

# Appendix C

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*Health Risk Assessment*



City of Goleta

# Heritage Ridge Residential Project

## Health Risk Assessment

January 2016



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**Heritage Ridge  
Residential Project**

**Health Risk Assessment**

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*January 2016*

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# HEALTH RISK ASSESSMENT

## Heritage Ridge Residential Project

### City of Goleta

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# HEALTH RISK ASSESSMENT

## Heritage Ridge Residential Project

### City of Goleta

This health risk assessment analyzes the possible health effects associated with existing air pollution sources at the proposed Heritage Ridge Residential Project (the “Project”) in Goleta, CA. The report has been prepared under contract to the City of Goleta, and is intended to be used as information in the decision making process regarding land use permits for this site and for environmental documentation under the California Environmental Quality Act.

## SUMMARY

The Project involves 360 residential units (132 senior housing units and 228 workforce homes) and associated amenities on a 17.36 acre property within the Inland Area of the City of Goleta (City). The Project site has a City General Plan/Coastal Land Use Plan (GP/CLUP) land use designation of Medium-Density Residential (R-MD) and a corresponding zoning of Design Residential (DR-20). The Project site is located along the south side of U.S. Highway 101 (U.S. 101) and the Union Pacific Railroad (UPRR) and the California Air Resources Board (CARB) currently recommends that local agencies avoid siting new sensitive land uses within 500 feet of a freeway (CARB, *Air Quality and Land Use Handbook*, April 2005). In addition, nearby businesses may emit additional hazardous air pollutants. These emissions are not expected to individually cause a risk, but may result in a cumulative risk to proposed on-site residential units when considered in combination with the TACs associated with the freeway and railroad operations. Based on these nearby emissions sources, the primary concern is the effect of diesel exhaust particulates, a toxic air contaminant, on sensitive uses. The primary sources of diesel exhaust particulates are heavy-duty trucks traveling on U.S. 101 and locomotives traveling along the UPRR rail line. This analysis also examined five other vehicle exhaust pollutants of concern that are emitted from both diesel and gasoline-fueled vehicles: acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene.

Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance, typically over a specific exposure duration, such as the average residency (50-percentile) of 9 years or high-end residency (95-percentile) of 30 years. For example, a cancer risk of one in one million means that in a population of one million people, not more than one additional person would be expected to develop cancer as the result of the exposure to the substance causing that risk.

An analysis using the U.S. Environmental Protection Agency’s (USEPA) AERMOD dispersion model and CARB Hotspots Analysis and Reporting Program (HARP) risk analysis tool determined that the proposed residential units on the Project site would be exposed to a high end (95-percentile) 30-year excess cancer risk of between 42 and 59 in one million, which exceeds the Santa Barbara County Air Pollution Control District (SBCAPCD) recommended health risk criteria of ten excess cases of cancer in one million individuals (1.0E-05) (SBCAPCD, August 2015). Thirty years is the exposure duration scenario recommended by the SBCAPCD in the *Modeling Guidelines for Health Risk Assessments* (August 2015). The health effects risk level for the average (50-percentile) residency of 9 years for an adult would be between 12 and 18 in one million, and for that of a child (9-years) would be between 18 and 26 in one million. Both of which also exceed the SBCAPCD health risk criteria. This analysis is based on outdoor air concentrations and assumes that interior concentrations would be the same, for a conservative analysis.



Potential acute and chronic health risks for on-site residential units were also determined to be lower than SBCAPCD health risk criteria.

USEPA activity factors show that people in a residential environment spend only a small portion of the day on an average basis outdoors. Therefore, a mitigation measure is recommended that includes forced air ventilation with filter screens with a MERV 13 rating on outside air intake ducts to be provided for all residential units on the Project site. MERV 13 filter screens are capable of removing at least 90% of the particulate matter including fine particulate matter. This would provide a clean interior environment and reduce the future residents' exposure to toxic air contaminants associated with U.S. 101 and the UPRR to below the ten in one million level for the average (50<sup>th</sup> percentile) residency of 9 years for an adult and child and the high-end estimate for residency time (95<sup>th</sup> percentile) of 30 years, which is the exposure duration recommended by SBCAPCD for HRAs.

## **PROJECT SITE AND DESCRIPTION**

The Project site is currently vacant and lies north of Camino Vista Road and east of S. Los Carneros Road within the City of Goleta, in Santa Barbara County. The site is comprised of lots 1 through 13 of Tract No. 13646 in the City of Goleta, California, as per map recorded in book 150, pages 92 through 98 in the Office of the County Recorder of Santa Barbara County. These lots are also identified with assessor's parcel numbers (APN) 073-060-031 through -043. The Project site is bounded on its north by the Union Pacific Railroad (approximately 50 feet north of the Project site) and U.S. 101 (approximately 250 feet north of the Project site), on its east by existing business park development, to the west by a vacant site, and on its south by Camino Vista and residential uses.

The Project would develop the site with 360 residential units (132 senior housing units and 228 workforce homes) and associated amenities on a 17.36 acre property in the City of Goleta. The nearest habitable unit would be approximately 280 feet south of U.S. 101 and approximately 80 feet south of the UPRR.

## **AIR QUALITY BACKGROUND**

### **Local Climate and Meteorology**

The Project area is located within the South Central Coast Air Basin (SCCAB) which includes all of San Luis Obispo, Santa Barbara, and Ventura counties. The climate of the SCCAB is strongly influenced by its proximity to the Pacific Ocean and the location of the semi-permanent high-pressure cell in the northeastern Pacific. With a Mediterranean-type climate, the Project area is characterized by warm, dry summers and cool winters with occasional rainy periods. Annual precipitation averages 16 inches, with most rainfall between November and March. Average monthly temperatures range from a high of 79 degrees Fahrenheit (°F) in August to a low of 40°F in December.

Air pollutant emissions within the SCCAB are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or





off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles.

### **Air Pollutants of Concern**

The Santa Barbara Air Pollution Control District (SBCAPCD) monitors air pollutant levels to assure that air quality standards are met, and if they are not met, to also develop strategies to meet the standards. The primary air pollutants of concern in Santa Barbara County include:

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO<sub>x</sub>) and reactive organic compounds (ROC)<sup>1</sup>. Nitrogen oxides are formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it occurs in serious concentrations primarily between the months of May and October. Ozone is a pungent, colorless toxic gas with direct health effects on humans, including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

Suspended Particulates. PM<sub>10</sub> is small particulate matter measuring no more than 10 microns in diameter, while PM<sub>2.5</sub> is fine particulate matter measuring no more than 2.5 microns in diameter. Both PM<sub>10</sub> and PM<sub>2.5</sub> are comprised mostly of dust particles, nitrates, and sulfates. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates (PM<sub>2.5</sub>) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. PM<sub>10</sub> is a by-product of fuel combustion and wind erosion of soil and unpaved roads, and is directly emitted into the atmosphere through these processes. PM<sub>10</sub> is also created in the atmosphere through chemical reactions. Fine particulate matter poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the fine particulate matter that is inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

An important fraction of the particulate matter emission inventory is that formed by diesel engine fuel combustion. Particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The California Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health, and the associated scientific uncertainties (California EPA, ARB, April 1998). Based on the available scientific evidence, it was determined that a level of diesel PM exposure below which no carcinogenic effects are anticipated has not been identified. The Scientific Review Panel that approved the OEHHA report determined that based on studies to date that  $3 \times 10^{-4} (\mu\text{g}/\text{m}^3)^{-1}$  is a reasonable estimate of the unit risk for diesel PM. This means that a person exposed to a diesel PM concentration of  $1 \mu\text{g}/\text{m}^3$  continuously over the course of a lifetime has a 3 per 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. Based on an estimated Year 2000 statewide average concentration of  $1.26 \mu\text{g}/\text{m}^3$  for indoor and outdoor ambient air, about 380 excess cancers per one million population could be expected if

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<sup>1</sup> Reactive organic compounds (ROC) are sometimes referred to as reactive organic gases (ROG)



diesel PM concentrations remained the same (CARB, October 2000). Therefore, these particulate emissions have been determined by CARB to be a toxic air contaminant (TAC).

Compared to other air toxics CARB has identified and controlled, diesel PM emissions are estimated to be responsible for about 70% of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures (“hot-spots”). Depending on the activity and nearness to receptors, these potential risks can range from small to 1,500 per million or more (CARB, October 2000). Risk characterization scenarios have been conducted by the ARB staff to determine the potential excess cancer risks involved due to the location of individuals near to various sources of diesel engine emissions, ranging from school buses to high volume freeways. The purpose of the risk characterization was to estimate, through air dispersion modeling, the cancer risk associated with typical diesel-fueled engine or vehicle activities based on modeled PM concentration at the point of maximum impact (PMI). The study included various sources of diesel PM emissions, including idling school buses, truck stops, low and high volume freeways, and other sources. High volume freeways were estimated to cause 800-1,700 per million potential excess cancers, while low volume freeways (similar to U.S. 101 at the site) were estimated to cause about 100 – 200 per million potential excess cancers. Please see further discussion concerning risk levels below in the Analysis Methodology section.

Besides diesel PM, several other pollutants are emitted by vehicle exhausts that are a public health concern. The USEPA has identified six pollutants of highest priority: diesel particulate matter (DPM), acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are part of the total organic gases emitted by vehicles both diesel and gasoline fueled. The following is a brief description of these chemicals:

- Acrolein. Acrolein is the simplest unsaturated aldehyde. It is a widely produced substance with a piercing, disagreeable, acrid smell similar to that of burning fat. Acrolein is an unstable toxic substance that can burn the nose and throat and is a severe pulmonary irritant. It is a flammable and poisonous substance prepared industrially by the oxidation of propene. Small amounts of acrolein are formed and enter the air when trees, tobacco, other plants, gasoline, and oil are burned.
- Acetaldehyde. Acetaldehyde, sometimes known as ethanal, is an organic chemical compound used as an intermediate in the production of acetic acid, certain esters, and a number of other chemicals. It is a flammable liquid with a fruity smell. Acetaldehyde is toxic when applied externally for prolonged periods, an irritant, and a probable carcinogen.
- Formaldehyde. Formaldehyde is an organic chemical compound containing a terminal carbonyl group. It is produced in the atmosphere by the action of sunlight and oxygen on atmospheric methane and other hydrocarbons; thus, it becomes part of smog. Additionally, formaldehyde is an intermediate in the oxidation (or combustion) of methane as well as other carbon compounds including automobile exhaust. Formaldehyde is a flammable substance that can be toxic, allergenic, and a carcinogen. It is naturally made in small amounts in human bodies and is found in small amounts in household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.
- Benzene. Benzene, or benzol, is an organic chemical compound and a known carcinogen. It is a colorless and highly flammable liquid with a sweet smell and a relatively high melting point. Benzene is an important industrial solvent and precursor in the production of drugs, plastics,



synthetic rubber, and dyes. Benzene is a natural constituent of crude oil, and may be synthesized from other compounds present in petroleum, and is found in gasoline, and cigarette smoke. Natural sources of benzene include emissions from volcanoes and forest fires.

- **1,3-Butadiene.** 1,3-Butadiene is an important industrial chemical used in the production of synthetic rubber (about 75% of the manufactured 1,3-butadiene), which is then used primarily in the production of automobile tires. It is a colorless gas with a mild gasoline-like odor and small amounts are contained in gasoline and exhausted into the air after the combustion process. It is a carcinogen and highly irritative and flammable.

## **AIR QUALITY REGULATION**

The federal and state governments have established ambient air quality standards for the protection of public health. The USEPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in the California Environmental Protection Agency. County-level Air Pollution Control Districts (APCDs) provide local management of air quality. The ARB has established air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 15 air basins statewide.

The USEPA has set primary national ambient air quality standards (NAAQS) for ozone, CO, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub>, PM<sub>2.5</sub>, and lead (Pb). Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. In addition, the State of California has established health-based ambient air quality standards for these and other pollutants, some of which are more stringent than the federal standards. Table 1 lists the current federal and state standards for regulated pollutants.

Goleta is located in the Santa Barbara County portion of the Air Basin. The SBCAPCD is the designated air quality control agency in the Air Basin. Santa Barbara County is classified as being in “attainment” or as “non-attainment.” Santa Barbara County is in non-attainment for the state eight-hour ozone standard and the state standard for PM<sub>10</sub>. The County is unclassified for the state PM<sub>2.5</sub> standard and the federal PM<sub>10</sub> standard. The County is in attainment for all other standards.

Non-attainment status within Santa Barbara County is a result of several factors, primarily the natural meteorological conditions that limit the dispersion and diffusion of pollutants (surface and subsidence inversions), the limited capacity of the local airshed to eliminate pollutants from the air, and the number, type, and density of emission sources within the air basin. The potential health effects of pollutants for which the County is in nonattainment are described above.

## **CURRENT AIR QUALITY**

The SCCAB monitoring station located nearest to the Project site is the Goleta-Fairview station, located at 380 N. Fairview Avenue in Goleta. Table 2 indicates the number of days each of the standards has been exceeded at this station in each of the last three years for which data is available.



**Table 1**  
**Current Federal and State Ambient Air Quality Standards**

Pollutant	Federal Standard	California Standard
Ozone	0.070 ppm (8-hr avg)	0.07 ppm (8-hr avg) 0.09 ppm (1-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.100 ppm (1-hr avg) 0.053 ppm (annual avg)	0.18 ppm (1-hr avg) 0.030 ppm (annual avg)
Sulfur Dioxide	0.075 ppm (1-hr avg)	0.25 ppm (1-hr avg) 0.04 ppm (24-hr avg)
Lead	1.5 µg/m <sup>3</sup> (calendar quarter)	0.15 µg/m <sup>3</sup> (3-month avg)
Particulate Matter (PM <sub>10</sub> )	150 µg/m <sup>3</sup> (24-hr avg)	20 µg/m <sup>3</sup> (annual avg) 50 µg/m <sup>3</sup> (24-hr avg)
Particulate Matter (PM <sub>2.5</sub> )	12 µg/m <sup>3</sup> (annual avg) 35 µg/m <sup>3</sup> (24-hr avg)	12 µg/m <sup>3</sup> (annual avg)

ppm= parts per million

µg/m<sup>3</sup> = micrograms per cubic meter

Sources: California Air Resources Board, October 1, 2015. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>; EPA Particulate Matter (PM) Regulatory Actions, October 26, 2015. <http://www.epa.gov/pm/actions.html>.

**Table 2**  
**Ambient Air Quality Data**

Pollutant	2012	2013	2014
Ozone, ppm - Worst Hour	0.065	0.075	0.096
Number of days of State exceedances (>0.09 ppm)	0	0	1
Ozone, ppm – Worst 8 Hours	0.056	0.065	0.081
Number of days of State exceedances (>0.07 ppm)	0	0	3
Number of days of Federal exceedances (>0.075 ppm)	0	0	2
Carbon Monoxide, ppm - Worst 8 Hours	0.65	*	*
Number of days of State/Federal exceedances (>9.0 ppm)	0	0	0
Nitrogen Dioxide, ppm - Worst Hour	0.041	0.013	0.038
Number of days of State exceedances (>0.18 ppm)	0	0	0
Particulate Matter <10 microns, µg/m <sup>3</sup> Worst 24 Hours	48.0	44.0	45.3
Number of samples of State exceedances (>50 µg/m <sup>3</sup> )	0	0	0
Number of samples of Federal exceedances (>150 µg/m <sup>3</sup> )	0	0	0
Particulate Matter <2.5 microns, µg/m <sup>3</sup> Worst 24 Hours	29.0	20.5	24.3
Number of days Federal exceedances	*	*	0

\* There was insufficient (or no) data available to determine the value.

Source: ARB Air Quality Data Statistics, Goleta-Fairview Station. Top four Summary. Accessed November 2015. Retrieved from: <http://www.arb.ca.gov/adam/topfour/topfour1.php>



## ANALYSIS METHODOLOGY

Mobile source air toxics emissions associated with vehicle traffic on U.S. 101 and the UPRR were estimated based on the methodology developed by the UC Davis-Caltrans Air Quality Project *Estimating Mobile Source Air Toxics Emissions: A Step-By-Step Project Analysis Methodology* (December 2006). This spreadsheet application was designed to generate the total amount of the above six pollutants of concern based on EMFAC2014 total organic gases (TOG) emission factors, particulate emission factors from EMFAC2014, and speciation from USEPA Motor Vehicle Emission Simulator (MOVES2014a). These emission factors are then multiplied against traffic volumes for the segments of concern to obtain total emissions from U.S. 101, which for this study, were based on grams per mile. Emissions from the UPRR are estimated based on freight train volumes from the Westar Mixed-Use Village Project Final EIR (located approximately one mile west of the Project site) (October, 2011) and passenger train volumes from the Amtrak Surfliner schedule (accessed November 2015), emission factors from the Southern California International Gateway Project Final EIR (May 2013; Appendix C1), and speciation factors from the Eastern Research Group, *Documentation for Locomotive Component of the National Emissions Inventory Methodology* (May 2011). Spreadsheet outputs adapted from the UC Davis-Caltrans MSAT model and composite emission rates, as well as estimated emissions from the UPRR and nearby businesses that are known to emit hazardous air pollutants are contained in the Appendix to this report.

For highway emissions, emission factors were reviewed for 60 and 65 miles per hour, and 65 miles per hour was determined to be the worst reasonable case speed (i.e., highest emission levels); therefore emissions were based on an average speed of 65 miles per hour as a conservative approach. Traffic volumes for U.S. 101 were obtained from Caltrans *2014 Annual Average Daily Traffic Volumes*. According to the Caltrans traffic data (2014) for U.S. 101, the Annual Average Daily Traffic (AADT) volume at South Los Carneros Road (immediately east of the Project site) is 65,800 vehicles. Truck traffic (3 axles or greater) is estimated to comprise 9% of the AADT based on Caltrans *2014 Annual Average Daily Truck Traffic*. The estimate of current truck travel is based on verified counts made by Caltrans in 2014 at other nearby post miles. The nearest verified counts of truck travel was made in 2014 at the junction of State Route 225, approximately seven miles east of the Project site.

Up to 12 freight trains and up to nine passenger trains would pass the Project site along the UPRR corridor per day. UPRR locomotive emissions were based on per-train emission factors from the Eastern Research Group's *Documentation for Locomotive Component of the National Emissions Inventory Methodology* (May 2011).

In addition, nearby businesses may emit additional hazardous air pollutants. These emissions are not expected to individually cause a risk; however, these emissions could result in a cumulative risk to proposed on-site residential units when considered in combination with the TACs associated with the freeway and railroad operations. SBCAPCD was contacted for a list of permitted businesses within 2,000 feet of the Project site boundary. The available emissions and location information – excluding businesses for which emissions data was not collected or was otherwise unavailable from SBCAPCD – were included in the local emissions estimate.

The AMS/EPA air dispersion model, AERMOD was utilized to calculate the concentrations of source emissions at receptor locations. Specific meteorology and terrain for the site was input to the model using the nearest available meteorological data set at the Santa Barbara Airport. U.S. 101 and UPRR vary in elevation between approximately 35 feet and 45 feet msl along the length of the approximately 1-mile segment. The nearest receptors on the Project site are located at an elevation of approximately 38



feet. These differences in topography are considered by the dispersion model. The freeway and rail line were each modeled as a series of volume sources in AERMOD. AERMOD provides X/Q ( $CHI/Q = \text{chi}/q = \chi/q$ ) values, which is the concentration estimated by the air quality model based on an emission rate of one gram per second.

For risk assessments conducted under the Air Toxics “Hot Spots” Information and Assessment Act (AB 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.) a weighting factor that reflects early life exposure is applied to all carcinogens regardless of purported mechanism of action. However, for this assessment, the HRA relied upon USEPA guidance, *Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens*, relating to the use of early life exposure adjustment factors (2005) whereby adjustment factors are only considered when carcinogens act “through the mutagenic mode of action.” The USEPA has identified 19 compounds that elicit a mutagenic mode of action for carcinogenesis. None of the gaseous compounds considered in the HRA elicit a mutagenic mode of action; therefore, early life exposure adjustments were not considered in this analysis. For diesel particulates, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise less than 1% of the exhaust particulate mass. To date, the USEPA reports that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action. Therefore, HARP On-Ramp was used to import air dispersion data from AERMOD into the HARP (ver. 1.4f) program for risk analysis because the risk calculation the model performs does not include the weighting factor that reflects early life exposure adjustments. HARP 2 incorporates the early life exposure adjustments presented in OEHHA’s 2015 *Air Toxics Hotspots Program Guidance Manual for Preparation of Health Risk Assessments* and, therefore, was not appropriate for calculating risk for this HRA.

HARP uses the X/Q values to estimate actual concentration by multiplying this value against the emission rate in grams per second. The carcinogenic health risk is then calculated by the HARP model based on the emission concentration at each sensitive or grid receptor using the toxicity data contained in the HARP database. The chronic health risk value is calculated by the HARP model using the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) method of dividing the annual average concentration by the chronic inhalation reference exposure level (REL) (HARP, May 2012).

Three exposure pathways are considered for health effects: ingestion, dermal contact, and inhalation. The first two generally require direct contact with the contaminated medium (usually soil), while the latter includes the inhalation of vapors and respirable dust (usually in the form of particulate matter less than 10 microns [ $PM_{10}$ ]). Inhalation is the only available pathway for the exhaust vapors that contain acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. Diesel PM is a respirable dust that can potentially be both ingested (oral) or enter the body through contact with contaminated soil. Oral or non-inhalation exposure pathways include the ingestion of soil, fisher caught fish, drinking water from surface waters, mother’s milk, homegrown produce, beef, pork, chicken, eggs and cow’s milk. With respect to diesel PM, the oral pathway is available only through ingestion of contaminated soil, similar to the dermal contact. However, OEHHA does not list an oral slope toxicity for diesel PM and nor does the USEPA Integrated Risk Information System (IRIS) as toxicity studies have focused on the inhalation hazard. Therefore, only the inhalation pathway is considered in this risk assessment.

Carcinogenic health risk was based on a stay-at-home adult resident present at proposed residential units for the recommended default time periods of 9 and 30 years. These correspond to the central tendency for the average time spent in a single residence (9 year, 50th percentile) and the high-end



estimate for residency time (30 year, 95th percentile). Although it is possible to evaluate cancer risks over a lifetime, or 70-year exposure duration, 30 years is the exposure duration scenario recommended by the SBCAPCD in the *Modeling Guidelines for Health Risk Assessments* (August 2015). The 9-year residency is also used by the OEHHA to calculate risk for child receptors. Chronic, non-cancer risks were calculated using the “Derived (OEHHA)” risk calculation method.

The USEPA considers for risk management those pollutants that could cause carcinogenic risks between one in 10,000 ( $1.0 \times 10^{-4}$  or  $1.0E-04$ ) and one in one million ( $1.0 \times 10^{-6}$  or  $1.0E-06$ ). Passage of Proposition 65 (encoded in California Health and Safety Code Section 25249.6) in 1986 prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the “no significant risk” level under Proposition 65 is defined as the level which is calculated to result in not more than one excess case of cancer in 100,000 individuals ( $1.0E-05$ ). The SBCAPCD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for toxic air contaminants (SBCAPCD, April 2015). In addition, the SBCAPCD recommends that the non-carcinogenic hazards of toxic air contaminants at ground level should not exceed a hazard index (or hazard quotient) of 1.0 for either chronic or acute effects (SBCAPCD, April 2015).

To provide a perspective on risk, it is noted that the American Cancer Society (2007) reports that in the U.S., men have a one in two chance (0.5 probability) and women about one in three chance (0.3) probability of developing cancer during a lifetime, with one in four deaths (0.23) in the U.S. attributed to cancer. Given this background carcinogenic risk level in the general population, application of a  $10^{-5}$  excess risk limit means that the contribution from a toxic hazard should not cause the resultant cancer risk for the exposed population to exceed 0.50001 for men and 0.33001 for women.

## RESULTS

Health risks for four sensitive receptor locations distributed throughout the Project site were modeled. Each of these receptors represents a proposed location of residential structures on site and includes first floor, second floor, and third floor elevations (where present). The Point of Maximum Impact (PMI), which is typically at the border of the source (freeway fence), was not calculated since it is not relevant to the analysis given the specific location of the proposed land uses. A receptor grid was used to evaluate whether or not sensitive receptor locations reflected the pattern of exposure.

Significant carcinogenic health risk was determined for residency scenarios (9-year adult and child, and 30-year) at all four receptor locations, as indicated in Table 3. Diesel exhaust particulates are the major source of this carcinogenic health risk as they are responsible for about 98% of the calculated risk at the maximum exposed individual receptor (MEIR). Refer to the appendix for more detailed accounting of the risk at each site per pollutant of concern.

As shown in Table 3, the chronic health risk for the closest on-site habitable units (MEIR receptors) associated with the freeway vehicle exhaust emissions are not significant, as chronic inhalation health hazards are below the SBCAPCD threshold hazard index of 1.0. The chemicals most responsible for the chronic inhalation risk are 1,3 butadiene and formaldehyde. Refer to the appendix for more detailed accounting of the risk per pollutant of concern.



**Table 3  
 Potential Health Risks at the MEIR Receptors**

	Excess Cancer Risk	Exceed Criterion? (10 <sup>-5</sup> )	OEHHA Chronic Hazard Quotient <sup>1</sup>	Exceed Criterion? (>1)
<b>Residential 1</b>				
9-year Resident				
Adult	1.54E-05	YES	6.41E-02	NO
Child	2.27E-05	YES	--	--
30-year Adult	5.12E-05	YES	6.41E-02	NO
<b>Residential 2</b>				
9-year Resident				
Adult	1.47E-05	YES	6.10E-02	NO
Child	2.17E-05	YES	--	--
30-year Adult	4.90E-05	YES	6.10E-02	NO
<b>Residential 3</b>				
9-year Resident				
Adult	1.77E-05	YES	7.06E-02	NO
Child	2.61E-05	YES	--	--
30-year Adult	5.89E-05	YES	7.06E-02	NO
<b>Residential 4</b>				
9-year Resident				
Adult	1.25E-05	YES	5.00E-02	NO
Child	1.85E-05	YES	--	--
30-year Adult	4.17E-05	YES	5.00E-02	NO

Refer to appendix for complete model results.

1: Note that chronic risk does not change with increase in years as calculation terms cancel out.

To determine if an acute health risk might be present, the one hour maximum concentration of the toxic air contaminants of concern were compared to the appropriate reference exposure level (REL), and the acute health risk was also determined to not be significant.

## CONCLUSIONS and RECOMMENDATIONS

The proposed use of the site for residential development would expose on-site residents to potentially significant carcinogenic health risks associated with vehicle emissions, specifically diesel exhaust particulates, based upon SBCAPCD health risk criteria. The calculated risk is based on exposure to outdoor air 24 hours per day, but the USEPA *Exposure Factors Handbook* indicates that the recommended daily activity pattern includes 16.6 hours per day spent inside and 2.3 hours per day outside (2011; Table 16-16 Time Spent (minutes/day) in Various Rooms at Home and in All Rooms Combined, Doers Only and Table 16-22 Mean Time Spent (minutes/day) Outside and Inside, Adults 18 Years and Older, Doers Only)<sup>2</sup>. The remaining daily time is spent off-site. As a conservative simplifying assumption, this analysis presumes that residents would have the windows open sufficiently to equalize the concentration of pollutants between the indoor and outdoor environment. This simplifying assumption results in a calculated risk that is likely to be nearly an order of magnitude higher than actual indoor risk.

<sup>2</sup> "Doers Only" includes data for individuals that spent >0 time in motor vehicles and had 30 or more records are included in the USEPA *Exposure Factors Handbook* analysis.





It should be noted that diesel particulates will settle out to some unknown extent on window screens and other surfaces as outdoor air enters into the indoor air environment, though at least a portion of this settled material would become re-suspended during cleaning and other activities. Therefore, it is likely that this analysis over-estimates the carcinogenic health risk. Furthermore, current regulatory action by CARB is intended to reduce the amount of diesel exhaust particulates associated with on-road diesel trucks in the future (note that the analysis was based on Year 2018 composite emission factors). Conversely, vehicle emissions are based on current traffic estimates; truck traffic growth that may occur in the future along this portion of U.S. 101 may result in increased emissions on a per mile basis, but such increases in truck traffic will be offset to some degree by changes in both the truck and non-diesel vehicle fleets as newer, less polluting vehicles become the majority portion of the fleet populations. Because the carcinogenic health risk for all scenarios is greater than 10 in one million, the potential effect of exposure to diesel particulate air pollutants at this site under current traffic conditions is considered potentially significant.

Based on the above analysis and the fact that the site is at the margin of the significance criteria for carcinogenic risk for the 9 and 30 year scenarios, the potential carcinogenic health hazard can be mitigated to a less than significant level (below 10 in one million) for these scenarios by reducing the amount of diesel exhaust particulates that the residents are exposed to in the indoor environment. Therefore, we recommend the following actions be incorporated into the Project:

- Forced air ventilation with filter screens on outside air intake ducts shall be provided for all residential units proposed on the site. The filter screens shall have a MERV 13 rating, capable of removing at least 90% of the particulate matter including fine particulate matter (PM<sub>2.5</sub>).
- For individual residential units with separate HVAC systems, a brochure notifying the future residents of the need for maintaining the filter screens shall be prepared and provided at the time of ownership exchange. In addition, a notice of the diesel particulates risk hazard and the need for screen maintenance shall be placed in the property title or lease.
- Windows and doors shall be fully weatherproofed with caulking and weather-stripping that is rated to last at least 20 years.

These mitigation actions would provide for the removal of particulates prior to entering into the indoor environment, thereby reducing the overall exposure of individual residents. The above mitigation actions would apply to all residential receptors on the Project site. Table 4 below indicates the calculated carcinogenic risk associated with this mitigation measure for proposed residential units on the Project site. The estimated reduction in cancer risk assumes removal of the DPM by the whole house filter (these filters have efficiency rates exceeding 90%), but continued exposure to outside air for a period of 2.3 hours daily (USEPA *Exposure Factors Handbook*). This would provide a clean interior environment and reduce the future residents' exposure to toxic air contaminants associated with U.S. 101 and the UPRR to below the ten in one million level for the average (50<sup>th</sup> percentile) residency of 9 years for an adult and child and the 30-year scenario (95<sup>th</sup> percentile).



**Table 4  
 Mitigated Potential Carcinogenic Health Risks Within the  
 Project Site**

	<b>Mitigated Excess Cancer Risk</b>	<b>Exceed Criterion? (10<sup>-5</sup>)</b>
<b>Residential 1</b>		
9-year Resident		
Adult	2.56E-06	NO
Child	3.77E-06	NO
30-year Adult	8.51E-06	NO
<b>Residential 2</b>		
9-year Resident		
Adult	2.44E-06	NO
Child	3.61E-06	NO
30-year Adult	8.15E-06	NO
<b>Residential 3</b>		
9-year Resident		
Adult	2.94E-06	NO
Child	4.34E-06	NO
30-year Adult	9.79E-06	NO
<b>Residential 4</b>		
9-year Resident		
Adult	2.08E-06	NO
Child	3.08E-06	NO
30-year Adult	6.93E-06	NO

*Refer to appendix for complete model results.*



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## **Appendix**

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*Emission Rates for U.S. Highway 101, Union Pacific  
Railroad, and SBCAPCD Permitted Sources*

*HARP Model Risk Analysis Results*



## Derivation of Emission Rates for Highway Sources

Freeway width, one way 50.0 feet  
 Each direction segment at 500.0 feet long

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	53.3	77.21	5.26	22.64	1.34	37.70
lbs/hour/segment	0.0005	0.0007	0.00005	0.0002	0.00001	0.00033
lbs/year/segment ***	4.1	5.88	0.40	1.73	0.10	2.87

\*\* Total emissions per mile calculated using the above speciation factors.

\*\*\* Based on 365 day/year

Assessor Parcel Number (APN)	Address	FID	Facility Name	Permitted Equipment	Emissions
73050021	6325 LINDMAR DR. GOLETA CA, 93117-3131	3640	Trisep Corp	Solvent Operations	The facility uses a variety of solvents that are marked as confidential trade secrets. The facility uses thermal oxidizers and wet scrubbers to control emissions by 95+%. The entire facility is limited to 13.28 tpy of Reactive Organic Compounds, with a portion of that corresponding to toxics. Specific toxic emissions are not quantified on an annual basis.
73050030	6338 LINDMAR DR. GOLETA CA, 93117-3112	1152	Bardex Corporation	Coating Operations	Minimal. Not quantified on an annual basis.
73050033	27 S LA PATERA LN. GOLETA CA, 93117-3214	11130	Direct Relief International	Emergency Generator	Minimal. Around 0.01 tpy diesel PM
73050027	6380 HOLLISTER AVE. GOLETA CA, 93117-3114	1971	Raytheon-Hollister (Electronic Warfare)	Solvent + Emergency Generator	Generator is minimal. Around 0.01 tpy diesel PM. Solvent emissions not quantified.
73330009	175 CREMONA DR. GOLETA CA, 93117-3084	4583	Karl Storz Imaging, Incorporated	Solvent - Permit Exempt	Minimal. Not quantified on an annual basis.
77160054	6465 CALLE REAL GOLETA	1246	CA Hwy Patrol	Gasoline Storage	Minimal. Not quantified on an annual basis.
73050041	75 ROBIN HILL RD. GOLETA CA, 93117-3108	10867	Innovative Micro Technology Inc	Solvent + Emergency Generator + Boilers	Generator is minimal. Around 0.01 tpy diesel PM. Boiler is minimal. Not quantified on an annual basis.
73050013	112 ROBIN HILL RD. GOLETA CA, 93117-3107	10105	Brunker Nano, Inc	Emergency Generator	Minimal. Around 0.01 tpy diesel PM

### Derivation of Emission Rates for RR Source

Railway width 50 feet  
Each segment at 500 feet long

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	497.3	0.03	0.03	0.22	0.04	0.47
lbs/hour/segment	0.0043	0.0000002	0.0000003	0.000002	0.0000004	0.000004
lbs/year/segment ***	37.9	0.002	0.002	0.02	0.003	0.04

\*\* Total emissions per mile calculated using the above speciation factors.

\*\*\* Based on 365 day/year

This file: c:\HARP\projects\demo\Rep\_Chr\_Res\_DerOEH\_AllRec\_AllSrc\_AllCh\_ByRec\_ByChem\_Site\_UTM.txt

Created by HARP Version 1.4f Build 23.11.01  
UsesISC Version 99155  
UsesBPIP (Dated: 04112)  
Creation date:12/29/2015 3:06:10 PM

## EXCEPTION REPORT

(there have been no changes or exceptions)

## INPUT FILES:

Source-Receptor file: C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 -  
onramp\offramp\12.29.15.SRC  
Averaging period adjustment factors file: not applicable  
Emission rates file: 12.29.15.EMS  
Site parameters file: c:\HARP\projects\demo\project.sit

Screeningmode is OFF

Exposure duration: resident  
Analysis method: Derived (OEHHA) Method  
Health effect: Chronic HI  
Receptor(s): All  
Sources(s): All  
Chemicals(s): All

## SITE PARAMETERS

### DEPOSITION

Deposition rate (m/s) 0.05

### DRINKING WATER

\*\*\* Pathway disabled \*\*\*

### FISH

\*\*\* Pathway disabled \*\*\*

### PASTURE

\*\*\* Pathway disabled \*\*\*

### HOME GROWN PRODUCE

\*\*\* Pathway disabled \*\*\*

"PIGS," CHICKENS AND EGGS



\*\*\* Pathway disabled \*\*\*

DERMAL ABSORPTION

\*\*\* Pathway disabled \*\*\*

SOIL INGESTION

\*\*\* Pathway disabled \*\*\*

MOTHER'S MILK

\*\*\* Pathway disabled \*\*\*

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANTNAME	BACKGROUND	(ug/m^3)
1	106990	"1,3-Butadiene"	"1,3-Butadiene"	0.00E+00	
2	75070	Acetaldehyde	Acetaldehyde	0.00E+00	
3	107028	Acrolein	Acrolein	0.00E+00	
4	71432	Benzene	Benzene	0.00E+00	
5	9901	DieselExhPM	Diesel engine "exhaust," particulate matter (Diesel PM)	0.00E+00	
6	50000	Formaldehyde	Formaldehyde	0.00E+00	

CHEMICAL HEALTHVALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh)	CancerPF(Oral)	ChronicREL(Inh)	ChronicREL(Oral)	AcuteREL
			(mg/kg-d)^-1	(mg/kg-d)^-1	ug/m^3	mg/kg-d	ug/m^3
1	106990	"1,3-Butadiene"	6.00E-01 *	2.00E+01 *	*		
2	75070	Acetaldehyde	1.00E-02 *	1.40E+02 *	4.70E+02		
3	107028	Acrolein	* *	3.50E-01 *	2.50E+00		
4	71432	Benzene	1.00E-01 *	6.00E+01 *	1.30E+03		
5	9901	DieselExhPM	1.10E+00 *	5.00E+00 *	*		
6	50000	Formaldehyde	2.10E-02 *	9.00E+00 *	5.50E+01		

EMISSIONS DATA SOURCE: Emission rates loaded from file:  
 C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 - onramp\offramp\12.29.15.EMS  
 CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=1 NAME=1001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVR (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=2 NAME=1002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=3 NAME=1003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=4 NAME=1004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=5 NAME=1005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=6 NAME=1006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=7 NAME=1007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=8 NAME=1008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=9 NAME=1009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=10 NAME=1010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=11 NAME=1011 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=12 NAME=1012 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=13 NAME=1013 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=14 NAME=1014 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=15 NAME=1015 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=16 NAME=1016 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=17 NAME=1017 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=18 NAME=1018 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=19 NAME=1019 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=20 NAME=1020 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070 Acetaldehyde 1 0 1.73E+002.00E-04

107028 Acrolein 1 0 1.00E-01 1.00E-05

71432 Benzene 1 0 5.88E+007.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04

50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=21 NAME=2001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07

75070 Acetaldehyde 1 0 2.00E-02 2.00E-06

107028 Acrolein 1 0 3.00E-03 4.00E-07

71432 Benzene 1 0 2.00E-03 2.00E-07

9901 DieselExhPM 1 0 3.79E+014.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=22 NAME=2002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07

75070 Acetaldehyde 1 0 2.00E-02 2.00E-06

107028 Acrolein 1 0 3.00E-03 4.00E-07

71432 Benzene 1 0 2.00E-03 2.00E-07

9901 DieselExhPM 1 0 3.79E+014.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=23 NAME=2003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07

75070 Acetaldehyde 1 0 2.00E-02 2.00E-06

107028 Acrolein 1 0 3.00E-03 4.00E-07

71432 Benzene 1 0 2.00E-03 2.00E-07

9901 DieselExhPM 1 0 3.79E+014.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=24 NAME=2004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=25 NAME=2005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=26 NAME=2006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=27 NAME=2007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=28 NAME=2008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=29 NAME=2009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07

75070 Acetaldehyde 1 0 2.00E-02 2.00E-06

107028 Acrolein 1 0 3.00E-03 4.00E-07

71432 Benzene 1 0 2.00E-03 2.00E-07

9901 DieselExhPM 1 0 3.79E+01 4.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=30 NAME=2010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07

75070 Acetaldehyde 1 0 2.00E-02 2.00E-06

107028 Acrolein 1 0 3.00E-03 4.00E-07

71432 Benzene 1 0 2.00E-03 2.00E-07

9901 DieselExhPM 1 0 3.79E+01 4.30E-03

50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=31 NAME=3001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 0.00E+00 0.00E+00

75070 Acetaldehyde 1 0 0.00E+00 0.00E+00

107028 Acrolein 1 0 0.00E+00 0.00E+00

71432 Benzene 1 0 0.00E+00 0.00E+00

9901 DieselExhPM 1 0 2.00E+01 2.28E-03

50000 Formaldehyde 1 0 0.00E+00 0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=32 NAME=3002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 0.00E+00 0.00E+00

75070 Acetaldehyde 1 0 0.00E+00 0.00E+00

107028 Acrolein 1 0 0.00E+00 0.00E+00

71432 Benzene 1 0 0.00E+00 0.00E+00

9901 DieselExhPM 1 0 2.00E+01 2.28E-03

50000 Formaldehyde 1 0 0.00E+00 0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=33 NAME=3003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)



106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=34 NAME=3004 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

### CHRONIC HI REPORT

DERIVED CHRONIC "HI," RECEPTOR 201

CHEM CV CNS BONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
 BLOOD MAX UTME UTMN

1	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+002.83E-04	0.00E+00
2	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.75E-04	0.00E+00
3	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+004.08E-03	0.00E+00
4	0.00E+001.38E-03 0.00E+001.38E-03 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.38E-03 1.38E-03	0.00E+00
5	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+005.53E-02	0.00E+00
6	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+004.52E-03	0.00E+00
SUM	0.00E+001.38E-03 0.00E+001.38E-03 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+002.83E-04 6.41E-02	0.00E+00
	0.00E+001.38E-03 6.41E-02 238131 3814258	

DERIVED CHRONIC "HI," RECEPTOR 202

CHEM CV CNS BONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
 BLOOD MAX UTME UTMN

1	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+002.83E-04	0.00E+00
2	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.75E-04	0.00E+00
3	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+004.08E-03	0.00E+00
4	0.00E+001.38E-03 0.00E+001.38E-03 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.38E-03 1.38E-03	0.00E+00
5	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+005.53E-02	0.00E+00
6	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+004.52E-03	0.00E+00







6 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+002.13E-03  
0.00E+000.00E+002.13E-03  
SUM 0.00E+006.49E-04 0.00E+006.49E-04 0.00E+000.00E+000.00E+000.00E+000.00E+001.33E-04 5.00E-02  
0.00E+006.49E-04 5.00E-02 237957 3814058

This file: c:\HARP\projects\demo\Rep\_Acu\_AllRec\_AllSrc\_AllCh\_ByRec\_ByChem\_UTM.txt

Created by HARP Version 1.4f Build 23.11.01  
UsesISC Version 99155  
UsesBPIP (Dated: 04112)  
Creation date:12/29/2015 3:06:06 PM

### EXCEPTION REPORT

(there have been no changes or exceptions)

### INPUT FILES:

Source-Receptor file: C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 -  
onramp\offramp\12.29.15.SRC  
Averaging period adjustment factors file: not applicable  
Emission rates file: 12.29.15.EMS  
Site parameters file: c:\HARP\projects\demo\project.sit

Screeningmode is OFF

Analysis method: Point Estimate  
Health effect: Acute HI Simple (Concurrent Max.)  
Receptor(s): All  
Sources(s): All  
Chemicals(s): All

### CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT	NAME	BACKGROUND	(ug/m <sup>3</sup> )
1	106990	"1,3-Butadiene"	"1,3-Butadiene"		0.00E+00	
2	75070	Acetaldehyde	Acetaldehyde		0.00E+00	
3	107028	Acrolein	Acrolein		0.00E+00	
4	71432	Benzene	Benzene		0.00E+00	
5	9901	DieselExhPM	Diesel engine	"exhaust," particulate matter (Diesel PM)	0.00E+00	
6	50000	Formaldehyde	Formaldehyde		0.00E+00	

### CHEMICAL HEALTHVALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh)	CancerPF(Oral)	ChronicREL(Inh)	ChronicREL(Oral)	AcuteREL
			(mg/kg-d) <sup>-1</sup>	(mg/kg-d) <sup>-1</sup>	ug/m <sup>3</sup>	mg/kg-d	ug/m <sup>3</sup>
1	106990	"1,3-Butadiene"	6.00E-01 *	2.00E+01 *	*		
2	75070	Acetaldehyde	1.00E-02 *	1.40E+02 *	4.70E+02		
3	107028	Acrolein	* *	3.50E-01 *	2.50E+00		
4	71432	Benzene	1.00E-01 *	6.00E+01 *	1.30E+03		
5	9901	DieselExhPM	1.10E+00 *	5.00E+00 *	*		
6	50000	Formaldehyde	2.10E-02 *	9.00E+00 *	5.50E+01		

EMISSIONS DATA SOURCE: Emission rates loaded from file:

C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 - onramp\offramp\12.29.15.EMS  
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=1 NAME=1001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=2 NAME=1002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=3 NAME=1003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=4 NAME=1004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=5 NAME=1005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=6 NAME=1006 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=7 NAME=1007 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=8 NAME=1008 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=9 NAME=1009 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04



9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=10 NAME=1010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=11 NAME=1011 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=12 NAME=1012 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=13 NAME=1013 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=14 NAME=1014 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=15 NAME=1015 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=16 NAME=1016 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=17 NAME=1017 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=18 NAME=1018 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04

9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=19 NAME=1019 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=20 NAME=1020 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05  
75070 Acetaldehyde 1 0 1.73E+002.00E-04  
107028 Acrolein 1 0 1.00E-01 1.00E-05  
71432 Benzene 1 0 5.88E+007.00E-04  
9901 DieselExhPM 1 0 4.10E+005.00E-04  
50000 Formaldehyde 1 0 2.87E+003.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=21 NAME=2001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07  
75070 Acetaldehyde 1 0 2.00E-02 2.00E-06  
107028 Acrolein 1 0 3.00E-03 4.00E-07  
71432 Benzene 1 0 2.00E-03 2.00E-07  
9901 DieselExhPM 1 0 3.79E+014.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=22 NAME=2002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07  
75070 Acetaldehyde 1 0 2.00E-02 2.00E-06  
107028 Acrolein 1 0 3.00E-03 4.00E-07  
71432 Benzene 1 0 2.00E-03 2.00E-07  
9901 DieselExhPM 1 0 3.79E+014.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=23 NAME=2003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=24 NAME=2004 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=25 NAME=2005 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=26 NAME=2006 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=27 NAME=2007 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07

9901 DieselExhPM 1 0 3.79E+01 4.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=28 NAME=2008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07  
75070 Acetaldehyde 1 0 2.00E-02 2.00E-06  
107028 Acrolein 1 0 3.00E-03 4.00E-07  
71432 Benzene 1 0 2.00E-03 2.00E-07  
9901 DieselExhPM 1 0 3.79E+01 4.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=29 NAME=2009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07  
75070 Acetaldehyde 1 0 2.00E-02 2.00E-06  
107028 Acrolein 1 0 3.00E-03 4.00E-07  
71432 Benzene 1 0 2.00E-03 2.00E-07  
9901 DieselExhPM 1 0 3.79E+01 4.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=30 NAME=2010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 2.00E-03 3.00E-07  
75070 Acetaldehyde 1 0 2.00E-02 2.00E-06  
107028 Acrolein 1 0 3.00E-03 4.00E-07  
71432 Benzene 1 0 2.00E-03 2.00E-07  
9901 DieselExhPM 1 0 3.79E+01 4.30E-03  
50000 Formaldehyde 1 0 4.00E-02 4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=31 NAME=3001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 0.00E+00 0.00E+00  
75070 Acetaldehyde 1 0 0.00E+00 0.00E+00  
107028 Acrolein 1 0 0.00E+00 0.00E+00  
71432 Benzene 1 0 0.00E+00 0.00E+00  
9901 DieselExhPM 1 0 2.00E+01 2.28E-03  
50000 Formaldehyde 1 0 0.00E+00 0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=32 NAME=3002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGM (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

EMISSIONS FORFACILITY FAC=1 DEV=\* PRO=\* STK=33 NAME=3003 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGM (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

EMISSIONS FORFACILITY FAC=1 DEV=\* PRO=\* STK=34 NAME=3004 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGM (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

### ACUTE HI REPORT

ACUTE "HI," RECEPTOR 201

CHEM CV CNSBONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
BLOOD MAX UTME UTMN

1	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
2	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.09E-03 0.00E+000.00E+000.00E+000.00E+000.00E+001.09E-03
3	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.04E-02 0.00E+000.00E+000.00E+000.00E+000.00E+001.04E-02
4	0.00E+000.00E+000.00E+001.37E-03 0.00E+000.00E+000.00E+000.00E+001.37E-03 0.00E+001.37E-03 0.00E+000.00E+001.37E-03
5	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
6	0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.40E-02 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
SUM	0.00E+000.00E+000.00E+000.00E+001.37E-03 0.00E+002.55E-02 0.00E+001.37E-03 0.00E+001.37E-03 1.15E-02 0.00E+001.37E-03 2.55E-02 238131 3814258

ACUTE "HI," RECEPTOR 202

CHEM CV CNSBONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
 BLOOD MAX UTME UTMN  
 1 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 2 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.09E-03 0.00E+000.00E+000.00E+000.00E+001.09E-03  
 0.00E+000.00E+001.09E-03  
 3 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.04E-02 0.00E+000.00E+000.00E+000.00E+001.04E-02  
 0.00E+000.00E+001.04E-02  
 4 0.00E+000.00E+000.00E+001.37E-03 0.00E+000.00E+000.00E+001.37E-03 0.00E+001.37E-03 0.00E+00  
 0.00E+001.37E-03 1.37E-03  
 5 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 6 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.40E-02 0.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+001.40E-02  
 SUM 0.00E+000.00E+000.00E+001.37E-03 0.00E+002.55E-02 0.00E+001.37E-03 0.00E+001.37E-03 1.15E-02  
 0.00E+001.37E-03 2.55E-02 238131 3814258

ACUTE "HI," RECEPTOR 203  
 CHEM CV CNSBONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
 BLOOD MAX UTME UTMN  
 1 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 2 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.09E-03 0.00E+000.00E+000.00E+000.00E+001.09E-03  
 0.00E+000.00E+001.09E-03  
 3 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.04E-02 0.00E+000.00E+000.00E+000.00E+001.04E-02  
 0.00E+000.00E+001.04E-02  
 4 0.00E+000.00E+000.00E+001.37E-03 0.00E+000.00E+000.00E+001.37E-03 0.00E+001.37E-03 0.00E+00  
 0.00E+001.37E-03 1.37E-03  
 5 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 6 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.40E-02 0.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+001.40E-02  
 SUM 0.00E+000.00E+000.00E+001.37E-03 0.00E+002.55E-02 0.00E+001.37E-03 0.00E+001.37E-03 1.15E-02  
 0.00E+001.37E-03 2.55E-02 238131 3814258

ACUTE "HI," RECEPTOR 204  
 CHEM CV CNSBONE DEVEL ENDO EYEGILV IMMUN KIDN REPRO RESP SKIN  
 BLOOD MAX UTME UTMN  
 1 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 2 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+009.99E-04 0.00E+000.00E+000.00E+000.00E+009.99E-04  
 0.00E+000.00E+009.99E-04  
 3 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+009.56E-03 0.00E+000.00E+000.00E+000.00E+009.56E-03  
 0.00E+000.00E+009.56E-03  
 4 0.00E+000.00E+000.00E+001.26E-03 0.00E+000.00E+000.00E+001.26E-03 0.00E+001.26E-03 0.00E+00  
 0.00E+001.26E-03 1.26E-03  
 5 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+00  
 6 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+001.28E-02 0.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+001.28E-02  
 SUM 0.00E+000.00E+000.00E+001.26E-03 0.00E+002.34E-02 0.00E+001.26E-03 0.00E+001.26E-03 1.06E-02  
 0.00E+001.26E-03 2.34E-02 237962 3814240

ACUTE "HI," RECEPTOR 205





ACUTE "HI," RECEPTOR 209

CHEM	CV	CNSBONE	DEVEL	ENDO	EYEGILV	IMMUN	KIDN	REPRO	RESP	SKIN
BLOOD	MAX	UTME	UTMN							
1	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
2	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+004
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+003
4	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+001	0.00E+003
5	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
6	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+000	0.00E+000
SUM	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+002	0.00E+001	0.00E+001	0.00E+001	0.00E+001	0.00E+002
	0.00E+001	0.00E+001	0.00E+001	1.19E-03	2.22E-02	1.19E-03	1.19E-03	1.19E-03	1.19E-03	1.00E-02
				238098	3814165					

ACUTE "HI," RECEPTOR 210

CHEM	CV	CNSBONE	DEVEL	ENDO	EYEGILV	IMMUN	KIDN	REPRO	RESP	SKIN
BLOOD	MAX	UTME	UTMN							
1	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
2	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+004
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.00E+003
4	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+001	0.00E+003
5	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
6	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+000	0.00E+000
SUM	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+002	0.00E+001	0.00E+001	0.00E+001	0.00E+001	0.00E+002
	0.00E+001	0.00E+001	0.00E+001	1.14E-03	2.13E-02	1.14E-03	1.14E-03	1.14E-03	1.14E-03	9.61E-03
				237957	3814058					

ACUTE "HI," RECEPTOR 211

CHEM	CV	CNSBONE	DEVEL	ENDO	EYEGILV	IMMUN	KIDN	REPRO	RESP	SKIN
BLOOD	MAX	UTME	UTMN							
1	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
2	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.00E+004
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.00E+003
4	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+001	0.00E+003
5	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
6	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+000	0.00E+000	0.00E+000	0.00E+000
SUM	0.00E+000	0.00E+000	0.00E+000	0.00E+001	0.00E+002	0.00E+001	0.00E+001	0.00E+001	0.00E+001	0.00E+002
	0.00E+001	0.00E+001	0.00E+001	1.14E-03	2.13E-02	1.14E-03	1.14E-03	1.14E-03	1.14E-03	9.61E-03
				237957	3814058					

	CHEM	CV	CNSBONE	DEVEL	ENDO	EYEGILV	IMMUN	KIDN	REPRO	RESP	SKIN
	BLOOD	MAX	UTME	UTMN							
1	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
2	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.07E-04	0.00E+000	0.00E+000	0.00E+000	0.00E+009	0.07E-04
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.70E-03	0.00E+000	0.00E+000	0.00E+000	0.00E+008	0.70E-03
4	0.00E+000	0.00E+000	0.00E+001	1.14E-03	0.00E+000	0.00E+000	0.00E+001	1.14E-03	0.00E+001	1.14E-03	0.00E+000
5	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
6	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+001	1.17E-02	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
SUM	0.00E+000	0.00E+000	0.00E+001	1.14E-03	0.00E+002	1.3E-02	0.00E+001	1.14E-03	0.00E+001	1.14E-03	9.61E-03
	0.00E+001	1.14E-03	2.13E-02	237957	3814058						

This file: c:\HARP\projects\demo\Rep\_Can\_9yrA\_DerOEH\_AllRec\_AllSrc\_AllCh\_ByRec\_ByChem\_Site\_UTM.txt

Created by HARP Version 1.4f Build 23.11.01  
UsesISC Version 99155  
UsesBPIP (Dated: 04112)  
Creation date: 12/29/2015 3:05:54 PM

## EXCEPTION REPORT

(there have been no changes or exceptions)

## INPUT FILES:

Source-Receptor file: C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 -  
onramp\offramp\12.29.15.SRC  
Averaging period adjustment factors file: not applicable  
  
Emission rates file: 12.29.15.EMS  
Site parameters file: c:\HARP\projects\demo\project.sit

Screeningmode is OFF

Exposure duration: 9 year (adult resident)  
Analysis method: Derived (OEHHA) Method  
Health effect: Cancer Risk  
Receptor(s): All  
Sources(s): All  
Chemicals(s): All

## SITE PARAMETERS

### DEPOSITION

Deposition rate (m/s) 0.05

### DRINKING WATER

\*\*\* Pathway disabled \*\*\*

### FISH

\*\*\* Pathway disabled \*\*\*

### PASTURE

\*\*\* Pathway disabled \*\*\*

### HOME GROWN PRODUCE

\*\*\* Pathway disabled \*\*\*

"PIGS," CHICKENS AND EGGS

\*\*\* Pathway disabled \*\*\*

DERMAL ABSORPTION

\*\*\* Pathway disabled \*\*\*

SOIL INGESTION

\*\*\* Pathway disabled \*\*\*

MOTHER'S MILK

\*\*\* Pathway disabled \*\*\*

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT	NAME	BACKGROUND	(ug/m^3)
1	106990	"1,3-Butadiene"	"1,3-Butadiene"		0.00E+00	
2	75070	Acetaldehyde	Acetaldehyde		0.00E+00	
3	107028	Acrolein	Acrolein		0.00E+00	
4	71432	Benzene	Benzene		0.00E+00	
5	9901	DieselExhPM	Diesel engine	"exhaust,"	particulate matter	(Diesel PM) 0.00E+00
6	50000	Formaldehyde	Formaldehyde		0.00E+00	

CHEMICAL HEALTHVALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh)	CancerPF(Oral)	ChronicREL(Inh)	ChronicREL(Oral)	AcuteREL
			(mg/kg-d)^-1	(mg/kg-d)^-1	ug/m^3	mg/kg-d	ug/m^3
1	106990	"1,3-Butadiene"	6.00E-01 *	2.00E+01 *	*		
2	75070	Acetaldehyde	1.00E-02 *	1.40E+02 *	4.70E+02		
3	107028	Acrolein	* *	3.50E-01 *	2.50E+00		
4	71432	Benzene	1.00E-01 *	6.00E+01 *	1.30E+03		
5	9901	DieselExhPM	1.10E+00 *	5.00E+00 *	*		
6	50000	Formaldehyde	2.10E-02 *	9.00E+00 *	5.50E+01		

EMISSIONS DATA SOURCE: Emission rates loaded fromfile:  
C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 - onramp\offramp\12.29.15.EMS

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=1 NAME=1001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=2 NAME=1002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=3 NAME=1003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=4 NAME=1004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=5 NAME=1005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=6 NAME=1006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=7 NAME=1007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=8 NAME=1008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=9 NAME=1009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=10 NAME=1010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=11 NAME=1011 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=12 NAME=1012 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=13 NAME=1013 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=14 NAME=1014 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=15 NAME=1015 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=16 NAME=1016 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=17 NAME=1017 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=18 NAME=1018 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=19 NAME=1019 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=20 NAME=1020 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=21 NAME=2001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=22 NAME=2002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=23 NAME=2003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=24 NAME=2004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=25 NAME=2005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=26 NAME=2006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=27 NAME=2007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=28 NAME=2008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
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75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=29 NAME=2009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=30 NAME=2010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=31 NAME=3001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=32 NAME=3002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=33 NAME=3003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 0.00E+000.00E+00
75070 Acetaldehyde 1 0 0.00E+000.00E+00
107028 Acrolein 1 0 0.00E+000.00E+00
71432 Benzene 1 0 0.00E+000.00E+00
9901 DieselExhPM 1 0 2.00E+01 2.28E-03
50000 Formaldehyde 1 0 0.00E+000.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=34 NAME=3004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 0.00E+000.00E+00
75070 Acetaldehyde 1 0 0.00E+000.00E+00
107028 Acrolein 1 0 0.00E+000.00E+00
71432 Benzene 1 0 0.00E+000.00E+00
9901 DieselExhPM 1 0 2.00E+01 2.28E-03
50000 Formaldehyde 1 0 0.00E+000.00E+00

CANCER RISK REPORT

DOMINANT "PATHWAYS," Receptor 201

Table with 12 columns: CHEM, INHAL, DERM, SOIL, MOTHER, FISH, WATER, VEG, DAIRY, BEEF, CHICK, PIG. Rows 1-6 show YES/NO for various pathways.

DERIVED CANCER "RISK," RECEPTOR 201

Table with 12 columns: CHEM, INHAL, DERM, SOIL, MOTHER, FISH, WATER, VEG, DAIRY, BEEF, CHICK, PIG. Rows 1-6 show numerical risk values. Includes a SUM row at the bottom.

DOMINANT "PATHWAYS," Receptor 202

CHEM	EGG	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
1	YES	-	-	-	-	-	-	-	-	-	-	-
2	YES	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	YES	-	-	-	-	-	-	-	-	-	-	-
5	YES	-	-	-	-	-	-	-	-	-	-	-
6	YES	-	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 202

CHEM	EGG	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
MEAT	ORAL	TOTAL	UTME	UTMN								
1	1.64E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.64E-07								
2	1.19E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.19E-08								
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000								
4	4.02E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	4.02E-07								
5	1.47E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.47E-05								
6	4.14E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	4.14E-08								
SUM	1.54E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.54E-05	238131	3814258						

DOMINANT "PATHWAYS," Receptor 203

CHEM	EGG	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
1	YES	-	-	-	-	-	-	-	-	-	-	-
2	YES	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	YES	-	-	-	-	-	-	-	-	-	-	-
5	YES	-	-	-	-	-	-	-	-	-	-	-
6	YES	-	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 203

CHEM	EGG	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
MEAT	ORAL	TOTAL	UTME	UTMN								
1	1.64E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.64E-07								
2	1.19E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.19E-08								
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000								
4	4.02E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	4.02E-07								
5	1.47E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	1.47E-05								
6	4.14E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	4.14E-08								











3 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+000.00E+00  
 4 1.89E-07 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.89E-07  
 5 1.22E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.22E-05  
 6 1.95E-08 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.95E-08  
 SUM 1.25E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.25E-05 237957 3814058

This file: c:\HARP\projects\demo\Rep\_Can\_9yrC\_DerOEH\_AllRec\_AllSrc\_AllCh\_ByRec\_ByChem\_Site\_UTM.txt

Created by HARP Version 1.4f Build 23.11.01  
UsesISC Version 99155  
UsesBPIP (Dated: 04112)  
Creation date: 12/29/2015 3:06:00 PM

#### EXCEPTION REPORT

(there have been no changes or exceptions)

#### INPUT FILES:

Source-Receptor file: C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 -  
onramp\offramp\12.29.15.SRC  
Averaging period adjustment factors file: not applicable  
  
Emission rates file: 12.29.15.EMS  
Site parameters file: c:\HARP\projects\demo\project.sit

Screeningmode is OFF

Exposure duration: 9 year (child resident)  
Analysis method: Derived (OEHHA) Method  
Health effect: Cancer Risk  
Receptor(s): All  
Sources(s): All  
Chemicals(s): All

#### SITE PARAMETERS

##### DEPOSITION

Deposition rate (m/s) 0.05

##### DRINKING WATER

\*\*\* Pathway disabled \*\*\*

##### FISH

\*\*\* Pathway disabled \*\*\*

##### PASTURE

\*\*\* Pathway disabled \*\*\*

##### HOME GROWN PRODUCE

\*\*\* Pathway disabled \*\*\*

"PIGS," CHICKENS AND EGGS

\*\*\* Pathway disabled \*\*\*

DERMAL ABSORPTION

\*\*\* Pathway disabled \*\*\*

SOIL INGESTION

\*\*\* Pathway disabled \*\*\*

MOTHER'S MILK

\*\*\* Pathway disabled \*\*\*

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT	NAME	BACKGROUND	(ug/m^3)
1	106990	"1,3-Butadiene"	"1,3-Butadiene"		0.00E+00	
2	75070	Acetaldehyde	Acetaldehyde		0.00E+00	
3	107028	Acrolein	Acrolein		0.00E+00	
4	71432	Benzene	Benzene		0.00E+00	
5	9901	DieselExhPM	Diesel engine	"exhaust," particulate matter (Diesel PM)	0.00E+00	
6	50000	Formaldehyde	Formaldehyde		0.00E+00	

CHEMICAL HEALTHVALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh)	CancerPF(Oral)	ChronicREL(Inh)	ChronicREL(Oral)	AcuteREL
			(mg/kg-d)^-1	(mg/kg-d)^-1	ug/m^3	mg/kg-d	ug/m^3
1	106990	"1,3-Butadiene"	6.00E-01 *	2.00E+01 *	*		
2	75070	Acetaldehyde	1.00E-02 *	1.40E+02 *	4.70E+02		
3	107028	Acrolein	* *	3.50E-01 *	2.50E+00		
4	71432	Benzene	1.00E-01 *	6.00E+01 *	1.30E+03		
5	9901	DieselExhPM	1.10E+00 *	5.00E+00 *	*		
6	50000	Formaldehyde	2.10E-02 *	9.00E+00 *	5.50E+01		

EMISSIONS DATA SOURCE: Emission rates loaded fromfile:  
C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 - onramp\offramp\12.29.15.EMS

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=1 NAME=1001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=2 NAME=1002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=3 NAME=1003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=4 NAME=1004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=5 NAME=1005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=6 NAME=1006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=7 NAME=1007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=8 NAME=1008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=9 NAME=1009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=10 NAME=1010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=11 NAME=1011 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=12 NAME=1012 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=13 NAME=1013 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=14 NAME=1014 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=15 NAME=1015 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=16 NAME=1016 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=17 NAME=1017 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=18 NAME=1018 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=19 NAME=1019 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=20 NAME=1020 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=21 NAME=2001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=22 NAME=2002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=23 NAME=2003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=24 NAME=2004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=25 NAME=2005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=26 NAME=2006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=27 NAME=2007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=28 NAME=2008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
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75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=29 NAME=2009 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=30 NAME=2010 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=31 NAME=3001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=32 NAME=3002 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=33 NAME=3003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=34 NAME=3004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

CANCER RISK REPORT

DOMINANT "PATHWAYS," Receptor 201

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG											
1	YES-	-	-	-	-	-	-	-	-	-	-
2	YES-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	YES-	-	-	-	-	-	-	-	-	-	-
5	YES-	-	-	-	-	-	-	-	-	-	-
6	YES-	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 201

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG											
1	2.43E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
2	1.76E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
4	5.94E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
5	2.18E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
6	6.12E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
SUM	2.27E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
			2.27E-05	238131	3814258						











0.00E+000.00E+000.00E+002.79E-07  
 5 1.81E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.81E-05  
 6 2.89E-08 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+002.89E-08  
 SUM 1.85E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
 0.00E+000.00E+000.00E+001.85E-05 237957 3814058

DOMINANT "PATHWAYS," Receptor 210

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG											
1	YES-	-	-	-	-	-	-	-	-	-	-
2	YES-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	YES-	-	-	-	-	-	-	-	-	-	-
5	YES-	-	-	-	-	-	-	-	-	-	-
6	YES-	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 210

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG	MEAT	ORAL	TOTAL	UTME	UTMN						
1	1.14E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+001.14E-07
2	8.28E-09	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+008.28E-09
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+000.00E+00
4	2.79E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+002.79E-07
5	1.81E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+001.81E-05
6	2.89E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+002.89E-08
SUM	1.85E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+001.85E-05 237957 3814058

DOMINANT "PATHWAYS," Receptor 211

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG											
1	YES-	-	-	-	-	-	-	-	-	-	-
2	YES-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	YES-	-	-	-	-	-	-	-	-	-	-
5	YES-	-	-	-	-	-	-	-	-	-	-
6	YES-	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 211

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG	MEAT	ORAL	TOTAL	UTME	UTMN						
1	1.14E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+001.14E-07
2	8.28E-09	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+008.28E-09
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+00
											0.00E+000.00E+000.00E+000.00E+00

	0.00E+000.00E+000.00E+000.00E+00
4	2.79E-07 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
	0.00E+000.00E+000.00E+002.79E-07
5	1.81E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
	0.00E+000.00E+000.00E+001.81E-05
6	2.89E-08 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
	0.00E+000.00E+000.00E+002.89E-08
SUM	1.85E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00
	0.00E+000.00E+000.00E+001.85E-05 237957 3814058

This file: c:\HARP\projects\demo\Rep\_Can\_30yr\_DerOEH\_AllRec\_AllSrc\_AllCh\_ByRec\_ByChem\_Site\_UTM.txt

Created by HARP Version 1.4f Build 23.11.01  
UsesISC Version 99155  
UsesBPIP (Dated: 04112)  
Creation date: 12/29/2015 3:05:01 PM

## EXCEPTION REPORT

(there have been no changes or exceptions)

## INPUT FILES:

Source-Receptor file: C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 -  
onramp\offramp\12.29.15.SRC  
Averaging period adjustment factors file: not applicable  
  
Emission rates file: 12.29.15.EMS  
Site parameters file: c:\HARP\projects\demo\project.sit

Screeningmode is OFF

Exposure duration: 30 year (adult resident)  
Analysis method: Derived (OEHHA) Method  
Health effect: Cancer Risk  
Receptor(s): All  
Sources(s): All  
Chemicals(s): All

## SITE PARAMETERS

### DEPOSITION

Deposition rate (m/s) 0.05

### DRINKING WATER

\*\*\* Pathway disabled \*\*\*

### FISH

\*\*\* Pathway disabled \*\*\*

### PASTURE

\*\*\* Pathway disabled \*\*\*

### HOME GROWN PRODUCE

\*\*\* Pathway disabled \*\*\*

"PIGS," CHICKENS AND EGGS

\*\*\* Pathway disabled \*\*\*

DERMAL ABSORPTION

\*\*\* Pathway disabled \*\*\*

SOIL INGESTION

\*\*\* Pathway disabled \*\*\*

MOTHER'S MILK

\*\*\* Pathway disabled \*\*\*

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT	NAME	BACKGROUND	(ug/m^3)
1	106990	"1,3-Butadiene"	"1,3-Butadiene"		0.00E+00	
2	75070	Acetaldehyde	Acetaldehyde		0.00E+00	
3	107028	Acrolein	Acrolein		0.00E+00	
4	71432	Benzene	Benzene		0.00E+00	
5	9901	DieselExhPM	Diesel engine	"exhaust," particulate matter (Diesel PM)	0.00E+00	
6	50000	Formaldehyde	Formaldehyde		0.00E+00	

CHEMICAL HEALTHVALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh)	CancerPF(Oral)	ChronicREL(Inh)	ChronicREL(Oral)	AcuteREL
			(mg/kg-d)^-1	(mg/kg-d)^-1	ug/m^3	mg/kg-d	ug/m^3
1	106990	"1,3-Butadiene"	6.00E-01 *	2.00E+01 *	*		
2	75070	Acetaldehyde	1.00E-02 *	1.40E+02 *	4.70E+02		
3	107028	Acrolein	* *	3.50E-01 *	2.50E+00		
4	71432	Benzene	1.00E-01 *	6.00E+01 *	1.30E+03		
5	9901	DieselExhPM	1.10E+00 *	5.00E+00 *	*		
6	50000	Formaldehyde	2.10E-02 *	9.00E+00 *	5.50E+01		

EMISSIONS DATA SOURCE: Emission rates loaded fromfile:  
C:\Users\lsarquilla\Desktop\HARP2\HERITAGE RIDGE 2 - onramp\offramp\12.29.15.EMS

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=1 NAME=1001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRG (lbs/yr) MAX (lbs/hr)

106990 "1,3-Butadiene" 1 0 4.00E-01 5.00E-05

75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=2 NAME=1002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=3 NAME=1003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=4 NAME=1004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=5 NAME=1005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=6 NAME=1006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=7 NAME=1007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=8 NAME=1008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=9 NAME=1009 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=10 NAME=1010 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=11 NAME=1011 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=12 NAME=1012 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=13 NAME=1013 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=14 NAME=1014 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=15 NAME=1015 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=16 NAME=1016 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=17 NAME=1017 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=18 NAME=1018 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=19 NAME=1019 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
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75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=20 NAME=1020 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	4.00E-01	5.00E-05
75070	Acetaldehyde	1	0	1.73E+00	2.00E-04
107028	Acrolein	1	0	1.00E-01	1.00E-05
71432	Benzene	1	0	5.88E+00	7.00E-04
9901	DieselExhPM	1	0	4.10E+00	5.00E-04
50000	Formaldehyde	1	0	2.87E+00	3.00E-04

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=21 NAME=2001 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=22 NAME=2002 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=23 NAME=2003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=24 NAME=2004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=25 NAME=2005 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=26 NAME=2006 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=27 NAME=2007 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=28 NAME=2008 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m<sup>3</sup>) AVR G (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
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75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=29 NAME=2009 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=30 NAME=2010 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	2.00E-03	3.00E-07
75070	Acetaldehyde	1	0	2.00E-02	2.00E-06
107028	Acrolein	1	0	3.00E-03	4.00E-07
71432	Benzene	1	0	2.00E-03	2.00E-07
9901	DieselExhPM	1	0	3.79E+01	4.30E-03
50000	Formaldehyde	1	0	4.00E-02	4.00E-06

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=31 NAME=3001 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=32 NAME=3002 EMS (lbs/yr)

SOURCEMULTIPLIER=1

CASABBREV MULTIPLIERBG (ug/m^3) AVRGRG (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+00	0.00E+00
75070	Acetaldehyde	1	0	0.00E+00	0.00E+00
107028	Acrolein	1	0	0.00E+00	0.00E+00
71432	Benzene	1	0	0.00E+00	0.00E+00
9901	DieselExhPM	1	0	2.00E+01	2.28E-03
50000	Formaldehyde	1	0	0.00E+00	0.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=33 NAME=3003 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVRGM (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

EMISSIONS FOR FACILITY FAC=1 DEV=\* PRO=\* STK=34 NAME=3004 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS ABBREV MULTIPLIER BG (ug/m^3) AVRGM (lbs/yr) MAX (lbs/hr)

106990	"1,3-Butadiene"	1	0	0.00E+000.00E+00
75070	Acetaldehyde	1	0	0.00E+000.00E+00
107028	Acrolein	1	0	0.00E+000.00E+00
71432	Benzene	1	0	0.00E+000.00E+00
9901	DieselExhPM	1	0	2.00E+01 2.28E-03
50000	Formaldehyde	1	0	0.00E+000.00E+00

CANCER RISK REPORT

DOMINANT "PATHWAYS," Receptor 201

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG											
1	YES	-	-	-	-	-	-	-	-	-	-
2	YES	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-
4	YES	-	-	-	-	-	-	-	-	-	-
5	YES	-	-	-	-	-	-	-	-	-	-
6	YES	-	-	-	-	-	-	-	-	-	-

DERIVED CANCER "RISK," RECEPTOR 201

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG
EGG	MEAT	ORAL	TOTAL	UTME	UTMN						
1	5.48E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+005	5.48E-07							
2	3.96E-08	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+003	3.96E-08							
3	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+000	0.00E+000							
4	1.34E-06	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+001	1.34E-06							
5	4.92E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+004	4.92E-05							
6	1.38E-07	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+001	1.38E-07							
SUM	5.12E-05	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000	0.00E+000
	0.00E+000	0.00E+000	0.00E+005	5.12E-05	238131	3814258					













0.00E+000.00E+000.00E+000.00E+00  
4 6.29E-07 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
0.00E+000.00E+000.00E+006.29E-07  
5 4.08E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
0.00E+000.00E+000.00E+004.08E-05  
6 6.52E-08 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
0.00E+000.00E+000.00E+006.52E-08  
SUM 4.17E-05 0.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+000.00E+00  
0.00E+000.00E+000.00E+004.17E-05 237957 3814058



