.58E-11	0.00E+00	0.00E+00	3.26E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E-11
Calcium chromate	1.44E-09	2.50E-11	9.59E-13	0.00E+00	0.00E+00	0.00E+00	8.19E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-09
Chromium trioxide	7.82E-07	1.36E-08	5.20E-10	0.00E+00	0.00E+00	0.00E+00	4.44E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-06
Chrysene	1.83E-13	6.66E-13	1.66E-13	1.58E-12	0.00E+00	0.00E+00	3.26E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E-12
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	1.28E-11	1.52E-11	3.78E-12	3.61E-11	0.00E+00	0.00E+00	7.44E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-10
Dichlorobenzene	1.77E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-10
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	1.04E-08	1.23E-08	3.07E-09	2.93E-08	0.00E+00	0.00E+00	6.04E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-07
Dioxane, 1,4-	1.47E-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	1.47E-08
Ethylbenzene	5.04E-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	5.04E-08
Ethylene dichloride	3.92E-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	3.92E-08
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.22E-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	2.22E-08
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	1.34E-04	2.32E-06	8.88E-08	0.00E+00	0.00E+00	0.00E+00	7.58E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.12E-04
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	1.83E-12	6.66E-12	1.66E-12	1.58E-11	0.00E+00	0.00E+00	3.26E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.86E-11
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	1.23E-10	1.47E-09	3.57E-11	2.66E-11	0.00E+00	0.00E+00	2.95E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-09
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	1.03E-10	1.22E-10	3.04E-11	2.90E-10	0.00E+00	0.00E+00	5.98E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-09
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	2.11E-07	6.29E-07	5.11E-08	0.00E+00	0.00E+00	0.00E+00	1.22E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-06
Naphthalene	4.65E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.65E-10
Nickel	1.07E-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	1.07E-08
PAH	9.14E-14	3.33E-13	8.29E-14	7.91E-13	0.00E+00	0.00E+00	1.63E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.93E-12
Perchloroethylene	3.09E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-11
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	2.28E-06	3.96E-08	1.52E-09	0.00E+00	0.00E+00	0.00E+00	1.30E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.62E-06
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 20 - Cancer Risk by Substances at MEIW

	Exposure Pathway												
Substance	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
Acetaldehyde	2.96E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.96E-11
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	9.75E-09	4.92E-11	3.41E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.80E-09
Benzene	5.51E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.51E-10
Benzo (a) anthracene	4.84E-13	3.63E-13	1.63E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-12
Benzo (a) pyrene	3.23E-12	2.42E-12	1.09E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.74E-12
Benzo (b) fluoranthene	4.84E-13	3.63E-13	1.63E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-12
Benzo (k) fluoranthene	4.84E-13	3.63E-13	1.63E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-12
Calcium chromate	4.27E-10	2.15E-12	1.49E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.30E-10
Chromium trioxide	2.34E-07	1.18E-09	8.19E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.36E-07
Chrysene	4.84E-14	3.63E-14	1.63E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-13
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	3.39E-12	8.27E-13	3.73E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.59E-12
Dichlorobenzene	3.31E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.31E-11
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	2.75E-09	6.71E-10	3.03E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.73E-09
Dioxane, 1,4-	4.43E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-09
Ethylbenzene	1.54E-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	1.54E-08
Ethylene dichloride	1.18E-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	1.18E-08
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	6.65E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.65E-09
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	3.74E-05	1.89E-07	1.31E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-05
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	4.84E-13	3.63E-13	1.63E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-12
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	5.26E-11	5.47E-11	5.69E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-10
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	2.73E-11	6.65E-12	3.00E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.69E-11
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	8.82E-08	2.29E-08	7.96E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-07
Naphthalene	1.47E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-10
Nickel	3.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-09
PAH	3.83E-14	2.87E-14	1.29E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.99E-14
Perchloroethylene	1.06E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-11
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	7.68E-07	3.87E-09	2.68E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.72E-07
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 21 - Cancer Risk by Substances at MEIR

Substance						Exposure Pathway							
	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
Acetaldehyde	1.76E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-10
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	3.34E-08	5.90E-10	2.26E-11	0.00E+00	0.00E+00	0.00E+00	1.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.34E-08
Benzene	3.27E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-09
Benzo (a) anthracene	2.02E-12	7.54E-12	1.88E-12	1.79E-11	0.00E+00	0.00E+00	3.70E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-11
Benzo (a) pyrene	1.35E-11	5.03E-11	1.25E-11	1.20E-10	0.00E+00	0.00E+00	2.47E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.43E-10
Benzo (b) fluoranthene	2.02E-12	7.54E-12	1.88E-12	1.79E-11	0.00E+00	0.00E+00	3.70E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-11
Benzo (k) fluoranthene	2.02E-12	7.54E-12	1.88E-12	1.79E-11	0.00E+00	0.00E+00	3.70E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-11
Calcium chromate	1.57E-09	2.77E-11	1.06E-12	0.00E+00	0.00E+00	0.00E+00	9.05E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-09
Chromium trioxide	8.53E-07	1.51E-08	5.78E-10	0.00E+00	0.00E+00	0.00E+00	4.93E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-06
Chrysene	2.02E-13	7.54E-13	1.88E-13	1.79E-12	0.00E+00	0.00E+00	3.70E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-12
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	1.42E-11	1.72E-11	4.28E-12	4.09E-11	0.00E+00	0.00E+00	8.42E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-10
Dichlorobenzene	1.96E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-10
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	1.15E-08	1.40E-08	3.48E-09	3.32E-08	0.00E+00	0.00E+00	6.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-07
Dioxane, 1,4-	1.59E-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	1.59E-08
Ethylbenzene	5.53E-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	5.53E-08
Ethylene dichloride	4.24E-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	4.24E-08
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.42E-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	2.42E-08
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	7.54E-05	1.33E-06	5.11E-08	0.00E+00	0.00E+00	0.00E+00	4.36E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-04
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	2.02E-12	7.54E-12	1.88E-12	1.79E-11	0.00E+00	0.00E+00	3.70E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.63E-11
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	1.35E-10	1.64E-09	4.00E-11	2.98E-11	0.00E+00	0.00E+00	3.30E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-09
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	1.14E-10	1.38E-10	3.44E-11	3.29E-10	0.00E+00	0.00E+00	6.77E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-09
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	2.28E-07	6.96E-07	5.65E-08	0.00E+00	0.00E+00	0.00E+00	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-06
Naphthalene	5.40E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.40E-10
Nickel	6.06E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E-09
PAH	9.72E-14	3.62E-13	9.02E-14	8.61E-13	0.00E+00	0.00E+00	1.77E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.18E-12
Perchloroethylene	3.57E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.57E-11
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	2.62E-06	4.63E-08	1.77E-09	0.00E+00	0.00E+00	0.00E+00	1.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.18E-06
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 22 - Chronic Hazard Indices by Emission Source at PMI

		Exposure Pathway											
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	4.27E-07	0.00E+00	1.63E-08	1.63E-08	3.31E-07	6.75E-05	0.00E+00	1.02E-07	0.00E+00	1.24E-08	6.97E-06
S0002	Oven #2	0.00E+00	1.76E-07	0.00E+00	6.74E-09	6.74E-09	1.37E-07	2.78E-05	0.00E+00	4.19E-08	0.00E+00	5.12E-09	2.87E-06
S0003	Oven #3	0.00E+00	1.94E-07	0.00E+00	7.42E-09	7.42E-09	1.50E-07	3.07E-05	0.00E+00	4.61E-08	0.00E+00	5.64E-09	3.17E-06
S0004	Oven #4	0.00E+00	7.43E-08	0.00E+00	2.84E-09	2.84E-09	5.77E-08	1.17E-05	0.00E+00	1.77E-08	0.00E+00	2.16E-09	1.21E-06
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	9.97E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-01	0.00E+00	0.00E+00	7.40E-07	0.00E+00	3.31E-04
S0007	Spray booth 1	3.89E-06	5.06E-05	0.00E+00	4.83E-06	5.11E-06	4.34E-05	1.72E-02	0.00E+00	4.24E-06	0.00E+00	5.16E-07	1.07E-06
S0008	Spray booth 2	1.92E-05	1.78E-04	0.00E+00	2.25E-05	2.13E-05	1.56E-04	3.33E-02	0.00E+00	2.29E-06	0.00E+00	8.51E-07	2.03E-06
S0009	Spray booth 3	2.86E-04	1.44E-03	0.00E+00	3.01E-04	3.56E-04	1.17E-03	2.13E-02	0.00E+00	1.91E-05	0.00E+00	1.96E-06	0.00E+00
S0010	Spray booth 4	4.80E-05	3.59E-04	0.00E+00	5.26E-05	5.02E-05	3.10E-04	4.12E-04	0.00E+00	8.73E-06	0.00E+00	7.94E-07	0.00E+00
S0012	Spray booth 6	2.12E-05	1.24E-04	0.00E+00	2.28E-05	2.14E-05	1.05E-04	1.18E-04	0.00E+00	4.63E-07	0.00E+00	5.08E-08	0.00E+00
S0013	West door	0.00E+00	1.81E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-01	0.00E+00	0.00E+00	1.34E-06	0.00E+00	6.01E-04
S0014	Vent	0.00E+00	8.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-01	0.00E+00	0.00E+00	6.39E-07	0.00E+00	2.85E-04
	Total Hazard	3.79E-04	2.52E-03	0.00E+00	4.04E-04	4.54E-04	1.79E-03	5.28E-01	0.00E+00	3.51E-05	2.72E-06	4.19E-06	1.23E-03

Table 23 - Chronic Hazard Indices by Emission Source at MEIW

							Exposure Pathway						
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	2.01E-07	0.00E+00	7.68E-09	7.68E-09	1.56E-07	3.17E-05	0.00E+00	4.77E-08	0.00E+00	5.83E-09	3.28E-06
S0002	Oven #2	0.00E+00	1.12E-07	0.00E+00	4.28E-09	4.28E-09	8.68E-08	1.77E-05	0.00E+00	2.66E-08	0.00E+00	3.25E-09	1.83E-06
S0003	Oven #3	0.00E+00	1.18E-07	0.00E+00	4.52E-09	4.52E-09	9.17E-08	1.87E-05	0.00E+00	2.81E-08	0.00E+00	3.44E-09	1.93E-06
S0004	Oven #4	0.00E+00	4.56E-08	0.00E+00	1.75E-09	1.75E-09	3.54E-08	7.22E-06	0.00E+00	1.09E-08	0.00E+00	1.33E-09	7.46E-07
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	3.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.02E-02	0.00E+00	0.00E+00	2.40E-07	0.00E+00	1.07E-04
S0007	Spray booth 1	4.19E-06	5.46E-05	0.00E+00	5.21E-06	5.51E-06	4.68E-05	1.85E-02	0.00E+00	4.57E-06	0.00E+00	5.57E-07	1.16E-06
S0008	Spray booth 2	1.75E-05	1.62E-04	0.00E+00	2.06E-05	1.95E-05	1.43E-04	3.04E-02	0.00E+00	2.10E-06	0.00E+00	7.77E-07	1.85E-06
S0009	Spray booth 3	2.47E-04	1.25E-03	0.00E+00	2.60E-04	3.08E-04	1.01E-03	1.84E-02	0.00E+00	1.65E-05	0.00E+00	1.69E-06	0.00E+00
S0010	Spray booth 4	4.03E-05	3.02E-04	0.00E+00	4.42E-05	4.22E-05	2.60E-04	3.47E-04	0.00E+00	7.33E-06	0.00E+00	6.67E-07	0.00E+00
S0012	Spray booth 6	1.63E-05	9.56E-05	0.00E+00	1.75E-05	1.64E-05	8.10E-05	9.09E-05	0.00E+00	3.56E-07	0.00E+00	3.90E-08	0.00E+00
S0013	West door	0.00E+00	1.99E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.47E-01	0.00E+00	0.00E+00	1.48E-06	0.00E+00	6.59E-04
S0014	Vent	0.00E+00	6.89E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.56E-02	0.00E+00	0.00E+00	5.11E-07	0.00E+00	2.28E-04
	Total Hazard	3.26E-04	2.16E-03	0.00E+00	3.48E-04	3.91E-04	1.54E-03	4.41E-01	0.00E+00	3.10E-05	2.23E-06	3.75E-06	1.01E-03

Table 24 - Chronic Hazard Indices by Emission Source at MEIR

							Exposure Pathway						
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	5.04E-07	0.00E+00	1.93E-08	1.93E-08	3.92E-07	7.98E-05	0.00E+00	1.20E-07	0.00E+00	1.47E-08	8.24E-06
S0002	Oven #2	0.00E+00	1.73E-07	0.00E+00	6.64E-09	6.64E-09	1.35E-07	2.74E-05	0.00E+00	4.13E-08	0.00E+00	5.05E-09	2.83E-06
S0003	Oven #3	0.00E+00	1.79E-07	0.00E+00	6.84E-09	6.84E-09	1.39E-07	2.83E-05	0.00E+00	4.26E-08	0.00E+00	5.20E-09	2.92E-06
S0004	Oven #4	0.00E+00	1.30E-07	0.00E+00	4.97E-09	4.97E-09	1.01E-07	2.06E-05	0.00E+00	3.09E-08	0.00E+00	3.78E-09	2.12E-06
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	1.40E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-01	0.00E+00	0.00E+00	1.04E-06	0.00E+00	4.64E-04
S0007	Spray booth 1	4.69E-06	6.11E-05	0.00E+00	5.83E-06	6.16E-06	5.24E-05	2.07E-02	0.00E+00	5.11E-06	0.00E+00	6.23E-07	1.29E-06
S0008	Spray booth 2	2.20E-05	2.04E-04	0.00E+00	2.59E-05	2.44E-05	1.80E-04	3.82E-02	0.00E+00	2.63E-06	0.00E+00	9.77E-07	2.33E-06
S0009	Spray booth 3	3.17E-04	1.60E-03	0.00E+00	3.33E-04	3.94E-04	1.30E-03	2.35E-02	0.00E+00	2.12E-05	0.00E+00	2.16E-06	0.00E+00
S0010	Spray booth 4	5.20E-05	3.89E-04	0.00E+00	5.70E-05	5.44E-05	3.36E-04	4.47E-04	0.00E+00	9.46E-06	0.00E+00	8.60E-07	0.00E+00
S0012	Spray booth 6	1.95E-05	1.14E-04	0.00E+00	2.09E-05	1.97E-05	9.67E-05	1.09E-04	0.00E+00	4.25E-07	0.00E+00	4.66E-08	0.00E+00
S0013	West door	0.00E+00	2.79E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.47E-02	0.00E+00	0.00E+00	2.07E-07	0.00E+00	9.26E-05
S0014	Vent	0.00E+00	4.30E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.34E-02	0.00E+00	0.00E+00	3.19E-07	0.00E+00	1.42E-04
	Total Hazard	4.15E-04	2.58E-03	0.00E+00	4.43E-04	4.99E-04	1.96E-03	3.45E-01	0.00E+00	3.90E-05	1.57E-06	4.70E-06	7.19E-04

Table 25 - Chronic Hazard Indices by Substance at PMI

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.64E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.53E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-05
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	9.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.24E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	8.00E-09	0.00E+00	8.00E-09	8.00E-09	0.00E+00	8.00E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-05	0.00E+00	5.45E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	2.63E-07	0.00E+00	0.00E+00	2.63E-07	2.63E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	4.19E-06	4.19E-06	4.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.19E-06	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.55E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.28E-07	0.00E+00	0.00E+00	2.28E-07	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.70E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	4.80E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	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
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-06	0.00E+00	0.00E+00	2.50E-06	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	2.11E-05	0.00E+00	2.11E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	3.67E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.89E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-05	0.00E+00	0.00E+00	0.00E+00	1.35E-05	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.24E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-03
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	6.09E-08	6.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol	3.78E-04	3.78E-04	0.00E+00	3.78E-04	3.78E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.24E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	1.75E-03	0.00E+00	0.00E+00	0.00E+00	1.75E-03	1.75E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	2.16E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.16E-05	0.00E+00	2.16E-05	0.00E+00	0.00E+00	0.00E+00

Table 26 - Chronic Hazard Indices by Substance at MEIW

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.05E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.78E-06
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.73E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	8.82E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	4.37E-09	0.00E+00	4.37E-09	4.37E-09	0.00E+00	4.37E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.71E-05	0.00E+00	4.71E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	2.31E-07	0.00E+00	0.00E+00	2.31E-07	2.31E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	3.75E-06	3.75E-06	3.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.75E-06	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.09E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-07	0.00E+00	0.00E+00	1.86E-07	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	2.62E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.04E-06	0.00E+00	0.00E+00	2.04E-06	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	1.82E-05	0.00E+00	1.82E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	3.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-05	0.00E+00	0.00E+00	0.00E+00	1.17E-05	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.98E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.98E-04
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	6.09E-08	6.09E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol	3.25E-04	3.25E-04	0.00E+00	3.25E-04	3.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.48E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.79E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	1.51E-03	0.00E+00	0.00E+00	0.00E+00	1.51E-03	1.51E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	1.93E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-05	0.00E+00	1.93E-05	0.00E+00	0.00E+00	0.00E+00

Table 27 - Chronic Hazard Indices by Substance at MEIR

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.66E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.67E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-05
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.27E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	1.12E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	9.06E-09	0.00E+00	9.06E-09	9.06E-09	0.00E+00	9.06E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.02E-05	0.00E+00	6.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	2.90E-07	0.00E+00	0.00E+00	2.90E-07	2.90E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	4.70E-06	4.70E-06	4.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.70E-06	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.93E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-07	0.00E+00	0.00E+00	1.31E-07	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	5.44E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-06	0.00E+00	0.00E+00	1.43E-06	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	2.31E-05	0.00E+00	2.31E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	2.11E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.71E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-05	0.00E+00	0.00E+00	0.00E+00	1.49E-05	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.39E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.03E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.03E-04
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	7.18E-08	7.18E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol	4.14E-04	4.14E-04	0.00E+00	4.14E-04	4.14E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.80E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	1.91E-03	0.00E+00	0.00E+00	0.00E+00	1.91E-03	1.91E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	2.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.41E-05	0.00E+00	2.41E-05	0.00E+00	0.00E+00	0.00E+00

Table 28 - Acute Hazard Indices by Emission Source at PMI

		Exposure Pathway											
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	1.12E-06	1.49E-04	0.00E+00	0.00E+00	1.50E-04	1.51E-03	0.00E+00	1.21E-03	0.00E+00	0.00E+00	1.49E-04
S0002	Oven #2	0.00E+00	3.06E-07	4.06E-05	0.00E+00	0.00E+00	4.08E-05	4.11E-04	0.00E+00	3.29E-04	0.00E+00	0.00E+00	4.06E-05
S0003	Oven #3	0.00E+00	3.08E-07	4.10E-05	0.00E+00	0.00E+00	4.11E-05	4.14E-04	0.00E+00	3.31E-04	0.00E+00	0.00E+00	4.10E-05
S0004	Oven #4	0.00E+00	2.38E-07	3.17E-05	0.00E+00	0.00E+00	3.18E-05	3.20E-04	0.00E+00	2.56E-04	0.00E+00	0.00E+00	3.17E-05
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	0.00E+00	4.75E-04	0.00E+00	0.00E+00	0.00E+00	2.38E-02	2.14E-04	2.15E-04	0.00E+00	0.00E+00	0.00E+00
S0007	Spray booth 1	0.00E+00	6.62E-05	9.91E-06	0.00E+00	0.00E+00	4.55E-05	1.51E-02	0.00E+00	9.91E-04	0.00E+00	0.00E+00	0.00E+00
S0008	Spray booth 2	0.00E+00	1.51E-04	1.56E-05	0.00E+00	0.00E+00	1.36E-04	2.50E-02	0.00E+00	1.63E-03	0.00E+00	0.00E+00	0.00E+00
S0009	Spray booth 3	0.00E+00	1.09E-03	0.00E+00	0.00E+00	0.00E+00	8.91E-04	1.50E-02	0.00E+00	7.27E-03	0.00E+00	0.00E+00	0.00E+00
S0010	Spray booth 4	0.00E+00	2.80E-04	0.00E+00	0.00E+00	0.00E+00	2.24E-04	1.46E-03	0.00E+00	2.66E-03	0.00E+00	0.00E+00	0.00E+00
S0012	Spray booth 6	0.00E+00	1.21E-04	0.00E+00	0.00E+00	0.00E+00	1.01E-04	8.05E-04	0.00E+00	9.31E-04	0.00E+00	0.00E+00	0.00E+00
S0013	West door	0.00E+00	0.00E+00	8.45E-04	0.00E+00	0.00E+00	0.00E+00	4.22E-02	3.81E-04	3.82E-04	0.00E+00	0.00E+00	0.00E+00
S0014	Vent	0.00E+00	0.00E+00	5.31E-04	0.00E+00	0.00E+00	0.00E+00	2.66E-02	2.39E-04	2.40E-04	0.00E+00	0.00E+00	0.00E+00
	Total Hazard	0.00E+00	1.71E-03	2.14E-03	0.00E+00	0.00E+00	1.66E-03	1.53E-01	8.34E-04	1.64E-02	0.00E+00	0.00E+00	2.63E-04

Table 29 - Acute Hazard Indices by Emission Source at MEIW

		Exposure Pathway											
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	2.44E-07	3.26E-05	0.00E+00	0.00E+00	3.27E-05	3.29E-04	0.00E+00	2.63E-04	0.00E+00	0.00E+00	3.26E-05
S0002	Oven #2	0.00E+00	1.11E-07	1.48E-05	0.00E+00	0.00E+00	1.48E-05	1.50E-04	0.00E+00	1.20E-04	0.00E+00	0.00E+00	1.48E-05
S0003	Oven #3	0.00E+00	1.10E-07	1.46E-05	0.00E+00	0.00E+00	1.47E-05	1.48E-04	0.00E+00	1.18E-04	0.00E+00	0.00E+00	1.46E-05
S0004	Oven #4	0.00E+00	7.71E-08	1.02E-05	0.00E+00	0.00E+00	1.03E-05	1.04E-04	0.00E+00	8.29E-05	0.00E+00	0.00E+00	1.02E-05
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	0.00E+00	1.62E-04	0.00E+00	0.00E+00	0.00E+00	8.10E-03	7.30E-05	7.33E-05	0.00E+00	0.00E+00	0.00E+00
S0007	Spray booth 1	0.00E+00	3.67E-05	5.49E-06	0.00E+00	0.00E+00	2.52E-05	8.38E-03	0.00E+00	5.49E-04	0.00E+00	0.00E+00	0.00E+00
S0008	Spray booth 2	0.00E+00	6.99E-05	7.23E-06	0.00E+00	0.00E+00	6.32E-05	1.16E-02	0.00E+00	7.53E-04	0.00E+00	0.00E+00	0.00E+00
S0009	Spray booth 3	0.00E+00	5.89E-04	0.00E+00	0.00E+00	0.00E+00	4.81E-04	8.08E-03	0.00E+00	3.92E-03	0.00E+00	0.00E+00	0.00E+00
S0010	Spray booth 4	0.00E+00	1.64E-04	0.00E+00	0.00E+00	0.00E+00	1.31E-04	8.58E-04	0.00E+00	1.56E-03	0.00E+00	0.00E+00	0.00E+00
S0012	Spray booth 6	0.00E+00	6.05E-05	0.00E+00	0.00E+00	0.00E+00	5.05E-05	4.03E-04	0.00E+00	4.66E-04	0.00E+00	0.00E+00	0.00E+00
S0013	West door	0.00E+00	0.00E+00	9.25E-04	0.00E+00	0.00E+00	0.00E+00	4.62E-02	4.17E-04	4.18E-04	0.00E+00	0.00E+00	0.00E+00
S0014	Vent	0.00E+00	0.00E+00	4.60E-04	0.00E+00	0.00E+00	0.00E+00	2.30E-02	2.07E-04	2.08E-04	0.00E+00	0.00E+00	0.00E+00
	Total Hazard	0.00E+00	9.21E-04	1.63E-03	0.00E+00	0.00E+00	8.23E-04	1.07E-01	6.97E-04	8.54E-03	0.00E+00	0.00E+00	7.22E-05

Table 30 - Acute Hazard Indices by Emission Source at MEIR

		Exposure Pathway											
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	2.99E-07	3.99E-05	0.00E+00	0.00E+00	4.00E-05	4.03E-04	0.00E+00	3.22E-04	0.00E+00	0.00E+00	3.99E-05
S0002	Oven #2	0.00E+00	9.05E-08	1.20E-05	0.00E+00	0.00E+00	1.21E-05	1.22E-04	0.00E+00	9.73E-05	0.00E+00	0.00E+00	1.20E-05
S0003	Oven #3	0.00E+00	9.27E-08	1.23E-05	0.00E+00	0.00E+00	1.24E-05	1.25E-04	0.00E+00	9.97E-05	0.00E+00	0.00E+00	1.23E-05
S0004	Oven #4	0.00E+00	7.85E-08	1.04E-05	0.00E+00	0.00E+00	1.05E-05	1.05E-04	0.00E+00	8.43E-05	0.00E+00	0.00E+00	1.04E-05
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	0.00E+00	7.68E-04	0.00E+00	0.00E+00	0.00E+00	3.84E-02	3.46E-04	3.47E-04	0.00E+00	0.00E+00	0.00E+00
S0007	Spray booth 1	0.00E+00	2.07E-05	3.09E-06	0.00E+00	0.00E+00	1.42E-05	4.72E-03	0.00E+00	3.09E-04	0.00E+00	0.00E+00	0.00E+00
S0008	Spray booth 2	0.00E+00	4.97E-05	5.14E-06	0.00E+00	0.00E+00	4.49E-05	8.23E-03	0.00E+00	5.36E-04	0.00E+00	0.00E+00	0.00E+00
S0009	Spray booth 3	0.00E+00	3.84E-04	0.00E+00	0.00E+00	0.00E+00	3.14E-04	5.27E-03	0.00E+00	2.56E-03	0.00E+00	0.00E+00	0.00E+00
S0010	Spray booth 4	0.00E+00	1.01E-04	0.00E+00	0.00E+00	0.00E+00	8.04E-05	5.25E-04	0.00E+00	9.56E-04	0.00E+00	0.00E+00	0.00E+00
S0012	Spray booth 6	0.00E+00	2.69E-05	0.00E+00	0.00E+00	0.00E+00	2.24E-05	1.79E-04	0.00E+00	2.07E-04	0.00E+00	0.00E+00	0.00E+00
S0013	West door	0.00E+00	0.00E+00	2.07E-04	0.00E+00	0.00E+00	0.00E+00	1.03E-02	9.32E-05	9.35E-05	0.00E+00	0.00E+00	0.00E+00
S0014	Vent	0.00E+00	0.00E+00	4.80E-04	0.00E+00	0.00E+00	0.00E+00	2.40E-02	2.16E-04	2.17E-04	0.00E+00	0.00E+00	0.00E+00
	Total Hazard	0.00E+00	5.83E-04	1.54E-03	0.00E+00	0.00E+00	5.51E-04	9.24E-02	6.55E-04	5.83E-03	0.00E+00	0.00E+00	7.46E-05

Table 31 - Acute Hazard Indices by Substance at PMI

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.10E-06	0.00E+00	8.10E-06	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.54E-04	0.00E+00	9.54E-04	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.85E-04	0.00E+00	8.85E-04	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	2.63E-04	0.00E+00	0.00E+00	2.63E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-04
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-05	0.00E+00	2.70E-05	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-04	0.00E+00	6.08E-04	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.70E-07	0.00E+00	2.70E-07	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-03	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent 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
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.46E-08	0.00E+00	2.46E-08	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-06	0.00E+00	3.17E-06	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.59E-03	0.00E+00	4.59E-03	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	2.42E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.79E-03	0.00E+00	2.79E-03	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	1.88E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	1.30E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-08	0.00E+00	1.30E-08	0.00E+00	0.00E+00	0.00E+00
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.28E-03	0.00E+00	1.28E-03	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.34E-04	8.34E-04	8.34E-04	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.05E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	1.40E-03	0.00E+00	0.00E+00	0.00E+00	1.40E-03	1.40E-03	0.00E+00	1.40E-03	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	7.13E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.13E-05	0.00E+00	7.13E-05	0.00E+00	0.00E+00	0.00E+00

Table 32 - Acute Hazard Indices by Substance at MEIW

	Exposure Pathway											
						REPRO/DEV						
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**EL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-06	0.00E+00	2.23E-06	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.63E-04	0.00E+00	2.63E-04	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.44E-04	0.00E+00	2.44E-04	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	7.22E-05	0.00E+00	0.00E+00	7.22E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.22E-05
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-05	0.00E+00	1.45E-05	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.26E-04	0.00E+00	3.26E-04	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.25E-07	0.00E+00	2.25E-07	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-03	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent 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
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-08	0.00E+00	2.06E-08	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.65E-06	0.00E+00	2.65E-06	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.45E-03	0.00E+00	2.45E-03	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	1.31E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-03	0.00E+00	1.50E-03	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	1.56E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	6.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.68E-09	0.00E+00	6.68E-09	0.00E+00	0.00E+00	0.00E+00
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.87E-04	0.00E+00	6.87E-04	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.97E-04	6.97E-04	6.97E-04	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.21E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.11E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	7.51E-04	0.00E+00	0.00E+00	0.00E+00	7.51E-04	7.51E-04	0.00E+00	7.51E-04	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	3.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.90E-05	0.00E+00	3.90E-05	0.00E+00	0.00E+00	0.00E+00

Table 33 - Acute Hazard Indices by Substance at MEIR

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-06	0.00E+00	2.30E-06	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-04	0.00E+00	2.71E-04	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.52E-04	0.00E+00	2.52E-04	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	7.46E-05	0.00E+00	0.00E+00	7.46E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-05
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-06	0.00E+00	9.00E-06	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.10E-04	0.00E+00	2.10E-04	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.12E-07	0.00E+00	2.12E-07	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.90E-04	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent 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
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-08	0.00E+00	1.94E-08	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-06	0.00E+00	2.49E-06	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	0.00E+00	1.55E-03	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	8.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.49E-04	0.00E+00	9.49E-04	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.24E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	1.46E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	4.15E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.15E-09	0.00E+00	4.15E-09	0.00E+00	0.00E+00	0.00E+00
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.37E-04	0.00E+00	4.37E-04	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.55E-04	6.55E-04	6.55E-04	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	4.76E-04	0.00E+00	0.00E+00	0.00E+00	4.76E-04	4.76E-04	0.00E+00	4.76E-04	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	2.41E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.41E-05	0.00E+00	2.41E-05	0.00E+00	0.00E+00	0.00E+00

Table 34 - 8 Hour Hazard Indices by Emission Source at PMI

		Exposure Pathway											
Source ID	**Source Description**	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
S0001	Boiler	0.00E+00	7.20E-05	8.72E-04	0.00E+00	0.00E+00	0.00E+00	1.09E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-05
S0002	Oven #2	0.00E+00	0.00E+00	8.70E-04	0.00E+00	0.00E+00	0.00E+00	9.95E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.67E-06
S0003	Oven #3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.49E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.11E-06
S0004	Oven #4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.08E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-06
S0005	Mist eliminator	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0006	East door	0.00E+00	7.20E-05	1.05E-04	0.00E+00	0.00E+00	0.00E+00	1.28E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0007	Spray booth 1	0.00E+00	7.20E-05	1.13E-06	0.00E+00	0.00E+00	0.00E+00	3.74E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0008	Spray booth 2	0.00E+00	7.20E-05	1.82E-06	0.00E+00	0.00E+00	0.00E+00	6.18E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0009	Spray booth 3	0.00E+00	7.20E-05	1.82E-06	0.00E+00	0.00E+00	0.00E+00	1.21E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0010	Spray booth 4	0.00E+00	0.00E+00	1.82E-06	0.00E+00	0.00E+00	0.00E+00	1.49E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0012	Spray booth 6	0.00E+00	0.00E+00	1.82E-06	0.00E+00	0.00E+00	0.00E+00	9.11E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0013	West door	0.00E+00	4.42E-04	6.46E-04	0.00E+00	0.00E+00	0.00E+00	9.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
S0014	Vent	0.00E+00	5.95E-04	2.24E-04	0.00E+00	0.00E+00	0.00E+00	2.38E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Total Hazard	0.00E+00	1.40E-03	2.73E-03	0.00E+00	0.00E+00	0.00E+00	1.06E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-05

Table 35 - 8 Hour Hazard Indices by Substance at PMI

	Exposure Pathway											
Substances	**CV**	**CNS**	**IMMUN**	**KIDNEY**	**GILV**	**REPRO/DEVEL**	**RESP**	**SKIN**	**EYE**	**BONE**	**ENDO**	**BLOOD**
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.76E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.27E-05
Benzo (a) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (a) pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (b) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Benzo (k) fluoranthene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Calcium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chromium trioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dichlorobenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxane, 1,4-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylbenzene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene dichloride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.48E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.25E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent 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
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Manganese	0.00E+00	6.67E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.95E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Naphthalene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Nickel	0.00E+00	0.00E+00	9.78E-04	0.00E+00	0.00E+00	0.00E+00	9.78E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Perchloroethylene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 36 - Cancer Risk by Substances at Mokler Elementary School

	Exposure Pathway												
Substance	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
Acetaldehyde	1.04E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-11
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	3.23E-09	5.60E-11	2.15E-12	0.00E+00	0.00E+00	0.00E+00	1.83E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-09
Benzene	1.93E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.93E-10
Benzo (a) anthracene	1.20E-13	4.36E-13	1.09E-13	1.04E-12	0.00E+00	0.00E+00	2.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-12
Benzo (a) pyrene	7.99E-13	2.91E-12	7.25E-13	6.92E-12	0.00E+00	0.00E+00	1.43E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.56E-11
Benzo (b) fluoranthene	1.20E-13	4.36E-13	1.09E-13	1.04E-12	0.00E+00	0.00E+00	2.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-12
Benzo (k) fluoranthene	1.20E-13	4.36E-13	1.09E-13	1.04E-12	0.00E+00	0.00E+00	2.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-12
Calcium chromate	1.38E-10	2.38E-12	9.13E-14	0.00E+00	0.00E+00	0.00E+00	7.80E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.18E-10
Chromium trioxide	7.57E-08	1.31E-09	5.03E-11	0.00E+00	0.00E+00	0.00E+00	4.29E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-07
Chrysene	1.20E-14	4.36E-14	1.09E-14	1.04E-13	0.00E+00	0.00E+00	2.14E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-13
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	8.40E-13	9.94E-13	2.48E-13	2.36E-12	0.00E+00	0.00E+00	4.87E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.31E-12
Dichlorobenzene	1.16E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-11
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	6.82E-10	8.07E-10	2.01E-10	1.92E-09	0.00E+00	0.00E+00	3.95E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.56E-09
Dioxane, 1,4-	1.47E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-09
Ethylbenzene	5.04E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.04E-09
Ethylene dichloride	3.92E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.92E-09
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.22E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.22E-09
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	3.44E-06	5.95E-08	2.28E-09	0.00E+00	0.00E+00	0.00E+00	1.95E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.45E-06
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	1.20E-13	4.36E-13	1.09E-13	1.04E-12	0.00E+00	0.00E+00	2.14E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-12
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	1.20E-11	1.43E-10	3.49E-12	2.60E-12	0.00E+00	0.00E+00	2.88E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-10
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	6.75E-12	7.99E-12	1.99E-12	1.90E-11	0.00E+00	0.00E+00	3.92E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.49E-11
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	2.01E-08	6.00E-08	4.87E-09	0.00E+00	0.00E+00	0.00E+00	1.16E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-07
Naphthalene	5.06E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-11
Nickel	2.77E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.77E-10
PAH	9.06E-15	3.30E-14	8.22E-15	7.85E-14	0.00E+00	0.00E+00	1.62E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-13
Perchloroethylene	3.53E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.53E-12
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	2.55E-07	4.42E-09	1.69E-10	0.00E+00	0.00E+00	0.00E+00	1.45E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-07
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 37 - Cancer Risk by Emission Source at Mokler Elementary School

		Exposure Pathway												
Source ID	**Source Description**	**INHAL**	**SOIL**	**DERM**	**MOTHER**	**WATER**	**FISH**	**VEG**	**BEEF**	**DAIRY**	**PIG**	**CHICK**	**EGG**	**TOTAL**
S0001	Boiler	5.50E-10	4.42E-10	1.10E-10	1.05E-09	0.00E+00	0.00E+00	2.17E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.32E-09
S0002	Oven #2	1.66E-10	1.34E-10	3.33E-11	3.18E-10	0.00E+00	0.00E+00	6.55E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-09
S0003	Oven #3	1.67E-10	1.34E-10	3.34E-11	3.19E-10	0.00E+00	0.00E+00	6.57E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-09
S0004	Oven #4	1.38E-10	1.11E-10	2.76E-11	2.64E-10	0.00E+00	0.00E+00	5.43E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-09
S0005	Mist eliminator	2.98E-09	5.16E-11	1.98E-12	0.00E+00	0.00E+00	0.00E+00	1.69E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E-09
S0006	East door	1.23E-06	2.13E-08	8.17E-10	0.00E+00	0.00E+00	0.00E+00	6.98E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.95E-06
S0007	Spray booth 1	1.34E-07	2.29E-09	8.77E-11	8.64E-14	0.00E+00	0.00E+00	7.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.11E-07
S0008	Spray booth 2	1.23E-07	2.13E-09	8.09E-11	8.09E-13	0.00E+00	0.00E+00	6.82E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-07
S0009	Spray booth 3	1.08E-07	6.15E-08	4.92E-09	1.72E-12	0.00E+00	0.00E+00	1.65E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.39E-07
S0010	Spray booth 4	4.74E-09	2.47E-14	6.15E-15	5.87E-14	0.00E+00	0.00E+00	1.21E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.74E-09
S0012	Spray booth 6	4.60E-10	2.25E-15	5.59E-16	5.34E-15	0.00E+00	0.00E+00	1.10E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.60E-10
S0013	West door	1.01E-06	1.75E-08	6.72E-10	0.00E+00	0.00E+00	0.00E+00	5.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E-06
S0014	Vent	1.19E-06	2.06E-08	7.88E-10	0.00E+00	0.00E+00	0.00E+00	6.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-06
	Total Risk	3.80E-06	1.26E-07	7.58E-09	1.95E-09	0.00E+00	0.00E+00	2.26E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.20E-06

Table 38 - Cancer Risk by Substances at McKinley Elementary School

	Exposure Pathway												
Substance	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
Acetaldehyde	7.72E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.72E-12
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	2.27E-09	3.94E-11	1.51E-12	0.00E+00	0.00E+00	0.00E+00	1.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.60E-09
Benzene	1.44E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.44E-10
Benzo (a) anthracene	8.91E-14	3.25E-13	8.09E-14	7.72E-13	0.00E+00	0.00E+00	1.59E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-12
Benzo (a) pyrene	5.95E-13	2.17E-12	5.40E-13	5.15E-12	0.00E+00	0.00E+00	1.06E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.91E-11
Benzo (b) fluoranthene	8.91E-14	3.25E-13	8.09E-14	7.72E-13	0.00E+00	0.00E+00	1.59E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-12
Benzo (k) fluoranthene	8.91E-14	3.25E-13	8.09E-14	7.72E-13	0.00E+00	0.00E+00	1.59E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-12
Calcium chromate	9.32E-11	1.61E-12	6.19E-14	0.00E+00	0.00E+00	0.00E+00	5.29E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-10
Chromium trioxide	5.15E-08	8.92E-10	3.42E-11	0.00E+00	0.00E+00	0.00E+00	2.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.16E-08
Chrysene	8.91E-15	3.25E-14	8.09E-15	7.72E-14	0.00E+00	0.00E+00	1.59E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-13
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	6.25E-13	7.40E-13	1.84E-13	1.76E-12	0.00E+00	0.00E+00	3.63E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.94E-12
Dichlorobenzene	8.62E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-12
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	5.08E-10	6.01E-10	1.50E-10	1.43E-09	0.00E+00	0.00E+00	2.94E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.63E-09
Dioxane, 1,4-	9.99E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.99E-10
Ethylbenzene	3.45E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.45E-09
Ethylene dichloride	2.66E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-09
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	1.52E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-09
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	2.55E-06	4.42E-08	1.69E-09	0.00E+00	0.00E+00	0.00E+00	1.45E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.04E-06
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	8.91E-14	3.25E-13	8.09E-14	7.72E-13	0.00E+00	0.00E+00	1.59E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-12
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	8.20E-12	9.78E-11	2.38E-12	1.78E-12	0.00E+00	0.00E+00	1.96E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-10
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	5.03E-12	5.95E-12	1.48E-12	1.42E-11	0.00E+00	0.00E+00	2.92E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.58E-11
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	1.36E-08	4.06E-08	3.30E-09	0.00E+00	0.00E+00	0.00E+00	7.89E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-07
Naphthalene	3.67E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.67E-11
Nickel	2.06E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-10
PAH	6.11E-15	2.22E-14	5.54E-15	5.29E-14	0.00E+00	0.00E+00	1.09E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.96E-13
Perchloroethylene	2.49E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.49E-12
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	1.80E-07	3.11E-09	1.19E-10	0.00E+00	0.00E+00	0.00E+00	1.02E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.85E-07
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 39 - Cancer Risk by Emission Source at McKinley Elementary School

		Exposure Pathway												
Source ID	**Source Description**	**INHAL**	**SOIL**	**DERM**	**MOTHER**	**WATER**	**FISH**	**VEG**	**BEEF**	**DAIRY**	**PIG**	**CHICK**	**EGG**	**TOTAL**
S0001	Boiler	4.27E-10	3.43E-10	8.56E-11	8.17E-10	0.00E+00	0.00E+00	1.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36E-09
S0002	Oven #2	1.15E-10	9.28E-11	2.31E-11	2.21E-10	0.00E+00	0.00E+00	4.55E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.07E-10
S0003	Oven #3	1.18E-10	9.50E-11	2.37E-11	2.26E-10	0.00E+00	0.00E+00	4.65E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.28E-10
S0004	Oven #4	9.92E-11	7.98E-11	1.99E-11	1.90E-10	0.00E+00	0.00E+00	3.91E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.80E-10
S0005	Mist eliminator	2.17E-09	3.76E-11	1.44E-12	0.00E+00	0.00E+00	0.00E+00	1.23E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.44E-09
S0006	East door	7.46E-07	1.29E-08	4.95E-10	0.00E+00	0.00E+00	0.00E+00	4.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-06
S0007	Spray booth 1	9.66E-08	1.65E-09	6.33E-11	6.24E-14	0.00E+00	0.00E+00	5.40E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-07
S0008	Spray booth 2	8.49E-08	1.47E-09	5.57E-11	5.57E-13	0.00E+00	0.00E+00	4.70E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-07
S0009	Spray booth 3	7.31E-08	4.17E-08	3.34E-09	1.17E-12	0.00E+00	0.00E+00	1.12E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.30E-07
S0010	Spray booth 4	3.17E-09	1.65E-14	4.11E-15	3.92E-14	0.00E+00	0.00E+00	8.08E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-09
S0012	Spray booth 6	2.90E-10	1.41E-15	3.52E-16	3.36E-15	0.00E+00	0.00E+00	6.93E-15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-10
S0013	West door	9.62E-07	1.67E-08	6.39E-10	0.00E+00	0.00E+00	0.00E+00	5.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.52E-06
S0014	Vent	8.38E-07	1.45E-08	5.56E-10	0.00E+00	0.00E+00	0.00E+00	4.75E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-06
	Total Risk	2.81E-06	8.95E-08	5.30E-09	1.46E-09	0.00E+00	0.00E+00	1.66E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.56E-06

Table 40 - Cancer Risk by Substances at Alondra Middle School

	Exposure Pathway												
Substance	**INHAL**	**SOIL**	**DERM**	**MOTHER**	**WATER**	**FISH**	**VEG**	**BEEF**	**DAIRY**	**PIG**	**CHICK**	**EGG**	**TOTAL**
Acetaldehyde	3.43E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-12
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Ammonia	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Barium chromate	1.14E-09	1.97E-11	7.55E-13	0.00E+00	0.00E+00	0.00E+00	6.45E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-09
Benzene	6.38E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.38E-11
Benzo (a) anthracene	3.96E-14	1.44E-13	3.59E-14	3.43E-13	0.00E+00	0.00E+00	7.07E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-12
Benzo (a) pyrene	2.64E-13	9.63E-13	2.40E-13	2.29E-12	0.00E+00	0.00E+00	4.72E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.47E-12
Benzo (b) fluoranthene	3.96E-14	1.44E-13	3.59E-14	3.43E-13	0.00E+00	0.00E+00	7.07E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-12
Benzo (k) fluoranthene	3.96E-14	1.44E-13	3.59E-14	3.43E-13	0.00E+00	0.00E+00	7.07E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-12
Calcium chromate	4.71E-11	8.15E-13	3.12E-14	0.00E+00	0.00E+00	0.00E+00	2.67E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.46E-11
Chromium trioxide	2.60E-08	4.50E-10	1.72E-11	0.00E+00	0.00E+00	0.00E+00	1.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.12E-08
Chrysene	3.96E-15	1.44E-14	3.59E-15	3.43E-14	0.00E+00	0.00E+00	7.07E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-13
Cresol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Crystalline silica	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dibenz (a,h) anthracene	2.78E-13	3.29E-13	8.20E-14	7.82E-13	0.00E+00	0.00E+00	1.61E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.08E-12
Dichlorobenzene	3.83E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.83E-12
Dimethyl formamide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dimethylbenz(a)anthracene, 7,12-	2.26E-10	2.67E-10	6.65E-11	6.35E-10	0.00E+00	0.00E+00	1.31E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.50E-09
Dioxane, 1,4-	5.06E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.06E-10
Ethylbenzene	1.74E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-09
Ethylene dichloride	1.35E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-09
Ethylene glycol monobutyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	7.64E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.64E-10
Hexane, n-	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hexavalent chromium	1.17E-06	2.03E-08	7.80E-10	0.00E+00	0.00E+00	0.00E+00	6.66E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.86E-06
Hydrochloric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hydrogen fluoride	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Indeno(1,2,3-cd)pyrene	3.96E-14	1.44E-13	3.59E-14	3.43E-13	0.00E+00	0.00E+00	7.07E-13	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-12
Isopropyl alcohol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Lead	4.13E-12	4.93E-11	1.20E-12	8.94E-13	0.00E+00	0.00E+00	9.89E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.54E-11
Manganese	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methanol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methyl ethyl ketone	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylcholanthrene, 3-	2.23E-12	2.65E-12	6.59E-13	6.29E-12	0.00E+00	0.00E+00	1.30E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.48E-11
Methylene diphenyl diisocyanate	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Methylenedianiline, 4,4'-	6.87E-09	2.05E-08	1.66E-09	0.00E+00	0.00E+00	0.00E+00	3.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.89E-08
Naphthalene	1.80E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-11
Nickel	9.49E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.49E-11
PAH	3.11E-15	1.13E-14	2.82E-15	2.69E-14	0.00E+00	0.00E+00	5.55E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.97E-14
Perchloroethylene	1.25E-12	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-12
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Phosphoric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Propylene glycol monomethyl ether	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sodium hydroxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Strontium chromate	8.99E-08	1.56E-09	5.97E-11	0.00E+00	0.00E+00	0.00E+00	5.10E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-07
Sulfur dioxide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Sulfuric acid	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Toluene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 41 - Cancer Risk by Emission Source at Alondra Middle School

		Exposure Pathway												
Source ID	Source Description	INHAL	SOIL	DERM	MOTHER	WATER	FISH	VEG	BEEF	DAIRY	PIG	CHICK	EGG	TOTAL
S0001	Boiler	1.85E-10	1.49E-10	3.70E-11	3.54E-10	0.00E+00	0.00E+00	7.28E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-09
S0002	Oven #2	5.23E-11	4.21E-11	1.05E-11	1.00E-10	0.00E+00	0.00E+00	2.06E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.12E-10
S0003	Oven #3	5.26E-11	4.23E-11	1.05E-11	1.01E-10	0.00E+00	0.00E+00	2.07E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.14E-10
S0004	Oven #4	4.78E-11	3.85E-11	9.59E-12	9.15E-11	0.00E+00	0.00E+00	1.89E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-10
S0005	Mist eliminator	9.36E-10	1.62E-11	6.21E-13	0.00E+00	0.00E+00	0.00E+00	5.31E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.48E-09
S0006	East door	3.89E-07	6.74E-09	2.58E-10	0.00E+00	0.00E+00	0.00E+00	2.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.17E-07
S0007	Spray booth 1	4.82E-08	8.25E-10	3.16E-11	3.11E-14	0.00E+00	0.00E+00	2.70E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.61E-08
S0008	Spray booth 2	4.26E-08	7.35E-10	2.79E-11	2.79E-13	0.00E+00	0.00E+00	2.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.69E-08
S0009	Spray booth 3	3.69E-08	2.10E-08	1.68E-09	5.89E-13	0.00E+00	0.00E+00	5.64E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.16E-07
S0010	Spray booth 4	1.61E-09	8.40E-15	2.09E-15	2.00E-14	0.00E+00	0.00E+00	4.12E-14	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-09
S0012	Spray booth 6	1.53E-10	7.48E-16	1.86E-16	1.78E-15	0.00E+00	0.00E+00	3.66E-15	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-10
S0013	West door	3.83E-07	6.63E-09	2.54E-10	0.00E+00	0.00E+00	0.00E+00	2.17E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.07E-07
S0014	Vent	4.01E-07	6.95E-09	2.66E-10	0.00E+00	0.00E+00	0.00E+00	2.27E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.36E-07
	Total Risk	1.30E-06	4.32E-08	2.59E-09	6.47E-10	0.00E+00	0.00E+00	7.74E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.12E-06

Appendix C – Health Risk Assessment Summary Form

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

HEALTH RISK ASSESSMENT SUMMARY FORM

(Required in Executive Summary of HRA)

Facility Name : Lubeco, Inc
Facility Address: 6859 Downey Avenue
Long Beach, California
Type of Business: Job shop metal finishing
SCAQMD ID No.: 41229

A. Cancer Risk

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

1. Inventory Reporting Year : 2015
2. Maximum Cancer Risk to Receptors : *(Offsite and residence = 30-year exposure, worker = 25-year exposure)*
   a. Offsite 219.3 in a million Location: 393450E 3749400N
   b. Residence 128.6 in a million Location: 393534E 3749434N
   c. Worker 38.8 in a million Location: 393400E 3749450N
3. Substances Accounting for 90% of Cancer Risk: Hexavalent chromium
   Processes Accounting for 90% of Cancer Risk: Production open process tanks
4. Cancer Burden for a 70-yr exposure: *(Cancer Burden = [cancer risk] x [# of people exposed to specific cancer risk])*
   a. Cancer Burden 0.08
   b. Number of people exposed to >1 per million cancer risk for a 70-yr exposure 20,651
   c. Maximum distance to edge of 70-year, 1 x 10^{-6} cancer risk isopleth (meters) 2,400 meters

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: 0.35 Location: 393534E 3749434N toxicological endpoint: Respiratory
   b. Worker HI : 0.45 Location: 393400E 3749450N toxicological endpoint: Respiratory
2. Substances Accounting for 90% of Chronic Hazard Index: Methylene diphenyl diisocyanate & Sulfuric acid
3. Maximum 8-hour Chronic Hazard Index:
   8-Hour Chronic HI: 0.11 Location: 393400E 3749450N toxicological endpoint: Respiratory
4. Substances Accounting for 90% of 8-hour Chronic Hazard Index: Methylene diphenyl diisocyanate
5. Maximum Acute Hazard Index:
   PMI: 0.18 Location: 393450E 3749400N toxicological endpoint: Respiratory
6. Substances Accounting for 90% of Acute Hazard Index: Methylene diphenyl diisocyanate & Sulfuric acid

C. Public Notification and Risk Reduction

1. Public Notification Required? x Yes ____ No
   a. If 'Yes', estimated population exposed to risks > 10 in a million for a 30-year exposure, or an HI >1
   1,368
2. Risk Reduction Required? x Yes ____ No

Appendix D – SCAQMD Letter to Prepare Health Risk Assessment

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

September 28, 2017

Mr. Steve Rossi
Lubeco Inc.
6859 Downey Avenue
Long Beach, CA 90805-1919

Via Email, Certified Mail with return receipt

Subject: Notice of Designation of Lubeco, Inc. (Facility ID 41229) as a Potentially High Risk Level Facility

Dear Mr. Rossi:

Pursuant to SCAQMD Rule 1402(g), SCAQMD staff is designating Lubeco, Inc. as a Potentially High Risk Level Facility.[1] The information used to substantiate this designation was communicated to you in a letter dated September 8, 2017 and also discussed with Lubeco representatives on September 22, 2017 at a meeting at SCAQMD headquarters. Based on this designation, you are required to expeditiously reduce risks from your facility and provide reports on your toxic emissions and potential health risks to the surrounding community as detailed below.

a. Rule 1402 Requirements for Potentially High Risk Level Facilities

Lubeco, Inc. is required to submit an Early Action Risk Reduction Plan, an Air Toxics Inventory Report (ATIR), a Health Risk Assessment (HRA), and a Risk Reduction Plan no later than the timelines outlined below.

Deliverable	Due Date	Due Date	Rule Reference
Initial Information for ATIR	30 days	10/31/2017	1402(d)(1)
Early Action Risk Reduction Plan	90 days	12/27/2017	1402(g)(2)
ATIR	150 days	2/27/2018	1402(d)(2)
HRA	180 days	3/27/2018	1402(g)(3)
Risk Reduction Plan	180 days	3/27/2018	1402(g)(4)

Further, Lubeco will be required to conduct public notification within 30 days after the HRA is approved and will need to implement the Risk Reduction Plan as quickly as feasible, but no later than two years after the Risk Reduction Plan is approved. Lubeco is strongly encouraged to

[1] Pursuant to Rule 1402(c)(14), a Potentially High Risk Facility is a facility for which the Executive Officer has determined that emissions data, ambient data, or data from a previously approved Health Risk Assessment indicate that the facility has a likely potential to either exceed or has exceeded a Significant Risk Level. A Significant Risk Level for purposes of this letter is a cancer risk to surrounding areas of greater than 100 chances in a million.

aggressively reduce risks to the surrounding neighborhood as quickly as possible and faster than the timeline provided above.

b. Guidelines for Preparing Rule 1402 Deliverables

In accordance with the State of California's Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402, Lubeco, Inc. is required to prepare a detailed ATIR for your facility based on your most current operating conditions and emission inventory for calendar year 2015.

Pursuant to SCAQMD Rule 1402(d)(1), your facility is required to submit the **Initial Information** for an ATIR to SCAQMD within thirty (30) days of the date of this letter, on or before **October 31, 2017**. The Initial Information should include a list of device(s) or process(es) to be included in the detailed ATIR and their corresponding toxic pollutants and Reference Sources for each emission factor.

Pursuant to 1402 (g)(2), your facility is required to submit an **Early Action Risk Reduction Plan** to SCAQMD within 90 days of the date of this letter, on or before **December 27, 2017**. The Early Action Reduction Plan should include a list of measures that can be implemented immediately to reduce the facility-wide health risk.

Your facility is required to submit a **detailed ATIR** to SCAQMD within one hundred fifty (150) days of the date of this letter, on or before **February 27, 2018**. In your detailed ATIR, you must include all toxic air contaminant emissions from your facility that are listed in Appendix A of the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (March 2015*).

http://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

Please also include a signed copy of the AB 2588 Air Toxics Document Certification & Application Form (see attachment) along with your ATIR submittal.

The California Air Resources Board (CARB) has developed the "Hot Spots" Analysis and Reporting Program (HARP) which includes the emissions inventory and risk assessment procedures of the "Hot Spots" Program into a set of program modules. Your ATIR must include an electronic file in the HARP Emission Inventory Module (EIM) format. You may obtain a free copy of the HARP software from the following link:

http://www.arb.ca.gov/toxics/harp/harp.htm

You are required to submit your detailed ATIR in accordance with the SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act*.

http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf

Pursuant to Rule1402 (g)(3), your facility is required to submit a **HRA** to SCAQMD within 180 days of the date of this letter, on or before **March 27, 2018**. You are required to prepare and submit your HRA using the latest version of the HARP software, which includes the U.S. EPA air quality dispersion model called AERMOD. AERMOD documentation is available at:

http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod

Meteorological data for use in HARP 2 and AERMOD can be downloaded from:

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

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

http://www.oehha.ca.gov/air/hot_spots/hotspots2015.html

The HRA must also utilize SCAQMD's guidance within the *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* mentioned above. SCAQMD's guidance on using AERMOD is also available.

http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/modeling-guidance

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

Pursuant to Rule 1402 (g)(4), your facility is required to submit a **Risk Reduction Plan** to SCAQMD within 180 days of the date of this letter, on or before **March 27, 2018**. Guidance for preparing a Risk Reduction Plan can be found in the SCAQMD AB 2588 Supplemental Guidelines mentioned above.

Finally, we appreciate the cooperation that Lubeco has shown to date and its willingness to take seriously the impact of its emissions. However, given the significant levels of hexavalent chromium emitted by your facility, we strongly encourage you to take all necessary steps to reduce these emissions as quickly as possible. If you have questions regarding the requirements detailed in this letter, please contact me at (909) 396-3176.

Sincerely,

Jillian Wong

Jillian Wong, Ph. D.
Planning & Rules Manager
Planning, Rule Development & Area Sources

cc: Kurt Wiese, SCAQMD
Phil Fine, SCAQMD
Susan Nakamura, SCAQMD
Laki Tisopulos, SCAQMD
Bay Gilchrist, SCAQMD
Victoria Moaveni, SCAQMD

Attachment

JW:VM

Appendix E – Air Toxics Inventory Report 2015

JE

JE Compliance Services

Air Toxic Inventory Report for 2015 Reporting Period
August 2019

Lubeco, Inc.

Prepared For:

Lubeco, Inc.
6859 Downey Avenue
Long Beach, California

EHS-6115

P: +1.909.483.3300
F: +1.909.646.9854
http://www.jecsi.net

List of Acronyms

AER - Annual Emission Report
CAS - Chemical Abstract Number
DN - Device Number
EPN - Emission Point Number
HARP - "Hot Spots" Analysis and Reporting Program
SCAQMD - South Coast Air Quality Management District

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Introduction

This air toxics emission inventory report (ATIR) for the 2015 reporting period has been prepared at the request of South Coast Air Quality Management District (SCAQMD). This inventory was prepared with the objective of meeting the requirements, standards, and guidelines established by the State of California Toxic Hot Spots Emissions Inventory criteria and guidelines to quantify emissions of listed substances from devices present on site.

Lubeco, Inc. manufacturers coatings, lubricating oils, and paints or allied products.

The emissions calculated in this report have been entered into the "Hot Spots" Analysis and Reporting Program (HARP) software. The HARP reporting forms are provided in **Appendix B**. A signed copy of the AB2588 Air Toxic Document Certification and Application Form is included in **Appendix D**.

The numbering conventions presented in **Table 1** for emission points and devices are used to distinguish emissions from different types of sources and devices.

Table 1 - Device Numbering Convention

Number Convention	Source/Device Type	Description
5000X	Area Source	A diffuse source of emissions that is not enclosed or controlled and is assumed to be emitted at an equal rate for each point in a defined area. Examples include storage yards, fields, etc.
6000X	Volume Source	An enclosed source of emissions, which may be controlled but typically is uncontrolled, such as a building, from which emissions may escape with no weighting in particular direction or velocity. An example is a manufacturing building with process equipment that vents directly into the building.
9000X	Point Source	A source of emissions with definable emission rates and emission parameters that is located in a fixed area. Examples include a spray booth stack and an oven exhaust stack.
7000X	Device Number	Specific emission producing devices or a collection of equipment.

Boiler, DN 70001, EPN 90001

Emission factors provided by SCAQMD are used to calculate emissions due to the combustion of natural gas. Emissions of speciated PAHs are estimated using emission factors provided by USEPA in AP-42 Chapter 1.4:

Annual Emissions

$$Y = FQ$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
F = emission factor of the given listed substances, lbs/mmcf (SCAQMD and USEPA AP-42).
Q = quantity of natural gas combusted in the boiler, 1.64 mmcf/yr.

Maximum Hourly Emissions

$$H = Fqk^{-1}$$

where,
H = maximum hourly emissions of the given listed substances, lbs/hr.
q = maximum heat rating of the boiler, 2.0 mmBTU/hr.
k = conversion factor, 1,028 mmBTU/mmcf.

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Acenaphthene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Acenaphthylene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Acetaldehyde	4.30E-03	1.64	7.05E-03	8.37E-06	See note 1
Acrolein	2.70E-03	1.64	4.43E-03	5.25E-06	See note 1
Ammonia	3.20	1.64	5.25	6.23E-03	See note 1
Anthracene	2.40E-06	1.64	3.94E-06	4.67E-09	See note 2
Benzene	8.00E-03	1.64	1.31E-02	1.56E-05	See note 1
Benzo (a) anthracene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Benzo (a) pyrene	1.20E-06	1.64	1.97E-06	2.33E-09	See note 2
Benzo (b) fluoranthene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Benzo (g,h,i) perylene	1.20E-06	1.64	1.97E-06	2.33E-09	See note 2
Benzo (k) fluoranthene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Carbon monoxide	35.00	1.64	57.40	6.81E-02	See note 1
Chrysene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Dibenz (a,h) anthracene	1.20E-06	1.64	1.97E-06	2.33E-09	See note 2
Dichlorobenzene	1.20E-03	1.64	1.97E-03	2.33E-06	See note 2
Dimethylbenz(a)anthracene, 7,12-	1.60E-05	1.64	2.62E-05	3.11E-08	See note 2
Ethylbenzene	9.50E-03	1.64	0.02	1.85E-05	See note 1
Fluoranthene	3.00E-06	1.64	4.92E-06	5.84E-09	See note 2

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Fluorene	2.80E-06	1.64	4.59E-06	5.45E-09	See note 2
Formaldehyde	0.02	1.64	0.03	3.31E-05	See note 1
Hexane, n-	6.30E-03	1.64	0.01	1.23E-05	See note 1
Indeno(1,2,3-cd)pyrene	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Methylcholanthrene, 3-	1.80E-06	1.64	2.95E-06	3.50E-09	See note 2
Methylnaphthalene,2-	2.40E-05	1.64	3.94E-05	4.67E-08	See note 2
Naphthalene	3.00E-04	1.64	4.92E-04	5.84E-07	See note 1
PAH (unspeciated)	1.18E-05	1.64	1.94E-05	2.30E-08	See note 3
Phenanthrene	1.70E-05	1.64	2.79E-05	3.31E-08	See note 2
Pyrene	5.00E-06	1.64	8.20E-06	9.73E-09	See note 2
Sulfur dioxide	0.60	1.64	0.98	1.17E-03	See note 1
Toluene	0.04	1.64	0.06	7.12E-05	See note 1
Xylenes	0.03	1.64	0.04	5.29E-05	See note 1

Note:

1. SCAQMD, Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016.
2. USEPA AP-42, Fifth Edition, Chapter 1.4 Natural Gas Combustion, Table 1.4-3.
3. Emission factor for unspeciated PAH was adjusted by excluding the emission factor of speciated organic compounds (see Appendix E).

Drying Oven (A/N 511129), DN 70002, EPN 90002

Emission factors provided by SCAQMD are used to calculate emissions due to the combustion of natural gas. Emissions of speciated PAHs are estimated using emission factors provided by USEPA in AP-42 Chapter 1.4:

Annual Emissions

$$Y = FQ$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
F = emission factor of the given listed substances, lbs/mmcf (SCAQMD and USEPA AP-42).
Q = quantity of natural gas combusted in the drying oven, 0.45 mmcf/yr.

Maximum Hourly Emissions

$$H = Fqk^{-1}$$

where,
H = maximum hourly emissions of the given listed substances, lbs/hr.
q = maximum heat rating of the drying oven, 0.55 mmBTU/hr.
k = conversion factor, 1,028 mmBTU/mmcf.

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Acenaphthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acenaphthylene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acetaldehyde	4.30E-03	0.45	1.94E-03	2.30E-06	See note 1
Acrolein	2.70E-03	0.45	1.22E-03	1.44E-06	See note 1
Ammonia	3.20	0.45	1.44	1.71E-03	See note 1
Anthracene	2.40E-06	0.45	1.08E-06	1.28E-09	See note 2
Benzene	8.00E-03	0.45	3.60E-03	4.28E-06	See note 1
Benzo (a) anthracene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (a) pyrene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (b) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (g,h,i) perylene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (k) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Carbon monoxide	35.00	0.45	15.75	1.87E-02	See note 1
Chrysene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Dibenz (a,h) anthracene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Dichlorobenzene	1.20E-03	0.45	5.40E-04	6.42E-07	See note 2
Dimethylbenz(a)anthracene, 7,12-	1.60E-05	0.45	7.20E-06	8.56E-09	See note 2
Ethylbenzene	9.50E-03	0.45	4.28E-03	5.08E-06	See note 1
Fluoranthene	3.00E-06	0.45	1.35E-06	1.61E-09	See note 2

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Fluorene	2.80E-06	0.45	1.26E-06	1.50E-09	See note 2
Formaldehyde	0.02	0.45	0.01	9.10E-06	See note 1
Hexane, n-	6.30E-03	0.45	2.84E-03	3.37E-06	See note 1
Indeno(1,2,3-cd)pyrene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylcholanthrene, 3-	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylnaphthalene,2-	2.40E-05	0.45	1.08E-05	1.28E-08	See note 2
Naphthalene	3.00E-04	0.45	1.35E-04	1.61E-07	See note 1
PAH (unspeciated)	1.18E-05	0.45	5.31E-06	6.31E-09	See note 3
Phenanthrene	1.70E-05	0.45	7.65E-06	9.10E-09	See note 2
Pyrene	5.00E-06	0.45	2.25E-06	2.68E-09	See note 2
Sulfur dioxide	0.60	0.45	0.27	3.21E-04	See note 1
Toluene	0.04	0.45	1.65E-02	1.96E-05	See note 1
Xylenes	0.03	0.45	1.22E-02	1.46E-05	See note 1

Note:

1. SCAQMD, Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016.
2. USEPA AP-42, Fifth Edition, Chapter 1.4 Natural Gas Combustion, Table 1.4-3.
3. Emission factor for unspeciated PAH was adjusted by excluding the emission factor of speciated organic compounds (see Appendix E).

Drying Oven (A/N 511130), DN 70003, EPN 90003

Emission factors provided by SCAQMD are used to calculate emissions due to the combustion of natural gas. Emissions of speciated PAHs are estimated using emission factors provided by USEPA in AP-42 Chapter 1.4:

Annual Emissions

$$Y = FQ$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
F = emission factor of the given listed substances, lbs/mmcf (SCAQMD and USEPA AP-42).
Q = quantity of natural gas combusted in the drying oven, 0.45 mmcf/yr.

Maximum Hourly Emissions

$$H = Fqk^{-1}$$

where,
H = maximum hourly emissions of the given listed substances, lbs/hr.
q = maximum heat rating of the drying oven, 0.55 mmBTU/hr.
k = conversion factor, 1,028 mmBTU/mmcf.

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Acenaphthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acenaphthylene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acetaldehyde	4.30E-03	0.45	1.94E-03	2.30E-06	See note 1
Acrolein	2.70E-03	0.45	1.22E-03	1.44E-06	See note 1
Ammonia	3.20	0.45	1.44	1.71E-03	See note 1
Anthracene	2.40E-06	0.45	1.08E-06	1.28E-09	See note 2
Benzene	8.00E-03	0.45	3.60E-03	4.28E-06	See note 1
Benzo (a) anthracene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (a) pyrene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (b) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (g,h,i) perylene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (k) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Carbon monoxide	35.00	0.45	15.75	1.87E-02	See note 1
Chrysene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Dibenz (a,h) anthracene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Dichlorobenzene	1.20E-03	0.45	5.40E-04	6.42E-07	See note 2
Dimethylbenz(a)anthracene, 7,12-	1.60E-05	0.45	7.20E-06	8.56E-09	See note 2
Ethylbenzene	9.50E-03	0.45	4.28E-03	5.08E-06	See note 1
Fluoranthene	3.00E-06	0.45	1.35E-06	1.61E-09	See note 2

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Fluorene	2.80E-06	0.45	1.26E-06	1.50E-09	See note 2
Formaldehyde	0.02	0.45	0.01	9.10E-06	See note 1
Hexane, n-	6.30E-03	0.45	2.84E-03	3.37E-06	See note 1
Indeno(1,2,3-cd)pyrene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylcholanthrene, 3-	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylnaphthalene,2-	2.40E-05	0.45	1.08E-05	1.28E-08	See note 2
Naphthalene	3.00E-04	0.45	1.35E-04	1.61E-07	See note 1
PAH (unspeciated)	1.18E-05	0.45	5.31E-06	6.31E-09	See note 3
Phenanthrene	1.70E-05	0.45	7.65E-06	9.10E-09	See note 2
Pyrene	5.00E-06	0.45	2.25E-06	2.68E-09	See note 2
Sulfur dioxide	0.60	0.45	0.27	3.21E-04	See note 1
Toluene	0.04	0.45	1.65E-02	1.96E-05	See note 1
Xylenes	0.03	0.45	1.22E-02	1.46E-05	See note 1

Note:

1. SCAQMD, Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016.
2. USEPA AP-42, Fifth Edition, Chapter 1.4 Natural Gas Combustion, Table 1.4-3.
3. Emission factor for unspeciated PAH was adjusted by excluding the emission factor of speciated organic compounds (see Appendix E).

Drying Oven (A/N 511131), DN 70004, EPN 90004

Emission factors provided by SCAQMD are used to calculate emissions due to the combustion of natural gas. Emissions of speciated PAHs are estimated using emission factors provided by USEPA in AP-42 Chapter 1.4:

Annual Emissions

$$Y = FQ$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
F = emission factor of the given listed substances, lbs/mmcf (SCAQMD and USEPA AP-42).
Q = quantity of natural gas combusted in the drying oven, 0.45 mmcf/yr.

Maximum Hourly Emissions

$$H = Fqk^{-1}$$

where,
H = maximum hourly emissions of the given listed substances, lbs/hr.
q = maximum heat rating of the drying oven, 0.55 mmBTU/hr.
k = conversion factor, 1,028 mmBTU/mmcf.

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Acenaphthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acenaphthylene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Acetaldehyde	4.30E-03	0.45	1.94E-03	2.30E-06	See note 1
Acrolein	2.70E-03	0.45	1.22E-03	1.44E-06	See note 1
Ammonia	3.20	0.45	1.44	1.71E-03	See note 1
Anthracene	2.40E-06	0.45	1.08E-06	1.28E-09	See note 2
Benzene	8.00E-03	0.45	3.60E-03	4.28E-06	See note 1
Benzo (a) anthracene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (a) pyrene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (b) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Benzo (g,h,i) perylene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Benzo (k) fluoranthene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Carbon monoxide	35.00	0.45	15.75	1.87E-02	See note 1
Chrysene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Dibenz (a,h) anthracene	1.20E-06	0.45	5.40E-07	6.42E-10	See note 2
Dichlorobenzene	1.20E-03	0.45	5.40E-04	6.42E-07	See note 2
Dimethylbenz(a)anthracene, 7,12-	1.60E-05	0.45	7.20E-06	8.56E-09	See note 2
Ethylbenzene	9.50E-03	0.45	4.28E-03	5.08E-06	See note 1
Fluoranthene	3.00E-06	0.45	1.35E-06	1.61E-09	See note 2

Listed Substance	F, lbs/mmcf	Q, mmcf/yr	Y, lbs/yr	H, lbs/hr	Source
Fluorene	2.80E-06	0.45	1.26E-06	1.50E-09	See note 2
Formaldehyde	0.02	0.45	0.01	9.10E-06	See note 1
Hexane, n-	6.30E-03	0.45	2.84E-03	3.37E-06	See note 1
Indeno(1,2,3-cd)pyrene	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylcholanthrene, 3-	1.80E-06	0.45	8.10E-07	9.63E-10	See note 2
Methylnaphthalene,2-	2.40E-05	0.45	1.08E-05	1.28E-08	See note 2
Naphthalene	3.00E-04	0.45	1.35E-04	1.61E-07	See note 1
PAH (unspeciated)	1.18E-05	0.45	5.31E-06	6.31E-09	See note 3
Phenanthrene	1.70E-05	0.45	7.65E-06	9.10E-09	See note 2
Pyrene	5.00E-06	0.45	2.25E-06	2.68E-09	See note 2
Sulfur dioxide	0.60	0.45	0.27	3.21E-04	See note 1
Toluene	0.04	0.45	1.65E-02	1.96E-05	See note 1
Xylenes	0.03	0.45	1.22E-02	1.46E-05	See note 1

Note:

1. SCAQMD, Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016.
2. USEPA AP-42, Fifth Edition, Chapter 1.4 Natural Gas Combustion, Table 1.4-3.
3. Emission factor for unspeciated PAH was adjusted by excluding the emission factor of speciated organic compounds (see Appendix E).

Mist Eliminator (A/N 497233), DN 70005, EPN 90005

Emissions from Chrome Anodizing Tank 16 (A/N 497235) and Ticermet A Tank 37 (A/N 497234) are vented to the mist eliminator.

Chromium and Hexavalent Chromium (Electrolytic)

Emissions of chromium and hexavalent chromium result from Chrome Anodizing Tank 16 and Ticermet A Tank 37. Emissions of chromium and hexavalent chromium are calculated using the following equation using the Hexavalent and Total Chromium Emissions Source Test Report conducted on 22-24 February 2010 by World Environmental.

Annual Emissions

$$Y = Fac$$

where,
Y = emissions of listed substances during the reporting period, lbs/yr.
F = emission factor, mg/amp-hr (World Environmental, February 2010).
a = ampere hours used during the reporting period, amp-hr/yr.
c = conversion factor, 2.20E-06 lbs/mg.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours, hrs/yr.

Listed Substance	Tank	F, mg/amp-hr	a, amp-hr/yr	c, lbs/mg	Y, lbs/yr	H, lbs/hr
Chromium	Chrome Anodizing Tank 16	7.84E-03	27,741	2.20E-06	4.79E-04	1.11E-06
Chromium	Ticermet A Anodizing Tank 37	7.84E-03	11,330	2.20E-06	1.96E-04	5.87E-07
				Total chromium	6.75E-04	1.69E-06
Hexavalent chromium	Chrome Anodizing Tank 16	7.84E-04	27,741	2.20E-06	4.79E-05	1.11E-07
Hexavalent chromium	Ticermet A Anodizing Tank 37	7.84E-04	11,330	2.20E-06	1.96E-05	5.87E-08
				Total hexavalent chromium	6.75E-05	1.69E-07

Passivation Line (A/N 497234), DN 70006, EPN 60001

Air Sparging

Emissions of listed substances are calculated using the emission factor from SCAQMD for plating operations. The following equations are used to calculate the emissions of listed substances from tanks that are sparged:

Annual Emissions

$$Y = [(4.41E\text{-}05 \text{ lbs/hr-cfm})PAhS]$$

where,
Y = emissions from tanks, lbs/yr.
P = weight proportion of listed substance in the tank, lbs/lbs.
A = surface area of the tanks, ft^2.
h = operating hours of sparging, hrs/yr.
S = sparging rate, 1 cfm/ft^3.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours of tanks, hrs/yr.

Listed Substance	Tank	P, lbs/lbs	A, ft^2	h, hrs/yr	S, cfm/ft^3	Y, lbs/yr	H, lbs/hr
Fluoride	Tank 47, Acid Fluoride	9.81E-03	1.77	845	1	6.46E-04	7.64E-07
Total fluoride						6.46E-04	7.64E-07
Hexavalent chromium	Tank 35, Dow 7	4.76E-02	6.25	23	1	2.95E-04	1.31E-05
Hexavalent chromium	Tank 39, Passivation Solution Type II	1.05E-02	2.40	693	1	7.73E-04	1.12E-06
Total hexavalent chromium						1.07E-03	1.42E-05
Hydrochloric acid	Tank 43, Descale	1.40E-03	2.18	845	1	1.14E-04	1.35E-07
Total hydrochloric acid						1.14E-04	1.35E-07
Hydrogen fluoride	Tank 45, Stainless Etch	3.52E-02	2.40	845	1	3.16E-03	3.74E-06
Hydrogen fluoride	Tank 46, Titanium Etch	1.97E-02	2.40	845	1	1.77E-03	2.09E-06
Hydrogen fluoride	Tank 49, Titanium Pickle	1.00E-02	2.40	845	1	8.96E-04	1.06E-06
Hydrogen fluoride	Tank 50, Phosphate Fluoride Solution	1.00E-02	2.40	845	1	8.96E-04	1.06E-06

Listed Substance	Tank	P, lbs/lbs	A, ft^2	h, hrs/yr	S, cfm/ft^3	Y, lbs/yr	H, lbs/hr
Hydrogen fluoride	Tank 51, Phosphate Fluoride Solution	1.00E-02	2.40	845	1	8.96E-04	1.06E-06
					Total hydrogen fluoride	7.61E-03	9.01E-06
Manganese	Tank 42, Manganese Phosphate	8.03E-02	2.40	845	1	7.20E-03	8.52E-06
					Total manganese	7.20E-03	8.52E-06
Phosphorus	Tank 27, Alkaline Clean	2.20E-02	21.00	845	1	1.72E-02	2.04E-05
Phosphorus	Tank 38, Alkaline Clean	2.20E-02	2.40	845	1	1.97E-03	2.34E-06
Phosphorus	Tank 42, Manganese Phosphate	9.55E-02	2.40	845	1	8.56E-03	1.01E-05
Phosphorus	Tank 48, Alkaline Clean	7.14E-03	2.40	845	1	6.40E-04	7.57E-07
Phosphorus	Tank 50, Phosphate Fluoride Solution	1.16E-02	2.40	845	1	1.04E-03	1.23E-06
Phosphorus	Tank 51, Phosphate Fluoride Solution	1.16E-02	2.40	845	1	1.04E-03	1.23E-06
					Total phosphorus	3.05E-02	3.61E-05
Sodium hydroxide	Tank 48, Alkaline Clean	2.00E-02	2.40	845	1	1.79E-03	2.12E-06
					Total sodium hydroxide	1.79E-03	2.12E-06
[redacted]	Tank 36, Ticermet B Anodizing	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
					[redacted]	[redacted]	[redacted]

Diethylene Glycol Monobutyl Ether (Evaporative)

Emissions of volatile diethylene glycol monobutyl ether are calculated using the following equations:

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of diethylene glycol monobutyl ether, lbs/yr.
Q = quantity of Turco 4215 used, lbs/yr.
P = weight proportion of diethylene glycol monobutyl ether, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of diethylene glycol monobutyl ether, lbs/hr.
h = operating hours, 8,760 hrs/yr.

Material	Listed Substance	Tank	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
Turco 4215	Diethylene glycol monobutyl ether	Tank 27, Alkaline Clean	216.14	0.03	6.48	7.40E-04
Turco 4215	Diethylene glycol monobutyl ether	Tank 38, Alkaline Clean	19.20	0.03	0.58	6.57E-05
				Total diethylene glycol monobutyl ether	7.06	8.06E-04

Hydrochloric [redacted] (Evaporative)

$$Y = Rh$$

where,
Y = annual emissions of hydrochloric and [redacted], lbs/yr.
R = emissions rate for hydrochloric and [redacted] lbs/hr (see Appendix C).
h = operating hours of the tanks during the reporting period, 8,760 hrs/yr.

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of hydrochloric and [redacted], lbs/hr.
h = operating hours of evaporation, 8,760 hrs/yr.

Listed Substance	Tank	h, hrs/yr	R, lbs/hr	Y, lbs/yr	H, lbs/hr
Hydrochloric acid	Tank 43, Descale	8,760	4.77E-07	4.18E-03	4.77E-07
[redacted]	Tank 36, Ticermet B Anodizing	[redacted]	[redacted]	[redacted]	[redacted]

Hexavalent Chromium (Evaporative Dow 7 Tank 35)

Evaporative emissions of hexavalent chromium result from Dow 7 Tank 35. Emissions of hexavalent chromium are calculated using the following equation based on SCAQMD conducted source test Hexavalent Chromium Emissions from a Heated Sodium Dichromate Seal Tank and A Screening Test for A Chromate Spray Booth, April 2017.

Annual Emissions

$$Y = FPhA$$

where,
Y = emissions of listed substances during the reporting period, lbs/yr.
F = emission factor, 1.07E-06 lbs/hr-ft^2 tank % dichromate.
P = percent sodium dichromate in tank, %.
h = operating hours, hrs/yr.
A = surface area of the tanks, ft^2.

$$Y = \mathbf{(}1.07 \text{ lbs/hr-ft}^2\text{-wt\%-dichromate})(11.99)(22.5 \text{ hrs/yr})(6.25 \text{ ft}^2) = 1.80\text{E-}03 \text{ lbs/yr}$$

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours, hrs/yr.

$$H = (1.80\text{E-}03 \text{ lbs/yr})(22.5 \text{ hrs/yr})^{-1} = 8.02\text{E-}05 \text{ lbs/hr}$$

Hexavalent Chromium (Evaporative Tank 39)

Based on the results of the source test conducted on Passivate Type II Tank 39 on 31 August 2017 no evaporative emissions of hexavalent chromium are expected from Tank 39.

Hexavalent Chromium (Evaporative Tank 33 and 41)

No emissions of hexavalent chromium are expected from Chromic Acid Rinse Tank 33 and Sodium Dichromate Tank 41 since both tanks were not in use during the 2015 calendar year. [redacted]

(Electrolytic Tank 36 Ticermet B Anodizing)

Electrolytic emissions are calculated using the emission factor from SCAQMD.

Annual Emissions

$$Y = [(0.505 \text{ mg/amp-hrs})P(100\text{-}N)kA]$$

where,
Y = emissions of listed substances during the reporting period, lbs/yr.
P = weight proportion of listed substances in the tank, lbs/lbs.
N = plating efficiency, % (A. Kenneth Graham, Electroplating Engineering, Third edition, Van Nostrand Reinhold Company, 1971).
k = conversion factor, 2.205E-06 lbs/mg.
A = quantity of ampere-hours applied during the reporting period, amp-hrs/yr.

[redacted]

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours, hrs/yr.

[redacted]

Anodizing Line (A/N 497235), DN 70007, EPN 60002

Air Sparging

Emissions of listed substances are calculated using the emission factor from SCAQMD for plating operations. The following equations are used to calculate the emissions of listed substances from tanks that are sparged:

Annual Emissions

$$Y = [(4.41E\text{-}05 \text{ lbs/hr-cfm})PAhS]$$

where,
Y = emissions from tanks, lbs/yr.
P = weight proportion of listed substance in the tank, lbs/lbs.
A = surface area of the tanks, ft^2.
h = operating hours of sparging, hrs/yr.
S = sparging rate, 1 cfm/ft^3.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours of tanks, hrs/yr.

Listed Substance	Tank	P, lbs/lbs	A, ft^2	h, hrs/yr	S, cfm/ft^3	Y, lbs/yr	H, lbs/hr
Chromium	Tank 17, Brown Dye	1.00E-02	4.00	845	1	1.49E-03	1.76E-06
Chromium	Tank 21, Red Dye	1.00E-03	4.00	845	1	1.49E-04	1.76E-07
Chromium	Tank 22, Black Dye	1.00E-03	18.00	845	1	6.71E-04	7.94E-07
Total chromium						2.31E-03	2.73E-06
Hexavalent chromium	Tank 14, Dichromate Seal	2.10E-02	30.00	152	1	4.22E-03	2.78E-05
Hexavalent chromium	Tank 23, Deoxidizer	4.28E-03	2.40	141	1	6.39E-05	4.53E-07
Hexavalent chromium	Tank 25, Chemical Film	3.17E-03	18.00	132	1	3.33E-04	2.52E-06
Total hexavalent chromium						4.62E-03	3.08E-05
Nickel	Tank 12, Nickel Seal	3.32E-03	30.00	845	1	3.71E-03	4.39E-06
Total nickel						3.71E-03	4.39E-06
Phosphorus	Tank 01, Alkaline Soak Cleaner	2.20E-02	30.00	845	1	2.46E-02	2.92E-05
Phosphorus	Tank 26, Alkaline Clean	1.29E-02	2.40	845	1	1.16E-03	1.37E-06
Total phosphorous						2.46E-02	2.92E-05

Listed Substance	Tank	P, lbs/lbs	A, ft^2	h, hrs/yr	S, cfm/ft^3	Y, lbs/yr	H, lbs/hr
Sodium hydroxide	Tank 03, Caustic Solution (Etchant)	5.81E-02	30.00	845	1	6.50E-02	7.69E-05
					Total sodium hydroxide	6.50E-02	7.69E-05
Sulfuric acid	Tank 04, Non-Chromated Deoxidizer	6.14E-02	30.00	845	1	6.86E-02	8.12E-05
Sulfuric acid	Tank 08, Hard Sulfuric Anodize	0.47	42.00	845	1	0.74	8.71E-04
Sulfuric acid	Tank 10, Sulfuric Anodize	0.30	42.00	845	1	0.47	5.56E-04
					Total sulfuric acid	1.27	1.51E-03

Diethylene Glycol Monobutyl Ether (Evaporative)

Emissions of volatile diethylene glycol monobutyl ether are calculated using the following equations:

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of diethylene glycol monobutyl ether, lbs/yr.
Q = quantity of Turco 4215 used, lbs/yr.
P = weight proportion of diethylene glycol monobutyl ether, lbs/lbs.

$$Y = (308.66 \text{ lbs/yr})(0.03 \text{ lbs/lbs}) = 9.26 \text{ lbs/yr}$$

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of diethylene glycol monobutyl ether, lbs/hr.
h = operating hours, 8,760 hrs/yr.

$$H = (9.26 \text{ lbs/yr})(8{,}760 \text{ hrs/yr})^{-1} = 1.06\text{E-03 lbs/hr}$$

Sulfuric Acid (Evaporative)

$$Y = Rh$$

where,
Y = annual emissions of sulfuric acid, lbs/yr.
R = emissions rate for sulfuric acid, lbs/hr (see Appendix C).
h = operating hours of the tanks during the reporting period, 8,760 hrs/yr.

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of sulfuric acid, lbs/hr.
h = operating hours of evaporation, 8,760 hrs/yr.

Listed Substance	Tank	h, hrs/yr	R, lbs/hr	Y, lbs/yr	H, lbs/hr
Sulfuric acid	Tank 04, Non-Chromated Deoxidizer	8,760	2.89E-19	2.53E-15	2.89E-19
Sulfuric acid	Tank 08, Hard Sulfuric Anodize	8,760	2.43E-18	2.13E-14	2.43E-18
Sulfuric acid	Tank 10, Sulfuric Anodize	8,760	6.89E-19	6.03E-15	6.89E-19
			Total sulfuric acid	2.99E-14	3.41E-18

Hexavalent Chromium (Evaporative Dichromate Seal Tank 14)

Evaporative emissions of hexavalent chromium result from Dichromate Seal Tank 14. Emissions of hexavalent chromium are calculated using the following equation based on SCAQMD conducted source test Hexavalent Chromium Emissions from a Heated Sodium Dichromate Seal Tank and A Screening Test for A Chromate Spray Booth, April 2017.

Annual Emissions

$$Y = FPThA$$

where,
Y = emissions of listed substances during the reporting period, lbs/yr.
F = emission factor, 1.07E-06 lbs/hr-ft^2 tank % dichromate.
P = percent sodium dichromate in tank, %.
h = operating hours, hrs/yr.
A = surface area of the tanks, ft^2.

$$Y = \mathbf{(}1.07 \text{ lbs/hr-ft}^2\text{-wt\%-dichromate})(5.3)(441.82 \text{ hrs/yr})(30 \text{ ft}^2) = 7.52\text{E-}02 \text{ lbs/yr}$$

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours, hrs/yr.

$$H = (7.52E\text{-}02 \text{ lbs/yr})(441.82 \text{ hrs/yr})^{-1} = 1.70E\text{-}04 \text{ lbs/hr}$$

Hexavalent Chromium (Evaporative Deoxidizer Tank 23 and Chemical Film Tank 25)

Based on the results of the source test conducted on Passivate Type II Tank 39 on 31 August 2017 no evaporative emissions of hexavalent chromium are expected at temperatures at or below 125F. Deoxidizer Tank 23 and Chemical Film Tank 25 both operate at 100F; therefore, no evaporative emissions of hexavalent chromium are expected.

Hexavalent Chromium (Evaporative Tank 24)

No emissions of hexavalent chromium are expected from Dichromate Seal Tank 24 since the tank was not in use during the 2015 calendar year.

Sulfuric Acid (Electrolytic Hard Sulfuric Anodize Tank 8 and Sulfuric Anodize Tank 10)

Electrolytic emissions are calculated using the emission factor from SCAQMD.

Annual Emissions

$$Y = [(0.505 \text{ mg/amp-hrs})P(100-N)kA]$$

where,
Y = emissions of listed substances during the reporting period, lbs/yr.
P = weight proportion of listed substances in the tank, lbs/lbs.
N = plating efficiency, % (A. Kenneth Graham, Electroplating Engineering, Third edition, Van Nostrand Reinhold Company, 1971).
k = conversion factor, 2.205E-06 lbs/mg.
A = quantity of ampere-hours applied during the reporting period, amp-hrs/yr.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of listed substances, lbs/hr.
h = operating hours, hrs/yr.

Listed Substance	Tank	P, lbs/lbs	N, %	k, lbs/mg	A, amp-hr/yr	Y, lbs/yr	H, lbs/hr
Sulfuric acid	Tank 08, Hard Sulfuric Anodize	0.47	0	2.21E-06	1,235,000	64.63	7.85E-02
Sulfuric acid	Tank 10, Sulfuric Anodize	0.30	0	2.21E-06	845,000	28.23	3.34E-02
					Total sulfuric acid	92.86	0.11

Spray Booth 1 (A/N 497227), DN 70008, EPN 90006

Volatile Listed Substances

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of the given listed substance in the raw material, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
99	Butyl alcohol, sec	44GN024CAT	1.03	0.63	0.64	4.93E-04
33	Butyl alcohol, sec	Deft 02-GN-84	0.56	0.08	0.04	3.26E-05
41	Butyl alcohol, sec	Deft 44-GN-11	11.56	0.20	2.31	1.78E-03
43	Butyl alcohol, sec	Deft 44-GN-36	16.69	0.20	3.34	2.57E-03
44	Butyl alcohol, sec	Deft 44-GN-54	3.67	0.20	0.73	5.64E-04
45	Butyl alcohol, sec	Deft 44-GN-72	9.11	0.20	1.82	1.40E-03
46	Butyl alcohol, sec	Deft 44-GN-98	90.79	0.20	18.16	1.40E-02
				Total sec-butyl alcohol	27.05	2.08E-02
91	Butyl alcohol, n-	02Y040ACAT	1.81	0.08	0.14	1.05E-04
113	Butyl alcohol, n-	Curing Solution X-530	0.37	0.13	0.05	3.53E-05
52	Butyl alcohol, n-	E/M Everlube 642	0.60	0.03	0.02	1.16E-05
59	Butyl alcohol, n-	E/M Lube-lok 2006	3.80	0.08	0.28	2.19E-04
60	Butyl alcohol, n-	E/M Lube-lok 2109	4.20	0.03	0.11	8.09E-05
85	Butyl alcohol, n-	PTI PT-19	17.11	0.01	0.18	1.38E-04
				Total n-butyl alcohol	0.77	5.90E-04
62	Cresol	E/M Lube-lok 5306	3.99	0.03	0.10	7.67E-05
				Total cresol	0.10	7.67E-05
107	Cumene	Amercoat 385 Hardener	0.89	0.01	0.01	6.81E-06
91	Cumene	02Y040ACAT	1.81	0.01	0.02	1.40E-05
97	Cumene	04GN003CAT	1.28	0.01	0.01	9.82E-06
				Total cumene	0.04	3.06E-05
85	Diethylene glycol monobutyl ether	PTI PT-19	17.11	0.03	0.44	3.40E-04
				Total diethylene glycol monobutyl ether	0.44	3.40E-04
61	Dioxane, 1,4-	E/M Lube-lok 4396	4.14	0.03	0.10	7.96E-05

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
				Total dioxane, 1,4-	0.10	7.96E-05
27	Epoxy resin	Ameron 385	0.94	0.35	0.33	2.52E-04
30	Epoxy resin	Deft 01-BK-41	0.63	0.08	0.05	3.61E-05
31	Epoxy resin	Deft 01-BK-43	1.04	0.08	0.08	5.97E-05
42	Epoxy resin	Deft 44-GN-24	2.04	0.08	0.15	1.18E-04
56	Epoxy resin	E/M Everlube 9002	6.81	0.08	0.51	3.93E-04
				Total epoxy resin	1.12	8.59E-04
18	Ethylbenzene	Akzo Nobel 10P20-13	23.32	0.01	0.13	9.87E-05
20	Ethylbenzene	Akzo Nobel 20P1-21	30.69	0.01	0.17	1.30E-04
24	Ethylbenzene	Akzo Nobel 446-22-2000	0.57	0.03	0.02	1.32E-05
26	Ethylbenzene	Akzo Nobel ECL-G-1622	3.40	0.01	0.02	1.44E-05
107	Ethylbenzene	Amercoat 385 Hardener	0.89	0.03	0.03	2.04E-05
36	Ethylbenzene	Deft 03-GY-287	7.66	0.01	0.04	3.24E-05
52	Ethylbenzene	E/M Everlube 642	0.60	0.03	0.02	1.16E-05
59	Ethylbenzene	E/M Lube-lok 2006	3.80	0.13	0.47	3.65E-04
60	Ethylbenzene	E/M Lube-lok 2109	4.20	0.03	0.11	8.09E-05
64	Ethylbenzene	E/M Lubri-bond 320	9.76	0.03	0.24	1.88E-04
121	Ethylbenzene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	14.65	0.01	0.07	5.64E-05
84	Ethylbenzene	PRC De Soto 825X537	2.40	0.01	0.01	1.02E-05
				Total ethylbenzene	1.33	1.02E-03
61	Ethylene dichloride	E/M Lube-lok 4396	4.14	0.03	0.10	7.96E-05
				Total ethylene dichloride	0.10	7.96E-05
23	Ethylene glycol monobutyl ether	Akzo Nobel 446-22-1000	1.10	0.03	0.03	2.53E-05
55	Ethylene glycol monobutyl ether	E/M Everlube 9001	4.07	0.03	0.10	7.82E-05
68	Ethylene glycol monobutyl ether	Lubeco 2123	4.70	0.05	0.23	1.81E-04
70	Ethylene glycol monobutyl ether	Lubeco 905	12.25	0.05	0.61	4.71E-04
				Total ethylene glycol monobutyl ether	0.98	7.55E-04
18	Formaldehyde	Akzo Nobel 10P20-13	23.32	0.01	0.12	8.97E-05
59	Formaldehyde	E/M Lube-lok 2006	3.80	0.03	0.09	7.30E-05
61	Formaldehyde	E/M Lube-lok 4396	4.14	0.03	0.10	7.96E-05
75	Formaldehyde	Lubeco K-350	1.95	1.00E-03	1.95E-03	1.50E-06
85	Formaldehyde	PTI PT-19	17.11	3.90E-04	6.67E-03	5.13E-06
				Total formaldehyde	0.32	2.49E-04
92	Hexamethylene- 1,6 diisocyanate	03BK099CAT	0.14	0.01	1.41E-03	1.09E-06
93	Hexamethylene- 1,6 diisocyanate	03GY0287CAT	2.21	0.01	0.02	1.70E-05
94	Hexamethylene- 1,6 diisocyanate	03GY292CAT	1.46	0.01	0.01	1.12E-05
95	Hexamethylene- 1,6 diisocyanate	03GY332CAT	1.17	0.01	0.01	9.02E-06
97	Hexamethylene- 1,6 diisocyanate	04GN003CAT	1.28	0.01	0.01	9.82E-06
65	Hexamethylene- 1,6 diisocyanate	Hentzen 8625 GUZ	6.33	0.01	0.03	2.43E-05
66	Hexamethylene- 1,6 diisocyanate	Hentzen 8628 KUZ	1.30	0.01	0.01	5.01E-06
				Total hexamethylene- 1,6 diisocyanate	0.10	7.74E-05
33	Isopropylidenediphenol, 4,4-	Deft 02-GN-84	0.56	0.01	0.01	4.35E-06
				Total isopropylidenediphenol, 4,4-	0.01	4.35E-06
50	Isopropyl alcohol	E/M Everlube 620	13.76	0.03	0.34	2.65E-04
51	Isopropyl alcohol	E/M Everlube 620 C	5.98	0.03	0.15	1.15E-04

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
62	Isopropyl alcohol	E/M Lube-lok 5306	3.99	0.13	0.50	3.83E-04
75	Isopropyl alcohol	Lubeco K-350	1.95	0.15	0.29	2.25E-04
76	Isopropyl alcohol	Lubeco M-390	8.00	0.25	2.00	1.54E-03
123	Isopropyl alcohol	PT-1070	7.08	0.01	0.10	7.35E-05
85	Isopropyl alcohol	PTI PT-19	17.11	0.01	0.17	1.30E-04
				Total isopropyl alcohol	3.55	2.73E-03
50	Methanol	E/M Everlube 620	13.76	0.03	0.34	2.65E-04
51	Methanol	E/M Everlube 620 C	5.98	0.03	0.15	1.15E-04
123	Methanol	PT-1070	7.08	0.01	0.05	3.54E-05
85	Methanol	PTI PT-19	17.11	0.01	0.25	1.96E-04
				Total methanol	0.79	6.11E-04
104	Methyl ethyl ketone	910-702	0.58	0.15	0.09	6.71E-05
23	Methyl ethyl ketone	Akzo Nobel 446-22-1000	1.10	0.03	0.03	2.53E-05
24	Methyl ethyl ketone	Akzo Nobel 446-22-2000	0.57	0.08	0.04	3.29E-05
51	Methyl ethyl ketone	E/M Everlube 620 C	5.98	0.28	1.64	1.26E-03
52	Methyl ethyl ketone	E/M Everlube 642	0.60	0.18	0.11	8.14E-05
60	Methyl ethyl ketone	E/M Lube-lok 2109	4.20	0.18	0.74	5.66E-04
62	Methyl ethyl ketone	E/M Lube-lok 5306	3.99	0.03	0.10	7.67E-05
64	Methyl ethyl ketone	E/M Lubri-bond 320	9.76	0.73	7.08	5.44E-03
121	Methyl ethyl ketone	Hentzen 00053SST-1 (MIL-T-81772B Type I)	14.65	0.25	3.66	2.82E-03
122	Methyl ethyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.78	0.35	3.07	2.36E-03
75	Methyl ethyl ketone	Lubeco K-350	1.95	0.10	0.20	1.50E-04
76	Methyl ethyl ketone	Lubeco M-390	8.00	0.20	1.60	1.23E-03
84	Methyl ethyl ketone	PRC De Soto 825X537	2.40	0.13	0.31	2.40E-04
85	Methyl ethyl ketone	PTI PT-19	17.11	0.10	1.63	1.25E-03
127	Methyl ethyl ketone	TR-19	0.14	0.48	0.06	4.97E-05
89	Methyl ethyl ketone	Trans Chemical MIL-PRF-82585 Color 26493	8.42	0.05	0.38	2.92E-04
				Total methyl ethyl ketone	20.74	1.60E-02
116	Methyl isobutyl ketone	010X311	1.58	0.90	1.42	1.09E-03
90	Methyl isobutyl ketone	02GN084CAT	0.14	0.02	2.82E-03	2.17E-06
96	Methyl isobutyl ketone	03W127ACAT	1.65	0.03	0.05	3.81E-05
18	Methyl isobutyl ketone	Akzo Nobel 10P20-13	23.32	0.08	1.75	1.35E-03
20	Methyl isobutyl ketone	Akzo Nobel 20P1-21	30.69	0.03	0.92	7.08E-04
23	Methyl isobutyl ketone	Akzo Nobel 446-22-1000	1.10	0.08	0.08	6.32E-05
31	Methyl isobutyl ketone	Deft 01-BK-43	1.04	0.01	0.01	7.97E-06
33	Methyl isobutyl ketone	Deft 02-GN-84	0.56	0.01	0.01	4.35E-06
34	Methyl isobutyl ketone	Deft 02-Y-40A	8.75	0.01	0.09	6.73E-05
39	Methyl isobutyl ketone	Deft 03-W-127A	2.70	0.01	0.03	2.07E-05
40	Methyl isobutyl ketone	Deft 04-GN-03	1.54	0.03	0.05	3.54E-05
50	Methyl isobutyl ketone	E/M Everlube 620	13.76	0.03	0.34	2.65E-04
51	Methyl isobutyl ketone	E/M Everlube 620 C	5.98	0.03	0.15	1.15E-04
52	Methyl isobutyl ketone	E/M Everlube 642	0.60	0.03	0.02	1.16E-05
60	Methyl isobutyl ketone	E/M Lube-lok 2109	4.20	0.03	0.11	8.09E-05

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
62	Methyl isobutyl ketone	E/M Lube-lok 5306	3.99	0.13	0.50	3.83E-04
64	Methyl isobutyl ketone	E/M Lubri-bond 320	9.76	0.03	0.24	1.88E-04
122	Methyl isobutyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.78	0.15	1.32	1.01E-03
76	Methyl isobutyl ketone	Lubeco M-390	8.00	0.02	0.16	1.23E-04
84	Methyl isobutyl ketone	PRC De Soto 825X537	2.40	0.20	0.48	3.70E-04
85	Methyl isobutyl ketone	PTI PT-19	17.11	0.05	0.90	6.94E-04
				Total methyl isobutyl ketone	8.62	6.63E-03
104	Methylene diphenyl diisocyanate	910-702	0.58	0.29	0.17	1.30E-04
111	Methylene diphenyl diisocyanate	Curing Solution PC-235	8.71	0.18	1.52	1.17E-03
				Total methylene diphenyl diisocyanate	1.69	1.30E-03
27	Naphthalene	Ameron 385	0.94	0.01	0.01	3.97E-06
				Total napthalene	0.01	3.97E-06
27	Phenol	Ameron 385	0.94	0.01	0.01	3.97E-06
50	Phenol	E/M Everlube 620	13.76	0.03	0.34	2.65E-04
51	Phenol	E/M Everlube 620 C	5.98	0.03	0.15	1.15E-04
62	Phenol	E/M Lube-lok 5306	3.99	0.03	0.10	7.67E-05
85	Phenol	PTI PT-19	17.11	0.02	0.39	3.03E-04
				Total phenol	0.99	7.63E-04
68	Phosphoric acid	Lubeco 2123	4.70	0.10	0.47	3.61E-04
70	Phosphoric acid	Lubeco 905	12.25	0.25	3.06	2.36E-03
				Total phosphoric acid	3.53	2.72E-03
113	Propylene glycol monomethyl ether	Curing Solution X-530	0.37	0.18	0.06	4.94E-05
61	Propylene glycol monomethyl ether	E/M Lube-lok 4396	4.14	0.13	0.52	3.98E-04
122	Propylene glycol monomethyl ether	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.78	0.35	3.07	2.36E-03
85	Propylene glycol monomethyl ether	PTI PT-19	17.11	0.03	0.55	4.21E-04
127	Propylene glycol monomethyl ether	TR-19	0.14	0.33	0.04	3.40E-05
				Total propylene glycol monomethyl ether	4.25	3.27E-03
28	Propylene glycol monomethyl ether acetate	Ameron RAL 7032	2.43	0.08	0.18	1.40E-04
64	Propylene glycol monomethyl ether acetate	E/M Lubri-bond 320	9.76	0.03	0.24	1.88E-04
85	Propylene glycol monomethyl ether acetate	PTI PT-19	17.11	0.03	0.44	3.40E-04
				Total propylene glycol monomethyl ether acetate	0.87	6.68E-04
68	Sulfuric acid	Lubeco 2123	4.70	0.05	0.23	1.81E-04
				Total sulfuric acid	0.23	1.81E-04
99	Toluene	44GN024CAT	1.03	0.03	0.03	2.37E-05
23	Toluene	Akzo Nobel 446-22-1000	1.10	0.08	0.08	6.32E-05
111	Toluene	Curing Solution PC-235	8.71	0.18	1.52	1.17E-03
113	Toluene	Curing Solution X-530	0.37	0.18	0.06	4.94E-05
30	Toluene	Deft 01-BK-41	0.63	0.03	0.02	1.44E-05

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
31	Toluene	Deft 01-BK-43	1.04	0.03	0.03	2.39E-05
42	Toluene	Deft 44-GN-24	2.04	0.08	0.15	1.18E-04
50	Toluene	E/M Everlube 620	13.76	0.23	3.10	2.38E-03
52	Toluene	E/M Everlube 642	0.60	0.28	0.17	1.28E-04
60	Toluene	E/M Lube-lok 2109	4.20	0.28	1.16	8.89E-04
61	Toluene	E/M Lube-lok 4396	4.14	0.48	1.97	1.51E-03
62	Toluene	E/M Lube-lok 5306	3.99	0.13	0.50	3.83E-04
64	Toluene	E/M Lubri-bond 320	9.76	0.08	0.73	5.63E-04
114	Toluene	EC-213	4.54	0.33	1.48	1.13E-03
121	Toluene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	14.65	0.15	2.20	1.69E-03
75	Toluene	Lubeco K-350	1.95	0.10	0.20	1.50E-04
76	Toluene	Lubeco M-390	8.00	0.15	1.20	9.23E-04
85	Toluene	PTI PT-19	17.11	0.10	1.72	1.32E-03
127	Toluene	TR-19	0.14	0.23	0.03	2.35E-05
				Total toluene	16.34	1.26E-02
91	Trimethylbenzene, 1,2,4-	02Y040ACAT	1.81	0.05	0.09	6.98E-05
92	Trimethylbenzene, 1,2,4-	03BK099CAT	0.14	0.01	1.98E-03	1.52E-06
93	Trimethylbenzene, 1,2,4-	03GY0287CAT	2.21	0.01	0.03	2.38E-05
94	Trimethylbenzene, 1,2,4-	03GY292CAT	1.46	0.01	0.02	1.57E-05
95	Trimethylbenzene, 1,2,4-	03GY332CAT	1.17	0.01	0.02	1.26E-05
97	Trimethylbenzene, 1,2,4-	04GN003CAT	1.28	0.02	0.02	1.77E-05
24	Trimethylbenzene, 1,2,4-	Akzo Nobel 446-22-2000	0.57	0.03	0.02	1.32E-05
107	Trimethylbenzene, 1,2,4-	Amercoat 385 Hardener	0.89	0.02	0.02	1.36E-05
27	Trimethylbenzene, 1,2,4-	Ameron 385	0.94	0.03	0.03	2.16E-05
				Total trimethylbenzene, 1,2,4-	0.25	1.89E-04
18	Xylenes	Akzo Nobel 10P20-13	23.32	0.03	0.70	5.38E-04
24	Xylenes	Akzo Nobel 446-22-2000	0.57	0.03	0.02	1.32E-05
107	Xylenes	Amercoat 385 Hardener	0.89	0.27	0.24	1.84E-04
52	Xylenes	E/M Everlube 642	0.60	0.03	0.02	1.16E-05
59	Xylenes	E/M Lube-lok 2006	3.80	0.38	1.42	1.10E-03
64	Xylenes	E/M Lubri-bond 320	9.76	0.03	0.24	1.88E-04
121	Xylenes	Hentzen 00053SST-1 (MIL-T-81772B Type I)	14.65	0.08	1.10	8.45E-04
84	Xylenes	PRC De Soto 825X537	2.40	0.03	0.07	5.54E-05
				Total xylenes	3.81	2.93E-03

Non Volatile Listed Substances

Annual Emissions

$$Y = QP(1\text{-}A)(1\text{-}R)$$

where,
Y = total annual emissions, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of listed substance in the raw material, lbs/lbs.
A = application efficiency, 65% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).
R = estimated removal efficiency of filters, 99.8% (Permitted filter efficiency).

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
23	Aluminum	Akzo Nobel 446-22-1000	1.10	0.01	0.65	0.998	7.96E-06	6.12E-09
26	Aluminum	Akzo Nobel ECL-G-1622	3.40	0.01	0.65	0.998	2.47E-05	1.90E-08
43	Aluminum	Deft 44-GN-36	16.69	0.03	0.65	0.998	3.50E-04	2.70E-07
						Total aluminum	3.83E-04	2.95E-07
20	Antimony	Akzo Nobel 20P1-21	30.69	3.72E-03	0.65	0.998	7.99E-05	6.15E-08
						Total antimony	7.99E-05	6.15E-08
51	Antimony trioxide	E/M Everlube 620 C	5.98	0.08	0.65	0.998	3.14E-04	2.41E-07
52	Antimony trioxide	E/M Everlube 642	0.60	0.08	0.65	0.998	3.18E-05	2.44E-08
56	Antimony trioxide	E/M Everlube 9002	6.81	0.13	0.65	0.998	5.96E-04	4.59E-07
60	Antimony trioxide	E/M Lube-lok 2109	4.20	0.08	0.65	0.998	2.21E-04	1.70E-07
62	Antimony trioxide	E/M Lube-lok 5306	3.99	0.13	0.65	0.998	3.49E-04	2.68E-07
						Total antimony trioxide	1.51E-03	1.16E-06
35	Barium	Deft 03-BK-99	0.47	0.04	0.65	0.998	1.47E-05	1.13E-08
40	Barium	Deft 04-GN-03	1.54	0.21	0.65	0.998	2.21E-04	1.70E-07
						Total barium	2.36E-04	1.82E-07
34	Barium chromate	Deft 02-Y-40A	8.75	5.50E-03	0.65	0.998	3.37E-05	2.59E-08
41	Barium chromate	Deft 44-GN-11	11.56	5.50E-03	0.65	0.998	4.45E-05	3.42E-08
42	Barium chromate	Deft 44-GN-24	2.04	5.50E-03	0.65	0.998	7.85E-06	6.04E-09
43	Barium chromate	Deft 44-GN-36	16.69	5.50E-03	0.65	0.998	6.42E-05	4.94E-08
44	Barium chromate	Deft 44-GN-54	3.67	5.50E-03	0.65	0.998	1.41E-05	1.09E-08
45	Barium chromate	Deft 44-GN-72	9.11	5.50E-03	0.65	0.998	3.51E-05	2.70E-08
84	Barium chromate	PRC De Soto 825X537	2.40	5.50E-03	0.65	0.998	9.25E-06	7.12E-09
						Total barium chromate	2.09E-04	1.61E-07

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
30	Carbon black	Deft 01-BK-41	0.63	0.01	0.65	0.998	4.38E-06	3.37E-09
31	Carbon black	Deft 01-BK-43	1.04	0.03	0.65	0.998	2.17E-05	1.67E-08
35	Carbon black	Deft 03-BK-99	0.47	0.01	0.65	0.998	3.32E-06	2.56E-09
36	Carbon black	Deft 03-GY-287	7.66	0.01	0.65	0.998	5.36E-05	4.13E-08
37	Carbon black	Deft 03-GY-292	5.14	0.01	0.65	0.998	3.59E-05	2.77E-08
38	Carbon black	Deft 03-GY-332	4.17	0.01	0.65	0.998	2.92E-05	2.25E-08
40	Carbon black	Deft 04-GN-03	1.54	0.01	0.65	0.998	1.08E-05	8.27E-09
64	Carbon black	E/M Lubri-bond 320	9.76	0.03	0.65	0.998	1.71E-04	1.31E-07
66	Carbon black	Hentzen 8628 KUZ	1.30	0.03	0.65	0.998	2.74E-05	2.11E-08
84	Carbon black	PRC De Soto 825X537	2.40	0.13	0.65	0.998	2.11E-04	1.62E-07
85	Carbon black	PTI PT-19	17.11	0.02	0.65	0.998	2.11E-04	1.62E-07
						Total carbon black	7.79E-04	5.99E-07
68	Chromium trioxide	Lubeco 2123	4.70	0.01	0.65	0.998	3.29E-05	2.53E-08
70	Chromium trioxide	Lubeco 905	12.25	0.02	0.65	0.998	1.72E-04	1.32E-07
						Total chromium trioxide	2.04E-04	1.57E-07
18	Crystalline silica	Akzo Nobel 10P20-13	23.32	0.18	0.65	0.998	2.86E-03	2.20E-06
23	Crystalline silica	Akzo Nobel 446-22-1000	1.10	5.00E-03	0.65	0.998	3.84E-06	2.95E-09
30	Crystalline silica	Deft 01-BK-41	0.63	0.01	0.65	0.998	4.38E-06	3.37E-09
34	Crystalline silica	Deft 02-Y-40A	8.75	0.01	0.65	0.998	6.12E-05	4.71E-08
41	Crystalline silica	Deft 44-GN-11	11.56	2.00E-03	0.65	0.998	1.62E-05	1.24E-08
44	Crystalline silica	Deft 44-GN-54	3.67	0.01	0.65	0.998	2.57E-05	1.98E-08
45	Crystalline silica	Deft 44-GN-72	9.11	2.00E-03	0.65	0.998	1.28E-05	9.81E-09
46	Crystalline silica	Deft 44-GN-98	90.79	0.03	0.65	0.998	1.91E-03	1.47E-06
65	Crystalline silica	Hentzen 8625 GUZ	6.33	0.16	0.65	0.998	6.86E-04	5.28E-07
						Total crystalline silica	5.57E-03	4.29E-06
52	Lead	E/M Everlube 642	0.60	0.02	0.65	0.998	8.97E-06	6.90E-09
60	Lead	E/M Lube-lok 2109	4.20	0.02	0.65	0.998	6.24E-05	4.80E-08
62	Lead	E/M Lube-lok 5306	3.99	0.02	0.65	0.998	5.91E-05	4.55E-08
75	Lead	Lubeco K-350	1.95	0.03	0.65	0.998	4.10E-05	3.15E-08
						Total lead	1.71E-04	1.32E-07
20	Nickel	Akzo Nobel 20P1-21	30.69	8.97E-04	0.65	0.998	1.93E-05	1.48E-08
						Total nickel	1.93E-05	1.48E-08
30	PAH	Deft 01-BK-41	0.63	9.20E-08	0.65	0.998	4.03E-11	3.10E-14
31	PAH	Deft 01-BK-43	1.04	2.76E-07	0.65	0.998	2.00E-10	1.54E-13
35	PAH	Deft 03-BK-99	0.47	9.20E-08	0.65	0.998	3.06E-11	2.35E-14
36	PAH	Deft 03-GY-287	7.66	9.20E-08	0.65	0.998	4.93E-10	3.80E-13
37	PAH	Deft 03-GY-292	5.14	9.20E-08	0.65	0.998	3.31E-10	2.54E-13
38	PAH	Deft 03-GY-332	4.17	9.20E-08	0.65	0.998	2.69E-10	2.07E-13
40	PAH	Deft 04-GN-03	1.54	9.20E-08	0.65	0.998	9.89E-11	7.61E-14
64	PAH	E/M Lubri-bond 320	9.76	2.30E-07	0.65	0.998	1.57E-09	1.21E-12
66	PAH	Hentzen 8628 KUZ	1.30	2.76E-07	0.65	0.998	2.52E-10	1.94E-13
84	PAH	PRC De Soto 825X537	2.40	1.15E-06	0.65	0.998	1.94E-09	1.49E-12
85	PAH	PTI PT-19	17.11	1.62E-07	0.65	0.998	1.94E-09	1.49E-12
						Total PAH	7.17E-09	5.51E-12

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
108	Perchloroethylene	Catalyst 8800 Series	3.37	0.60	0.65	0.998	1.41E-03	1.09E-06
						Total perchloroethylene	1.41E-03	1.09E-06
18	Strontium chromate	Akzo Nobel 10P20-13	23.32	0.33	0.65	0.998	5.31E-03	4.08E-06
20	Strontium chromate	Akzo Nobel 20P1-21	30.69	0.08	0.65	0.998	1.61E-03	1.24E-06
23	Strontium chromate	Akzo Nobel 446-22-1000	1.10	0.08	0.65	0.998	5.75E-05	4.43E-08
34	Strontium chromate	Deft 02-Y-40A	8.75	0.20	0.65	0.998	1.22E-03	9.42E-07
41	Strontium chromate	Deft 44-GN-11	11.56	0.20	0.65	0.998	1.62E-03	1.24E-06
42	Strontium chromate	Deft 44-GN-24	2.04	0.20	0.65	0.998	2.85E-04	2.20E-07
43	Strontium chromate	Deft 44-GN-36	16.69	0.20	0.65	0.998	2.34E-03	1.80E-06
44	Strontium chromate	Deft 44-GN-54	3.67	0.20	0.65	0.998	5.14E-04	3.95E-07
45	Strontium chromate	Deft 44-GN-72	9.11	0.20	0.65	0.998	1.28E-03	9.81E-07
84	Strontium chromate	PRC De Soto 825X537	2.40	0.08	0.65	0.998	1.26E-04	9.70E-08
						Total strontium chromate	1.44E-02	1.10E-05
70	Zinc compounds	Lubeco 905	12.25	0.25	0.65	0.998	2.14E-03	1.65E-06
						Total zinc compounds	2.14E-03	1.65E-06

JE

Spray Booth 2 (A/N 497228), DN 70009, EPN 90007

Volatile Listed Substances

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of the given listed substance in the raw material, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
99	Butyl alcohol, sec	44GN024CAT	1.66	0.63	1.04	8.00E-04
41	Butyl alcohol, sec	Deft 44-GN-11	12.02	0.20	2.40	1.85E-03
43	Butyl alcohol, sec	Deft 44-GN-36	2.90	0.20	0.58	4.46E-04
44	Butyl alcohol, sec	Deft 44-GN-54	0.93	0.20	0.19	1.43E-04
45	Butyl alcohol, sec	Deft 44-GN-72	12.13	0.20	2.43	1.87E-03
46	Butyl alcohol, sec	Deft 44-GN-98	17.55	0.20	3.51	2.70E-03
				Total sec-butyl alcohol	10.15	7.81E-03
91	Butyl alcohol, n-	02Y040ACAT	4.20	0.08	0.31	2.42E-04
113	Butyl alcohol, n-	Curing Solution X-530	0.61	0.13	0.08	5.88E-05
52	Butyl alcohol, n-	E/M Everlube 642	3.07	0.03	0.08	5.91E-05
59	Butyl alcohol, n-	E/M Lube-lok 2006	1.83	0.08	0.14	1.05E-04
60	Butyl alcohol, n-	E/M Lube-lok 2109	19.12	0.03	0.48	3.68E-04
85	Butyl alcohol, n-	PTI PT-19	5.52	0.01	0.06	4.45E-05
				Total n-butyl alcohol	1.14	8.78E-04
62	Cresol	E/M Lube-lok 5306	78.70	0.03	1.97	1.51E-03
				Total cresol	1.97	1.51E-03
91	Cumene	02Y040ACAT	4.20	0.01	0.04	3.23E-05
47	Cumene	DuPont 958-313	1.92	0.01	0.01	8.11E-06
				Total cumene	0.05	4.04E-05
85	Diethylene glycol monobutyl ether	PTI PT-19	5.52	0.03	0.14	1.09E-04
				Total diethylene glycol monobutyl ether	0.14	1.09E-04
61	Dioxane, 1,4-	E/M Lube-lok 4396	8.27	0.03	0.21	1.59E-04
				Total dioxane, 1,4-	0.21	1.59E-04
29	Epoxy resin	Cytec BR-6747-1 20%	22.58	0.06	1.35	1.04E-03

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
31	Epoxy resin	Deft 01-BK-43	0.90	0.08	0.07	5.21E-05
32	Epoxy resin	Deft 01-GY-85	0.49	0.08	0.04	2.81E-05
42	Epoxy resin	Deft 44-GN-24	3.31	0.08	0.25	1.91E-04
56	Epoxy resin	E/M Everlube 9002	14.31	0.08	1.07	8.26E-04
			Total epoxy resin		2.78	2.14E-03
119	Ethylbenzene	Aeroglaze 9958 thinner	0.17	0.05	0.01	6.66E-06
18	Ethylbenzene	Akzo Nobel 10P20-13	4.36	0.01	0.02	1.84E-05
19	Ethylbenzene	Akzo Nobel 20P1-10	4.56	0.01	0.03	1.93E-05
20	Ethylbenzene	Akzo Nobel 20P1-21	41.70	0.01	0.23	1.76E-04
22	Ethylbenzene	Akzo Nobel 446-21-7507	0.41	0.01	2.27E-03	1.75E-06
36	Ethylbenzene	Deft 03-GY-287	1.10	0.01	0.01	4.66E-06
52	Ethylbenzene	E/M Everlube 642	3.07	0.03	0.08	5.91E-05
59	Ethylbenzene	E/M Lube-lok 2006	1.83	0.13	0.23	1.76E-04
60	Ethylbenzene	E/M Lube-lok 2109	19.12	0.03	0.48	3.68E-04
63	Ethylbenzene	E/M Lubri-bond 220	5.25	0.08	0.39	3.03E-04
121	Ethylbenzene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.15	0.01	0.02	1.21E-05
67	Ethylbenzene	Lord Z306 Black	0.73	0.10	0.07	5.65E-05
86	Ethylbenzene	PTI PT-522 Green	2.43	2.98E-03	0.01	5.57E-06
			Total ethylbenzene		1.57	1.21E-03
61	Ethylene dichloride	E/M Lube-lok 4396	8.27	0.03	0.21	1.59E-04
			Total ethylene dichloride		0.21	1.59E-04
23	Ethylene glycol monobutyl ether	Akzo Nobel 446-22-1000	2.33	0.03	0.07	5.38E-05
55	Ethylene glycol monobutyl ether	E/M Everlube 9001	4.15	0.03	0.10	7.97E-05
72	Ethylene glycol monobutyl ether	Lubeco 2023	1.11	0.35	0.39	2.99E-04
68	Ethylene glycol monobutyl ether	Lubeco 2123	7.36	0.05	0.37	2.83E-04
69	Ethylene glycol monobutyl ether	Lubeco 901	2.09	0.05	0.10	8.02E-05
70	Ethylene glycol monobutyl ether	Lubeco 905	6.78	0.05	0.34	2.61E-04
			Total ethylene glycol monobutyl ether		1.37	1.06E-03
18	Formaldehyde	Akzo Nobel 10P20-13	4.36	0.01	0.02	1.68E-05
59	Formaldehyde	E/M Lube-lok 2006	1.83	0.03	0.05	3.51E-05
61	Formaldehyde	E/M Lube-lok 4396	8.27	0.03	0.21	1.59E-04
75	Formaldehyde	Lubeco K-350	2.15	1.00E-03	2.15E-03	1.66E-06
85	Formaldehyde	PTI PT-19	5.52	3.90E-04	2.15E-03	1.65E-06
			Total formaldehyde		0.28	2.14E-04
93	Hexamethylene- 1,6 diisocyanate	03GY0287CAT	0.32	0.01	3.17E-03	2.44E-06
65	Hexamethylene- 1,6 diisocyanate	Hentzen 8625 GUZ	1.00	0.01	0.01	3.85E-06
			Total hexamethylene- 1,6 diisocyanate		0.01	6.29E-06
67	Isopropylidenediphenol, 4,4-	Lord Z306 Black	0.73	0.01	0.01	5.65E-06

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
		Total isopropylidenediphenol, 4,4-			0.01	5.65E-06
50	Isopropyl alcohol	E/M Everlube 620	47.77	0.03	1.19	9.19E-04
51	Isopropyl alcohol	E/M Everlube 620 C	9.47	0.03	0.24	1.82E-04
62	Isopropyl alcohol	E/M Lube-lok 5306	78.70	0.13	9.84	7.57E-03
75	Isopropyl alcohol	Lubeco K-350	2.15	0.15	0.32	2.48E-04
76	Isopropyl alcohol	Lubeco M-390	16.66	0.25	4.17	3.20E-03
123	Isopropyl alcohol	PT-1070	2.28	0.01	0.03	2.37E-05
85	Isopropyl alcohol	PTI PT-19	5.52	0.01	0.05	4.20E-05
		Total isopropyl alcohol			15.84	1.22E-02
50	Methanol	E/M Everlube 620	47.77	0.03	1.19	9.19E-04
51	Methanol	E/M Everlube 620 C	9.47	0.03	0.24	1.82E-04
123	Methanol	PT-1070	2.28	0.01	0.01	1.14E-05
85	Methanol	PTI PT-19	5.52	0.01	0.08	6.32E-05
		Total methanol			1.53	1.18E-03
19	Methyl ethyl ketone	Akzo Nobel 20P1-10	4.56	0.38	1.71	1.31E-03
119	Methyl ethyl ketone	Aeroglaze 9958 thinner	0.17	0.28	0.05	3.66E-05
22	Methyl ethyl ketone	Akzo Nobel 446-21-7507	0.41	0.06	0.03	1.99E-05
23	Methyl ethyl ketone	Akzo Nobel 446-22-1000	2.33	0.03	0.07	5.38E-05
51	Methyl ethyl ketone	E/M Everlube 620 C	9.47	0.28	2.60	2.00E-03
52	Methyl ethyl ketone	E/M Everlube 642	3.07	0.18	0.54	4.14E-04
60	Methyl ethyl ketone	E/M Lube-lok 2109	19.12	0.18	3.35	2.57E-03
62	Methyl ethyl ketone	E/M Lube-lok 5306	78.70	0.03	1.97	1.51E-03
121	Methyl ethyl ketone	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.15	0.25	0.79	6.06E-04
122	Methyl ethyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.60	0.35	3.01	2.32E-03
75	Methyl ethyl ketone	Lubeco K-350	2.15	0.10	0.22	1.66E-04
76	Methyl ethyl ketone	Lubeco M-390	16.66	0.20	3.33	2.56E-03
85	Methyl ethyl ketone	PTI PT-19	5.52	0.10	0.52	4.03E-04
86	Methyl ethyl ketone	PTI PT-522 Green	2.43	0.04	0.09	6.56E-05
89	Methyl ethyl ketone	Trans Chemical MIL-PRF-82585 Color 26493	5.67	0.05	0.26	1.96E-04
		Total methyl ethyl ketone			18.52	1.42E-02
18	Methyl isobutyl ketone	Akzo Nobel 10P20-13	4.36	0.08	0.33	2.51E-04
20	Methyl isobutyl ketone	Akzo Nobel 20P1-21	41.70	0.03	1.25	9.62E-04
22	Methyl isobutyl ketone	Akzo Nobel 446-21-7507	0.41	0.03	0.01	9.54E-06
23	Methyl isobutyl ketone	Akzo Nobel 446-22-1000	2.33	0.08	0.17	1.35E-04
31	Methyl isobutyl ketone	Deft 01-BK-43	0.90	0.01	0.01	6.95E-06
34	Methyl isobutyl ketone	Deft 02-Y-40A	20.24	0.01	0.20	1.56E-04
47	Methyl isobutyl ketone	DuPont 958-313	1.92	0.15	0.29	2.21E-04
50	Methyl isobutyl ketone	E/M Everlube 620	47.77	0.03	1.19	9.19E-04
51	Methyl isobutyl ketone	E/M Everlube 620 C	9.47	0.03	0.24	1.82E-04
52	Methyl isobutyl ketone	E/M Everlube 642	3.07	0.03	0.08	5.91E-05
60	Methyl isobutyl ketone	E/M Lube-lok 2109	19.12	0.03	0.48	3.68E-04
62	Methyl isobutyl ketone	E/M Lube-lok 5306	78.70	0.13	9.84	7.57E-03

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
122	Methyl isobutyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.60	0.15	1.29	9.93E-04
67	Methyl isobutyl ketone	Lord Z306 Black	0.73	0.15	0.11	8.48E-05
76	Methyl isobutyl ketone	Lubeco M-390	16.66	0.02	0.33	2.56E-04
85	Methyl isobutyl ketone	PTI PT-19	5.52	0.05	0.29	2.24E-04
				Total methyl isobutyl ketone	16.11	1.24E-02
109	Methylene diphenyl diisocyanate	Curing Solution PC-108	1.08	0.28	0.30	2.29E-04
111	Methylene diphenyl diisocyanate	Curing Solution PC-235	11.84	0.18	2.07	1.59E-03
				Total methylene diphenyl diisocyanate	2.37	1.82E-03
50	Phenol	E/M Everlube 620	47.77	0.03	1.19	9.19E-04
51	Phenol	E/M Everlube 620 C	9.47	0.03	0.24	1.82E-04
62	Phenol	E/M Lube-lok 5306	78.70	0.03	1.97	1.51E-03
85	Phenol	PTI PT-19	5.52	0.02	0.13	9.76E-05
				Total phenol	3.53	2.71E-03
72	Phosphoric acid	Lubeco 2023	1.11	0.15	0.17	1.28E-04
68	Phosphoric acid	Lubeco 2123	7.36	0.10	0.74	5.66E-04
69	Phosphoric acid	Lubeco 901	2.09	0.25	0.52	4.01E-04
70	Phosphoric acid	Lubeco 905	6.78	0.25	1.70	1.30E-03
				Total phosphoric acid	3.12	2.40E-03
113	Propylene glycol monomethyl ether	Curing Solution X-530	0.61	0.18	0.11	8.23E-05
61	Propylene glycol monomethyl ether	E/M Lube-lok 4396	8.27	0.13	1.03	7.95E-04
122	Propylene glycol monomethyl ether	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	8.60	0.35	3.01	2.32E-03
85	Propylene glycol monomethyl ether	PTI PT-19	5.52	0.03	0.18	1.36E-04
				Total propylene glycol monomethyl ether	4.33	3.33E-03
119	Propylene glycol monomethyl ether acetate	Aeroglaze 9958 thinner	0.17	0.43	0.07	5.66E-05
85	Propylene glycol monomethyl ether acetate	PTI PT-19	5.52	0.03	0.14	1.09E-04
				Total propylene glycol monomethyl ether acetate	0.22	1.66E-04
72	Sulfuric acid	Lubeco 2023	1.11	0.01	0.01	8.53E-06
68	Sulfuric acid	Lubeco 2123	7.36	0.05	0.37	2.83E-04
				Total sulfuric acid	0.38	2.92E-04
99	Toluene	44GN024CAT	1.66	0.03	0.05	3.84E-05
119	Toluene	Aeroglaze 9958 thinner	0.17	0.15	0.03	2.00E-05
22	Toluene	Akzo Nobel 446-21-7507	0.41	0.08	0.03	2.39E-05
23	Toluene	Akzo Nobel 446-22-1000	2.33	0.08	0.17	1.35E-04
109	Toluene	Curing Solution PC-108	1.08	0.18	0.19	1.46E-04
111	Toluene	Curing Solution PC-235	11.84	0.18	2.07	1.59E-03
113	Toluene	Curing Solution X-530	0.61	0.18	0.11	8.23E-05
31	Toluene	Deft 01-BK-43	0.90	0.03	0.03	2.08E-05
32	Toluene	Deft 01-GY-85	0.49	0.03	0.01	1.12E-05

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
42	Toluene	Deft 44-GN-24	3.31	0.08	0.25	1.91E-04
50	Toluene	E/M Everlube 620	47.77	0.23	10.75	8.27E-03
52	Toluene	E/M Everlube 642	3.07	0.28	0.84	6.50E-04
60	Toluene	E/M Lube-lok 2109	19.12	0.28	5.26	4.05E-03
61	Toluene	E/M Lube-lok 4396	8.27	0.48	3.93	3.02E-03
62	Toluene	E/M Lube-lok 5306	78.70	0.13	9.84	7.57E-03
63	Toluene	E/M Lubri-bond 220	5.25	0.38	1.97	1.52E-03
114	Toluene	EC-213	0.85	0.33	0.28	2.12E-04
121	Toluene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.15	0.15	0.47	3.64E-04
67	Toluene	Lord Z306 Black	0.73	0.15	0.11	8.48E-05
75	Toluene	Lubeco K-350	2.15	0.10	0.22	1.66E-04
76	Toluene	Lubeco M-390	16.66	0.15	2.50	1.92E-03
85	Toluene	PTI PT-19	5.52	0.10	0.55	4.26E-04
128	Toluene	TR-53	3.36	0.78	2.60	2.00E-03
				Total toluene	42.26	3.25E-02
91	Trimethylbenzene, 1,2,4-	02Y040ACAT	4.20	0.05	0.21	1.61E-04
93	Trimethylbenzene, 1,2,4-	03GY0287CAT	0.32	0.01	4.44E-03	3.41E-06
47	Trimethylbenzene, 1,2,4-	DuPont 958-313	1.92	0.03	0.06	4.42E-05
				Total trimethylbenzene, 1,2,4-	0.27	2.09E-04
119	Xylenes	Aeroglaze 9958 thinner	0.17	0.10	0.02	1.33E-05
18	Xylenes	Akzo Nobel 10P20-13	4.36	0.03	0.13	1.01E-04
22	Xylenes	Akzo Nobel 446-21-7507	0.41	0.03	0.01	9.54E-06
52	Xylenes	E/M Everlube 642	3.07	0.03	0.08	5.91E-05
59	Xylenes	E/M Lube-lok 2006	1.83	0.38	0.69	5.27E-04
121	Xylenes	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.15	0.08	0.24	1.82E-04
67	Xylenes	Lord Z306 Black	0.73	0.25	0.18	1.41E-04
86	Xylenes	PTI PT-522 Green	2.43	0.06	0.14	1.06E-04
				Total xylenes	1.48	1.14E-03

Non Volatile Listed Substances

Annual Emissions

$$Y = QP(1-A)(1-R)$$

where,
Y = total annual emissions, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of listed substance in the raw material, lbs/lbs.
A = application efficiency, 65% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).
R = estimated removal efficiency of filters, 99.8% (Permitted filter efficiency).

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
23	Aluminum	Akzo Nobel 446-22-1000	2.33	0.01	0.65	0.998	1.69E-05	1.30E-08
43	Aluminum	Deft 44-GN-36	2.90	0.03	0.65	0.998	6.09E-05	4.68E-08
						Total aluminum	7.78E-05	5.99E-08
20	Antimony	Akzo Nobel 20P1-21	41.70	3.72E-03	0.65	0.998	1.09E-04	8.35E-08
						Total antimony	1.09E-04	8.35E-08
51	Antimony trioxide	E/M Everlube 620 C	9.47	0.08	0.65	0.998	4.97E-04	3.82E-07
52	Antimony trioxide	E/M Everlube 642	3.07	0.08	0.65	0.998	1.61E-04	1.24E-07
56	Antimony trioxide	E/M Everlube 9002	14.31	0.13	0.65	0.998	1.25E-03	9.63E-07
60	Antimony trioxide	E/M Lube-lok 2109	19.12	0.08	0.65	0.998	1.00E-03	7.72E-07
62	Antimony trioxide	E/M Lube-lok 5306	78.70	0.13	0.65	0.998	6.89E-03	5.30E-06
63	Antimony trioxide	E/M Lubri-bond 220	5.25	0.03	0.65	0.998	9.19E-05	7.07E-08
69	Antimony trioxide	Lubeco 901	2.09	0.10	0.65	0.998	1.46E-04	1.12E-07
						Total antimony trioxide	1.00E-02	7.72E-06
34	Barium chromate	Deft 02-Y-40A	20.24	0.01	0.65	0.998	7.79E-05	5.99E-08
41	Barium chromate	Deft 44-GN-11	12.02	0.01	0.65	0.998	4.63E-05	3.56E-08
42	Barium chromate	Deft 44-GN-24	3.31	0.01	0.65	0.998	1.27E-05	9.80E-09
43	Barium chromate	Deft 44-GN-36	2.90	0.01	0.65	0.998	1.12E-05	8.59E-09
44	Barium chromate	Deft 44-GN-54	0.93	0.01	0.65	0.998	3.58E-06	2.75E-09
45	Barium chromate	Deft 44-GN-72	12.13	0.01	0.65	0.998	4.67E-05	3.59E-08
						Total barium chromate	1.98E-04	1.53E-07
31	Carbon black	Deft 01-BK-43	0.90	0.03	0.65	0.998	1.90E-05	1.46E-08
32	Carbon black	Deft 01-GY-85	0.49	0.01	0.65	0.998	3.41E-06	2.62E-09

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
36	Carbon black	Deft 03-GY-287	1.10	0.01	0.65	0.998	7.70E-06	5.93E-09
47	Carbon black	DuPont 958-313	1.92	0.03	0.65	0.998	4.02E-05	3.10E-08
67	Carbon black	Lord Z306 Black	0.73	0.01	0.65	0.998	2.83E-06	2.18E-09
85	Carbon black	PTI PT-19	5.52	0.02	0.65	0.998	6.80E-05	5.23E-08
						Total carbon black	1.41E-04	1.09E-07
72	Chromium trioxide	Lubeco 2023	1.11	0.06	0.65	0.998	4.66E-05	3.58E-08
68	Chromium trioxide	Lubeco 2123	7.36	0.01	0.65	0.998	5.15E-05	3.97E-08
69	Chromium trioxide	Lubeco 901	2.09	0.02	0.65	0.998	2.92E-05	2.25E-08
70	Chromium trioxide	Lubeco 905	6.78	0.02	0.65	0.998	9.49E-05	7.30E-08
						Total chromium trioxide	2.22E-04	1.71E-07
86	Cobalt	PTI PT-522 Green	2.43	1.60E-03	0.65	0.998	2.72E-06	2.09E-09
						Total cobalt	2.72E-06	2.09E-09
18	Crystalline silica	Akzo Nobel 10P20-13	4.36	0.18	0.65	0.998	5.34E-04	4.11E-07
23	Crystalline silica	Akzo Nobel 446-22-1000	2.33	0.01	0.65	0.998	8.16E-06	6.28E-09
32	Crystalline silica	Deft 01-GY-85	0.49	0.01	0.65	0.998	3.41E-06	2.62E-09
34	Crystalline silica	Deft 02-Y-40A	20.24	0.01	0.65	0.998	1.42E-04	1.09E-07
41	Crystalline silica	Deft 44-GN-11	12.02	2.00E-03	0.65	0.998	1.68E-05	1.29E-08
44	Crystalline silica	Deft 44-GN-54	0.93	0.01	0.65	0.998	6.51E-06	5.01E-09
45	Crystalline silica	Deft 44-GN-72	12.13	2.00E-03	0.65	0.998	1.70E-05	1.31E-08
46	Crystalline silica	Deft 44-GN-98	17.55	0.03	0.65	0.998	3.69E-04	2.84E-07
65	Crystalline silica	Hentzen 8625 GUZ	1.00	0.16	0.65	0.998	1.09E-04	8.36E-08
						Total crystalline silica	1.20E-03	9.27E-07
86	Hexavalent chromium	PTI PT-522 Green	2.43	0.05	0.65	0.998	9.21E-05	7.08E-08
						Total hexavalent chromium	9.21E-05	7.08E-08
52	Lead	E/M Everlube 642	3.07	0.02	0.65	0.998	4.56E-05	3.50E-08
60	Lead	E/M Lube-lok 2109	19.12	0.02	0.65	0.998	2.84E-04	2.18E-07
62	Lead	E/M Lube-lok 5306	78.70	0.02	0.65	0.998	1.17E-03	8.98E-07
63	Lead	E/M Lubri-bond 220	5.25	0.02	0.65	0.998	7.79E-05	5.99E-08
72	Lead	Lubeco 2023	1.11	0.01	0.65	0.998	7.76E-06	5.97E-09
69	Lead	Lubeco 901	2.09	0.02	0.65	0.998	2.92E-05	2.25E-08
75	Lead	Lubeco K-350	2.15	0.03	0.65	0.998	4.52E-05	3.48E-08
						Total lead	1.66E-03	1.27E-06
20	Nickel	Akzo Nobel 20P1-21	41.70	8.97E-04	0.65	0.998	2.62E-05	2.01E-08
						Total nickel	2.62E-05	2.01E-08
31	PAH	Deft 01-BK-43	0.90	2.76E-07	0.65	0.998	1.75E-10	1.34E-13
32	PAH	Deft 01-GY-85	0.49	9.20E-08	0.65	0.998	3.14E-11	2.41E-14
36	PAH	Deft 03-GY-287	1.10	9.20E-08	0.65	0.998	7.09E-11	5.45E-14
47	PAH	DuPont 958-313	1.92	2.76E-07	0.65	0.998	3.70E-10	2.85E-13
67	PAH	Lord Z306 Black	0.73	5.06E-08	0.65	0.998	2.60E-11	2.00E-14
85	PAH	PTI PT-19	5.52	1.62E-07	0.65	0.998	6.25E-10	4.81E-13
						Total PAH	1.30E-09	9.99E-13
108	Perchloroethylene	Catalyst 8800 Series	2.27	0.60	0.65	0.998	9.52E-04	7.33E-07
						Total perchloroethylene	9.52E-04	7.33E-07
18	Strontium chromate	Akzo Nobel 10P20-13	4.36	0.33	0.65	0.998	9.92E-04	7.63E-07

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
19	Strontium chromate	Akzo Nobel 20P1-10	4.56	0.08	0.65	0.998	2.39E-04	1.84E-07
20	Strontium chromate	Akzo Nobel 20P1-21	41.70	0.08	0.65	0.998	2.19E-03	1.68E-06
23	Strontium chromate	Akzo Nobel 446-22-1000	2.33	0.08	0.65	0.998	1.22E-04	9.42E-08
29	Strontium chromate	Cytec BR-6747-1 20%	22.58	0.03	0.65	0.998	4.74E-04	3.65E-07
34	Strontium chromate	Deft 02-Y-40A	20.24	0.20	0.65	0.998	2.83E-03	2.18E-06
41	Strontium chromate	Deft 44-GN-11	12.02	0.20	0.65	0.998	1.68E-03	1.29E-06
42	Strontium chromate	Deft 44-GN-24	3.31	0.20	0.65	0.998	4.63E-04	3.56E-07
43	Strontium chromate	Deft 44-GN-36	2.90	0.20	0.65	0.998	4.06E-04	3.12E-07
44	Strontium chromate	Deft 44-GN-54	0.93	0.20	0.65	0.998	1.30E-04	1.00E-07
45	Strontium chromate	Deft 44-GN-72	12.13	0.20	0.65	0.998	1.70E-03	1.31E-06
						Total strontium chromate	1.12E-02	8.64E-06
69	Zinc compounds	Lubeco 901	2.09	0.25	0.65	0.998	3.65E-04	2.81E-07
70	Zinc compounds	Lubeco 905	6.78	0.25	0.65	0.998	1.19E-03	9.13E-07
86	Zinc compounds	PTI PT-522 Green	2.43	0.29	0.65	0.998	5.01E-04	3.85E-07
						Total zinc compounds	2.05E-03	1.58E-06

Spray Booth 3 (A/N 497229), DN 70010, EPN 90008

Volatile Listed Substances

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of the given listed substance in the raw material, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
41	Butyl alcohol, sec	Deft 44-GN-11	1.67	0.20	0.33	2.58E-04
43	Butyl alcohol, sec	Deft 44-GN-36	0.85	0.20	0.17	1.30E-04
45	Butyl alcohol, sec	Deft 44-GN-72	1.16	0.20	0.23	1.79E-04
				Total sec-butyl alcohol	0.74	5.67E-04
91	Butyl alcohol, n-	02Y040ACAT	0.32	0.08	0.02	1.82E-05
105	Butyl alcohol, n-	910-704 (activator component)	0.32	0.22	0.07	5.32E-05
52	Butyl alcohol, n-	E/M Everlube 642	37.35	0.03	0.93	7.18E-04
59	Butyl alcohol, n-	E/M Lube-lok 2006	3.38	0.08	0.25	1.95E-04
60	Butyl alcohol, n-	E/M Lube-lok 2109	34.95	0.03	0.87	6.72E-04
80	Butyl alcohol, n-	Molycote 106	2.65	0.20	0.53	4.08E-04
82	Butyl alcohol, n-	PRC De Soto 515X349	0.25	0.03	0.01	5.88E-06
				Total n-butyl alcohol	2.69	2.07E-03
62	Cresol	E/M Lube-lok 5306	128.61	0.03	3.22	2.47E-03
				Total cresol	3.22	2.47E-03
91	Cumene	02Y040ACAT	0.32	1.00E-02	3.16E-03	2.43E-06
81	Cumene	Molykote 3402 C	2.40	5.00E-04	1.20E-03	9.22E-07
				Total cumene	4.36E-03	3.35E-06
73	Dimethyl formamide	Lubeco 7123	7.43	0.50	3.72	2.86E-03
				Total dimethyl formamide	3.72	2.86E-03
29	Epoxy resin	Cytec BR-6747-1 20%	47.21	0.06	2.83	2.18E-03
56	Epoxy resin	E/M Everlube 9002	128.59	0.08	9.64	7.42E-03
				Total epoxy resin	12.48	9.60E-03
105	Ethylbenzene	910-704 (activator component)	0.32	1.40E-02	4.50E-03	3.46E-06

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
52	Ethylbenzene	E/M Everlube 642	37.35	0.03	0.93	7.18E-04
58	Ethylbenzene	E/M Everlube 967	9.21	0.03	0.23	1.77E-04
59	Ethylbenzene	E/M Lube-lok 2006	3.38	0.13	0.42	3.25E-04
60	Ethylbenzene	E/M Lube-lok 2109	34.95	0.03	0.87	6.72E-04
63	Ethylbenzene	E/M Lubri-bond 220	9.40	0.08	0.71	5.43E-04
57	Ethylbenzene	E/M Perma-Slick G	1.02	0.03	0.03	1.96E-05
80	Ethylbenzene	Molycote 106	2.65	0.05	0.14	1.08E-04
84	Ethylbenzene	PRC De Soto 825X537	0.32	0.01	1.74E-03	1.34E-06
				Total ethylbenzene	3.34	2.57E-03
55	Ethylene glycol monobutyl ether	E/M Everlube 9001	146.25	0.03	3.66	2.81E-03
71	Ethylene glycol monobutyl ether	Lubeco 2020	3.84	0.35	1.35	1.04E-03
68	Ethylene glycol monobutyl ether	Lubeco 2123	163.09	0.05	8.15	6.27E-03
73	Ethylene glycol monobutyl ether	Lubeco 7123	7.43	0.08	0.59	4.57E-04
69	Ethylene glycol monobutyl ether	Lubeco 901	1.30	0.05	0.07	5.00E-05
70	Ethylene glycol monobutyl ether	Lubeco 905	141.65	0.05	7.08	5.45E-03
				Total ethylene glycol monobutyl ether	20.90	1.61E-02
59	Formaldehyde	E/M Lube-lok 2006	3.38	0.03	0.08	6.49E-05
75	Formaldehyde	Lubeco K-350	4.30	1.00E-03	4.30E-03	3.31E-06
77	Formaldehyde	Lubeco M390-46	0.53	1.00E-03	5.25E-04	4.04E-07
79	Formaldehyde	Lubeco N-350-A	0.91	1.00E-03	9.09E-04	6.99E-07
				Total formaldehyde	0.09	6.93E-05
50	Isopropyl alcohol	E/M Everlube 620	1,083.60	0.03	27.09	2.08E-02
105	Isopropyl alcohol	910-704 (activator component)	0.32	0.24	0.08	5.94E-05
51	Isopropyl alcohol	E/M Everlube 620 C	740.98	0.03	18.52	1.42E-02
62	Isopropyl alcohol	E/M Lube-lok 5306	128.61	0.13	16.08	1.24E-02
74	Isopropyl alcohol	Lubeco AL-52	0.80	0.15	0.12	9.26E-05
75	Isopropyl alcohol	Lubeco K-350	4.30	0.15	0.65	4.97E-04
76	Isopropyl alcohol	Lubeco M-390	53.93	0.25	13.48	1.04E-02
77	Isopropyl alcohol	Lubeco M390-46	0.53	0.10	0.05	4.04E-05
79	Isopropyl alcohol	Lubeco N-350-A	0.91	0.10	0.09	6.99E-05
81	Isopropyl alcohol	Molykote 3402 C	2.40	0.44	1.05	8.11E-04
				Total isopropyl alcohol	77.21	5.94E-02
50	Methanol	E/M Everlube 620	1,083.60	0.03	27.09	2.08E-02
51	Methanol	E/M Everlube 620 C	740.98	0.03	18.52	1.42E-02
80	Methanol	Molycote 106	2.65	0.01	0.01	1.12E-05
				Total methanol	45.63	3.51E-02
104	Methyl ethyl ketone	910-702	0.08	0.15	0.01	8.84E-06
105	Methyl ethyl ketone	910-704 (activator component)	0.32	0.16	0.05	3.83E-05
51	Methyl ethyl ketone	E/M Everlube 620 C	740.98	0.28	203.77	1.57E-01

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
52	Methyl ethyl ketone	E/M Everlube 642	37.35	0.18	6.54	5.03E-03
60	Methyl ethyl ketone	E/M Lube-lok 2109	34.95	0.18	6.12	4.71E-03
62	Methyl ethyl ketone	E/M Lube-lok 5306	128.61	0.03	3.22	2.47E-03
57	Methyl ethyl ketone	E/M Perma-Slick G	1.02	0.68	0.69	5.30E-04
122	Methyl ethyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	0.55	0.35	0.19	1.48E-04
73	Methyl ethyl ketone	Lubeco 7123	7.43	0.03	0.22	1.71E-04
74	Methyl ethyl ketone	Lubeco AL-52	0.80	0.20	0.16	1.23E-04
75	Methyl ethyl ketone	Lubeco K-350	4.30	0.10	0.43	3.31E-04
76	Methyl ethyl ketone	Lubeco M-390	53.93	0.20	10.79	8.30E-03
77	Methyl ethyl ketone	Lubeco M390-46	0.53	0.08	0.04	3.23E-05
79	Methyl ethyl ketone	Lubeco N-350-A	0.91	0.10	0.09	6.99E-05
83	Methyl ethyl ketone	PRC De Soto 515-700	0.50	0.20	0.10	7.72E-05
82	Methyl ethyl ketone	PRC De Soto 515X349	0.25	0.20	0.05	3.92E-05
84	Methyl ethyl ketone	PRC De Soto 825X537	0.32	0.13	0.04	3.17E-05
				Total methyl ethyl ketone	232.50	1.79E-01
116	Methyl isobutyl ketone	010X311	0.21	0.90	0.19	1.44E-04
34	Methyl isobutyl ketone	Deft 02-Y-40A	1.52	0.01	0.02	1.17E-05
50	Methyl isobutyl ketone	E/M Everlube 620	1,083.60	0.03	27.09	2.08E-02
51	Methyl isobutyl ketone	E/M Everlube 620 C	740.98	0.03	18.52	1.42E-02
52	Methyl isobutyl ketone	E/M Everlube 642	37.35	0.03	0.93	7.18E-04
60	Methyl isobutyl ketone	E/M Lube-lok 2109	34.95	0.03	0.87	6.72E-04
62	Methyl isobutyl ketone	E/M Lube-lok 5306	128.61	0.13	16.08	1.24E-02
122	Methyl isobutyl ketone	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	0.55	0.15	0.08	6.33E-05
74	Methyl isobutyl ketone	Lubeco AL-52	0.80	0.05	0.04	3.09E-05
76	Methyl isobutyl ketone	Lubeco M-390	53.93	0.02	1.08	8.30E-04
77	Methyl isobutyl ketone	Lubeco M390-46	0.53	0.05	0.03	2.02E-05
84	Methyl isobutyl ketone	PRC De Soto 825X537	0.32	0.20	0.06	4.87E-05
				Total methyl isobutyl ketone	64.99	5.00E-02
58	Methylenedianiline, 4,4'-	E/M Everlube 967	9.21	0.03	0.23	1.77E-04
				Total methylenedianiline, 4,4'-	0.23	1.77E-04
104	Methylene diphenyl diisocyanate	910-702	0.08	0.29	0.02	1.71E-05
				Total methylene diphenyl diisocyanate	0.02	1.71E-05
50	Phenol	E/M Everlube 620	1,083.60	0.03	27.09	2.08E-02
51	Phenol	E/M Everlube 620 C	740.98	0.03	18.52	1.42E-02
62	Phenol	E/M Lube-lok 5306	128.61	0.03	3.22	2.47E-03
				Total phenol	48.83	3.76E-02
71	Phosphoric acid	Lubeco 2020	3.84	0.15	0.58	4.44E-04
68	Phosphoric acid	Lubeco 2123	163.09	0.10	16.31	1.25E-02
69	Phosphoric acid	Lubeco 901	1.30	0.25	0.33	2.50E-04
70	Phosphoric acid	Lubeco 905	141.65	0.25	35.41	2.72E-02
				Total phosphoric acid	52.62	0.04
122	Propylene glycol monomethyl ether	IS-237 Epoxy Reducer (MIL-T-81772B Type II)	0.55	0.35	0.19	1.48E-04

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
		Total propylene glycol monomethyl ether			0.19	1.48E-04
58	Propylene glycol monomethyl ether acetate	E/M Everlube 967	9.21	0.08	0.69	5.31E-04
87	Propylene glycol monomethyl ether acetate	Sandstrom 28A	7.52	0.13	0.94	7.23E-04
		Total propylene glycol monomethyl ether acetate			1.63	1.25E-03
71	Sulfuric acid	Lubeco 2020	3.84	0.01	0.04	2.96E-05
68	Sulfuric acid	Lubeco 2123	163.09	0.05	8.15	6.27E-03
		Total sulfuric acid			8.19	6.30E-03
105	Toluene	910-704 (activator component)	0.32	0.15	0.05	3.71E-05
106	Toluene	910X533 (activator component)	0.16	0.35	0.06	4.44E-05
50	Toluene	E/M Everlube 620	1083.60	0.23	243.81	1.88E-01
52	Toluene	E/M Everlube 642	37.35	0.28	10.27	7.90E-03
60	Toluene	E/M Lube-lok 2109	34.95	0.28	9.61	7.39E-03
62	Toluene	E/M Lube-lok 5306	128.61	0.13	16.08	1.24E-02
63	Toluene	E/M Lubri-bond 220	9.40	0.38	3.53	2.71E-03
73	Toluene	Lubeco 7123	7.43	0.08	0.59	4.57E-04
74	Toluene	Lubeco AL-52	0.80	0.20	0.16	1.23E-04
75	Toluene	Lubeco K-350	4.30	0.10	0.43	3.31E-04
76	Toluene	Lubeco M-390	53.93	0.15	8.09	6.22E-03
77	Toluene	Lubeco M390-46	0.53	0.10	0.05	4.04E-05
79	Toluene	Lubeco N-350-A	0.91	0.12	0.11	8.39E-05
		Total toluene			292.84	2.25E-01
91	Trimethylbenzene, 1,2,4-	02Y040ACAT	0.32	0.05	0.02	1.22E-05
		Total trimethylbenzene, 1,2,4-			0.02	1.22E-05
105	Xylenes	910-704 (activator component)	0.32	0.07	0.02	1.62E-05
52	Xylenes	E/M Everlube 642	37.35	0.03	0.93	7.18E-04
58	Xylenes	E/M Everlube 967	9.21	0.08	0.69	5.31E-04
59	Xylenes	E/M Lube-lok 2006	3.38	0.38	1.27	9.74E-04
57	Xylenes	E/M Perma-Slick G	1.02	0.03	0.03	1.96E-05
80	Xylenes	Molycote 106	2.65	0.16	0.42	3.26E-04
84	Xylenes	PRC De Soto 825X537	0.32	0.03	0.01	7.31E-06
		Total xylenes			3.37	2.59E-03

Non Volatile Listed Substances

Annual Emissions

$$Y = QP(1-A)(1-R)$$

where,
Y = total annual emissions, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of listed substance in the raw material, lbs/lbs.
A = application efficiency, 65% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).
R = estimated removal efficiency of filters, 99.8% (Permitted filter efficiency).

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
43	Aluminum	Deft 44-GN-36	0.85	0.03	0.65	0.998	1.78E-05	1.37E-08
74	Aluminum	Lubeco AL-52	0.80	0.02	0.65	0.998	1.12E-05	8.64E-09
						Total aluminum	2.90E-05	2.23E-08
51	Antimony trioxide	E/M Everlube 620 C	740.98	0.08	0.65	0.998	3.89E-02	2.99E-05
52	Antimony trioxide	E/M Everlube 642	37.35	0.08	0.65	0.998	1.96E-03	1.51E-06
56	Antimony trioxide	E/M Everlube 9002	128.59	0.13	0.65	0.998	1.13E-02	8.65E-06
58	Antimony trioxide	E/M Everlube 967	9.21	0.08	0.65	0.998	4.83E-04	3.72E-07
60	Antimony trioxide	E/M Lube-lok 2109	34.95	0.08	0.65	0.998	1.84E-03	1.41E-06
62	Antimony trioxide	E/M Lube-lok 5306	128.61	0.13	0.65	0.998	1.13E-02	8.66E-06
63	Antimony trioxide	E/M Lubri-bond 220	9.40	0.03	0.65	0.998	1.65E-04	1.27E-07
57	Antimony trioxide	E/M Perma-Slick G	1.02	0.03	0.65	0.998	1.79E-05	1.37E-08
69	Antimony trioxide	Lubeco 901	1.30	0.10	0.65	0.998	9.11E-05	7.01E-08
81	Antimony trioxide	Molykote 3402 C	2.40	0.12	0.65	0.998	2.01E-04	1.55E-07
						Total antimony trioxide	6.62E-02	5.09E-05
34	Barium chromate	Deft 02-Y-40A	1.52	0.01	0.65	0.998	5.86E-06	4.51E-09
41	Barium chromate	Deft 44-GN-11	1.67	0.01	0.65	0.998	6.45E-06	4.96E-09
43	Barium chromate	Deft 44-GN-36	0.85	0.01	0.65	0.998	3.26E-06	2.51E-09
45	Barium chromate	Deft 44-GN-72	1.16	0.01	0.65	0.998	4.47E-06	3.44E-09
82	Barium chromate	PRC De Soto 515X349	0.25	0.01	0.65	0.998	9.82E-07	7.55E-10
84	Barium chromate	PRC De Soto 825X537	0.32	0.01	0.65	0.998	1.22E-06	9.38E-10
						Total barium chromate	2.22E-05	1.71E-08
83	Calcium chromate	PRC De Soto 515-700	0.50	0.03	0.65	0.998	1.05E-05	8.11E-09
						Total calcium chromate	1.05E-05	8.11E-09

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
82	Carbon black	PRC De Soto 515X349	0.25	0.01	0.65	0.998	9.82E-07	7.55E-10
84	Carbon black	PRC De Soto 825X537	0.32	0.13	0.65	0.998	2.78E-05	2.14E-08
						Total carbon black	2.88E-05	2.22E-08
74	Chromium trioxide	Lubeco AL-52	0.80	1.00E-03	0.65	0.998	5.62E-07	4.32E-10
71	Chromium trioxide	Lubeco 2020	3.84	0.06	0.65	0.998	1.61E-04	1.24E-07
68	Chromium trioxide	Lubeco 2123	163.09	0.01	0.65	0.998	1.14E-03	8.78E-07
69	Chromium trioxide	Lubeco 901	1.30	0.02	0.65	0.998	1.82E-05	1.40E-08
70	Chromium trioxide	Lubeco 905	141.65	0.02	0.65	0.998	1.98E-03	1.53E-06
						Total chromium trioxide	3.30E-03	2.54E-06
34	Crystalline silica	Deft 02-Y-40A	1.52	0.01	0.65	0.998	1.07E-05	8.20E-09
41	Crystalline silica	Deft 44-GN-11	1.67	2.00E-03	0.65	0.998	2.34E-06	1.80E-09
45	Crystalline silica	Deft 44-GN-72	1.16	2.00E-03	0.65	0.998	1.62E-06	1.25E-09
83	Crystalline silica	PRC De Soto 515-700	0.50	0.01	0.65	0.998	1.93E-06	1.49E-09
82	Crystalline silica	PRC De Soto 515X349	0.25	0.20	0.65	0.998	3.57E-05	2.75E-08
						Total crystalline silica	5.23E-05	4.02E-08
52	Lead	E/M Everlube 642	37.35	0.02	0.65	0.998	5.54E-04	4.26E-07
60	Lead	E/M Lube-lok 2109	34.95	0.02	0.65	0.998	5.18E-04	3.99E-07
62	Lead	E/M Lube-lok 5306	128.61	0.02	0.65	0.998	1.91E-03	1.47E-06
63	Lead	E/M Lubri-bond 220	9.40	0.02	0.65	0.998	1.39E-04	1.07E-07
57	Lead	E/M Perma-Slick G	1.02	0.02	0.65	0.998	1.51E-05	1.16E-08
71	Lead	Lubeco 2020	3.84	0.01	0.65	0.998	2.69E-05	2.07E-08
73	Lead	Lubeco 7123	7.43	0.03	0.65	0.998	1.56E-04	1.20E-07
69	Lead	Lubeco 901	1.30	0.02	0.65	0.998	1.82E-05	1.40E-08
75	Lead	Lubeco K-350	4.30	0.03	0.65	0.998	9.04E-05	6.95E-08
77	Lead	Lubeco M390-46	0.53	0.03	0.65	0.998	1.10E-05	8.49E-09
79	Lead	Lubeco N-350-A	0.91	0.05	0.65	0.998	3.18E-05	2.45E-08
						Total lead	3.47E-03	2.67E-06
82	PAH	PRC De Soto 515X349	0.25	5.06E-08	0.65	0.998	9.03E-12	6.95E-15
84	PAH	PRC De Soto 825X537	0.32	1.15E-06	0.65	0.998	2.56E-10	1.97E-13
						Total PAH	2.65E-10	2.04E-13
29	Strontium chromate	Cytec BR-6747-1 20%	47.21	0.03	0.65	0.998	9.91E-04	7.63E-07
34	Strontium chromate	Deft 02-Y-40A	1.52	0.20	0.65	0.998	2.13E-04	1.64E-07
41	Strontium chromate	Deft 44-GN-11	1.67	0.20	0.65	0.998	2.34E-04	1.80E-07
43	Strontium chromate	Deft 44-GN-36	0.85	0.20	0.65	0.998	1.19E-04	9.13E-08
45	Strontium chromate	Deft 44-GN-72	1.16	0.20	0.65	0.998	1.62E-04	1.25E-07
82	Strontium chromate	PRC De Soto 515X349	0.25	0.10	0.65	0.998	1.78E-05	1.37E-08
84	Strontium chromate	PRC De Soto 825X537	0.32	0.08	0.65	0.998	1.66E-05	1.28E-08
						Total strontium chromate	1.75E-03	1.35E-06
69	Zinc compounds	Lubeco 901	1.30	0.25	0.65	0.998	2.28E-04	1.75E-07
70	Zinc compounds	Lubeco 905	141.65	0.25	0.65	0.998	2.48E-02	1.91E-05
74	Zinc compounds	Lubeco AL-52	0.80	1.00E-03	0.65	0.998	5.62E-07	4.32E-10
						Total zinc compounds	2.50E-02	1.92E-05

Spray Booth 4 (A/N 497270), DN 70011, EPN 90009

Volatile Listed Substances

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of the given listed substance in the raw material, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
46	Butyl alcohol, sec	Deft 44-GN-98	1.66	0.20	0.33	2.55E-04
				Total sec-butyl alcohol	0.33	2.55E-04
59	Butyl alcohol, n-	E/M Lube-lok 2006	9.77	0.08	0.73	5.64E-04
80	Butyl alcohol, n-	Molycote 106	0.26	0.20	0.05	4.04E-05
85	Butyl alcohol, n-	PTI PT-19	2.39	0.01	0.03	1.93E-05
				Total n-butyl alcohol	0.81	6.24E-04
85	Diethylene glycol monobutyl ether	PTI PT-19	2.39	0.03	0.06	4.74E-05
				Total diethylene glycol monobutyl ether	0.06	4.74E-05
61	Dioxane, 1,4-	E/M Lube-lok 4396	14.77	0.03	0.37	2.84E-04
				Total dioxane, 1,4-	0.37	2.84E-04
56	Epoxy resin	E/M Everlube 9002	84.90	0.08	6.37	4.90E-03
				Total epoxy resin	6.37	4.90E-03
36	Ethylbenzene	Deft 03-GY-287	2.08	0.01	0.01	8.78E-06
59	Ethylbenzene	E/M Lube-lok 2006	9.77	0.13	1.22	9.40E-04
64	Ethylbenzene	E/M Lubri-bond 320	3.44	0.03	0.09	6.61E-05
121	Ethylbenzene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.23	0.01	0.02	1.24E-05
80	Ethylbenzene	Molycote 106	0.26	0.05	0.01	1.07E-05
				Total ethylbenzene	1.35	1.04E-03
61	Ethylene dichloride	E/M Lube-lok 4396	14.77	0.03	0.37	2.84E-04
				Total ethylene dichloride	0.37	2.84E-04
55	Ethylene glycol monobutyl ether	E/M Everlube 9001	56.57	0.03	1.41	1.09E-03

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
				Total ethylene glycol monobutyl ether	1.41	1.09E-03
59	Formaldehyde	E/M Lube-lok 2006	9.77	0.03	0.24	1.88E-04
61	Formaldehyde	E/M Lube-lok 4396	14.77	0.03	0.37	2.84E-04
85	Formaldehyde	PTI PT-19	2.39	3.90E-04	9.32E-04	7.17E-07
				Total formaldehyde	0.61	4.73E-04
93	Hexamethylene- 1,6 diisocyanate	03GY0287CAT	0.60	0.01	0.01	4.60E-06
94	Hexamethylene- 1,6 diisocyanate	03GY292CAT	0.29	1.00E-02	2.93E-03	2.25E-06
95	Hexamethylene- 1,6 diisocyanate	03GY332CAT	1.07	1.00E-02	1.07E-02	8.21E-06
				Total hexamethylene- 1,6 diisocyanate	0.02	1.51E-05
50	Isopropyl alcohol	E/M Everlube 620	267.48	0.03	6.69	5.14E-03
51	Isopropyl alcohol	E/M Everlube 620 C	55.43	0.03	1.39	1.07E-03
76	Isopropyl alcohol	Lubeco M-390	57.96	0.25	14.49	1.11E-02
78	Isopropyl alcohol	Lubeco MS-16	0.82	0.25	0.20	1.57E-04
123	Isopropyl alcohol	PT-1070	0.99	0.01	0.01	1.03E-05
85	Isopropyl alcohol	PTI PT-19	2.39	0.01	0.02	1.82E-05
				Total isopropyl alcohol	22.81	1.75E-02
50	Methanol	E/M Everlube 620	267.48	0.03	6.69	5.14E-03
51	Methanol	E/M Everlube 620 C	55.43	0.03	1.39	1.07E-03
80	Methanol	Molycote 106	0.26	5.50E-03	1.44E-03	1.11E-06
123	Methanol	PT-1070	0.99	6.50E-03	6.43E-03	4.95E-06
85	Methanol	PTI PT-19	2.39	0.01	0.04	2.74E-05
				Total methanol	8.12	6.24E-03
51	Methyl ethyl ketone	E/M Everlube 620 C	55.43	0.28	15.24	1.17E-02
64	Methyl ethyl ketone	E/M Lubri-bond 320	3.44	0.73	2.49	1.92E-03
121	Methyl ethyl ketone	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.23	0.25	0.81	6.20E-04
76	Methyl ethyl ketone	Lubeco M-390	57.96	0.20	11.59	8.92E-03
78	Methyl ethyl ketone	Lubeco MS-16	0.82	0.20	0.16	1.26E-04
85	Methyl ethyl ketone	PTI PT-19	2.39	0.10	0.23	1.75E-04
				Total methyl ethyl ketone	30.53	2.35E-02
48	Methyl isobutyl ketone	DuPont 959G-203	1.10	0.15	0.16	1.27E-04
50	Methyl isobutyl ketone	E/M Everlube 620	267.48	0.03	6.69	5.14E-03
51	Methyl isobutyl ketone	E/M Everlube 620 C	55.43	0.03	1.39	1.07E-03
64	Methyl isobutyl ketone	E/M Lubri-bond 320	3.44	0.03	0.09	6.61E-05
76	Methyl isobutyl ketone	Lubeco M-390	57.96	0.02	1.16	8.92E-04
85	Methyl isobutyl ketone	PTI PT-19	2.39	0.05	0.13	9.69E-05
				Total methyl isobutyl ketone	9.61	7.39E-03
50	Phenol	E/M Everlube 620	267.48	0.03	6.69	5.14E-03
51	Phenol	E/M Everlube 620 C	55.43	0.03	1.39	1.07E-03
85	Phenol	PTI PT-19	2.39	0.02	0.05	4.23E-05
				Total phenol	8.13	6.25E-03

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
61	Propylene glycol monomethyl ether	E/M Lube-lok 4396	14.77	0.13	1.85	1.42E-03
85	Propylene glycol monomethyl ether	PTI PT-19	2.39	0.03	0.08	5.89E-05
				Total propylene glycol monomethyl ether	1.92	1.48E-03
64	Propylene glycol monomethyl ether acetate	E/M Lubri-bond 320	3.44	0.03	0.09	6.61E-05
85	Propylene glycol monomethyl ether acetate	PTI PT-19	2.39	0.03	0.06	4.74E-05
87	Propylene glycol monomethyl ether acetate	Sandstrom 28A	11.55	0.13	1.44	1.11E-03
				Total propylene glycol monomethyl ether acetate	1.59	1.22E-03
50	Toluene	E/M Everlube 620	267.48	0.23	60.18	4.63E-02
61	Toluene	E/M Lube-lok 4396	14.77	0.48	7.02	5.40E-03
64	Toluene	E/M Lubri-bond 320	3.44	0.08	0.26	1.98E-04
121	Toluene	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.23	0.15	0.48	3.72E-04
76	Toluene	Lubeco M-390	57.96	0.15	8.69	6.69E-03
78	Toluene	Lubeco MS-16	0.82	0.30	0.25	1.89E-04
85	Toluene	PTI PT-19	2.39	0.10	0.24	1.85E-04
				Total toluene	77.12	5.93E-02
93	Trimethylbenzene, 1,2,4-	03GY0287CAT	0.60	1.40E-02	8.37E-03	6.44E-06
94	Trimethylbenzene, 1,2,4-	03GY292CAT	0.29	1.40E-02	4.10E-03	3.15E-06
95	Trimethylbenzene, 1,2,4-	03GY332CAT	1.07	0.01	0.01	1.15E-05
48	Trimethylbenzene, 1,2,4-	DuPont 959G-203	1.10	0.03	0.03	2.54E-05
88	Trimethylbenzene, 1,2,4-	Trail Chemical Corp. 1X-75351 Clear	7.40	0.11	0.82	6.32E-04
				Total trimethylbenzene, 1,2,4-	0.88	6.78E-04
59	Xylenes	E/M Lube-lok 2006	9.77	0.38	3.67	2.82E-03
64	Xylenes	E/M Lubri-bond 320	3.44	0.03	0.09	6.61E-05
121	Xylenes	Hentzen 00053SST-1 (MIL-T-81772B Type I)	3.23	0.08	0.24	1.86E-04
80	Xylenes	Molycote 106	0.26	0.16	0.04	3.23E-05
88	Xylenes	Trail Chemical Corp. 1X-75351 Clear	7.40	0.16	1.15	8.88E-04
				Total xylenes	5.19	3.99E-03

Non Volatile Listed Substances

Annual Emissions

$$Y = QP(1-A)(1-R)$$

where,
Y = total annual emissions, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of listed substance in the raw material, lbs/lbs.
A = application efficiency, 65% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).
R = estimated removal efficiency of filters, 95% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
51	Antimony trioxide	E/M Everlube 620 C	55.43	0.08	0.65	0.95	7.28E-02	5.60E-05
56	Antimony trioxide	E/M Everlube 9002	84.90	0.13	0.65	0.95	1.86E-01	1.43E-04
						Total antimony trioxide	2.58E-01	1.99E-04
36	Carbon black	Deft 03-GY-287	2.08	0.01	0.65	0.95	3.63E-04	2.79E-07
37	Carbon black	Deft 03-GY-292	1.03	0.01	0.65	0.95	1.81E-04	1.39E-07
38	Carbon black	Deft 03-GY-332	3.80	0.01	0.65	0.95	6.64E-04	5.11E-07
64	Carbon black	E/M Lubri-bond 320	3.44	0.03	0.65	0.95	1.50E-03	1.16E-06
85	Carbon black	PTI PT-19	2.39	0.02	0.65	0.95	7.36E-04	5.66E-07
						Total carbon black	3.45E-03	2.65E-06
46	Crystalline silica	Deft 44-GN-98	1.66	0.03	0.65	0.95	8.69E-04	6.69E-07
						Total crystalline silica	8.69E-04	6.69E-07
36	PAH	Deft 03-GY-287	2.08	9.20E-08	0.65	0.95	3.34E-09	2.57E-12
37	PAH	Deft 03-GY-292	1.03	9.20E-08	0.65	0.95	1.66E-09	1.28E-12
38	PAH	Deft 03-GY-332	3.80	9.20E-08	0.65	0.95	6.11E-09	4.70E-12
64	PAH	E/M Lubri-bond 320	3.44	2.30E-07	0.65	0.95	1.38E-08	1.06E-11
85	PAH	PTI PT-19	2.39	1.62E-07	0.65	0.95	6.77E-09	5.21E-12
						Total PAH	3.17E-08	2.44E-11

Spray Booth 5 (A/N 497271), DN 70012, EPN 90010

Spray booth 5 was not used during the 2015 calendar year.

Spray Booth 6 (A/N 497272), DN 70013, EPN 90011

Volatile Listed Substances

Annual Emissions

$$Y = QP$$

where,
Y = annual emissions of the given listed substance, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of the given listed substance in the raw material, lbs/lbs.

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
59	Butyl alcohol, n-	E/M Lube-lok 2006	0.28	0.08	0.02	1.61E-05
80	Butyl alcohol, n-	Molycote 106	0.76	0.20	0.15	1.17E-04
85	Butyl alcohol, n-	PTI PT-19	0.43	1.05E-02	4.55E-03	3.50E-06
				Total n-butyl alcohol	0.18	1.36E-04
85	Diethylene glycol monobutyl ether	PTI PT-19	0.43	0.03	0.01	8.61E-06
				Total diethylene glycol monobutyl ether	0.01	8.61E-06
61	Dioxane, 1,4-	E/M Lube-lok 4396	1.63	0.03	0.04	3.13E-05
				Total dioxane, 1,4-	0.04	3.13E-05
56	Epoxy resin	E/M Everlube 9002	58.41	0.08	4.38	3.37E-03
				Total epoxy resin	4.38	3.37E-03
59	Ethylbenzene	E/M Lube-lok 2006	0.28	0.13	0.03	2.68E-05
64	Ethylbenzene	E/M Lubri-bond 320	0.39	0.03	0.01	7.51E-06
80	Ethylbenzene	Molycote 106	0.76	0.05	0.04	3.09E-05
				Total ethylbenzene	0.08	6.52E-05
61	Ethylene dichloride	E/M Lube-lok 4396	1.63	0.03	0.04	3.13E-05
				Total ethylene dichloride	0.04	3.13E-05
55	Ethylene glycol monobutyl ether	E/M Everlube 9001	23.95	0.03	0.60	4.61E-04
				Total ethylene glycol monobutyl ether	0.60	4.61E-04
59	Formaldehyde	E/M Lube-lok 2006	0.28	0.03	0.01	5.37E-06
61	Formaldehyde	E/M Lube-lok 4396	1.63	0.03	0.04	3.13E-05
85	Formaldehyde	PTI PT-19	0.43	3.90E-04	1.69E-04	1.30E-07
				Total formaldehyde	0.05	3.68E-05

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
50	Isopropyl alcohol	E/M Everlube 620	96.17	0.03	2.40	1.85E-03
51	Isopropyl alcohol	E/M Everlube 620 C	44.93	0.03	1.12	8.64E-04
76	Isopropyl alcohol	Lubeco M-390	21.27	0.25	5.32	4.09E-03
78	Isopropyl alcohol	Lubeco MS-16	0.23	0.25	0.06	4.47E-05
123	Isopropyl alcohol	PT-1070	0.18	1.35E-02	2.42E-03	1.86E-06
85	Isopropyl alcohol	PTI PT-19	0.43	9.91E-03	4.30E-03	3.31E-06
				Total isopropyl alcohol	8.91	6.85E-03
50	Methanol	E/M Everlube 620	96.17	0.03	2.40	1.85E-03
51	Methanol	E/M Everlube 620 C	44.93	0.03	1.12	8.64E-04
80	Methanol	Molycote 106	0.76	5.50E-03	4.17E-03	3.21E-06
123	Methanol	PT-1070	0.18	6.50E-03	1.17E-03	8.97E-07
85	Methanol	PTI PT-19	0.43	1.49E-02	6.46E-03	4.97E-06
				Total methanol	3.54	2.72E-03
51	Methyl ethyl ketone	E/M Everlube 620 C	44.93	0.28	12.36	9.51E-03
64	Methyl ethyl ketone	E/M Lubri-bond 320	0.39	0.73	0.28	2.18E-04
76	Methyl ethyl ketone	Lubeco M-390	21.27	0.20	4.25	3.27E-03
78	Methyl ethyl ketone	Lubeco MS-16	0.23	0.20	0.05	3.58E-05
85	Methyl ethyl ketone	PTI PT-19	0.43	0.10	0.04	3.17E-05
				Total methyl ethyl ketone	16.98	1.31E-02
48	Methyl isobutyl ketone	DuPont 959G-203	0.20	0.15	0.03	2.34E-05
50	Methyl isobutyl ketone	E/M Everlube 620	96.17	0.03	2.40	1.85E-03
51	Methyl isobutyl ketone	E/M Everlube 620 C	44.93	0.03	1.12	8.64E-04
64	Methyl isobutyl ketone	E/M Lubri-bond 320	0.39	0.03	0.01	7.51E-06
76	Methyl isobutyl ketone	Lubeco M-390	21.27	0.02	0.43	3.27E-04
85	Methyl isobutyl ketone	PTI PT-19	0.43	0.05	0.02	1.76E-05
				Total methyl isobutyl ketone	4.02	3.09E-03
50	Phenol	E/M Everlube 620	96.17	0.03	2.40	1.85E-03
51	Phenol	E/M Everlube 620 C	44.93	0.03	1.12	8.64E-04
85	Phenol	PTI PT-19	0.43	0.02	0.01	7.67E-06
				Total phenol	3.54	2.72E-03
61	Propylene glycol monomethyl ether	E/M Lube-lok 4396	1.63	0.13	0.20	1.56E-04
85	Propylene glycol monomethyl ether	PTI PT-19	0.43	0.03	0.01	1.07E-05
				Total propylene glycol monomethyl ether	0.22	1.67E-04
64	Propylene glycol monomethyl ether acetate	E/M Lubri-bond 320	0.39	0.03	0.01	7.51E-06
85	Propylene glycol monomethyl ether acetate	PTI PT-19	0.43	0.03	0.01	8.61E-06
87	Propylene glycol monomethyl ether acetate	Sandstrom 28A	6.17	0.13	0.77	5.93E-04
				Total propylene glycol monomethyl ether acetate	0.79	6.09E-04
50	Toluene	E/M Everlube 620	96.17	0.23	21.64	1.66E-02
61	Toluene	E/M Lube-lok 4396	1.63	0.48	0.77	5.94E-04

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	Y, lbs/yr	H, lbs/hr
64	Toluene	E/M Lubri-bond 320	0.39	0.08	0.03	2.25E-05
76	Toluene	Lubeco M-390	21.27	0.15	3.19	2.45E-03
78	Toluene	Lubeco MS-16	0.23	0.30	0.07	5.37E-05
85	Toluene	PTI PT-19	0.43	0.10	0.04	3.35E-05
				Total toluene	25.74	1.98E-02
48	Trimethylbenzene, 1,2,4-	DuPont 959G-203	0.20	0.03	0.01	4.67E-06
88	Trimethylbenzene, 1,2,4-	Trail Chemical Corp. 1X-75351 Clear	0.22	0.11	0.02	1.91E-05
				Total trimethylbenzene, 1,2,4-	0.03	2.38E-05
59	Xylenes	E/M Lube-lok 2006	0.28	0.38	0.10	8.05E-05
64	Xylenes	E/M Lubri-bond 320	0.39	0.03	0.01	7.51E-06
80	Xylenes	Molycote 106	0.76	0.16	0.12	9.33E-05
88	Xylenes	Trail Chemical Corp. 1X-75351 Clear	0.22	0.16	0.03	2.69E-05
				Total xylenes	0.27	2.08E-04

Non Volatile Listed Substances

Annual Emissions

$$Y = QP(1\text{-}A)(1\text{-}R)$$

where,
Y = total annual emissions, lbs/yr.
Q = weight of the raw material used, lbs/yr.
P = weight proportion of listed substance in the raw material, lbs/lbs.
A = application efficiency, 65% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).
R = estimated removal efficiency of filters, 95% (SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their Quadrennial Air Toxics Emissions Inventory, December 2016).

Maximum Hourly Emissions

$$H = Yh^{-1}$$

where,
H = maximum hourly emissions of the given listed substance, lbs/hr.
h = number of operating hours for the spray booth during the reporting period, 1,300 hrs/yr.

Product code	Listed Substance	Material	Q, lbs/yr	P, lbs/lbs	A, lbs/lbs	R, lbs/lbs	Y, lbs/yr	H, lbs/hr
51	Antimony trioxide	E/M Everlube 620 C	44.93	0.08	0.65	0.95	5.90E-02	4.54E-05
56	Antimony trioxide	E/M Everlube 9002	58.41	0.13	0.65	0.95	1.28E-01	9.83E-05
						Total antimony trioxide	1.87E-01	1.44E-04
64	Carbon black	E/M Lubri-bond 320	0.39	0.03	0.65	0.95	1.71E-04	1.31E-07
85	Carbon black	PTI PT-19	0.43	0.02	0.65	0.95	1.34E-04	1.03E-07
						Total carbon black	3.04E-04	2.34E-07
64	PAH	E/M Lubri-bond 320	0.39	2.30E-07	0.65	0.95	1.57E-09	1.21E-12
85	PAH	PTI PT-19	0.43	1.62E-07	0.65	0.95	1.23E-09	9.45E-13
						Total PAH	2.80E-09	2.15E-12

Baking Oven (A/N 150648), DN 70014, EPN 60003

The baking oven is electrically heated. No emissions are expected from the baking oven.

Drying Oven (A/N 150652), DN 70015, EPN 60004

The drying oven is electrically heated. No emissions are expected from the drying oven.

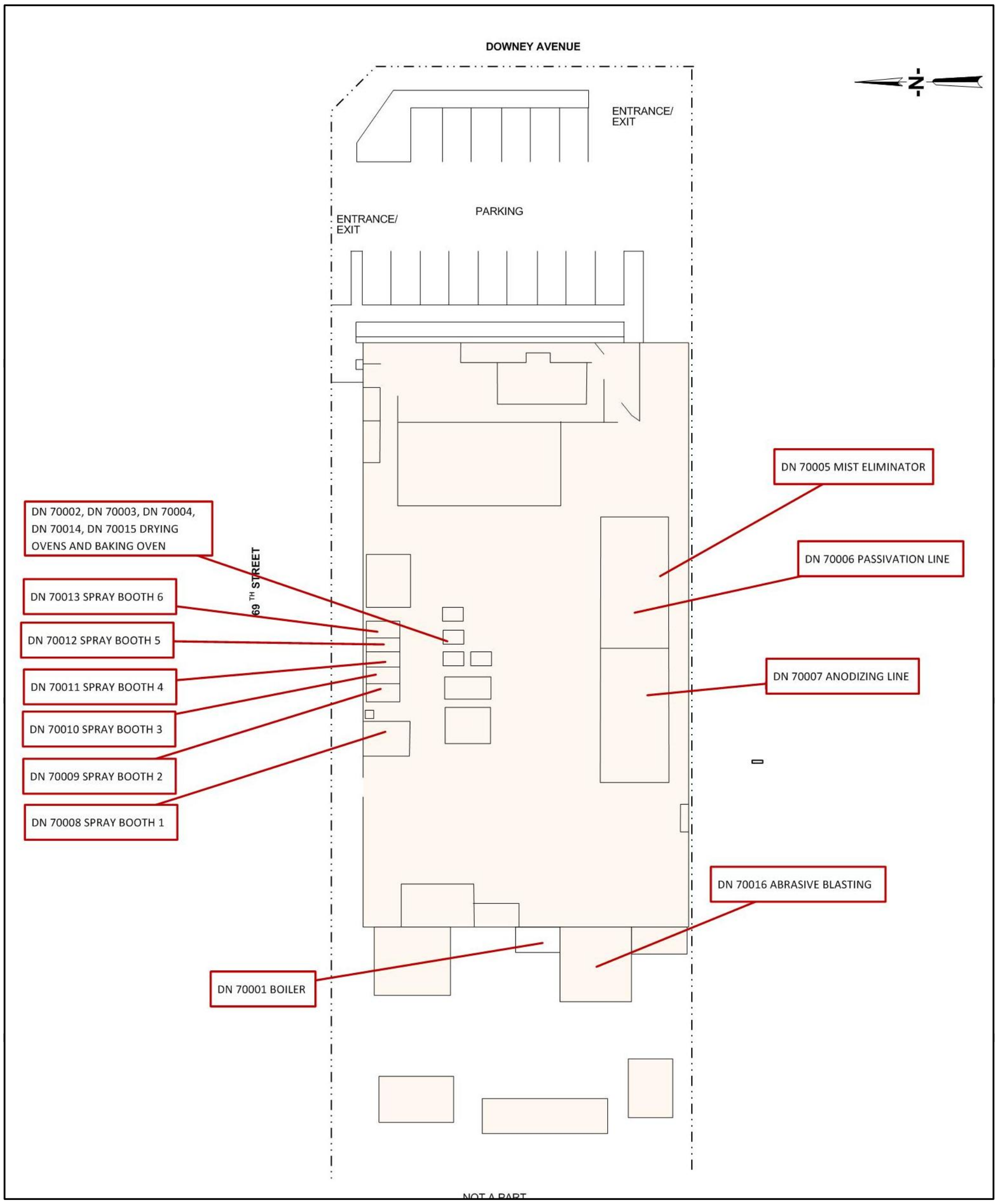
Abrasive Blasting, DN 70016, EPN 6005

Aluminum oxide used in abrasive blasting is not found in fibrous form.

Appendices

Appendix A – Facility Map

Figure 1 – Facility Map



Lubeco, Inc.
6859 Downy Avenue
Long Beach, California

Base Map Link: [DWG-594]

Appendix B – HARP Reporting Forms

File name: \\Mac\Home\Desktop\LUBE EIM export.rtf

HARP Facility Emission Summary

HARP EIM Version: 2.1.1

Project Path: \\Mac\Home\Desktop\LUBE JECCLIENT-5058 EIM
Project Database: \\Mac\Home\Desktop\LUBE JECCLIENT-5058 EIM\LUBEEHS6115ATIR.mdb
CEIDARS Utility Database: C:\HARP2\Tables\CEIDARSTables022016.mdb
Facility List: N/A
Pollutant List: N/A
Sorting Order: FACID, CO, AB, DIS, YEAR, TOXAPPEN, POLABBREV
Date Created: 9/3/19 3:50:19 PM
Operator: AMB

(Note: Emissions in LBS/YR for toxics, TONS/YR for criteria pollutants, CURRIES/YR for radio nuclides. * User defined pollutants are marked by an asterisk with the pollutant ID.)

FACILITY	NAME / ADDRESS / CITY	FSIC	ZIP	CO	AB	DIS	CATEGORY	HAP	POLLUTANT	POLLUTANT ID	EMISSIONS	YEAR
1	LUBECO INC	3471										
	6859 DOWNEY AVENUE											
	LONG BEACH		90805	19	SC	SC	A-I		1,2,4TriMeBenze	95636	1.446	2015
							A-I		Aluminum	7429905	4.900E-04	2015
							A-I		Barium	7440393	2.361E-04	2015
							A-I		CarbonBlackExtr	1050	4.702E-03	2015
							A-I		Epoxy resins	1091	27.122	2015
							A-I		Fluorides&cmpds	1101	6.457E-04	2015
							A-I		Isopropyl Alcoh	67630	128.318	2015
							A-I		n-Butyl Alcohol	71363	5.587	2015
							A-I		NH3	7664417	9.568	2015
							A-I		PGME	107982	10.906	2015
							A-I		PGMEA	108656	5.097	2015
							A-I		Phosphoric Acid	7664382	59.274	2015
							A-I		sec-Butyl Alcoh	78922	38.260	2015
							A-I		Silica, Crystln	1175	7.700E-03	2015
							A-I		Sodium Hydroxid	1310732	6.674E-02	2015
							A-I		Sulfuric Acid	7664939	107.492	2015
							A-I		Zinc	7440666	2.921E-02	2015
							A-I	Y	1,4-Dioxane	123911	0.720	2015
							A-I	Y	2MeNaphthalene	91576	7.176E-05	2015
							A-I	Y	3-MeCholanthren	56495	5.382E-06	2015
							A-I	Y	4,4'IsoprDiPhen	80057	1.300E-02	2015
							A-I	Y	4,4'-MeDianilin	101779	0.230	2015
							A-I	Y	7,12-DB[a]anthr	57976	4.784E-05	2015
							A-I	Y	Acenaphthene	83329	5.382E-06	2015
							A-I	Y	Acenaphthylene	208968	5.382E-06	2015
							A-I	Y	Acetaldehyde	75070	1.286E-02	2015
							A-I	Y	Acrolein	107028	8.073E-03	2015

7.176E-06	2015
0.523	2015
1.885E-04	2015
5.382E-06	2015
3.588E-06	2015
5.382E-06	2015
3.588E-06	2015
5.382E-06	2015
4.293E-04	2015
2.392E-02	2015
1.054E-05	2015
2.986E-03	2015
3.732E-03	2015
5.382E-06	2015
2.719E-06	2015
8.289E-02	2015
5.282	2015
9.663E-02	2015
3.588E-06	2015
16.977	2015
3.715	2015
0.720	2015
25.266	2015
7.696	2015
8.970E-06	2015
8.372E-06	2015
1.405	2015
4.295E-03	2015
0.128	2015
1.884E-02	2015
7.615E-03	2015
5.382E-06	2015
5.296E-03	2015
7.196E-03	2015
4.085	2015
319.269	2015
59.607	2015
103.343	2015
6.054E-03	2015
3.757E-03	2015

A-I	Y	Anthracene	120127
A-I	Y	Antim TriOxide	1309644
A-I	Y	Antimony	7440360
A-I	Y	B[a]anthracene	56553
A-I	Y	B[a]P	50328
A-I	Y	B[b]fluoranthen	205992
A-I	Y	B[g,h,i]perylen	191242
A-I	Y	B[k]fluoranthen	207089
A-I	Y	Barium Chromate	10294403
A-I	Y	Benzene	71432
A-I	Y	CalciumChromate	13765190
A-I	Y	Chromium	7440473
A-I	Y	ChromiumTriOxid	1333820
A-I	Y	Chrysene	218019
A-I	Y	Cobalt	7440484
A-I	Y	Cr(VI)	18540299
A-I	Y	Cresols	1319773
A-I	Y	Cumene	98828
A-I	Y	D[a,h]anthracen	53703
A-I	Y	DEGBE	112345
A-I	Y	DMF	68122
A-I	Y	EDC	107062
A-I	Y	EGBE	111762
A-I	Y	Ethyl Benzene	100414
A-I	Y	Fluoranthene	206440
A-I	Y	Fluorene	86737
A-I	Y	Formaldehyde	50000
A-I	Y	HCl	7647010
A-I	Y	HexaMeDiisocyan	822060
A-I	Y	Hexane	110543
A-I	Y	HF	7664393
A-I	Y	In[1,2,3-cd]pyr	193395
A-I	Y	Lead	7439921
A-I	Y	Manganese	7439965
A-I	Y	MeDiphenDiisocy	101688
A-I	Y	MEK	78933
A-I	Y	Methanol	67561
A-I	Y	MIBK	108101
A-I	Y	Naphthalene	91203
A-I	Y	Nickel	7440020
A-I	Y	PAHs-w/	1150

3.528E-05 2015

4.326E-08 2015

3.588E-03 2015

2.366E-03 2015

5.083E-05 2015

65.012 2015

5.512E-02 2015

1.495E-05 2015

2.734E-02 2015

454.405 2015

14.202 2015

104.650 2015

1.794 2015

A-I	Y	PAHs-w/o	1151
A-I	Y	p-DiClBenzene	106467
A-I	Y	Perc	127184
A-I	Y	Phenanthrene	85018
A-I	Y	Phenol	108952
A-I	Y	Phosphorus	7723140
A-I	Y	Pyrene	129000
A-I	Y	StrontiumChrom	7789062
A-I	Y	Toluene	108883
A-I	Y	Xylenes	1330207
Crit		CO	42101
CRIT		SULFUR DIOXIDE	7446095

Appendix C – Open Process Tank Model Output

EMISSIONS FROM OPEN PROCESS TANKS DUE TO ELECTROLYSIS AND EVAPORATION

	TOTAL		
R1(EVAP)=	0.000	LB/HR	(vaporized acids and/or ammonia--these are reported as total PM)
R1(PLAT)=	0.000	LB/HR	(Total PM)
R2(EVAP)=	0.000	LB/HR	(vaporized acids and/or ammonia--these are reported as total PM)
R2(PLAT)=	0.000	LB/HR	(Total PM)

ambiant temp= 77 F

A	B	C	D	E	F	G	H	I	J	K	L M	N	O	P	Q R
TANK No.	Chemical	WT %	OPER. T Deg F	V.P. mm HG	MW	VENT RATE CFM	Surface W x L ft x ft	I amps	CATHODE PLATING EFF. %	EVAP APCS EFF. %	PLATING APCS EFF. %	EVAP R1 lb/hr	EVAP R2 lb/hr	PLATING R1 lb/hr	PLATING R2 lb/hr
Tank 36, Ticermet B Anodizing	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	0.00E+00	0.000E+00
Tank 04, Non-Chromated Deoxidizer	H2SO4	6.1	95.0	3.24E-18	98.08	1320	30.00	0	0.00000	0.00	0.00	2.89E-19	2.89E-19	0.00E+00	0.000E+00
Tank 08, Hard Sulfuric Anodize	H2SO4	47.0	36.0	1.97E-17	98.08	1848	42.00	0	0.00000	0.00	0.00	2.43E-18	2.43E-18	0.00E+00	0.000E+00
Tank 10, Sulfuric Anodize	H2SO4	30.0	72.0	5.84E-18	98.08	1848	42.00	0	0.00000	0.00	0.00	6.89E-19	6.89E-19	0.00E+00	0.000E+00
Tank 43, Descale	HCL	0.1	77.0	0.00008	36.50	96	2.18	0	0.00000	0.00	0.00	4.77E-07	4.77E-07	0.00E+00	0.000E+00

A	S	T	U	V	W	X	Y	Z
TANK No.	Conc. lb/cu.ft	Dab ft^2/sec	air u lb/ft-sec	air p lb/ft^3	Re	Sc	Sh	k ft/sec
Tank 36, Ticermet B Anodizing	0.0000	0.0001	0.00001	0.07387	13085	1.96	118.91	0.0034
Tank 04, Non-Chromated Deoxidizer	0.0000	0.0001	0.00001	0.07387	23889	1.80	151.91	0.0026
Tank 08, Hard Sulfuric Anodize	0.0000	0.0001	0.00001	0.07387	28266	2.01	177.94	0.0023
Tank 10, Sulfuric Anodize	0.0000	0.0001	0.00001	0.07387	28266	1.88	170.00	0.0023
Tank 43, Descale	0.0000	0.0002	0.00001	0.07387	6442	1.08	56.21	0.0059

For cases where there is no ventilation, use assumed ventilation rate = 44 CFM per square foot of tank area.

Copy each entire line to increase the number of compounds.

Enter data only in columns A through L.

Notes:
R1 = uncontrolled emissions.
R2 = controlled emissions -- This means the emission rate after applying the control efficiency.

Appendix D – AB2588 Air Toxic Document Certification and Application Form

Appendix E – Unspeciated PAH Calculation

Derivation of Unspeciated PAH Factor

Listed Substance	F, lbs/mmcf
Acenaphthene	1.80E-06
Acenaphthylene	1.80E-06
Anthracene	2.40E-06
Benzo (a) anthracene	1.80E-06
Benzo (a) pyrene	1.20E-06
Benzo (b) fluoranthene	1.80E-06
Benzo (g,h,i) perylene	1.20E-06
Benzo (k) fluoranthene	1.80E-06
Chrysene	1.80E-06
Dibenz (a,h) anthracene	1.20E-06
Dimethylbenz(a)anthracene, 7,12-	1.60E-05
Fluoranthene	3.00E-06
Fluorene	2.80E-06
Indeno(1,2,3-cd)pyrene	1.80E-06
Methylcholanthrene, 3-	1.80E-06
Methylnaphthalene,2-	2.40E-05
Phenanthrene	1.70E-05
Pyrene	5.00E-06
Total	**8.82E-05**
SCAQMD aggregate PAH	**1.00E-04**
Unspeciated PAH	**1.18E-05**

Note: Unspeciated PAH is the difference between the SCAQMD PAH factor and the sum of the individual AP-42 factors.

Appendix F – Source Test

March 15, 2010

Mr. Ted Lukawski III
J.E. Compliance Services, Inc.
12505 N. Mainstreet, Ste. 212
Rancho Cucamonga, CA 91739

SUBJECT: Source Test Report for Chrome of one HEPA Filter System located at Lubeco, Inc. in Long Beach, CA
World Environmental Job #: WER2297

Dear Mr. Lukawski:

Enclosed are three (3) copies of the subject test report for Chrome Testing of one HEPA Filter. Please forward one (1) copy to your client and (1) copy to the appropriate district engineer for revision and approval.

If you have any questions, comments, or require additional information please feel free to contact me at (949) 472-9200.

Sincerely,
World Environmental

Keith Shannon
President

File Reference: rep2297.doc

20321 LAKE FOREST DRIVE, SUITE D6 • LAKE FOREST, CALIFORNIA 92630 • 949.472.9200 • Fax: 949.472.0200
www.worldenvironmental.net

"Breathe Easier"

HEXAVALENT AND TOTAL CHROMIUM EMISSIONS SOURCE TEST REPORT

PREPARED FOR:
J.E. Compliance Services
12505 N. Mainstreet, Ste. 212
Rancho Cucamonga, CA 91739

EQUIPMENT LOCATION:
Lubeco, Inc.
6895 Downey Ave.
Long Beach, CA 90805
(Facility I.D. #: 041229)

EQUIPMENT I.D.
HEPA Filter System
(SCAQMD Application #: 497233)

TEST DATES:
February 22-24, 2010

ISSUE DATE:
March 15, 2010

PARAMETERS MEASURED:
Hexavalent & Total Chromium

TESTED BY:
World Environmental
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

World Environmental Report No: WER2297
Revision #: 0

Prepared By: ______________________
Mr. Michael Andreas,
Technical Report Writer

Reviewed By: ______________________
Mr. Keith Shannon,
President of World Environmental

"Breathe Easier"

HEXAVALENT AND TOTAL CHROMIUM EMISSIONS SOURCE TEST REPORT

PREPARED FOR:
J.E. Compliance Services
12505 N. Mainstreet, Ste. 212
Rancho Cucamonga, CA 91739

EQUIPMENT LOCATION:
Lubeco, Inc.
6895 Downey Ave.
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Hexavalent & Total Chromium

TESTED BY:
World Environmental
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

World Environmental Report No: WER2297
Revision #: 0

Prepared By: ____________________
Mr. Michael Andreas,
Technical Report Writer

Reviewed By: ____________________
Mr. Keith Shannon,
President of World Environmental

HEXAVALENT AND TOTAL CHROMIUM EMISSIONS SOURCE TEST REPORT

PREPARED FOR:
J.E. Compliance Services
12505 N. Mainstreet, Ste. 212
Rancho Cucamonga, CA 91739

EQUIPMENT LOCATION:
Lubeco, Inc.
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TESTED BY:
World Environmental
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

World Environmental Report No: WER2297
Revision #: 0

Prepared By:
Mr. Michael Andreas,
Technical Report Writer

Reviewed By:
Mr. Keith Shannon,
President of World Environmental

LIST OF APPENDICES

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1.0 EXECUTIVE SUMMARY

Plant	Lubeco, Inc.
Site Address	6895 Downey Ave. Long Beach, CA 90805 (Facility I.D. #: 041229)
Source	HEPA Filter System Venting Two (2) Anodizing Tanks (SCAQMD Application #: 497233)
Test Objective	Source Test for Emissions of Hexavalent and Total Chromium
Test Date	February 22-24, 2010
Test Performed By	World Environmental, Inc. 20321 Lake Forest Drive, Suite D6 Lake Forest, CA 92630
Testing Personnel	Mr. Keith Shannon, President of World Environmental Mr. Michael Andreas, Project Manager
Project Contact	Mr. Steve Rossi (562) 602-1791
Jorgenson Environmental Contact	Mr. Ted Lukawski III (909) 472-1502

2.0 INTRODUCTION

On February 22-24, 2010, World Environmental conducted a source emission test program on one HEPA Filter System (Application #: 497233) located at Lubeco, Inc. in Long Beach, CA. The purpose of the test was to fulfill the requirements of the permit to construct/operate testing for Hexavalent and Total Chromium.

The methodology for measuring Hexavalent and Total Chromium was CARB Test Method 425. Triplicate, 240 minute test runs were performed on the exhaust stack of the Air Pollution Control Device which was connected to the Decorative Chrome Plating Line during "Maximum Operating Conditions".

Testing was coordinated by Mr. Steve Rossi of Lubeco, Inc. Testing was performed by Mr. Keith Shannon, President and Mr. Michael Andreas, Project Manager of World Environmental.

3.0 SUMMARY OF RESULTS

Facility:	**Lubeco, Inc.**
Date Tested:	February 22-24, 2010
Unit:	HEPA Filter System
Project #:	WER2297

A. February 22, 2010

Emissions	Test Run #1	SCAQMD Rule 1469 Limit
Total Test Time (min.)	240	
Stack Temp. °F:	68	
Flow Rate DSCFM:	8,623	
Tank Surface Area (ft^2)	48	
Space Velocity ((ft/min)/ft^2):	179.6	**≥ 100**
Sample Volume DSCF:	365.121	
Total Amps During Test Run	765	
Hexavalent Chrome mg/dscm lb/hr **mg/amp-hr**	 1.69×10^{-5} 5.46×10^{-7} **3.24×10^{-4}**	 **1.50×10^{-3}**
Total Chrome mg/dscm lb/hr **mg/amp-hr**	 1.64×10^{-4} 5.31×10^{-6} **3.15×10^{-3}**	

B. February 23, 2010

Emissions	Test Run #2	SCAQMD Rule 1469 Limit
Total Test Time (min.)	240	
Stack Temp. °F:	64	
Flow Rate DSCFM:	8,603	
Tank Surface Area (ft^2)	48	
Space Velocity ((ft/min)/ft^2):	179.2	**≥ 100**
Sample Volume DSCF:	303.883	
Total Amps During Test Run	706	
Hexavalent Chrome mg/dscm lb/hr **mg/amp-hr**	 2.03×10^{-5} 6.55×10^{-7} **4.21×10^{-4}**	 **1.50×10^{-3}**
Total Chrome mg/dscm lb/hr **mg/amp-hr**	 1.98×10^{-4} 6.36×10^{-6} **4.09×10^{-3}**	

C. February 24, 2010

Emissions	Test Run #3	SCAQMD Rule 1469 Limit
Total Test Time (min.)	240	
Stack Temp. °F:	66	
Flow Rate DSCFM:	8,589	
Tank Surface Area (ft^2)	48	
Space Velocity ((ft/min)/ft^2):	178.9	**≥ 100**
Sample Volume DSCF:	367.385	
Total Amps During Test Run	863	
Hexavalent Chrome mg/dscm lb/hr **mg/amp-hr**	 1.68×10^{-5} 5.41×10^{-7} **2.84×10^{-4}**	 **1.50×10^{-3}**
Total Chrome mg/dscm lb/hr **mg/amp-hr**	 1.63×10^{-4} 5.25×10^{-6} **2.76×10^{-3}**	

D. AVERAGE OF ALL THREE TEST RUNS

Emissions	Average	SCAQMD Rule 1469 Limit
Total Test Time (min.)	240	
Stack Temp. °F:	66	
Flow Rate DSCFM:	8,605	
Tank Surface Area (ft^2)	48	
Space Velocity ((ft/min)/ft^2):	179.23	**≥ 100**
Sample Volume DSCF:	345.463	
Total Amps During Test Run	778	
Hexavalent Chrome mg/dscm lb/hr **mg/amp-hr**	 1.80×10^{-5} 5.81×10^{-7} **3.43×10^{-4}**	 **1.50×10^{-3}**
Total Chrome mg/dscm lb/hr **mg/amp-hr**	 1.75×10^{-4} 5.64×10^{-6} **3.33×10^{-3}**	

***Special Note: All three sample runs' results were Non-Detect (ND), therefore ½ the Detection Limit (DL) was used to calculate the mg/amp-hr. The minimum Detection Limit reported by the lab was 0.4 mg/sample for Hexavalent Chromium and 4 mg/sample for Total Chromium.**

4.0 EQUIPMENT AND PROCESS DESCRIPTION

Air Pollution Control System Consisting Of:

1) Three-Stage Composite Mesh Pad, Scrubair, Model SCV 9000 CFM, Each 4'-0" W. x 4'-0" L. x 1'-0" H.

2) Four HEPA Filters, Each 4'-0" W. x 4'-0" L. x 1'-0" H.

3) Exhaust System with One 20 HP Exhaust Fan, 8800 CFM Capacity Venting Two Anodizing Tanks.

Process Description:
Lubeco is a job-shop metal finishing facility. Operations conducted at the facility included painting, anodizing, sealing, and coloring of metal parts for the aerospace industry. Two open process tank lines are used to apply corrosion-resistant finishes to for finish the metal parts. Both the Chromic Acid Anodizing Line (application number 497235) and the Ticermet B Anodizing Line (497234) contain open process tanks that will be vented to the new air pollution control device. Lubeco will vent the chromic acid anodizing tank, tank number 16 of the Chromic Acid Anodizing Line, and the Ticermet B anodizing tank, tank number 37 of the Ticermet B Anodizing Line, to a four-stage air pollution control device to reduce emissions of hexvalent chromium from the open process tanks and enhance compliance with SCAQMD rule 1469. Tank number 37 of the Tricermet B Anodizing line is listed in the permit as tank number 11. Revisions to the current permit to construct are underway, and will be submitted to SCAQMD upon completion.

Each of the open process tanks will be vented via lateral exhaust hoods to the four-stage air pollution control device. The first stage will consist of a 10 micron composite mesh pad. The second state will consist of a 5 micron composite mesh pad. Both the first and second stages will be periodically rinsed and the rinsate will be directed back to the process tanks for reuse.

The third stage of the air pollution control device will consist of a dry 2 micron mesh pad. Following the three mesh pad mist elimination systems the air will be directed into the fourth stage consisting of a 0.3 micron HEPA filtration system.

5.0 TESTING CHRONOLOGY

The sequence of events was as follows:

February 22, 2010

06:30	Arrived at Lubeco, Inc.
08:31	Start Test Run #1; Max Operating Load
12:31	End Test Run #1; Max Operating Load
13:00	Departed from Lubeco, Inc.

February 23, 2010

06:30	Arrived at Lubeco, Inc.
07:20	Start Test Run #2; Max Operating Load
11:20	End Test Run #2; Max Operating Load
12:00	Departed from Lubeco, Inc.

February 24, 2010

06:30	Arrived at Lubeco, Inc.
07:20	Start Test Run #3; Max Operating Load
11:20	End Test Run #3; Max Operating Load
12:45	Departed from Lubeco, Inc.

6.0 TEST CRITIQUE

On February 22-24, 2010, World Environmental conducted a source emission test program on one HEPA Filter System (Application #: 497233) located at Lubeco, Inc. in Long Beach, CA. During testing, the unit and all associated operating equipment performed without interruptions or incidence.

The methodology for measuring Hexavalent and Total Chromium was CARB Test Method 425 and the results can be found in Appendix B_1. Triplicate, 240 minute test runs were performed on the exhaust stack of the Air Pollution Control Device which was connected to the Chrome Plating Line during "Maximum Operating Conditions". Chromium samples were analyzed by Maxxam Analytics. The pH of the impinger solutions were documented after each sample run and documented on the field data sheets found in Appendix B_2. All pH readings were greater than 8.5 as required by CARB Method 425. Additionally, all sample runs' total accumulated sample volume exceeded the minimum 180 ft^3 as required by CARB Method 425. Lastly, no fume suppressant or polyballs were used during testing, therefore, surface tension testing was not required.

Facility Process Data can be found in Appendix C outlining the performance of the plating tanks for the three days of testing. Additionally, the Smoke Test was performed before and verified by SCAQMD Inspector Christopher A. Ravenstein. The videos confirming its success are found on the attached CD's.

Testing was coordinated by Mr. Steve Rossi of Lubeco, Inc. Testing was performed by Mr. Keith Shannon, President and Mr. Michael Andreas, Project Manager of World Environmental.

7.0 SAMPLING AND ANALYTICAL PROCEDURES

7.1 CARB METHOD 425 – DETERMINATION OF HEXAVALENT AND TOTAL CHROMIUM FROM STATIONARY SOURCES

INTRODUCTION

The Method 425 sampling train was used to extract and concentrate gaseous and particulate phase hexavalent and total chromium. The extract was analyzed for hexavalent chromium by the diphenylcarbazide method and total chrome by graphite furnace Atomic Absorption Spectrometry (AAS) or other suitable analytical method.

SAMPLE PREPARATION

Nozzle, probe, filter holder, and impingers were rinsed with 1:1 HNO_3, water, and 0.1N NaOH. The sample train was charged with freshly prepared chemicals. 100ml of 0.1N NaOH was placed in the first and the second impinger, the third impinger was left empty, and the fourth impinger was filled with approximately 300 grams of Silica gel. A Teflon-lined quartz filter was placed in the filter holder.

SAMPLE PROCEDURE

The apparatus consists of a quartz nozzle, quartz probe and heated filter holder followed by a series of impinger/absorbers connected and immersed in an ice bath. The absorption train was followed by a vacuum pump, dry gas meter, and a calibrated restriction orifice fitted with a manometer.

The computer was used in selection of suitable sampling points and nozzle size. The apparatus was leak tested, the filter temperature brought to temperature, and the nozzle was positioned at the first sampling point. The pump was immediately started and adjusted to obtain the isokinetic sampling rate. Each sample run was conducted for a minimum of two hours, and a minimum of 60 ft^3 sample volume obtained.

Duct conditions were monitored throughout the sampling period with a type "S" pitot tube and a type "K" thermocouple simultaneously positioned at each traverse point. Conditions at the sampling apparatus and metering device were constantly monitored and regularly recorded on the data sheet. Isokinetic sampling rate was calculated by a computer.

On completion of the sampling, the apparatus was removed from the stack, leak checked, and transported to the laboratory.

SAMPLE RECOVERY

Container No.	Item	Rinsing Solution	Quantity
1	Probe and Nozzle	0.1N NaOH	100 ml
2	Impinger #1 and #2	0.1N NaOH	100 ml
3	Filter	N/A	N/A
4	NaOH	01.N NaOH	300 ml

SAMPLE ANALYSIS

The weight increase of the impingers was measured and recorded for calculation of percent water.

The filter was removed and recovered. Sample was recovered from the nozzle, probe, filter holder, and impingers with 100mls of 0.1N NaOH and a Teflon bristle brush. The first and second impinger solutions were recovered in separate containers. All samples were sealed in a pre-cleaned amber glass bottle and forwarded to the appropriate analytical Laboratory for analysis.

NOMENCLATURE

Symbol Identification

An	=	Cross-sectional area of nozzle (ft^2)
Delta H	=	Average pressure differential across the orifice meter, (in H_2O)
%I	=	Isokinetic Rate
Mn	=	Total weight of pollutant collected, mg
Pbar	=	Barometric pressure at measurement site, (in Hg)
Pstd	=	Standard absolute pressure, 29.92 in Hg
Ps	=	Absolute stack gas pressure, (in Hg)

Theta	=	Total sampling time (min)
Tm	=	Absolute temperature at meter, (^{O}R)
Tstd	=	Standard absolute temperature, (528^{O}R)
Vlc	=	Volume of water condensed in impingers and silica gel, (ml)
Vm	=	Dry gas volume measured by dry gas meter, (dcf)
Vmstd	=	Dry gas volume measured by dry gas meter, corrected to standard conditions, (dscf)
Vs	=	Average stack gas velocity, (ft/sec)
Y	=	Dry gas meter calibration factor

EQUATIONS

Sample Gas Flow

$$\text{Vmstd} = \text{VmY}\frac{(\text{Tstd})}{\text{Tm}} \qquad \frac{(\text{Pbar} + 13.6)}{\text{Pstd}}$$

with Delta H printed above (Pbar + 13.6).

Pollutant Concentrations

$$\frac{\text{ug}}{\text{Nm}_3} = \text{ug collected/Nm}_3$$

Isokinetic Variation

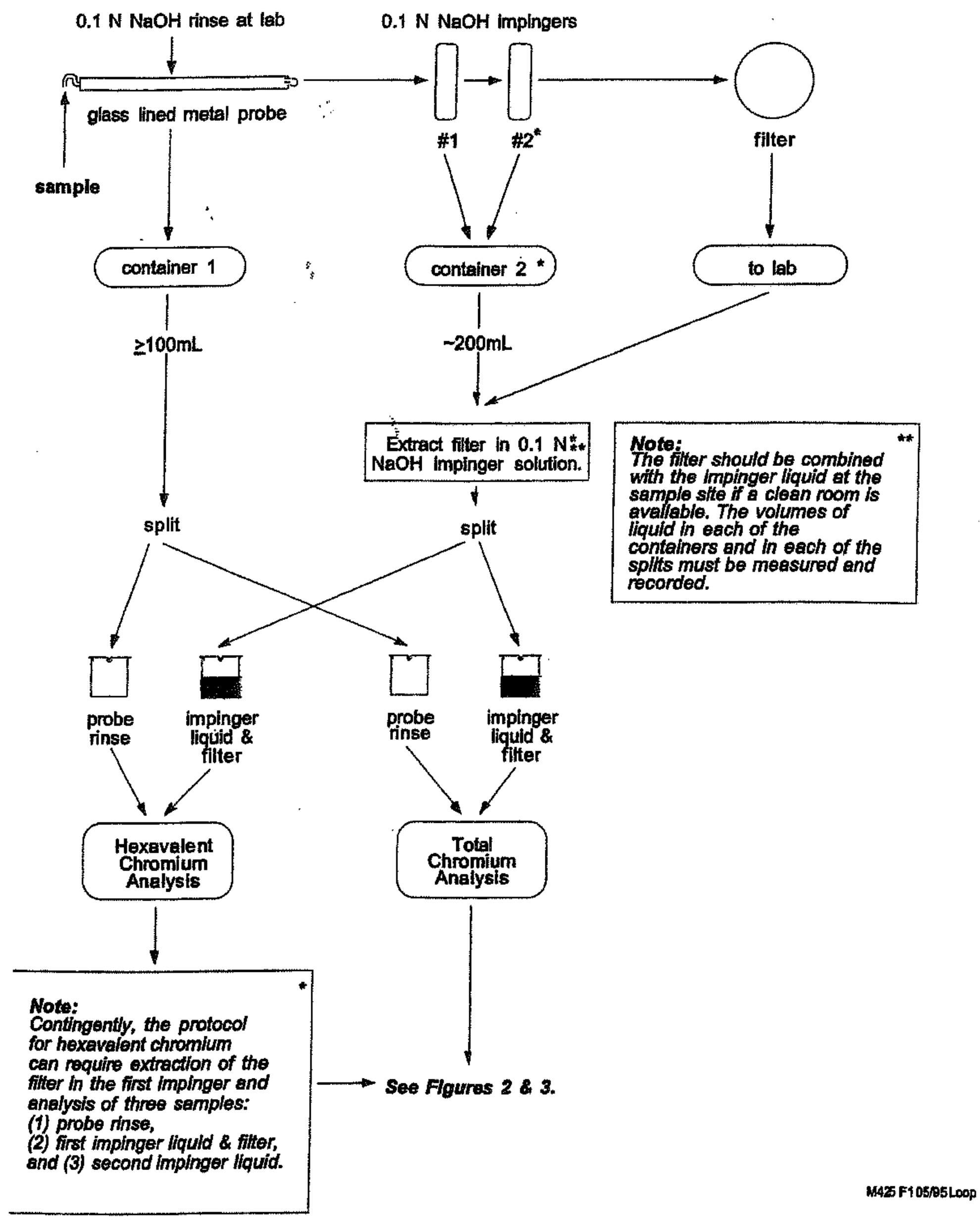
$$\%\text{I} = 100 \times \frac{\text{Ts Vlc K3} = \text{VmY/Tm } \left(\text{Pbar} = 13.6 \frac{\text{Delta H}}{}\right)}{60 \quad \text{Theta An Vs Ps}}$$

Where K3 = 0.002669 in Hg - Ft_3 /ml -^{O}R

$$\frac{\text{lb}}{\text{hr}} = \frac{\text{Ug}}{453.6\text{g}} * \frac{\text{Sample}}{\text{hr}} * \frac{\text{DSCF}}{\text{Sample}} * \frac{\text{1E-06g}}{\text{DSCF}} * \frac{\text{1 lb}}{\text{Min}} * \frac{\text{60 min.}}{\text{Ug}} \text{ hr}$$

Figure 1

SAMPLE COLLECTION AND RECOVERY FOR HEXAVALENT AND TOTAL CHROMIUM



LIST OF APPENDICES

Appendix A

Schematics of Exhaust Stack and Sample Point Locations

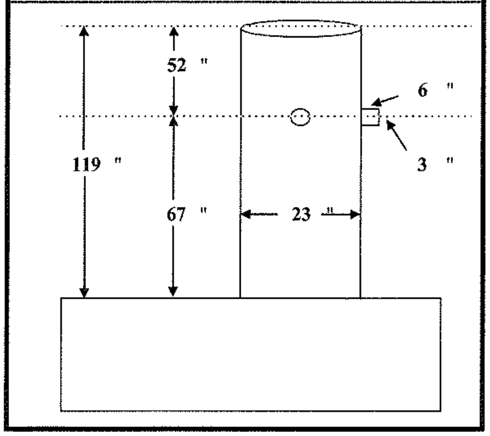
WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

SAMPLE POINT LOCATION SHEET

FACILITY:	LUBECO, INC.	
DATE:	FEBRUARY 22-24, 2010	
PROJECT #:	WER2297	
UNIT I.D.:	HEPA FILTER	
STACK DIAMETER =	23	**(in.)**
UPSTREAM DISTANCE =	52	**(in.)**
EQUIVALENT DIAMETERS =	**2.26**	
DOWNSTREAM DISTANCE =	67	**(in.)**
EQUIVALENT DIAMETERS =	**2.91**	
TOTAL SAMPLE POINTS	24	
PORT DIAMETER =	3	**(in.)**
PROTRUSION DISTANCE =	6	**(in.)**

SAMPLE METHOD: **METHOD 205.1**

SCHEMATIC



SAMPLE POINT NUMBER	% OF STACK DIAMETER	DISTANCE FROM WALL (INCHES)	DISTANCE FROM SAMPLE PORT (INCHES)
1	2.1	0.5	6.5
2	6.7	1.5	7.5
3	11.8	2.7	8.7
4	17.7	4.1	10.1
5	25.0	5.8	11.8
6	35.6	8.2	14.2
7	64.4	14.8	20.8
8	75.0	17.3	23.3
9	82.3	18.9	24.9
10	88.2	20.3	26.3
11	93.3	21.5	27.5
12	97.9	22.5	28.5

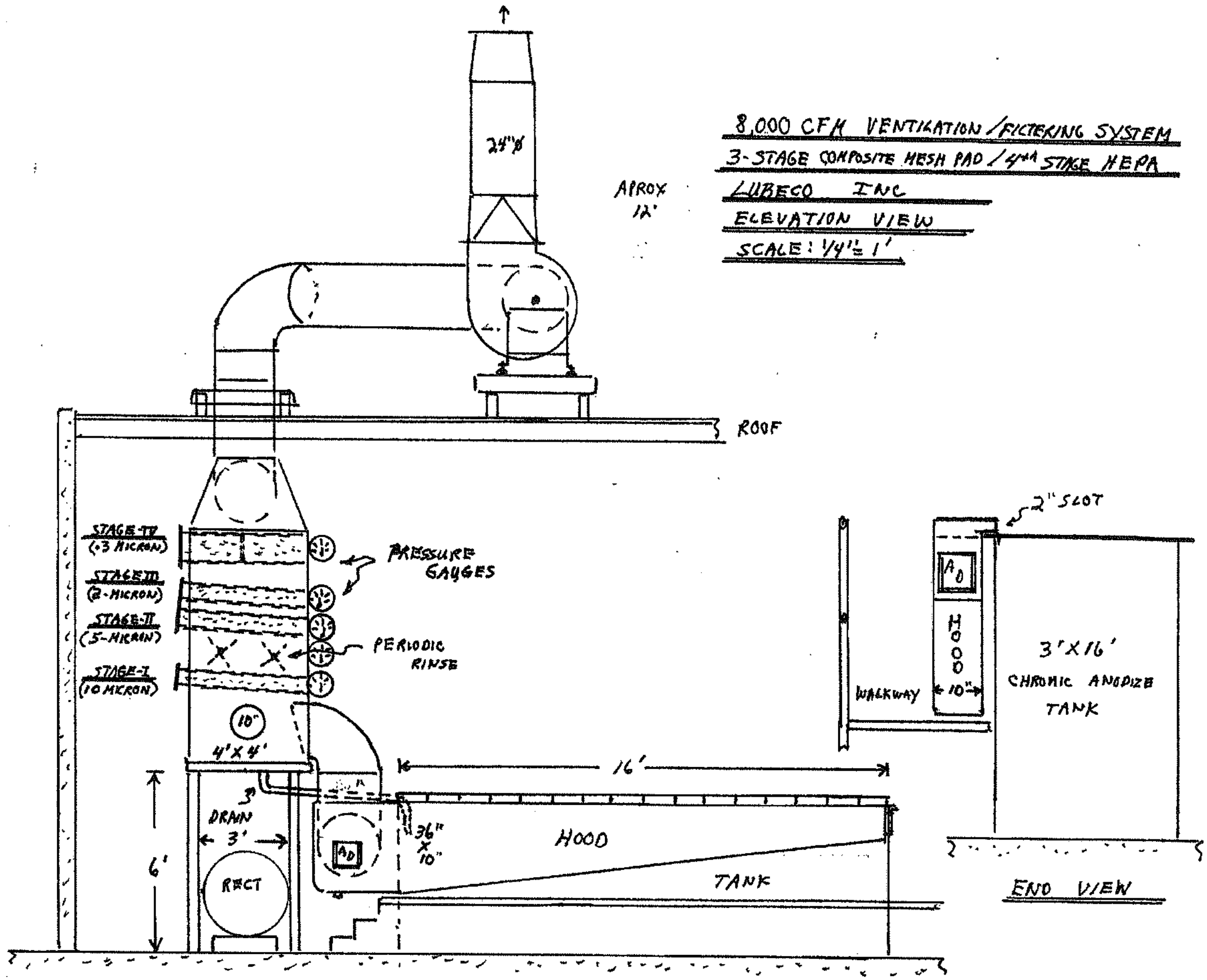
8,000 CFM VENTILATION / FILTERING SYSTEM

3-STAGE COMPOSITE MESH PAD / 4th STAGE HEPA

LUBECO INC

ELEVATION VIEW

SCALE: 1/4" = 1'



Appendix B

CARB Method 425 Results and Data Sheets

Appendix B_1

CARB Method 425 Results

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

CLIENT	LUBECO, INC.
DATE	FEBRUARY 22, 2010
PROJECT #	WER2297
UNIT I.D.#	HEPA FILTER
RUN #	1

CARB METHOD 425 RESULTS (TOTAL AND HEXAVALENT CHROME)

PARAMETER				
EXH. GAS FLOW RATE, DSCFM	8623			
SAMPLE VOLUME, DSCF	365.121			
AMPS,	765			

PARAMETER METALS	CONCENTRATION UG/SAMPLE	CONCENTRATION UG/SAMPLE (BLANK)		CONCENTRATION MG/DSCM	EMISSIONS LB/HR	CONCENTRATION MG/(AMP-HR)
TOTAL CHROME	2.00000		*	1.64406E-04	5.30598E-06	3.14614E-03
HEXAVALENT CHROME	0.20000		*	1.69242E-05	5.46204E-07	3.23867E-04

EQUATIONS

1. LB/HR=UG/1E06 X 1LB/454GR X DSCFM/DSCF X 60 MIN/HR
- **UG = UG OF METAL (REAGENT BLANK CORRECTED)**
- **454 = CONVERSION FROM GRAMS TO LBS**
- **DSCF = TOTAL VOLUME OF SAMPLE GAS**
- **DSCFM = EXHAUST GAS FLOW RATE**

2. MG/DSCM = ((UG/SAMPLE)/1000))/((SAMPLE DSCF * 0.02832))
- **UG/SAMPLE = UG OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)**
- **1000 = CONVERSION FROM MICROGRAMS TO MILLIGRAMS**
- **SAMPLE DSCF = TOTAL VOLUME OF SAMPLE GAS**
- **0.02832 = CONVERSION FROM CUBIC FEET TO CUBIC METERS**

3. MG/AMP-HR = (LB/HR)*(453.6GR/LB)*(1000MG/GR)*(SAMPLE/AMPS)
- **LB/HR = LB/HR OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)**
- **1000 = CONVERSION FROM GRAMS TO LBS**
- **SAMPLE/AMPS = TOTAL AMPS FOR ENTIRE TEST RUN**
- **453.6 = CONVERSION FROM LBS TO GRAMS**

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

CLIENT	LUBECO, INC.
DATE	FEBRUARY 23, 2010
PROJECT #	WER2297
UNIT I.D.#	HEPA FILTER
RUN #	2

CARB METHOD 425 RESULTS (TOTAL AND HEXAVALENT CHROME)

PARAMETER				
EXH. GAS FLOW RATE, DSCFM	8603			
SAMPLE VOLUME, DSCF	303.883			
AMPS,	706			

PARAMETER METALS	**CONCENTRATION UG/SAMPLE**	**CONCENTRATION UG/SAMPLE (BLANK)**		**CONCENTRATION MG/DSCM**	**EMISSIONS LB/HR**	**CONCENTRATION MG/(AMP-HR)**
TOTAL CHROME	2.00000		*	1.97537E-04	6.36045E-06	4.08654E-03
HEXAVALENT CHROME	0.20000		*	2.03347E-05	6.54752E-07	4.20674E-04

*-Results Were Found to Be Less Than The Detectable Amount And Therefore Were Defaulted to 50% of the Detection Limit

EQUATIONS

1. LB/HR=UG/1E06 X 1LB/454GR X DSCFM/DSCF X 60 MIN/HR
UG = UG OF METAL (REAGENT BLANK CORRECTED)
454 = CONVERSION FROM GRAMS TO LBS
DSCF = TOTAL VOLUME OF SAMPLE GAS
DSCFM = EXHAUST GAS FLOW RATE

2. MG/DSCM = ((UG/SAMPLE)/1000))/((SAMPLE DSCF * 0.02832))
UG/SAMPLE = UG OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)
1000 = CONVERSION FROM MICROGRAMS TO MILLIGRAMS
SAMPLE DSCF = TOTAL VOLUME OF SAMPLE GAS
0.02832 = CONVERSION FROM CUBIC FEET TO CUBIC METERS

3. MG/AMP-HR = (LB/HR)*(453.6GR/LB)*(1000MG/GR)*(SAMPLE/AMPS)
LB/HR = LB/HR OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)
1000 = CONVERSION FROM GRAMS TO LBS
SAMPLE/AMPS = TOTAL AMPS FOR ENTIRE TEST RUN

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

CLIENT	LUBECO, INC.
DATE	FEBRUARY 24, 2010
PROJECT #	WER2297
UNIT I.D.#	HEPA FILTER
RUN #	3

CARB METHOD 425 RESULTS (TOTAL AND HEXAVALENT CHROME)

PARAMETER				
EXH. GAS FLOW RATE, DSCFM	8589			
SAMPLE VOLUME, DSCF	367.385			
AMPS,	863			

PARAMETER METALS	**CONCENTRATION UG/SAMPLE**	**CONCENTRATION UG/SAMPLE (BLANK)**		**CONCENTRATION MG/DSCM**	**EMISSIONS LB/HR**	**CONCENTRATION MG/(AMP-HR)**
TOTAL CHROME	2.00000		*	1.63393E-04	5.25249E-06	2.76075E-03
HEXAVALENT CHROME	0.20000		*	1.68199E-05	5.40698E-07	2.84195E-04

*-Results Were Found to Be Less Than The Detectable Amount And Therefore Were Defaulted to 50% of the Detection Limit

EQUATIONS

1. LB/HR=UG/1E06 X 1LB/454GR X DSCFM/DSCF X 60 MIN/HR
UG = UG OF METAL (REAGENT BLANK CORRECTED)
454 = CONVERSION FROM GRAMS TO LBS
DSCF = TOTAL VOLUME OF SAMPLE GAS
DSCFM = EXHAUST GAS FLOW RATE

2. MG/DSCM = ((UG/SAMPLE)/1000))/((SAMPLE DSCF * 0.02832))
UG/SAMPLE = UG OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)
1000 = CONVERSION FROM MICROGRAMS TO MILLIGRAMS
SAMPLE DSCF = TOTAL VOLUME OF SAMPLE GAS
0.02832 = CONVERSION FROM CUBIC FEET TO CUBIC METERS

3. MG/AMP-HR = (LB/HR)*(453.6GR/LB)*(1000MG/GR)*(SAMPLE/AMPS)
LB/HR = LB/HR OF METAL PER SAMPLE (REAGENT BLANK CORRECTED)
1000 = CONVERSION FROM GRAMS TO LBS
SAMPLE/AMPS = TOTAL AMPS FOR ENTIRE TEST RUN
453.6 = CONVERSION FROM LBS TO GRAMS

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

COMPANY:	LUBECO, INC.
DATE:	FEBRUARY 22, 2010
UNIT:	HEPA FILTER
REPORT #:	WER2297
RUN #:	1
TEST TIME:	0831-1231

POINT-BY-POINT ISOKINETIC CALCULATION FOR CARB 425 TESTING

CALCULATED % MOISTURE BY METHOD 4:					
IMPINGER CONTENTS	FINAL VOL. (ML)	INIT. VOL. (ML)	NET VOL. (ML)	MEASURED FACTORS	
0.1 NaOH	102.0	100.0	2.0	Initial Meter Vol.	840.252
0.1 NaOH	101.0	100.0	1.0	Final Meter Vol.	1205.373
EMPTY	0.0	0.0	0.0	Net Volume (ft^3)	365.121
SILICA GEL	343.5	300.0	43.5	Meter Temp. 'F	80.3
				Delta H ("H_2O)	7.040
				Gamma (Ym)	1.0012
TOTALS	546.5	500.0	46.5		

Vwstd =	2.162	Vmstd =	357.709	% H_2O =	0.6

EQUATIONS:

Vwstd = 8.94 E-05 * Tstd * Vlc

Vmstd = Vm * Y * (Tstd/Tm) * ((Pb + dH/13.6)/29.92)

%H_2O = 100 * (Vwstd) / (Vwstd + Vmstd)

%ISO = (STK AREA*Vmstd*VEL*100)/(SAMPLE TIME)*(NOZZLE AREA*DSCFM)

Measured Factors:	
Std Temp 'F=	60
%CO_2 =	0.03
% O_2 =	20.9
% N_2 =	79.1
Pbar (IN. Hg) =	29.9
Static Pres. (in. H_2O) =	-7.50
Stack dia. (in.) =	23
Sample Time (min.) =	240.0
Nozzle Diameter (in.) =	0.300
Nozzle Area (ft^2) =	4.909E-04
Stack area (ft^2)=	2.88
Cp =	0.84
MW dry =	28.85
MW wet =	28.78

Sample Pt.	Delta P	Stk Temp F	Velocity	DSCFM	DGM READING	DELTA H	% ISO
1E	0.850	62	52.05	8,747	840.252	6.90	95.7
2	0.860	64	52.45	8,781	855.080	7.00	96.9
3	0.830	64	51.53	8,627	870.140	7.00	98.1
4	0.850	64	52.15	8,731	885.130	7.10	98.6
5	0.840	65	51.89	8,671	900.370	7.00	97.9
6	0.850	65	52.20	8,722	915.400	7.00	98.2
7	0.840	66	51.94	8,662	930.560	7.10	99.3
8	0.850	67	52.30	8,706	945.780	7.10	98.2
9	0.820	68	51.41	8,542	960.910	7.00	100.6
10	0.820	68	51.41	8,542	976.120	7.00	100.3
11	0.840	69	52.09	8,638	991.280	7.10	99.7
12	0.830	70	51.82	8,577	1006.530	7.00	101.9
1S	0.840	70	52.14	8,630	1022.000	7.00	97.8
2	0.820	71	51.56	8,518	1036.940	7.10	101.2
3	0.830	70	51.82	8,577	1052.200	7.10	104.1
4	0.830	70	51.82	8,577	1068.000	7.10	98.2
5	0.820	70	51.51	8,526	1082.910	7.20	100.1
6	0.830	69	51.78	8,587	1098.010	7.10	98.2
7	0.830	69	51.78	8,587	1112.940	7.10	102.2
8	0.830	71	51.87	8,569	1128.480	7.00	97.9
9	0.840	71	52.18	8,621	1143.330	7.00	102.6
10	0.840	71	52.18	8,621	1158.990	7.00	108.5
11	0.830	71	51.87	8,569	1175.550	7.00	93.0
12	0.840	72	52.23	8,613	1189.660	7.00	103.1
AVERAGES	0.836	68	51.92	8,623	1205.373	7.04	99.7
					365.121		

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

COMPANY:	LUBECO, INC.
DATE:	FEBRUARY 23, 2010
UNIT:	HEPA FILTER
REPORT #:	WER2297
RUN #:	2
TEST TIME:	0720-1120

POINT-BY-POINT ISOKINETIC CALCULATION FOR CARB 425 TESTING

CALCULATED % MOISTURE BY METHOD 4:

IMPINGER CONTENTS	FINAL VOL. (ML)	INIT. VOL. (ML)	NET VOL. (ML)	MEASURED FACTORS	
0.1 NaOH	102.0	100.0	2.0	Initial Meter Vol.	206.123
0.1 NaOH	101.0	100.0	1.0	Final Meter Vol.	510.006
EMPTY	0.0	0.0	0.0	Net Volume (ft^3)	303.883
SILICA GEL	345.7	300.0	45.7	Meter Temp. °F	70.3
				Delta H ("H_2O)	4.600
				Gamma (Ym)	1.0012
TOTALS	548.7	500.0	48.7		

Vwstd = 2.264 Vmstd = 301.506 % H_2O = 0.7

EQUATIONS:

Vwstd = 8.94 E-05 * Tstd * Vlc

Vmstd = Vm * Y * (Tstd/Tm) * ((Pb + dH/13.6)/29.92)

%H_2O = 100 * (Vwstd) / (Vwstd + Vmstd)

%ISO = (STK AREA*Vmstd*VEL*100)/(SAMPLE TIME)*(NOZZLE AREA*DSCFM)

Measured Factors:	
Std Temp °F=	60
%CO_2 =	0.03
% O_2 =	20.9
% N_2 =	79.1
Pbar (IN. Hg) =	29.9
Static Pres. (in. H_20) =	-7.50
Stack dia. (in.) =	23
Sample Time (min.) =	240.0
Nozzle Diameter (in.) =	0.275
Nozzle Area (ft^2) =	4.125E-04
Stack area (ft^2)=	2.88
Cp =	0.84
MW dry =	28.85
MW wet =	28.77

Sample Pt.	Delta P	Stk Temp F	Velocity	DSCFM	DGM READING	DELTA H	% ISO
1E	0.860	59	52.21	8,812	206.123	4.60	92.7
2	0.850	59	51.91	8,761	218.120	4.60	95.6
3	0.830	59	51.29	8,657	230.420	4.60	98.8
4	0.850	59	51.91	8,761	242.980	4.60	94.2
5	0.840	60	51.65	8,701	255.100	4.60	95.6
6	0.840	60	51.65	8,701	267.320	4.60	98.0
7	0.830	60	51.34	8,649	279.850	4.60	98.7
8	0.830	60	51.34	8,649	292.390	4.60	97.9
9	0.820	61	51.08	8,588	304.830	4.60	97.3
10	0.810	62	50.82	8,528	317.110	4.60	100.3
11	0.810	63	50.87	8,520	329.670	4.60	106.1
12	0.800	64	50.60	8,459	342.950	4.60	101.9
1S	0.800	65	50.65	8,451	355.610	4.60	100.2
2	0.820	65	51.28	8,556	368.050	4.60	98.8
3	0.810	65	50.96	8,503	380.470	4.60	98.6
4	0.830	66	51.64	8,600	392.780	4.60	97.9
5	0.830	66	51.64	8,600	405.150	4.60	99.0
6	0.830	67	51.69	8,592	417.660	4.60	105.6
7	0.820	67	51.37	8,539	430.990	4.60	107.5
8	0.820	68	51.42	8,531	444.470	4.60	107.2
9	0.830	68	51.74	8,584	457.900	4.60	104.2
10	0.830	68	51.74	8,584	471.040	4.60	115.2
11	0.830	69	51.78	8,574	485.560	4.60	99.8
12	0.830	70	51.83	8,566	498.130	4.60	94.4
AVERAGES	0.827	64	51.43	8,603	510.006	4.60	100.2
					303.883		

WORLD ENVIRONMENTAL
20321 LAKE FOREST DR., STE. D6
LAKE FOREST, CA 92630

COMPANY:	LUBECO, INC.
DATE:	FEBRUARY 24, 2010
UNIT:	HEPA FILTER
REPORT #:	WER2297
RUN #:	3
TEST TIME:	0720-1120

POINT-BY-POINT ISOKINETIC CALCULATION FOR CARB 425 TESTING

CALCULATED % MOISTURE BY METHOD 4:					
IMPINGER CONTENTS	FINAL VOL. (ML)	INIT. VOL. (ML)	NET VOL. (ML)	MEASURED FACTORS	
0.1 NaOH	102.0	100.0	2.0	Initial Meter Vol.	511.617
0.1 NaOH	101.0	100.0	1.0	Final Meter Vol.	855.002
EMPTY	0.0	0.0	0.0	Net Volume (ft^3)	343.385
SILICA GEL	345.0	300.0	45.0	Meter Temp. 'F	76.6
				Delta H ("H_2O)	6.200
				Gamma (Ym)	1.0012
TOTALS	548.0	500.0	48.0		

Vwstd =	2.231	Vmstd =	337.551	% H_2O =	0.7

EQUATIONS:

Vwstd = 8.94 E-05 * Tstd * Vlc

Vmstd = Vm * Y * (Tstd/Tm) * ((Pb + dH/13.6)/29.92)

%H_2O = 100 * (Vwstd) / (Vwstd + Vmstd)

%ISO = (STK AREA*Vmstd*VEL*100)/(SAMPLE TIME)*(NOZZLE AREA*DSCFM)

Measured Factors:	
Std Temp 'F=	60
%CO_2 =	0.03
% O_2 =	20.9
% N_2 =	79.1
Pbar (IN. Hg) =	29.86
Static Pres. (in. H_20) =	-7.50
Stack dia. (in.) =	23
Sample Time (min.) =	240.0
Nozzle Diameter (in.) =	0.300
Nozzle Area (ft^2) =	4.909E-04
Stack area (ft^2)=	2.88
Cp =	0.84
MW dry =	28.85
MW wet =	28.78

Sample Pt.	Delta P	Stk Temp F	Velocity	DSCFM	DGM READING	DELTA H	% ISO
1E	0.820	64	51.25	8,563	511.617	6.20	97.7
2	0.830	65	51.61	8,607	526.400	6.20	98.1
3	0.830	64	51.57	8,617	541.320	6.20	98.3
4	0.820	63	51.20	8,571	556.280	6.20	98.9
5	0.830	63	51.52	8,625	571.250	6.20	98.2
6	0.840	63	51.83	8,677	586.220	6.20	97.1
7	0.840	63	51.83	8,677	601.100	6.20	99.9
8	0.830	64	51.57	8,617	616.420	6.20	103.7
9	0.820	64	51.25	8,563	632.200	6.20	105.0
10	0.830	65	51.61	8,607	648.080	6.20	107.5
11	0.830	64	51.57	8,617	664.430	6.20	102.6
12	0.840	66	51.97	8,651	680.050	6.20	98.9
1S	0.830	67	51.71	8,591	695.170	6.20	99.1
2	0.820	67	51.40	8,540	710.210	6.20	102.4
3	0.830	67	51.71	8,591	725.660	6.20	100.4
4	0.830	67	51.71	8,591	740.900	6.20	104.4
5	0.820	67	51.40	8,540	756.740	6.20	99.1
6	0.820	68	51.45	8,532	771.690	6.20	101.7
7	0.830	70	51.86	8,567	787.020	6.20	103.5
8	0.830	70	51.86	8,567	802.680	6.20	101.5
9	0.830	71	51.91	8,559	818.040	6.20	99.9
10	0.840	71	52.22	8,611	833.150	6.20	99.8
11	0.830	71	51.91	8,559	848.330	6.20	100.9
12	0.820	71	51.59	8,507	863.590	6.20	102.6
AVERAGES	0.829	66	51.65	8,589	879.002	6.20	100.9
					367.385		

Appendix B_2

CARB Method 425 Field Data Sheets

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

FACILITY:	Lubeco	TEST METHOD:	425
DATE:	2-22-10	PROBE LENGTH:	5'
UNIT I.D.:	HEPA Filter	PROBE I.D.#:	P1-5
RUN #:	1	PITOT COEF:	0.84
PROJECT #:	WER2297	METER BOX #	CAE16
STACK DIA:	23"	DELTA H@	1.7218
OPERATOR:	KS	GAMMA (Y)	1.0012
Pbar(in Hg)	29.90	MAG. I.D.#:	Inclined
STATIC(in H2O):	-7.5	T.C. I.D. #:	N/A
NOZZEL DIA:	1) 0.300	2) 0.300	3) 0.300
START TIME	0831	END TIME	1231

IMPINGER WEIGHTS AND VOLUMES

CONTENT	FINAL	INITIAL	NET
0.1 N NaOH	102	100	2
0.1 N NaOH	101	100	1
Empty	0	0	0
Silica	343.5	300	43.5
		TOTAL=	46.5
FILTER I.D.#:		Run#1	

PITOT TUBE LEAK CHECK

INITIAL	✓	FINAL	✓

METER LEAK CHECK

	RATE	"Hg
INITIAL	0.006	22
FINAL	0.008	23

pH @ End of Run ≥ 13.5

TIME (MINUTES)	SAMPLE POINT LOCATION	GAS METER VOLUME	PUMP VACUUM ("Hg)	GAS METER Tm IN	GAS METER Tm OUT	DELTA H	LAST IMPINGER TEMP. (DEG. F)	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
0	Side - 1	840.252	13.0	60	59	6.9	54	0.85	62	N/A	N/A
10	2	855.08	13.0	77	64	7.0	57	0.86	64	N/A	N/A
20	3	870.14	13.0	76	67	7.0	59	0.83	64	N/A	N/A
30	4	885.13	13.0	76	67	7.1	59	0.85	64	N/A	N/A
40	5	900.37	13.0	77	68	7.0	56	0.84	65	N/A	N/A
50	6	915.40	13.0	79	69	7.0	55	0.85	65	N/A	N/A
60	7	930.56	13.0	80	70	7.1	54	0.84	66	N/A	N/A
70	8	945.78	13.0	80	70	7.1	54	0.85	67	N/A	N/A
80	9	960.91	13.0	80	71	7.0	53	0.82	68	N/A	N/A
90	10	976.12	13.0	81	71	7.0	53	0.82	68	N/A	N/A
100	11	991.28	13.0	80	72	7.1	53	0.84	69	N/A	N/A
110	12	1006.53	13.0	82	75	7.0	53	0.83	70	N/A	N/A
120	Top - 1	1022.00	13.0	83	73	7.0	53	0.84	70	N/A	N/A
130	2	1036.94	13.0	83	73	7.1	53	0.82	71	N/A	N/A
140	3	1052.20	13.0	84	75	7.1	52	0.83	70	N/A	N/A
150	4	1068.00	13.0	84	75	7.1	52	0.83	70	N/A	N/A
160	5	1082.91	13.0	84	75	7.2	52	0.82	70	N/A	N/A
170	6	1098.01	13.0	84	76	7.1	51	0.83	69	N/A	N/A
180	7	1112.94	13.0	85	77	7.1	51	0.83	71	N/A	N/A
190	8	1128.48	13.0	85	77	7.0	51	0.83	71	N/A	N/A
200	9	1143.33	13.0	87	79	7.0	51	0.84	69	N/A	N/A
210	10	1158.99	13.0	87	79	7.0	51	0.84	71	N/A	N/A
220	11	1175.55	13.0	87	79	7.0	51	0.83	71	N/A	N/A
230	12	1189.66	13.0	88	80	7.0	51	0.84	72	N/A	N/A
240		1205.373									

TEST TIME	Vm	Tm	DELTA H	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
4 hrs.	365.121	80.25	7.04	0.836	68.2	N/A	N/A

WORLD ENVIRONMENTAL

20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

FACILITY:	Lubeco	TEST METHOD:	425
DATE:	2-28-10	PROBE LENGTH:	5'
UNIT I.D.:	HEPA Filter	PROBE I.D.#:	P2-5
RUN #:	2	PITOT COEF:	0.84
PROJECT #:	WER2297	METER BOX #	CAE 6
STACK DIA:	23"	DELTA H@	1.7218
OPERATOR:	KS	GAMMA (Y)	1.0012
Pbar(in Hg)	29.90	MAG. I.D.#:	Inclined
STATIC(in H2O):	-7.5	T.C. I.D. #:	N/A
NOZZEL DIA:	1) 0.275	2) 0.275	3) 0.275
START TIME	0720	END TIME	1120

IMPINGER WEIGHTS AND VOLUMES

CONTENT	FINAL	INITIAL	NET
0.1 N NaOH	102	100	2
0.1N NaOH	101	100	1
Empty	0	0	0
Silica	345.7	300	45.7
		TOTAL=	48.7
FILTER I.D.#:		Run #2	

PITOT TUBE LEAK CHECK

INITIAL	✓	FINAL	✓

METER LEAK CHECK

	RATE	"Hg
INITIAL	0.004	22
FINAL	0.008	23

pH @ End of Run ≥ 13.5

TIME (MINUTES)	SAMPLE POINT LOCATION	GAS METER VOLUME	PUMP VACUUM ("Hg)	GAS METER Tm IN	GAS METER Tm OUT	DELTA H	LAST IMPINGER TEMP. (DEG. F)	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
0	Side-1	206.123	16.5	47	43	4.6	44	0.86	59	N/A	N/A
10	2	218.12	16.5	47	43	4.6	44	0.85	59	N/A	N/A
20	3	230.42	16.5	51	46	4.6	46	0.83	59	N/A	N/A
30	4	242.98	16.5	58	49	4.6	49	0.85	59	N/A	N/A
40	5	255.10	16.5	63	52	4.6	51	0.84	60	N/A	N/A
50	6	267.32	16.5	67	55	4.6	53	0.84	60	N/A	N/A
60	7	279.85	16.5	68	56	4.6	56	0.83	60	N/A	N/A
70	8	292.39	16.5	69	57	4.6	54	0.83	60	N/A	N/A
80	9	304.83	16.5	71	62	4.6	53	0.82	61	N/A	N/A
90	10	317.11	16.5	73	65	4.6	53	0.81	62	N/A	N/A
100	11	339.67	16.5	75	68	4.6	52	0.81	63	N/A	N/A
110	12	342.95	16.5	78	71	4.6	51	0.80	64	N/A	N/A
120	Top-1	355.61	16.5	80	74	4.6	51	0.80	65	N/A	N/A
130	2	368.05	16.5	81	75	4.6	51	0.82	65	N/A	N/A
140	3	380.47	16.5	82	75	4.6	51	0.81	65	N/A	N/A
150	4	392.78	16.5	82	75	4.6	52	0.83	66	N/A	N/A
160	5	405.15	16.5	83	75	4.6	52	0.83	66	N/A	N/A
170	6	417.66	16.5	84	76	4.6	52	0.83	67	N/A	N/A
180	7	430.99	16.5	85	76	4.6	53	0.82	67	N/A	N/A
190	8	444.47	16.5	87	78	4.6	53	0.82	68	N/A	N/A
200	9	457.90	16.5	88	79	4.6	53	0.83	68	N/A	N/A
210	10	471.04	16.5	88	79	4.6	53	0.83	68	N/A	N/A
220	11	485.56	16.5	89	80	4.6	53	0.83	69	N/A	N/A
230	12	498.13	16.5	90	81	4.6	54	0.83	70	N/A	N/A
240		510.006									

TEST TIME	Vm	Tm	DELTA H	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
4 hrs.	303.883	70.31	4.6	0.827	63.8	N/A	N/A

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

FACILITY:	Lubeco	TEST METHOD:	425
DATE:	2-24-10	PROBE LENGTH:	5'
UNIT I.D.:	HEPA Filter	PROBE I.D.#:	P1-5
RUN #:	3	PITOT COEF:	0.84
PROJECT #:	WER2297	METER BOX #	CAE16
STACK DIA:	23"	DELTA H@	1.7218
OPERATOR:	KS	GAMMA (Y)	1.0012
Pbar(in Hg)	29.86	MAG. I.D.#:	Inclined
STATIC(in H2O):	-7.5	T.C. I.D. #:	N/A
NOZZEL DIA:	1) 0.300	2) 0.300	3) 0.300
START TIME	0720	END TIME	1120

IMPINGER WEIGHTS AND VOLUMES

CONTENT	FINAL	INITIAL	NET
0.1 N NaOH	102	100	2
0.1 N NaOH	101	100	1
Empty	0	0	0
Silica	345.0	300	45.0
		TOTAL=	48.0
FILTER I.D.#:		Run #3	

PITOT TUBE LEAK CHECK

INITIAL	✓	FINAL	✓

METER LEAK CHECK

	RATE	"Hg
INITIAL	0.008	20
FINAL	0.006	23

pH @ End of Test ≥ 13.5

TIME (MINUTES)	SAMPLE POINT LOCATION	GAS METER VOLUME	PUMP VACUUM ("Hg)	GAS METER Tm IN	GAS METER Tm OUT	DELTA H	LAST IMPINGER TEMP. (DEG. F)	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
0	Top - 1	511.617	15.0	56	52	6.2	55	0.82	64	N/A	N/A
10	2	526.40	15.0	59	53	6.2	58	0.83	65	N/A	N/A
20	3	541.32	15.0	65	54	6.2	59	0.83	64	N/A	N/A
30	4	556.28	15.0	71	59	6.2	56	0.82	63	N/A	N/A
40	5	571.25	15.0	72	62	6.2	55	0.83	63	N/A	N/A
50	6	586.22	15.0	73	63	6.2	54	0.84	63	N/A	N/A
60	7	601.10	15.0	76	64	6.2	54	0.84	63	N/A	N/A
70	8	616.42	15.0	78	67	6.2	54	0.83	64	N/A	N/A
80	9	632.20	15.0	81	69	6.2	53	0.82	64	N/A	N/A
90	10	648.08	15.0	83	73	6.2	52	0.83	65	N/A	N/A
100	11	664.43	15.0	84	74	6.2	52	0.83	64	N/A	N/A
110	12	680.05	15.0	84	75	6.2	52	0.84	66	N/A	N/A
120	Side - 1	695.17	15.0	85	76	6.2	51	0.83	67	N/A	N/A
130	2	710.21	15.0	86	77	6.2	52	0.82	67	N/A	N/A
140	3	725.66	15.0	87	78	6.2	52	0.83	67	N/A	N/A
150	4	740.90	15.0	88	79	6.2	53	0.83	67	N/A	N/A
160	5	756.74	15.0	89	80	6.2	54	0.82	67	N/A	N/A
170	6	771.69	15.0	89	81	6.2	55	0.82	68	N/A	N/A
180	7	787.02	15.0	90	81	6.2	55	0.83	70	N/A	N/A
190	8	802.68	15.0	90	82	6.2	55	0.83	70	N/A	N/A
200	9	818.04	15.0	90	82	6.2	55	0.83	71	N/A	N/A
210	10	833.15	15.0	90	83	6.2	56	0.84	71	N/A	N/A
220	11	848.33	15.0	91	83	6.2	56	0.83	71	N/A	N/A
230	12	863.59	15.0	91	83	6.2	56	0.82	71	N/A	N/A
240		879.002									

TEST TIME	Vm	Tm	DELTA H	DELTA P	STACK TEMP	PROBE TEMP	FILTER TEMP
4 hrs.	367.385	76.63	6.2	0.829	66.5	N/A	N/A

Appendix B_3

CARB Method 425 Laboratory Analysis

Driven by Service and Science

Prepared for: World Environmental

Project: Lubeco

Analytical Data Package

Analysis: Method CARB 425

Maxxam Job #: B023245

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Maxxam Analytics

Driven by Service and Science

I hereby certify that to the best of my knowledge all analytical data presented in this report:

- Has been checked for completeness.
- Is accurate, legible and error free.
- Has been conducted in accordance with approved SOP's and that all deviations are clearly listed in the Case Narrative.
- This report has been generated in .pdf format.

Review Performed By: Lina Barreto 2010.03.22 15:35:52 -04'00'

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Glossary of Terms

- ***MDL*** represents the Minimum Detection Limit below which the laboratory cannot confirm the presence of the analyte to the 95% confidence level.
- ***RDL*** represents the Reportable Detection Limit and is usually set at a value equivalent to the lowest calibration standard.
- ***Acceptance Criteria*** are values used by the laboratory to determine that a process is in control.
- ***Accuracy*** is the degree of agreement of a measured value with the true or expected value.
- ***Calibration Standards*** are a set of solutions containing the analytes of interest at a specified concentration.
- ***Calibration Verification Standard*** consists of a calibration standard solution of intermediate concentration (mid-point initial calibration level) used to access whether the initial calibration is still valid
- ***Certified Reference Material*** is a stable homogenous material that is certified by repetitive analysis from a supplier who is certified to generate said materials.
- ***Internal Standard*** a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrumental analysis to compensate for injection variablity.
- ***Isomer*** is a member of a group of compounds that differ from each other only in the locations of a specific number of common substituent atoms or groups of atoms on the parent compound.
- ***Method Blank*** is a laboratory control sample using reagents that are known to be free of contamination.
- ***Precision*** is the degree of agreement between the data generated from repetitive measurements under specific conditions.
- ***Quality Assurance*** is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality.
- ***Quality Control*** is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of the end user.
- ***RSD*** is the relative standard deviation.
- ***Blank Spike*** is a laboratory control sample that has been fortified with native analytes of interest.
- ***Window Definng Mixture*** is a solution containing only the earliest and latest eluting congeners within each homologous group of target analytes on a specified GC column.
- ***RPD*** or Relative Percent Difference. A measure used to compare duplicate sample analysis.
- ***EMPC/NDR*** – Peak detected does not meet ratio criteria and has resulted in a higher detection limit.

Maxxam Analytics

Driven by Service and Science

1.0 Project Narrative

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PROJECT NARRATIVE

Maxxam Analytics (Burlington ON)
Maxxam Job #: B023245

Client: World Environmental
Client Project: WER2297 LUBECO

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run
Hexavalent Chromium (CARB425)					
FE6112	C425-REAGENT BLANK-LIQUID	2010/02/24	2010/02/25	2010/03/03	2010/03/03
FE6113	C425-HEPA FILTER-RUN 1-FH	2010/02/22	2010/02/25	2010/03/03	2010/03/03
FE6114	C425-HEPA FILTER-RUN 1-BH	2010/02/22	2010/02/25	2010/03/03	2010/03/03
FE6114 Dup	C425-HEPA FILTER-RUN 1-BH	2010/02/22	2010/02/25	2010/03/03	2010/03/03
FE6115	C425-HEPA FILTER-RUN 2-FH	2010/02/23	2010/02/25	2010/03/03	2010/03/03
FE6116	C425-HEPA FILTER-RUN 2-BH	2010/02/23	2010/02/25	2010/03/03	2010/03/03
FE6117	C425-HEPA FILTER-RUN 3-FH	2010/02/24	2010/02/25	2010/03/03	2010/03/03
FE6118	C425-HEPA FILTER-RUN 3-BH	2010/02/24	2010/02/25	2010/03/03	2010/03/03
FE6119	C425-HEPA FILTER-RUN 4-FH	2010/02/24	2010/02/25	2010/03/03	2010/03/03
FE6120	C425-HEPA FILTER-RUN 4-BH	2010/02/24	2010/02/25	2010/03/03	2010/03/03
Total Chromium by ICP (CARB 425)					
FE6112	C425-REAGENT BLANK-LIQUID	2010/02/24	2010/02/25	2010/03/04	2010/03/05
FE6113	C425-HEPA FILTER-RUN 1-FH	2010/02/22	2010/02/25	2010/03/04	2010/03/05
FE6114	C425-HEPA FILTER-RUN 1-BH	2010/02/22	2010/02/25	2010/03/04	2010/03/05
FE6114 Dup	C425-HEPA FILTER-RUN 1-BH	2010/02/22	2010/02/25	2010/03/04	2010/03/05
FE6115	C425-HEPA FILTER-RUN 2-FH	2010/02/23	2010/02/25	2010/03/04	2010/03/05
FE6116	C425-HEPA FILTER-RUN 2-BH	2010/02/23	2010/02/25	2010/03/04	2010/03/05
FE6117	C425-HEPA FILTER-RUN 3-FH	2010/02/24	2010/02/25	2010/03/04	2010/03/05
FE6118	C425-HEPA FILTER-RUN 3-BH	2010/02/24	2010/02/25	2010/03/04	2010/03/05
FE6119	C425-HEPA FILTER-RUN 4-FH	2010/02/24	2010/02/25	2010/03/04	2010/03/05
FE6120	C425-HEPA FILTER-RUN 4-BH	2010/02/24	2010/02/25	2010/03/04	2010/03/05
Volume of Sodium Hydroxide Impinger					
FE6112	C425-REAGENT BLANK-LIQUID	2010/02/24	2010/02/25	N/A	2010/03/09
FE6113	C425-HEPA FILTER-RUN 1-FH	2010/02/22	2010/02/25	N/A	2010/03/09
FE6114	C425-HEPA FILTER-RUN 1-BH	2010/02/22	2010/02/25	N/A	2010/03/09
FE6115	C425-HEPA FILTER-RUN 2-FH	2010/02/23	2010/02/25	N/A	2010/03/09
FE6116	C425-HEPA FILTER-RUN 2-BH	2010/02/23	2010/02/25	N/A	2010/03/09
FE6117	C425-HEPA FILTER-RUN 3-FH	2010/02/24	2010/02/25	N/A	2010/03/09
FE6118	C425-HEPA FILTER-RUN 3-BH	2010/02/24	2010/02/25	N/A	2010/03/09
FE6119	C425-HEPA FILTER-RUN 4-FH	2010/02/24	2010/02/25	N/A	2010/03/09
FE6120	C425-HEPA FILTER-RUN 4-BH	2010/02/24	2010/02/25	N/A	2010/03/09

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: none encountered

c) Documentation Problems: none encountered

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

2010/03/22

Lina Barreto

Date

Maxxam Analytics

Driven by Service and Science

2.0 Summary Report

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Your Project #: WER2297
Site:LUBECO

Attention: Keith Shannon
World Environmental
20321 Lake Forest Dr
Suite D6
Lake Forest, CA
USA 92630

Report Date: 2010/03/11

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B023245
Received: 2010/02/25, 12:10

Sample Matrix: Stack Sampling Train
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Method Reference
Total Chromium by ICP (CARB 425)	9	2010/03/04	2010/03/05	CAM SOP-00408 / BRL SOP-00102	CARB 425 (425)
Hexavalent Chromium (CARB425)	9	2010/03/03	2010/03/03	BRL SOP-00106	CARB 425 (425)
Volume of Sodium Hydroxide Impinger	9	N/A	2010/03/09		

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

LINA BARRETO, Project Manager Assistant
Email: Lina.Barreto@maxxamanalytics.com
Phone# (905) 817-5700

==
Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

Maxxam ID		FE6112		FE6113		FE6114			
Sampling Date		2010/02/24		2010/02/22		2010/02/22			
	Units	**C425-REAGENT BLANK-LIQUID**	**RDL**	**C425-HEPA FILTER-RUN 1-FH**	**RDL**	**C425-HEPA FILTER-RUN 1-BH**	**RDL**	**QC Batch**	**MDL**
Volume	ml	100	1	190	1	500	1	2091561	1
Hexavalent Chromium (Cr 6+)	ug	ND	0.05	ND	0.1	ND	0.3	2091556	0.01

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FE6115		FE6116		FE6117			
Sampling Date		2010/02/23		2010/02/23		2010/02/24			
	Units	**C425-HEPA FILTER-RUN 2-FH**	**RDL**	**C425-HEPA FILTER-RUN 2-BH**	**RDL**	**C425-HEPA FILTER-RUN 3-FH**	**RDL**	**QC Batch**	**MDL**
Volume	ml	190	1	500	1	190	1	2091561	1
Hexavalent Chromium (Cr 6+)	ug	ND	0.1	ND	0.3	ND	0.1	2091556	0.01

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FE6118		FE6119			
Sampling Date		2010/02/24		2010/02/24			
	Units	**C425-HEPA FILTER-RUN 3-BH**	**RDL**	**C425-HEPA FILTER-RUN 4-FH**	**RDL**	**QC Batch**	**MDL**
Volume	ml	500	1	200	1	2091561	1
Hexavalent Chromium (Cr 6+)	ug	ND	0.3	ND	0.1	2091556	0.01

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

RESULTS OF ANALYSES OF STACK SAMPLING TRAIN

Maxxam ID		FE6120			
Sampling Date		2010/02/24			
	Units	**C425-HEPA FILTER-RUN 4-BH**	**RDL**	**QC Batch**	**MDL**
Volume	ml	490	1	2091561	1
Hexavalent Chromium (Cr 6+)	ug	ND	0.2	2091556	0.01

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

ELEMENTS BY ICP-AES (STACK SAMPLING TRAIN)

Maxxam ID		FE6112		FE6113		FE6114		FE6115			
Sampling Date		2010/02/24		2010/02/22		2010/02/22		2010/02/23			
	Units	**C425-REAGENT BLANK-LIQUID**	**RDL**	**C425-HEPA FILTER-RUN 1-FH**	**RDL**	**C425-HEPA FILTER-RUN 1-BH**	**RDL**	**C425-HEPA FILTER-RUN 2-FH**	**RDL**	**QC Batch**	**MDL**
Total Chromium (Cr)	ug	ND	0.6	ND	1	ND	3	ND	1	2092582	0.3

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FE6116		FE6117		FE6118		FE6119			
Sampling Date		2010/02/23		2010/02/24		2010/02/24		2010/02/24			
	Units	**C425-HEPA FILTER-RUN 2-BH**	**RDL**	**C425-HEPA FILTER-RUN 3-FH**	**RDL**	**C425-HEPA FILTER-RUN 3-BH**	**RDL**	**C425-HEPA FILTER-RUN 4-FH**	**RDL**	**QC Batch**	**MDL**
Total Chromium (Cr)	ug	ND	3	ND	1	ND	3	ND	1	2092582	0.3

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam ID		FE6120			
Sampling Date		2010/02/24			
	Units	**C425-HEPA FILTER-RUN 4-BH**	**RDL**	**QC Batch**	**MDL**
Total Chromium (Cr)	ug	ND	3	2092582	0.3

ND = Not detected
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

Test Summary

Maxxam ID FE6112 **Collected** 2010/02/24
Sample ID C425-REAGENT BLANK-LIQUID **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6113 **Collected** 2010/02/22
Sample ID C425-HEPA FILTER-RUN 1-FH **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6114 **Collected** 2010/02/22
Sample ID C425-HEPA FILTER-RUN 1-BH **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6114 Dup **Collected** 2010/02/22
Sample ID C425-HEPA FILTER-RUN 1-BH **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE

Maxxam ID FE6115 **Collected** 2010/02/23
Sample ID C425-HEPA FILTER-RUN 2-FH **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6116 **Collected** 2010/02/23
Sample ID C425-HEPA FILTER-RUN 2-BH **Shipped**
Matrix Stack Sampling Train **Received** 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

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Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

Test Summary

Maxxam ID FE6117
Sample ID C425-HEPA FILTER-RUN 3-FH
Matrix Stack Sampling Train
Collected 2010/02/24
Shipped
Received 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6118
Sample ID C425-HEPA FILTER-RUN 3-BH
Matrix Stack Sampling Train
Collected 2010/02/24
Shipped
Received 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6119
Sample ID C425-HEPA FILTER-RUN 4-FH
Matrix Stack Sampling Train
Collected 2010/02/24
Shipped
Received 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam ID FE6120
Sample ID C425-HEPA FILTER-RUN 4-BH
Matrix Stack Sampling Train
Collected 2010/02/24
Shipped
Received 2010/02/25

Test Description	Instrumentation	Batch	Extracted	Analyzed	Analyst
Total Chromium by ICP (CARB 425)	ICP	2092582	2010/03/04	2010/03/05	APT
Hexavalent Chromium (CARB425)	IC/SPEC	2091556	2010/03/03	2010/03/03	LLE
Volume of Sodium Hydroxide Impinger		2091561	N/A	2010/03/09	LLE

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B023245
Report Date: 2010/03/11

World Environmental
Client Project #: WER2297
Project name: LUBECO

GENERAL COMMENTS

Results relate only to the items tested.

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World Environmental
Attention: Keith Shannon
Client Project #: WER2297
P.O. #:
Project name: LUBECO

Quality Assurance Report

Maxxam Job Number: GB023245

QA/QC Batch Num Init	QC Type	Parameter	Date Analyzed yyyy/mm/dd	Value	%Recovery	Units	QC Limits
2091556 LLE	Matrix Spike (FE6114)	Hexavalent Chromium (Cr 6+)	2010/03/03		100	%	80 - 120
	Spiked Blank	Hexavalent Chromium (Cr 6+)	2010/03/03		100	%	90 - 110
	Method Blank	Hexavalent Chromium (Cr 6+)	2010/03/03	ND, RDL=0.05		ug	
	RPD - Sample/Sample Dup	Hexavalent Chromium (Cr 6+)	2010/03/03	NC		%	20
2092582 APT	Matrix Spike (FE6114)	Total Chromium (Cr)	2010/03/05		102	%	80 - 120
	MS/MSD RPD	Total Chromium (Cr)	2010/03/05	0.3		%	20
	Spiked Blank	Total Chromium (Cr)	2010/03/05		97	%	90 - 110
	RPD	Total Chromium (Cr)	2010/03/05	0.9		%	20
	Method Blank	Total Chromium (Cr)	2010/03/05	ND, RDL=0.6		ug	
	RPD - Sample/Sample Dup	Total Chromium (Cr)	2010/03/05	NC		%	20

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.
Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.
Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.
Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

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Validation Signature Page

Maxxam Job #: B023245

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

FRANK MO, B.Sc., Inorganic Lab. Manager

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Maxxam Analytics

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3.0 Sample Custody

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

CHAIN OF CUSTODY RECORD

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

Tel: (949) 472-9200
Fax: (949) 472-0200

PAGE 1 OF 2 CLIENT: Lubeco LABORATORY: Maxxam JOB #: WER2297

DATE: 2/24/10 CONTACT: Keith Shannon SAMPLER: KBS

C: (949) 279-5993

TEST DATE	TEST LOCATION	RUN #	SAMPLE MATRIX	SAMPLE I.D.#	SAMPLE METHOD	# OF CONT.	ANALYSIS
2/22/10	HEPA Filter	1	Liquid	1-Front Half	CARB 425	1	CARB 425-Total & Hex. Chrome
		1	Liquid	1-Back Half		1	
		1	Solid	1-Filter		1	
2/23/10		2	Liquid	2-Front Half		1	
		2	Liquid	2-Back Half		1	
		2	Solid	2-Filter		1	
2/24/10		3	Liquid	3-Front Half		1	
		3	Liquid	3-Back Half		1	
		3	Solid	3-Filter		1	
		5	Liquid	5-Reagent Blank		1	

RELINQUISHED BY	DATE/TIME	COLD	INTACT	RECEIVED BY	DATE/TIME
Keith Shannon	2/24/10-1315	YES/NO	YES/NO	[illegible]	10/02/25 12:10
		YES/NO	YES/NO		
		YES/NO	YES/NO		

COMMENTS/SPECIAL INSTRUCTIONS: Need Full Data Package

CHAIN OF CUSTODY RECORD

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, SUITE D6
LAKE FOREST, CA 92630

Tel: (949) 472-9200
Fax: (949) 472-0200

PAGE 2 OF 2 CLIENT: Lubeco LABORATORY: Maxxam JOB #: WER2297

DATE: 2/24/10 CONTACT: Keith Shannon SAMPLER: KBS

C: (949) 279-5993

TEST DATE	TEST LOCATION	RUN #	SAMPLE MATRIX	SAMPLE I.D.#	SAMPLE METHOD	# OF CONT.	ANALYSIS
2/24/10	HEPA Filter	4	Liquid	4-Front Half	CARB 425	1	CARB 425-Total & Hex Chrome
↓	↓	4	Liquid	4-Back Half	↓	1	↓
		4	Solid	4-Filter		1	

RELINQUISHED BY	DATE/TIME	COLD	INTACT	RECEIVED BY	DATE/TIME
[signature]	2/24/10-1315	YES/NO	YES/NO	[signature]	10/02/25 1210
		YES/NO	YES/NO		
		YES/NO	YES/NO		

COMMENTS/SPECIAL INSTRUCTIONS: Need Full Data Package

SAMPLE RECEIPT LOG

Lab Name: Maxxam Analytics Inc., Mississauga Laboratory

Received by (Name): M Ficht

Received by (Signature): Date: 10/02/25 Time: 12:10

Client Name: World Env

Number of Package: Number of Boxes: 0 or Coolers: 1

Waybill #:

REMARKS:		Condition of Sample(s) Shipment - Comments
Sample Reception Documentation		
Samples Packed in Coolers?	Yes ☑ No ☐ N/A ☐	
Cooler Contains ice?	Yes ☑ No ☐ N/A ☐	
Custody seal(s) on cooler?	Yes ☐ No ☑ N/A ☐	
Chain of Custody (CofC) present?	Yes ☑ No ☐ N/A ☐	
Cooler Temperature measured?	Yes ☑ No ☐ N/A ☐	
Containers intact?	Yes ☑ No ☐ N/A ☐	
Correct containers used?	Yes ☑ No ☐ N/A ☐	
CoC agrees with samples?	Yes ☑ No ☐ N/A ☐	
Samples rec'd after hold time?	Yes ☐ No ☐ N/A ☐	
Project Mgr contacted via SIF?	Yes ☐ No ☐ N/A ☐	
Project Manager Documentation		
Client contacted if discrepancies in shipment are observed	Yes ☐ No ☐ N/A ☐	
Client acceptance of deficiencies (if observed at sample receipt)	Yes ☐ No ☐ N/A ☐	
Cooler temperatures upon receipt		
Cooler ID C1	Temp 7°c 7°c 7°c	
Cooler ID:	Temp	
Cooler ID:	Temp	

Unpacked & package checked By: [signature] Date: 10/02/25

Package checked By: Date:

Reviewed By: Date:

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4.3 Sample Chromatograms

Maxxam Analytics International
6740 Campobello Rd.
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www.maxxamanalytics.com

Maxxam Analytics

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CARB 425 – Determination of Total Chromium and Hexavalent Chromium Emissions from Stationary Sources

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Inorganic Analysis Action / Comment Form

* Please note any action or anomalies impacting this set of samples

Client ID: World Environmental

Maxxam Job #: B023245

Analysis	Worksheet	Run Date	Run #	Start Lab ID	End Lab ID	Autosampler Index START	Autosampler Index END	Analyst ID
Chromium 6	2091556	2010/03/03	1	FE6112	FE6120	11	24	LLE

Actions: *Impacted Sample ID's

Bottle discrepancies NO

Interferences observed NO

Reintegrations performed YES

Dilutions performed NO

Field / Trip blanks missing NO

Other

Explanation/comments:

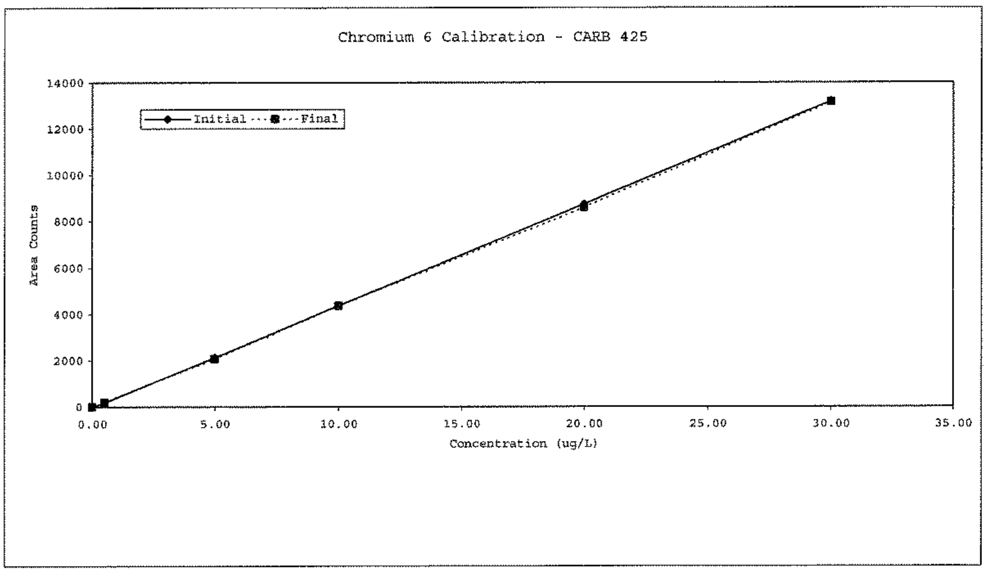
Re-integrated due to poor automated baseline construction .

RUN DATE	2010/03/03	
ANALYST	LLE	
INSTRUMENT	DX-320	
TESTCODES	CR6IC3-IP	CARB 425
MATRIX	0.1 N NaOH	
SAMPLE pH	> 8.0	
COMPONENT	Hexavalent Chromium (6+)	
Spike (ug/L)	10.0	
Units factor	1.000	

Standard / Reagent	Prepared	Traceability
Stock Calibration Standard	2009/09/25	good
Stock Reference Standard	2009/11/03	good
Intermediate Mixed Cal. Standard (IS)	2010/03/03	good
Intermediate Mixed Ref. Standard (IR)	2010/03/03	good
Working Calibration Standards	2010/03/03	good
Working Reference Standards	2010/03/03	good
Eluent Solution	2010/02/26	good
Post column reagent	2010/03/03	good

ID	Actual Amount	Initial Counts	Final Counts	% diff ± 5 %
1	0.00	0	0	0
2	0.50	183	193	2.7
3	5.0	2128	2057	1.7
4	10.0	4386	4352	0.4
5	20.0	8748	8607	0.8
6	30.0	13200	13167	0.1

Method Criteria	Limits	Expected	Results
Linear Correlation	-	> 0.999	0.99999
ICV (ppb)	± 1.0	20.0	20.5919
Blank (ppb)	-	< 0.50	
Blank Spike (ppb)	± 1.0	10.0	
Duplicates (±%)	5	-	
Matrix Spike (%)	80 - 120	100	
CCB	-	< 0.50	
CCV	± 1.0	10.0	



Job #	Worksheet #	Maxxam ID	Volume (mL)	Cr 6 reading (ug/L)	Dilution at IC	Cr 6 in sample (ug)	RDL (ug)	Spike or Dups (%)	Pass Fail	pH
B023245	2091556	Blank	100	0.0000		0.000	0.050		Blank pass	
	2091556	Spike	100	10.0047		1.000	0.050	100.0	Spike pass	
	2091556	FE6112-01R	100	0.4021	1.0	0.040	0.050			13.00
	2091556	FE6113-01R	193	0.4363	1.0	0.084	0.097			13.00
	2091556	FE6114-01R	502	0.3919	1.0	0.197	0.251			12.50
	2091556	FE6114-01R:D1		0.3974		0.199	0.251	1.4	Dup pass	
	2091556	MATSPK		10.3662		5.204	0.251	99.7	MATSPK pass	
	2091556	FE6115-01R	191	0.5106	1.0	0.098	0.096			13.00
	2091556	FE6116-01R	499	0.4599	1.0	0.229	0.250			12.50
	2091556	FE6117-01R	191	0.4260	1.0	0.081	0.096			13.00
	2091556	FE6118-01R	502	0.4525	1.0	0.227	0.251			12.50
	2091556	FE6119-01R	200	0.3512	1.0	0.070	0.100			13.00
	2091556	FE6120-01R	491	NA	1.0	#VALUE!	0.246			13.00
	2091556	FE6112-01R	100	0.3876	1.0	0.039	0.050			13.00
		CCB		0.0000					ccb pass	
		CCV								
	2091556	FE6120-01R	491	0.3587	1.0	0.176	0.246			13.00
		CCB		0.0000					ccb pass	
		CCV		9.7286					ccv pass	
		Blank								
		Spike								
		CCB								
		CCV								
		CCB								
		CCV								

Title:
Datasource: D4R4H521_local
Location: CR6\2010
Timebase: DX320
#Samples: 32
Created: 2010-03-03 3:14:59 PM by lle
(Modified, not saved)

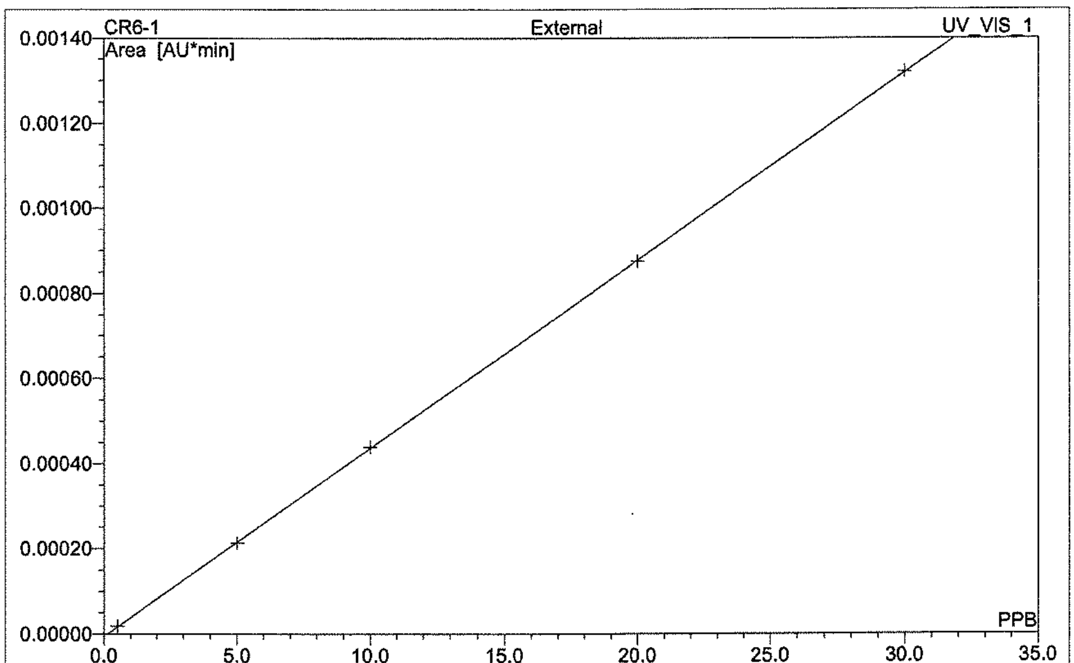
No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Weight
1	MBLANK	Unknown	33	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:24:05 PM	1.0000
2	CALIB STD1	Standard	5	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:29:29 PM	1.0000
3	CALIB STD2	Standard	6	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:34:38 PM	1.0000
4	CALIB STD3	Standard	6	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:39:47 PM	1.0000
5	CALIB STD4	Standard	7	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:44:56 PM	1.0000
6	CALIB STD5	Standard	8	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:50:06 PM	1.0000
7	ICB	Unknown	9	150.0	CR6	HEX CHROME	Finished	2010-03-03 3:55:15 PM	1.0000
8	ICV	Unknown	10	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:00:24 PM	1.0000
9	MBLANK	Unknown	32	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:05:33 PM	1.0000
10	MBSPIKE	Unknown	34	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:10:42 PM	1.0000
11	FE6112	Unknown	46	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:15:51 PM	1.0000
12	FE6113	Unknown	47	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:21:00 PM	1.0000
13	FE6114	Unknown	47	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:26:10 PM	1.0000
14	FE6114DUP	Unknown	48	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:31:19 PM	1.0000
15	FE6114SPK	Unknown	49	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:36:28 PM	1.0000
16	FE6115	Unknown	48	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:41:37 PM	1.0000
17	FE6116	Unknown	38	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:46:46 PM	1.0000
18	FE6117	Unknown	37	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:51:55 PM	1.0000
19	FE6118	Unknown	38	150.0	CR6	HEX CHROME	Finished	2010-03-03 4:57:04 PM	1.0000
20	FE6119	Unknown	39	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:02:14 PM	1.0000
21	FE6120	Unknown	40	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:07:23 PM	1.0000
22	FE6112	Unknown	41	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:12:32 PM	1.0000
23	CCB	Unknown	41	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:17:41 PM	1.0000
24	FE6120	Unknown	42	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:22:50 PM	1.0000
25	CCB	Unknown	42	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:27:59 PM	1.0000
26	CCV	Unknown	42	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:33:08 PM	1.0000
27	MBLANK	Unknown	43	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:47:27 PM	1.0000
28	CALIB STD1	Unknown	44	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:52:36 PM	1.0000
29	CALIB STD2	Unknown	45	150.0	CR6	HEX CHROME	Finished	2010-03-03 5:57:45 PM	1.0000
30	CALIB STD3	Unknown	46	150.0	CR6	HEX CHROME	Finished	2010-03-03 6:02:55 PM	1.0000
31	CALIB STD4	Unknown	50	150.0	CR6	HEX CHROME	Finished	2010-03-03 6:20:54 PM	1.0000
32	CALIB STD5	Unknown	51	150.0	CR6	HEX CHROME	Finished	2010-03-03 6:26:03 PM	1.0000

Title:
Datasource: D4R4H521_local
Location: CR6\2010
Timebase: DX320 Created: 2010-03-03 3:14:59 PM by lle
#Samples: 32 (Modified, not saved)

No.	Name	Dil. Factor	ISTD Amount	Sample ID	Replicate ID	Comment
1	MBLANK	1.0000	1.0000		05	
2	CALIB STD1	1.0000	1.0000	0.5 PPB	05	
3	CALIB STD2	1.0000	1.0000	5 PPB	05	
4	CALIB STD3	1.0000	1.0000	10 PPB	05	
5	CALIB STD4	1.0000	1.0000	20 PPB	05	
6	CALIB STD5	1.0000	1.0000	30 PPB	05	
7	ICB	1.0000	1.0000		05	
8	ICV	1.0000	1.0000		05	
9	MBLANK	1.0000	1.0000		05	
10	MBSPIKE	1.0000	1.0000		05	
11	FE6112	1.0000	1.0000		05	
12	FE6113	1.0000	1.0000		05	
13	FE6114	1.0000	1.0000		05	
14	FE6114DUP	1.0000	1.0000		05	
15	FE6114SPK	1.0000	1.0000		05	
16	FE6115	1.0000	1.0000		05	
17	FE6116	1.0000	1.0000		05	
18	FE6117	1.0000	1.0000		05	
19	FE6118	1.0000	1.0000		05	
20	FE6119	1.0000	1.0000		05	
21	FE6120	1.0000	1.0000		05	
22	FE6112	1.0000	1.0000		05	
23	CCB	1.0000	1.0000		05	
24	FE6120	1.0000	1.0000		05	
25	CCB	1.0000	1.0000		05	
26	CCV	1.0000	1.0000		05	
27	MBLANK	1.0000	1.0000		05	
28	CALIB STD1	1.0000	1.0000		05	
29	CALIB STD2	1.0000	1.0000		05	
30	CALIB STD3	1.0000	1.0000		05	
31	CALIB STD4	1.0000	1.0000		05	
32	CALIB STD5	1.0000	1.0000		05	

6 CALIB STD5

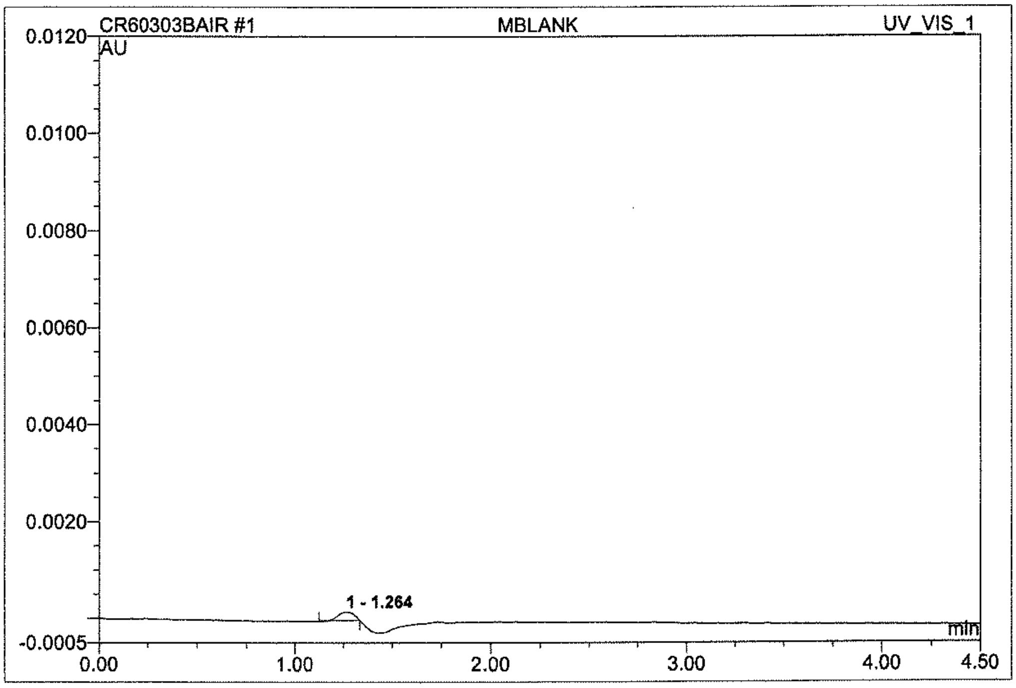
Sample Name:	**CALIB STD5**	*Injection Volume:*	**150.0**
Vial Number:	**8**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1.0000**
Recording Time:	**2010-3-3 15:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	RF-Value
1	1.27	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	2.96	CR6-1	LOff	5	99.9989	0.0000	4.4128E-5	22661.170
Average:					99.9989	0.0000	0.0000	22661.1704

1 MBLANK

Sample Name:	**MBLANK**	*Injection Volume:*	**150.0**
Vial Number:	**33**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:24**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.50**	*Sample Amount:*	**1.0000**

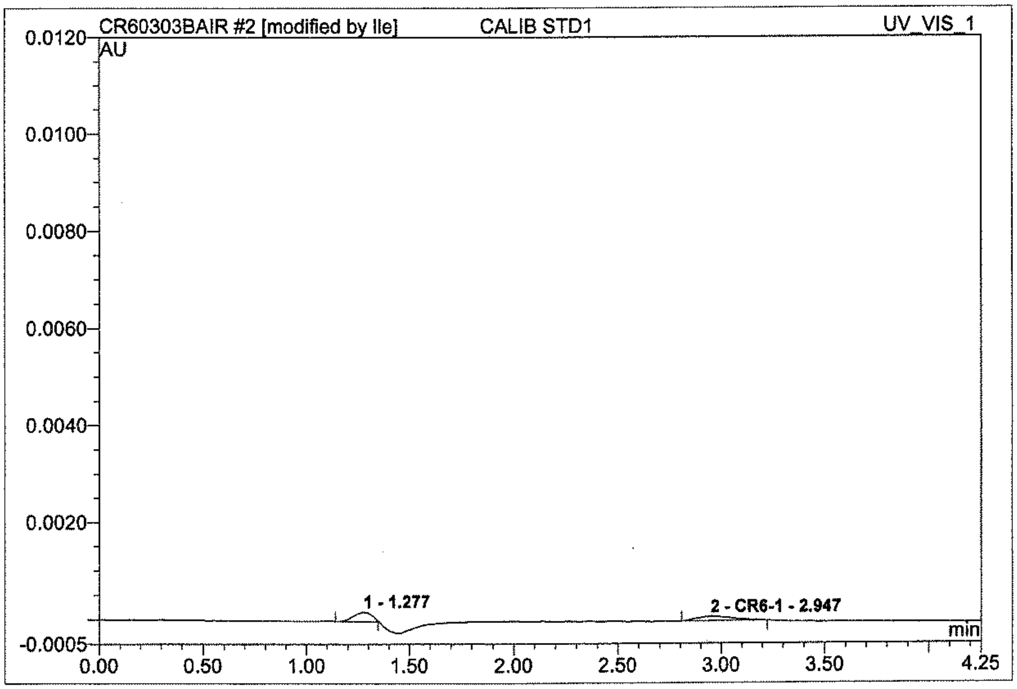


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.26	n.a.	174.0E-6	15450E-9	100.00	n.a.	MB
Total:			174.0E-6	154.5E-7	100.00	0.0000	

2 CALIB STD1

0.5 PPB

Sample Name:	**CALIB STD1**	*Injection Volume:*	**150.0**
Vial Number:	**5**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:29**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**

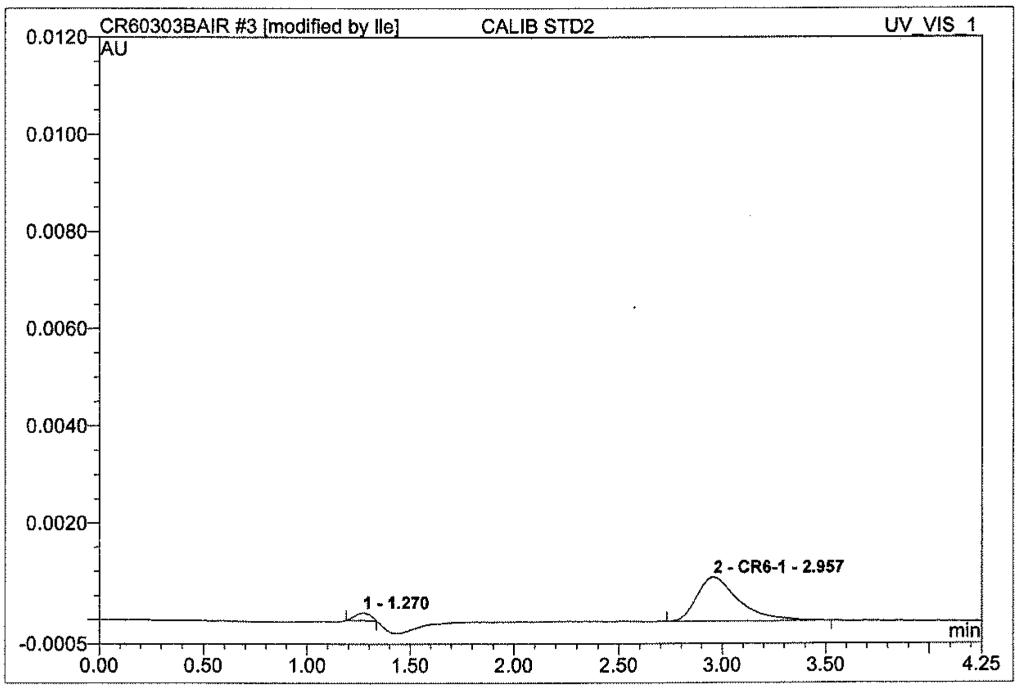


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	190.0E-6	19875E-9	52.05	n.a.	BM
2	2.95	CR6-1	880.0E-7	18310E-9	47.95	0.5327	BMB*
Total:			278.0E-6	381.8E-7	100.00	0.5327	

3 CALIB STD2

5 PPB

Sample Name:	**CALIB STD2**	*Injection Volume:*	**150.0**
Vial Number:	**6**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**

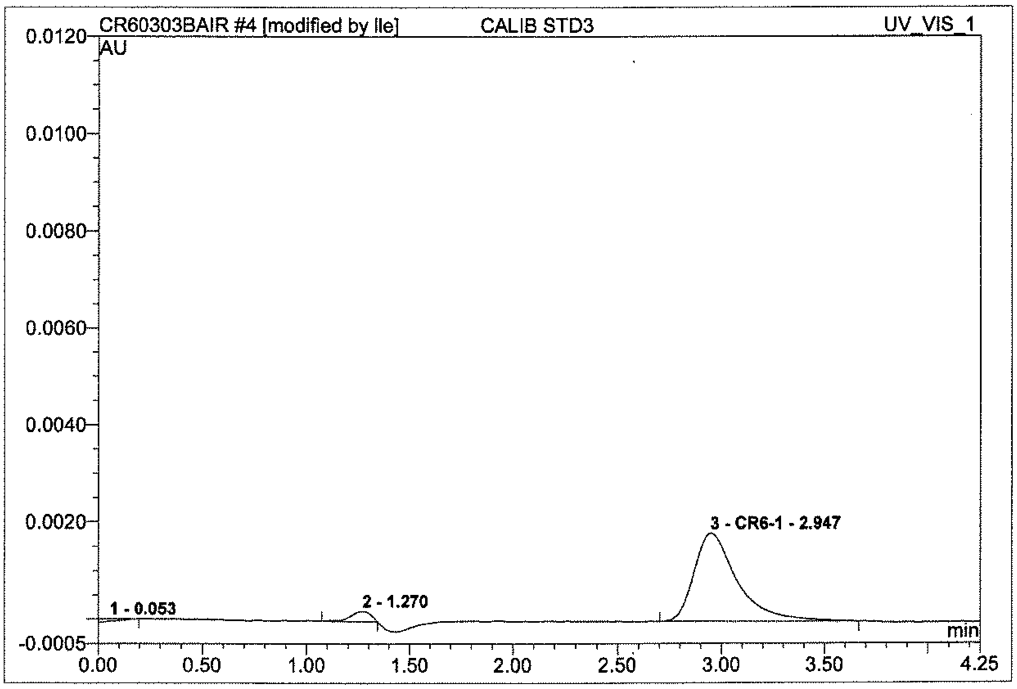


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	157.0E-6	13637E-9	6.02	n.a.	BM
2	2.96	CR6-1	904.0E-6	21280E-8	93.98	4.9402	BMB*
Total:			106.1E-5	226.4E-6	100.00	4.9402	

4 CALIB STD3

10 PPB

Sample Name:	**CALIB STD3**	*Injection Volume:*	**150.0**
Vial Number:	**6**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:39**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**

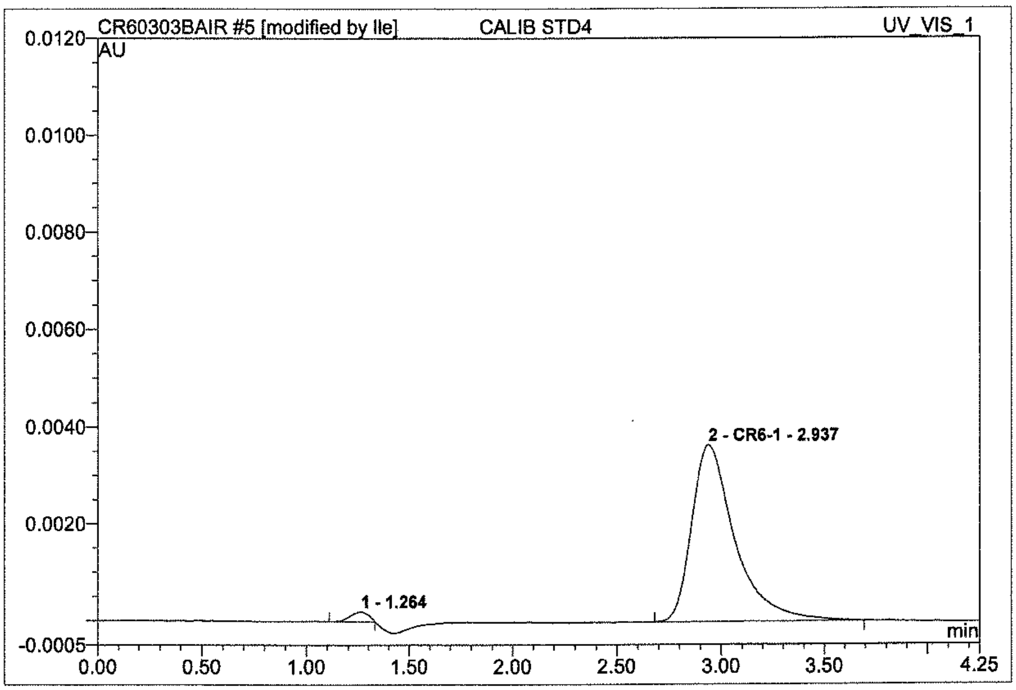


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	0.05	n.a.	540.0E-7	#########	1.36	n.a.	BMB
2	1.27	n.a.	207.0E-6	23493E-9	5.02	n.a.	BMB
3	2.95	CR6-1	180.8E-5	43856E-8	93.62	10.0560	BMB*
Total:			206.9E-5	468.4E-6	100.00	10.0560	

5 CALIB STD4

20 PPB

Sample Name:	**CALIB STD4**	*Injection Volume:*	**150.0**
Vial Number:	**7**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**

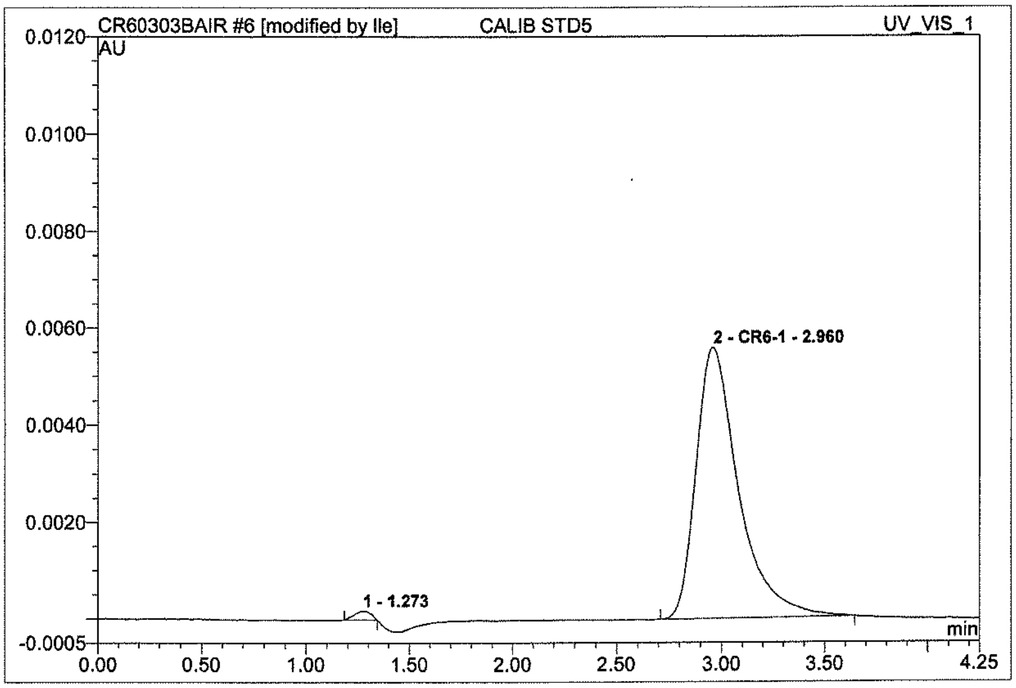


No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.26	n.a.	202.0E-6	21213E-9	2.37	n.a.	BM
2	2.94	CR6-1	363.8E-5	87476E-8	97.63	19.9409	BMB*
Total:			384.0E-5	896.0E-6	100.00	19.9409	

6 CALIB STD5

30 PPB

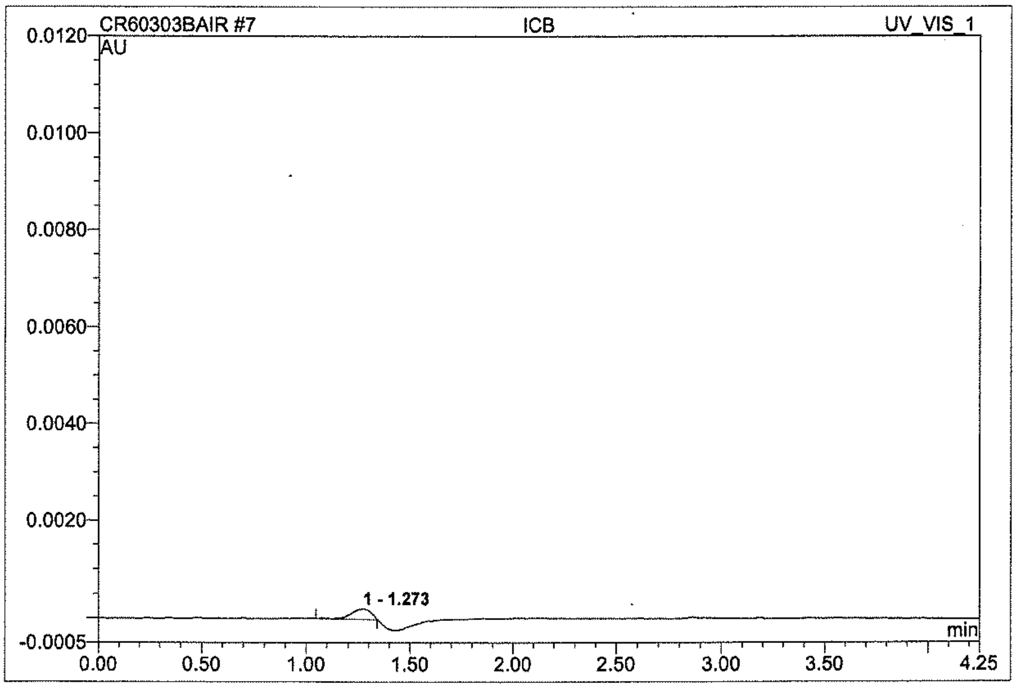
Sample Name:	**CALIB STD5**	*Injection Volume:*	**150.0**
Vial Number:	**8**	*Channel:*	**UV_VIS_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:50**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	181.0E-6	17117E-9	1.28	n.a.	BMB
2	2.96	CR6-1	558.6E-5	13200E-7	98.72	30.0302	BMB*
Total:			576.7E-5	133.7E-5	100.00	30.0302	

7 ICB

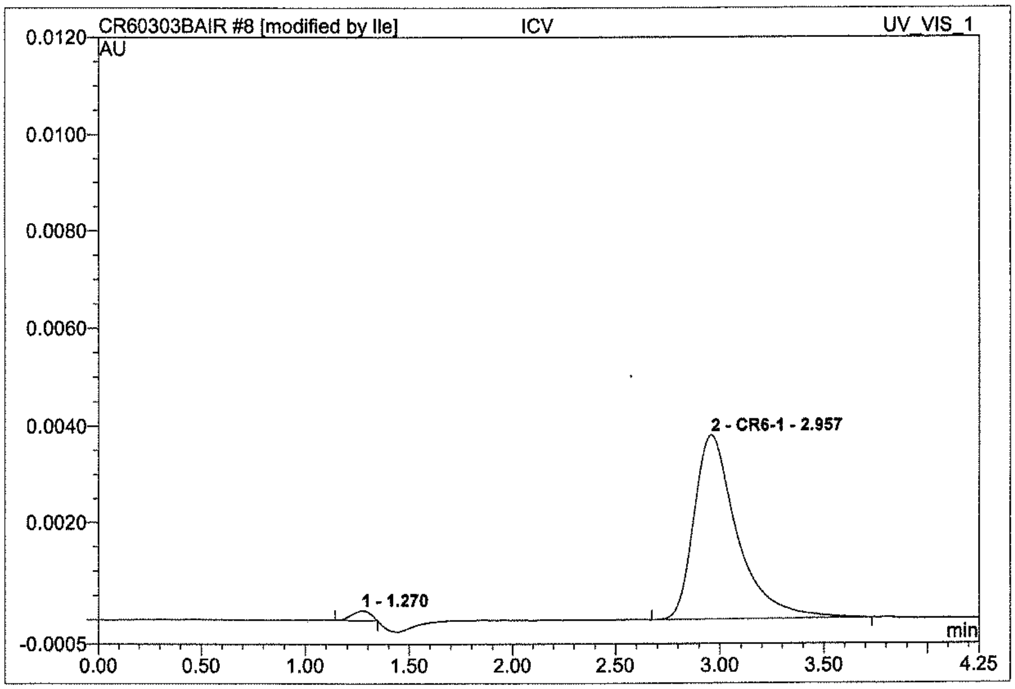
Sample Name:	**ICB**	*Injection Volume:*	**150.0**
Vial Number:	**9**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 15:55**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	217.0E-6	23815E-9	100.00	n.a.	BM
Total:			217.0E-6	238.1E-7	100.00	0.0000	

8 ICV

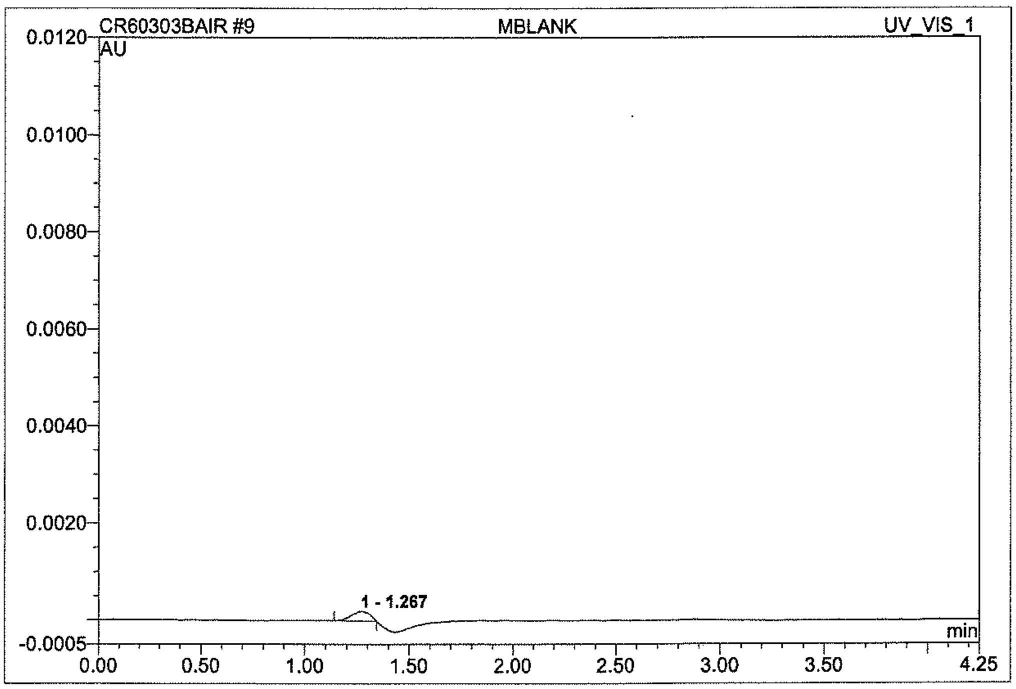
Sample Name:	**ICV**	*Injection Volume:*	**150.0**
Vial Number:	**10**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	199.0E-6	20905E-9	2.26	n.a.	BM
2	2.96	CR6-1	379.6E-5	90349E-8	97.74	20.5919	BMB*
Total:			399.5E-5	924.4E-6	100.00	20.5919	

9 MBLANK

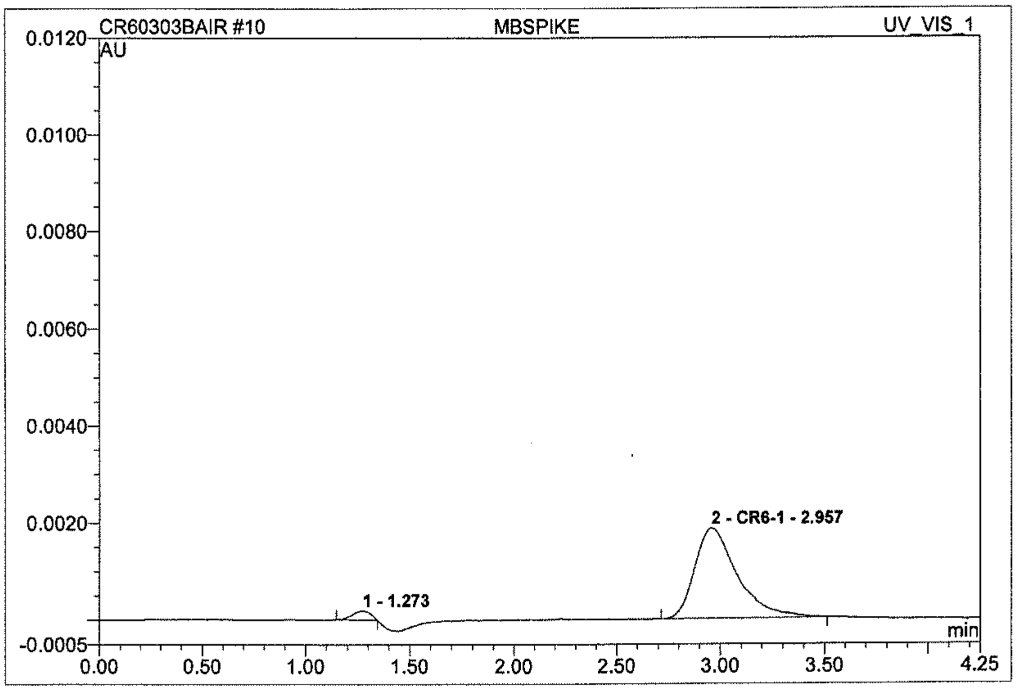
Sample Name:	**MBLANK**	*Injection Volume:*	**150.0**
Vial Number:	**32**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:05**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	195.0E-6	20650E-9	100.00	n.a.	BMB
Total:			195.0E-6	206.5E-7	100.00	0.0000	

10 MBSPIKE

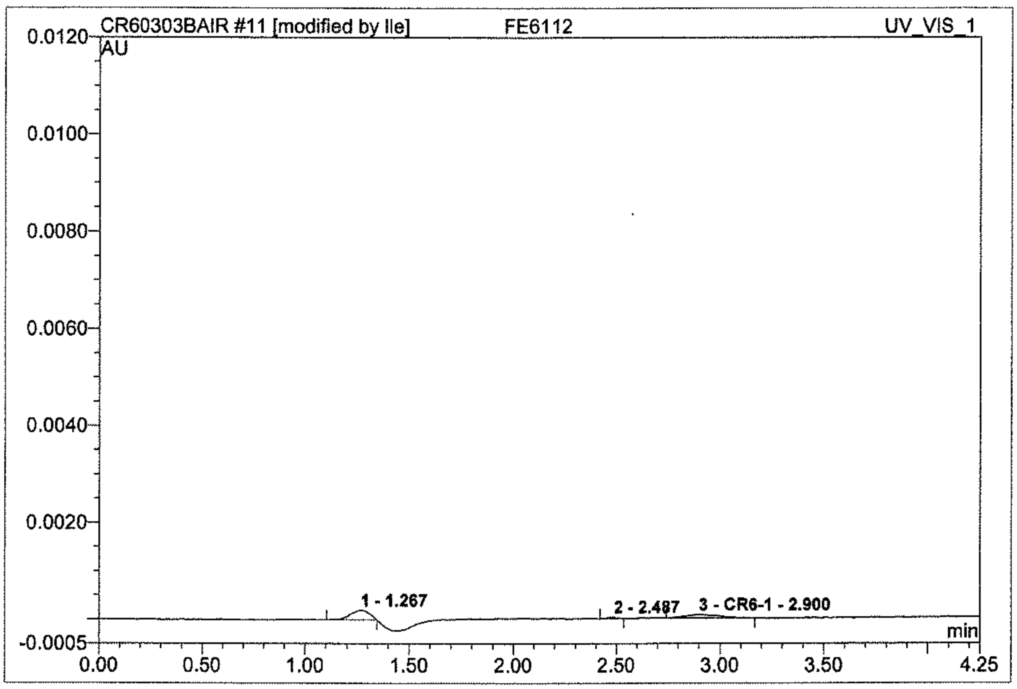
Sample Name:	**MBSPIKE**	*Injection Volume:*	**150.0**
Vial Number:	**34**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:10**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	185.0E-6	18848E-9	4.14	n.a.	BM
2	2.96	CR6-1	186.1E-5	43629E-8	95.86	10.0047	BMB
Total:			204.6E-5	455.1E-6	100.00	10.0047	

11 FE6112

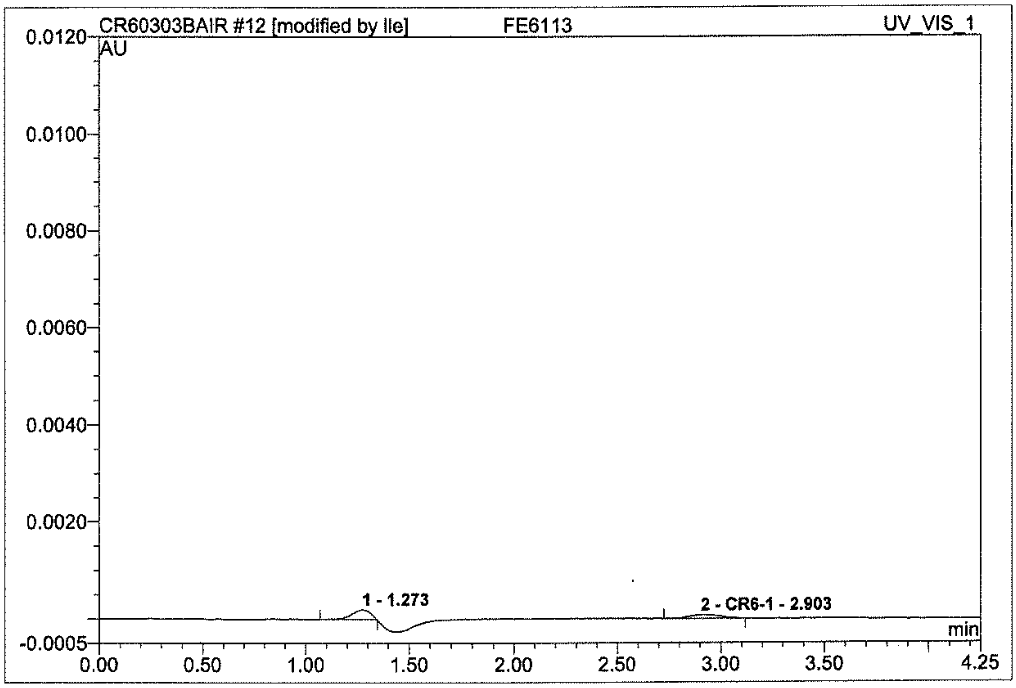
Sample Name:	**FE6112**	*Injection Volume:*	**150.0**
Vial Number:	**46**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	195.0E-6	20978E-9	60.28	n.a.	BM
2	2.49	n.a.	280.0E-7	#########	3.67	n.a.	BMB
3	2.90	CR6-1	660.0E-7	12547E-9	36.05	0.4021	BMB*
Total:			289.0E-6	348.0E-7	100.00	0.4021	

12 FE6113

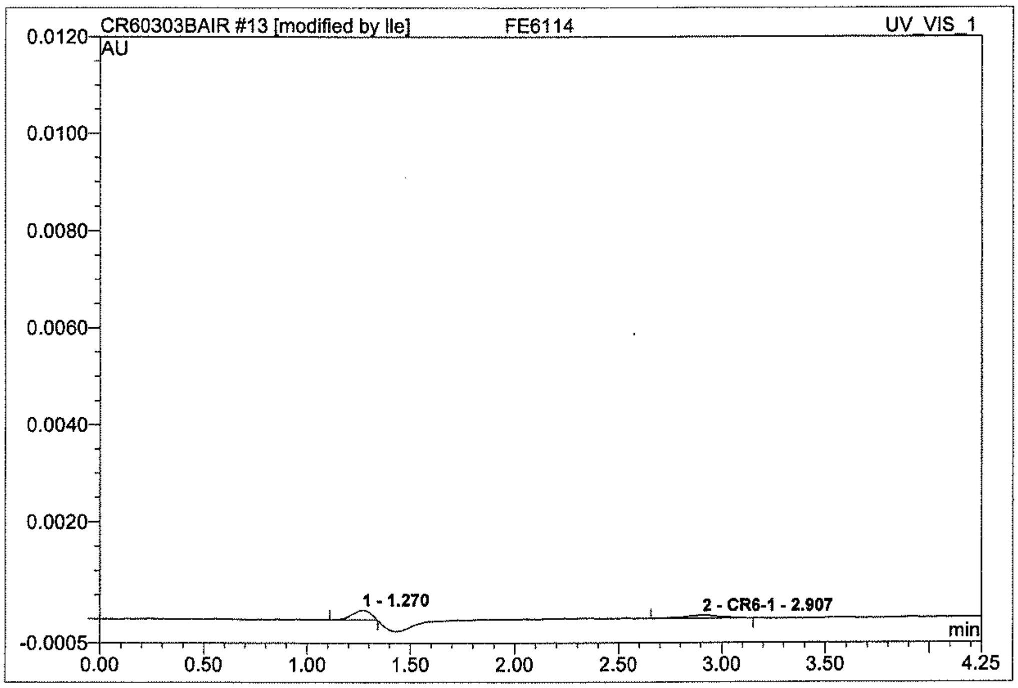
Sample Name:	**FE6113**	*Injection Volume:*	**150.0**
Vial Number:	**47**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:21**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	198.0E-6	20577E-9	59.41	n.a.	BM
2	2.90	CR6-1	780.0E-7	14057E-9	40.59	0.4363	BMB*
Total:			276.0E-6	346.3E-7	100.00	0.4363	

13 FE6114

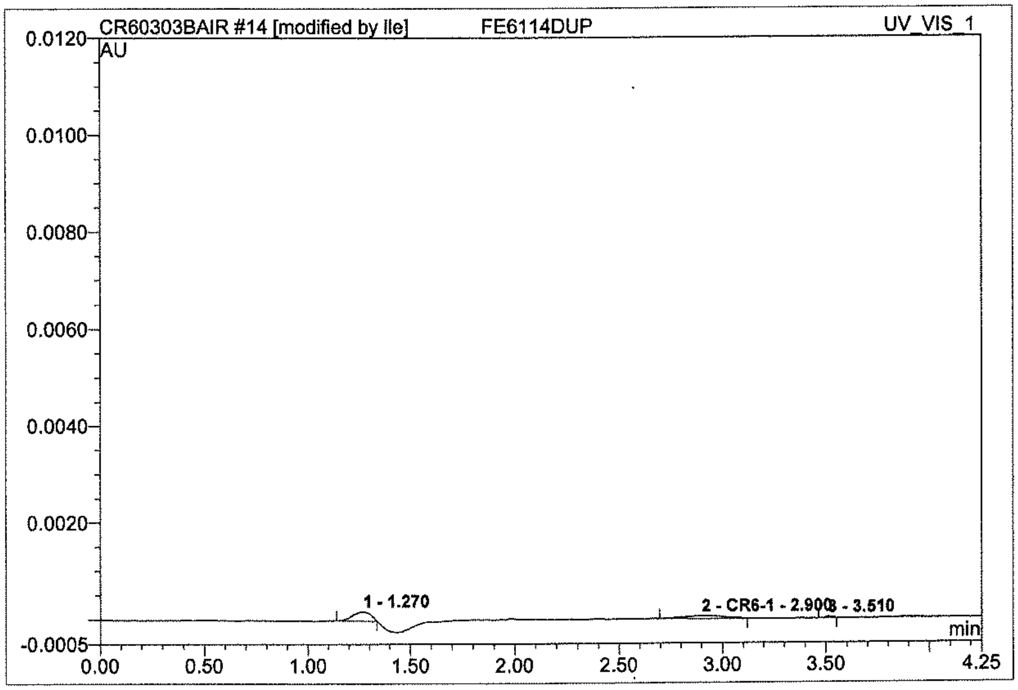
Sample Name:	**FE6114**	*Injection Volume:*	**150.0**
Vial Number:	**47**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	195.0E-6	20028E-9	62.35	n.a.	BM
2	2.91	CR6-1	610.0E-7	12095E-9	37.65	0.3919	BMB*
Total:			256.0E-6	321.2E-7	100.00	0.3919	

14 FE6114DUP

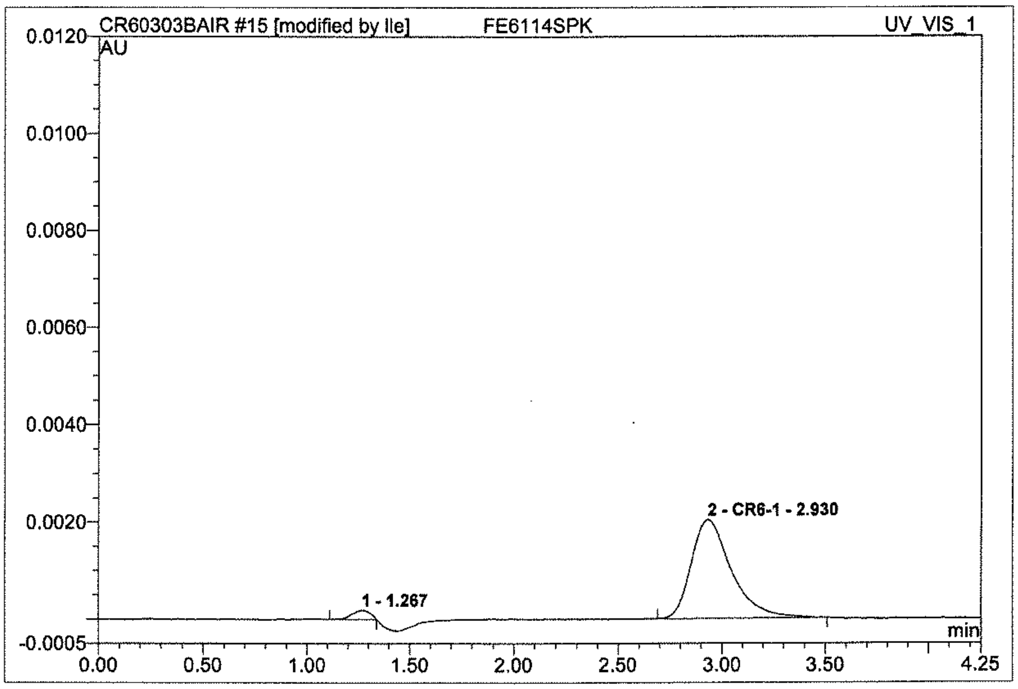
Sample Name:	**FE6114DUP**	*Injection Volume:*	**150.0**
Vial Number:	**48**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:31**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	193.0E-6	19805E-9	59.13	n.a.	BM
2	2.90	CR6-1	530.0E-7	12337E-9	36.83	0.3974	BMB*
3	3.51	n.a.	320.0E-7	##########	4.04	n.a.	BMB
Total:			278.0E-6	334.9E-7	100.00	0.3974	

15 FE6114SPK

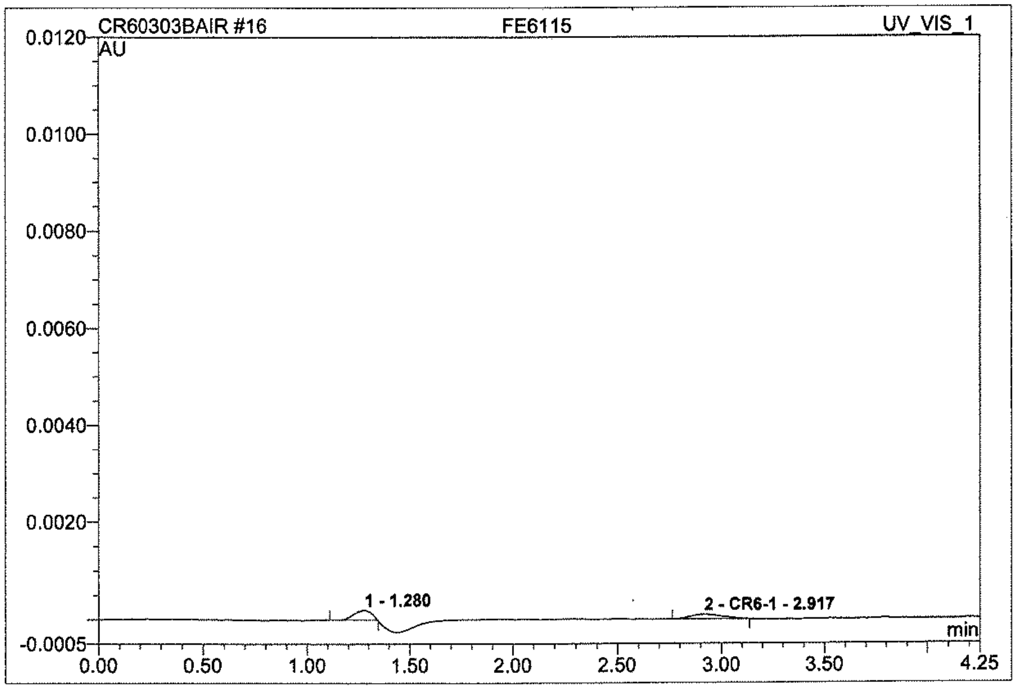
Sample Name:	**FE6114SPK**	*Injection Volume:*	**150.0**
Vial Number:	**49**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:36**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	184.0E-6	19490E-9	4.13	n.a.	BMB
2	2.93	CR6-1	203.0E-5	45224E-8	95.87	10.3662	BMB*
Total:			221.4E-5	471.7E-6	100.00	10.3662	

16 FE6115

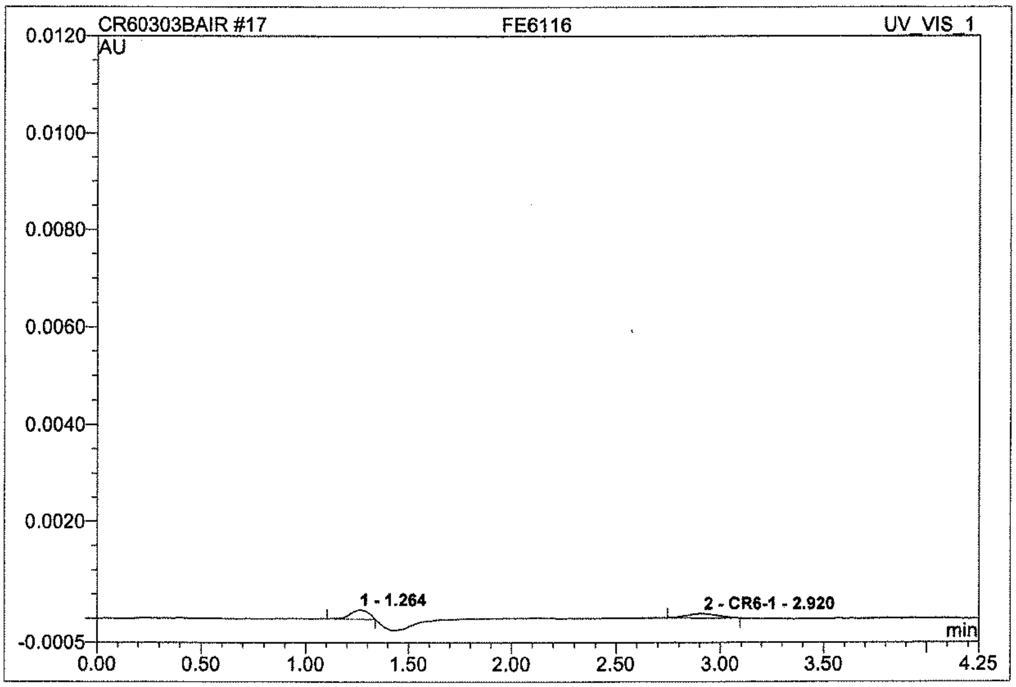
Sample Name:	**FE6115**	*Injection Volume:*	**150.0**
Vial Number:	**48**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	199.0E-6	20138E-9	53.75	n.a.	BM
2	2.92	CR6-1	940.0E-7	17332E-9	46.25	0.5106	BMB
Total:			293.0E-6	374.7E-7	100.00	0.5106	

17 FE6116

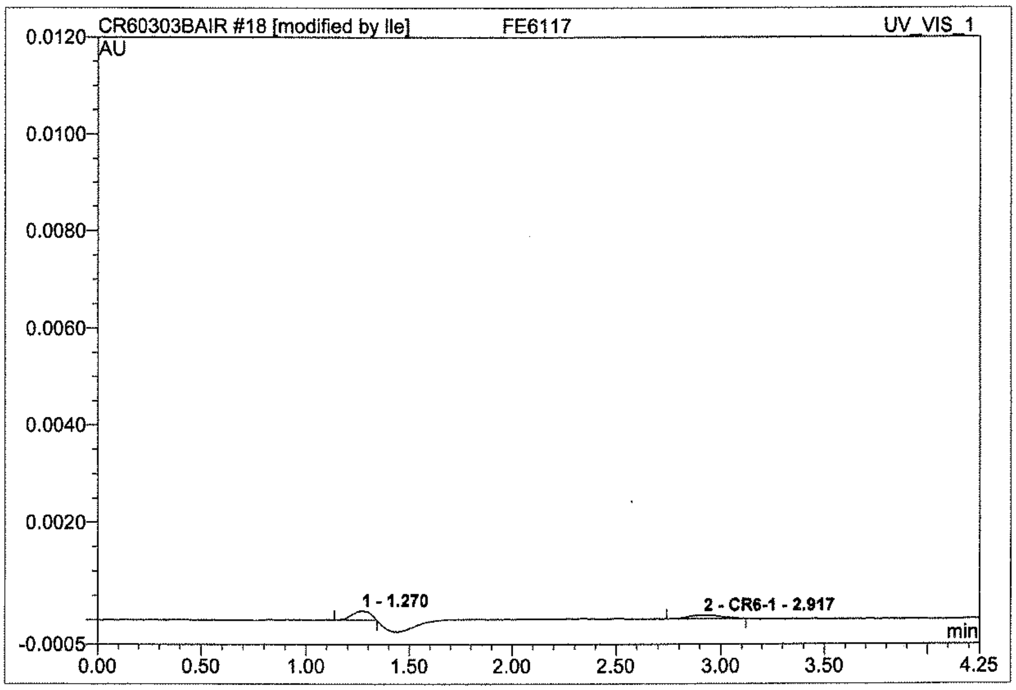
Sample Name:	**FE6116**	*Injection Volume:*	**150.0**
Vial Number:	**38**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:46**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.26	n.a.	188.0E-6	19648E-9	56.55	n.a.	BM
2	2.92	CR6-1	860.0E-7	15095E-9	43.45	0.4599	BMB
Total:			274.0E-6	347.4E-7	100.00	0.4599	

18 FE6117

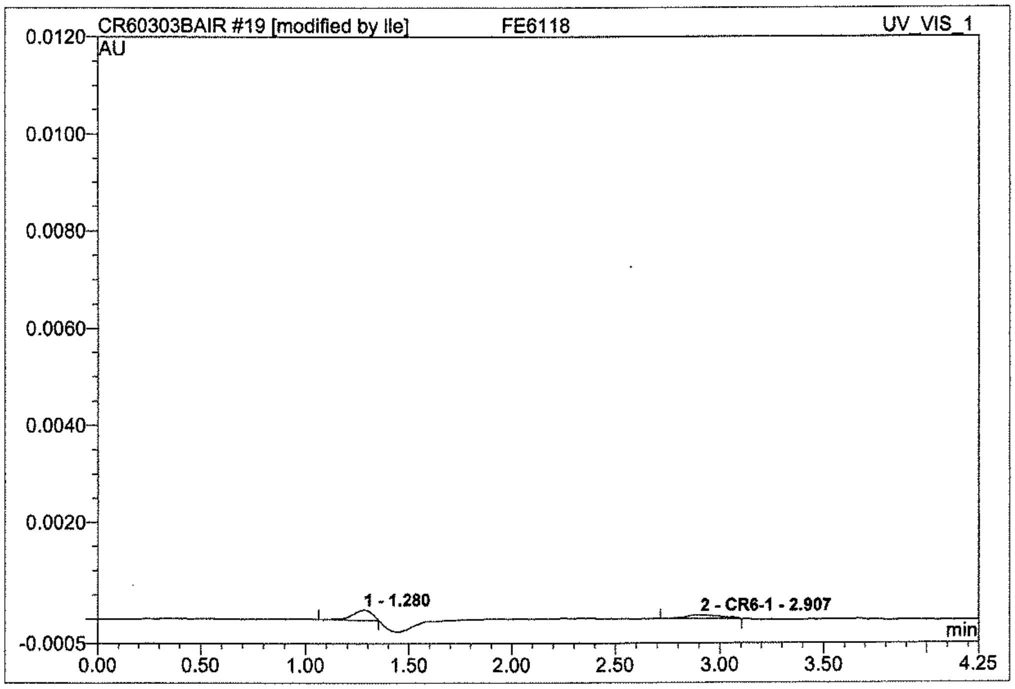
Sample Name:	**FE6117**	*Injection Volume:*	**150.0**
Vial Number:	**37**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:51**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	186.0E-6	19205E-9	58.54	n.a.	BM
2	2.92	CR6-1	730.0E-7	13602E-9	41.46	0.4260	BMB*
Total:			259.0E-6	328.1E-7	100.00	0.4260	

19 FE6118

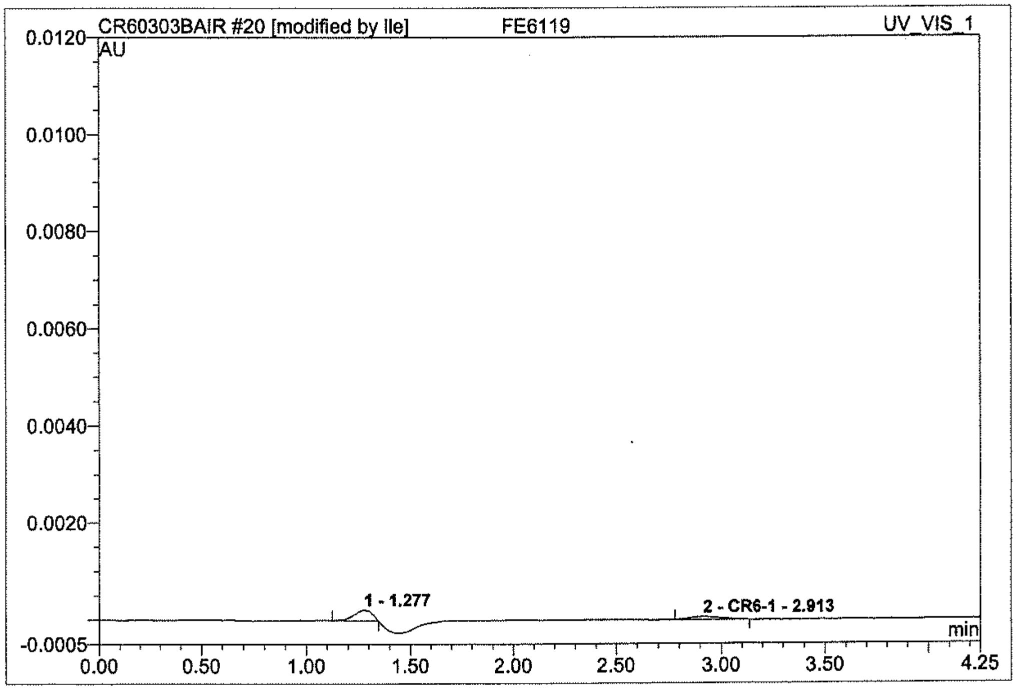
Sample Name:	**FE6118**	*Injection Volume:*	**150.0**
Vial Number:	**38**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 16:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	207.0E-6	23138E-9	61.04	n.a.	BM
2	2.91	CR6-1	720.0E-7	14770E-9	38.96	0.4525	BMB*
Total:			279.0E-6	379.1E-7	100.00	0.4525	

20 FE6119

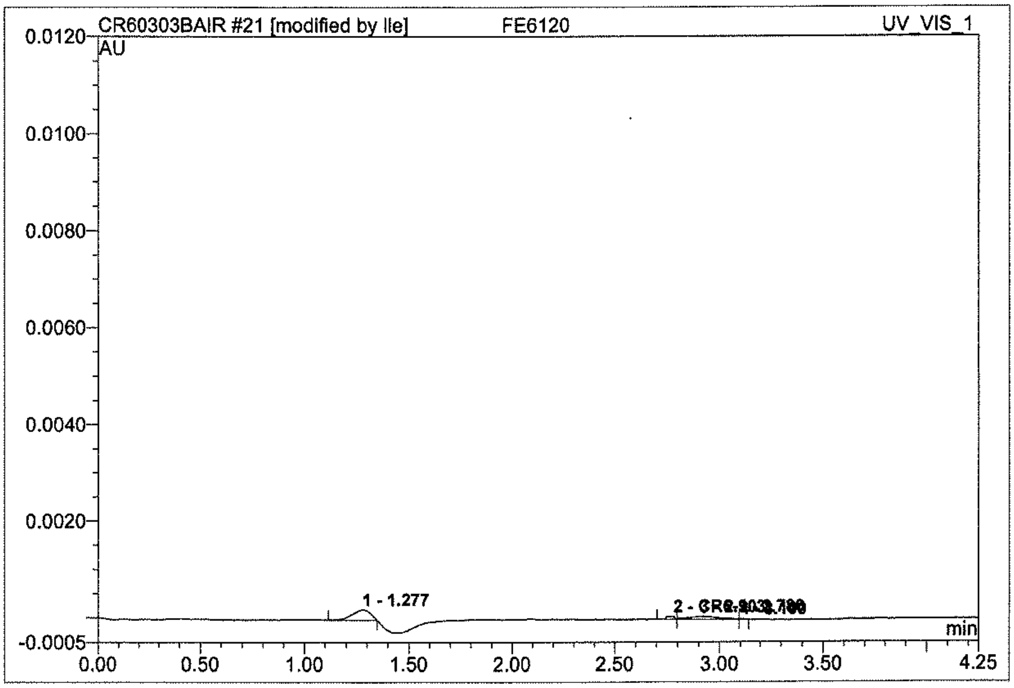
Sample Name:	**FE6119**	*Injection Volume:*	**150.0**
Vial Number:	**39**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	211.0E-6	21263E-9	67.37	n.a.	BM
2	2.91	CR6-1	600.0E-7	10300E-9	32.63	0.3512	BMB*
Total:			271.0E-6	315.6E-7	100.00	0.3512	

21 FE6120

Sample Name:	**FE6120**	*Injection Volume:*	**150.0**
Vial Number:	**40**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:07**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



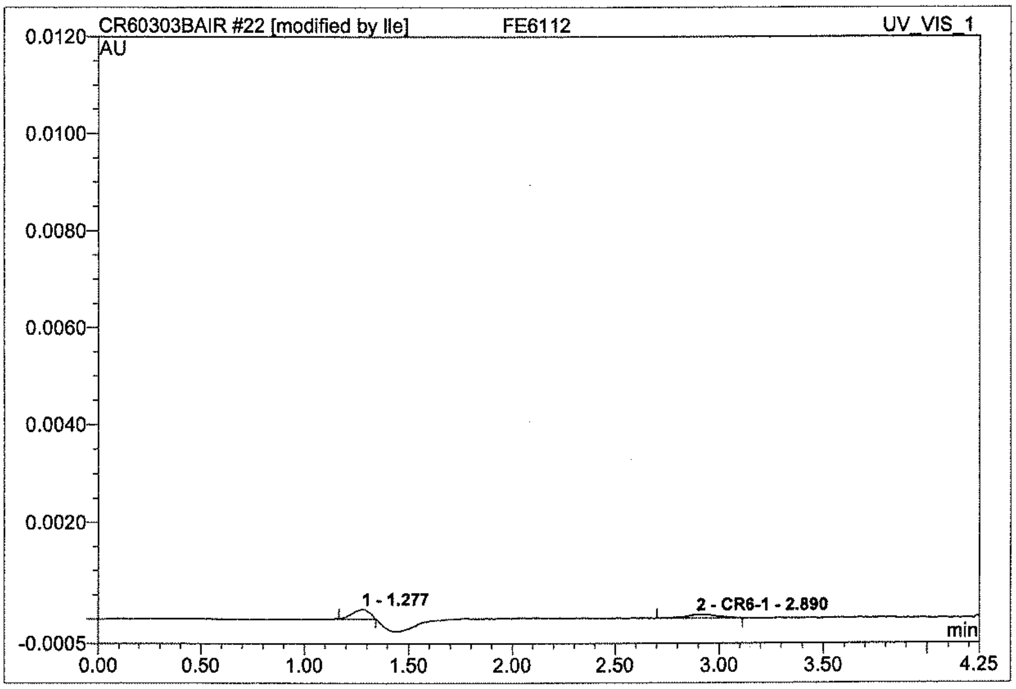
No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	207.0E-6	21255E-9	63.60	n.a.	BM *
2	2.78	CR6-1	560.0E-7	#########	7.60	0.1753	bM *
3	2.90	n.a.	560.0E-7	#########	27.61	n.a.	M *
4	3.10	n.a.	110.0E-7	#########	1.19	n.a.	MB*
Total:			330.0E-6	334.2E-7	100.00	0.1753	

/

Repeat
UE 2010/03/09

22 FE6112

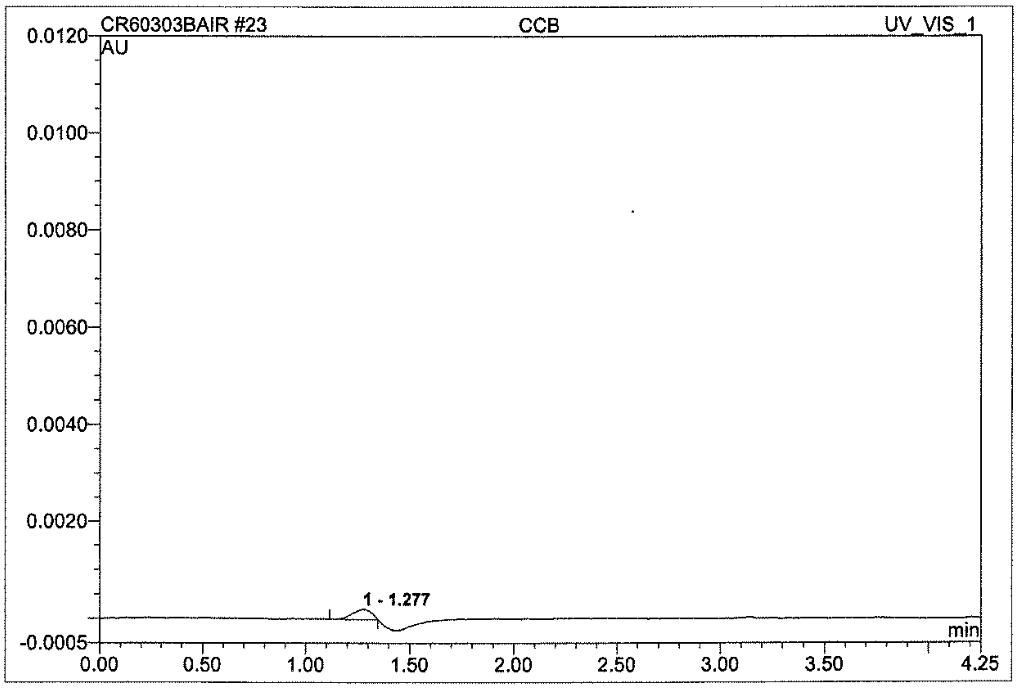
Sample Name:	**FE6112**	*Injection Volume:*	**150.0**
Vial Number:	**41**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:12**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	191.0E-6	18517E-9	60.87	n.a.	BMB*
2	2.89	CR6-1	660.0E-7	11903E-9	39.13	0.3876	bMB*
Total:			257.0E-6	304.2E-7	100.00	0.3876	

23 CCB

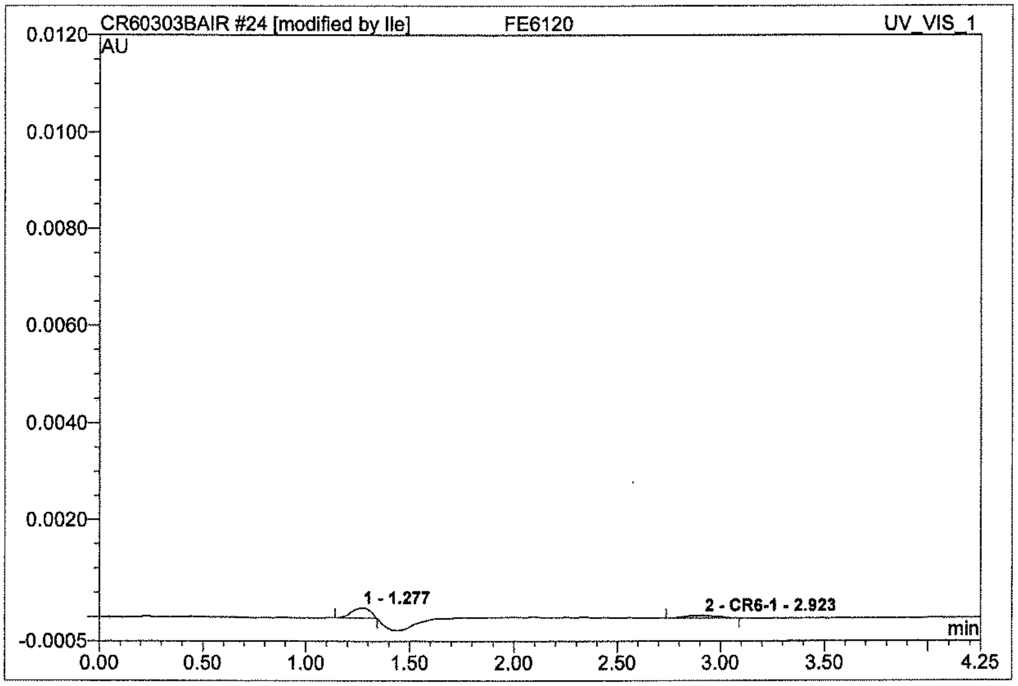
Sample Name:	**CCB**	*Injection Volume:*	**150.0**
Vial Number:	**41**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:17**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	201.0E-6	21152E-9	100.00	n.a.	BM
Total:			201.0E-6	211.5E-7	100.00	0.0000	

24 FE6120

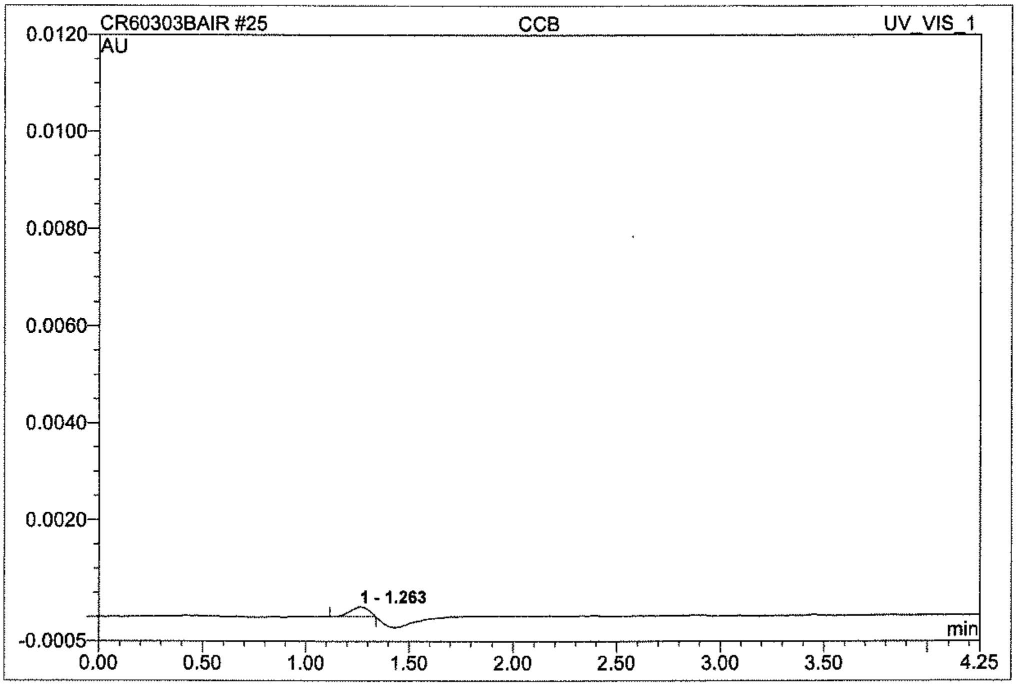
Sample Name:	**FE6120**	*Injection Volume:*	**150.0**
Vial Number:	**42**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:22**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	209.0E-6	21665E-9	67.08	n.a.	BM
2	2.92	CR6-1	580.0E-7	10630E-9	32.92	0.3587	BMB*
Total:			267.0E-6	322.9E-7	100.00	0.3587	

25 CCB

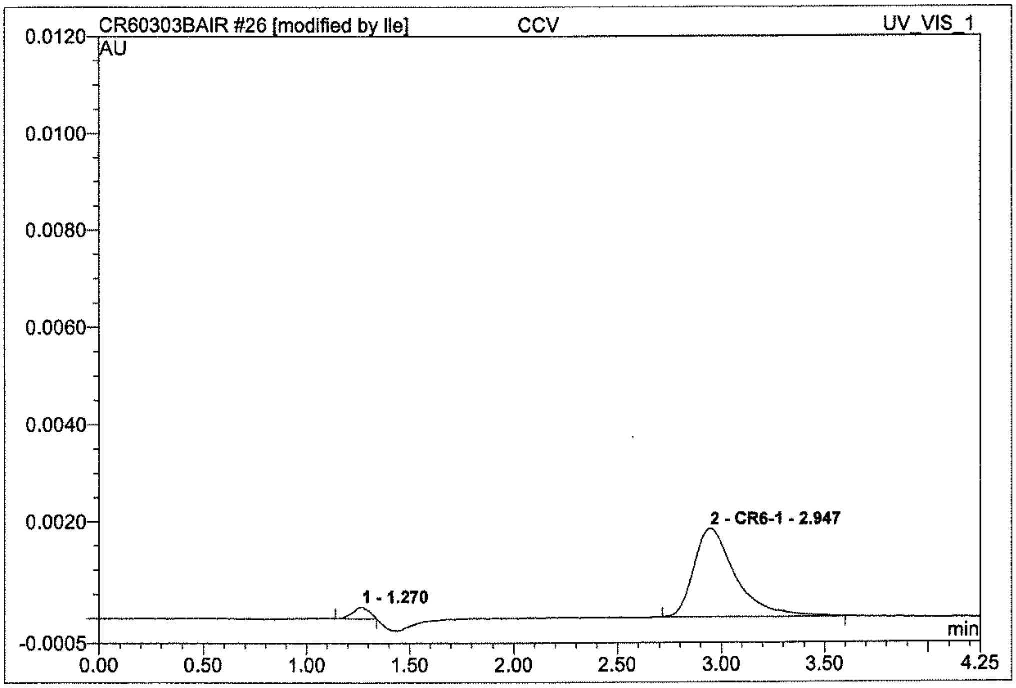
Sample Name:	**CCB**	*Injection Volume:*	**150.0**
Vial Number:	**42**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.26	n.a.	197.0E-6	20707E-9	100.00	n.a.	BM
Total:			197.0E-6	207.1E-7	100.00	0.0000	

26 CCV

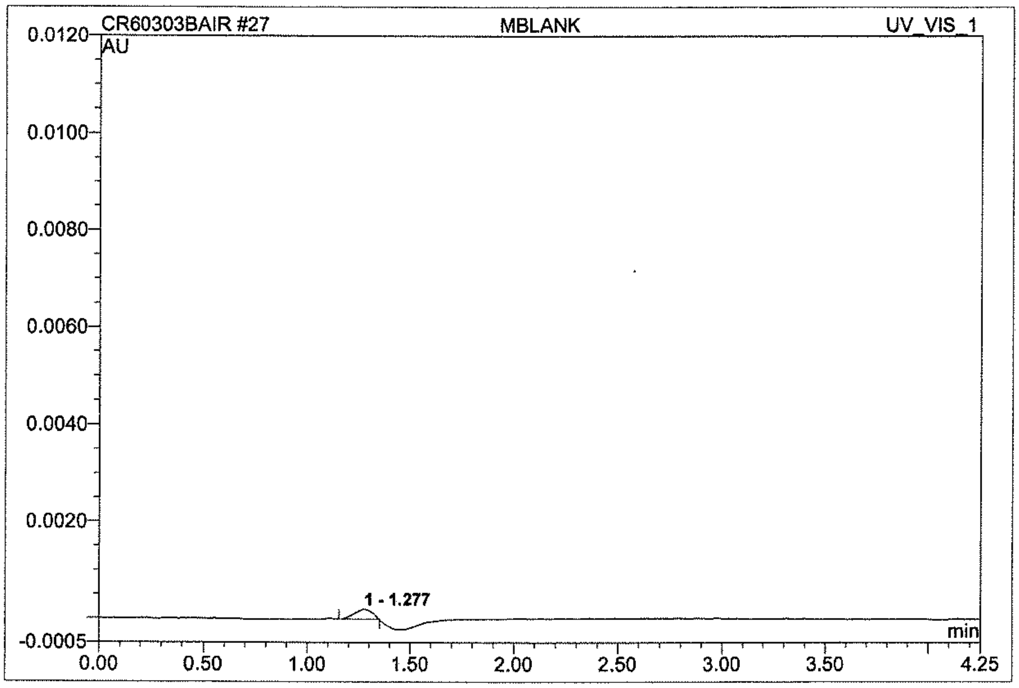
Sample Name:	**CCV**	*Injection Volume:*	**150.0**
Vial Number:	**42**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.27	n.a.	233.0E-6	21970E-9	4.93	n.a.	BMB
2	2.95	CR6-1	181.5E-5	42411E-8	95.07	9.7286	BM *
Total:			204.8E-5	446.1E-6	100.00	9.7286	

27 MBLANK

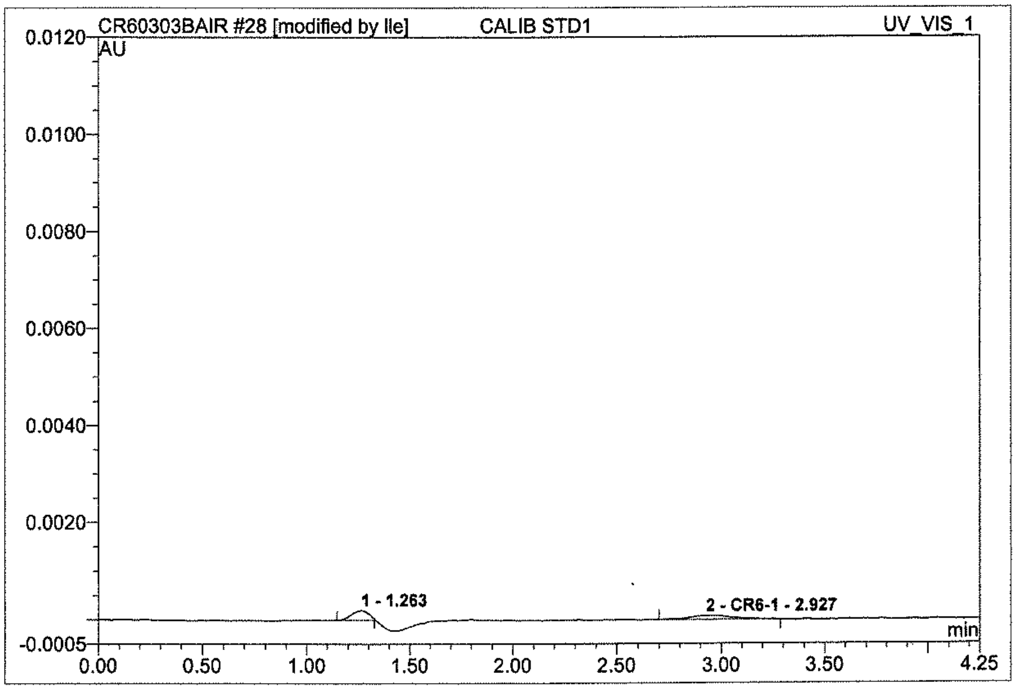
Sample Name:	**MBLANK**	*Injection Volume:*	**150.0**
Vial Number:	**43**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:47**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	202.0E-6	20138E-9	100.00	n.a.	BM
Total:			202.0E-6	201.4E-7	100.00	0.0000	

28 CALIB STD1

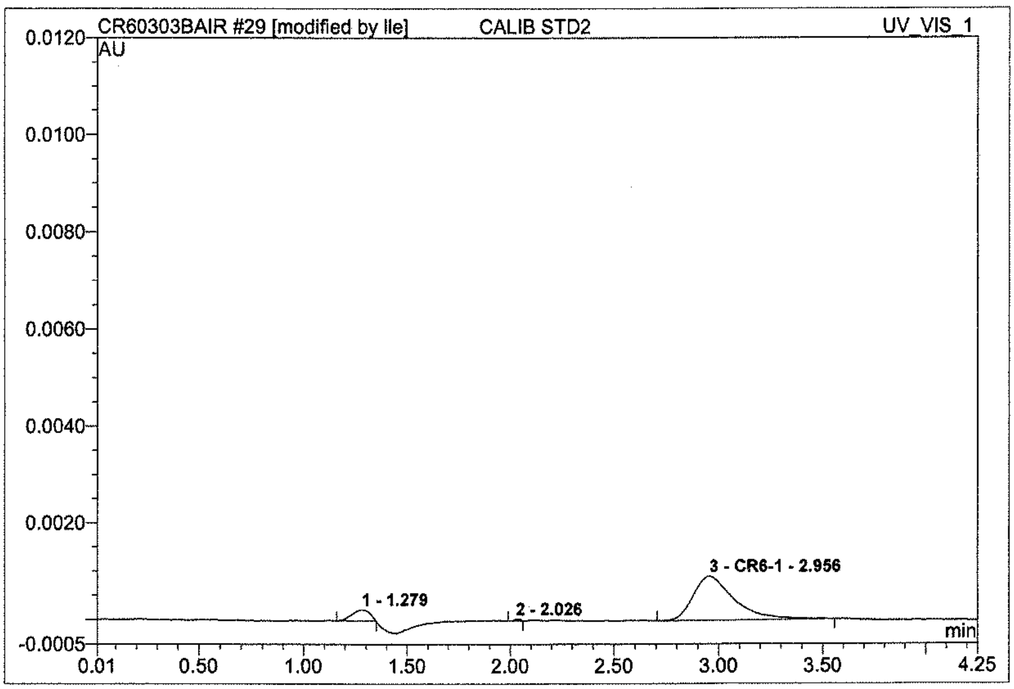
Sample Name:	**CALIB STD1**	*Injection Volume:*	**150.0**
Vial Number:	**44**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.26	n.a.	202.0E-6	19677E-9	50.45	n.a.	BM *
2	2.93	CR6-1	780.0E-7	19323E-9	49.55	0.5557	BMB*
Total:			280.0E-6	390.0E-7	100.00	0.5557	

29 CALIB STD2

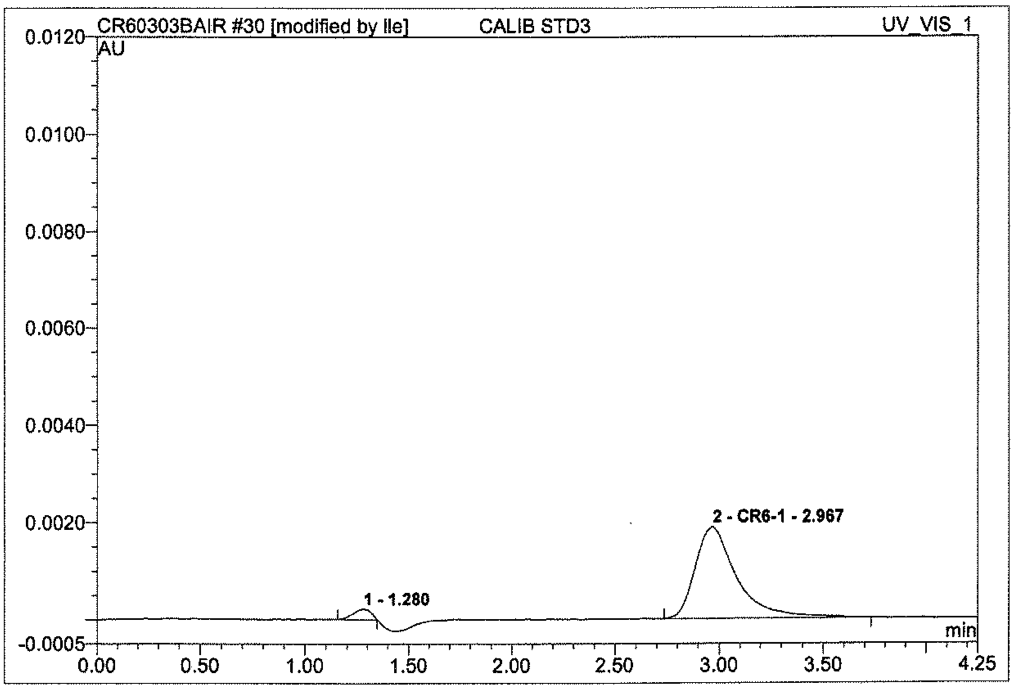
Sample Name:	**CALIB STD2**	*Injection Volume:*	**150.0**
Vial Number:	**45**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 17:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.24**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	225.0E-6	22605E-9	9.85	n.a.	BM
2	2.03	n.a.	290.0E-7	#########	0.51	n.a.	BMB
3	2.96	CR6-1	904.0E-6	20566E-8	89.64	4.7783	BMB*
Total:			115.8E-5	229.4E-6	100.00	4.7783	

30 CALIB STD3

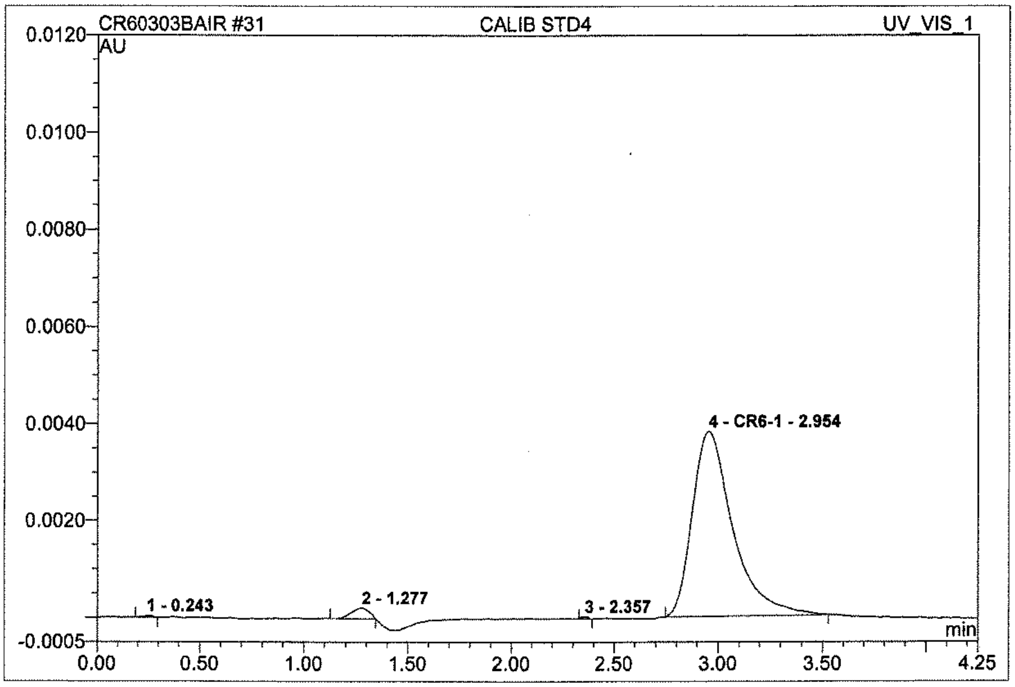
Sample Name:	**CALIB STD3**	*Injection Volume:*	**150.0**
Vial Number:	**46**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 18:02**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	1.28	n.a.	216.0E-6	21873E-9	4.79	n.a.	BM
2	2.97	CR6-1	188.8E-5	43518E-8	95.21	9.9794	BMB*
Total:			210.4E-5	457.0E-6	100.00	9.9794	

31 CALIB STD4

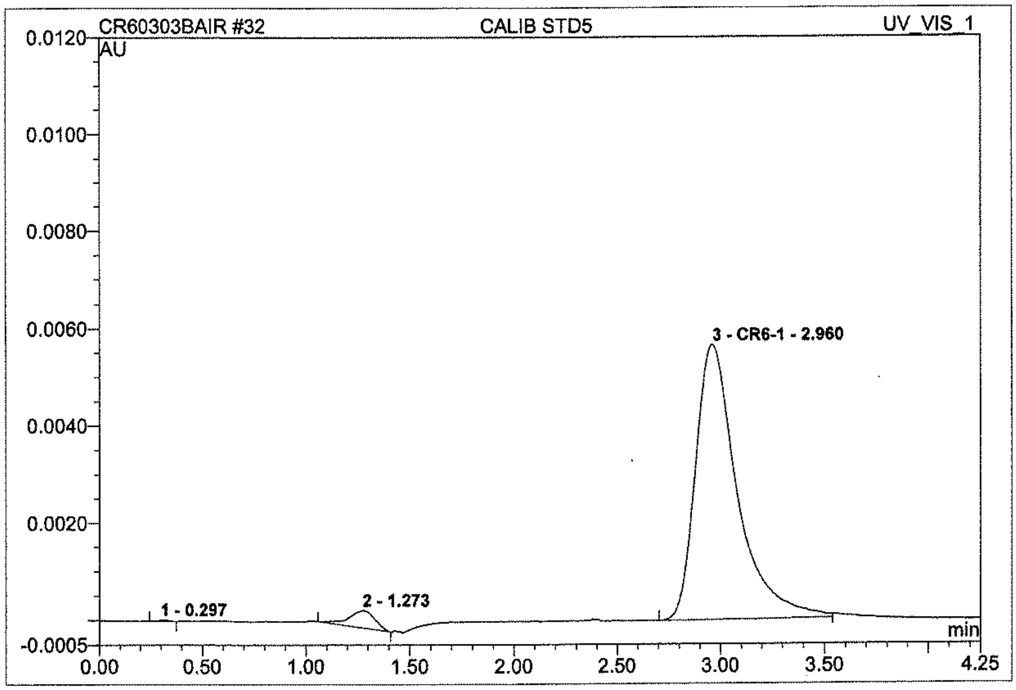
Sample Name:	**CALIB STD4**	*Injection Volume:*	**150.0**
Vial Number:	**50**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 18:20**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	0.24	n.a.	400.0E-7	#########	0.23	n.a.	BMB
2	1.28	n.a.	214.0E-6	21985E-9	2.48	n.a.	BM
3	2.36	n.a.	380.0E-7	#########	0.17	n.a.	BMB
4	2.95	CR6-1	381.1E-5	86070E-8	97.12	19.6223	BMB
Total:			410.3E-5	886.3E-6	100.00	19.6223	

32 CALIB STD5

Sample Name:	**CALIB STD5**	*Injection Volume:*	**150.0**
Vial Number:	**51**	*Channel:*	**UV_VIS_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**CR6**	*Bandwidth:*	**n.a.**
Quantif. Method:	**HEX CHROME**	*Dilution Factor:*	**1**
Recording Time:	**2010-3-3 18:26**	*Sample Weight:*	**1.0000**
Run Time (min):	**4.25**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height AU	Area AU*min	Rel.Area %	Amount PPB	Type
1	0.30	n.a.	240.0E-7	#########	0.10	n.a.	BMB
2	1.27	n.a.	352.0E-6	51900E-9	3.79	n.a.	BMB
3	2.96	CR6-1	564.7E-5	13167E-7	96.11	29.9557	BM
Total:			602.3E-5	137.0E-5	100.00	29.9557	

Inorganic Analysis Action / Comment Form

* Please note any action or anomalies impacting this set of samples

Client ID: World Environmental

Maxxam Job #: B023245

Maxxam Sample ID range(s): FE6112-FE9120

FE6112-FE9120	

Analytical Worksheet(s) 2092582

For additional comments, please staple additional pages(s)

Analysis: ICP

Analyst ID: APT

Actions:	*Impacted Sample ID's
Additional digestion needed	
Re-analysis needed (alternate technique)	
Re-analysis needed (contract technique)	
Bottle discrepancies	
Interferences observed	
Dilutions needed	
Reintegrations performed	
Internal calculations modified	
Field / Trip blanks missing	
Other	

Explanation/comments:

Post digest spike and duplicate was done on sample FE6114

ICP 1
T:\OMROS

Assignment Date: Thursday ; March 04, 2010
Assigned to: VIOLETA PORCILA
Test Code: CR306-IP Instrument Id:
Test Description: Total Chromium in Impingers by ICP according to Method 306 (based on 100mL volume)

Job Number	Sample Number	D	Sample ID	F	% Moist	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test Deadline	Criteria	Extract Date
	MTRX SPK	0	~~MMET%~~ FE6114-01				100 ml						2010/03/04
	MTRX SPK	1	~~MMET%~~ FE6114-01										2010/03/04
	SPIKE	0	~~MMET%~~ MME70										2010/03/04
	SPIKE	1	~~MMET%~~ MME70										2010/03/04
	BLANK												2010/03/04
B023245	FE6112-01R		C425-REAGENT B*				100	1.0	1	2010/03/26	2010/03/10 23:00		2010/03/04
B023245	FE6113-01R		C425-HEPA FILT*				193	1.93	2	2010/03/24	2010/03/10 23:00		2010/03/04
B023245	FE6114-01R	0	C425-HEPA FILT*				502	5.02	1	2010/03/24	2010/03/10 23:00		2010/03/04
B023245	FE6114-01R	1	C425-HEPA FILT*				502	5.02	1	2010/03/24	2010/03/10 23:00		2010/03/04
B023245	FE6115-01R		C425-HEPA FILT*				191	1.91	2	2010/03/25	2010/03/10 23:00		2010/03/04
B023245	FE6116-01R		C425-HEPA FILT*				499	4.99	1	2010/03/25	2010/03/10 23:00		2010/03/04
B023245	FE6117-01R		C425-HEPA FILT*				191	1.91	2	2010/03/26	2010/03/10 23:00		2010/03/04
B023245	FE6118-01R		C425-HEPA FILT*				502	5.02	1	2010/03/26	2010/03/10 23:00		2010/03/04
B023245	FE6119-01R		C425-HEPA FILT*				200	2.0	2	2010/03/26	2010/03/10 23:00		2010/03/04
B023245	FE6120-01R		C425-HEPA FILT*				491	4.91	1	2010/03/26	2010/03/10 23:00		2010/03/04

2010.03.05
APT

Remarks: Data Pkg. needed.

Samples extracted by: VIOLETA PORCILA
Instrumentation performed by: Archana Patel Date: 2010.03.05
Calculations performed by: Archana Patel Date: 2010.03.08
Validated by: [signature] Date: 2010.03.09

CHROMIUM AIR PREPARATION LOG - GFAAS and ICPAES

DG306CRI
BRL SOP-00102

Check List

- ✓ Digest Code done/Tubes labeled
- ✓ Samples poured out
- ✓ Samples spiked
- ✓ HNO3 added
- ✓ Samples digested
- ✓ Cooled and made to volume
- ✓ Samples filtered or centrifuged
- ✓ Rack order checked

WS # 2092582

	#	Sample I.D.	B.Code	Init.Vol.	F. Vol.	Dil.	F.Dil Vol	Comment
	1	BL 10.03.04	VPA1	25ml	25ml	1X	1 x	
	2	BL S	"					50 uL each ICP Spk Sol'ns 'A'&'B'
	2	BL DS	"					50 uL each ICP Spk Sol'ns 'A'&'B'
	2	~~BL T~~	"	"	"	"		50 uL each ICPAX Spk Sol'ns 'A'&'B'
	2	~~BL DT~~	"	"	"	"		50 uL each ICPAX Spk Sol'ns 'A'&'B'
1	3	FE6114	VPA1	25ml	25ml	1X	1x	
1	4	D	"	"	"	"		
1	5	S	"	"	"	"		50 uL each ICP Spk Sol'ns 'A'&'B'
1	6	DS	"	"	"	"		50 uL each ICP Spk Sol'ns 'A'&'B'
1	7	~~T~~	"	"	"	"		50 uL each ICPAX Spk Sol'ns 'A'&'B'
1	8	~~DT~~	"	"	"	"		50 uL each ICPAX Spk Sol'ns 'A'&'B'
2	7	FE 6112	VPA1	25ml	25ml	1X	1x	Client Reagent Blank
3	8	6113	"	"	"	"		
4	9	6115	"	"	"	"		
5	10	6116	"	"	"	"		
6	11	6117	"	"	"	"		
7	12	6118	"	"	"	"		
8	13	6119	"	"	"	"		
9	14	6120	"	"	"	"		
10	15		"	"	"	"		
11	16		"	"	"	"		
12	17		"	"	"	"		
13	18		"	"	"	"		
14	19		"	"	"	"		
15	20		"	"	"	"		
16	21		"	"	"	"		
17	22		"	"	"	"		
18	23		"	"	"	"		
19	24		"	"	"	"		
20	25		"	"	"	"		

VP

Notes:

Caution! The sample matrix should be 0.1N NaOH with a pH greater than 8.0. **Take precautions when adding acid to samples!**

The final digest will contain approx. 2300 ppm Na or greater. This may create interference with the analysis.

Bath Temps: 185 / C	Time ON: 1:45 p.m.	Time OFF: 3:45 p.m.

Prepared By: VP **Date:** 2010.03.04 **Checked By:** VP

Worksheet Number: 2091561

Volume of Sodium Hydroxide Impinger - Stack Sampling Train
(ml)

		B023245		B023245		B023245		B023245
Parameter Name	Units	FE6112	DL	FE6113	DL	FE6114	DL	FE6115
Volume	ml	100	1	193	1	502	1	191

		B023245		B023245		B023245		B023245
Parameter Name	DL	FE6116	DL	FE6117	DL	FE6118	DL	FE6119
Volume	1	499	1	191	1	502	1	200

		B023245				
Parameter Name	DL	FE6120	DL	RDL	MDL	IDL
Volume	1	491	1	1	1	0

Worksheet Data Validation Checklist - Metals and Wet Chem

Worksheet # 2092582 | Testcode: CR 306 - IP

Sample Preparation		yes	no	n/a
1	Samples extracted/digested within hold time	✓		
2	Client sample ID verified against Lab ID (waters)	✓		
3	Spiking solutions matched to instrument/testcode type	✓		
4	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
5	Initial sample weight/volume and extract/digest final volume, clearly recorded.	✓		
6	If performed any additional dilution clearly recorded			✓
7	QC applied to IOL samples			✓
8	Spiking solutions traceability records completed	✓		
9	Sample anomalies and preparation deviations documented			✓
10	Worksheet and reagent tracking record completed and signed	✓		

Reviewed by: Paula Date: 2010. 03.04
Comments:

Worksheet Approval		yes	no	n/a
1	Calibration and Instrument QC Standard traceability records completed	✓		
2	Calibration meets acceptance criteria	✓		
3	Interference Checks meet acceptance criteria	✓		
4	System performance checks acceptable	✓		
5	Initial and Continuing Calibration Checks meet acceptance criteria	✓		
6	Sample Vial Ids verified against Autosampler Table	✓		
7	Method blank meets acceptance criteria	✓		
8	Spike/Reference Material recoveries meets acceptance criteria	✓		
9	Control Chart Updated - Trend Violations Noted	✓		
10	Duplicate RPD meets acceptance criteria	✓		
11	Matrix spike recoveries meets acceptance criteria	✓		
12	Samples above calibration range diluted and reanalyzed			✓
13	Dilutions clearly documented on tracking record and verified during data upload			✓
14	Samples following high level samples checked for carryover.			✓
15	Internal standard response acceptable			✓
16	Results corrected for Moisture - Calculation verified			✓
17	Analytical observations / anomalies documented			✓
18	DQW comments entered in LIMS			✓
19	DW Exceedence Notification Given			✓
20	Sample Prep section (above) reviewed.	✓		

Reviewed by: APT Date: 2010.03.08
Comments:

Worksheet Validation		yes	no	n/a
1	Raw Data Review - QC Compliance (CCB/CCV run at correct frequency)	✓		
2	Raw Data Review - LIMS Data agrees with raw data (see calculation template below)	✓		
3	Comments reviewed for appropriateness			✓
4	Reworks / relogs documented in file			✓
5	Worksheet signed and dated,	✓		
6	Worksheet approved and validated within LIMS	✓		
7	Sample Prep and Worksheet Approval sections (above) reviewed.	✓		

Calculation Template **LIMS Sample ID =** FE6113 **Element =** Cr

Raw Result x Final Vol / Initial Wt or Vol / (1-%Moisture) x DF = 193 ml | **LIMS Result**

0.0027 ug/mL × 193 mL = 0.5211 ug | 0.51724 ug ✓

Reviewed by: [signature] Date: 20100309
Comments:

Method: MAXXAM Standard: BLANK
Run Time: 03/05/10 16:50:17

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	8.333	35.00	-12.00	27.00	-1.667	5.3333	-19.67
SDev	2.082	8.72	11.79	3.00	.577	1.1547	21.13
%RSD	24.98	24.91	98.25	11.11	34.64	21.651	107.4
#1	10.00	31.00	1.000	27.00	-2.000	6.0000	-17.00
#2	9.000	45.00	-22.00	30.00	-1.000	6.0000	.0000
#3	6.000	29.00	-15.00	24.00	-2.000	4.0000	-42.00

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Avge	2.000	1.6667	-4.000	7.333	-1.000	10.67	172.3
SDev	1.732	1.1547	1.000	3.512	1.732	.58	18.8
%RSD	86.60	69.282	25.00	47.89	173.2	5.413	10.89
#1	1.000	1.0000	-3.000	7.000	-2.000	11.00	161.0
#2	4.000	1.0000	-4.000	11.00	1.000	10.00	194.0
#3	1.000	3.0000	-5.000	4.000	-2.000	11.00	162.0

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Avge	-1.333	.3333	-1.000	2596.	.6667	-8.333	-5.667
SDev	.577	.5774	7.810	38.	9.452	5.132	17.954
%RSD	43.30	173.2	781.0	1.450	1418.	61.58	316.8
#1	-2.000	.0000	-5.000	2580.	-10.00	-14.00	1.000
#2	-1.000	1.000	8.000	2639.	8.000	-4.000	8.000
#3	-1.000	.0000	-6.000	2569.	4.000	-7.000	-26.00

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Avge	10.33	-2.333	-1.000	4.500	1.000	.0000	5.333
SDev	13.80	1.528	2.646	9.341	14.53	.0000	2.309
%RSD	133.5	65.47	264.6	207.6	1453.	.0000	43.30
#1	5.000	-1.000	-2.000	6.000	-13.00	.0000	4.000
#2	26.00	-2.000	-3.000	13.00	.0000	.0000	8.000
#3	.0000	-4.000	2.000	-5.500	16.00	.0000	4.000

Elem	V	Zn	Li
Avge	.3333	-.3333	.00000
SDev	2.517	1.1547	.00000
%RSD	755.0	346.4	.00000
#1	.0000	1.000	.00000
#2	3.000	-1.000	.00000
#3	-2.000	-1.000	.00000

Method: MAXXAM Standard: STD-A
Run Time: 03/05/10 16:53:30

Elem	Ag	Al	As	B	Ba	Be	Bi
Avge	5726.	8333.	3458.	8255.	10600.	5951.0	2370.
SDev	29.	50.	27.	27.	72.	23.6	45.
%RSD	.5069	.5977	.7781	.3274	.6828	.39730	1.915
#1	5751.	8373.	3450.	8283.	10670.	5973.0	2360.
#2	5694.	8277.	3436.	8229.	10530.	5926.0	2331.
#3	5732.	8348.	3488.	8254.	10610.	5954.0	2420.

Elem	Ca	Cd	Co	Cr	Cu	K	Mn
Avge	13060.	3893.7	9263.	28440.	5640.	4384.	12050.
SDev	45.	12.9	36.	80.	32.	23.	51.
%RSD	.3474	.33123	.3854	.2799	.5688	.5351	.4203
#1	13080.	3908.0	9267.	28510.	5671.	4404.	12080.
#2	13010.	3883.0	9225.	28360.	5607.	4358.	11990.
#3	13090.	3890.0	9296.	28470.	5643.	4389.	12080.

Elem	Na	Ni	P	Pb	Se	Sr	V
Avge	96410.	7468.	21890.	3289.	351.7	7662.	4776.
SDev	586.	25.	99.	22.	1.2	45.	40.
%RSD	.6075	.3404	.4540	.6599	.3284	.5813	.8451
#1	97020.	7482.	22000.	3278.	353.0	7702.	4809.
#2	95860.	7439.	21810.	3275.	351.0	7614.	4731.
#3	96350.	7484.	21860.	3314.	351.0	7670.	4788.

Elem	Zn
Avge	13530.
SDev	53.
%RSD	.3903
#1	13580.
#2	13470.
#3	13540.

Method: MAXXAM Standard: STD-C
Run Time: 03/05/10 16:56:28

Elem	Al	Ca	Fe	Mg	Na	P
Avge	83230.	6359.	163200.	7776.	191400.	43340.
SDev	259.	31.	604.	33.	335.	138.
%RSD	.3109	.4929	.3699	.4260	.1751	.3188
#1	82980.	6325.	162600.	7741.	191200.	43190.
#2	83200.	6364.	163200.	7779.	191100.	43360.
#3	83500.	6387.	163800.	7807.	191700.	43460.

Method: MAXXAM Standard: STD-B
Run Time: 03/05/10 16:59:10

Elem	Fe	Mg	Mo	S	Sb	Si	Sn
Avge	82910.	3795.	3842.	1801.	250.3	3482.	4648.
SDev	439.	21.	20.	8.	4.5	24.	30.
%RSD	.5295	.5654	.5241	.4337	1.801	.6836	.6388
#1	83260.	3809.	3839.	1805.	250.0	3480.	4673.
#2	82420.	3770.	3823.	1792.	246.0	3459.	4615.
#3	83060.	3805.	3863.	1806.	255.0	3507.	4655.

Elem	Ti	Li
Avge	17940.	762.00
SDev	85.	3.46
%RSD	.4724	.45461
#1	18010.	766.00
#2	17850.	760.00
#3	17960.	760.00

Method: MAXXAM Sample Name: CCB Operator: APT
Run Time: 03/05/10 17:06:37
Comment: 2093307
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0009	.0108	.0446	.0065	.0006	-.00006	.0613
SDev	.0074	.0665	.0362	.0014	.0016	.00001	.0760
%RSD	851.1	614.2	81.19	21.69	259.8	10.325	123.9
#1	.0085	.0605	.0844	.0073	.0016	-.00007	.1241
#2	-.0064	-.0647	.0138	.0049	-.0013	-.00006	-.0232
#3	.0006	.0367	.0355	.0073	.0016	-.00006	.0832

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0070	-.00120	.0029	-.0028	-.0000	-.0056	.0871
SDev	.0045	.00065	.0027	.0020	.0047	.0031	.2799
%RSD	63.82	54.350	94.18	72.49	301000.	54.30	321.5
#1	-.0044	-.00183	.0054	-.0005	.0035	-.0024	.3245
#2	-.0122	-.00124	.0032	-.0040	-.0053	-.0085	-.2216
#3	-.0044	-.00053	.0000	-.0040	.0018	-.0060	.1583

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0234	-.0003	.0030	.0568	.0002	.0290	-.0187
SDev	.0150	.0009	.0040	.0367	.0123	.0295	.0239
%RSD	64.34	325.7	130.9	64.62	5382.	101.5	127.7
#1	.0147	-.0002	.0039	.0939	.0056	-.0046	-.0186
#2	.0147	-.0012	.0065	.0206	.0089	.0412	-.0427
#3	.0407	.0006	-.0013	.0557	-.0138	.0505	.0051

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0554	.0619	.0329	.0168	-.0029	.0004	.0002
SDev	.0250	.1668	.0634	.0225	.0357	.0004	.0020
%RSD	45.11	269.3	192.9	134.3	1223.	86.58	1055.
#1	-.0295	.0894	.0986	.0374	-.0065	.0007	.0020
#2	-.0572	.2132	-.0280	-.0072	-.0367	.0000	-.0019
#3	-.0794	-.1169	.0281	.0201	.0345	.0007	.0004

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0038	-.0005	.00000
SDev	.0056	.0009	.00000
%RSD	144.4	181.6	.00000
#1	.0101	-.0010	.00000
#2	-.0004	-.0010	.00000
#3	.0018	.0005	.00000

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Method: MAXXAM Sample Name: CCV Operator: APT
Run Time: 03/05/10 17:09:50
Comment: 2093307
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.006	1.009	1.053	1.014	.9812	.99671	.9561
SDev	.005	.020	.005	.004	.0069	.00405	.0514
%RSD	.4520	1.946	.4537	.3660	.7085	.40643	5.373
#1	1.011	.9992	1.057	1.018	.9890	1.0013	.9774
#2	1.004	.9953	1.055	1.011	.9787	.99537	L.8976
#3	1.004	1.031	1.048	1.013	.9758	.99351	.9935

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	24.29	.98054	.9779	.9880	.9910	1.000	24.41
SDev	.16	.00490	.0057	.0061	.0084	.007	.49
%RSD	.6640	.49931	.5829	.6133	.8452	.6755	2.023
#1	24.48	.98612	.9844	.9942	.9975	1.006	24.97
#2	24.20	.97697	.9758	.9821	.9940	.9929	24.05
#3	24.20	.97854	.9736	.9875	.9816	1.001	24.21

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	23.69	.9900	1.002	24.50	1.004	.9920	1.046
SDev	.11	.0066	.016	.15	.015	.0770	.024
%RSD	.4794	.6630	1.588	.6067	1.541	7.767	2.319
#1	23.82	.9974	1.016	24.63	1.006	.9177	1.072
#2	23.61	.9875	.9846	24.54	.9878	1.072	1.042
#3	23.63	.9850	1.005	24.34	1.019	.9868	1.024

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	25.00	1.026	1.041	24.76	1.000	.9858	.9971
SDev	.21	.055	.022	.14	.025	.0132	.0055
%RSD	.8545	5.313	2.088	.5806	2.543	1.338	.5536
#1	25.18	1.047	1.060	24.92	1.007	1.001	1.003
#2	24.76	.9644	1.017	24.70	.9721	.9782	.9945
#3	25.06	1.068	1.045	24.65	1.022	.9782	.9933

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	1.008	.9839	.98863
SDev	.010	.0051	.00758
%RSD	1.040	.5199	.76639
#1	1.020	.9898	.98425
#2	1.004	.9810	.98425
#3	.9997	.9809	.99738

Method: MAXXAM Sample Name: 2092582:BLANK:100 Operator: APT
Run Time: 03/05/10 17:57:43
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0015	-.0108	.0219	.0134	.0006	-.00011	.0498
SDev	.0010	.0173	.0223	.0024	.0009	.00009	.0729
%RSD	69.16	161.0	101.7	18.17	150.0	85.083	146.5
#1	-.0020	-.0021	.0476	.0158	.0016	-.00006	.1098
#2	-.0003	-.0307	.0091	.0134	-.0003	-.00005	.0709
#3	-.0020	.0006	.0090	.0109	.0006	-.00022	-.0314

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0174	-.00632	-.0000	-.0013	.0018	-.0085	.5224
SDev	.0045	.00133	.0039	.0034	.0035	.0032	.4381
%RSD	25.80	21.062	3039000.	262.3	200.0	37.96	83.86
#1	-.0122	-.00613	.0032	.0020	.0053	-.0073	.8944
#2	-.0200	-.00509	-.0043	-.0012	.0018	-.0121	.6332
#3	-.0200	-.00773	.0011	-.0047	-.0018	-.0060	.0396

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0060	-.0011	.0017	.0266	.0011	.0374	-.0068
SDev	.0398	.0008	.0080	.0077	.0021	.0289	.0379
%RSD	663.3	74.24	457.7	28.85	183.4	77.11	555.5
#1	.0147	-.0003	.0104	.0217	.0029	.0641	-.0484
#2	.0407	-.0011	-.0052	.0355	.0016	.0068	.0022
#3	-.0374	-.0019	.0000	.0227	-.0011	.0413	.0258

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0351	.0344	-.0094	.0115	-.0079	.0000	-.0007
SDev	.0861	.0974	.0326	.0150	.0253	.0000	.0010
%RSD	245.2	283.2	348.5	130.5	318.8	25.80	129.5
#1	.1312	.0688	.0283	.0015	.0021	.0000	-.0002
#2	-.0350	.1100	-.0282	.0043	.0108	.0000	-.0002
#3	.0092	-.0756	-.0281	.0287	-.0367	.0000	-.0019

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	-.0014	.0005	.00000
SDev	.0031	.0015	.00000
%RSD	224.4	302.6	.00000
#1	.0017	.0019	.00000
#2	-.0014	.0005	.00000
#3	-.0045	-.0010	.00000

Method: MAXXAM Sample Name: 2092582:SPIKE:DUP Operator: APT
Run Time: 03/05/10 18:00:57
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.4997	1.987	.4610	1.013	.9645	.49428	.4926
SDev	.0050	.043	.0252	.003	.0034	.00103	.0525
%RSD	.9964	2.177	5.472	.3021	.3526	.20797	10.67
#1	.4957	1.960	.4488	1.010	.9636	.49479	.5110
#2	.5053	2.037	.4900	1.013	.9617	.49309	.5336
#3	.4983	1.965	.4442	1.016	.9683	.49495	.4334

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	9.748	.48101	.9815	.9750	.9730	11.96	9.403
SDev	.050	.00361	.0092	.0058	.0027	.04	.270
%RSD	.5180	.74944	.9396	.5957	.2786	.3066	2.872
#1	9.696	.47693	.9728	.9693	.9700	11.92	9.324
#2	9.797	.48377	.9912	.9809	.9736	11.98	9.704
#3	9.751	.48232	.9804	.9746	.9754	11.99	9.182

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.33	.9706	.4893	9.747	.4832	4.975	.9592
SDev	.04	.0032	.0013	.021	.0119	.035	.0330
%RSD	.3854	.3255	.2663	.2104	2.462	.6970	3.442
#1	10.28	.9670	.4906	9.724	.4883	4.990	.9572
#2	10.36	.9729	.4880	9.754	.4916	4.935	.9932
#3	10.33	.9720	.4893	9.764	.4696	4.999	.9273

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.9980	.5037	.5390	1.014	.9376	.4814	.9893
SDev	.0209	.0315	.0533	.016	.0137	.0053	.0039
%RSD	2.099	6.250	9.881	1.621	1.456	1.096	.3962
#1	1.022	.5107	.5155	1.000	.9297	.4783	.9855
#2	.9888	.5311	.5015	1.032	.9298	.4783	.9889
#3	.9833	.4693	.5999	1.009	.9534	.4875	.9933

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.4931	1.964	.98863
SDev	.0022	.005	.00758
%RSD	.4415	.2446	.76639
#1	.4914	1.962	.99738
#2	.4924	1.960	.98425
#3	.4956	1.969	.98425

Method: MAXXAM Sample Name: 2092582:SPIKE:100 Operator: APT
Run Time: 03/05/10 18:04:10
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.4942	1.971	.4383	.9955	.9538	.48898	.4905
SDev	.0041	.023	.0158	.0092	.0047	.00225	.0746
%RSD	.8357	1.169	3.596	.9255	.4977	.45959	15.22
#1	.4974	1.951	.4548	.9890	.9532	.48769	.5396
#2	.4895	1.967	.4234	1.006	.9588	.49158	.5274
#3	.4956	1.996	.4366	.9914	.9494	.48768	.4046

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	9.614	.47993	.9700	.9666	.9706	11.89	9.720
SDev	.044	.00490	.0016	.0038	.0037	.04	.387
%RSD	.4590	1.0213	.1691	.3947	.3803	.3004	3.979
#1	9.564	.48481	.9685	.9622	.9718	11.84	9.894
#2	9.626	.47500	.9718	.9693	.9736	11.91	9.989
#3	9.650	.47997	.9696	.9683	.9665	11.90	9.277

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.21	.9582	.4806	9.695	.4883	4.903	.9819
SDev	.04	.0039	.0053	.039	.0206	.046	.0212
%RSD	.3897	.4097	1.094	.4058	4.218	.9405	2.155
#1	10.18	.9537	.4750	9.694	.5117	4.924	.9840
#2	10.26	.9612	.4815	9.735	.4803	4.850	1.002
#3	10.20	.9596	.4854	9.656	.4729	4.935	.9598

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.133	.5315	.5201	.9967	.9678	.4783	.9861
SDev	.058	.1611	.0635	.0158	.0090	.0000	.0037
%RSD	5.153	30.31	12.20	1.588	.9300	.0001	.3710
#1	1.194	.4284	.5153	.9784	.9577	.4783	.9827
#2	1.077	.4488	.4591	1.006	.9750	.4783	.9900
#3	1.127	.7171	.5858	1.006	.9706	.4783	.9855

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.4897	1.944	1.0061
SDev	.0016	.007	.0152
%RSD	.3261	.3474	1.5061
#1	.4893	1.945	.99738
#2	.4883	1.950	1.0236
#3	.4914	1.937	.99738

Method: MAXXAM Sample Name: 2092582:MTRX SPK:DUP Operator: APT
Run Time: 03/05/10 18:07:24
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.5275	2.113	.4431	1.070	1.014	.48512	.5844
SDev	.0108	.065	.0240	.018	.017	.00546	.0298
%RSD	2.052	3.064	5.408	1.658	1.636	1.1258	5.098
#1	.5246	2.056	.4376	1.075	1.007	.48276	.6116
#2	.5395	2.183	.4693	1.084	1.032	.49136	.5526
#3	.5185	2.099	.4224	1.050	1.001	.48123	.5891

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.45	.51686	1.037	1.021	.9978	12.33	10.93
SDev	.05	.00484	.002	.004	.0161	.13	.68
%RSD	.5214	.93569	.1562	.3679	1.612	1.089	6.241
#1	10.40	.51175	1.035	1.019	.9913	12.24	11.20
#2	10.51	.52137	1.039	1.025	1.016	12.48	10.16
#3	10.45	.51746	1.038	1.019	.9860	12.26	11.44

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.76	1.010	.5167	S8471.	.5107	5.112	1.078
SDev	.06	.009	.0060	.	.0070	.135	.029
%RSD	.5597	.9041	1.154	.0056	1.376	2.634	2.654
#1	10.72	1.005	.5101	S8471.	.5104	5.061	1.108
#2	10.83	1.021	.5180	S8470.	.5178	5.265	1.051
#3	10.72	1.005	.5219	S8471.	.5038	5.011	1.075

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.079	.5987	.5442	4.081	1.052	.5036	1.019
SDev	.067	.0630	.0141	.152	.041	.0082	.013
%RSD	6.168	10.52	2.595	3.721	3.865	1.621	1.233
#1	1.011	.6538	.5300	3.910	1.007	.4999	1.012
#2	1.083	.6123	.5583	4.134	1.061	.5129	1.034
#3	1.144	.5301	.5443	4.199	1.087	.4979	1.012

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.5168	2.031	1.0061
SDev	.0109	.029	.0200
%RSD	2.106	1.408	1.9924
#1	.5081	2.015	1.0105
#2	.5290	2.064	1.0236
#3	.5133	2.014	.98425

Method: MAXXAM Sample Name: 2092582:MTRX SPK:100 Operator: APT
Run Time: 03/05/10 18:11:47
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.5281	2.095	.4328	1.075	1.018	.48546	.6089
SDev	.0030	.044	.0265	.006	.005	.00176	.0743
%RSD	.5746	2.122	6.124	.5192	.5268	.36271	12.21
#1	.5246	2.049	.4242	1.080	1.014	.48428	.5258
#2	.5299	2.138	.4116	1.077	1.024	.48748	.6689
#3	.5299	2.099	.4625	1.069	1.016	.48461	.6321

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.43	.52066	1.032	1.018	1.000	12.36	10.57
SDev	.04	.00436	.004	.006	.005	.03	.52
%RSD	.3936	.83675	.4353	.5415	.4687	.2046	4.947
#1	10.40	.51739	1.029	1.015	.9967	12.35	10.61
#2	10.48	.52561	1.031	1.024	1.006	12.39	11.08
#3	10.42	.51900	1.038	1.014	.9984	12.35	10.04

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	10.73	1.010	.5067	S8471.	.5131	5.100	1.029
SDev	.02	.003	.0094	.	.0070	.046	.026
%RSD	.1404	.2918	1.859	.0009	1.373	.8987	2.550
#1	10.72	1.007	.4958	S8471.	.5137	5.070	.9998
#2	10.75	1.013	.5114	S8471.	.5057	5.077	1.036
#3	10.72	1.009	.5127	S8471.	.5198	5.153	1.051

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.035	.5643	.4596	4.149	1.048	.5053	1.023
SDev	.101	.1562	.0506	.146	.033	.0027	.004
%RSD	9.759	27.68	11.02	3.513	3.109	.5377	.4118
#1	1.017	.3855	.5017	3.987	1.018	.5031	1.019
#2	1.144	.6743	.4034	4.188	1.083	.5084	1.027
#3	.9446	.6332	.4738	4.271	1.044	.5044	1.022

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.5161	2.034	1.0192
SDev	.0070	.012	.0076
%RSD	1.349	.5696	.74337
#1	.5081	2.028	1.0236
#2	.5206	2.048	1.0236
#3	.5196	2.027	1.0105

Method: MAXXAM Sample Name: 2092582:FE6114:DUP Operator: APT
Run Time: 03/05/10 18:16:09
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0003	.0237	.0440	.0904	.0028	-.00017	.0382
SDev	.0030	.0123	.0224	.0078	.0011	.00010	.0143
%RSD	1045.	51.72	50.88	8.647	38.49	55.441	37.50
#1	.0015	.0341	.0459	.0937	.0035	-.00023	.0239
#2	.0015	.0102	.0654	.0961	.0035	-.00006	.0525
#3	-.0038	.0269	.0207	.0815	.0016	-.00022	.0381

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0370	-.00295	-.0007	-.0027	.0030	.0042	.5224
SDev	.0118	.00672	.0050	.0054	.0057	.0039	.8103
%RSD	32.08	227.42	692.4	199.4	193.1	92.45	155.1
#1	.0344	.00051	.0022	.0020	.0053	.0071	1.037
#2	.0499	.00132	.0022	-.0016	.0071	.0059	.9419
#3	.0266	L-.01069	-.0065	-.0085	-.0035	-.0002	-.4116

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0234	-.0003	.0022	S8471.	-.0080	.0466	-.0218
SDev	.0301	.0008	.0064	.	.0065	.0327	.0460
%RSD	128.7	323.2	294.2	.0030	80.89	70.10	210.5
#1	.0407	.0006	.0052	S8471.	-.0152	.0091	.0289
#2	.0407	-.0003	-.0052	S8472.	-.0025	.0619	-.0336
#3	-.0113	-.0011	.0065	S8472.	-.0065	.0689	-.0607

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0647	-.0550	-.0047	2.082	.0206	.0052	.0005
SDev	.0761	.0545	.0162	.017	.0217	.0000	.0008
%RSD	117.6	99.09	346.7	.8077	105.4	.0020	159.0
#1	.1478	-.0138	-.0140	2.063	.0451	.0052	.0015
#2	-.0017	-.0344	.0140	2.089	.0127	.0052	.0004
#3	.0481	-.1168	-.0140	2.094	.0040	.0052	-.0002

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0024	.0059	.00000
SDev	.0034	.0008	.00000
%RSD	138.0	14.00	.00000
#1	.0038	.0050	.00000
#2	.0049	.0064	.00000
#3	-.0014	.0064	.00000

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Method: MAXXAM Sample Name: 2092582:FE6114:100 Operator: APT
Run Time: 03/05/10 18:20:32
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0000	.0431	.0295	.0864	.0028	-.00017	.0130
SDev	.0056	.0454	.0333	.0092	.0011	.00010	.0226
%RSD	585500.	105.4	112.9	10.63	38.49	56.388	174.0
#1	-.0064	-.0089	.0090	.0767	.0016	-.00022	-.0089
#2	.0023	.0630	.0115	.0876	.0035	-.00006	.0362
#3	.0041	.0750	.0679	.0949	.0035	-.00024	.0116

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0395	-.00125	.0018	-.0024	.0018	.0010	.4591
SDev	.0118	.00215	.0055	.0060	.0071	.0064	1.032
%RSD	29.98	172.81	307.2	255.5	399.7	647.7	224.8
#1	.0266	-.00246	-.0043	-.0083	-.0053	-.0063	-.6490
#2	.0499	-.00252	.0032	.0038	.0089	.0034	1.393
#3	.0421	.00124	.0065	-.0026	.0018	.0059	.6332

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0147	-.0002	-.0009	S8472.	-.0136	.0918	-.0378
SDev	.0451	.0000	.0074	.	.0079	.0587	.0190
%RSD	307.2	15.38	864.8	.0026	58.32	63.91	50.25
#1	-.0374	-.0003	-.0091	S8472.	-.0185	.1423	-.0488
#2	.0407	-.0002	.0052	S8472.	-.0044	.0275	-.0159
#3	.0407	-.0002	.0013	S8472.	-.0178	.1056	-.0487

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0610	.0344	.0094	2.051	.0004	.0052	.0013
SDev	.0210	.0859	.0353	.014	.0087	.0000	.0014
%RSD	34.41	249.7	376.6	.7030	2030.	.0020	109.7
#1	.0703	.0070	.0421	2.045	-.0090	.0052	-.0002
#2	.0370	-.0344	-.0281	2.040	.0019	.0052	.0015
#3	.0758	.1307	.0141	2.067	.0083	.0052	.0026

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0028	.0070	.00000
SDev	.0089	.0008	.00000
%RSD	319.8	11.74	.00000
#1	-.0066	.0065	.00000
#2	.0038	.0079	.00000
#3	.0112	.0065	.00000

Method: MAXXAM Sample Name: 2092582:FE6112:100 Operator: APT
Run Time: 03/05/10 18:24:55
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0041	.2511	.0516	.0138	.0060	-.00018	.0246
SDev	.0032	.0273	.0154	.0019	.0011	.00009	.0534
%RSD	76.47	10.86	29.87	13.48	18.23	51.836	216.7
#1	.0015	.2365	.0626	.0122	.0072	-.00023	.0424
#2	.0033	.2341	.0582	.0134	.0053	-.00023	-.0354
#3	.0076	.2825	.0340	.0158	.0053	-.00007	.0669

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.685	-.00094	.0064	.0019	.0089	.1943	.9815
SDev	.012	.00504	.0043	.0031	.0036	.0014	.4545
%RSD	.7036	535.78	67.01	165.1	39.96	.7259	46.31
#1	1.695	.00009	.0064	.0045	.0124	.1935	1.464
#2	1.672	-.00641	.0021	.0027	.0053	.1959	.5620
#3	1.687	.00350	.0108	-.0016	.0089	.1935	.9182

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0494	.0005	.0026	S8472.	.0107	.0769	.0335
SDev	.0150	.0005	.0079	.	.0074	.0580	.0200
%RSD	30.41	101.7	304.2	.0024	68.73	75.45	59.68
#1	.0407	.0007	.0065	S8472.	.0103	.1426	.0286
#2	.0407	-.0001	.0078	S8472.	.0036	.0326	.0164
#3	.0667	.0008	-.0065	S8472.	.0183	.0556	.0555

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0388	.0410	.0329	8.328	.0049	.0100	.0046
SDev	.0524	.1173	.0214	.057	.0349	.0010	.0014
%RSD	135.0	286.0	65.12	.6806	708.3	9.977	30.67
#1	.0203	.1716	.0282	8.365	.0229	.0091	.0033
#2	-.0794	-.0553	.0142	8.262	-.0353	.0098	.0044
#3	-.0572	.0066	.0562	8.356	.0272	.0111	.0061

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0077	.0044	.00000
SDev	.0049	.0017	.00000
%RSD	63.41	39.68	.00000
#1	.0049	.0034	.00000
#2	.0049	.0064	.00000
#3	.0133	.0034	.00000

Method: MAXXAM Sample Name: 2092582:FE6113:100 Operator: APT
Run Time: 03/05/10 18:29:18
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0026	2.245	.0561	.9336	1.088	-.00012	.0246
SDev	.0050	.020	.0233	.0025	.010	.00009	.0606
%RSD	192.4	.8698	41.63	.2713	.9008	77.633	246.4
#1	-.0003	2.228	.0726	.9307	1.099	-.00006	.0812
#2	.0085	2.266	.0663	.9356	1.082	-.00008	-.0394
#3	-.0003	2.240	.0294	.9344	1.082	-.00023	.0321

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.447	-.00106	.0024	.0027	.0071	-.0041	2.557
SDev	.000	.00612	.0006	.0019	.0018	.0039	.440
%RSD	.0000	577.66	25.71	69.15	24.97	94.30	17.20
#1	1.447	-.00813	.0028	.0037	.0053	-.0013	2.580
#2	1.447	.00263	.0017	.0038	.0089	-.0025	2.984
#3	1.447	.00231	.0028	.0005	.0071	-.0086	2.105

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0407	.0008	-.0020	S8472.	.0129	.0447	-.0059
SDev	.0000	.0000	.0066	.	.0117	.0505	.0202
%RSD	.0136	2.108	321.7	.0028	90.20	113.0	340.5
#1	.0407	.0008	-.0012	S8472.	-.0004	-.0058	.0012
#2	.0407	.0008	.0040	S8472.	.0183	.0447	.0098
#3	.0407	.0008	-.0090	S8472.	.0209	.0952	-.0288

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.2292	.0482	.0609	H19.56	.0209	.0328	.0077
SDev	.0566	.1255	.0587	.10	.0273	.0008	.0022
%RSD	24.67	260.6	96.31	.5249	130.9	2.295	29.14
#1	.2698	-.0344	.0422	H19.68	.0000	.0333	.0064
#2	.2532	.1926	.1267	H19.51	.0518	.0333	.0103
#3	.1646	-.0137	.0139	H19.50	.0108	.0320	.0064

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0077	.9318	.00000
SDev	.0085	.0045	.00000
%RSD	110.9	.4812	.00000
#1	.0017	.9363	.00000
#2	.0175	.9317	.00000
#3	.0039	.9273	.00000

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Method: MAXXAM Sample Name: 2092582:FE6115:100 Operator: APT
Run Time: 03/05/10 18:33:40
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0041	2.323	.0204	.9843	1.113	-.00018	-.0211
SDev	.0009	.024	.0189	.0117	.013	.00010	.0544
%RSD	21.44	1.048	92.44	1.192	1.202	53.642	258.5
#1	.0041	2.300	.0171	.9794	1.102	-.00007	-.0783
#2	.0050	2.320	.0408	.9758	1.108	-.00023	.0300
#3	.0032	2.348	.0034	.9977	1.128	-.00023	-.0149

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.493	.00034	.0053	.0001	.0041	-.0071	2.280
SDev	.016	.00259	.0035	.0079	.0020	.0019	.666
%RSD	1.039	773.14	65.21	6612.	49.45	26.30	29.21
#1	1.509	-.00265	.0093	.0091	.0053	-.0087	3.008
#2	1.478	.00198	.0028	-.0030	.0018	-.0050	1.702
#3	1.493	.00167	.0039	-.0057	.0053	-.0075	2.129

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0060	.0000	.0023	S8472.	.0045	.0884	.0078
SDev	.0301	.0008	.0053	.	.0107	.0198	.0253
%RSD	500.7	7353.	227.9	.0023	240.7	22.44	326.7
#1	.0407	.0008	.0080	S8472.	.0156	.0998	.0366
#2	-.0114	-.0008	-.0025	S8472.	-.0058	.1000	-.0110
#3	-.0113	.0000	.0014	S8471.	.0036	.0655	-.0023

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0611	-.0549	-.0047	H20.28	-.0044	.0359	.0072
SDev	.0064	.0945	.0569	.15	.0156	.0011	.0006
%RSD	10.46	172.2	1220.	.7602	356.2	3.150	8.978
#1	.0648	-.0344	.0564	H20.17	.0001	.0352	.0075
#2	.0648	.0277	-.0563	H20.23	-.0217	.0352	.0075
#3	.0537	-.1580	-.0141	H20.46	.0085	.0372	.0064

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0080	.9076	.00000
SDev	.0021	.0095	.00000
%RSD	26.00	1.048	.00000
#1	.0101	.9036	.00000
#2	.0080	.9008	.00000
#3	.0059	.9185	.00000

Method: MAXXAM Sample Name: 2092582:FE6116:100 Operator: APT
Run Time: 03/05/10 18:38:03
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0009	.0503	.0568	.1131	.0041	-.00017	.0471
SDev	.0044	.0597	.0250	.0076	.0011	.00009	.0124
%RSD	499.8	118.7	43.97	6.712	26.65	55.789	26.37
#1	-.0038	-.0186	.0314	.1107	.0035	-.00022	.0606
#2	.0015	.0823	.0576	.1071	.0035	-.00006	.0362
#3	.0050	.0872	.0813	.1217	.0053	-.00023	.0444

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0499	-.00284	.0058	.0005	.0059	.0280	1.266
SDev	.0078	.00103	.0082	.0044	.0051	.0025	.790
%RSD	15.56	36.119	143.3	942.0	86.54	9.060	62.37
#1	.0421	-.00173	-.0032	-.0040	.0000	.0288	.3720
#2	.0577	-.00375	.0075	.0006	.0089	.0300	1.559
#3	.0499	-.00306	.0129	.0048	.0089	.0251	1.868

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0407	.0000	.0000	S8471.	.0062	.0252	.0150
SDev	.0521	.0005	.0047	.	.0088	.0338	.0249
%RSD	127.9	1229.	30200.	.0006	140.6	134.3	165.3
#1	-.0114	-.0003	-.0052	S8471.	-.0031	-.0047	-.0128
#2	.0407	.0006	.0039	S8471.	.0076	.0183	.0229
#3	.0928	-.0002	.0013	S8471.	.0143	.0619	.0350

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0942	-.0345	.0422	3.474	-.0032	.0059	.0022
SDev	.0461	.1967	.0488	.030	.0293	.0000	.0017
%RSD	48.98	570.9	115.6	.8507	906.8	.0011	77.76
#1	.1312	L-.2407	.0140	3.445	-.0306	.0059	.0003
#2	.0425	-.0138	.0986	3.475	.0277	.0059	.0026
#3	.1090	.1511	.0141	3.504	-.0068	.0059	.0037

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0007	.0034	-.00875
SDev	.0064	.0000	.01515
%RSD	917.2	1.216	173.21
#1	-.0066	.0035	-.02625
#2	.0038	.0034	.00000
#3	.0049	.0034	.00000

Method: MAXXAM Sample Name: 2092582:FE6117:100 Operator: APT
Run Time: 03/05/10 18:42:26
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0032	2.110	.0499	.9490	.9699	-.00017	.0771
SDev	.0030	.021	.0422	.0132	.0078	.00010	.0071
%RSD	94.49	.9955	84.48	1.387	.8097	54.608	9.205
#1	.0015	2.095	.0272	.9453	.9636	-.00023	.0730
#2	.0067	2.100	.0986	.9381	.9673	-.00006	.0729
#3	.0015	2.134	.0239	.9636	.9787	-.00023	.0852

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.289	-.00046	.0025	-.0038	.0024	-.0066	2.042
SDev	.004	.00314	.0033	.0029	.0037	.0014	.494
%RSD	.3476	676.49	132.1	75.76	156.0	21.60	24.21
#1	1.284	-.00293	.0061	-.0051	.0035	-.0049	2.438
#2	1.292	.00307	-.0004	-.0058	-.0018	-.0074	1.488
#3	1.292	-.00153	.0018	-.0005	.0053	-.0074	2.200

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0234	.0004	-.0042	S8472.	-.0016	.0116	-.0086
SDev	.0301	.0005	.0015	.	.0081	.0891	.0260
%RSD	128.7	126.0	35.72	.0024	514.2	765.6	303.7
#1	.0407	.0006	-.0025	S8472.	.0069	-.0611	-.0373
#2	-.0114	-.0002	-.0051	S8472.	-.0025	-.0151	-.0016
#3	.0407	.0007	-.0051	S8472.	-.0091	.1111	.0133

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0316	.1239	.0796	H19.47	.0014	.0322	.0062
SDev	.1200	.1680	.0081	.10	.0143	.0004	.0014
%RSD	379.5	135.6	10.21	.5233	1005.	1.171	22.55
#1	-.0404	.0070	.0844	H19.36	-.0022	.0320	.0064
#2	-.0349	.0483	.0843	H19.48	.0172	.0326	.0075
#3	.1701	.3164	.0702	H19.57	-.0107	.0320	.0047

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0042	.7991	.00000
SDev	.0040	.0038	.00000
%RSD	94.51	.4700	.00000
#1	-.0003	.7956	.00000
#2	.0070	.7986	.00000
#3	.0059	.8030	.00000

Method: MAXXAM Sample Name: 2092582:FE6118:100 Operator: APT
Run Time: 03/05/10 18:46:50
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0015	.0824	.0228	.1772	.0050	-.00012	.0812
SDev	.0046	.0110	.0046	.0073	.0022	.00010	.0568
%RSD	316.5	13.37	20.24	4.142	43.30	81.520	69.93
#1	.0067	.0919	.0217	.1764	.0063	-.00007	.1466
#2	-.0020	.0703	.0279	.1703	.0063	-.00006	.0445
#3	-.0003	.0850	.0188	.1849	.0025	-.00023	.0525

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0447	-.00017	.0050	.0009	.0065	.0194	1.306
SDev	.0090	.00261	.0078	.0085	.0054	.0067	.986
%RSD	20.04	1553.2	155.2	913.0	83.26	34.48	75.50
#1	.0499	.00251	-.0000	.0038	.0053	.0263	1.346
#2	.0499	-.00030	.0140	.0076	.0124	.0190	2.272
#3	.0344	-.00270	.0011	-.0086	.0018	.0129	.3008

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0581	.0003	-.0013	S8471.	.0069	.0306	.0011
SDev	.0601	.0005	.0069	.	.0024	.0725	.0467
%RSD	103.5	138.2	539.6	.0029	35.06	237.2	4090.
#1	.0928	.0006	.0013	S8471.	.0076	.0252	.0082
#2	.0928	.0006	.0039	S8472.	.0089	-.0391	.0440
#3	-.0114	-.0002	-.0091	S8471.	.0042	.1056	-.0487

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0389	.0687	.0047	3.696	.0089	.0061	.0016
SDev	.1165	.0208	.0325	.020	.0337	.0004	.0003
%RSD	299.7	30.24	694.2	.5311	376.4	6.186	19.78
#1	-.0738	.0686	.0422	3.681	.0449	.0065	.0020
#2	.1589	.0479!	-.0140	3.718	-.0219	.0059	.0014
#3	.0315	.0895	-.0142	3.689	.0038	.0059	.0014

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0045	.0069	.00000
SDev	.0050	.0031	.00000
%RSD	109.1	44.79	.00000
#1	.0101	.0034	.00000
#2	.0007	.0093	.00000
#3	.0028	.0079	.00000

Analysis Report 03/05/10 06:54:22 PM

Method: MAXXAM Sample Name: 2092582:FE6119:100 Operator: APT
Run Time: 03/05/10 18:51:12
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0026	2.352	.0447	1.020	1.260	-.00017	.0061
SDev	.0081	.047	.0108	.009	.020	.00009	.0202
%RSD	309.7	1.997	24.26	.8353	1.558	50.058	329.9
#1	.0067	2.404	.0551	1.013	1.237	-.00007	.0157
#2	-.0082	2.312	.0335	1.029	1.272	-.00022	-.0171
#3	-.0064	2.339	.0453	1.016	1.270	-.00022	.0197

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.434	-.00429	-.0023	-.0031	-.0030	-.0108	1.694
SDev	.009	.00385	.0035	.0027	.0037	.0063	.387
%RSD	.6250	89.741	151.1	84.43	124.7	58.24	22.84
#1	1.439	-.00369	.0017	-.0004	-.0000	-.0038	1.963
#2	1.424	-.00839	-.0037	-.0033	-.0018	-.0160	1.868
#3	1.439	-.00077	-.0048	-.0057	-.0071	-.0124	1.251

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0320	-.0002	.0054	S8472.	.0000	.0197	-.0093
SDev	.0542	.0004	.0047	.	.0066	.0761	.0086
%RSD	169.1	182.7	87.75	.0017	474900.	386.1	92.90
#1	.0928	-.0008	.0093	S8471.	-.0031	.0427	-.0142
#2	.0147	.0000	.0067	S8472.	-.0045	-.0653	-.0143
#3	-.0113	.0000	.0001	S8472.	.0076	.0817	.0007

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0002	.1377	.0047	H20.56	-.0152	.0376	.0049
SDev	.1462	.1017	.0080	.18	.0261	.0004	.0027
%RSD	67640.	73.90	170.4	.8894	171.9	1.002	55.80
#1	.0704	.2545	.0001	H20.35	-.0001	.0378	.0081
#2	L-.1679	.0689	.0000	H20.66	-.0001	.0378	.0036
#3	.0981	.0896	.0140	H20.67	-.0454	.0372	.0031

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0024	.9950	.00000
SDev	.0105	.0112	.00000
%RSD	429.7	1.126	.00000
#1	.0143	.9822	.00000
#2	-.0014	1.003	.00000
#3	-.0056	.9999	.00000

Method: MAXXAM Sample Name: 2092582:FE6120:100 Operator: APT
Run Time: 03/05/10 18:55:36
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0012	.0061	.0511	.0008	.0016	-.00023	.0027
SDev	.0013	.0102	.0186	.0067	.0000	.00000	.0680
%RSD	114.7	166.8	36.34	824.1	.0000	.29926	2516.
#1	-.0003	-.0021	.0327	-.0061	.0016	-.00023	.0545
#2	.0023	.0029	.0506	.0073	.0016	-.00023	-.0743
#3	.0015	.0175	.0698	.0012	.0016	-.00023	.0279

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0188	-.00225	-.0029	-.0040	-.0018	-.0064	.4670
SDev	.0000	.00234	.0044	.0039	.0018	.0028	.8042
%RSD	.0000	103.57	151.6	98.69	100.1	43.61	172.2
#1	.0188	-.00043	.0011	.0003	-.0018	-.0097	.9894
#2	.0188	-.00489	-.0076	-.0075	-.0035	-.0048	-.4591
#3	.0188	-.00144	-.0022	-.0047	.0000	-.0048	.8707

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0114	-.0005	-.0009	S8471.	-.0004	.0191	-.0388
SDev	.0000	.0005	.0067	.	.0052	.0026	.0284
%RSD	.1079	87.93	770.9	.0020	1167.	13.79	73.17
#1	-.0113	-.0003	.0065	S8471.	.0056	.0206	-.0068
#2	-.0114	-.0011	-.0026	S8471.	-.0038	.0207	-.0610
#3	-.0114	-.0003	-.0065	S8472.	-.0031	.0161	-.0487

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0184	-.0068	-.0235	.0311	.0042	.0067	-.0002
SDev	.0200	.0476	.0709	.0117	.0292	.0008	.0010
%RSD	108.7	700.2	302.2	37.49	689.9	11.17	529.7
#1	-.0407	-.0343	.0423	.0418	.0323	.0072	.0004
#2	-.0018	-.0343	-.0141	.0186	.0063	.0072	.0004
#3	-.0129	.0482	-.0986	.0331	-.0260	.0059	-.0013

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0024	.0025	.00000
SDev	.0006	.0017	.00000
%RSD	24.45	70.12	.00000
#1	.0028	.0005	.00000
#2	.0028	.0035	.00000
#3	.0018	.0035	.00000

Method: MAXXAM Sample Name: 2092582:FE6120R:500 Operator: APT
Run Time: 03/05/10 18:59:58
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0012	.0142	.0426	-.0040	.0006	-.00023	-.0245
SDev	.0070	.0421	.0144	.0031	.0009	.00001	.0761
%RSD	601.6	295.8	33.79	75.67	150.0	4.0473	310.0
#1	.0006	.0149	.0357	-.0036	.0006	-.00022	-.1049
#2	.0085	.0560	.0591	-.0012	.0016	-.00024	-.0150
#3	-.0055	-.0282	.0329	-.0073	-.0003	-.00022	.0463

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0007	-.00026	-.0032	-.0032	.0000	-.0016	.2612
SDev	.0045	.00482	.0019	.0030	.0018	.0056	.3361
%RSD	605.8	1837.1	57.79	92.39	55540.	356.2	128.7
#1	.0033	-.00581	-.0011	-.0054	-.0000	-.0048	-.1266
#2	.0033	.00282	-.0043	.0002	-.0018	.0049	.4432
#3	-.0044	.00220	-.0043	-.0044	.0018	-.0048	.4670

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0060	-.0003	-.0069	H415.2	.0009	.0398	-.0230
SDev	.0301	.0000	.0078	2.3	.0094	.0385	.0135
%RSD	501.2	13.03	113.0	.5481	1061.	96.73	58.85
#1	-.0113	-.0003	.0013	H413.9	-.0085	-.0046	-.0371
#2	.0407	-.0002	-.0143	H413.9	.0102	.0598	-.0101
#3	-.0114	-.0003	-.0078	H417.9	.0009	.0642	-.0218

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0167	.0138	.0233	.0220	-.0245	.0017	.0009
SDev	.1065	.0238	.0354	.0129	.0156	.0004	.0020
%RSD	638.4	172.6	151.6	58.60	63.68	21.65	216.1
#1	.1312	-.0137	.0282	.0287	-.0324	.0020	.0004
#2	-.0793	.0274	.0561	.0302	-.0345	.0020	.0032
#3	-.0018	.0275	-.0142	.0072	-.0065	.0013	-.0007

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0028	-.0005	-.00437
SDev	.0082	.0017	.00758
%RSD	292.0	341.7	173.21
#1	-.0014	.0005	-.01312
#2	.0122	.0005	.00000
#3	-.0024	-.0025	.00000

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Method: MAXXAM Sample Name: CCB Operator: APT
Run Time: 03/05/10 19:07:49
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0023	.0004	.0411	-.0024	.0009	-.00017	.0423
SDev	.0026	.0159	.0109	.0044	.0014	.00009	.1141
%RSD	112.5	4183.	26.44	180.0	152.8	54.127	269.9
#1	.0050	.0173	.0534	.0024	.0006	-.00023	.0566
#2	.0023	-.0019	.0328	-.0037	-.0003	-.00023	.1486
#3	-.0003	-.0142	.0372	-.0061	.0025	-.00007	-.0783

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0070	-.00199	.0032	-.0020	.0018	-.0060	.4828
SDev	.0090	.00366	.0029	.0036	.0036	.0049	.1977
%RSD	127.6	183.60	88.14	182.6	200.2	80.52	40.95
#1	-.0122	-.00365	.0043	-.0029	.0053	-.0109	.3245
#2	-.0122	.00220	.0000	-.0050	-.0018	-.0060	.4195
#3	.0033	-.00454	.0054	.0020	.0018	-.0012	.7044

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0113	.0000	.0026	.0663	-.0074	.0313	.0022
SDev	.0000	.0013	.0047	.0313	.0070	.0728	.0365
%RSD	.2184	133000.	180.2	47.18	94.60	232.5	1695.
#1	-.0113	-.0003	-.0013	.1025	-.0051	-.0460	.0171
#2	-.0114	-.0011	.0013	.0483	-.0018	.0413	-.0394
#3	-.0113	.0014	.0078	.0483	-.0151	.0986	.0288

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0554	.1170	.0047	.0182	-.0079	.0007	.0002
SDev	.0416	.0630	.0354	.0112	.0362	.0006	.0012
%RSD	74.98	53.89	746.1	61.37	457.4	100.0	626.4
#1	-.0129	.1720	.0422	.0057	.0108	.0007	-.0002
#2	-.0960	.1307	-.0281	.0273	-.0497	.0013	.0015
#3	-.0573	.0482	.0001	.0216	.0151	-.0000	-.0007

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0045	-.0024	.00000
SDev	.0044	.0030	.00000
%RSD	96.01	121.3	.00000
#1	.0059	.0005	.00000
#2	-.0003	-.0054	.00000
#3	.0080	-.0024	.00000

Method: MAXXAM Sample Name: CCV Operator: APT
Run Time: 03/05/10 19:11:03
Comment: 2092582
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	1.004	1.012	1.057	1.020	.9727	.99267	.9369
SDev	.009	.036	.019	.011	.0088	.00490	.0294
%RSD	.9434	3.577	1.811	1.128	.9009	.49317	3.141
#1	.9956	.9906	1.044	1.016	.9655	.98777	.9709
#2	1.001	.9906	1.048	1.011	.9702	.99267	.9199
#3	1.014	1.053	1.079	1.033	.9824	.99756	.9199

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	23.80	.98049	.9423	.9743	.9869	.9942	23.77
SDev	.17	.00663	.0071	.0031	.0047	.0088	.40
%RSD	.7042	.67662	.7506	.3223	.4755	.8807	1.702
#1	23.64	.97476	.9348	.9712	.9816	.9844	23.38
#2	23.78	.98776	.9434	.9740	.9887	.9966	24.19
#3	23.98	.97895	.9488	.9775	.9904	1.001	23.74

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	23.37	.9726	.9781	24.38	.9903	.9898	.9806
SDev	.13	.0052	.0068	.15	.0228	.0493	.0182
%RSD	.5570	.5338	.6914	.6336	2.301	4.980	1.859
#1	23.24	.9668	.9820	24.28	1.014	.9477	.9845
#2	23.37	.9742	.9820	24.30	.9684	1.044	.9607
#3	23.50	.9768	.9703	24.56	.9885	.9776	.9965

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	25.49	H1.137	1.078	24.71	.9885	.9753	.9885
SDev	.44	.113	.021	.14	.0408	.0029	.0075
%RSD	1.740	9.981	1.988	.5485	4.122	.3016	.7532
#1	25.12	1.006	1.059	24.58	.9569	.9723	.9821
#2	25.38	H1.192	1.073	24.70	.9741	.9756	.9866
#3	25.98	H1.212	H1.101	24.85	1.035	.9782	.9967

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.9983	.9800	1.0061
SDev	.0094	.0038	.0152
%RSD	.9416	.3836	1.5061
#1	.9924	.9765	.99738
#2	.9934	.9796	.99738
#3	1.009	.9839	1.0236

Method: MAXXAM Sample Name: 1 Operator: APT
Run Time: 03/05/10 19:14:17
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag	Al	As	B	Ba	Be	Bi
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0058	-.0076	.0665	L-.0227	.0003	-.00029	.0709
SDev	.0009	.0205	.0295	.0043	.0005	.00010	.0665
%RSD	15.01	270.3	44.42	18.81	173.2	35.064	93.79
#1	.0058	.0077	.0609	-.0183	-.0003	-.00023	.0729
#2	.0050	-.0308	.0984	L-.0231	.0006	-.00023	.1363
#3	.0067	.0004	.0401	L-.0268	.0006	-.00040	.0034

Elem	Ca	Cd	Co	Cr	Cu	Fe	K
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0277	-.00179	-.0004	-.0031	-.0018	-.0117	.9736
SDev	.0000	.00154	.0033	.0026	.0018	.0055	.4387
%RSD	.0000	85.900	917.1	83.26	100.1	46.80	45.06
#1	-.0277	-.00121	.0032	-.0001	.0000	-.0060	1.227
#2	-.0277	-.00354	-.0032	-.0047	-.0018	-.0121	.4670
#3	-.0277	-.00063	-.0011	-.0044	-.0035	-.0170	1.227

Elem	Mg	Mn	Mo	Na	Ni	P	Pb
Units	ppm	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	-.0027	-.0008	-.0026	1.084	-.0071	-.0077	-.0276
SDev	.0398	.0010	.0013	.031	.0090	.0277	.0403
%RSD	1483.	113.9	49.98	2.892	126.8	362.2	145.7
#1	.0407	-.0003	-.0013	1.084	-.0065	.0023	.0052
#2	-.0374	-.0003	-.0039	1.115	-.0165	.0137	-.0156
#3	-.0114	-.0019	-.0026	1.053	.0016	-.0390	-.0726

Elem	S	Sb	Se	Si	Sn	Sr	Ti
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Avge	.0167	.0688	.0516	.0211	-.0252	.0000	.0026
SDev	.1215	.0946	.0694	.0285	.0100	.0000	.0011
%RSD	729.6	137.4	134.7	135.0	39.45	.0000	42.86
#1	.1533	-.0138	.0985	.0518	-.0194	.0000	.0037
#2	-.0240	.1720	-.0282	-.0044	-.0367	.0000	.0015
#3	-.0793	.0482	.0844	.0158	-.0195	.0000	.0026

Elem	V	Zn	Li
Units	mg/l	mg/l	ppm
Avge	.0056	-.0005	.00000
SDev	.0030	.0008	.00000
%RSD	54.09	181.4	.00000
#1	.0038	.0005	.00000
#2	.0039	-.0009	.00000
#3	.0091	-.0010	.00000

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Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Appendix B_4

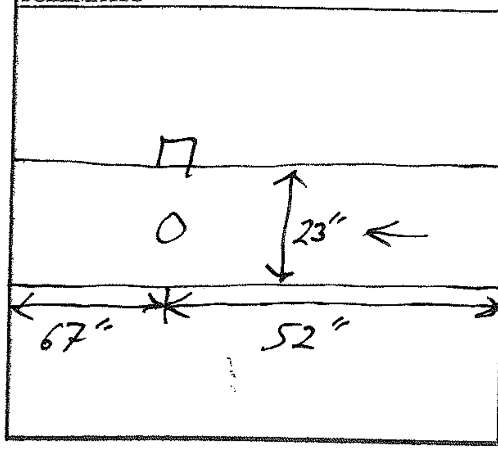
Cyclonic Flow Check

"Breathe Easier"

CYCLONIC FLOW VERIFICATION SPREADSHEET

FACILITY:	Lubeco
DATE:	2/22/10
PROJECT #:	WER2297
UNIT I.D.:	HEPA Filter
RUN #:	1
STACK DIAMETER =	23" (in.)
BAROMETRIC PRESSURE =	29.90 (in.)
STACK STATIC PRESSURE =	-7.5
OPERATOR:	KBS
# OF TRAVERSE POINTS =	24

SCHEMATIC



SAMPLE POINT NUMBER	DISTANCE FROM SAMPLE PORT (INCHES)	NULL POINT ROTATION ANGLE (THETA)	
		~~NORTH SOUTH~~ Top	~~EAST WEST~~ Side
1	6.5	8	0
2	7.5	4	10
3	8.7	7	10
4	10.1	10	8
5	11.8	8	6
6	14.2	8	6
7	20.8	8	5
8	23.3	8	4
9	24.9	5	3
10	26.3	5	5
11	27.5	2	5
12	28.5	1	7
		AVERAGE =	6.2

20321 LAKE FOREST DRIVE, SUITE D6 • LAKE FOREST, CALIFORNIA 92630 • 949.472.9200 • Fax: 949.472.0200
www.worldenvironmental.net

Appendix C

Facility Process Data

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Kilo Amp	Overall	HEPA	Filter 1	Filter 2	Filter 3
828	Start	6282	40	0.1	2	0.9	0.4	0.7	1
847		6288	39	0.1	2	0.9	0.4	0.7	1
903		6303	39	0.12	2	0.9	0.4	0.7	1
916	End	6315	0	0	2	0.9	0.4	0.7	1
935		6315	40	0.12	2	0.9	0.4	0.7	1
953		6327	40	0.1	2	0.9	0.4	0.7	1
1009		6342	40	0.12	2	0.9	0.4	0.7	1
1022	End	6354	0	0	2	0.9	0.4	0.7	1
1032	Start	6356	40	0.1	2	0.9	0.4	0.7	1
1045		6364	40	0.1	2	0.9	0.4	0.7	1
1101		6378	40	0.12	2	0.9	0.4	0.7	1
1115		6393	40	0.12	2	0.9	0.4	0.7	1
1120	End	6396	0	0	2	0.9	0.4	0.7	1
1131	Start	6399	40	0.1	2	0.9	0.4	0.7	1
1145		6407	40	0.12	2	0.9	0.4	0.7	1
1201		6422	40	0.12	2	0.9	0.4	0.7	1
1216	End	6435	40	0.12	2	0.9	0.4	0.7	1
1225		6436	0	0	2	0.9	0.4	0.7	1
1230	End	6436	0	0	2	0.9	0.4	0.7	1

Notes
Temperature of Tank 95 F
3" x 10" Aluminum Panels
6 panels per side
2 sides per hook
9 hooks per run

Amp Totalizer Certificate	
Test #	10532.01
Date	2/16/2010
Due	5/16/2010
ID No	Chromic

AQMD Inspector
Christopher A. Ravenstein
(909) 396-2486
cravenstein1@aqmd.gov

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Amp
832	Start	4369	52	160
848		4403	54	150
904		4445	54	150
920	End	4485	0	0
922	Start	4485	54	110
937		4520	54	130
954		4556	54	125
1010		4590	54	120
1015	Start	4596	58	200
1030		4647	58	210
1045		4699	56	200
1100	End	4749	56	200
1105	Start	4754	56	150
1116		4787	56	170
1132		4833	56	190
1147		4880	54	130
1153	Start	4890	55	150
1208		4932	58	200
1223		4980	0	0
1230	End	4980	0	0

Notes
Temperature of Tank 37 F
Damper open
9 carousels used in source testing

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Kilo Amp	Overall	HEPA	Filter 1	Filter 2	Filter 3
707	Start	6561	40	0.08	2	0.9	0.4	0.7	1
723		6567	40	0.08	2	0.9	0.4	0.7	1
739		6574	40	0.1	2	0.9	0.4	0.7	1
755	End	6581	0	0	2	0.9	0.4	0.7	1
806	Start	6583	40	0.08	2	0.9	0.4	0.7	1
810		6586	40	0.08	2	0.9	0.4	0.7	1
825		6590	40	0.1	2	0.9	0.4	0.7	1
840		6601	40	0.12	2	0.9	0.4	0.7	1
851	End	6611	0	0	2	0.9	0.4	0.7	1
855		6611	0	0	2	0.9	0.4	0.7	1
859	Start	6614	40	0.1	2	0.9	0.4	0.7	1
910		6621	40	0.1	2	0.9	0.4	0.7	1
926		6637	40	0.16	2	0.9	0.4	0.7	1
941		6656	40	0.14	2	0.9	0.4	0.7	1
946	End	6659	0	0	2	0.9	0.4	0.7	1
954	Start	6662	40	0.1	2	0.9	0.4	0.7	1
957		6664	40	0.1	2	0.9	0.4	0.7	1
1012		6678	40	0.14	2	0.9	0.4	0.7	1
1030		6700	40	0.14	2	0.9	0.4	0.7	1
1040	End	6710	0	0	2	0.9	0.4	0.7	1
1042		6710	0	0	2	0.9	0.4	0.7	1
1049	Start	6714	40	0.12	2.1	0.95	0.4	0.7	1
1058		6720	40	0.1	2.1	0.95	0.4	0.7	1
1113		6738	40	0.16	2.1	0.95	0.4	0.7	1
1118		6744	40	0.16	2.1	0.95	0.4	0.7	1
1130	End	6760	0	0	2.1	0.95	0.4	0.7	1

Notes
Temperature of Tank 93 F
3" x 10" Aluminum Panels
6 panels per side
2 sides per hook
9 hooks per run

AQMD Inspector
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Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Amp
710	Start	4982	55	150
724		5020	55	150
740		5061	55	150
755	End	5093	0	0
802	Start	5093	55	110
809		5110	55	120
826		5148	55	150
841		5186	55	150
848	End	5203	0	0
853	Start	5203	55	90
855		5207	55	100
911		5238	55	110
927		5268	55	120
935	End	5291	0	0
941	Start	5292	55	120
956		5326	55	130
1013		5361	55	125
1027	End	5391	0	0
1029	Start	5392	55	115
1043		5426	55	110
1059		5457	55	130
1114	End	5489	0	0
1131	End	5489	0	0

Notes
Temperature of Tank 40 F
Damper open
9 Carousels used in source testing

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Kilo Amp	Overall	HEPA	Filter 1	Filter 2	Filter 3
700		6796	0	0	2.1	0.95	0.4	0.7	1
703	Start	6796	41	0.1	2.1	0.95	0.4	0.7	1
723		6812	40	0.14	2.1	0.95	0.4	0.7	1
738		6831	40	0.16	2.1	0.95	0.4	0.7	1
750	End	6847	0	0	2.1	0.95	0.4	0.7	1
753		6847	0	0	2.1	0.95	0.4	0.7	1
803	Start	6852	40	0.1	2.1	0.95	0.4	0.7	1
809		6857	40	0.12	2.1	0.9	0.4	0.7	1
825		6875	40	0.16	2.1	0.9	0.4	0.7	1
841		6897	40	0.16	2.1	0.9	0.4	0.7	1
844	End	6903	0	0	2.1	0.9	0.4	0.7	1
856	Start	6903	40	0.16	2.1	0.9	0.4	0.7	1
910		6919	40	0.14	2.1	0.9	0.4	0.7	1
925		6939	40	0.16	2.1	0.9	0.4	0.7	1
941		6961	40	0.16	2.1	0.9	0.4	0.7	1
942	End	6962	0	0	2.1	0.9	0.4	0.7	1
953	Start	6966	40	0.1	2.1	0.9	0.4	0.7	1
955		6967	40	0.1	2.1	0.9	0.4	0.7	1
1010		6981	40	0.14	2.1	0.9	0.4	0.7	1
1026		7003	40	0.16	2.1	0.9	0.4	0.7	1
1040	End	7019	0	0	2.1	0.9	0.4	0.7	1
1043		7019	0	0	2.1	0.9	0.4	0.7	1
1050	Start	7023	40	0.12	2.1	0.9	0.4	0.7	1
1058		7030	40	0.12	2.1	0.9	0.4	0.7	1
1113		7048	40	0.16	2.1	0.95	0.4	0.7	1
1129		7070	40	0.16	2.1	0.95	0.4	0.7	1
1136	End	7078	0	0	2.1	0.95	0.4	0.7	1

Notes
Temperature of Tank 92 F
3" x 10" Aluminum Panels
6 panels per side
2 sides per hook
9 hooks per run

AQMD Inspector
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(909) 396-2486
cravenstein1@aqmd.gov

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Time	Activity	Amp Total	Voltage	Amp
701		5489	0	0
707	Start	5489	55	100
724		5526	58	140
739		5564	60	150
752	End	5595	0	0
754	Start	5595	55	90
810		5623	55	110
825		5653	55	120
839	End	5681	0	0
840	Start	5681	60	150
855		5727	60	200
911		5785	60	205
924		5832	60	210
926	End	5837	0	0
928	Start	5837	55	100
940		5859	55	110
955		5888	55	130
1011		5923	55	120
1014	End	5927	0	0
1016	Start	5927	55	90
1027		5948	55	100
1043		5974	55	100
1059		6000	55	100
1101	End	6004	0	0
1103	Start	6004	55	110
1114		6028	55	130
1130		6061	55	125
1137	End	6070	0	0

Notes
Temperature of Tank 35 F
Damper open
9 Carousels used in source testing

Lubeco, Inc. Source Test Data conducted on 22-24 February 2010 in Long Beach

Chrome Tank Exhaust Velocity Openings and Tank Dimensions

Openings	Velocity (ft/min)	Dimensions in.
1	6000	12 x 2
2	6000	12 x 2
3	6000	12 x 2
4	6400	12 x 2
5	6400	12 x 2
6	7000	4.75 x 2
Plank spacer		
7	6000	12 x 2
8	6500	12 x 2
9	7000	12 x 2
10	7000	4.5 x 2
Plank spacer		
11	7500	12 x 2
12	7500	12 x 2
13	7500	12 x 2
14	7000	4.5 x 2
Plank spacer		
15	7000	4.5 x 2
Plank spacer		
16	7000	12 x 2

Tank dimensions 16 ft x 34 in x 48 in

Ticermet Tank Exhaust Velocity Openings and Tank Dimensions

Openings	Velocity (ft/min)	Dimensions in.
1	7000	12 x 2.5
2	7000	12 x 2.5
3	7000	12 x 2.5

Tank dimensions 36 in x 35 in x 36 in

Appendix D

Amp Meter Calibrations

Precision Instrument Correction Inc.
933 Mariner Street
Brea, CA 92821
Phone: 714 671-6018 FAX: 714 672-0685
ISO/IEC 17025 Accredited, PJL #59282

Certificate of Calibration

This certifies that the following instrument has been calibrated in compliance, at customer's facility with all applicable portions of ANSI/NCSL Z540, ISO 10012, ISO/IEC 17025 and Mil-Std-45662A, using standards traceable to the National Institute of Standards & Technology (NIST). All readings comply with 4:1 accuracy ratio and are "Initial" and "Final" unless otherwise noted. The results relate only to the items calibrated, and this Certificate shall not be reproduced except in full, without the written approval of P.I.C..

Customer:	Lubeco Inc.	**Test #:**	10532.01
Address:	6859 Downey Ave. N. Long Beach	**Test Date:**	02-16-10
Instrument:	Amp-Hour Meter	**Due Date:**	05-16-10
Make:	Process Technology		
Model #:	1000A x 50mV	**Procedure(s):**	Mfg. Specs.
Asset#:	CHROMIC		
Serial#:	L-401650	**Temperature:**	Ambient
Size:	Noted	**Humidity:**	Ambient

Standard(s) Used:	Asset #	Uncertainty	By	Test Date	Recall Date
Fluke 5500A	033	Mfg. Specs.	GCS	06-11-09	06-11-10
Multi Prod. Calibrator	099	Mfg. Specs.	GCS	11-18-09	11-18-10

Condition Received: Physical
Good: Fair: X Poor:

Functional
In Tolerance: X Out of Tolerance:
Not Functional:

Comments:

Work Performed:
Calibrated: X Certified: X Repaired: Adjusted: Cleaned:

Condition Returned: Accepted: X Rejected: Reference:

Data:

Instrument Resolution: 1 Hour
Instrument Accuracy: As Noted

Reviewed by
Date
MAR 09 2010

Start	End	AMP	Time	Diff.	Error
6197 ct	6203 ct	1 kA	2 min	12 ct	0 ct
6203	6215	1	2	12	0
6215	6227	1	2	12	0

Technician: [signature]

Stamp: PIC 21

Precision Instrument Correction Inc.
933 Mariner Street
Brea, CA 92821
Phone: 714 671-6018 FAX: 714 672-0685
ISO/IEC 17025 Accredited, PJL #59282

Certificate of Calibration

This certifies that the following instrument has been calibrated at customer's facility, in compliance with all applicable portions of ANSI/NCSL Z540, ISO 10012, ISO/IEC 17025 and Mil-Std-45662A, using standards traceable to the National Institute of Standards & Technology (NIST). All readings comply with 4:1 accuracy ratio and are "Initial" and "Final" unless otherwise noted. The results relate only to the items calibrated, and this Certificate shall not be reproduced except in full, without the written approval of P.I.C..

Customer:	Lubeco Inc.	**Test #:**	10083.01
Address:	6859 Downey Ave, N. Long Beach	**Test Date:**	01-07-10
Instrument:	Amp/Hour Totalizer	**Due Date:**	01-07-11
Make:	HBS		
Model #:	None	**Procedure(s):**	Mfg. Specs
Asset#:	None		
Serial#:	None	**Temperature:**	Ambient
Size:	Noted	**Humidity:**	Ambient

Standard(s) Used:	**Asset #**	**Uncertainty**	**By**	**Test Date**	**Recall Date**
Fluke 5500A	033	Mfg. Specs.	GCS	06-11-09	06-11-10
Multi Prod. Calibrator	099	Mfg. Specs.	GCS	11-18-09	11-18-10

Condition Received: Physical
Good: Fair: X Poor:

Functional
In Tolerance: X Out of Tolerance:
Not Functional:

Comments:

Work Performed:
Calibrated: X Certified: X Repaired: Adjusted: Cleaned:

Condition Returned: Accepted: X Rejected: Reference:

Data:

Instrument Accuracy: As Noted

Start	End	Amps	Time	Diff.	Error
3678 A	3688	500 A	10 min.	10 Ct	0 Ct
3698	3708	500 A	10 min.	10 Ct	0 Ct

Date
JAN 18 2010

Technician: **Stamp:** PIC 21

Appendix E

MICR Calculations

TIER 1 / TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

Application deemed complete date: 11/06/09

A/N: LUBECO
Fac:

Stack Data		Units
Hour/Day	24	hr/day
Day/Week	7	day/wk
Week/Year	49	wk/yr
Emission Units	lb/hr	
		0
Control Efficiency	0.99	fraction range 0-1
Does source have TBACT?	NO	
Point or Volume Source ?	P	P or V
Stack Height or Building Height	25	feet
Area (For Volume Source Only)	900	ft^2
Distance-Residential	250	meters
Distance-Commercial	100	meters
Meteorological Station	Santa Ana Canyon	

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

Emission Units	lb/hr	
Source output capacity	n/a	n/a

FOR USER-DEFINED CHEMICALS AND EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - Uncontrolled	Efficiency Factor	R2 - Controlled
Cmpound Code	Compound	lb/hr	Molecular Weight	lbs/hr	Fraction range 0-1	lbs/hr
C20	Chromium, hexavalent	2.20E-07	51.996	0.00000022	0.99500	2.2E-09
				0		
				0		
				0		
				0		
				0		
				0		
				0		
				0		
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				0		

TIER 1 SCREENING RISK ASSESSMENT REPORT

Receptor Distance (actual)	100
Receptor Distance (for X/Q LOOKUP)	100

Tier 1 Results	
Cancer/Chronic ASI	**Acute ASI**
1.04E-02 PASSED	PASSED

APPLICATION SCREENING INDEX CALCULATION

Compound	Average Annual Emission Rate (lbs/yr)	Max Hourly Emission Rate (lbs/hr)	Cancer / Chronic Pollutant Screening Level (lbs/yr)	Acute Pollutant Screening Level (lbs/hr)	Cancer / Chronic Pollutant Screening Index (PSI)	Acute Pollutant Screening Index (PSI)
Chromium, hexavalent	1.81E-05	2.20E-09	1.75E-03		1.04E-02	

TOTAL (APPLICATION SCREENING INDEX) **1.04E-02**

TIER 2 SCREENING RISK ASSESSMENT REPORT

A/N: LUBECO

Fac:

Application deemed complete date: 11/06/09

2. Tier 2 Data

MET Factor	0.80
4 hr	0.84
6 or 7 hrs	0.71

Dispersion Factors tables

3	For Chronic X/Q
6	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	1.445	83.35
Commercial	5.32	295.2

Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	#NAME?	149	0.38

3. Rule 1401 Compound Data

Compound	R1 - uncontrolled (lbs/hr)	R2 - controlled (lbs/hr)	CP	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic	REL Acute
Chromium, hexavalent	2.20E-07	2.20E-09	5.10E+02	1.0000	1.0000	1.0000	1.0000	0.2	

4. Emission Calculations

Compound	uncontrolled R1 (lb/hr)	controlled R2 (lb/hr)	R2 (lb/yr)	R2 (ton/yr)
Chromium, hexavalent	2.20E-07	2.20E-09	1.811E-05	9.0552E-09
Total	2.20E-07	2.20E-09	1.81E-05	9.06E-09

A/N: LUBECO

Application deemed complete date: 11/06/09

TIER 2 RESULTS

5a. MICR

MICR = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) * AFann * MET * DBR * EVF * 1.E-6 * MP

Compound	Residential	Commercial
Chromium, hexavalent	1.55E-09	#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
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		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
		#NAME?
Total	**1.55E-09**	**#NAME?**
	PASS	**#NAME?**

#NAME?

5b. Cancer Burden	**#NAME?**
X/Q for one-in-a-million:	#NAME?
Distance (meter)	#NAME?
Area (km2):	#NAME?
Population:	#NAME?
Cancer Burden:	**#NAME?**

6. Hazard Index

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

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

Target Organs	Acute	Chronic	Acute Pass/Fail	Chronic Pass/Fail
Alimentary system (liver) - AL			Pass	Pass
Bones and teeth - BN			Pass	Pass
Cardiovascular system - CV			Pass	Pass
Developmental - DEV			Pass	Pass
Endocrine system - END			Pass	Pass
Eye			Pass	Pass
Hematopoietic system - HEM			Pass	Pass
Immune system - IMM			Pass	Pass
Kidney - KID			Pass	Pass
Nervous system - NS			Pass	Pass
Reproductive system - REP			Pass	Pass
Respiratory system - RES		1.93E-07	Pass	Pass
Skin			Pass	Pass

A/N: LUBECO

Application deemed complete date: 11/06/09

6a. Hazard Index Acute

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

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Chromium, hexavalent										
Total										

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Chromium, hexavalent										
Total										

6b. Hazard Index Chronic

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

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Chromium, hexavalent												5.23E-08	
Total												5.23E-08	

6b. Hazard Index Chronic (cont.)

A/N: LUBECO

Application deemed complete date: 11/06/09

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Chromium, hexavalent												1.93E-07	
Total												1.93E-07	

Appendix F

CARB Method 425 Quality Assurance/Quality Control

Appendix F_1

Control Box Calibration

Meter Box - Pyrometer Calibration Sheet

Meter Box No: 28-121409-1

Office:

Calibrated by: OLEG LAVROV

Client:

Date: 12/14/09

Job No:

Temperature Scale Used: Fahrenheit

Type of Calibration: Full-Test

Calibration Reference Settings (°F)	Pyrometer Reading for each Channel (°F)						
	1 Stack	2 Probe	3 Filter	4 Imp Out	5 Aux	6 DGM In	7 DGM Out
50	51	49	49				
100	101	99	99				
150	151	149	149				
200	201	199	199				
250	251	249	249				
300	301	299	300				
350	351	350	350				
400	401	400	400				
450	451	450	450				
500	501	500	500				
550	551	550	550				
600	601	600	599				

Tolerance = ±2°F difference from reference setting.

Calibration Reference Information

Reference Used: TEGAM 840A

Serial No: T-242231

Calibrated By: JH Metrology

Exp. Date: 2/25/2010

Calibration Report No: R051080

CleanAir ENGINEERING

Meter Box Full Test Calibration

Meter Box No: 28-121409-1

Date of Calibration: 12/14/2009

Calibration Conducted by: OLEG LAVROV

Meter Box Y_d: 1.0012

Meter Box $\Delta H@$: 1.7218

Barometric Pressure: 29.03

				Standard Meter Gas Volume (ft^3)			Meter Box Gas Volume (ft^3)			Std. Meter Temperature (°F)			Meter Box Temperature (°F)			Time (min.)	Calibration Results	
Q	ΔH	ΔP	Y_{ds}	Initial	Final	V_{ds} Net	Initial	Final	V_d Net	T_{is} In	T_{os} Out	T_{ds} Avg.	T_i In	T_o Out	T_d Avg.	Θ	Y_d	ΔH@
0.973	3.00	-1.80	1.0000	0.000	10.000	10.000	264.878	275.031	10.153	61.0	61.0	61.00	83.0	71.0	77.00	10.10	1.0029	1.7191
0.970	3.00	-1.80	1.0000	0.000	10.000	10.000	275.031	285.241	10.210	61.0	61.0	61.00	85.0	73.0	79.00	10.13	1.0010	1.7228
0.388	0.50	-1.20	1.0000	0.000	5.000	5.000	290.321	295.440	5.119	62.0	62.0	62.00	80.0	74.0	77.00	12.63	1.0005	1.7889
0.387	0.50	-1.20	1.0000	0.000	5.000	5.000	295.440	300.560	5.120	62.0	62.0	62.00	80.0	75.0	77.50	12.66	1.0012	1.7940
0.697	1.50	-1.40	1.0000	0.000	10.000	10.000	343.418	353.733	10.315	62.5	62.5	62.50	87.0	79.0	83.00	14.07	1.0001	1.6527
0.696	1.50	-1.40	1.0000	0.000	10.000	10.000	353.733	364.026	10.293	63.0	63.0	63.00	87.0	79.0	83.00	14.06	1.0013	1.6536
																Averages	1.00119	1.72184

Nomenclature

- P_b Barometric Pressure (in. Hg)
- Q Flow Rate (cfm)
- ΔH Orifice Pressure differential (in. H_2O)
- ΔP Inlet Pressure Differential (in. H_2O)
- V_d Gas Meter Volume - Dry (ft^3)
- V_{ds} Standard Meter Volume - Dry (ft^3)
- T_d Average Meter Box Temperature (°F)
- T_o Outlet Meter Box Temperature (°F)
- T_{ds} Average Standard Meter Temperature (°F)
- Y_d Meter Correction Factor (unitless), $Y_i \le Y_{avg} \pm 0.02$
- Y_{ds} Standard Meter Correction Factor (unitless)
- ΔH@ Orifice Pressure Differential giving 0.75 cfm of air at 68°F and 29.92 in. Hg (in. H_2O) $\Delta H@_i \le \Delta H@_{avg} \pm 0.2$
- Θ Duration of Run (minutes)

Equations

$$Y_d = (Y_{ds})\left[\frac{V_{ds}}{V_d}\right]\left[\frac{T_d+460}{T_{ds}+460}\right]\left[\frac{P_b+\Delta P/13.6}{P_b+\Delta H/13.6}\right]$$

$$\Delta H@ = \frac{(0.0319)(\Delta H)}{P_b(T_o+460)}\left[\frac{(T_{ds}+460)\Theta}{(V_{ds})(Y_{ds})}\right]^2$$

$$Q = \frac{17.64(V_{ds})(P_b)}{(T_{ds}+460)(\Theta)}$$

Vacuum Gauge

Standard (in.Hg)	Gauge (in.Hg)
5.0	5.0
9.4	10.0
14.5	15.0
19.4	20.0
24.6	25.0

CleanAir ENGINEERING

Appendix F_2

Pitot Tube Calibration

WORLD ENVIRONMENTAL

TYPE S PITOT TUBE INSPECTION DATA FORM

Calibrated by SPL
Pitot Tube Number P3-6
Date 1-12-10
Manufacturer World
Effective Length 6'

Pitot tube assembly level? ✓ Yes ____ No

Pitot tube openings damaged? ____ Yes (explaing below) ✓ No

$\alpha 1$ = 0 ° (<10°), $\alpha 2$ = 0 ° (<10°),

$\beta 1$ = 0 ° (< 5°), $\beta 2$ = 0 ° (< 5°)

γ = 0 °, ~~θ~~ = 0 °, A = .300 (in.)

$z = A \sin \gamma$ = 0 (in.); .005 (<1/8 in.),

$w = A \sin \theta$ = 0 (in.); .010 (<1/32 in.)

P_A .420 (in.) P_b .380 (in.)

D_t .400 (in.)

Comments Pitot tube is in Good Shape

Calibration required? ____ Yes ✓ No

Appendix F_3

Temperature Sensor Calibrations

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, STE. D6
LAKE FOREST, CALIFORNIA 92630

STACK TEMPERATURE SENSOR CALIBRATION

TEMPERATURE SENSOR I.D. #: TV3	PITOT TUBE TC 60"
REFERENCE Hg IN GLASS THERMOMETER I.D. #:	SEE BELOW
DATE:	1/8/2010
ANNUAL OR MONTHLY CALIBRATION?:	ANNUAL
CALIBRATED BY:	SL

ICE BATH - ID # 95184

Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
35.5	35.6	0.0
35.7	36.0	0.1
35.6	35.9	0.1

BOILING WATER - ID # 4130423

Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
212.5	212.8	0.0
212.4	212.9	0.1
212.0	212.4	0.1

BOILING OIL - ID # 0218

Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
418.0	415.6	0.3
420.0	416.6	0.4
422.0	413.9	0.9

*MAXIMUM TOLERANCE BETWEEN ANY TWO MEASUREMENTS IS 1.5%.

NOTE: TAKE READINGS EVERY 1 MINUTE.

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, STE. D6
LAKE FOREST, CALIFORNIA 92630

STACK TEMPERATURE SENSOR CALIBRATION

TEMPERATURE SENSOR I.D. #: TV3	THERMOCOUPLE LINE TV3
REFERENCE Hg IN GLASS THERMOMETER I.D. #:	SEE BELOW
DATE:	1/8/2010
ANNUAL OR MONTHLY CALIBRATION?:	ANNUAL
CALIBRATED BY:	SL

ICE BATH - ID # 95184		
Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
32.0	33.5	0.3
32.0	33.0	0.2
32.0	33.0	0.2

BOILING WATER - ID # 4130423		
Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
212.0	212.2	0.0
212.0	212.3	0.0
212.2	212.2	0.0

BOILING OIL - ID # 0218		
Hg IN GLASS THERMOMETER TEMPERATURE ('F)	FIELD METER TEMPERATURE ('F)	ABSOLUTE % DIFFERENCE
385.0	397.0	1.4
390.0	395.0	0.6
390.0	399.0	1.1

*MAXIMUM TOLERANCE BETWEEN ANY TWO MEASUREMENTS IS 1.5%.

NOTE: TAKE READINGS EVERY 1 MINUTE.

WORLD ENVIRONMENTAL
20321 LAKE FOREST DRIVE, STE. D6
LAKE FOREST, CALIFORNIA 92630

BAROMETRIC CALIBRATION

BAROMETER ID #:	TV3
DATE:	JANUARY 5, 2010
ANNUAL OR MONTHLY CALIBRATION?:	ANNUAL
CALIBRATED BY:	SL

BAROMETER		
ACTUAL	REFERENCE	DIFFERENCE
29.42	29.40	0.02
29.42	29.40	0.02
29.42	29.40	0.02

*MAXIMUM DIFFRENCE IS 0.1 IN. HG
ELEVATION CORRECTION: RATE OF 2.5MM (0.1 IN.) HG/ 30 M (100 FT.)

Appendix G

Certificate of No Conflict of Interest

"Breathe Easier"

CERTIFICATE OF NO CONFLICT OF INTEREST

WORLD ENVIRONMENTAL
20321 Lake Forest Drive, Suite D6
Lake Forest, CA 92630

I certify that I am responsible for the testing operations of World Environmental and am authorized to sign this certificate on the company's behalf.

World Environmental may conduct tests as an independent tester. I further certify that World Environmental has no conflict of interests, and is not related or owned in any way to the company being tested.

Company being tested: Lubeco, Inc.

Unit I.D. #: HEPA Filter (SCAQMD Application #: 497233)

Signature:

Name (printed or typed): Michael Andreas

Title: Project Manager

Date: March 15, 2010

Appendix H

SCAQMD Laboratory Approval Program (LAP) Certification

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

September 4, 2009

Mr. Keith Shannon
World Environmental
20321 Lake Forest Drive, D6
Lake Forest, CA 92630

Dear Mr. Shannon:

Subject: Laboratory Approval Program Approval
Reference #95LA0317

We completed our review of the renewal application you submitted for approval under the South Coast Air Quality Management District's Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2009 and ending September 30, 2010 for the following methods:

SCAQMD Methods 1-4
SCAQMD Method 5.1
SCAQMD Method 5.2
SCAQMD Rule 1420 (Lead) - Source Sampling
SCAQMD Rule 1121/1146.2 – Protocol

However, we have not completed the evaluation of your renewal application for SCAQMD Method 100.1 at this time. Renewal of your LAP approval requires a successful system audit to be performed on your Method 100.1 equipment three major sub-systems: sample interface, gas analyzers and data acquisition. So that your LAP approval will not lapse while we are completing the approval process, I am extending the expiration date for this method from September 30, 2009 to December 31, 2009.

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions.

You may direct any questions or information to LAP Coordinator Ramiro Gonzalez. He may be reached by telephone at (909) 396-2228 or facsimile at (909) 396-2099.

Sincerely,

Rudy Eden, Senior Manager
Laboratory Services and
Source Test Engineering

RWE:RG:svc
cc: Ramiro Gonzalez

Appendix I

Permit to Construct

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

AQMD

PERMIT TO CONSTRUCT

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

Granted as of 10/2/09

LEGAL OWNER OR OPERATOR: LUBECO INC
6859 DOWNEY AVE
LONG BEACH, CA 90805-1919

10/08/2009

ID 041229

Equipment Location: 6859 DOWNEY AVE, LONG BEACH, CA 90805-1919

Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. THREE-STAGE COMPOSITE MESH PAD, SCRUBAIR, MODEL SCV 9000 CFM, EACH 4'-0" W. X 4'-0" L. X 1'-0" H.
2. FOUR HEPA FILTERS, EACH 4'-0" W. X 4'-0" L. X 1'-0" H.
3. EXHAUST SYSTEM WITH ONE 20-H. P. EXHAUST FAN, 8800 CFM CAPACITY VENTING TWO ANODIZING TANKS.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
3. THIS EQUIPMENT SHALL BE IN FULL USE WHENEVER THE EQUIPMENT IT SERVES IS IN OPERATION.
4. THE EXHAUST STACK OF THIS EQUIPMENT SHALL DISCHARGE IN AN UPWARD DIRECTION, WITH NO WEATHER CAP, AND THE HEIGHT OF THE EXHAUST OUTLET SHALL NOT BE LESS THAN 30 FEET ABOVE GROUND LEVEL.
5. THE HEPA FILTER USED IN THIS EQUIPMENT SHALL BE INDIVIDUALLY DOP (OR EQUIVALENT) TESTED WITH 0.3 MICRON PARTICLES AND CERTIFIED TO HAVE AN EFFICIENCY OF NOT LESS THAN 99.997%.
6. MECHANICAL GAUGES SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER, THE STATIC PRESSURE DIFFERENTIAL ACROSS EACH STAGE OF THE MESH PAD MIST

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

PERMIT TO CONSTRUCT

CONTINUATION OF PERMIT TO CONSTRUCT

ELIMINATOR. THE SCALE ON THE GAUGES SHALL NOT EXCEED TWO TIMES THE LIMITS SPECIFIED IN CONDITION NO. 7.

7. THE STATIC PRESSURE DIFFERENTIAL SHALL REMAIN WITHIN THE RANGE OF 0.3 INCH TO 3.0 INCHES OF WATER COLUMN ACROSS EACH STAGE OF THE MESH PADS. THIS LIMIT IS SUBJECT TO CHANGE BASED ON THE RESULTS OF THE SOURCE TESTS.

8. MECHANICAL GAUGES SHALL BE INSTALLED AND MAINTAINED TO INDICATE, IN INCHES OF WATER, THE STATIC PRESSURE DIFFERENTIAL ACROSS THE PRE-FILTER AND HEPA FILTER. THE SCALE ON THE GAUGES SHALL NOT EXCEED TWO TIMES THE LIMITS SPECIFIED IN CONDITION NO. 9.

9. THE STATIC PRESSURE DIFFERENTIAL SHALL REMAIN WITHIN THE RANGE OF 0.75 TO 4.0 INCHES WATER COLUMN ACROSS THE HEPA FILTER. THESE LIMITS ARE SUBJECT TO CHANGE BASED ON THE RESULTS OF THE SOURCE TESTS.

10. THE GAUGES SHALL BE LOCATED SO THAT THEY CAN BE EASILY VIEWED AND ARE IN CLEAR SIGHT OF THE OPERATION AND MAINTENANCE PERSONNEL.

11. THE SPECIFIC OPERATION AND MAINTENANCE ACTIVITIES IDENTIFIED IN THE OPERATION AND MAINTENANCE PLAN SHALL BE INSTITUTED IF THE STATIC PRESSURE DIFFERENTIAL ACROSS EACH STAGE OF THE MESH PAD MIST ELIMINATOR EXCEEDS 3 INCHES OF WATER COLUMN AND 4 INCHES OF WATER COLUMN ACROSS THE HEPA FILTER.

12. THE OWNER/ OPERATOR SHALL MAINTAIN A WEEKLY RECORD OF THE STATIC PRESSURE DIFFERENTIALS TO VERIFY COMPLIANCE WITH CONDITION NOS. 7 & 9.

13. THE HEXAVALENT CHROMIUM EMISSIONS DISCHARGED TO THE ATMOSPHERE FROM CHROMIC ACID ANODIZING TANK NO. 16 OR TICERMET ANODIZING TANK NO. 8 SHALL NOT EXCEED 0.0015 MILLIGRAM PER AMPERE-HOUR.

14. THE TOTAL ELECTRIC CURRENT APPLIED TO CHROMIC ACID ANODIZING TANK NO. 16 OR TICERMET ANODIZING TANK NO. 8 SHALL NOT EXCEED 750,000 AMPERE-HOURS IN ANY ONE YEAR.

15. THE OWNER/OPERATOR SHALL COMPLY WITH THE INSPECTION AND MAINTENANCE REQUIREMENTS LISTED BELOW:

    A. QUARTERLY VISUAL INSPECTION OF THE EQUIPMENT TO ENSURE THERE IS PROPER DRAINAGE, NO UNUSUAL CHROMIC ACID BUILDUP ON THE MESH PADS, AND NO EVIDENCE OF CHEMICAL ATTACK THAT AFFECTS THE STRUCTURAL INTEGRITY OF THIS EQUIPMENT

    B. QUARTERLY VISUAL INSPECTION OF THE HEPA FILTER TO ENSURE THERE IS NO BREAKTHROUGH OF CHROMIC ACID MIST

ORIGINAL

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

PERMIT TO CONSTRUCT

17. MATERIAL SAFETY DATA SHEETS FOR ALL MATERIALS USED AT THIS FACILITY AND SUBJECT TO DISTRICT RULES SHALL BE KEPT CURRENT AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

18. ALL RECORDS REQUIRED BY TIS PERMIT SHALL BE PREPARED IN A FORMAT THAT IS ACCEPTABLE TO THE DISTRICT, SHALL BE RETAINED ON THE PREMISES FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO ANY DISTRICT REPRESENTATIVE UPON REQUEST.

Approval or denial of this application for permit to operate the above equipment will be made after an inspection to determine if the equipment has been constructed in accordance with the approved plans and specifications and if the equipment can be operated in compliance with all Rules of the South Coast Quality Management District.

Please notify BIJAN ATAIAN at (909) 396 - 2454 when construction of equipment is complete.

This Permit to Construct is based on plans, specifications, and data submitted as it pertains to the release of air contaminants and control measures to reduce air contaminants. No approval or opinion concerning safety and other factors in design, construction or operation of equipment is expressed or implied.

This Permit to Construct shall serve as a temporary Permit to operate provided the Executive Officer is given prior notice of such intent to operate.

This Permit to Construct will become invalid if the Permit to Operate is denied or if the application is cancelled. This PERMIT TO CONSTRUCT SHALL EXPIRE ONE YEAR FROM THE DATE OF ISSUANCE unless an extension is granted by the Executive Officer.

By Dorris M Bailey
DORRIS M.BAILEY
Principal office Assistant

DMB/BA01

ORIGINAL

Appendix J

SCAQMD Protocol Approval Document

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M E M O R A N D U M

DATE: December 2, 2009

TO: Fred Lettice

FROM: Rudy Eden

SUBJECT: Evaluation of Source Test Protocol:
(Requested by Bijan Ataian, November 12, 2009)

IDENTIFICATION: **(Application No. Control: 497233; Basic: 497234, 497235)(Facility ID No. 041229)**

COMPANY:	**Lubeco Inc., Long Beach**
EQUIPMENT 1:	**Chromic Acid Anodizing Tank 16**
EQUIPMENT 2:	**Ticermet A Anodizing Tank 37**
CONTROL:	**Three-Stage Composite Mesh Pad, Four HEPA Filters**

REFERENCE: P09346 (STE Source Test File)

Source Test Engineering has completed the evaluation of the subject source test protocol for testing at 6859 Downey Avenue, Long Beach, and has concluded that it is:

CONDITIONALLY ACCEPTABLE

Some of the applicable Rules and/or Permit Conditions, may not have been acceptably addressed, and/or the proposed sampling locations, and/or the proposed sampling and analytical methods will need to be modified before testing can commence. Refer to the following sections for a complete discussion concerning the modifications that must be implemented into this existing source test protocol.

The attached evaluation has not been forwarded to the facility or the source testing firm. It is the responsibility of the requestor to review the attached evaluation and forward it to the parties involved, if you concur with our findings. If there are any questions, please contact Ron Lem at Ext. 2654.

MG:RL

Attachment

cc: Mike Garibay
Bijan Ataian
Mohan Nagavedu

\SourceTesting\Review\Protocol\P09346_LubecoInc.doc

\SourceTesting\Review\Protocol\P09346_LubecoInc.doc

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MONITORING & ANALYSIS DIVISION * SOURCE TEST ENGINEERING BRANCH

SOURCE TEST PROTOCOL EVALUATION

S/T ID:	**P09346**
AQMD ID:	*FACILITY ID NO.* **041229** *A/N:* **497233, 497234, 497235**
COMPANY:	**Lubeco Inc., Long Beach**
EQUIPMENT 1:	**Chromic Acid Anodizing Tank 16**
EQUIPMENT 2:	**Ticermet A Anodizing Tank 37**
CONTROL:	**Three-Stage Composite Mesh Pad, Four HEPA Filters**
TEST LOCATION:	**6859 Downey Avenue, Long Beach, CA 90805-1919**
REQUESTED BY:	**Bijan Ataian (Memo Dated November 12, 2009)**
TYPE OF TEST:	**PERFORMANCE PROTOCOL** *DOCUMENT DATE:* **November 5, 2009**
REASON FOR TEST:	*(TESTING SUBJECT TO THE FOLLOWING RULE, PERMIT, OR SPECIFIED CONDITIONS):* - 1469 (c)(11)(A)
REQUESTED EVAL:	**Hexavalent and Total Chromium**
TEST FIRM:	**World Environmental, 20321 Lake Forest Dr., Suite D6, Lake Forest, CA 92630**
STE EVALUATOR:	**Ron Lem** *EXT:* **2654** *REVIEW DATE:* **December 2, 2009**

OVERVIEW OF EVALUATION:

OVERALL CONFIDENCE IN SOURCE TEST PROPOSAL:	☐ **ACCEPTABLE**	☒ **CONDITIONALLY ACCEPTABLE**	☐ **UNACCEPTABLE** ☐ **NOT REVIEWED**
DEFICIENCIES IDENTIFIED:	• Deficiencies noted concerning proposed **Hexavalent and Total Chromium** emission testing.		
MODIFICATIONS OR REMEDIAL MEASURES REQUIRED:	• This source test proposal must be modified to address the deficiencies described in the following section of this evaluation, and the source testing which incorporates these modifications may proceed without further discussion.		

(REFER TO NEXT SECTION FOR COMPLETE DISCUSSION OF THESE DEFICIENCIES)

SPECIFIC REQUIREMENTS

This source test protocol has been reviewed by the Monitoring & Source Test Engineering Branch staff. The following item(s) specifically explain the required modifications to the existing source test protocol which must be implemented, or items requiring further discussion or explanation, before testing can proceed:

- ☐ Completeness of Protocol.
- ☒ Representativeness of Data & Process.
- ☒ Rule/Permit Fulfillment.
- ☒ Sampling & Analytical Methods.
- ☒ Quality Assurance.
- ☒ Calculations.

REPRESENTATIVENESS OF DATA & PROCESS

- Production records shall be fully documented for the two tanks, including parts processed and duration of plating or inactivity during testing. Amperage totalizer readings shall be taken periodically.

- Any emission control measures (e.g. polyballs) utilized during the source test which are not specified on the Permits to Construct or Permits to Operate for the plating tanks or the air pollution control system shall be fully documented. If applicable, the facility shall file the appropriate permit applications to have the permits properly reflect the usage of the control measures.

- Notification of the source test shall be made to the District at least seven days prior to the source test. Notification, via both fax and telephone, shall be made to Supervising Inspector Mohan Nagavedu (Phone: (909) 396-3739, Fax: (909) 396-3342), and shall include the facility name, ID number and address, and the date and time of the source test. The Source Test Engineering evaluator, listed on the cover sheet of this evaluation, shall also be notified.

- If the chrome plating tank exhaust is manifolded with other tanks, the source test report shall detail the operation of the other tanks during sampling.

RULE/PERMIT FULFILLMENT

- Testing must be conducted pursuant to the following Rule/Permit Conditions:
  - 1469

- Please note that Rule 1469(c)(11)(A) requires hexavalent chromium emissions from each tank to be limited to 0.0015 mg Cr^{6+}/amp-hr.

Some of the above requirements have not been addressed in this protocol and they must be addressed and implemented in the testing, as discussed in this evaluation. The source test report emission information must also be formatted to satisfy the above Rule/Permit Conditions.

SPECIFIC REQUIREMENTS

SAMPLING & ANALYTICAL METHODS

- If a single triplicate test is conducted at the outlet of the air pollution control system for manifolded tanks, the result shall determine compliance for all of the equipment.

- Testing for capture efficiency for manifolded tanks shall be conducted while all tanks are being exhausted to properly reflect normal operating conditions.

- Pressure differentials across each control stage shall be recorded during collection efficiency testing and sampling. If the exhaust ducting is equipped with a damper, the records shall also indicate the positioning of the damper.

- CARB Method 425, Section 12, states that at all times during sampling and transport of samples, the pH of the impinger solutions shall be maintained at $\geq$ 8.0 as determined by the use of a clean rod and color indicating paper. AQMD requests that <u>if NaOH is used as the absorbing solution, the pH shall be $\geq$ 8.5, or the pH shall be $\geq$ 8.0 for a $NaHCO_3$ solution</u>. After the end of the sampling run, the pH of the absorbing solution in first impinger shall be measured before the solutions contained in all three impingers are combined.

- The smoke test to demonstrate the capture efficiency of the air pollution control equipment shall be conducted in accordance with the procedure listed in <u>Appendix 9 of SCAQMD Rule 1469</u>. Documentation of the procedure shall be provided as required as described in Appendix 9.

- Pressure differentials across each control stage shall be recorded during collection efficiency testing and sampling.

- In addition to the smoke test, quantitative measurements must be taken to demonstrate the capture efficiency of the air pollution control equipment in accordance with SCAQMD Rule 1469(e)(7)(A). Quantitative measurements and calculations shall include, but not be limited to, <u>slot velocity</u> and exhaust rate per square foot of tank area. Dimensions and related data shall be provided to verify calculations.

- The source test report shall document the following parameters of the tanks during operation: temperature of tank solution, and the composition of the tank solution (including any additions or removals made during testing).

- If fume suppressant is used, the <u>surface tension</u> of each tank containing fume suppressant shall be measured. In addition to the surface tension measurement, the source test report shall indicate if a stalagmometer or tensiometer was used to determine the surface tension of the plating solution. If a stalagmometer is used, the procedure listed in Appendix 10 of SCAQMD Rule 1469 shall be followed and documented.

SPECIFIC REQUIREMENTS

- Please note that SCAQMD Rule 1469(f) for tanks containing fume suppressant requires a surface tension below 45 dynes/cm, as measured by a stalagmometer, or 35 dynes/cm, as measured by a tensiometer.

- Cr NESHAP 40CFR63, Subpart N also specifies that when a chemical fume suppressant is used as a control, the surface tension of the plating solution must be monitored according to EPA Method 306B, or equivalent.

- The sampling times must be sufficient enough to result in a sample much greater than the blanks and five times the lower detection limit of the analytical equipment.

- *Note: For the push/pull exhaust ventilation, the current version of Industrial Ventilation recommends a minimum of 100 cfm/sq. ft. and* ***not*** *75 cfm/sq. ft. as stated in earlier versions. The tester is also advised to confirm parameters recommended for the "push" side.*

QUALITY ASSURANCE

- All applicable pieces of source test and process equipment used directly or indirectly for measurement of source test emission data must be calibrated, and the calibrations included in the final report (this includes gas meters, Pitot tubes, pressure gages, nozzles, temperature devices, calibration gases, usage meters, totalizers, etc.).

- Calibration of totalizer or ammeter (whichever is used to calculate mg/amp-hr) must be performed prior to source test and a **calibration certificate** must be provided with source test report. Comparison of the ammeter and totalizer readings does not constitute a calibration.

- Where appropriate, field blanks, reagent blanks and recovery spikes must be performed and the information submitted with the source test report. Reagent blanks may be deducted for emission calculations.

- All raw data field data sheets, as well as recorder strip charts, must accompany the performance test report.

- Where laboratory instrument analysis is required, instrument raw stripcharts, calibrations and standards, and limit of detection must be included in the source test report. This also includes equipment transfer and "chain-of-custody" form clearly describing all equipment and laboratory ID numbers, dates and times, required analysis, and the signature/initials of persons involved in transfers.

- The terms "non-detect" or "non-detectable" are no longer used for emission reporting purposes. Instead, non-detectable results are reported with respect to the limit of detection of the analytical instrument or method (e.g. report "<10 micrograms/liter", if detection limit is 10 micrograms/liter). Non-detectable emission results must have supporting documentation to show that acceptable sample volume was collected pursuant to rule or permit limits and analytical method limit of detection.

CALCULATIONS

- All calculations concerning intermediate process, emission, and/or flow information must be shown and included in the final report. This also applies to calculations concerning laboratory analyses emission calculations, and design criteria and ventilation standards.

- All applicable pieces of source test and process equipment used directly or indirectly for measurement of source test emission data must be calibrated, and the calibrations included in the final report (this includes gas meters, Pitot tubes, pressure gages, nozzles, temperature devices, calibration gases, fuel usage meters, totalizers, etc.).

- Where appropriate, field blanks, reagent blanks and recovery spikes must be performed and the information submitted with the source test report. Only reagent blanks may be deducted for emission calculations.

- All raw data field data sheets, as well as recorder strip charts, must accompany the test report.

- Where laboratory instrument analysis is required, instrument raw stripcharts, calibrations and standards, and limit of detection must be included in the source test report. This also includes equipment transfer and "chain-of-custody" form clearly describing all equipment and laboratory ID numbers, dates and times, required analysis, and the signature/initials of persons involved in transfers. TCA analyses must also include trap burn-outs from previous test, if applicable.

- The terms "non-detect" or "non-detectable" are no longer used for emission reporting purposes. Instead, non-detectable results are reported with respect to the limit of detection of the analytical instrument or method (e.g. report "<10 micrograms/liter", if detection limit is 10 micrograms/liter). Non-detectable emission results must have supporting documentation to show that acceptable sample volume was collected pursuant to rule or permit limits and analytical method limit of detection..

GENERAL INFORMATION

FINAL TEST REPORT

The final Source Test Report must include the following information:

1. Signed "Statement of Non-Conflict as an Independent Laboratory" (District Rule 304(k)) and CARB Lab Approval or District Lab Approval (LAP) document (if applicable).

2. A brief opening statement identifying the Facility I.D., the equipment A/N, P/O, or Device I.D. and the reason(s) for testing (applicable rules permit conditions, etc.). Include a copy of the Permit-to-Construct, Permit-to-Operate, or Facility Permit. Also identify the test dates, the personnel on hand for the test, names, titles and phone numbers of responsible test firm and facility personnel.

3. A summary of the Source Test results, including applicable rules and permit conditions (show allowable standards) and source test data properly formatted to satisfy these requirements.

4. A brief process description. Indicate equipment operation during testing; as well as any other information which may influence the final report.

5. A "self-critique" of anything that transpired during the test which you feel is useful in the interpretation of the test results.

6. A simple schematic diagram of the process, showing the sampling location, with respect to the upstream and downstream flow disturbances. Also include a cross-sectional diagram of the stack or duct at the sampling location, depicting the sampling points with respect to compass direction.

7. The sampling and analytical procedures. Be specific about all aspects of sampling and analysis. Include diagrams of test equipment and methods.

8. Complete raw field data, including production data indicative of the testing interval, lab analyses, and the test results (show all calculations).

9. Current calibration data regarding all sampling and measuring equipment utilized during testing. This also includes all laboratory calibrations, as well as facility fuel meter calibrations. (See <u>District Source Testing Manual, Chapter III</u> or <u>"Quality Assurance Handbook For Air Pollution Measurement Systems", Vol..III, U.S. EPA-600/4-77-0276).</u>

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

M E M O R A N D U M

DATE: April 29, 2010

TO: Fred Lettice

FROM: Rudy Eden

SUBJECT: Evaluation of Source Test Report:
(Requested by Stacey Ebiner, April 13, 2010)

AQMD ID: *FACILITY ID NO.* 041229 *APPLICATION NO.:* 497233 (Control), 497234, 497235
COMPANY: **Lubeco Inc., Long Beach**
EQUIPMENT: **Chromic Acid Anodizing Tank 16**
EQUIPMENT: **Ticermet A Anodizing Tank 17A**
CONTROL: **Three-Stage Composite Mesh Pad, Four HEPA Filters**

TEST LOCATION: **6859 Downey Avenue, Long Beach, CA 90805**

TEST DATES: **February 22-24, 2010**

REFERENCE: **PR09346** (STE Source Test File)

Source Test Engineering has completed the evaluation of the subject source test report and has concluded that it is:

CONDITIONALLY ACCEPTABLE

Compliance with all applicable Rules and/or Permit Conditions, as well as compliance limits, may not have been acceptably demonstrated, and/or the accuracy of some of the reported gaseous emissions and/or flows may not have been confidently confirmed, and their use regarding emission calculations may be subject to certain restrictions. Refer to the following sections for a complete discussion concerning these restrictions and compliance determination.

The attached evaluation has not been forwarded to the facility or the source testing firm. It is the responsibility of the requestor to review the attached evaluation and forward it to the parties involved, if you concur with our findings. If there are any questions, please contact Ron Lem at Ext. 2654.

MG:RG:RL
Attachment
cc: Mike Garibay
Stacey Ebiner
Mohan Nagavedu

\SourceTesting\Review\Report\PR09346_LubecoInc.doc : REV 3/2/10

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MONITORING & ANALYSIS DIVISION * SOURCE TEST ENGINEERING BRANCH

SOURCE TEST REPORT EVALUATION

ST ID: **PR09346**

AQMD ID: *FACILITY ID NO.* 041229 *A/N:* 497233, 497234, 497235
COMPANY: **Lubeco Inc., Long Beach**
EQUIPMENT: **Chromic Acid Anodizing Tank 16**
EQUIPMENT: **Ticermet A Anodizing Tank 37**
CONTROL: **Three-Stage Composite Mesh Pad, Four HEPA Filters**

LOCATION: **6859 Downey Avenue, Long Beach, CA 90805**

REQUESTED BY: **Stacey Ebiner (Memo Dated April 13, 2010)**
TYPE OF TEST: **PERFORMANCE/COMPLIANCE REPORT** *DOCUMENT DATE:* **March 15, 2010**
REASON FOR TEST: *(TESTING SUBJECT TO THE FOLLOWING RULE, PERMIT, OR SPECIFIED CONDITIONS):*
- 1469: 0.0015 mg Cr^{+6}/amp-hr

REQUESTED EVAL: **Hexavalent and Total Chromium**
TEST DATE: **February 22-24, 2010**
TEST FIRM: **World Environmental, 20321 Lake Forest Drive, Ste D6, Lake Forest, CA 92630**

STE EVALUATOR: **Ron Lem** *EXT:* **2654** *REVIEW DATE:* **April 29, 2010**

OVERVIEW OF EVALUATION :

OVERALL CONFIDENCE IN REPORTED TEST RESULTS:	☐ **ACCEPTABLE**	☒ **CONDITIONALLY ACCEPTABLE**	☐ **UNACCEPTABLE**
RESTRICTIONS FOR USE OF REPORTED RESULTS:	• **Hexavalent and Total Chromium** emissions, as adjusted (specified in the next section of this evaluation), may be used for compliance determination only. • Future test reports may be subject to rejection without the information as described in the next section of this evaluation. • The tank number for the ticermet anodizing tank should be corrected, as explained in the next section.		
COMPLIANCE DETERMINATION:	• **Hexavalent and Total Chromium** emissions, as adjusted (see next section of this evaluation), are in compliance by an acceptable margin[1] with the Rules/Permit Compliance Limits specified above.		

(REFER TO NEXT SECTION FOR COMPLETE DISCUSSION OF TEST RESULTS AND CORRECTED EMISSION INFORMATION, IF APPLICABLE)

[1] NOTE: STE assigns a 10% "margin of error" to most compliance limits when evaluating emissions for compliance determination. This is due to uncertainties assigned to source testing, in general, and errors associated with individual analytical procedures. As a result, some reported emissions may be judged as being in compliance although they appear to be non-compliant or marginally non-compliant. Similarly, non-compliance is judged using the same margin-of-error.

DETAILED REVIEW
This source test report has been reviewed by the Evaluations Unit staff. The following specifically explains the restrictions concerning the treatment of the reported source test information:

- [ ] Completeness of Report.
- [x] Representativeness of Data & Process.
- [x] Rule/Permit Fulfillment.
- [x] Sampling & Analytical Methods.
- [x] Quality Assurance.
- [ ] Calculations.

<u>REPRESENTATIVENESS OF DATA & PROCESS</u>

- The reported **Hexavalent and Total Chromium** concentration emissions fell below the acceptable reportable detection limit (RDL) of the analytical method, and they were calculated upward to the default or "de-minimus" level for qualitative compliance determination <u>only</u>. The adjusted values cannot be used quantitatively for mass emission or emission factor calculations because they are probably overstated. The reported results for the testing of hexavalent chromium emissions from this equipment, as adjusted, demonstrate qualitative compliance by an acceptable margin[2] with the Rules/Permit Compliance Limit. The adjusted values are included in the table below.
- The reported stack or flue flow rates and isokinetic sampling rates have been miscalculated, possibly due to data entry and/or conversion factor errors. The adjusted flow rates did not affect Rules/Permit compliance determination, and the adjusted percent isokinetic sampling rate is still within acceptable limits for the test method. The adjusted values are included in the table below.
- Since the smoke test was successful in demonstrating a direct stream to the collection system with no meanderings, since slot velocities were greater than the required 2000 ft/min by at least a factor of three, and since lateral exhaust per tank surface area measurements were greater than the minimum 100 acfm/ft^2 by a factor of about 1.8, sufficient quantification of capture efficiency is considered to have been acceptably demonstrated. However, *future testing may be subject to rejection* unless quantification of capture efficiency pursuant to Rule 1469 (e)(7)(A) includes push nozzle velocity pressure (Pm) measurements which demonstrate compliance with Table 13-72-1 of the <u>American Conference of Industrial Hygienists Industrial Ventilation, A Manual of Recommended Practice</u>. Acceptable push nozzle velocity pressures ("wg), are listed on Table 13-72-1 according to tank length [x(ft)], and push hole diameter [D_{hole}(in)] or push slot width [W_{slot}(in)].
- A correction to the basic equipment identification was noted for the ticermet anodizing tank. According to the visual evidence (compact disc) submitted for the smoke test, this tank is labeled as tank no. 17A.

[2] <u>NOTE:</u> STE assigns a 10% "margin of error" to most compliance limits when evaluating emissions for compliance determination. This is due to uncertainties assigned to source testing, in general, and errors associated with individual analytical procedures. As a result, some reported emissions may be judged as being in compliance although they appear to be non-compliant or marginally non-compliant. Similarly, non-compliance is judged using the same margin-of-error.

RULE/PERMIT FULFILLMENT

Testing must satisfy the following Rule/Permit requirements:

- 1469: 0.0015 mg Cr^{+6}/amp-hr emission limit; quantify capture efficiency of add-on controls

All required testing has been performed and is properly formatted, except where noted in this evaluation.

SAMPLING & ANALYTICAL METHODS / RESULTS

- All testing and analyses were performed according to approved AQMD methods and procedures.

QUALITY ASSURANCE

- All reported testing results were well supported and documented with respect to raw data, calibrations, calculations, and lab analyses except where noted in this evaluation.
- Future reports must include a complete description of the anemometer (make, model, type, etc.) used to measure slot velocities, must include the raw field data for slot velocity measurements, and must include acceptable calibration documentation. *Failure to include this information may result in the rejection of future test results.*

SOURCE TEST REPORT EVALUATION

Run 1

Parameter	Units	Reported Results	Corrected Results	Permit Limit
Hexavalent Chromium	mg/dscm	1.69×10^{-5}	$<3.92 \times 10^{-5}$	
	lb/hr	5.46×10^{-7}	$<1.25 \times 10^{-6}$	
	mg/amp-hr	3.24×10^{-4}	$<7.42 \times 10^{-4}$	1.5×10^{-3}
Total Chromium	mg/dscm	1.64×10^{-4}	$<3.92 \times 10^{-4}$	
	lb/hr	5.31×10^{-6}	$<1.25 \times 10^{-5}$	
	mg/amp-hr	3.15×10^{-3}	$<7.42 \times 10^{-3}$	
Flow Rate	dscfm	8623	8512	
Isokinetic	%	99.7	103.6	

Run 2

Parameter	Units	Reported Results	Corrected Results	Permit Limit
Hexavalent Chromium	mg/dscm	2.03×10^{-5}	$<4.68 \times 10^{-5}$	
	lb/hr	6.55×10^{-7}	$<1.49 \times 10^{-6}$	
	mg/amp-hr	4.21×10^{-4}	$<9.58 \times 10^{-4}$	1.5×10^{-3}
Total Chromium	mg/dscm	1.98×10^{-4}	$<4.68 \times 10^{-4}$	
	lb/hr	6.36×10^{-6}	$<1.49 \times 10^{-5}$	
	mg/amp-hr	4.09×10^{-3}	$<9.58 \times 10^{-3}$	
Flow Rate	dscfm	8603	8493	
Isokinetic	%	100.2	103.5	

Run 3

Parameter	Units	Reported Results	Corrected Results	Permit Limit
Hexavalent Chromium	mg/dscm	1.68×10^{-5}	$<3.91 \times 10^{-5}$	
	lb/hr	5.41×10^{-7}	$<1.24 \times 10^{-7}$	
	mg/amp-hr	2.84×10^{-4}	$<6.53 \times 10^{-4}$	1.5×10^{-3}
Total Chromium	mg/dscm	1.63×10^{-4}	$<3.91 \times 10^{-4}$	
	lb/hr	5.25×10^{-6}	$<1.24 \times 10^{-5}$	
	mg/amp-hr	2.76×10^{-3}	$<6.53 \times 10^{-3}$	
Flow Rate	dscfm	8605	8496	
Isokinetic	%	100.9	104.2	

Average of all three test runs

Parameter	*Units*	*Reported Results*	*Corrected Results*	*Permit Limit*
Hexavalent Chromium	*mg/dscm*	*1.80 x* 10^{-5}	*<4.17 x* 10^{-5}	
	lb/hr	*5.81 x* 10^{-7}	*<1.33 x* 10^{-6}	
	mg/amp-hr	*3.43 x* 10^{-4}	***<7.84 x*** 10^{-4}	*1.5 x* 10^{-3}
Total Chromium	*mg/dscm*	*1 75 x* 10^{-4}	*<4.17 x* 10^{-4}	
	lb/hr	*5.64 x* 10^{-6}	*<1.33 x* 10^{-5}	
	mg/amp-hr	*3.33 x* 10^{-3}	*<7.84 x* 10^{-3}	
Flow Rate	*dscfm*	*8605*	*8496*	
Isokinetic	*%*	*100.9*	*104.2*	

Appendix G – Emission Summary

Table 2 – Summary of Device Emission Summary

Listed substance	70001 Boiler Average Annual	70001 Boiler Maximum Hourly	70002 Drying Oven Average Annual	70002 Drying Oven Maximum Hourly	70003 Drying Oven Average Annual	70003 Drying Oven Maximum Hourly	70004 Drying Oven Average Annual	70004 Drying Oven Maximum Hourly
Acenaphthene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Acenaphthylene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Acetaldehyde	7.05E-03	8.37E-06	1.94E-03	2.30E-06	1.94E-03	2.30E-06	1.94E-03	2.30E-06
Acrolein	4.43E-03	5.25E-06	1.22E-03	1.44E-06	1.22E-03	1.44E-06	1.22E-03	1.44E-06
Aluminum	0	0	0	0	0	0	0	0
Ammonia	5.25	6.23E-03	1.44	1.71E-03	1.44	1.71E-03	1.44	1.71E-03
Anthracene	3.94E-06	4.67E-09	1.08E-06	1.28E-09	1.08E-06	1.28E-09	1.08E-06	1.28E-09
Antimony	0	0	0	0	0	0	0	0
Antimony trioxide	0	0	0	0	0	0	0	0
Barium	0	0	0	0	0	0	0	0
Barium chromate	0	0	0	0	0	0	0	0
Benzene	1.31E-02	1.56E-05	3.60E-03	4.28E-06	3.60E-03	4.28E-06	3.60E-03	4.28E-06
Benzo (a) anthracene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Benzo (a) pyrene	1.97E-06	2.33E-09	5.40E-07	6.42E-10	5.40E-07	6.42E-10	5.40E-07	6.42E-10
Benzo (b) fluoranthene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Benzo (g,h,i) perylene	1.97E-06	2.33E-09	5.40E-07	6.42E-10	5.40E-07	6.42E-10	5.40E-07	6.42E-10
Benzo (k) fluoranthene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Butyl alcohol, n-	0	0	0	0	0	0	0	0
Butyl alcohol, sec	0	0	0	0	0	0	0	0
Calcium chromate	0	0	0	0	0	0	0	0
Carbon black	0	0	0	0	0	0	0	0
Carbon monoxide	57.40	6.81E-02	15.75	1.87E-02	15.75	1.87E-02	15.75	1.87E-02
Chromium	0	0	0	0	0	0	0	0
Chromium trioxide	0	0	0	0	0	0	0	0
Chrysene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Cobalt	0	0	0	0	0	0	0	0
Cresol	0	0	0	0	0	0	0	0
Crystalline silica	0	0	0	0	0	0	0	0
Cumene	0	0	0	0	0	0	0	0
Dibenz (a,h) anthracene	1.97E-06	2.33E-09	5.40E-07	6.42E-10	5.40E-07	6.42E-10	5.40E-07	6.42E-10

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Listed substance	70001 Boiler Average Annual	70001 Boiler Maximum Hourly	70002 Drying Oven Average Annual	70002 Drying Oven Maximum Hourly	70003 Drying Oven Average Annual	70003 Drying Oven Maximum Hourly	70004 Drying Oven Average Annual	70004 Drying Oven Maximum Hourly
Dichlorobenzene	1.97E-03	2.33E-06	5.40E-04	6.42E-07	5.40E-04	6.42E-07	5.40E-04	6.42E-07
Diethylene glycol monobutyl ether	0	0	0	0	0	0	0	0
Dimethyl formamide	0	0	0	0	0	0	0	0
Dimethylbenz(a)anthracene, 7,12-	2.62E-05	3.11E-08	7.20E-06	8.56E-09	7.20E-06	8.56E-09	7.20E-06	8.56E-09
Dioxane, 1,4-	0	0	0	0	0	0	0	0
Epoxy resin	0	0	0	0	0	0	0	0
Ethylbenzene	1.56E-02	1.85E-05	4.28E-03	5.08E-06	4.28E-03	5.08E-06	4.28E-03	5.08E-06
Ethylene dichloride	0	0	0	0	0	0	0	0
Ethylene glycol monobutyl ether	0	0	0	0	0	0	0	0
Fluoranthene	4.92E-06	5.84E-09	1.35E-06	1.61E-09	1.35E-06	1.61E-09	1.35E-06	1.61E-09
Fluorene	4.59E-06	5.45E-09	1.26E-06	1.50E-09	1.26E-06	1.50E-09	1.26E-06	1.50E-09
Fluoride	0	0	0	0	0	0	0	0
Formaldehyde	2.79E-02	3.31E-05	7.65E-03	9.10E-06	7.65E-03	9.10E-06	7.65E-03	9.10E-06
Hexamethylene- 1,6 diisocyanate	0	0	0	0	0	0	0	0
Hexane, n-	1.03E-02	1.23E-05	2.84E-03	3.37E-06	2.84E-03	3.37E-06	2.84E-03	3.37E-06
Hexavalent chromium	0	0	0	0	0	0	0	0
Hydrochloric acid	0	0	0	0	0	0	0	0
Hydrogen fluoride	0	0	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Isopropyl alcohol	0	0	0	0	0	0	0	0
Isopropylidenediphenol, 4,4-	0	0	0	0	0	0	0	0
Lead	0	0	0	0	0	0	0	0
Manganese	0	0	0	0	0	0	0	0
Methanol	0	0	0	0	0	0	0	0
Methyl ethyl ketone	0	0	0	0	0	0	0	0
Methyl isobutyl ketone	0	0	0	0	0	0	0	0
Methylcholanthrene, 3-	2.95E-06	3.50E-09	8.10E-07	9.63E-10	8.10E-07	9.63E-10	8.10E-07	9.63E-10
Methylene diphenyl diisocyanate	0	0	0	0	0	0	0	0
Methylenedianiline, 4,4'-	0	0	0	0	0	0	0	0
Methylnaphthalene,2-	3.94E-05	4.67E-08	1.08E-05	1.28E-08	1.08E-05	1.28E-08	1.08E-05	1.28E-08
Naphthalene	4.92E-04	5.84E-07	1.35E-04	1.61E-07	1.35E-04	1.61E-07	1.35E-04	1.61E-07

Listed substance	70001 Boiler Average Annual	70001 Boiler Maximum Hourly	70002 Drying Oven Average Annual	70002 Drying Oven Maximum Hourly	70003 Drying Oven Average Annual	70003 Drying Oven Maximum Hourly	70004 Drying Oven Average Annual	70004 Drying Oven Maximum Hourly
Nickel	0	0	0	0	0	0	0	0
PAH	0	0	0	0	0	0	0	0
PAH (unspeciated)	1.94E-05	2.30E-08	5.31E-06	6.31E-09	5.31E-06	6.31E-09	5.31E-06	6.31E-09
Perchloroethylene	0	0	0	0	0	0	0	0
Phenanthrene	2.79E-05	3.31E-08	7.65E-06	9.10E-09	7.65E-06	9.10E-09	7.65E-06	9.10E-09
Phenol	0	0	0	0	0	0	0	0
Phosphoric acid	0	0	0	0	0	0	0	0
Phosphorous	0	0	0	0	0	0	0	0
Propylene glycol monomethyl ether	0	0	0	0	0	0	0	0
Propylene glycol monomethyl ether acetate	0	0	0	0	0	0	0	0
Pyrene	8.20E-06	9.73E-09	2.25E-06	2.68E-09	2.25E-06	2.68E-09	2.25E-06	2.68E-09
Sodium hydroxide	0	0	0	0	0	0	0	0
Strontium chromate	0	0	0	0	0	0	0	0
Sulfur dioxide	0.98	1.17E-03	0.27	3.21E-04	0.27	3.21E-04	0.27	3.21E-04
Sulfuric acid	0	0	0	0	0	0	0	0
Toluene	6.00E-02	7.12E-05	1.65E-02	1.96E-05	1.65E-02	1.96E-05	1.65E-02	1.96E-05
Trimethylbenzene, 1,2,4-	0	0	0	0	0	0	0	0
Xylenes	4.46E-02	5.29E-05	1.22E-02	1.46E-05	1.22E-02	1.46E-05	1.22E-02	1.46E-05
Zinc compounds	0	0	0	0	0	0	0	0

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Table 2 – Summary of Device Emission Summary

Listed substance	70005 Mist Eliminator Average Annual	70005 Mist Eliminator Maximum Hourly	70006 Passivation Line Average Annual	70006 Passivation Line Maximum Hourly	70007 Anodizing Line Average Annual	70007 Anodizing Line Maximum Hourly	70008 Spray Booth 1 Average Annual	70008 Spray Booth 1 Maximum Hourly
Acenaphthene	0	0	0	0	0	0	0	0
Acenaphthylene	0	0	0	0	0	0	0	0
Acetaldehyde	0	0	0	0	0	0	0	0
Acrolein	0	0	0	0	0	0	0	0
Aluminum	0	0	0	0	0	0	3.83E-04	2.95E-07
Ammonia	0	0	0	0	0	0	0	0
Anthracene	0	0	0	0	0	0	0	0
Antimony	0	0	0	0	0	0	7.99E-05	6.15E-08
Antimony trioxide	0	0	0	0	0	0	1.51E-03	1.16E-06
Barium	0	0	0	0	0	0	2.36E-04	1.82E-07
Barium chromate	0	0	0	0	0	0	2.09E-04	1.61E-07
Benzene	0	0	0	0	0	0	0	0
Benzo (a) anthracene	0	0	0	0	0	0	0	0
Benzo (a) pyrene	0	0	0	0	0	0	0	0
Benzo (b) fluoranthene	0	0	0	0	0	0	0	0
Benzo (g,h,i) perylene	0	0	0	0	0	0	0	0
Benzo (k) fluoranthene	0	0	0	0	0	0	0	0
Butyl alcohol, n-	0	0	0	0	0	0	0.77	5.90E-04
Butyl alcohol, sec	0	0	0	0	0	0	27.05	2.08E-02
Calcium chromate	0	0	0	0	0	0	0	0
Carbon black	0	0	0	0	0	0	7.79E-04	5.99E-07
Carbon monoxide	0	0	0	0	0	0	0	0
Chromium	6.75E-04	1.69E-06	0	0	2.31E-03	2.73E-06	0	0
Chromium trioxide	0	0	0	0	0	0	2.04E-04	1.57E-07
Chrysene	0	0	0	0	0	0	0	0
Cobalt	0	0	0	0	0	0	0	0
Cresol	0	0	0	0	0	0	9.96E-02	7.67E-05
Crystalline silica	0	0	0	0	0	0	5.57E-03	4.29E-06
Cumene	0	0	0	0	0	0	3.98E-02	3.06E-05
Dibenz (a,h) anthracene	0	0	0	0	0	0	0	0

Listed substance	70005 Mist Eliminator Average Annual	70005 Mist Eliminator Maximum Hourly	70006 Passivation Line Average Annual	70006 Passivation Line Maximum Hourly	70007 Anodizing Line Average Annual	70007 Anodizing Line Maximum Hourly	70008 Spray Booth 1 Average Annual	70008 Spray Booth 1 Maximum Hourly
Dichlorobenzene	0	0	0	0	0	0	0	0
Diethylene glycol monobutyl ether	0	0	7.06	8.06E-04	9.26	1.06E-03	4.42E-01	3.40E-04
Dimethyl formamide	0	0	0	0	0	0	0	0
Dimethylbenz(a)anthracene, 7,12-	0	0	0	0	0	0	0	0
Dioxane, 1,4-	0	0	0	0	0	0	1.03E-01	7.96E-05
Epoxy resin	0	0	0	0	0	0	1.12	8.59E-04
Ethylbenzene	0	0	0	0	0	0	1.33	1.02E-03
Ethylene dichloride	0	0	0	0	0	0	1.03E-01	7.96E-05
Ethylene glycol monobutyl ether	0	0	0	0	0	0	0.98	7.55E-04
Fluoranthene	0	0	0	0	0	0	0	0
Fluorene	0	0	0	0	0	0	0	0
Fluoride	0	0	6.46E-04	7.64E-07	0	0	0	0
Formaldehyde	0	0	0	0	0	0	3.24E-01	2.49E-04
Hexamethylene- 1,6 diisocyanate	0	0	0	0	0	0	1.01E-01	7.74E-05
Hexane, n-	0	0	0	0	0	0	0	0
Hexavalent chromium	6.75E-05	1.67E-07	2.87E-03	9.44E-05	7.99E-02	2.01E-04	0	0
Hydrochloric acid	0	0	4.29E-03	6.12E-07	0	0	0	0
Hydrogen fluoride	0	0	7.61E-03	9.01E-06	0	0	0	0
Indeno(1,2,3-cd)pyrene	0	0	0	0	0	0	0	0
Isopropyl alcohol	0	0	0	0	0	0	3.55	2.73E-03
Isopropylidenediphenol, 4,4-	0	0	0	0	0	0	5.65E-03	4.35E-06
Lead	0	0	0	0	0	0	1.71E-04	1.32E-07
Manganese	0	0	7.20E-03	8.52E-06	0	0	0	0
Methanol	0	0	0	0	0	0	0.79	6.11E-04
Methyl ethyl ketone	0	0	0	0	0	0	20.74	1.60E-02
Methyl isobutyl ketone	0	0	0	0	0	0	8.62	6.63E-03
Methylcholanthrene, 3-	0	0	0	0	0	0	0	0
Methylene diphenyl diisocyanate	0	0	0	0	0	0	1.69	1.30E-03
Methylenedianiline, 4,4'-	0	0	0	0	0	0	0	0
Methylnaphthalene,2-	0	0	0	0	0	0	0	0
Naphthalene	0	0	0	0	0	0	5.16E-03	3.97E-06

Listed substance	70005 Mist Eliminator Average Annual	70005 Mist Eliminator Maximum Hourly	70006 Passivation Line Average Annual	70006 Passivation Line Maximum Hourly	70007 Anodizing Line Average Annual	70007 Anodizing Line Maximum Hourly	70008 Spray Booth 1 Average Annual	70008 Spray Booth 1 Maximum Hourly
Nickel	0	0	0	0	3.71E-03	4.39E-06	1.93E-05	1.48E-08
PAH	0	0	0	0	0	0	7.17E-09	5.51E-12
PAH (unspeciated)	0	0	0	0	0	0	0	0
Perchloroethylene	0	0	0	0	0	0	1.41E-03	1.09E-06
Phenanthrene	0	0	0	0	0	0	0	0
Phenol	0	0	0	0	0	0	0.99	7.63E-04
Phosphoric acid	0	0	0	0	0	0	3.53	2.72E-03
Phosphorous	0	0	3.05E-02	3.61E-05	2.46E-02	2.92E-05	0	0
Propylene glycol monomethyl ether	0	0	0	0	0	0	4.25	3.27E-03
Propylene glycol monomethyl ether acetate	0	0	0	0	0	0	0.87	6.68E-04
Pyrene	0	0	0	0	0	0	0	0
Sodium hydroxide	0	0	1.79E-03	2.12E-06	6.50E-02	7.69E-05	0	0
Strontium chromate	0	0	0	0	0	0	1.44E-02	1.10E-05
Sulfur dioxide	0	0	0	0	0	0	0	0
Sulfuric acid	0	0	4.55	1.68E-02	94.14	1.13E-01	0.23	1.81E-04
Toluene	0	0	0	0	0	0	16.34	1.26E-02
Trimethylbenzene, 1,2,4-	0	0	0	0	0	0	0.25	1.89E-04
Xylenes	0	0	0	0	0	0	3.81	2.93E-03
Zinc compounds	0	0	0	0	0	0	2.14E-03	1.65E-06

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Table 2 – Summary of Device Emission Summary

Listed substance	70009 Spray Booth 2 Average Annual	70009 Spray Booth 2 Maximum Hourly	70010 Spray Booth 3 Average Annual	70010 Spray Booth 3 Maximum Hourly	70011 Spray Booth 4 Average Annual	70011 Spray Booth 4 Maximum Hourly	70012 Spray Booth 5 Average Annual	70012 Spray Booth 5 Maximum Hourly
Acenaphthene	0	0	0	0	0	0	0	0
Acenaphthylene	0	0	0	0	0	0	0	0
Acetaldehyde	0	0	0	0	0	0	0	0
Acrolein	0	0	0	0	0	0	0	0
Aluminum	7.78E-05	5.99E-08	2.90E-05	2.23E-08	0	0	0	0
Ammonia	0	0	0	0	0	0	0	0
Anthracene	0	0	0	0	0	0	0	0
Antimony	1.09E-04	8.35E-08	0	0	0	0	0	0
Antimony trioxide	1.00E-02	7.72E-06	6.62E-02	5.09E-05	2.58E-01	1.99E-04	0	0
Barium	0	0	0	0	0	0	0	0
Barium chromate	1.98E-04	1.53E-07	2.22E-05	1.71E-08	0	0	0	0
Benzene	0	0	0	0	0	0	0	0
Benzo (a) anthracene	0	0	0	0	0	0	0	0
Benzo (a) pyrene	0	0	0	0	0	0	0	0
Benzo (b) fluoranthene	0	0	0	0	0	0	0	0
Benzo (g,h,i) perylene	0	0	0	0	0	0	0	0
Benzo (k) fluoranthene	0	0	0	0	0	0	0	0
Butyl alcohol, n-	1.14	8.78E-04	2.69	2.07E-03	0.81	6.24E-04	0	0
Butyl alcohol, sec	10.15	7.81E-03	0.74	5.67E-04	3.31E-01	2.55E-04	0	0
Calcium chromate	0	0	1.05E-05	8.11E-09	0	0	0	0
Carbon black	1.41E-04	1.09E-07	2.88E-05	2.22E-08	3.45E-03	2.65E-06	0	0
Carbon monoxide	0	0	0	0	0	0	0	0
Chromium	0	0	0	0	0	0	0	0
Chromium trioxide	2.22E-04	1.71E-07	3.30E-03	2.54E-06	0	0	0	0
Chrysene	0	0	0	0	0	0	0	0
Cobalt	2.72E-06	2.09E-09	0	0	0	0	0	0
Cresol	1.97	1.51E-03	3.22	2.47E-03	0	0	0	0
Crystalline silica	1.20E-03	9.27E-07	5.23E-05	4.02E-08	8.69E-04	6.69E-07	0	0
Cumene	5.25E-02	4.04E-05	4.36E-03	3.35E-06	0	0	0	0
Dibenz (a,h) anthracene	0	0	0	0	0	0	0	0

Listed substance	70009 Spray Booth 2 Average Annual	70009 Spray Booth 2 Maximum Hourly	70010 Spray Booth 3 Average Annual	70010 Spray Booth 3 Maximum Hourly	70011 Spray Booth 4 Average Annual	70011 Spray Booth 4 Maximum Hourly	70012 Spray Booth 5 Average Annual	70012 Spray Booth 5 Maximum Hourly
Dichlorobenzene	0	0	0	0	0	0	0	0
Diethylene glycol monobutyl ether	1.42E-01	1.09E-04	0	0	6.17E-02	4.74E-05	0	0
Dimethyl formamide	0	0	4	2.86E-03	0	0	0	0
Dimethylbenz(a)anthracene, 7,12-	0	0	0	0	0	0	0	0
Dioxane, 1,4-	2.07E-01	1.59E-04	0	0	3.69E-01	2.84E-04	0	0
Epoxy resin	2.78	2.14E-03	12.48	9.60E-03	6.37	4.90E-03	0	0
Ethylbenzene	1.57	1.21E-03	3.34	2.57E-03	1.35	1.04E-03	0	0
Ethylene dichloride	0.21	1.59E-04	0	0	3.69E-01	2.84E-04	0	0
Ethylene glycol monobutyl ether	1.37	1.06E-03	20.90	1.61E-02	1.41	1.09E-03	0	0
Fluoranthene	0	0	0	0	0	0	0	0
Fluorene	0	0	0	0	0	0	0	0
Fluoride	0	0	0	0	0	0	0	0
Formaldehyde	2.78E-01	2.14E-04	9.01E-02	6.93E-05	0.61	4.73E-04	0	0
Hexamethylene- 1,6 diisocyanate	8.17E-03	6.29E-06	0	0	1.96E-02	1.51E-05	0	0
Hexane, n-	0	0	0	0	0	0	0	0
Hexavalent chromium	9.21E-05	7.08E-08	0	0	0	0	0	0
Hydrochloric acid	0	0	0	0	0	0	0	0
Hydrogen fluoride	0	0	0	0	0	0	0	0
Indeno(1,2,3-cd)pyrene	0	0	0	0	0	0	0	0
Isopropyl alcohol	15.84	1.22E-02	77.21	5.94E-02	22.81	1.75E-02	0	0
Isopropylidenediphenol, 4,4-	7.35E-03	5.65E-06	0	0	0	0	0	0
Lead	1.66E-03	1.27E-06	3.47E-03	2.67E-06	0	0	0	0
Manganese	0	0	0	0	0	0	0	0
Methanol	1.53	1.18E-03	45.63	3.51E-02	8.12	6.24E-03	0	0
Methyl ethyl ketone	18.52	1.42E-02	232.50	1.79E-01	30.53	2.35E-02	0	0
Methyl isobutyl ketone	16.11	1.24E-02	64.99	5.00E-02	9.61	7.39E-03	0	0
Methylcholanthrene, 3-	0	0	0	0	0	0	0	0
Methylene diphenyl diisocyanate	2.37	1.82E-03	0.02	1.71E-05	0	0	0	0
Methylenedianiline, 4,4'-	0	0	0.23	1.77E-04	0	0	0	0
Methylnaphthalene,2-	0	0	0	0	0	0	0	0
Naphthalene	0	0	0	0	0	0	0	0

Listed substance	70009 Spray Booth 2 Average Annual	70009 Spray Booth 2 Maximum Hourly	70010 Spray Booth 3 Average Annual	70010 Spray Booth 3 Maximum Hourly	70011 Spray Booth 4 Average Annual	70011 Spray Booth 4 Maximum Hourly	70012 Spray Booth 5 Average Annual	70012 Spray Booth 5 Maximum Hourly
Nickel	2.62E-05	2.01E-08	0	0	0	0	0	0
PAH	1.30E-09	9.99E-13	2.65E-10	2.04E-13	3.17E-08	2.44E-11	0	0
PAH (unspeciated)	0	0	0	0	0	0	0	0
Perchloroethylene	9.52E-04	7.33E-07	0	0	0	0	0	0
Phenanthrene	0	0	0	0	0	0	0	0
Phenol	3.53	2.71E-03	48.83	3.76E-02	8.13	6.25E-03	0	0
Phosphoric acid	3.12	2.40E-03	52.62	4.05E-02	0	0	0	0
Phosphorous	0	0	0	0	0	0	0	0
Propylene glycol monomethyl ether	4.33	3.33E-03	1.92E-01	1.48E-04	1.92	1.48E-03	0	0
Propylene glycol monomethyl ether acetate	2.16E-01	1.66E-04	1.63	1.25E-03	1.59	1.22E-03	0	0
Pyrene	0	0	0	0	0	0	0	0
Sodium hydroxide	0	0	0	0	0	0	0	0
Strontium chromate	1.12E-02	8.64E-06	1.75E-03	1.35E-06	0	0	0	0
Sulfur dioxide	0	0	0	0	0	0	0	0
Sulfuric acid	0.38	2.92E-04	8.19	6.30E-03	0	0	0	0
Toluene	42.26	3.25E-02	292.84	2.25E-01	77.12	5.93E-02	0	0
Trimethylbenzene, 1,2,4-	0.27	2.09E-04	1.58E-02	1.22E-05	0.88	6.78E-04	0	0
Xylenes	1.48	1.14E-03	3.37	2.59E-03	5.19	3.99E-03	0	0
Zinc compounds	2.05E-03	1.58E-06	2.50E-02	1.92E-05	0	0	0	0

Table 2 – Summary of Device Emission Summary

	70013 Spray Booth 6	
Listed substance	**Average Annual**	**Maximum Hourly**
Acenaphthene	0	0
Acenaphthylene	0	0
Acetaldehyde	0	0
Acrolein	0	0
Aluminum	0	0
Ammonia	0	0
Anthracene	0	0
Antimony	0	0
Antimony trioxide	1.87E-01	1.44E-04
Barium	0	0
Barium chromate	0	0
Benzene	0	0
Benzo (a) anthracene	0	0
Benzo (a) pyrene	0	0
Benzo (b) fluoranthene	0	0
Benzo (g,h,i) perylene	0	0
Benzo (k) fluoranthene	0	0
Butyl alcohol, n-	1.77E-01	1.36E-04
Butyl alcohol, sec	0	0
Calcium chromate	0	0
Carbon black	3.04E-04	2.34E-07
Carbon monoxide	0	0
Chromium	0	0
Chromium trioxide	0	0
Chrysene	0	0
Cobalt	0	0
Cresol	0	0
Crystalline silica	0	0
Cumene	0	0
Dibenz (a,h) anthracene	0	0

	70013 Spray Booth 6	
Listed substance	Average Annual	Maximum Hourly
Dichlorobenzene	0	0
Diethylene glycol monobutyl ether	1.12E-02	8.61E-06
Dimethyl formamide	0	0
Dimethylbenz(a)anthracene, 7,12-	0	0
Dioxane, 1,4-	4.06E-02	3.13E-05
Epoxy resin	4.38	3.37E-03
Ethylbenzene	8.48E-02	6.52E-05
Ethylene dichloride	4.06E-02	3.13E-05
Ethylene glycol monobutyl ether	0.60	4.61E-04
Fluoranthene	0	0
Fluorene	0	0
Fluoride	0	0
Formaldehyde	4.78E-02	3.68E-05
Hexamethylene- 1,6 diisocyanate	0	0
Hexane, n-	0	0
Hexavalent chromium	0	0
Hydrochloric acid	0	0
Hydrogen fluoride	0	0
Indeno(1,2,3-cd)pyrene	0	0
Isopropyl alcohol	8.91	6.85E-03
Isopropylidenediphenol, 4,4-	0	0
Lead	0	0
Manganese	0	0
Methanol	3.54	2.72E-03
Methyl ethyl ketone	16.98	1.31E-02
Methyl isobutyl ketone	4.02	3.09E-03
Methylcholanthrene, 3-	0	0
Methylene diphenyl diisocyanate	0	0
Methylenedianiline, 4,4'-	0	0
Methylnaphthalene,2-	0	0
Naphthalene	0	0

Listed substance	70013 Spray Booth 6 Average Annual	70013 Spray Booth 6 Maximum Hourly
Nickel	0	0
PAH	2.80E-09	2.15E-12
PAH (unspeciated)	0	0
Perchloroethylene	0	0
Phenanthrene	0	0
Phenol	3.54	2.72E-03
Phosphoric acid	0	0
Phosphorous	0	0
Propylene glycol monomethyl ether	2.17E-01	1.67E-04
Propylene glycol monomethyl ether acetate	0.79	6.09E-04
Pyrene	0	0
Sodium hydroxide	0	0
Strontium chromate	0	0
Sulfur dioxide	0	0
Sulfuric acid	0	0
Toluene	25.74	1.98E-02
Trimethylbenzene, 1,2,4-	0.03	2.38E-05
Xylenes	0.27	2.08E-04
Zinc compounds	0	0

Table 3 - Facility Emission Summary

Listed substance	CAS/CARB Number	Average Annual, lbs/hr	Maximum Hourly, lbs/hr	Average Annual, g/sec	Maximum Hourly, g/sec
Acenaphthene	83329	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Acenaphthylene	208968	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Acetaldehyde	75070	1.29E-02	1.53E-05	1.85E-07	1.92E-06
Acrolein	107028	8.07E-03	9.59E-06	1.16E-07	1.21E-06
Aluminum	7429905	4.90E-04	3.77E-07	7.05E-09	4.75E-08
Ammonia	7664417	9.57	1.14E-02	1.38E-04	1.43E-03
Anthracene	120127	7.18E-06	8.52E-09	1.03E-10	1.07E-09
Antimony	7440360	1.89E-04	1.45E-07	2.71E-09	1.83E-08
Antimony trioxide	1309644	0.52	4.02E-04	7.52E-06	5.07E-05
Barium	7440393	2.36E-04	1.82E-07	3.40E-09	2.29E-08
Barium chromate	10294403	4.29E-04	3.30E-07	6.18E-09	4.16E-08
Benzene	71432	2.39E-02	2.84E-05	3.44E-07	3.58E-06
Benzo (a) anthracene	56553	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Benzo (a) pyrene	50328	3.59E-06	4.26E-09	5.16E-11	5.37E-10
Benzo (b) fluoranthene	205992	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Benzo (g,h,i) perylene	191242	3.59E-06	4.26E-09	5.16E-11	5.37E-10
Benzo (k) fluoranthene	207089	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Butyl alcohol, n-	71363	5.59	4.30E-03	8.04E-05	5.42E-04
Butyl alcohol, sec	78922	38.26	0.03	5.50E-04	3.71E-03
Calcium chromate	13765190	1.05E-05	8.11E-09	1.52E-10	1.02E-09
Carbon black	1050	4.70E-03	3.62E-06	6.76E-08	4.56E-07
Carbon monoxide	630080	104.65	0.12	1.51E-03	1.57E-02
Chromium	7440473	2.99E-03	4.43E-06	4.29E-08	5.58E-07
Chromium trioxide	1333820	3.73E-03	2.87E-06	5.37E-08	3.62E-07
Chrysene	218019	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Cobalt	7440484	2.72E-06	2.09E-09	3.91E-11	2.64E-10
Cresol	1319773	5.28	4.06E-03	7.60E-05	5.12E-04
Crystalline silica	1175	7.70E-03	5.92E-06	1.11E-07	7.46E-07
Cumene	98828	0.10	7.43E-05	1.39E-06	9.37E-06
Dibenz (a,h) anthracene	53703	3.59E-06	4.26E-09	5.16E-11	5.37E-10
Dichlorobenzene	106467	3.59E-03	4.26E-06	5.16E-08	5.37E-07
Diethylene glycol monobutyl ether	112345	16.98	2.37E-03	2.44E-04	2.98E-04

Listed substance	CAS/CARB Number	Average Annual, lbs/hr	Maximum Hourly, lbs/hr	Average Annual, g/sec	Maximum Hourly, g/sec
Dimethyl formamide	68122	3.72	2.86E-03	5.34E-05	3.60E-04
Dimethylbenz(a)anthracene, 7,12-	57976	4.78E-05	5.68E-08	6.88E-10	7.16E-09
Dioxane, 1,4-	123911	0.72	5.54E-04	1.04E-05	6.98E-05
Epoxy resin	1091	27.12	0.02	3.90E-04	2.63E-03
Ethylbenzene	100414	7.70	0.01	1.11E-04	7.47E-04
Ethylene dichloride	107062	0.72	5.54E-04	1.04E-05	6.98E-05
Ethylene glycol monobutyl ether	111762	25.27	0.02	3.63E-04	2.45E-03
Fluoranthene	206440	8.97E-06	1.07E-08	1.29E-10	1.34E-09
Fluorene	86737	8.37E-06	9.94E-09	1.20E-10	1.25E-09
Fluoride	1101	6.46E-04	7.64E-07	9.29E-09	9.63E-08
Formaldehyde	50000	1.41	1.10E-03	2.02E-05	1.39E-04
Hexamethylene- 1,6 diisocyanate	822060	0.13	9.88E-05	1.85E-06	1.24E-05
Hexane, n-	110543	0.02	2.24E-05	2.71E-07	2.82E-06
Hexavalent chromium	18540299	0.08	2.96E-04	1.19E-06	3.73E-05
Hydrochloric acid	7647010	4.29E-03	6.12E-07	6.18E-08	7.71E-08
Hydrogen fluoride	7664393	7.61E-03	9.01E-06	1.10E-07	1.14E-06
Indeno(1,2,3-cd)pyrene	193395	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Isopropyl alcohol	67630	128.32	0.10	1.85E-03	1.24E-02
Isopropylidenediphenol, 4,4-	80057	1.30E-02	1.00E-05	1.87E-07	1.26E-06
Lead	7439921	5.30E-03	4.07E-06	7.62E-08	5.13E-07
Manganese	7439965	7.20E-03	8.52E-06	1.04E-07	1.07E-06
Methanol	67561	59.61	0.05	8.57E-04	5.78E-03
Methyl ethyl ketone	78933	319.27	0.25	4.59E-03	3.09E-02
Methyl isobutyl ketone	108101	103.34	0.08	1.49E-03	1.00E-02
Methylcholanthrene, 3-	56495	5.38E-06	6.39E-09	7.74E-11	8.05E-10
Methylene diphenyl diisocyanate	101688	4.08	3.14E-03	5.87E-05	3.96E-04
Methylenedianiline, 4,4'-	101779	0.23	1.77E-04	3.31E-06	2.23E-05
Methylnaphthalene,2-	91576	7.18E-05	8.52E-08	1.03E-09	1.07E-08
Naphthalene	91203	6.05E-03	5.03E-06	8.71E-08	6.34E-07
Nickel	7440020	3.76E-03	4.43E-06	5.40E-08	5.58E-07
PAH	1151	4.33E-08	3.33E-11	6.22E-13	4.19E-12
PAH (unspeciated)	1150	3.53E-05	4.19E-08	5.07E-10	5.28E-09
Perchloroethylene	127184	2.37E-03	1.82E-06	3.40E-08	2.29E-07

Listed substance	CAS/CARB Number	Average Annual, lbs/hr	Maximum Hourly, lbs/hr	Average Annual, g/sec	Maximum Hourly, g/sec
Phenanthrene	85018	5.08E-05	6.04E-08	7.31E-10	7.61E-09
Phenol	108952	65.01	0.05	9.35E-04	6.30E-03
Phosphoric acid	7664382	59.27	4.56E-02	8.53E-04	5.74E-03
Phosphorous	7723140	0.06	6.52E-05	7.93E-07	8.22E-06
Propylene glycol monomethyl ether	107982	10.91	0.01	1.57E-04	1.06E-03
Propylene glycol monomethyl ether acetate	108656	5.10	3.92E-03	7.33E-05	4.94E-04
Pyrene	129000	1.50E-05	1.78E-08	2.15E-10	2.24E-09
Sodium hydroxide	1310732	0.07	7.90E-05	9.60E-07	9.95E-06
Strontium chromate	7789062	0.03	2.10E-05	3.93E-07	2.65E-06
Sulfur dioxide	7446095	1.79	2.13E-03	2.58E-05	2.68E-04
Sulfuric acid	7664939	107.49	0.14	1.55E-03	1.73E-02
Toluene	108883	454.40	0.35	6.54E-03	4.40E-02
Trimethylbenzene, 1,2,4-	95636	1.45	1.11E-03	2.08E-05	1.40E-04
Xylenes	1330207	14.20	0.01	2.04E-04	1.38E-03
Zinc compounds	7440666	0.03	2.25E-05	4.20E-07	2.83E-06

Appendix F – HARP2 Electronic Files (electronic submission only)