APPENDIX D2

Dispersion Modeling of Criteria Pollutants

APPENDIX D2

DISPERSION MODELING ANALYSES OF CRITERIA POLLUTANTS FOR THE PORT OF LOS ANGELES BERTHS 136-147 CONTAINER TERMINAL IMPROVEMENT PROJECT

1.0 INTRODUCTION

This document describes the methods and results of air dispersion modeling that predict the ground-level concentrations of criteria pollutants resulting from construction and operation of the Port of Los Angeles (POLA) Container Terminal Project at Berths 136-147.

The air dispersion modeling was performed using the U.S. Environmental Protection Agency's (USEPA) Industrial Source Complex Short-Term program (ISCST3, version 02035) based on the Guideline on Air Quality Models (40 Code of Federal Regulations [CFR], Part 51, Appendix W, April 15, 2003). The analysis considered criteria pollutant emissions from proposed construction and operational activities, including nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter equal or less than 10 microns in diameter (PM_{10}), and particulate matter equal or less than 2.5 microns in diameter ($PM_{2.5}$). The predicted ground-level concentrations were compared to applicable South Coast Air Quality Management District (SCAQMD) ambient air quality thresholds to determine their significance.

2.0 DEVELOPMENT OF EMISSION SCENARIOS

2.1 Construction Emission Sources

Project construction emission would occur from:

- Off-road construction equipment
- On-road trucks
- Dredging and barge equipment
- Tugboats
- General cargo ships

The air dispersion modeling included emissions from fugitive dust, onsite construction equipment and haul trucks, and general cargo ship (for crane delivery) in hoteling mode at berth, as the SCAQMD only requires analyses of on-site construction emission sources for criteria pollutant impacts (SCAQMD 2006). Therefore, the analysis did not consider off-site emission sources from truck hauling, ship transit, and tugboat/barge activities. The analysis focused on a peak day of activities during Phase 1 construction, as Phase 2 construction emissions mainly would occur from off-site activities, such as dredging, dike construction, and dredge material transport.

2.2 Construction Emissions

Construction emissions used in the modeling analysis were calculated with the methods described in Section 3.2.4.3.1 and Appendix D1 of this EIS/EIR. The proposed construction

schedule was used to estimate the period of peak daily criteria pollutant emissions that would occur from Phase 1 construction. From this peak day, hourly emission rates were developed for each emission source by assuming the following:

1. A construction schedule of 8 hours per day, 5 days per week, and 52 weeks per year.

2. Daily hours of operation and emissions from 0800 to 1200 and 1300 to 1700 local time, except ship hoteling emissions would occur 24 hours per day.

3. Hourly emissions from all sources except ship hoteling equal to their daily emissions divided by eight. Hourly emissions from ship hoteling were equal to their daily emissions divided by 24.

The analysis did not consider the impact of proposed construction emissions to annual ambient pollutant levels, as the SCAQMD does not require this evaluation for construction activities (SCAQMD 2006).

To estimate ambient NO_2 impacts, proposed NOx emissions were converted to NO_2 emissions with the use of the SCAQMD localized significance threshold methodology (SCAQMD 2003). This approach increases the conversion of NOx to NO_2 as an impact distance increases downwind from a source. The analysis assumed a 25.8 percent conversion rate from NOx to NO_2 for sources adjacent to the terminal property line, or in the case of the Harry Bridges Boulevard (HBB) realignment activity, outside of the terminal boundary. This conversion rate applies to a source to downwind impact distance of 500 meters. This is a conservative approach, as the majority of emission sources estimated to contribute to maximum NO_2 impacts were within 200 meters of this location (the SCAQMD NOx to NO_2 conversion factor for this distance is 11.4 percent). Additionally, sources at a substantial distance from the terminal boundary, such as replace existing wharf at Berths 144-147, were given a very conservative NOx to NO_2 conversion factor of 46.7 percent, which coincides with a source to downwind impact distance of 1000 meters.

Table D2-1 summaries the hourly emission rates of construction activities used in the dispersion modeling analyses. Additional tables provided in Appendix D1 include hourly pollutant emission rates by source type.

Table D2-1. Peak Hourly Construction Emissions Used in the Dispersion Modeling Analysis

Construction Project/Activity	*Pounds per Hour*			
	CO	*NO2*	*PM10*	*PM2.5*
Replace Existing Wharf at Berths 144-147	18.7	20.2	1.9	1.7
78-Acre Backland Improvements at Berths 142-147	5.6	6.8	10.8	2.7
Construct Administration Building	2.3	0.9	2.0	0.6
Construct Maintenance and Repair Facility	2.3	1.7	5.3	1.3
Harry Bridges Blvd. Realignment - Street Improvements	14.5	7.1	3.1	1.7
Construct 46-Acre Rail Yard at Berth 200	7.1	6.8	7.6	2.2
Construct Harry Bridges Blvd. Buffer - Grading	20.4	12.7	15.5	4.7
Cargo Vessel Hoteling during Crane Install – Berth 144	1.2	6.1	0.7	0.7
Total - All Sources	72.2	62.4	46.9	15.7

2.3 Operational Emission Sources

As requested by the SCAQMD, both onsite and offsite emission sources were included in the dispersion modeling analysis of operational emissions. The analysis included emissions from the following project emission sources, as described in Section 3.2.4.3.2 and Appendices D1 and D3 of this EIS/EIR.

1. **Ships transiting** to and from berth. Ship transit in SCAQMD waters through segments of fairway transit, Precautionary Area transit, harbor transit, turning, and docking. Ship emission sources include main propulsion engines and auxiliary engines and boilers.

2. **Ships hoteling** at berth. Sources of hoteling emissions include ship auxiliary engines and boilers, as the main propulsion engine is not in operation. When a ship uses alternative maritime power (AMP) while hoteling, only boilers sources are in use.

3. **Tugboats** used to assist container ships between the POLA breakwater and berth (two tugboats assist inbound and one outbound per ship visit). Tugboat emission sources include main propulsion and auxiliary engines.

4. **Terminal and Rail Yard Equipment (Cargo Handling Equipment)**, including yard tractors, rubber-tired gantry cranes (RTGs), top picks, side picks, forklifts, and yard sweepers.

5. **Locomotives** switching and idling at the proposed Berths 136-147 on-dock rail yard and hauling cargo between the rail yard and Anaheim Street.

6. **Locomotives** switching and idling within the existing/relocated Pier A rail yard.

7. **Truck** emissions from off-terminal and on-terminal driving and idling. Based on the results of a sensitivity analysis, emissions from roadways farther from the Berths 136-147 terminal than (a) I-110 north of Anaheim Street and (b) Alameda Street north of Anaheim Street have negligible impacts compared to other project emission sources, and therefore were not included in the air dispersion modeling analysis.

2.4 Operational Emissions

The operational emissions dispersion modeling analysis focused on project year 2010, as Project sources would produce the highest amount of daily and annual emissions during this year within and adjacent to the Berths 136-147 Terminal. In other words, this scenario would produce the highest Project ambient impacts within the Port region, even in comparison to years 2007 through 2009 and 2015, when Project construction emissions would combine and overlap with operational emissions. The analysis evaluated two scenarios: (1) long-term or annual impacts of NO_2 and (2) short-term pollutant impacts of 1-, 8-, and 24-hour averaging periods. The analysis developed hourly Project source emission rates for each scenario based upon the following assumptions. Appendix D2.2 presents estimates of the emission rates used in the operational dispersion modeling analysis.

2.4.1 Long-term Pollutant Impacts

The pollutant evaluated for annual ambient pollutant levels was NO_2, as recommended by the SCAQMD (SCAQMD 2006). Hourly emission rates were estimated for each project emission source by dividing its annual NO_2 emissions by 8760 hours and then temporally adjusting them with the use of ARB factors identified in Table D2-2 for each day of operation (ARB 2006). For example, hourly emission rates for ships in transit would be 2 times greater between 0400 and 2000 local time, compared to the 2000 to 0400 time period.

2.4.2 Short-term Pollutant Impacts

For short-term pollutant impacts, the analysis evaluated the following emission scenarios.

1. Marine vessels – Review of the Project ship visit data determined that three vessels could be at berth at the same time, either (a) all three in hoteling mode or (b) two in hoteling mode and one maneuvering in proximity to the Berths 136-147 facility. Dispersion modeling showed that a ship in harbor transiting, turning, and docking would produce higher short-term ambient pollutant impacts compared to the same vessel in hoteling mode. Therefore, the analysis assumed that emissions would occur from two vessels in hoteling mode (one <3,000 TEU and one 3,000 to 5,000 TEU capacity ship) and one vessel in harbor transit, turning, and docking mode (8,000 to 9,000 TEU capacity ship) for each hour of the year.

   Review of the ship visit data for the CEQA and No Federal Action baselines determined that two vessels could be at berth at the same time. Therefore, the analysis assumed that vessel emissions for these scenarios would occur from one vessel in hoteling mode (one <3,000 TEU capacity ship) and one vessel in harbor transit, turning, and docking mode (3,000 to 5,000 TEU capacity ship for the CEQA Baseline and 5,000 to 6,000 TEU capacity ship for the NEPA Baseline) for each hour of the year.

2. Terminal Equipment – The analysis temporally adjusted hourly terminal equipment emissions with the use of ARB factors identified in Table D2-2 for each day of operation, then multiplied them by 1.25 to simulate peak cargo handling activities within the terminal.

3. Trucks – Ten percent of the Project truck average daily trips (ADT) would occur each hour during the 0600 to 1800 time period and 5 percent of the ADT would occur each hour from 1800 to 0600.

4. On-dock rail yard – One hour of outbound train activity for each hour of the year, which includes the use of both road haul and switching locomotives. The analysis also included the use of rail yard equipment and their emissions were calculated by the methods used for terminal equipment.

5. Existing Pier A rail yard (current and proposed locations) – Emissions for each of the 3 train trip types identified for this facility, (1) line haul locomotive, (2) medium usage trip of a switching locomotive, and (3) low usage trip of a switching locomotive (see Table D1.2-CB-47 in Appendix D1) would occur for each hour of the year.

6. To evaluate 24-hr PM_{10} and $PM_{2.5}$ incremental impacts, the analysis used the same methods identified above to calculate source emission rates for the CEQA and No Federal Action baseline scenarios.

To estimate ambient NO_2 impacts, proposed NO_x emissions were converted to NO_2 emissions with the use of the following SCAQMD downwind distance factors (SCAQMD 2003). The chosen factors produced conservative results, as the majority of emission sources that contributed to maximum NO_2 impact locations were closer to these locations then the assumed downwind distances and therefore would have lower NO_x to NO_2 conversion factors.

1. Marine vessels – (a) fairway transit, 5000 m or 100 percent conversion, (b) precautionary area and harbor transit, 1000 m or 46.7 percent conversion, (c) vessel docking activities, 700 m or 30.0 percent conversion, and (d) hoteling, 500 m or 25.8 percent conversion.

2. Terminal Equipment – 500 meters or 25.8 percent conversion.

3. Trucks On-terminal and within Roadways – 500 meters or 25.8 percent conversion.

4. On-dock rail yard – 500 meters or 25.8 percent conversion for trains and rail yard equipment.

5. Existing Pier A rail yard (current and proposed locations) – 500 meters or 25.8 percent conversion for trains.

Table D2-2. Temporal Distribution of Berths 136-147 Terminal Project Emission Sources

Category	*Time Period*	*Activity Distribution*	*Hours per Day*
Ocean-Going Vessel	4 A.M. – 8 P.M. 8 P.M. – 4 A.M.	80% 20%	16 8
Hotelling	Midnight-midnight	100%	24
Harbor Craft	6 A.M. – 6 P.M. 6 P.M. – 6 A.M.	80% 20%	12 12
Cargo Handling	8 A.M. – 5 P.M. 5 P.M. – 3 A.M. 3 A.M. – 8 A.M.	80% 15% 5%	9 10 5
Trucks	6 A.M. – 6 P.M. 6 P.M. – 6 A.M.	80% 20%	12 12
Locomotives	Midnight-midnight	100%	24

Source: ARB 2006

3.0 DISPERSION MODEL SELECTION AND INPUTS

The air dispersion modeling was performed using the USEPA ISCST3, version 02035, based on the Guideline on Air Quality Models (40 CFR, Part 51, Appendix W; April 15, 2003). The ISCST3 model is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the stack heights of the emission sources. The ISCST3 model requires hourly meteorological data consisting of wind direction, wind speed, temperature, stability class, and mixing height.

The ISCST3 model is well suited for the project analyses, based upon (1) the general acceptance by the modeling community and regulatory agencies of its ability to provide reasonable results for large industrial complexes with multiple emission sources, (2) a consideration of the availability of annual sets of hourly meteorological data for use by ISCST3, and (3) the ability of the model to handle the various physical characteristics of project emission sources, including, "point," "area," and "volume" source types. The SCAQMD approves the use of ISCST3 for mobile source analyses.

3.1 Emission Source Representation

3.1.1 Construction Emission Sources

All project construction emission sources except hoteling cargo ships were modeled as volume sources and their emissions were evenly distributed throughout their associated construction areas. The analysis simulated all volume sources with a vertical extent of 15 feet. Hoteling cargo ships were modeled as stationary point sources. Figure D2-1 shows the locations of project construction emission sources simulated in the ISCST3 criteria pollutant dispersion modeling analyses.

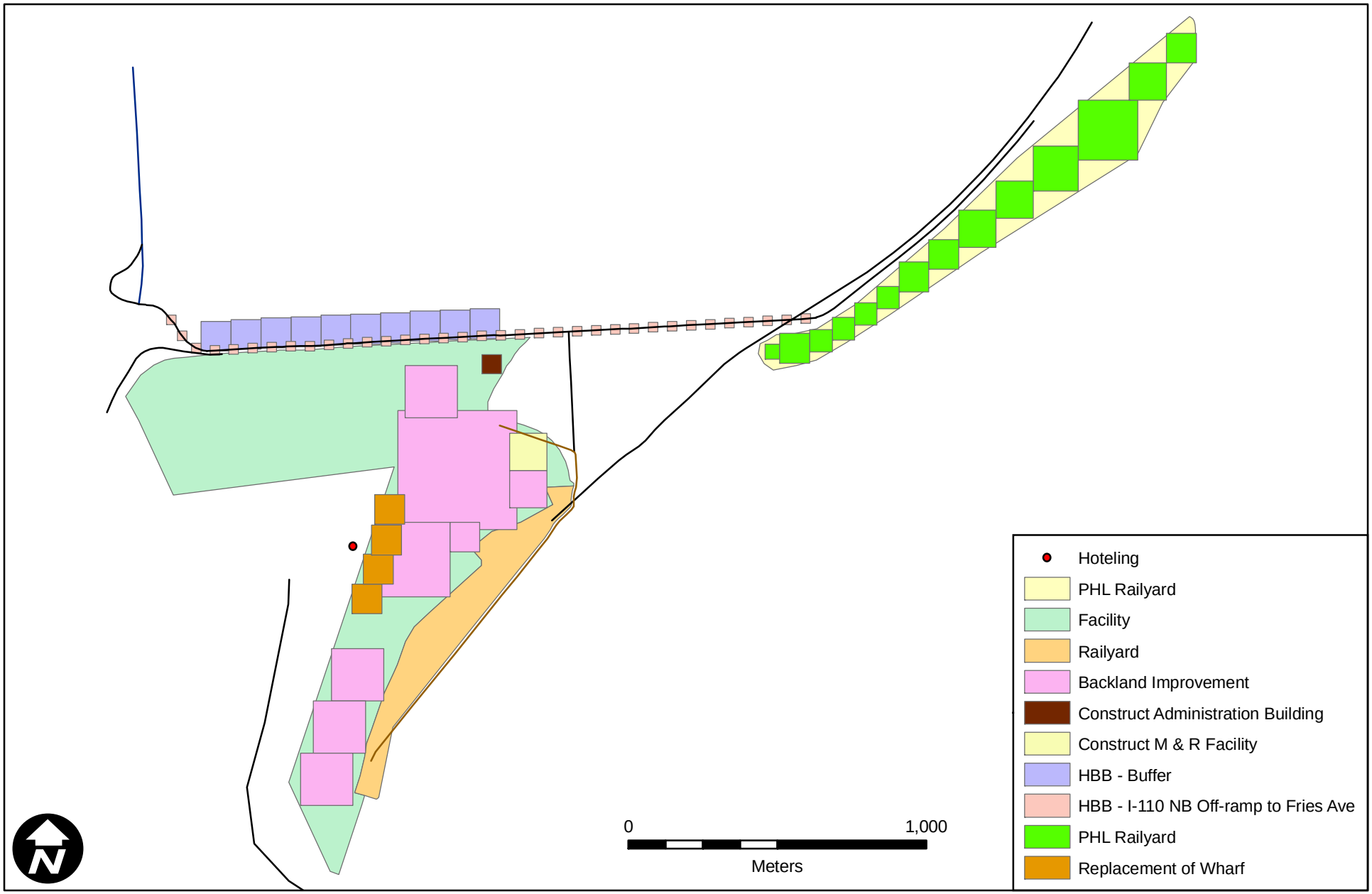

Figure D2-1. Locations of Construction Emission Sources Simulated in the Dispersion Modeling Analyses - Berths 136-149 Terminal Project - Proposed Project

3.1.2 Operational Emission Sources

The ISCST3 modeling analysis evaluated project-related operational emission sources, including container ships, assist tugboats, terminal and rail yard equipment, locomotives, and trucks. The analysis simulated emissions from the movement of vessels in the shipping lanes, trains on rail lines, and trucks within roadways as line sources with a series of separated volume sources. The analysis simulated mobile source operations confined within specific geographic locations, such as the Berth 136-147 Terminal or proposed rail yard, as a collection of volume sources covering these areas. Finally, the analysis simulated stationary emissions from hoteling ships as stationary point (stack) sources with upward plume velocity and buoyancy.

The operational characteristics of each source type in terms of area of operation and vertical stack height or source height determined the release parameters of each volume or point source. The methodologies used to define each source are described in Section 4.1 of Appendix D3, Health Risk Assessment Report.

3.2 Meteorological Data

Due to the blocking effect of the Palos Verdes Hills, wide variations in wind conditions often occur within the Port. For example, during typical sea-breeze conditions, the hills can create a relatively light wind zone in the Inner Harbor while the Outer Harbor experiences stronger winds from different directions. The monthly and hourly streamlines developed for the South Coast Air Basin in *California South Coast Air Basin Hourly Wind Flow Patterns* show this difference in wind conditions between the inner and outer harbor regions (SCAQMD 1977).

The Port has operated an air quality monitoring program since February 2005 that includes the collection of meteorological data from four locations within the Port area (Port 2004). Figures D3-6 through D3-9 in Appendix D3 present annual wind roses generated for each of these monitoring stations. As part of this effort, annual meteorological data sets were developed for purposes of dispersion modeling analyses.

Due to the varying wind conditions within the Port region, the most accurate way to perform the project dispersion modeling analysis was to split the modeling domain into distinct Inner/Outer Harbor Port meteorological areas. The boundary between these two areas is roughly a line from the eastern end of 22nd Street to the Pier 300 wharf face. The stations within the Port-wide network that were chosen to simulate meteorological conditions within these areas include (1) the Saints Peter and Paul School, about one mile north of the Berths 136-147terminal in Wilmington (Inner Harbor) and (2) the Berth 47 location, about 1.3 miles west-northwest of Angel's Gate (Outer Harbor). The modeling results for each meteorological domain were summed at each common receptor point to produce total impacts from a Project scenario.

3.3 Model Options

Technical options selected for the ISCST3 model are listed below. Use of these options follows the USEPA modeling guidance (40 CFR, Appendix W; April 15, 2003) and SCAQMD guidance.

- Non-regulatory default operation

- Urban land use
- No gradual plume rise
- Include stack tip downwash
- Include buoyancy induced dispersion
- No calms processing
- No missing data processing

Table D2-2 displays data used by the dispersion modeling analysis to temporally adjust emissions from the Berths 136-147 Terminal Project over a 24-hour period (ARB 2006).

3.4 Source/Receptor Locations

Receptor and source base elevations were determined from United States Geological Survey (USGS) Digital Elevation Model (DEM) data using the 7.5-minute format (i.e., 30-meter spacing between grid nodes). All coordinates were referenced to UTM North American Datum 1927 (NAD27), zone 11. The dispersion modeling analysis utilized a regular coarse grid of 1,189 receptor points spaced every 250 meters apart around Berths 136-147 terminal, as shown in Figure D3-1 in Appendix D3. The regular receptor grid extended roughly 7 kilometers (km) east-west by 10 km north-south around the terminal area. Receptor points spaced at 50-meter intervals were positioned along the Berths 136-147 terminal property lines for each project scenario. The modeling analysis also evaluated a receptor field spaced 50 meters apart within the proposed HBB Buffer area between HBB and C Street to take into consideration Project impacts to this future high use area (Figure D3-1A in Appendix D3). In addition, 74 discrete receptors were placed at sensitive receptor locations of special concern, such as schools, day care centers, convalescent homes, and hospitals within a 5-km radius of the Berths 136-147 terminal (Table D3-3 in Appendix D3 summarizes the locations of these sensitive receptors).

4.0 SIGNIFICANCE CRITERIA FOR PROJECT AIR QUALITY IMPACTS

The SCAQMD has established thresholds to determine the significance of ambient air quality impacts from proposed land use development projects (SCAQMD 2006). Tables D2-3 and D2-4 present the SCAQMD ambient criteria used to evaluate construction and operational activities. To evaluate Project impacts to ambient NO_2 levels, the analysis replaced the use of the current SCAQMD NO_2 thresholds with the revised 1-hour and annual California ambient air quality standards of 338 and 56 $\mu g/m^3$, respectively.

For construction emissions, NO_2 and CO ground-level concentrations predicted by ISCST3 were added to background concentrations of each pollutant to produce total concentrations that were compared to the SCAQMD thresholds. The $PM_{10}/PM_{2.5}$ concentrations predicted by ISCST3 from project construction emissions alone (without adding background concentrations) also were compared to the SCAQMD incremental $PM_{10}/PM_{2.5}$ thresholds.

For operational emissions, NO_2 and CO impacts were evaluated in the same manner as the construction analysis. To assess the significance of operational $PM_{10}/PM_{2.5}$ impacts under CEQA, the analysis determined the net change in $PM_{10}/PM_{2.5}$ concentrations between the proposed Project and CEQA Baseline scenario. To assess the significance of operational

Table D2-3. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Proposed Project Construction

Air Pollutant	*Ambient Concentration Threshold*
Nitrogen Dioxide (NO2)	
1-hour average	0.25 ppm (470 $\mu g/m^3$)*
Particulates (PM10 or PM2.5)	
24-hour average	10.4 $\mu g/m^3$
Carbon Monoxide (CO)	
1-hour average	20 ppm (23,000 $\mu g/m^3$)
8-hour average	9.0 ppm (10,000 $\mu g/m^3$)

Notes:

The NO2 and CO thresholds are absolute thresholds; the maximum predicted impact from construction activities is added to the background concentration for the Project vicinity and compared to the threshold.

The PM10 and PM2.5 thresholds are an incremental threshold; meaning that the maximum predicted impacts from construction activities (without adding background concentrations) are compared to these thresholds.

The SCAQMD does not require an analysis of ambient annual pollutant concentrations from construction activities (POLA 2006c).

*To evaluate Project impacts to ambient NO2 levels, the analysis replaced the use of the current SCAQMD NO2 thresholds with the revised 1-hour California ambient air quality standard of 338 $\mu g/m^3$.

Source: SCAQMD 2006e.

Table D2-4. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Proposed Project Operations

Air Pollutant	*Ambient Concentration Threshold*
Nitrogen Dioxide (NO2)	
1-hour average	0.25 ppm (470 μg/m^3)*
annual average	0.053 ppm (100 μg/m^3)*
Particulates (PM10 or PM2.5)	
24-hour average	2.5 μg/m^3
Carbon Monoxide (CO)	
1-hour average	20 ppm (23,000 μg/m^3)
8-hour average	9.0 ppm (10,000 μg/m^3)

Notes:

The NO2 and CO thresholds are absolute thresholds; the maximum predicted impact from proposed Project operations is added to the background concentration for the Project vicinity and compared to the threshold.

The PM10 and PM2.5 thresholds are incremental thresholds. For CEQA significance, the maximum increase in concentration relative to the 2003 baseline (i.e., Project impact minus baseline impact) is compared to each threshold. For NEPA significance, the maximum increase in concentration relative to NEPA (i.e., Project impact minus NEPA Baseline impact) is compared to the threshold.

The SCAQMD has also established thresholds for sulfates and annual PM10, but is currently not requiring a quantitative comparison to these thresholds (POLA 2006c).

* To evaluate Project impacts to ambient NO2 levels, the analysis replaced the use of the current SCAQMD NO2 thresholds with the revised 1-hour and annual California ambient air quality standards of 338 and 56 μg/m^3, respectively.

Source: SCAQMD 2006e.

$PM_{10}/PM_{2.5}$ impacts under NEPA, the analysis determined the net change in $PM_{10}/PM_{2.5}$ concentrations between the proposed Project and No Federal Action Baseline scenario. Both net changes in $PM_{10}/PM_{2.5}$ concentrations were compared to the SCAQMD incremental $PM_{10}/PM_{2.5}$ thresholds.

Proposed Project operations also would result in significant offsite ambient air pollutant concentrations if either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor (City of Los Angeles 2006):

- The proposed Project causes or contributes to an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively, or
- The incremental increase due to the Project is equal to or greater than 1.0 ppm (1,150 μg/m3) for the California 1-hour CO standard or 0.45 ppm (518 μg/m3) for the 8-hour CO standard.

5.0 PREDICTED AIR QUALITY IMPACTS

5.1 Construction Impacts

5.1.1 Unmitigated Construction Impacts

Table D2-5 presents the maximum off-site ground level concentrations of criteria pollutants estimated for Phase 1 construction activities without mitigation. These data show that the maximum total 1-hour NO_2 concentration of 1,039 $\mu g/m^3$ would exceed the SCAQMD threshold of 338 $\mu g/m^3$. Additionally, the maximum offsite 24-hour $PM_{10}/PM_{2.5}$ incremental impacts would exceed the SCAQMD threshold of 10.4 $\mu g/m^3$. The modeling analysis estimated that the maximum unmitigated (1) CO and $PM_{10}/PM_{2.5}$ impact location would occur just south of the intersection of Harry Bridges Boulevard and Lagoon Avenue and (2) 1-hour NO_2 impact location would along Pier A Street adjacent to the proposed on-dock rail yard.

Table D2-5. Maximum Offsite Ambient Concentrations – Proposed Project Phase 1 Construction without Mitigation

Pollutant	Averaging Time	Maximum Impact from Phase 1 Emissions ($\mu g/m^3$)	Background Pollutant Concentration ($\mu g/m^3$)	Total Maximum Phase 1 Impact ($\mu g/m^3$)	SCAQMD Threshold [a] ($\mu g/m^3$)
NO_2	1-hour	776	263	**1,039**	338
CO	1-hour	1,086	6,629	7,715	23,000
	8-hour	305	5,371	5,676	10,000
PM_{10}	24-hour	**110**	-	-	10.4
$PM_{2.5}$	24-hour	**35**	-	-	10.4

[a] Exceedances of the thresholds are indicated in **bold**. The thresholds for PM10 are incremental thresholds and therefore only impacts from project emissions without background pollutant concentrations are compared to the thresholds. The thresholds for NO2 and CO are combined thresholds and therefore impacts from project emissions plus background pollutant concentrations are compared to the thresholds.

[b] Construction schedules are assumed to be 8 hours per day, 5 days per week, and 52 weeks per year.

[c] In accordance with SCAQMD guidance (SCAQMD 2006), ship transit emissions, tugboat emissions, and offsite haul truck transport emissions are considered offsite emissions and were not included in the modeling. However, ship hoteling and onsite truck emissions were included in the modeling.

[d] NO2 concentrations were calculated assuming NOx to NO2 conversion rate of 25.8 and 46.7 percent (SCAQMD 2003). This conversion rate assumes the maximum impact locations occur within 500 and 1000 meters of the majority of emission sources that contribute to this impact. This is a conservative approach, as the majority of emission sources that contribute to the maximum NO2 impact are within 200 meters of this location and the SCAQMD NOx to NO2 conversion factor for this distance is 11.4 percent.

5.1.2 Mitigated Construction Impacts

Table D2-6 presents the maximum off-site ground level concentrations of criteria pollutants estimated for Phase 1 construction activities after implementation of **Mitigation Measures AQ-1** through **AQ-5**. Section 3.2.4.4 of this EIS/EIR (Impact AQ-1) provides a description of these measures. The data in Table D2-6 show that implementation of **Mitigation Measures AQ-1** through **AQ-5** would reduce all pollutant impacts. However, with mitigation, the Project Phase 1 construction emissions would produce impacts that would exceed the SCAQMD 1-hour NO_2 and 24-hour $PM_{10}/PM_{2.5}$ ambient thresholds. As a result, Project residual impacts would remain significant for 1-hour NO_2 and 24-hour $PM_{10}/PM_{2.5}$ under CEQA and NEPA. The modeling analysis estimated that the maximum mitigated pollutant impact locations would occur in the same locations as the unmitigated maximum pollutant impact locations.

Table D2-6. Maximum Offsite Ambient Concentrations – Proposed Project Phase 1 Construction After Mitigation

Pollutant	Averaging Time	Maximum Impact from Phase 1 Emissions ($\mu g/m^3$)	Background Pollutant Concentration ($\mu g/m^3$)	Total Maximum Phase 1 Impact ($\mu g/m^3$)	SCAQMD Threshold [a] ($\mu g/m^3$)
NO2	1-hour	656	263	**919**	338
CO	1-hour	3,569	6,629	7,198	23,000
	8-hour	163	5,371	5,534	10,000
PM10	24-hour	**47**	-	-	10.4
PM2.5	24-hour	**16**	-	-	10.4

[a] Exceedances of the thresholds are indicated in **bold**. The thresholds for PM10 are incremental thresholds and therefore only impacts from project emissions without background pollutant concentrations are compared to the thresholds. The thresholds for NO2 and CO are combined thresholds and therefore impacts from project emissions plus background pollutant concentrations are compared to the thresholds.

[b] Construction schedules are assumed to be 8 hours per day, 5 days per week, and 52 weeks per year.

[c] In accordance with SCAQMD guidance (SCAQMD 2006), ship transit emissions, tugboat emissions, and offsite haul truck transport emissions are considered offsite emissions and were not included in the modeling. However, ship hoteling and onsite truck emissions were included in the modeling.

[d] NO_2 concentrations were calculated assuming NO_x to NO_2 conversion rate of 25.8 and 46.7 percent (SCAQMD 2003). This conversion rate assumes the maximum impact locations occur within 500 and 1000 meters of the majority of emission sources that contribute to this impact. This is a conservative approach, as the majority of emission sources that contribute to the maximum NO2 impact are within 200 meters of this location and the SCAQMD NOx to NO2 conversion factor for this distance is 11.4 percent.

5.2 Operational Impacts

5.1.1 Unmitigated Project Operational Impacts

Table D2-7 presents the maximum offsite ground level concentrations of criteria pollutants estimated for Project operations without mitigation. These data show that total maximum NO_2 concentrations would exceed the 1-hour and annual SCAQMD thresholds. Additionally, Project operations would exceed the SCAQMD $PM_{10}/PM_{2.5}$ thresholds of 2.5 $\mu g/m^3$.

A modeling was performed to evaluate the ambient impact of CO emissions from Project on-road auto and truck traffic within roadways that extend out from the Project terminal. Table D2-7 shows that maximum impacts from these sources would remain below both the 1-hour and 8-hour CO significance criteria. The location of these maximum impacts would occur within the proposed Buffer Area adjacent to Harry Bridges Boulevard.

5.1.2 Mitigated Project Operational Impacts

Table D2-8 presents the maximum off-site ground level concentrations of criteria pollutants estimated for Project operations after implementation of **Mitigation Measures AQ-6** through **AQ-12**. Section 3.2.4.4 of this EIS/EIR (Impact AQ-3) provides a description of these measures. The data in Table D2-8 show that implementation of **Mitigation Measures AQ-6** through **AQ-12** would reduce all pollutant impacts. However, proposed Project residual air quality impacts would remain significant after mitigation for 1-hour and annual NO_2 and 24-hour PM_{10} and $PM_{2.5}$ impacts under CEQA and NEPA.

Table D2-7. Maximum Offsite Ambient Concentrations – Proposed Project Operations Without Mitigation

Pollutant	*Averaging Time*	*Maximum Impact from Project Emissions (µg/m³)*	*Background Pollutant Concentration (µg/m³)*	*Total Maximum Project Impact (µg/m³)*	*SCAQMD Threshold [a] (µg/m³)*
NO_2 [b]	1-hour	**1,946**	263	**2,209**	338
	Annual	39	54	**93**	56
CO	1-hour	2,791	6,629	9,420	23,000
	8-hour	723	5,371	6,094	10,000
		Maximum Impact from Project Emissions (µg/m3)	*Maximum Impact from CEQA Baseline Emissions (µg/m3)*	*Maximum CEQA Increment (µg/m3) c*	
PM_{10}	24-hour	51.9	24.1	**27.9**	2.5
$PM_{2.5}$	24-hour	47.8	22.1	**25.7**	2.5
		Maximum Impact from Project Emissions (µg/m3)	*Maximum Impact from NEPA Baseline Emissions (µg/m3)*	*Maximum NEPA Increment (µg/m3) d*	
PM_{10}	24-hour	46.2	17.9	**28.8**	2.5
$PM_{2.5}$	24-hour	43.0	16.5	**26.5**	2.5
		Maximum Impact from Project On-Road Emissions (µg/m3)	*Maximum Impact from CEQA Baseline On-Road Emissions (µg/m3)*	*Maximum CEQA On-Road Sources Increment (µg/m3) ce*	
CO	1-hour	629	145	484	1,150
	8-hour	155	37	118	518
		Maximum Impact from Project On-Road Emissions (µg/m3)	*Maximum Impact from NEPA Baseline On-Road Emissions (µg/m3)*	*Maximum NEPA On-Road Sources Increment (µg/m3) de*	
CO	1-hour	642	145	497	1,150
	8-hour	156	33	123	518

[a] Exceedances of the thresholds are indicated in bold. The thresholds for PM10/PM2.5 are incremental thresholds and therefore only impacts from Project emissions without background pollutant concentrations are compared to the thresholds. The thresholds for NO2 and CO are combined thresholds and therefore impacts from Project emissions plus background pollutant concentrations are compared to the thresholds.

[b] NO2 concentrations based upon source/maximum impact locations distances of either 500 or 1000 meters. The NOx to NO2 conversion rates for these distances were 25.8 and 46.7 percent (SCAQMD, 2003c). This is a conservative approach, as the majority of emission sources that contribute to the maximum NO2 impact are closer than 500 meters from this location.

[c] Equal to Project impact minus CEQA Baseline impact.

[d] Equal to Project impact minus NEPA Baseline (NFAB) impact.

[e] Represents the highest incremental impacts within 0.25 miles of a sensitive receptor.

Table D2-8. Maximum Offsite Ambient Concentrations – Proposed Project Operations After Mitigation

Pollutant	*Averaging Time*	*Maximum Impact from Project Emissions (µg/m3)*	*Background Pollutant Concentration (µg/m3)*	*Total Maximum Project Impact (µg/m3)*	*SCAQMD Threshold a (µg/m3)*
NO_2[b]	1-hour	**1,542**	263	**1,805**	338
	Annual	27	54	**81**	56
CO	1-hour	2,427	6,629	9,056	23,000
	8-hour	524	5,371	5,895	10,000
		Maximum Impact from Project Emissions (µg/m^3)	*Maximum Impact from CEQA Baseline Emissions (µg/m^3)*	*Maximum CEQA Increment (µg/m^3)* [c]	
PM10	24-hour	21.7	10.6	**11.1**	2.5
PM2.5	24-hour	20.0	9.8	**10.2**	2.5
		Maximum Impact from Project Emissions (µg/m^3)	*Maximum Impact from NEPA Baseline Emissions (µg/m^3)*	*Maximum NEPA Increment (µg/m^3)* [d]	
PM10	24-hour	30.0	22.2	**7.7**	2.5
PM2.5	24-hour	27.5	20.4	**7.1**	2.5
		Maximum Impact from Project On-Road Emissions (µg/m3)	*Maximum Impact from CEQA Baseline On-Road Emissions (µg/m3)*	*Maximum CEQA On-Road Sources Increment (µg/m3) ce*	
CO	1-hour	153	82	71	1,150
	8-hour	38	30	8	518
		Maximum Impact from Project On-Road Emissions (µg/m3)	*Maximum Impact from NEPA Baseline On-Road Emissions (µg/m3)*	*Maximum NEPA On-Road Sources Increment (µg/m3) de*	
CO	1-hour	169	133	36	1,150
	8-hour	42	33	9	518

[a] Exceedances of the thresholds are indicated in bold. The thresholds for PM10/PM2.5 are incremental thresholds and therefore only impacts from Project emissions without background pollutant concentrations are compared to the thresholds. The thresholds for NO_2 and CO are combined thresholds and therefore impacts from Project emissions plus background pollutant concentrations are compared to the thresholds.

[b] NO_2 concentrations based upon source/maximum impact locations distances of either 500 or 1000 meters. The NO_x to NO_2 conversion rates for these distances were 25.8 and 46.7 percent (SCAQMD, 2003c). This is a conservative approach, as the majority of emission sources that contribute to the maximum NO_2 impact are closer than 500 meters from this location.

[c] Equal to Project impact minus CEQA Baseline impact.

[d] Equal to Project impact minus NEPA Baseline (NFAB) impact.

[e] Represents the highest incremental impacts within 0.25 miles of a sensitive receptor.

5.1.3 Unmitigated Operational Impacts from Project Alternatives

Table D2.1-PP(2010)-38 in Appendix D2.1 presents the maximum off-site ground level concentrations of criteria pollutants estimated for the operation of Project Alternatives 1, 3, 4, and 5. These data were developed by multiplying the results of the Project operational dispersion modeling analysis by the ratio of Alternative to proposed Project operational daily emissions that would occur within the Berths 136-147 terminal and in direct proximity to the facility during the year 2010. Emission sources considered in this comparison include (1) OGV and tug harbor transit within 1 mile of Berths 136-147, (2) OGV hoteling, (3) terminal and rail yard equipment, (4) trains and trucks within 1 mile of the terminal, and (5) locomotives within the Pier A railyard. Tables D2.1-PP(2010)-37 and D2.1-PP(2010)-38 present the comparisons of these emissions between the Project and Alternative scenarios. This approach produced adequate results, as the operational locations and activities of most emission sources are similar for both the proposed Project and Project Alternative scenarios.

5.1.4 Mitigated Operational Impacts from Project Alternatives

Table D2.1-PPMit(2010)-43 in Appendix D2.1 presents the maximum off-site ground level concentrations of criteria pollutants estimated for the operation of the mitigated Project Alternatives 3 and 4 after implementation of **Mitigation Measures AQ-6** through **AQ-12**. These data were developed by multiplying the results of the mitigated Project operational dispersion modeling analysis by the ratio of Alternative to proposed Project mitigated operational daily emissions that would occur within the Berths 136-147 terminal and in direct proximity to the facility during the year 2010, as identified in section 5.1.3 above. Tables D2.1-PPMit(2010)-42 and D2.1-PPMit(2010)-43 present the comparisons of these emissions between the Project and Alternative scenarios. This approach produced adequate results, as the operational locations and activities of most emission sources are similar for both the proposed Project and Project Alternative scenarios.

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Table D2.1-CB(2010)-1. Ship Visit and Throughput Data - Berths 136-147 Terminal Project - CEQA Baseline.

Project Scenario/Ship Type	Annual Ship Visits	Annual Shifts	TEU Moves/ Ship Visit (1)	Hoteling Time/ Visit (Hours) (2)	Annual TEU Movements
Project Year 2010					
Containerships 8,000 - 9,000 TEU					
Containerships 5,000 - 6,000 TEU					
Containerships 3,000 - 5,000 TEU	68		5,100	60	346,800
Containerships < 3,000 TEU	178		3,063	36	545,214
Subtotal	246				892,014

Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000 TEUs at berths 121-131 in year 2001. Thrghput for 8,000-9,000 TEU vessels based upon an expected capacity of 8,800 TEUs (Samsung Heavy Industries 2003) * 1.43 (the ratio of throughput per ship visit/vessel capacity for vessels >5,000 TEUs that called at Berths 121-131 in 2001) = 12,584 TEUs/SV.

(2) Assume 4 cranes @ 25 lifts/hr *1.7 TEUs/box * 16 hr/day = 2720 TEUs transfered/day * 1.04 for non-cargo transfer berth time. However, by year 2038, cranes would operate for 21 hours/day = 3,060 TEUs transfered/day, except 3,825 TEUs lifted/day for the 8-9,000 TEU vessels.

Table D2.1-CB(2010)-2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Propulsion Max Hp (2)	Fairway (1) Load Factor (3)	Modal Hp	Distance (NM)	Speed (Kts) (4)	Hours Per Trip	Hp-Hrs/ Trip	kW-Hrs/ Trip (5)
Non-Compliance with VSRP (6)								
Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
Containership 5,000 - 6,000 TEU	74,043	0.83	61,530	39.9	22.6	1.76	108,416	80,878
Containership 3,000 - 5,000 TEU	50,651	0.83	42,091	39.9	20.8	1.92	80,625	60,146
Containership < 3,000 TEU	26,525	0.83	22,043	39.9	18.2	2.19	48,229	35,979
General Cargo	10,993	0.83	9,135	38.9	14.7	2.64	24,156	18,021
Auto Carrier	15,418	0.83	12,813	39.6	17.6	2.24	28,736	21,437
Compliance with VSRP (7)								
Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,043	0.83	61,530	17.9	22.6	0.79	48,638	36,284
Containership 5,000 - 6,000 TEU - In VSRPZ	74,043	0.12	9,152	22.0	12.0	1.83	16,779	12,517
Containership 5,000 - 6,000 TEU - Total kW-Hrs								48,801
Containership 3,000 - 5,000 TEU - Outside VSRPZ	50,651	0.83	42,091	17.9	20.8	0.86	36,170	26,983
Containership 3,000 - 5,000 TEU - In VSRPZ	50,651	0.16	8,043	22.0	12.0	1.83	14,746	11,000
Containership 3,000 - 5,000 TEU - Total kW-Hrs								37,983
Containership < 3,000 TEU - Outside VSRPZ	26,525	0.83	22,043	17.9	18.2	0.98	21,637	16,141
Containership < 3,000 TEU - In VSRPZ	26,525	0.24	6,278	22.0	12.0	1.83	11,509	8,586
Containership < 3,000 TEU - Total kW-Hrs								24,727
General Cargo - Outside VSRPZ	10,993	0.83	9,135	16.9	14.7	1.15	10,477	7,816
General Cargo - In VSRPZ	10,993	0.45	4,975	22.0	12.0	1.83	9,121	6,804
General Cargo - Total kW-Hrs								14,620
Auto Carrier - Outside VSRPZ	15,418	0.83	12,813	17.6	17.6	1.00	12,751	9,512
Auto Carrier - In VSRPZ	15,418	0.26	4,035	22.0	12.0	1.83	7,398	5,519
Auto Carrier - Total kW-Hrs								15,031

Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes for each vessel type (see Table D2.1-CB(2010)-5a).

(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.

(3) PEI page 68.

(4) Represents service speed, which is 94% of maximum speed (PEI page 68).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).

(7) Applies to route within 20 nm of Pt. Fermin. Load factor derived from Propeller Law, where load factor = (actual speed/max. speed)^3 (PEI page 99).

Table D2.1-CB(2010)-3. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Precautionary Area - Berths 136-147 Terminal Project Alternatives.

	Precautionary Area (1)							
Vessel Type	Propulsion Max Hp	Load Factor (2)	Modal Hp	Distance (NM)	Speed (Kts) (3)	Hours	Hp-Hrs/ Trip	kW-Hrs/ Trip
Containership 8,000 - 9,000 TEU	93,000	0.07	6,697	10.4	11.0	0.95	6,332	4,723
Containership 5,000 - 6,000 TEU	74,043	0.10	7,049	10.4	11.0	0.95	6,665	4,972
Containership 3,000 - 5,000 TEU	50,651	0.12	6,195	10.4	11.0	0.95	5,857	4,370
Containership < 3,000 TEU	26,525	0.18	4,835	10.4	11.0	0.95	4,572	3,410
General Cargo	10,993	0.19	2,099	9.5	9.0	1.06	2,222	1,658
Auto Carrier	15,418	0.20	3,108	10.1	11.0	0.92	2,857	2,131

Notes: (1) Portion of the trip between the fairway and POLA breakwater.

(2) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed)^3 (PEI page 99).

(3) Average transit speeds obtained from PEI Table 2.8.

Table D2.1-CB(2010)-4. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Operational Mode/Vessel Type	Propulsion Max Hp	Load Factor (2)	Modal Hp	Hours/ Mode (3)	Hp-Hrs/ Trip	kW-Hrs/ Trip
Transit (1)						
Containership 8,000 - 9,000 TEU	93,000	0.037	3,441	0.75	2,581	1,925
Containership 5,000 - 6,000 TEU	74,043	0.037	2,740	0.75	2,055	1,533
Containership 3,000 - 5,000 TEU	50,651	0.037	1,874	0.75	1,406	1,049
Containership < 3,000 TEU	26,525	0.037	981	0.75	736	549
General Cargo	10,993	0.060	660	0.75	495	369
Auto Carrier	15,418	0.065	1,002	0.75	752	561
Docking						
Containership 8,000 - 9,000 TEU	93,000	0.020	1,860	0.21	381	284
Containership 5,000 - 6,000 TEU	74,043	0.020	1,481	0.21	304	226
Containership 3,000 - 5,000 TEU	50,651	0.020	1,013	0.21	208	155
Containership < 3,000 TEU	26,525	0.020	531	0.21	109	81
General Cargo	10,993	0.020	220	0.13	27	21
Auto Carrier	15,418	0.020	308	0.13	39	29

Notes: (1) Average one-way transit operations between the POLA breakwater and the Berth 136-149 Terminal.

(2) Transit load factors based upon the average of inbound and outbound load factors in PEI Table 2.46. Docking load factors obtained from PEI Table 2.46.

(3) One-way transit durations = 3.7 nm @ 5 kts. Docking durations obtained from PEI Table 2.51.

Table D2.1-CB(2010)-5a. Cargo Vessel Propulsion Engine Usage for Shifts within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Operational Mode/Vessel Type (1)	Propulsion Max Hp	Load Factor (2)	Modal Hp	Hours/ Mode (3)	Hp-Hrs/ Trip	kW-Hrs/ Trip
Transit						
Containership < 3,000 TEU	26,525	0.037	981	0.75	736	549
Docking						
Containership < 3,000 TEU	26,525	0.020	531	0.21	109	81

Notes: (1) Vessel usage within the POLA and to Berths 136-147. Equal to 1 transit + docking operation estimated in Table D2.1-CB(2010)-4.

Table D2.1-CB(2010)-5b. Cargo Vessel Transit Distances within the Fairway and Precautionary Areas - Berths 136-147 Terminal Project Alternatives.

	Fairway 1-way Route Length (1)/ Percent in Route (2)			
	North	West	South	Ave.
Vessel Type	39.5	43.5	36.0	Length
Container	90.0	10.0	-	39.9
General Cargo	60.0	10.0	30.0	38.9
Auto	80.0	10.0	10.0	39.6
	VSRP Zone 1-way Distance within Fairway/Percent in Route (2)			
	North	West	South	Ave.
Vessel Type	22.4	19.2	13.6	Length
Container	90.0	10.0	-	22.1
General Cargo	60.0	10.0	30.0	19.4
Auto	80.0	10.0	10.0	21.2
	Precautionary Area 1-way Route Length (1)/Percent in Route (2)			
	North (3)	West (3)	South (3)	Ave.
	10.4	10.4	7.5	Length
Container	90.0	10.0	-	10.4
General Cargo	60.0	10.0	30.0	9.5
Auto	80.0	10.0	10.0	10.1

Notes: (1) Route lengths in units of nautical miles (nm) (from PEI Table 2.8).

(2) Based upon expected transit distribution patterns (TraPac 2004).

(3) Revised from PEI Table 2.8 values, based upon review of nautical chart 18740, 40th edition (US Dept. of Commerce 2003).

Table D2.1-CB(2010)-6. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Trans
Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Transit	kW-Hrs/ Transit
Non-Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	1.61	2,818
Containership 5,000 - 6,000 TEU	12,431	0.13	1.76	2,847
Containership 3,000 - 5,000 TEU	8,137	0.13	1.92	2,026
Containership < 3,000 TEU	4,315	0.13	2.19	1,227
General Cargo	1,777	0.17	2.64	799
Auto Carrier	2,850	0.15	2.24	959
Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	2.55	4,482
Containership 5,000 - 6,000 TEU	12,431	0.13	2.62	4,240
Containership 3,000 - 5,000 TEU	8,137	0.13	2.69	2,848
Containership < 3,000 TEU	4,315	0.13	2.81	1,579
General Cargo	1,777	0.17	2.98	900
Auto Carrier	2,850	0.15	2.83	1,209

Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from 5,000-6,000 TEU vessel rating.

(2) PEI Table 2.19.

(3) See Table D2.1-CB(2010)-2 for estimated vessel transit durations within the fairway for each mode

Table D2.1-CB(2010)-7. Cargo Vessel Auxiliary Generator Usage per One-Way Precautionary Area Transit - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel	Load Factor (1)	Hours/ Transit	kW-Hrs/ Transit
Containership 8,000 - 9,000 TEU	13,501	0.25	0.95	3,191
Containership 5,000 - 6,000 TEU	12,431	0.25	0.95	2,938
Containership 3,000 - 5,000 TEU	8,137	0.25	0.95	1,923
Containership < 3,000 TEU	4,315	0.25	0.95	1,020
General Cargo	1,777	0.27	1.06	508
Auto Carrier	2,850	0.30	0.92	786

Notes: (1) PEI Table 2.19.

Table D2.1-CB(2010)-8. Cargo Vessel Auxiliary Generator Usage per One-Way Transit and D
within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel	Load Factor (1)	Hours/ Mode (2)	kW-Hrs/ Transit
Transit (1)				
Containership 8,000 - 9,000 TEU	13,501	0.50	0.75	5,063
Containership 5,000 - 6,000 TEU	12,431	0.50	0.75	4,662
Containership 3,000 - 5,000 TEU	8,137	0.47	0.75	2,887
Containership < 3,000 TEU	4,315	0.45	0.75	1,466
General Cargo	1,777	0.45	0.75	600
Auto Carrier	2,850	0.45	0.75	962
Docking				
Containership 8,000 - 9,000 TEU	13,501	0.50	0.21	1,384
Containership 5,000 - 6,000 TEU	12,431	0.50	0.21	1,274
Containership 3,000 - 5,000 TEU	8,137	0.47	0.21	789
Containership < 3,000 TEU	4,315	0.45	0.21	401
General Cargo	1,777	0.45	0.13	100
Auto Carrier	2,850	0.45	0.13	160

Notes: (1) PEI Table 2.19.

(2) See Table D2.1-CB(2010)-4 for estimated vessel transit/docking durations within the Harbor.

Table D2.1-CB(2010)-9. Cargo Vessel Hoteling Auxiliary Generator Usage per Ship Visit - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel	Load Factor (1)	Hours/ Visit (2)	kW-Hrs/ Visit
Containership 8,000 - 9,000 TEU	13,501	0.15		
Containership 5,000 - 6,000 TEU	12,431	0.15		
Containership 3,000 - 5,000 TEU	8,137	0.19	60.0	90,809
Containership < 3,000 TEU	4,315	0.21	36.0	32,000
General Cargo	1,777	0.22	39.8	15,559
Auto Carrier	2,850	0.26	17.4	12,893

Notes: (1) PEI Table 2.19.
(2) From Table D2.1-CB(2010)-1, except PEI Table 2.24 for auto carrier and general cargo vessels.

Table D2.1-CB(2010)-10. Cargo Vessel Auxiliary Generator Usage per Shift within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel	Load Factor (1)	Hours/ Visit (1)	kW-Hrs/ Year
Transit (1)				
Containership < 3,000 TEU	4,315	0.45	0.75	1,466
Docking				
Containership < 3,000 TEU	4,315	0.45	0.21	401

Notes: (1) From Table D2.1-CB(2010)-8.

Table D2.1-CB(2010)-11. Cargo Vessel Auxiliary Generator Usage during Hoteling per Shift - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Visit (1)	kW-Hrs/ Transit
Containership < 3,000 TEU	4,315	0.21	36.0	32,000

Notes: (1) From Table D2.1-CB(2010)-9.

Table D2.1-CB(2010)-12. Cargo Vessel Auxiliary Boiler Usage per Ship Visit - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Hourly Fuel Usage (1)
All Cargo Vessels	0.154

Notes: (1) Units in tons/hour of fuel consumption (PEI Section 2.5.6).
This usage assumed for all vessel locations.

Table D2.1-CB(2010)-13. Baseline Year 2003 Cargo Vessel Tugboat Assist Usage - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Tugboat Max Hp (1)	Load Factor (2)	Hours/ Assist (3)	Hp-Hr/ Assist	Annual # of Assists (4)	Annual Hp-Hrs	Annual kW-Hrs
Containership 3,000 - 5,000 TEU	4,543	0.31	1.24	1,748	158	277,023	206,659
Containership < 3,000 TEU	4,543	0.31	1.24	1,748	237	414,031	308,867
Totals						691,054	515,526

Notes: (1) (Starcrest 2006)

(2) From PEI, Table 3.9.

(3) Duration 1-way vessel trip due to harbor transit and docking durations presented in Tables D1.2.4 and D1.2.5 times 1.3 to account for tug movement and assist time. General cargo and auto carrier vessels assumed to require the same tugboat assist usage as containerships <3,000 TEUs.

(4) Estimated by multiplying the ratio of 2003/2001 throughputs for the Berths 136-147 terminal by tug activitiy during the 2001 baseline year. All future project years would have 3 tug assists per ship visit.

Table D2.1-CB(2010)-14. Baseline Year 2003 Tugboat Aux. Generator Usage during Cargo Vessel Assists - Berths 136-147 Terminal Project Alternatives.

Vessel Type	Aux. Engine Hp (1)	Load Factor (2)	Hours/ Assist (3)	Hp-Hr/ Assist	Annual # of Assists	Annual Hp-Hrs	Annual kW-Hrs
Containership 3,000 - 5,000 TEU	258	0.43	1.61	179	158	28,369	21,163
Containership < 3,000 TEU	258	0.43	1.61	179	237	42,399	31,630
Totals						70,768	52,793

Notes: (1) (Starcrest 2006)

(2) From PEI Table 3.9.

(3) Duration = 1.3 times tug assist time in Table D2.1-CB(2010)-13 to account for usage when main engines are shut down in stand-by mode. General cargo/ auto carrier vessels would require the same usage as containerships <3,000 TEUs.

Table D2.1-CB(2010)-15. Emissions Factors for Vessels - Berths 136-147 Terminal Project Alternatives.

Operational Mode/Ship-Engine Type	Emission Factors (Gm/kW-Hr)					Source
	ROG	CO	NOx	SOx	PM	
Cruise/Main Engine						
OGVs - Slow Speed Diesel	0.60	1.40	18.10	10.50	1.50	(1)
<20% Main Engine Load Emission Factors						
OGVs - Slow Speed Diesel 2% Load Adjustment Factor	31.62	10.00	4.63	1.00	7.29	(2)
OGVs - Slow Speed Diesel 3% Load Adjustment Factor	17.21	6.67	2.92	1.00	4.33	(2)
OGVs - Slow Speed Diesel 4% Load Adjustment Factor	11.18	5.00	2.21	1.00	3.09	(2)
OGVs - Slow Speed Diesel 5% Load Adjustment Factor	8.00	4.00	1.83	1.00	2.44	(2)
OGVs - Slow Speed Diesel 6% Load Adjustment Factor	6.09	3.33	1.60	1.00	2.04	(2)
OGVs - Slow Speed Diesel 7% Load Adjustment Factor	4.83	2.86	1.45	1.00	1.79	(2)
OGVs - Slow Speed Diesel 9% Load Adjustment Factor	3.31	2.22	1.27	1.00	1.48	(2)
OGVs - Slow Speed Diesel 10% Load Adjustment Factor	2.83	2.00	1.22	1.00	1.38	(2)
OGVs - Slow Speed Diesel 12% Load Adjustment Factor	2.15	1.67	1.14	1.00	1.24	(2)
OGVs - Slow Speed Diesel 16% Load Adjustment Factor	1.40	1.25	1.05	1.00	1.08	(2)
OGVs - Slow Speed Diesel 18% Load Adjustment Factor	1.17	1.11	1.02	1.00	1.04	(2)
OGVs - Slow Speed Diesel 19% Load Adjustment Factor	1.08	1.05	1.01	1.00	1.02	(2)
OGVs - Slow Speed Diesel 2% Load Emission Factor	18.97	14.00	83.80	10.50	10.94	(3)
OGVs - Slow Speed Diesel 3.7% Load Emission Factor	7.79	7.70	43.86	10.50	5.19	(3)
OGVs - Slow Speed Diesel 6.5% Load Emission Factor	3.28	4.33	27.60	10.50	2.87	(3)
OGVs - Slow Speed Diesel 7% Load Emission Factor	2.90	4.00	26.25	10.50	2.69	(3)
OGVs - Slow Speed Diesel 9% Load Emission Factor	1.99	3.11	22.99	10.50	2.22	(3)
OGVs - Slow Speed Diesel 10% Load Emission Factor	1.70	2.80	22.08	10.50	2.07	(3)
OGVs - Slow Speed Diesel 12% Load Emission Factor	1.29	2.34	20.63	10.50	1.86	(3)
OGVs - Slow Speed Diesel 16% Load Emission Factor	0.84	1.75	19.01	10.50	1.62	(3)
OGVs - Slow Speed Diesel 18% Load Emission Factor	0.70	1.55	18.46	10.50	1.56	(3)
OGVs - Slow Speed Diesel 19% Load Emission Factor	0.65	1.47	18.28	10.50	1.53	(3)
Tugboats - Diesel Main Engines Year 2003	0.37	1.87	12.49	0.80	0.49	(4)
Tugboats - Diesel Main Engines Year 2007	0.37	1.87	11.75	0.006	0.48	(4)
Tugboats - Diesel Main Engines Year 2010	0.37	1.87	11.11	0.006	0.46	(4)
Tugboats - Diesel Main Engines Year 2015	0.36	1.87	10.04	0.006	0.43	(4)
Tugboats - Diesel Main Engines Year 2038	0.35	1.87	7.47	0.006	0.33	(4)
Auxiliary Generators						
OGVs - Medium Speed Diesel - Residual Oil	0.40	1.10	14.70	12.30	1.50	(5)
OGVs - Medium Speed Diesel - Marine Diesel Oil @ 0.78% S	0.40	1.10	13.90	3.29	0.56	(5)
OGVs - Medium Speed Diesel - Marine Gas Oil @ 0.2% S	0.40	1.10	13.90	0.84	0.28	(5)
Tugboats - High Speed Diesel - Year 2003	0.27	1.67	9.94	0.80	0.46	(4)
Tugboats - High Speed Diesel - Year 2007	0.27	1.67	9.64	0.004	0.45	(4)
Tugboats - High Speed Diesel - Year 2010	0.27	1.67	9.37	0.004	0.43	(4)
Tugboats - High Speed Diesel - Year 2015	0.27	1.67	8.91	0.004	0.40	(4)
Tugboats - High Speed Diesel - Year 2038	0.27	1.67	6.80	0.004	0.28	(4)
Auxiliary Boilers						
Commercial Vessels	0.76	9.20	24.60	108.00	3.02	(6)

Notes: (1) Applies to OGV operations within the fairway and precautionary area (PEI Table 2.20). PM10 factor from Table 2.20 divided by 0.8 to produce PM factor for slow speed diesel engine buring residual oil (See Table 2.9 and section 2.5.1. [Entec 2002]).

(2) Unitless adjustment factors from PEI Table 2.21 that are applied to OGV main power plant emission factors in PEI Table 2.20 to obtain emission factors for engine loads <20%.

(3) Calculated OGV main power plant low load emission factors.

(4) Composite EFs for category 1/2 diesel engines (Starcrest 2006). Average sulfur (S) content = 0.19% (PEI Section 3.2.2) in year 2003 and 15 ppm in year 2007+

(5) Table 2.22 (Starcrest 2004). PM emission factors for medium speed diesel engnies burning 0.2% S marine gas, POLA diesel, and ULSD calculated by Starcrest (Starcrest 2006).

(6) Units in Lb/ton fuel from PEI Table 2.23. Original PM10 factor divided by 0.86 to produce DPM factor (Table 1.3-5 [EPA 1998]).

Table D2.1-CB(2010)-16. Annual Cargo Vessel Emissions within the POLA Fairway Zone
Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	4.21	9.57	119.22	68.51	9.94	9.31
Containerships < 3,000 TEU	6.48	15.13	195.61	113.47	16.21	15.19
Subtotal	10.70	24.70	314.82	181.98	26.15	24.50

Note: (1) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-CB(2010)-17. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-CB(2010)-18a. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	1.23	1.21	6.89	1.65	0.82	0.76
Containerships < 3,000 TEU	1.68	1.66	9.45	2.26	1.12	1.05
Subtotal	2.90	2.87	16.34	3.91	1.94	1.81

Table D2.1-CB(2010)-18b. Annual Cargo Vessel Emissions for Docking Activities -
Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	0.44	0.33	1.95	0.24	0.25	0.24
Containerships < 3,000 TEU	0.60	0.45	2.67	0.33	0.35	0.33
Subtotal	1.04	0.77	4.61	0.58	0.60	0.56

Table D2.1-CB(2010)-19. Annual Shifting Emissions for Cargo Vessels within the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.28	0.28	1.59	0.38	0.19	0.18
Docking	0.10	0.08	0.45	0.06	0.06	0.05
Subtotal	0.38	0.35	2.04	0.44	0.25	0.23

Table D2.1-CB(2010)-20. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - CEQA Baseline

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	0.16	0.44	5.82	4.87	0.59	0.56
Containerships < 3,000 TEU	0.23	0.64	8.60	7.20	0.88	0.82
Subtotal	0.39	1.08	14.43	12.07	1.47	1.38

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-CB(2010)-21. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-CB(2010)-22a. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-CB(2010)-22b. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	0.05	0.13	1.68	0.78	0.11	0.10
Containerships < 3,000 TEU	0.06	0.17	2.23	1.04	0.14	0.13
Subtotal	0.11	0.30	3.91	1.83	0.25	0.23

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-CB(2010)-23. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling
Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-CB(2010)-24. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts
Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Mode	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-CB(2010)-25. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels
during Hoteling - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Containership < 3,000 TEU						
Subtotal						

Table D2.1-CB(2010)-26. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting
the Fairway Zone - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-CB(2010)-27. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-CB(2010)-28a. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting withir the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-CB(2010)-28b. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	0.00	0.02	0.05	0.23	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.14	0.61	0.02	0.02
Subtotal	0.01	0.07	0.19	0.84	0.02	0.02

Table D2.1-CB(2010)-29. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling
Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-CB(2010)-30. Annual Auxiliary Boiler Emissions during Cargo Vessel Shifts · Berths 136-147 Terminal Project - CEQA Baseline

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.00	0.03	0.09	0.37	0.01	0.01
Docking	0.00	0.01	0.02	0.10	0.00	0.00
Hoteling	0.06	0.77	2.05	8.98	0.25	0.24
Subtotal	0.07	0.81	2.15	9.46	0.26	0.25

Table D2.1-CB(2010)-31. Annual Tugboat Emissions for Cargo Vessel Assists · Berths 136-147 Terminal Project - CEQA Baseline

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.21	1.06	6.31	0.00	0.26	0.24

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-CB(2010)-32. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - CEQA Baseline

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.02	0.10	0.54	0.00	0.03	0.02

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-CB(2010)-33. Annual Vessel Emissions - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	11.09	25.78	329.25	194.05	27.62	25.88
Ships - Precautionary Area Transit (1)	1.90	4.23	43.80	27.70	3.78	3.54
Ships - Harbor Transit (1)	3.31	4.19	30.89	15.85	3.15	2.96
Ships - Docking (1)	1.16	1.13	8.59	3.84	0.94	0.88
Ships - Hoteling Aux. Sources	5.85	21.82	208.66	208.10	17.89	16.76
Tugboats - Cargo Vessel Assist (1)	0.22	1.16	6.86	0.00	0.29	0.27
Subtotal	23.52	58.31	628.04	449.54	53.67	50.29

Note: (1) Includes auxiliary power emissions.

Table D2.1-CB(2010)-34. Daily Vessel Emissions - Berths 136-147 Terminal Project - CEQA Baseline

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	60.8	141.2	1,804.1	1,063.3	151.3	141.8
Ships - Precautionary Area Transit (1)	10.4	23.2	240.0	151.8	20.7	19.4
Ships - Harbor Transit (1)	18.1	22.9	169.2	86.8	17.3	16.2
Ships - Docking (1)	-	-	-	-	-	-
Ships - Hoteling Aux. Sources	32.0	119.6	1,143.4	1,140.3	98.0	91.9
Tugboats - Cargo Vessel Assist (1)	1.2	6.4	37.6	0.0	1.6	1.5
Subtotal	123	313	3,394	2,442	289	271

Note: (1) Includes auxiliary power emissions.

Table D2.1-CB(2010)-35. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - CEQA Baseline

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips	Truck Miles to Offsite Railyard (3)	Local Truck Trip Miles (4)	Composite VMT/ Truck Trip
Year 2010	891,976	-	445,988	445,988	598,795	598,795	11.3	55.0	33.2

(1) Annual throughput estimates from Rail Master Plan.

(2) = 50% of Berths 136-147 annual cargo throughput for all years.

(3) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(4) Average of local/external-SCAB trip lengths (20/90) that originate from/are destined to the POLA.

Table D2.1-CB(2010)-36. ADT Estimates - Berths 136-147 Terminal Project - CEQA Baseline.

Alternative/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
2010	1,197,589	3,281	4,492

(1) = annual trips/ 266.6 days.

Table D2.1-CB(2010)-37. On-Road Truck Operational Data for the Berths 136-147 Terminal Project - CEQA Baseline

Activity/Project Scenario	Idling Time/ Trip (Hrs)	Miles/ Trip (1)	ADT	Idling Hrs/ Day	Miles/ Day
On-Terminal					
Year 2010	0.25	0.81	3,281	820	2,643
Off-Terminal					
Year 2010	0.30	33.2	3,281	984	108,767

(1) On-terminal mileage/trip based upon truck trip patterns through 2 terminal gates. Off-terminal miles/trip based on data presented in Table D2.1.34.

Table D2.1-CB(2010)-38. On-Road Truck Operational Data for the Berths 136-147 Terminal Project - CEQA Ba

Project Year/Mode	Emission Factors (Grams/Mile)					References
	ROG	CO	NOx	SOx	PM10	
Project Year 2010						
On-road Truck - Idle	11.40	47.31	113.02	0.06	1.68	(1)
On-road Truck - 10 mph	9.21	18.92	36.27	0.03	2.55	(1)
On-road Truck - 25 mph	1.80	8.59	21.55	0.02	0.87	(1)
On-road Truck - 55 mph	1.11	3.96	21.15	0.02	0.73	(1)
On-road Trucks - Composite Off-Terminal	2.26	7.77	22.86	0.02	0.98	(3)

Notes: (1) From EMFAC2007 (ARB 2006). Units in grams/mile for each project year, at 60 degrees and 50% relative humidity, except idle factors in units of grams/hour.

Based on age distribution of year 2001 POLA truck fleet, as used in the PEI.

(2) Based on 10% at 10 miles per hour (mph), 50% at 25 mph, and 40% at 55 mph. Although not included in this composite emission factor, 30 minutes of idling mode included in emission estimates for each truck trip.

(3) Same as (2), except based on 10% at 10 miles per hour (mph), 60% at 25 mph, and 30% at 55 mph.

(4) Same as (3), except based on 10% at 10 miles per hour (mph), 70% at 25 mph, and 20% at 55 mph.

(5) Interpolated between EMFAC2007 (ARB 2006) data for years 2030 and 2040.

Table D2.1-CB(2010)-39. Road Dust Emissions for the Berths 136-147 Terminal Project - CEQA Baseline.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	47.4	8.0
Off-Terminal		
Year 2010	86.0	14.5
Combined On/Off-Terminal		
Year 2010	133.5	22.6

Notes: (1) 47.05 % freeway travel and 52.95% surface street travel

Table D2.1-CB(2010)-40. Brake and Tire Wear Emissions for the Berths 136-147 Terminal Project - CEQA Baseline.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	0.3	0.1
Off-Terminal		
Year 2010	12.0	5.1
Combined On/Off-Terminal		
Year 2010	12.3	5.3

Table D2.1-CB(2010)-41. Total Non-Combustive Truck Generated PM Emissions for the Berths 136-147 Terminal Project - CEQA Baseline.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	47.7	8.1
Off-Terminal		
Year 2010	98.0	19.7
Combined On/Off-Terminal		
Year 2010	146	28

Table D2.1-CB(2010)-42. Daily Truck Emissions for the Berths 136-147 Terminal Project - CEQA Baseline.

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	20.6	85.6	204.4	0.1	3.0	2.8
Year 2010 - Driving	53.7	110.2	211.4	0.2	14.8	13.7
Subtotal - Year 2010	74.3	195.8	415.8	0.3	17.9	16.5
Off-Terminal						
Year 2010 - Idling	24.7	102.7	245.3	0.1	3.6	3.4
Year 2010 - Driving	543.2	1,863.1	5,482.7	4.7	235.0	216.2
Subtotal - Year 2010	567.9	1,965.7	5,728.0	4.8	238.6	219.6
Total Daily Truck Emissions by Project Year						
Year 2010	642.2	2,161.6	6,143.8	5.1	256.5	236.0

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-CB(2010)-43. Equipment Usage Associated with One Outbound Train Trip at the Carson/Los Angel ICTFs - Berths 136-147 Terminal Project Alternatives.

Equipment Type (1)	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Total Hp-Hrs
Hostler	175	0.25	7	306	8.0	2,450
Top Picks	250	0.40	2	200	8.0	1,600
Haul Line Locomotive (2)	4,244	0.28	3	3,535	4.9	17,146
Haul Line Locomotive - Notch 1	4,244	0.05	3	637	2.0	1,273
Yard Locomotive	2,045	0.11	1	229	2.0	458

Notes: (1) Each outbound train trip (to inland locations) would carry 240 containers (444 TEUs).

(2) Based on a one-way trip distance between the Carson/Los Angeles ICTFs and exit of the SCAB (97 miles).

Table D2.1-CB(2010)-44. Equipment Usage Associated with One Inbound Train Trip at the Carson/Los Angeles ICTFs - Berths 136-147 Terminal Project Alternatives.

Equipment Type (1)	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Total Hp-Hrs
Hostler	175	0.25	7	306	3.0	919
Top Picks	250	0.40	2	200	3.0	600
Haul Line Locomotive (2)	4,244	0.28	3	3,535	4.9	17,146
Haul Line Locomotive - Notch 1	4,244	0.05	3	637	1.0	637

Notes: (1) Each inbound train trip (into the POLA) would carry 90 containers (167 TEUs).

(2) Based on a one-way trip distance between the Carson/Los Angeles ICTFs and exit of the SCAB (97 miles).

Table D2.1-CB(2010)-45. Emission Factors for Rail/ICTF Equipment - Berths 136-147 Terminal Project Alternatives.

Project Scenario/ Equipment - Horsepower	Emission Factors (Gm/Hp-Hr)						References
	ROG	CO	NOx	SOx	PM	PM10	
Year 2010							
Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	0.32	OFFR. 2007
Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	0.25	OFFR. 2007
Line Haul Locomotive - Year 2010	0.51	1.28	7.02	0.16	0.20	0.20	(6)
Switch Yard Locomotive - Year 2010	0.60	2.40	8.10	0.005	0.23	0.23	(5)

Notes: (1) Estimated with the use of the ARB OFFROAD Model with consideration of fleet turnover with adopted future EPA off-road emission standards. Based on equipment annual Hp-Hr usages at Berths 136-147 in year 2001 (Starcrest 2005).

(2) Represents national average emission factors for line haul/switch yard locomotives for a given year (EPA 1998). ROG = THC * 1.27 Year 2003 data for switch engines = 1999 values, as current PHL fleet is pre-1973 vintage (pre-Tier 0). Year 2003 line haul/switch loco diesel fuel assumed to be 0.22/0.035% sulfur (S) (PEI pages 223 and 229), although PM emission factors for sv locos not subsequently reduced, due to the antiquated age of the PHL engines.

(3) Locomotive Emissions Final Rulemaking (EPA 1997), except PM reduced by 4% to simulate use of ULSD.

(4) Assumes existing fleet is 75% Pre-Tier 0 and 25% Tier 2 standards + use of ULSD in all locomotives.

(5) Assumes 100% conversion of existing fleet to Tier 2 standard engines + use of ULSD.

(6) Represents average EPA emission factors for line haul locomotives for a given year + the use of 500 ppm S diesel by 2008 and ULS by 2012, as stated in the EPA non-road diesel fuel rule. These fuels would produce 25/28% reductions in PM emissions from an assumed S fuel content of 0.2%.

Table D2.1-CB(2010)-46. Train Trip Generation Rates - Berths 136-147 Terminal Project - CEQA Baseline.

Project Scenario/Rail Yard	Annual Round Trips
Year 2010	
To/from Berths 136-147 ICTF	-
To/from Carson/LA Rail Yards	731

Table D2.1-CB(2010)-47. Existing Locomotive Usage within the Pier A Rail Yard - Berths 136-149 Terminal-CEQA Baseline.

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358

Notes: (1) Activity data based on year 2003 annual usage.

Table D2.1-CB(2010)-48. Annual Train Emissions within the Existing Pier A Rail Yard - Berths 136-147 Terminal CEQA Baseline.

Project Year/Emission Source	Tons per Year						
	VOC	CO	NOx	SOx	PM	PM10	PM2.5
Project Year 2010 (1)							
Line Haul Locomotive	0.05	0.12	0.64	0.01	0.02	0.02	0.02
Yard Locomotive - Low UsageTrip	0.14	0.56	1.90	0.00	0.05	0.05	0.05
Yard Locomotive - Medium UsageTrip	0.22	0.90	3.03	0.00	0.09	0.09	0.08
Subtotal	0.41	1.58	5.57	0.02	0.16	0.16	0.15

Note: (1) Assumes a 15% increase in activity between 2003 and 2006 and then steady.

Table D2.1-CB(2010)-49. Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project CEQA Baseline Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Yard Locomotive - Switching	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Berths 136-147/Inbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Carson or LA Railyards/Outbound						
Hostler	1.23	6.65	13.72	0.01	0.64	0.59
Top Picks	0.59	1.88	7.79	0.01	0.32	0.29
Line Haul Locomotive - Road Haul	7.01	17.67	96.92	2.18	2.69	2.48
Line Haul Locomotive - Notch 1	0.52	1.31	7.20	0.16	0.20	0.18
Yard Locomotive - Switching	0.22	0.89	2.99	0.00	0.08	0.08
Subtotal	9.58	28.40	128.62	2.35	3.93	3.62
Carson or LA Railyards/Inbound						
Hostler	0.46	2.49	5.14	0.00	0.24	0.22
Top Picks	0.22	0.70	2.92	0.00	0.12	0.11
Line Haul Locomotive - Road Haul	7.01	17.67	96.92	2.18	2.69	2.48
Line Haul Locomotive - Notch 1	0.26	0.66	3.60	0.08	0.10	0.09
Subtotal	7.96	21.53	108.59	2.26	3.15	2.90
Total Tons Per Year	17.54	49.93	237.21	4.62	7.08	6.52

Table D2.1-CB(2010)-50. Emission Factors for Terminal Equipment - Berths 136-147
Terminal Project Alternatives.

Project Scenario/Equipment Horsepower	Emission Factors (1) ROG	CO	NOx	SOx	PM10	References
Project Year 2010						
Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	OFFR. 2007
Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	OFFR. 2007
Terminal Equipment - 250-500 Hp	0.35	1.31	5.32	0.004	0.21	OFFR. 2007

Notes: (1) Data calculated from OFFROAD Emissions Model factors estimated for the year 2001 terminal equipment fleet (ARB 2004) with the use of an equipment replacement rate of 15 years and taking into consideration future off-road emission standards implementation schedule.

Table D2.1-CB(2010)-51. Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project CEQA Baseline.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	10,493,875	7.22	39.01	80.44	0.05	3.75	3.45
Terminal Equipment - 176-250 Hp	12,581,479	6.36	20.22	83.87	0.06	3.42	3.14
Terminal Equipment - 250-500 Hp	2,417,350	0.93	3.50	14.18	0.01	0.55	0.51
Subtotal	25,492,704	14.51	62.73	178.49	0.12	7.72	7.10

Table D2.1-CB(2010)-52. Annual Operational Emissions - Berths 136-147 Terminal Project CEQA Baseline

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	11.09	25.78	329.25	194.05	27.62	25.88
Ships - Precautionary Area Transit (1)	1.90	4.23	43.80	27.70	3.78	3.54
Ships - Harbor Transit (1)	3.31	4.19	30.89	15.85	3.15	2.96
Ships - Docking (1)	1.16	1.13	8.59	3.84	0.94	0.88
Ships - Hoteling Aux. Sources	5.85	21.82	208.66	208.10	17.89	16.76
Tugboats - Cargo Vessel Assist (1)	0.22	1.16	6.86	0.00	0.29	0.27
Terminal Equipment	14.51	62.73	178.49	0.12	7.72	7.10
On-road Trucks	117.20	394.48	1,121.24	0.93	73.41	48.15
Trains	15.03	38.20	207.63	4.60	5.77	5.31
Railyard Equipment	2.51	11.73	29.58	0.02	1.32	1.21
Commuting	1.20	16.31	2.10	0.01	2.27	2.09
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	174.38	583.34	2,172.65	455.24	144.31	114.29

Note: (1) Includes auxiliary generator emissions.

Table D2.1-CB(2010)-53. Daily Operational Emissions - Berths 136-147 Terminal Project CEQA Baseline - 365 da

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	61	141	1,804	1,063	151	142
Ships - Precautionary Area Transit (1)	10	23	240	152	21	19
Ships - Harbor Transit (1)	18	23	169	87	17	16
Ships - Docking (1)	6	6	47	21	5	5
Ships - Hoteling Aux. Sources	32	120	1,143	1,140	98	92
Tugboats - Cargo Vessel Assist (1)	1	6	38	0	2	1
Terminal Equipment	80	344	978	1	42	39
On-road Trucks	642	2,162	6,144	5	402	264
Trains	82	209	1,138	25	32	29
Railyard Equipment	14	64	162	0	7	7
Commuting	7	89	12	0	12	11
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	955	3,196	11,905	2,494	791	626

Note: (1) Includes auxiliary generator emissions.

Table D2.1-NFAB(2010)-1. Proposed Phase-In Mitigations Implementation Schedule - Berths 136-147 Terminal Projects.

	Year/Compliance Rate Fraction of All Ship Visits				
Mitigation Measure		2010			
VSRP		0.95			
Non-VSRP		0.05			
AMP		0.40			
Non-AMP		0.60			
Auxiliary Engines - 2.7% S RO		0.56			
Auxiliary Engines - 0.78% S MGO		0.24			
Auxiliary Engines - 0.2% S MGO		0.20			
OGV Main Engines - 2.7% S RO		0.80			
OGV Main Engines - 0.5% S MGO					
OGV Main Engines - 0.2% S MGO		0.20			
Slide Valves		0.25			
Non-Slide Valves		0.75			
Annex VI Complaint Vessels		0.35			
Non-Annex VI Vessels		0.65			

Table D2.1-NFAB(2010)-2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Propulsion Max Hp (2)	Fairway (1) Load Factor (3)	Modal Hp	Distance (NM)	Speed (Kts) (4)	Hours Per Trip	Hp-Hrs/ Trip	kW-Hrs/ Trip (5)
Non-Compliance with VSRP								
Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
Containership 5,000 - 6,000 TEU	74,043	0.83	61,530	39.9	22.6	1.76	108,416	80,878
Containership 3,000 - 5,000 TEU	50,651	0.83	42,091	39.9	20.8	1.92	80,625	60,146
Containership < 3,000 TEU	26,525	0.83	22,043	39.9	18.2	2.19	48,229	35,979
General Cargo	10,993	0.83	9,135	38.9	14.7	2.64	24,156	18,021
Auto Carrier	15,418	0.83	12,813	39.6	17.6	2.24	28,736	21,437
Compliance with VSRP within VSRP Zone (6)(7)								
Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,043	0.83	61,530	17.9	22.6	0.79	48,638	36,284
Containership 5,000 - 6,000 TEU - In VSRPZ	74,043	0.12	9,152	22.0	12.0	1.83	16,779	12,517
Containership 5,000 - 6,000 TEU - Total kW-Hrs								48,801
Containership 3,000 - 5,000 TEU - Outside VSRPZ	50,651	0.83	42,091	17.9	20.8	0.86	36,170	26,983
Containership 3,000 - 5,000 TEU - In VSRPZ	50,651	0.16	8,043	22.0	12.0	1.83	14,746	11,000
Containership 3,000 - 5,000 TEU - Total kW-Hrs								37,983
Containership < 3,000 TEU - Outside VSRPZ	26,525	0.83	22,043	17.9	18.2	0.98	21,637	16,141
Containership < 3,000 TEU - In VSRPZ	26,525	0.24	6,278	22.0	12.0	1.83	11,509	8,586
Containership < 3,000 TEU - Total kW-Hrs								24,727
General Cargo - Outside VSRPZ	10,993	0.83	9,135	16.9	14.7	1.15	10,477	7,816
General Cargo - In VSRPZ	10,993	0.45	4,975	22.0	12.0	1.83	9,121	6,804
General Cargo - Total kW-Hrs								14,620
Auto Carrier - Outside VSRPZ	15,418	0.83	12,813	17.6	17.6	1.00	12,751	9,512
Auto Carrier - In VSRPZ	15,418	0.26	4,035	22.0	12.0	1.83	7,398	5,519
Auto Carrier - Total kW-Hrs								15,031
Compliance with VSRP within entire Fairway (8)								
Containership 8,000 - 9,000 TEU	93,000	0.09	8,694	39.9	12.0	3.33	28,909	21,566
Containership 5,000 - 6,000 TEU	74,043	0.12	9,152	39.9	12.0	3.33	30,430	22,701
Containership 3,000 - 5,000 TEU	50,651	0.16	8,043	39.9	12.0	3.33	26,743	19,951
Containership < 3,000 TEU	26,525	0.24	6,278	39.9	12.0	3.33	20,873	15,572
General Cargo	10,993	0.45	4,975	38.9	12.0	3.24	16,107	12,016
Auto Carrier	15,418	0.26	4,035	39.6	12.0	3.30	13,300	9,922

Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes for each vessel type (see Table D2.1-NFAB(2010)-5a).

(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.

(3) PEI page 68.

(4) Represents service speed, which is 94% of maximum speed (PEI page 68).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within/outside the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) ~ 22/17.9 nautical miles (NM).

(7) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).

Table D2.1-NFAB(2010)-3. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Transit	kW-Hrs/ Transit
Non-Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	1.61	2,818
Containership 5,000 - 6,000 TEU	12,431	0.13	1.76	2,847
Containership 3,000 - 5,000 TEU	8,137	0.13	1.92	2,026
Containership < 3,000 TEU	4,315	0.13	2.19	1,227
General Cargo	1,777	0.17	2.64	799
Auto Carrier	2,850	0.15	2.24	959
Compliance with VSRP within VSRP Zone (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	2.55	4,482
Containership 5,000 - 6,000 TEU	12,431	0.13	2.62	4,240
Containership 3,000 - 5,000 TEU	8,137	0.13	2.69	2,848
Containership < 3,000 TEU	4,315	0.13	2.81	1,579
General Cargo	1,777	0.17	2.98	900
Auto Carrier	2,850	0.15	2.83	1,209
Compliance with VSRP within entire Fairway (8)				
Containership 8,000 - 9,000 TEU	13,501	0.13	3.33	5,836
Containership 5,000 - 6,000 TEU	12,431	0.13	3.33	5,373
Containership 3,000 - 5,000 TEU	8,137	0.13	3.33	3,517
Containership < 3,000 TEU	4,315	0.13	3.33	1,865
General Cargo	1,777	0.17	3.24	978
Auto Carrier	2,850	0.15	3.30	1,409

Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from 5,000-6,000 TEU vessel rating.

(2) PEI Table 2.19.

(3) See Table D2.1-NFAB(2010)-2 for estimated vessel transit durations within the fairway for each mode of operation.

Table D2.1-NFAB(2010)-4. OGV Main Engine Emission Factors Multipliers for Use of Slide Valves

Main Engine Load Factor	VOC	CO	NOx	SOx	PM
> 25%	0.70	1.00	0.70	1.00	0.75
<25%	0.15	1.00	0.70	1.00	0.40

Notes: (1) Reduction factors for slide valves at high main engine loads are from CARB for PM, and from MAN B&W for VOC and NOx.

(2) Slide valve reduction factors for VOC and PM at low loads are from "MV Sine Maersk Emission Measurements & Retrofit Control Technology Discussion", MAN B&W Diesel A/S, April 8, 2004. No data are provided for NOx at low loads, so the high load reduction factor was conservatively used.

Table D2.1-NFAB(2010)-5. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project NEPA Baseline - Vessels that Comply with Proposed VSRP.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.82	5.11	44.22	18.69	3.54	3.32
Containerships 3,000 - 5,000 TEU	3.26	6.80	72.37	33.21	5.48	5.13
Containerships < 3,000 TEU	3.25	7.58	96.03	46.27	7.06	6.62
Subtotal	9.33	19.49	212.63	98.18	16.08	15.07

Note: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Without slide valves

Table D2.1-NFAB(2010)-6. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project NEPA Baseline - Non-Compliant Vessels with the Proposed VSRP.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.25	0.57	7.27	3.51	0.54	0.50
Containerships 3,000 - 5,000 TEU	0.37	0.86	10.94	5.27	0.80	0.75
Containerships < 3,000 TEU	0.40	0.92	11.68	5.63	0.86	0.81
Subtotal	1.01	2.36	29.89	14.40	2.20	2.06

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Without slide valves

Table D2.1-NFAB(2010)-7. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.86	1.41	10.91	4.31	0.91	0.85
Containerships 3,000 - 5,000 TEU	1.16	2.09	18.12	7.66	1.45	1.36
Containerships < 3,000 TEU	0.88	1.94	22.58	10.67	1.69	1.59
Subtotal	2.89	5.45	51.61	22.63	4.05	3.80

(2) Without slide valves

Table D2.1-NFAB(2010)-8. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.21	1.20	6.68	1.33	0.70	0.66
Containerships 3,000 - 5,000 TEU	1.68	1.66	9.24	1.84	0.97	0.91
Containerships < 3,000 TEU	1.57	1.55	8.64	1.72	0.91	0.85
Subtotal	4.45	4.40	24.56	4.88	2.58	2.42

Table D2.1-NFAB(2010)-9. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.44	0.32	1.89	0.20	0.22	0.20
Containerships 3,000 - 5,000 TEU	0.60	0.44	2.61	0.27	0.30	0.28
Containerships < 3,000 TEU	0.56	0.42	2.44	0.25	0.28	0.26
Subtotal	1.60	1.18	6.93	0.72	0.80	0.75

(2) Without slide valves

Table D2.1-NFAB(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project NEPA Baseline - Vessels that Comply with VSRP.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.21	0.57	7.43	4.06	0.53	0.50
Containerships 3,000 - 5,000 TEU	0.27	0.75	9.83	5.38	0.71	0.66
Containerships < 3,000 TEU	0.26	0.71	9.30	5.09	0.67	0.63
Subtotal	0.74	2.04	26.56	14.53	1.91	1.79

Note: (1) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

Table D2.1-NFAB(2010)-11. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project NEPA Baseline - Non-Compliant Vessels within VSRP.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.01	0.02	0.21	0.11	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.01	0.02	0.30	0.16	0.02	0.02
Containerships < 3,000 TEU	0.01	0.02	0.32	0.18	0.02	0.02
Subtotal	0.02	0.06	0.83	0.45	0.06	0.06

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-NFAB(2010)-12. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.12	0.33	4.28	2.34	0.31	0.29
Containerships 3,000 - 5,000 TEU	0.16	0.43	5.66	3.09	0.41	0.38
Containerships < 3,000 TEU	0.15	0.41	5.36	2.93	0.38	0.36
Subtotal	0.43	1.17	15.29	8.36	1.10	1.03

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NFAB(2010)-13. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.19	0.52	6.78	3.71	0.49	0.46
Containerships 3,000 - 5,000 TEU	0.24	0.65	8.49	4.64	0.61	0.57
Containerships < 3,000 TEU	0.21	0.59	7.70	4.21	0.55	0.52
Subtotal	0.64	1.76	22.97	12.56	1.65	1.55

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NFAB(2010)-14. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.14	1.85	1.01	0.13	0.12
Containerships 3,000 - 5,000 TEU	0.06	0.18	2.32	1.27	0.17	0.16
Containerships < 3,000 TEU	0.06	0.16	2.10	1.15	0.15	0.14
Subtotal	0.18	0.48	6.28	3.43	0.45	0.42

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NFAB(2010)-15. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.67	4.58	59.78	32.69	4.29	4.02
Containerships 3,000 - 5,000 TEU	2.23	6.14	80.14	43.83	5.76	5.39
Containerships < 3,000 TEU	1.41	3.88	50.65	27.70	3.64	3.41
Subtotal	5.31	14.61	190.57	104.23	13.69	12.82

Table D2.1-NFAB(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - NEPA Baseline - VSRP-Compliant.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-NFAB(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - NEPA Baseline - VSRP-Non-Compliant.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.02	0.07	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.01	0.03	0.15	0.00	0.00
Containerships < 3,000 TEU	0.00	0.03	0.07	0.30	0.01	0.01
Subtotal	0.00	0.04	0.12	0.52	0.01	0.01

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-NFAB(2010)-18. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.01	0.06	0.16	0.72	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.12	0.33	1.46	0.04	0.04
Containerships < 3,000 TEU	0.02	0.22	0.59	2.61	0.07	0.07
Subtotal	0.03	0.41	1.09	4.80	0.13	0.13

Table D2.1-NFAB(2010)-19. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.13	0.57	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.10	0.26	1.16	0.03	0.03
Containerships < 3,000 TEU	0.01	0.18	0.47	2.07	0.06	0.05
Subtotal	0.03	0.32	0.87	3.80	0.11	0.10

Table D2.1-NFAB(2010)-20. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.16	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.07	0.32	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.13	0.57	0.02	0.01
Subtotal	0.01	0.09	0.24	1.04	0.03	0.03

(2) Does not assume use of low-sulfur fuels.

Table D2.1-NFAB(2010)-21. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.19	2.35	6.27	27.54	0.77	0.72
Containerships 3,000 - 5,000 TEU	0.33	3.95	10.57	46.40	1.30	1.22
Containerships < 3,000 TEU	0.35	4.23	11.32	49.70	1.39	1.30
Subtotal	0.87	10.53	28.16	123.64	3.46	3.24

(2) Does not assume use of low-sulfur fuels.

Table D2.1-NFAB(2010)-22. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.48	2.46	14.62	0.01	0.61	0.57

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-NFAB(2010)-23. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.04	0.22	1.26	0.00	0.06	0.05

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-NFAB(2010)-24. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project NEPA Baseline - Vessels that Comply with VSRP + Slide Valves

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.22	5.11	40.91	18.69	3.01	2.82
Containerships 3,000 - 5,000 TEU	2.57	6.80	66.95	33.21	4.66	4.36
Containerships < 3,000 TEU	2.56	7.58	88.83	46.27	6.01	5.63
Subtotal	7.35	19.49	196.68	98.18	13.67	12.81

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.
(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-NFAB(2010)-25. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project NEPA Baseline - Non-Compliant Vessels within VSRP + Slide Valves.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.23	0.57	6.73	3.51	0.50	0.47
Containerships 3,000 - 5,000 TEU	0.34	0.86	10.12	5.27	0.75	0.71
Containerships < 3,000 TEU	0.37	0.92	10.80	5.63	0.81	0.75
Subtotal	0.94	2.36	27.65	14.40	2.06	1.93

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.
(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-NFAB(2010)-26. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - NEPA Baseline + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.67	1.41	10.09	4.31	0.77	0.72
Containerships 3,000 - 5,000 TEU	0.91	2.09	16.76	7.66	1.23	1.15
Containerships < 3,000 TEU	0.69	1.94	20.89	10.67	1.44	1.35
Subtotal	2.27	5.45	47.74	22.63	3.44	3.23

Table D2.1-NFAB(2010)-27. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - NEPA Baseline + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.95	1.20	6.18	1.33	0.60	0.56
Containerships 3,000 - 5,000 TEU	1.32	1.66	8.55	1.84	0.83	0.77
Containerships < 3,000 TEU	1.23	1.55	7.99	1.72	0.77	0.72
Subtotal	3.51	4.40	22.72	4.88	2.19	2.06

Table D2.1-NFAB(2010)-28. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - NEPA Baseline + Slide Valves.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.34	0.32	1.74	0.20	0.19	0.17
Containerships 3,000 - 5,000 TEU	0.47	0.44	2.41	0.27	0.26	0.24
Containerships < 3,000 TEU	0.44	0.42	2.26	0.25	0.24	0.22
Subtotal	1.26	1.18	6.41	0.72	0.68	0.64

Table D2.1-NFAB(2010)-29. Annual Vessel Emissions - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	9.05	24.00	251.83	128.08	17.71	16.60
Ships - Precautionary Area Transit (1)	2.73	7.03	64.12	35.79	4.68	4.38
Ships - Harbor Transit (1)	4.17	6.49	46.55	21.25	3.95	3.70
Ships - Docking (1)	1.44	1.75	12.93	5.20	1.16	1.09
Ships - Hoteling Aux. Sources	6.18	25.14	218.73	227.87	17.15	16.07
Tugboats - Cargo Vessel Assist (1)	0.52	2.69	15.88	0.01	0.66	0.62
Subtotal	24.10	67.09	610.04	418.20	45.31	42.46

Note: (1) Includes auxiliary power emissions.

Table D2.1-NFAB(2010)-30. Daily Vessel Emissions - Berths 136-147 Terminal Project - NEPA Baseline .

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	49.6	131.5	1,379.9	701.8	97.0	90.9
Ships - Precautionary Area Transit (1)	15.0	38.5	351.3	196.1	25.6	24.0
Ships - Harbor Transit (1)	22.9	35.5	255.1	116.5	21.6	20.3
Ships - Docking (1)	7.9	9.6	70.8	28.5	6.4	6.0
Ships - Hoteling Aux. Sources	33.9	137.8	1,198.5	1,248.6	94.0	88.0
Tugboats - Cargo Vessel Assist (1)	2.8	14.7	87.0	0.0	3.6	3.4
Subtotal	132	368	3,343	2,292	248	233

Note: (1) Includes auxiliary power emissions.

Table D2.1-NFAB(2010)-31. On-Road Truck Mitigated Emission Factors - Berths 136-147 Terminal Project Alternatives Sc

Project Year/Mode - Diesel Trucks	Emission Factors (Grams/Mile)						References
	ROG	CO	NOx	SOx	DPM	PM10	
Project Year 2010							
On-road Truck - Idle	7.44	30.48	127.16	0.07	0.36	0.36	EMFAC2007
On-road Truck - 10 mph	2.38	4.95	10.75	0.03	0.45	0.45	EMFAC2007
On-road Truck - 25 mph	0.51	2.03	6.20	0.02	0.20	0.20	EMFAC2007
On-road Truck - 55 mph	0.29	1.48	5.33	0.02	0.24	0.24	EMFAC2007
On-road Trucks - Composite Off-Terminal	0.63	2.16	6.39	0.02	0.24	0.24	(4)
LNG-Powered Trucks - AllYears							
On-road Truck - Idle	1.58	7.52	19.91	-		0.05	(6)

Notes: (1) From EMFAC2002 (ARB 2003). Units in grams/mile for each project year, at 60 degrees and 50% relative humidity, except idle factors in units of grams/hour. PM10 non-idle factors include combustive and tire and break wear emissions. Based on age distribution of year 2001 POLA truck fleet, as used in the PEI.

(2) Based on 10% at 10 miles per hour (mph), 50% at 25 mph, and 40% at 55 mph. Although not included in this composite emission factor, 30 minutes of idling mode included in emission estimates for each truck trip.

(3) Mitigated emission factors assume that the Port truck fleet would convert to 2007 EPA standards (Tier 4) at the following rate: 15/30/50/70/90/100% in years 2007/2008/2009/2010/2011/2012. Data obtained from China Shipping Truck Efs Ops.xls file. Year 2007/2010 data other then DPM interpolated between 2005 and 2015 data.

(4) Same as (2), except based on 10% at 10 miles per hour (mph), 60% at 25 mph, and 30% at 55 mph.

(5) Same as (2), except based on 10% at 10 miles per hour (mph), 70% at 25 mph, and 20% at 55 mph.

(6) Driving emission factors are Gm/Mile; idling emission factors are Gm/hour.

Table D2.1-NFAB(2010)-32. Daily Mitigated Truck Emissions for the Berths 136-147 Terminal Project - NEPA Baseline

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	18.4	75.2	313.8	0.2	0.9	0.8
Year 2010 - Driving	18.9	39.4	85.5	0.2	3.6	3.3
Subtotal - Year 2010	37.2	114.6	399.3	0.4	4.5	4.1
Off-Terminal						
Year 2010 - Idling	22.0	90.3	376.6	0.2	1.1	1.0
Year 2010 - Driving	254.5	870.2	2,579.0	8.0	95.3	87.7
Subtotal - Year 2010	276.5	960.5	2,955.6	8.2	96.3	88.6
Year 2010	313.7	1,075.1	3,354.9	8.6	100.8	92.7

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-NFAB(2010)-33. Mitigated Emission Factors for Rail/ICTF Equipment - Berths 136-147 Terminal Project Alternatives.

Project Scenario/ Equipment - Horsepower	Emission Factors (Gm/Hp-Hr)						References
	ROG	CO	NOx	SOx	PM	PM10	
Year 2010							
Terminal Equipment - 121-175 Hp - Unmitigated	0.62	3.37	6.95	0.00	0.32	0.32	(1)
Terminal Equipment - 176-250 Hp - Unmitigated	0.46	1.46	6.05	0.00	0.25	0.25	(1)
100-175 Hp - Tier 4 Standard	0.30	3.37	0.30	0.00	0.02	0.02	(7)
176-500 Hp - Tier 4 Standard	0.30	1.46	0.30	0.00	0.02	0.02	(7)
Line Haul Locomotive - Year 2010	0.51	1.28	7.02	0.16	0.20	0.20	(6)
Switch Yard Locomotive - Year 2010	0.60	2.40	8.10	0.005	0.23	0.23	(5)

Notes: (1) Estimated with the use of the ARB OFFROAD Model with consideration of fleet turnover with adopted future EPA off-road emission standards. See Table D2-??.

(2) Represents national average emission factors for line haul/switch yard locomotives for a given year (EPA 1998). ROG = THC * 1.27. Year 2003 data for switch engines = 1999 values, as current PHL fleet is pre-1973 vintage (pre-Tier 0). Year 2003 line haul/switch loco diesel fuel assumed to be 0.22/0.035% sulfur (S) (PEI pages 223 and 229), although PM emission factors for switch locos not subsequently reduced, due to the antiquated age of the PHL engines.

(3) Locomotive Emissions Final Rulemaking (EPA 1997), except PM reduced by 4% to simulate use of ULSD.

(4) Assumes fleet has an Mitigated Annual average of 75% Pre-Tier 0 and 25% Tier 2 standards + use of ULSD .

(5) Assumes 100% conversion of existing fleet to Tier 2 standard engines + use of ULSD.

(6) Represents average EPA emission factors for line haul locomotives for a given year + the use of 500 ppm S diesel by 2008 and ULSD by 2012, as stated in the EPA non-road diesel fuel rule. These fuels would produce 25/28% reductions in PM emissions from an assumed S fuel content of 0.2%.

(7) See Table D2.1-NFAB(2010)-33.

(8) NOx/PM values reduced by 90% from switch engine Tier 2 standards (8.10/0.24).

Table D2.1-NFAB(2010)-34. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project NEPA Baseline Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	0.47	2.81	4.69	0.00	0.22	0.20
Top Picks	0.23	0.79	2.66	0.00	0.11	0.10
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03	0.03
Subtotal	4.10	12.31	54.37	1.04	1.63	1.50
Berths 136-147/Inbound						
Hostler	0.17	1.05	1.76	0.00	0.08	0.08
Top Picks	0.09	0.30	1.00	0.00	0.04	0.04
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Subtotal	3.58	9.71	48.58	1.03	1.40	1.28
Carson or LA Railyards/Outbound						
Hostler	0.90	5.40	9.01	0.01	0.42	0.39
Top Picks	0.45	1.53	5.12	0.00	0.21	0.19
Line Haul Locomotive - Road Haul	5.70	14.35	78.71	1.77	2.19	2.01
Line Haul Locomotive - Notch 1	0.42	1.07	5.84	0.13	0.16	0.15
Yard Locomotive - Switching	0.18	0.72	2.43	0.00	0.07	0.06
Subtotal	7.64	23.06	101.11	1.91	3.05	2.80
Carson or LA Railyards/Inbound						
Hostler	0.34	2.03	3.38	0.00	0.16	0.14
Top Picks	0.17	0.57	1.92	0.00	0.08	0.07
Line Haul Locomotive - Road Haul	5.70	14.35	78.71	1.77	2.19	2.01
Line Haul Locomotive - Notch 1	0.21	0.53	2.92	0.07	0.08	0.07
Subtotal	6.41	17.48	86.93	1.84	2.50	2.30
Total Tons Per Year	21.73	62.57	291.00	5.82	8.58	7.89

Table D2.1-NFAB(2010)-35. Mitigated Annual Train Emissions from the Relocated Pier A Rail Yard - Berths 136-147 Terminal Proposed Project Alternatives.

Project Year/Emission Source	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Line Haul Locomotive	0.05	0.12	0.64	0.01	0.02	0.02
Yard Locomotive - Low UsageTrip	0.14	0.56	1.90	0.00	0.05	0.05
Yard Locomotive - Medium UsageTrip	0.22	0.90	3.03	0.00	0.09	0.08
Subtotal	0.41	1.58	5.57	0.02	0.16	0.15

Note: (1) Yard locomotive NOx/PM emissions reduced 90% from Tier 2 standard levels.

	A	B	C	D	E	F	G
1	Table D2.1-NFAB(2010)-36. Future Baseline Diesel-Powered Unmitigated Emission Factors for Terminal Equipm						
2	Berths 136-147 Terminal Project Alternatives.						
3		Emission Factors (1)					
4	Project Scenario/Equipment Horsepower	ROG	CO	NOx	SOx	PM10	References
5							
6							
7							
8							
9							
10							
11							
12							
13	Project Year 2010						
14	Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	OFFR2007
15	Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	OFFR2007
16	Terminal Equipment - 250-500 Hp	0.35	1.31	5.32	0.004	0.21	OFFR2007
17							
18							
19							
20							
21							
22							
23							
24							
25	Notes: (1) Data calculated from OFFROAD Emissions Model factors estimated for the year 2001 terminal equipment fleet						
26	(ARB 2004) with the use of an equipment replacement rate of 15 years and taking into consideration future off-road						
27	emission standards implementation schedule and equipment deterioration factors.						
28							
29	Table D2.1-NFAB(2010)-37. Mitigated Emission Factors for Terminal Equipment -						
30	Berths 136-147 Terminal Project Alternatives.						
31		Emission Factors (Gm/Hp-Hr)					
32	Mitigation Scenario/Equipment Horsepower	ROG	CO	NOx	SOx	PM10	References
33	EPA Tier 4 Off-road Diesel Engine Standards						
34	100-175 Hp	0.30	3.70	0.30	0.004	0.015	(1)
35	176-500 Hp	0.30	2.60	0.30	0.004	0.015	(1)
36	Notes: (1) NOx/PM = Tier 4 off-road standards from EPA Rule. CO/NMHC = Tier 2 or 3 stds, as there are no Tier 4 stds for these.						

Table D2.1-NFAB(2010)-38. Terminal Equipment Annual Mitigated Emissions - Berths 136-147 Terminal Project NEPA Baseline.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons) (1)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	15,899,853	9.81	59.11	98.56	0.08	4.60	4.23
Terminal Equipment - 176-250 Hp	19,062,899	9.64	30.63	102.92	0.09	4.20	3.87
Terminal Equipment - 250-500 Hp	3,662,661	1.51	5.73	17.52	0.02	0.68	0.63
Subtotal	38,625,413	20.96	95.46	219.00	0.19	9.48	8.73

Note: (1) Mitigations begin in year 2010 and are complete by 2015.

(2) In year 2038, Hp-Hrs increased an additional 19% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-NFAB(2010)-39. Mitigated Annual Operational Emissions - Berths 136-147 Terminal Project NEPA

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	9.05	24.00	251.83	128.08	17.71	16.60
Ships - Precautionary Area Transit (1)	2.73	7.03	64.12	35.79	4.68	4.38
Ships - Harbor Transit (1)	4.17	6.49	46.55	21.25	3.95	3.70
Ships - Docking (1)	1.44	1.75	12.93	5.20	1.16	1.09
Ships - Hoteling Aux. Sources	6.18	25.14	218.73	227.87	17.15	16.07
Tugboats - Cargo Vessel Assist (1)	0.52	2.69	15.88	0.01	0.66	0.62
Terminal Equipment	20.96	95.46	219.00	0.19	9.48	8.73
On-road Trucks	57.26	196.20	612.27	1.57	60.37	24.99
Trains	18.93	48.09	261.46	5.79	7.27	6.68
Railyard Equipment	2.81	14.48	29.54	0.02	1.32	1.21
Commuting	2.16	29.46	3.80	0.02	4.10	3.77
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	126.63	452.36	1,741.69	425.81	128.00	87.99

Note: (1) Includes auxiliary generator emissions.

Table D2.1-NFAB(2010)-40. Mitigated Average Daily Operational Emissions - Berths 136-147 Terminal Project
NEPA Baseline - 365 days/year all sources

	Pounds Per Day					
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	50	131	1,380	702	97	91
Ships - Precautionary Area Transit (1)	15	39	351	196	26	24
Ships - Harbor Transit (1)	23	36	255	116	22	20
Ships - Docking (1)	8	10	71	28	6	6
Ships - Hoteling Aux. Sources	34	138	1,199	1,249	94	88
Tugboats - Cargo Vessel Assist (1)	3	15	87	0	4	3
Terminal Equipment	115	523	1,200	1	52	48
On-road Trucks	314	1,075	3,355	9	331	137
Trains	104	263	1,433	32	40	37
Railyard Equipment	15	79	162	0	7	7
Commuting	12	161	21	0	22	21
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	694	2,479	9,543	2,333	701	482
Project Year 2010 = Mit Alt 3	2010 Daily NFAB (Mit Alt 3) Emissions within Harbor to compare to Mit PF					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	6	9	64	29	5	5
Ships - Docking (1)	8	10	71	28	6	6
Ships - Hoteling Aux. Sources	34	138	1,199	1,249	94	88
Tugboats - Cargo Vessel Assist (1)	3	15	87	0	4	3
Terminal Equipment	115	523	1,200	1	52	48
On-road Trucks	52	157	528	1	8	8
Trains	0.5	1.4	6.8	0.1	0.2	0.2
Railyard Equipment	1.0	5.0	10.1	0.0	0.5	0.4
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	220	866	3,195	1,308	171	159

Note: (1) Harbor transit emissions are 25% of the daily total and on-road truck emissions equal to on-terminal emissions + the ratio of NEPA Baseline peak daily truck trips/ proposed project peak daily truck trips (4477/5390) times the data in Table C3-A1-Mit-20 (project on-road emissions).

Table D2.1-PP(2010)-1. Ship Visit and Throughput Data - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Ship Type	Annual Ship Visits	Annual Shifts	TEU Moves/ Ship Visit (1)	Hoteling Time/ Visit (Hours) (2)	Annual TEU Movements
Project Year 2010					
Containerships 8,000 - 9,000 TEU	17		12,584	84.0	213,928
Containerships 5,000 - 6,000 TEU	49		8,017	72.0	392,833
Containerships 3,000 - 5,000 TEU	95		5,100	60.0	484,500
Containerships < 3,000 TEU	161		3,063	36.0	493,143
Subtotal	322				1,584,404

Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000 TEUs at berths 121-131 in year 2001. Thrghput for 8,000-9,000 TEU vessels based upon an expected capacity of 8,800 TEUs (Samsung Heavy Industries 2003) * 1.43 (the ratio of throughput per ship visit/vessel capacity for vessels >5,000 TEUs that called at Berths 121-131 in 2001) = 12,584 TEUs/SV.

(2) Assumes that 4 cranes would service <3,000 and 3-5,000 TEU vessels @ 1600 lifts/day = 2992 TEUs/day, 5 cranes would service 5-6,000 TEU vessels @ 2000 lifts/day = 3740 TEUs/day, and 6 cranes would service 8-9,000 TEU vessels @ 2400 lifts/day = 4488 TEUs/day (TraPac 2006).

Table D2.1-PP(2010)-2. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	1.88	3.89	44.50	24.87	3.79	3.55
Containerships 5,000 - 6,000 TEU	4.38	9.54	113.67	64.45	9.57	8.97
Containerships 3,000 - 5,000 TEU	5.88	13.37	166.55	95.71	13.88	13.01
Containerships < 3,000 TEU	5.86	13.68	176.93	102.64	14.66	13.74
Subtotal	18.02	40.48	501.65	287.67	41.91	39.27

Note: (1) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-PP(2010)-3. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.51	0.71	4.65	1.86	0.48	0.45
Containerships 5,000 - 6,000 TEU	0.91	1.50	11.86	5.64	1.11	1.04
Containerships 3,000 - 5,000 TEU	1.18	2.14	18.88	9.61	1.70	1.59
Containerships < 3,000 TEU	0.85	1.88	22.35	12.71	1.89	1.77
Subtotal	3.46	6.23	57.74	29.82	5.18	4.85

Table D2.1-PP(2010)-4. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.56	0.56	3.16	0.76	0.37	0.35
Containerships 5,000 - 6,000 TEU	1.29	1.28	7.26	1.74	0.86	0.81
Containerships 3,000 - 5,000 TEU	1.71	1.69	9.63	2.31	1.14	1.07
Containerships < 3,000 TEU	1.52	1.50	8.55	2.05	1.01	0.95
Subtotal	5.08	5.02	28.60	6.85	3.39	3.17

Table D2.1-PP(2010)-5. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.20	0.15	0.89	0.11	0.12	0.11
Containerships 5,000 - 6,000 TEU	0.46	0.34	2.05	0.26	0.27	0.25
Containerships 3,000 - 5,000 TEU	0.62	0.45	2.72	0.34	0.35	0.33
Containerships < 3,000 TEU	0.55	0.40	2.41	0.30	0.31	0.30
Subtotal	1.83	1.35	8.08	1.01	1.05	0.99

Table D2.1-PP(2010)-6. Annual Shifting Emissions for Cargo Vessels within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Mode	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-PP(2010)-7. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.06	0.17	2.24	1.87	0.23	0.21
Containerships 5,000 - 6,000 TEU	0.17	0.46	6.18	5.17	0.63	0.59
Containerships 3,000 - 5,000 TEU	0.22	0.61	8.14	6.81	0.83	0.78
Containerships < 3,000 TEU	0.21	0.58	7.78	6.51	0.79	0.74
Subtotal	0.66	1.82	24.34	20.36	2.48	2.33

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-PP(2010)-8. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.05	0.13	1.73	1.10	0.14	0.13
Containerships 5,000 - 6,000 TEU	0.13	0.35	4.58	2.93	0.37	0.35
Containerships 3,000 - 5,000 TEU	0.16	0.44	5.81	3.72	0.48	0.45
Containerships < 3,000 TEU	0.14	0.40	5.22	3.34	0.43	0.40
Subtotal	0.48	1.32	17.34	11.10	1.42	1.33

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PP(2010)-9. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.08	0.21	2.74	1.75	0.22	0.21
Containerships 5,000 - 6,000 TEU	0.20	0.55	7.27	4.65	0.59	0.56
Containerships 3,000 - 5,000 TEU	0.24	0.67	8.72	5.58	0.71	0.67
Containerships < 3,000 TEU	0.21	0.57	7.51	4.81	0.61	0.58
Subtotal	0.73	2.00	26.23	16.80	2.15	2.01

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PP(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.02	0.06	0.75	0.48	0.06	0.06
Containerships 5,000 - 6,000 TEU	0.06	0.15	1.99	1.27	0.16	0.15
Containerships 3,000 - 5,000 TEU	0.07	0.18	2.38	1.53	0.20	0.18
Containerships < 3,000 TEU	0.06	0.16	2.05	1.31	0.17	0.16
Subtotal	0.20	0.55	7.17	4.59	0.59	0.55

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PP(2010)-11. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	1.28	3.51	45.99	29.45	3.76	3.53
Containerships 5,000 - 6,000 TEU	2.96	8.14	106.72	68.33	8.73	8.18
Containerships 3,000 - 5,000 TEU	3.80	10.46	137.20	87.85	11.23	10.52
Containerships < 3,000 TEU	2.27	6.25	81.94	52.46	6.71	6.28
Subtotal	10.31	28.35	371.85	238.09	30.43	28.51

Table D2.1-PP(2010)-12. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Mode	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit						
Docking						
Subtotal						

Table D2.1-PP(2010)-13. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels during Hoteling - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Containership < 3,000 TEU						
Subtotal						

Table D2.1-PP(2010)-14. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Table D2.1-PP(2010)-15. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.02	0.06	0.27	0.01	0.01
Containerships 5,000 - 6,000 TEU	0.01	0.07	0.18	0.77	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.13	0.34	1.49	0.04	0.04
Containerships < 3,000 TEU	0.02	0.22	0.58	2.53	0.07	0.07
Subtotal	0.04	0.43	1.15	5.06	0.14	0.13

Table D2.1-PP(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.02	0.05	0.21	0.01	0.01
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.14	0.61	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.10	0.27	1.19	0.03	0.03
Containerships < 3,000 TEU	0.01	0.17	0.46	2.01	0.06	0.05
Subtotal	0.03	0.34	0.91	4.02	0.11	0.11

Table D2.1-PP(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.06	0.00	0.00
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.17	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.07	0.32	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.13	0.55	0.02	0.01
Subtotal	0.01	0.09	0.25	1.10	0.03	0.03

Table D2.1-PP(2010)-18. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Proposed Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.08	1.01	2.70	11.88	0.33	0.31
Containerships 5,000 - 6,000 TEU	0.21	2.50	6.68	29.34	0.82	0.77
Containerships 3,000 - 5,000 TEU	0.33	4.04	10.80	47.40	1.33	1.24
Containerships < 3,000 TEU	0.34	4.11	10.98	48.20	1.35	1.26
Subtotal	0.96	11.65	31.16	136.81	3.83	3.59

Table D2.1-PP(2010)-19. Annual Auxiliary Boiler Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Mode	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-PP(2010)-20. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.51	2.60	15.43	0.01	0.64	0.60

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-PP(2010)-21. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.04	0.24	1.33	0.00	0.06	0.06

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-PP(2010)-22. Annual Vessel Emissions - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	18.68	42.30	525.99	308.03	44.39	41.60
Ships - Precautionary Area Transit (1)	3.97	7.99	76.23	45.98	6.74	6.31
Ships - Harbor Transit (1)	5.84	7.37	55.75	27.66	5.65	5.29
Ships - Docking (1)	2.03	1.99	15.50	6.70	1.67	1.57
Ships - Hoteling Aux. Sources	11.27	40.00	403.01	374.91	34.26	32.10
Tugboats - Cargo Vessel Assist (1)	0.55	2.83	16.76	0.01	0.70	0.66
Subtotal	42.34	102.48	1,093.24	763.29	93.41	87.52

Note: (1) Includes auxiliary power emissions.

Table D2.1-PP(2010)-23. Daily Vessel Emissions - Berths 136-147 Terminal Project - Proposed Project.

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	102.3	231.8	2,882.1	1,687.8	243.2	227.9
Ships - Precautionary Area Transit (1)	21.8	43.8	417.7	252.0	36.9	34.6
Ships - Harbor Transit (1)	32.0	40.4	305.5	151.6	30.9	29.0
Ships - Docking (1)	11.1	10.9	84.9	36.7	9.2	8.6
Ships - Hoteling Aux. Sources	61.8	219.2	2,208.3	2,054.3	187.7	175.9
Tugboats - Cargo Vessel Assist (1)	3.0	15.5	91.8	0.1	3.8	3.6
Subtotal	232	562	5,990	4,182	512	480

Note: (1) Includes auxiliary power emissions.

Table D2.1-PP(2010)-24. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - Proposed Project.

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips (3)	Truck Miles to Offsite Railyard (4)	Local Truck Trip Miles (5)	Composite VMT/ Truck Trip
Year 2010	1,584,400	188,339	424,619	971,442	598,393	1,369,000	11.3	55.0	41.7

(1) Annual throughput estimates from Rail Master Plan.

(2) Based on 50/50/26.8/6.7/7.3% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(3) Based on 50/50/61.4/62.1/63.4% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(4) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average of local/external-SCAB trip lengths (20/90) that originate from/are destined to the POLA.

Table D2.1-PP(2010)-25. ADT Estimates - Berths 136-147 - Proposed Project.

Alternative/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
2010	2,006,308	5,497	7,526

(1) = annual trips/ 266.6 days.

Table D2.1-PP(2010)-26. On-Road Truck Operational Data for the Berths 136-147 Terminal Project - Proposed Project

Activity/Project Scenario	Idling Time/ Trip (Hrs) (1)	Miles/ Trip (2)	ADT	Idling Hrs/ Day	Miles/ Day
On-Terminal					
Year 2010	0.25	0.81	5,390	1,348	4,342
Off-Terminal					
Year 2010	0.30	41.7	5,390	1,617	224,813

Notes: (1) 2003 on-terminal durations from PEI. Post-2003 on-terminal durations from TraPac (TraPac 2006).

(2) On-terminal mileage/trip based upon current/proposed terminal gate systems. Off-terminal miles/trip from data presented in Table D1.2.34.

Table D2.1-PP(2010)-27. Daily Truck Emissions for the Berths 136-147 Terminal Project - Proposed Project.

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	33.9	140.6	335.8	0.2	5.0	4.6
Year 2010 - Driving	88.1	181.1	347.2	0.3	24.4	22.4
Subtotal - Year 2010	122.0	321.7	683.1	0.5	29.4	27.0
Off-Terminal						
Year 2010 - Idling	40.6	168.7	403.0	0.2	6.0	5.5
Year 2010 - Driving	1,156.8	4,080.4	11,352.4	9.6	492.6	453.2
Subtotal - Year 2010	1,197.4	4,249.1	11,755.3	9.8	498.5	458.7
Total Daily Truck Emissions by Project Year						
Year 2010	1,319.4	4,570.8	12,438.4	10.3	527.9	485.7

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-PP(2010)-28. Road Dust Emissions for the Berths 136-147 Tern
Project - Proposed Project.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	77.9	13.2
Off-Terminal		
Year 2010	177.8	30.0
Combined On/Off-Terminal		
Year 2010	255.7	43.2

Notes: (1) 47.05 % freeway travel and 52.95% surface street travel

Table D2.1-PP(2010)-29. Brake and Tire Wear Emissions for the Berths 13(
Terminal Project - Proposed Project.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	0.5	0.2
Off-Terminal		
Year 2010	24.8	10.6
Combined On/Off-Terminal		
Year 2010	25.3	10.8

Table D2.1-PP(2010)-30. Total Non-Combustive Truck Generated PM Emiss
for the Berths 136-147 Terminal Project - Proposed Project.

	Daily Emissions (Pounds)	
Activity	PM10	PM2.5
On-Terminal		
Year 2010	78.4	13.4
Off-Terminal		
Year 2010	202.6	40.7
Combined On/Off-Terminal		
Year 2010	281	54

Table D2.1-PP(2010)-31. Train Trip Generation Rates - Berths 136-147 Terminal Project - Proposed Project

Project Scenario/Rail Yard	Annual Round Trips
Year 2010	
To/from Berths 136-147 ICTF	308
To/from Carson/LA Rail Yards	696

Table D2.1-PP(2010)-32. Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Proposed Project Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	0.52	2.81	5.79	0.00	0.27	0.25
Top Picks	0.25	0.79	3.29	0.00	0.13	0.12
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03	0.03
Subtotal	4.17	12.31	56.11	1.04	1.71	1.57
Berths 136-147/Inbound						
Hostler	0.20	1.05	2.17	0.00	0.10	0.09
Top Picks	0.09	0.30	1.23	0.00	0.05	0.05
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Subtotal	3.60	9.71	49.23	1.03	1.42	1.31
Carson or LA Railyards/Outbound						
Hostler	1.17	6.33	13.06	0.01	0.61	0.56
Top Picks	0.56	1.79	7.42	0.01	0.30	0.28
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56	2.36
Line Haul Locomotive - Notch 1	0.50	1.25	6.85	0.15	0.19	0.18
Yard Locomotive - Switching	0.21	0.84	2.84	0.00	0.08	0.07
Subtotal	9.12	27.04	122.46	2.24	3.75	3.45
Carson or LA Railyards/Inbound						
Hostler	0.44	2.38	4.90	0.00	0.23	0.21
Top Picks	0.21	0.67	2.78	0.00	0.11	0.10
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56	2.36
Line Haul Locomotive - Notch 1	0.25	0.62	3.43	0.08	0.10	0.09
Subtotal	7.58	20.50	103.39	2.15	3.00	2.76
Total Tons Per Year	24.48	69.56	331.18	6.46	9.88	9.09

Table D2.1-PP(2010)-33. Summary of Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Proposed Project.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	3.45	16.12	40.65	0.03	1.81	1.66
Trains	21.03	53.44	290.53	6.43	8.07	7.43
Subtotal	24.48	69.56	331.18	6.46	9.88	9.09

Table D2.1-PP(2010)-34. Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project Proposed Project.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	18,639,323	12.83	69.29	142.88	0.09	6.66	6.13
Terminal Equipment - 176-250 Hp	22,347,347	11.30	35.91	148.97	0.11	6.07	5.58
Terminal Equipment - 250-500 Hp	4,293,720	1.64	6.22	25.18	0.02	0.98	0.90
Subtotal	45,280,390	25.77	111.41	317.03	0.22	13.70	12.61

Note: (1) In year 2030 and beyond, Hp-Hrs increased an additional 19% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-PP(2010)-35. Annual Operational Emissions - Berths 136-147 Terminal Project Proposed Project.

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	18.68	42.30	525.99	308.03	44.39	41.60
Ships - Precautionary Area Transit (1)	3.97	7.99	76.23	45.98	6.74	6.31
Ships - Harbor Transit (1)	5.84	7.37	55.75	27.66	5.65	5.29
Ships - Docking (1)	2.03	1.99	15.50	6.70	1.67	1.57
Ships - Hoteling Aux. Sources	11.27	40.00	403.01	374.91	34.26	32.10
Tugboats - Cargo Vessel Assist (1)	0.55	2.83	16.76	0.01	0.70	0.66
Terminal Equipment	25.77	111.41	317.03	0.22	13.70	12.61
On-road Trucks	240.80	834.17	2,270.01	1.88	147.63	98.50
Trains	21.03	53.44	290.53	6.43	8.07	7.43
Railyard Equipment	3.45	16.12	40.65	0.03	1.81	1.66
Commuting	2.16	29.46	3.80	0.02	4.10	3.77
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	335.96	1,148.66	4,020.83	771.89	268.88	211.64

Note: (1) Includes auxiliary generator emissions.

Table D2.1-PP(2010)-36. Daily Operational Emissions - Berths 136-147 Terminal Project Proposed Project - 365 days/ye

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	102	232	2,882	1,688	243	228
Ships - Precautionary Area Transit (1)	22	44	418	252	37	35
Ships - Harbor Transit (1)	32	40	305	152	31	29
Ships - Docking (1)	11	11	85	37	9	9
Ships - Hoteling Aux. Sources	62	219	2,208	2,054	188	176
Tugboats - Cargo Vessel Assist (1)	3	16	92	0	4	4
Terminal Equipment	141	610	1,737	1	75	69
On-road Trucks	1,319	4,571	12,438	10	809	540
Trains	115	293	1,592	35	44	41
Railyard Equipment	19	88	223	0	10	9
Commuting	12	161	21	0	22	21
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	1,841	6,294	22,032	4,230	1,473	1,160
Net Change from Existing Conditions	630	1,351	9,010	1,748	554	425
Net Change from NFAB Year 2010	1,841	6,294	22,032	4,230	1,473	1,160
SCAQMD Daily Significance Thresholds	55	550	55	150	150	

Note: (1) Includes auxiliary generator emissions.

Table D2.1-PP(2010)-37. 2010 Proposed Project Daily Emissions for Impact Comparsion to Alternatives (Pounds)						
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Ships - Fairway Transit						
Ships - Precautionary Area Transit						
Ships - Harbor Transit	8	10	76	38	8	7
Ships - Docking	11	11	85	37	9	9
Ships - Hoteling Aux. Sources	62	219	2,208	2,054	188	176
Tugboats - Cargo Vessel Assist	3	16	92	0	4	4
Terminal Equipment	141	610	1,737	1	75	69
On-road Trucks	183	510	1,245	1	51	46.5
Trains	0.5	1.4	6.8	0.1	0.2	0.2
Railyard Equipment	1.1	5.0	12.5	0.0	0.6	0.5
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total (1)	412	1,391	5,493	2,131	336	312

Note: (1) Harbor transit = 25% of daily emissions and on-road truck emissions equal to on-termeinal emissions + Project on-road emissions, as shown in Table C3-A1-20.

Project Unmit Non-cancer Impacts	PP	CEQA Base	CEQA Inc	PP	NFAB	NEPA Inc	
Chronic Non-cancer	0.50	0.32	0.18	0.57	0.25	0.32	Residential
	0.89	0.57	0.32	0.86	0.39	0.47	Occupational
	0.38	0.22	0.16	0.38	0.18	0.20	Sensitive
	0.31	0.20	0.11	0.31	0.14	0.17	Student
	0.83	0.46	0.37	0.85	0.38	0.47	Recreational
Acute Non-cancer	3.60	2.47	1.13	3.60	1.83	1.77	Residential
	4.01	2.62	1.39	4.57	2.38	2.19	Occupational
	3.35	2.33	1.02	3.35	1.72	1.63	Sensitive
	2.77	1.92	0.85	2.77	1.42	1.35	Student
	4.65	3.21	1.44	4.76	2.47	2.29	Recreational

Alt 1	No Project	CEQA Base	CEQA Increment	No Project	No Federal Action Baseline	NEPA Increment	
Chronic Non-cancer	0.39	0.32	0.07				Residential
	0.70	0.57	0.13				Occupational
	0.30	0.22	0.08				Sensitive
	0.24	0.20	0.04				Student
	0.65	0.46	0.19				Recreational
Acute Non-cancer	2.84	2.47	0.37				Residential
	3.16	2.62	0.54				Occupational
	2.64	2.33	0.31				Sensitive
	2.18	1.92	0.26				Student
	3.66	3.21	0.45				Recreational

Alt 3	Alt 3	CEQA Base	CEQA Increment	Alt 3	No Federal Action Baseline	NEPA Increment	
Chronic Non-cancer	0.43	0.32	0.11	0.49	0.25	0.24	Residential
	0.76	0.57	0.19	0.74	0.39	0.35	Occupational
	0.33	0.22	0.11	0.33	0.18	0.15	Sensitive
	0.27	0.20	0.07	0.27	0.14	0.13	Student
	0.71	0.46	0.25	0.73	0.38	0.35	Recreational
Acute Non-cancer	3.08	2.47	0.61	3.08	1.83	1.25	Residential
	3.44	2.62	0.82	3.91	2.38	1.53	Occupational
	2.87	2.33	0.54	2.87	1.72	1.15	Sensitive
	2.37	1.92	0.45	2.37	1.42	0.95	Student
	3.98	3.21	0.77	4.08	2.47	1.61	Recreational

Alt 4	Alt 4	CEQA Base	CEQA Increment	Alt 4	No Federal Action Baseline	NEPA Increment	
Chronic Non-cancer	0.16	0.32	(0.16)	0.18	0.25	(0.07)	Residential
	0.28	0.57	(0.29)	0.27	0.39	(0.12)	Occupational
	0.12	0.22	(0.10)	0.12	0.18	(0.06)	Sensitive
	0.10	0.20	(0.10)	0.10	0.14	(0.04)	Student
	0.26	0.46	(0.20)	0.27	0.38	(0.11)	Recreational
Acute Non-cancer	1.14	2.47	(1.33)	1.14	1.83	(0.69)	Residential
	1.27	2.62	(1.35)	1.45	2.38	(0.93)	Occupational
	1.06	2.33	(1.27)	1.06	1.72	(0.66)	Sensitive
	0.88	1.92	(1.04)	0.88	1.42	(0.54)	Student
	1.47	3.21	(1.74)	1.51	2.47	(0.96)	Recreational

Alt 5	Alt 5	CEQA Base	CEQA Increment	Alt 5	No Federal Action Baseline	NEPA Increment	
Chronic Non-cancer	0.24	0.32	(0.08)	0.27	0.25	0.02	Residential
	0.43	0.57	(0.14)	0.41	0.39	0.02	Occupational
	0.18	0.22	(0.04)	0.18	0.18	0.00	Sensitive
	0.15	0.20	(0.05)	0.15	0.14	0.01	Student
	0.40	0.46	(0.06)	0.41	0.38	0.03	Recreational
Acute Non-cancer	1.73	2.47	(0.74)	1.73	1.83	(0.10)	Residential
	1.93	2.62	(0.69)	2.20	2.38	(0.18)	Occupational
	1.61	2.33	(0.72)	1.61	1.72	(0.11)	Sensitive
	1.33	1.92	(0.59)	1.33	1.42	(0.09)	Student
	2.24	3.21	(0.97)	2.29	2.47	(0.18)	Recreational

Table D2.1-PP(2010)-38. Estimation of Operational Ambient Impacts from Project Alternatives

	ug/m3				
Project Criteria Pollutant Impacts	CO	NO2	SOx	PM10	PM2.5
1-hour	2,791	1,946			
8-hr	723				
24-hr - NFAB Impact				46.2	43.0
24-hr - CEQA Impact				51.9	47.8
Annual		39			
	Year 2010 Daily Emissions within the Harbor/Impact Factors				
Alternative Daily Emissions/Ambient Impact Factors	CO	NO2	SOx	PM10	PM2.5
Alt 1 Daily Emissions	1,108	4,229		264	246
Factor to apply to Project impacts	0.80	0.77		0.79	0.79
1-hour	2,222	1,498		-	-
8-hr	576	-		-	-
24-hr - NFAB Impact	-	-		36.4	33.9
24-hr - CEQA Impact				40.9	37.6
Annual	-	30		-	-
Alt 3 Emissions	1,183	4,690		288	268
Factor to apply to Project impacts	0.85	0.85		0.86	0.86
1-hour	2,373	1,661		-	-
8-hr	615	-		-	-
24-hr - NFAB Impact	-	-		39.6	36.8
24-hr - CEQA Impact				44.5	40.9
Annual	-	33		-	-
Alt 4 Emissions	433	1,761		106	99
Factor to apply to PP impacts	0.31	0.32		0.32	0.32
1-hour	869	624		-	-
8-hr	225	-		-	-
24-hr - NFAB Impact	-	-		14.6	13.6
24-hr - CEQA Impact				16.5	15.2
Annual	-	12		-	-
Alt 5 Emissions	834	3,027		161	150
Factor to apply to PP impacts	0.60	0.55		0.48	0.48
1-hour	1,673	1,072		-	-
8-hr	433	-		-	-
24-hr - NFAB Impact	-	-		22.2	20.7
24-hr - CEQA Impact				25.0	23.0
Annual	-	21		-	-

Table D2.1-NP(2010)-1. Ship Visit and Throughput Data - Berths 136-147 Terminal Project - Alternative 1 - No Project.

Project Scenario/Ship Type	Annual Ship Visits	Annual Shifts	TEU Moves/ Ship Visit (1)	Hoteling Time/ Visit (Hours) (2)	Annual TEU Movements
Project Year 2010					
Containerships 8,000 - 9,000 TEU	-		12,584	84.0	-
Containerships 5,000 - 6,000 TEU	44		8,017	72.0	352,748
Containerships 3,000 - 5,000 TEU	82		5,100	60.0	418,200
Containerships < 3,000 TEU	139		3,063	36.0	425,757
Subtotal	265				1,196,705

Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000 TEUs at berths 121-131 in year 2001. Thrghput for 8,000-9,000 TEU vessels based upon an expected capacity of 8,800 TEUs (Samsung Heavy Industries 2003) * 1.43 (the ratio of throughput per ship visit/vessel capacity for vessels >5,000 TEUs that called at Berths 121-131 in 2001) = 12,584 TEUs/SV.

(2) Assume 4 cranes @ 25 lifts/hr *1.7 TEUs/box * 16 hr/day = 2720 TEUs transfered/day * 1.04 for non-cargo transfer berth time. However, by year 2038, cranes would operate for 21 hours/day = 3,060 TEUs transfered/day, except 3,825 TEUs lifted/day for the 8-9,000 TEU vessels.

Table D2.1-NP(2010)-2. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	3.94	8.57	102.07	57.87	8.60	8.05
Containerships 3,000 - 5,000 TEU	5.08	11.54	143.76	82.61	11.98	11.23
Containerships < 3,000 TEU	5.06	11.81	152.75	88.61	12.66	11.86
Subtotal	14.08	31.92	398.58	229.10	33.24	31.14

Table D2.1-NP(2010)-3. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.82	1.35	10.65	5.06	1.00	0.94
Containerships 3,000 - 5,000 TEU	1.02	1.85	16.30	8.29	1.47	1.38
Containerships < 3,000 TEU	0.73	1.62	19.29	10.97	1.63	1.53
Subtotal	2.57	4.82	46.24	24.33	4.10	3.84

Table D2.1-NP(2010)-4. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.16	1.15	6.52	1.56	0.77	0.72
Containerships 3,000 - 5,000 TEU	1.48	1.46	8.31	1.99	0.98	0.92
Containerships < 3,000 TEU	1.31	1.30	7.38	1.77	0.87	0.82
Subtotal	3.95	3.90	22.21	5.32	2.63	2.46

Table D2.1-NP(2010)-5. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.42	0.31	1.84	0.23	0.24	0.23
Containerships 3,000 - 5,000 TEU	0.53	0.39	2.35	0.29	0.31	0.29
Containerships < 3,000 TEU	0.47	0.35	2.08	0.26	0.27	0.25
Subtotal	1.42	1.05	6.27	0.79	0.82	0.77

Table D2.1-NP(2010)-6. Annual Shifting Emissions for Cargo Vessels within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit						
Docking						
Subtotal						

Table D2.1-NP(2010)-7. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.15	0.42	5.55	4.64	0.57	0.53
Containerships 3,000 - 5,000 TEU	0.19	0.53	7.02	5.88	0.72	0.67
Containerships < 3,000 TEU	0.18	0.50	6.72	5.62	0.69	0.64
Subtotal	0.52	1.44	19.29	16.14	1.97	1.84

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-NP(2010)-8. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.11	0.31	4.11	2.63	0.34	0.32
Containerships 3,000 - 5,000 TEU	0.14	0.38	5.02	3.21	0.41	0.38
Containerships < 3,000 TEU	0.13	0.34	4.51	2.89	0.37	0.35
Subtotal	0.38	1.04	13.64	8.73	1.12	1.05

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NP(2010)-9. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Subtotal	0.51	1.40	18.13	8.46	1.16	1.09
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.18	0.50	6.52	4.18	0.53	0.50
Containerships 3,000 - 5,000 TEU	0.21	0.57	7.53	4.82	0.62	0.58
Containerships < 3,000 TEU	0.18	0.49	6.48	4.15	0.53	0.50
Subtotal	0.57	1.57	20.53	13.15	1.68	1.57

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NP(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.14	1.78	1.14	0.15	0.14
Containerships 3,000 - 5,000 TEU	0.06	0.16	2.06	1.32	0.17	0.16
Containerships < 3,000 TEU	0.05	0.14	1.77	1.13	0.14	0.14
Subtotal	0.16	0.43	5.61	3.59	0.46	0.43

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-NP(2010)-11. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.66	7.31	95.83	61.36	7.84	7.35
Containerships 3,000 - 5,000 TEU	3.28	9.03	118.43	75.83	9.69	9.08
Containerships < 3,000 TEU	1.97	5.42	71.08	45.51	5.82	5.45
Subtotal	7.91	21.75	285.34	182.70	23.35	21.88

Table D2.1-NP(2010)-12. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit						
Docking						
Subtotal						

Table D2.1-NP(2010)-13. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels during Hoteling - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Containership < 3,000 TEU						
Subtotal						

Table D2.1-NP(2010)-14. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Containership 3,000 - 5,000 TEU	-	-	-	-	-	-
Containership < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Project Year 2007						
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Project Year 2015						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Project Year 2038						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-NP(2010)-15. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.06	0.16	0.69	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.11	0.29	1.29	0.04	0.03
Containerships < 3,000 TEU	0.02	0.19	0.50	2.19	0.06	0.06
Subtotal	0.03	0.35	0.95	4.17	0.12	0.11

Table D2.1-NP(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.13	0.55	0.02	0.01
Containerships 3,000 - 5,000 TEU	0.01	0.09	0.23	1.02	0.03	0.03
Containerships < 3,000 TEU	0.01	0.15	0.39	1.73	0.05	0.05
Subtotal	0.02	0.28	0.75	3.31	0.09	0.09

Table D2.1-NP(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.03	0.15	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.02	0.06	0.28	0.01	0.01
Containerships < 3,000 TEU	0.00	0.04	0.11	0.47	0.01	0.01
Subtotal	0.01	0.08	0.21	0.90	0.03	0.02

Table D2.1-NP(2010)-18. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.19	2.24	6.00	26.35	0.74	0.69
Containerships 3,000 - 5,000 TEU	0.29	3.49	9.32	40.91	1.15	1.07
Containerships < 3,000 TEU	0.29	3.54	9.48	41.61	1.16	1.09
Subtotal	0.77	9.27	24.80	108.87	3.05	2.86

Table D2.1-NP(2010)-19. Annual Auxiliary Boiler Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit						
Docking						
Hoteling						
Subtotal						

Table D2.1-NP(2010)-20. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.42	2.14	12.70	0.01	0.53	0.49

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-NP(2010)-21. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 1 - No Project.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.03	0.20	1.10	0.00	0.05	0.05

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-NP(2010)-22. Annual Vessel Emissions - Berths 136-147 Terminal Project - Alternative 1 - No Project.

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	14.60	33.37	417.87	245.24	35.20	32.99
Ships - Precautionary Area Transit (1)	2.98	6.22	60.83	37.23	5.33	4.99
Ships - Harbor Transit (1)	4.54	5.75	43.50	21.77	4.40	4.13
Ships - Docking (1)	1.58	1.48	11.88	4.38	1.28	1.20
Ships - Hoteling Aux. Sources	8.68	31.03	310.13	291.57	26.40	24.74
Tugboats - Cargo Vessel Assist (1)	0.45	2.33	13.80	0.01	0.58	0.54
Subtotal	32.82	80.17	858.02	600.20	73.19	68.58

Note: (1) Includes auxiliary power emissions.

Table D2.1-NP(2010)-23. Daily Vessel Emissions - Berths 136-147 Terminal Project - Alternative 1 - No Project.

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	80.0	182.8	2,289.7	1,343.8	192.9	180.7
Ships - Precautionary Area Transit (1)	16.3	34.1	333.3	204.0	29.2	27.4
Ships - Harbor Transit (1)	24.9	31.5	238.4	119.3	24.1	22.6
Ships - Docking (1)	8.6	8.1	65.1	24.0	7.0	6.6
Ships - Hoteling Aux. Sources	47.5	170.0	1,699.4	1,597.7	144.7	135.5
Tugboats - Cargo Vessel Assist (1)	2.5	12.8	75.6	0.0	3.2	3.0
Subtotal	180	439	4,701	3,289	401	376

Note: (1) Includes auxiliary power emissions.

Table D2.1-NP(2010)-24. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - Alternative 1 - No Project.

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips	Truck Miles to Offsite Railyard (3)	Local Truck Trip Miles (4)	Composite VMT/ Truck Trip
Year 2010	1,196,800	-	598,400	598,400	829,745	829,745	11.3	55.0	33.2

(1) Annual throughput estimates from Rail Master Plan.

(2) = 50% of Berths 136-147 annual cargo throughput for all years.

(3) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average of local/external-SCAB trip lengths (20/90) that originate from/are destined to the POLA.

Table D2.1-NP(2010)-25. ADT Estimates - Berths 136-147 Alternative 1 - No Project

Alternative/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
2010	1,659,489	4,547	6,225

(1) = annual trips/ 266.6 days.

Table D2.1-NP(2010)-26. On-Road Truck Operational Data for the Berths 136-147 Terminal Project - Alternative 1 - No Project.

Activity/Project Scenario	Idling Time/ Trip (Hrs) (1)	Miles/ Trip (2)	ADT	Idling Hrs/ Day	Miles/ Day
On-Terminal					
Year 2010	0.25	0.81	4,547	1,137	3,663
Off-Terminal					
Year 2010	0.30	33.2	4,547	1,364	150,718

Notes: (1) 2003 on-terminal durations from PEI. Post-2003 on-terminal durations from TraPac (TraPac 2006).

(2) On-terminal mileage/trip based upon current/proposed terminal gate systems. Off-terminal miles/trip from data presented in Table D2.1-NP(2010)-34.

Table D2.1-NP(2010)-27. Daily Truck Emissions for the Berths 136-147 Terminal Project - Alternative 1 - No Project.

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	47.6	127.5	219.5	1.3	7.6	7.0
Year 2010 - Driving	74.3	152.8	292.9	0.2	20.6	18.9
Subtotal - Year 2010	122.0	280.3	512.4	1.5	28.2	25.9
Off-Terminal						
Year 2010 - Idling	57.1	153.0	263.4	1.5	9.1	8.4
Year 2010 - Driving	775.5	2,735.6	7,610.8	6.4	330.2	303.8
Subtotal - Year 2010	832.7	2,888.6	7,874.1	8.0	339.3	312.2
Total Daily Truck Emissions by Project Year						
Year 2010	954.6	3,168.9	8,386.5	9.5	367.5	338.1

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-NP(2010)-28. Road Dust Emissions for the Berths 13
Project - Proposed Action.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	65.73	11.11
Off-Terminal		
Year 2010	119.20	20.14
Combined On/Off-Terminal		
Year 2010	184.93	31.25

Notes: (1) 47.05 % freeway travel and 52.95% surface street travel

Table D2.1-NP(2010)-29. Brake and Tire Wear Emissions for the
Terminal Project - Proposed Action.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	0.40	0.17
Off-Terminal		
Year 2010	16.61	7.13
Combined On/Off-Terminal		
Year 2010	17.02	7.30

)10)-23. Daily Vessel Emissions - Berths 136-147 Terminal Project - A

Table D2.1-NP(2010)-30. Total Non-Combustive Truck Generated for the Berths 136-147 Terminal Project - Proposed Actio

	Daily Emissions (Pounds)	
Activity	PM10	PM2.5
On-Terminal		
Year 2010	66.13	11.28
Off-Terminal		
Year 2010	135.81	27.27
Combined On/Off-Terminal		
Year 2010	202	39

Table D2.1-NP(2010)-31. Train Trip Generation Rates - Berths 136-147
Terminal Project - Alternative 1 - No Project

Project Scenario/Rail Yard	Annual Round Trips
Year 2010	
To/from Berths 136-147 ICTF	-
To/from Carson/LA Rail Yards	980

Table D2.1-NP(2010)-32. Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 1 - No Project Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Yard Locomotive - Switching	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Berths 136-147/Inbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Carson or LA Railyards/Outbound						
Hostler	1.65	8.93	18.41	0.01	0.86	0.79
Top Picks	0.79	2.52	10.45	0.01	0.43	0.39
Line Haul Locomotive - Road Haul	9.41	23.71	130.05	2.92	3.61	3.32
Line Haul Locomotive - Notch 1	0.70	1.76	9.66	0.22	0.27	0.25
Yard Locomotive - Switching	0.30	1.19	4.01	0.00	0.11	0.10
Subtotal	12.85	38.11	172.57	3.16	5.28	4.86
Carson or LA Railyards/Inbound						
Hostler	0.62	3.35	6.90	0.00	0.32	0.30
Top Picks	0.30	0.94	3.92	0.00	0.16	0.15
Line Haul Locomotive - Road Haul	9.41	23.71	130.05	2.92	3.61	3.32
Line Haul Locomotive - Notch 1	0.35	0.88	4.83	0.11	0.13	0.12
Subtotal	10.68	28.88	145.70	3.04	4.23	3.89
Total Tons Per Year	23.53	66.99	318.27	6.19	9.51	8.75

Table D2.1-NP(2010)-33. Summary of Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 1 - No Project.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	3.36	15.74	39.69	0.03	1.77	1.62
Trains	20.17	51.25	278.58	6.17	7.74	7.12
Subtotal	23.53	66.99	318.27	6.19	9.51	8.75

Table D2.1-NP(2010)-34. Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project Alternative 1 - No Project.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	14,078,336	9.69	52.33	107.92	0.07	5.03	4.63
Terminal Equipment - 176-250 Hp	16,879,017	8.54	27.12	112.51	0.08	4.58	4.22
Terminal Equipment - 250-500 Hp	3,243,060	1.24	4.70	19.02	0.02	0.74	0.68
Subtotal	34,200,412	19.47	84.15	239.45	0.17	10.35	9.52

Note: (1) Hp-Hr usage increased by 21% in year 2030 and beyond to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-NP(2010)-35. Annual Operational Emissions - Berths 136-147 Terminal Project Alternative 1 - N

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	14.60	33.37	417.87	245.24	35.20	32.99
Ships - Precautionary Area Transit (1)	2.98	6.22	60.83	37.23	5.33	4.99
Ships - Harbor Transit (1)	4.54	5.75	43.50	21.77	4.40	4.13
Ships - Docking (1)	1.58	1.48	11.88	4.38	1.28	1.20
Ships - Hoteling Aux. Sources	8.68	31.03	310.13	291.57	26.40	24.74
Tugboats - Cargo Vessel Assist (1)	0.45	2.33	13.80	0.01	0.58	0.54
Terminal Equipment	19.47	84.15	239.45	0.17	10.35	9.52
On-road Trucks	174.22	578.33	1,530.54	1.73	103.92	68.74
Trains	20.17	51.25	278.58	6.17	7.74	7.12
Railyard Equipment	3.36	15.74	39.69	0.03	1.77	1.62
Commuting	1.46	19.89	2.57	0.01	2.77	2.55
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	251.91	831.10	2,954.41	608.32	199.89	158.27

Note: (1) Includes auxiliary generator emissions.

Table D2.1-NP(2010)-36. Daily Operational Emissions - Berths 136-147 Terminal Project Alternative 1 - No
365 days/year all sources

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	80	183	2,290	1,344	193	181
Ships - Precautionary Area Transit (1)	16	34	333	204	29	27
Ships - Harbor Transit (1)	25	31	238	119	24	23
Ships - Docking (1)	9	8	65	24	7	7
Ships - Hoteling Aux. Sources	48	170	1,699	1,598	145	136
Tugboats - Cargo Vessel Assist (1)	2	13	76	0	3	3
Terminal Equipment	107	461	1,312	1	57	52
On-road Trucks	955	3,169	8,387	9	569	377
Trains	111	281	1,526	34	42	39
Railyard Equipment	18	86	217	0	10	9
Commuting	8	109	14	0	15	14
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	1,380	4,554	16,189	3,333	1,095	867
Project Year 2010	Daily 2010 Emissions within the Harbor for comparsion to PP Impacts					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	6	8	60	30	6	6
Ships - Docking (1)	9	8	65	24	7	7
Ships - Hoteling Aux. Sources	48	170	1,699	1,598	145	136
Tugboats - Cargo Vessel Assist (1)	2	13	76	0	3	3
Terminal Equipment	107	461	1,312	1	57	52
On-road Trucks	173	439	987	2	46	42
Trains						
Railyard Equipment						
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	347	1,108	4,229	1,654	264	246

Note: (1) Harbor transit emissions are 25% of the daily total and on-road truck emissions equal to on-terminal emissions + the ratio of Alternative 1 peak daily truck trips/ proposed project peak daily truck trips (4547/5390) times the data in Table C3-A1-20 (project on-road emissions).

Table D2.1-Alt3(2010)-1. Ship Visit and Throughput Data - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Ship Type	Annual Ship Visits	Annual Shifts	TEU Moves/ Ship Visit (1)	Hoteling Time/ Visit (Hours) (2)	Annual TEU Movements
Project Year 2010					
Containerships 8,000 - 9,000 TEU	-		12,584	84.0	-
Containerships 5,000 - 6,000 TEU	47		8,017	72.0	376,799
Containerships 3,000 - 5,000 TEU	89		5,100	60.0	453,900
Containerships < 3,000 TEU	170		3,063	36.0	520,710
Subtotal	306				1,351,409

Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000 TEUs at berths 121-131 in year 2001. Thrghput for 8,000-9,000 TEU vessels based upon an expected capacity of 8,800 TEUs (Samsung Heavy Industries 2003) * 1.43 (the ratio of throughput per ship visit/vessel capacity for vessels >5,000 TEUs that called at Berths 121-131 in 2001) = 12,584 TEUs/SV.

(2) Assumes that 4 cranes would service <3,000 and 3-5,000 TEU vessels @ 1600 lifts/day = 2992 TEUs/day, 5 cranes would service 5-6,000 TEU vessels @ 2000 lifts/day = 3740 TEUs/day, and 6 cranes would service 8-9,000 TEU vessels @ 2400 lifts/day = 4488 TEUs/day (TraPac 2006).

Table D2.1-Alt3(2010)-2. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	4.20	9.15	109.03	61.82	9.18	8.60
Containerships 3,000 - 5,000 TEU	5.51	12.52	156.03	89.67	13.00	12.18
Containerships < 3,000 TEU	6.19	14.45	186.82	108.37	15.48	14.51
Subtotal	15.91	36.13	451.88	259.86	37.67	35.29

Note: (1) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt3(2010)-3. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.87	1.44	11.38	5.41	1.07	1.00
Containerships 3,000 - 5,000 TEU	1.11	2.00	17.69	9.00	1.59	1.49
Containerships < 3,000 TEU	0.90	1.99	23.60	13.42	1.99	1.87
Subtotal	2.88	5.43	52.66	27.83	4.66	4.36

Table D2.1-Alt3(2010)-4. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.24	1.22	6.97	1.67	0.82	0.77
Containerships 3,000 - 5,000 TEU	1.60	1.58	9.02	2.16	1.07	1.00
Containerships < 3,000 TEU	1.60	1.58	9.03	2.16	1.07	1.00
Subtotal	4.45	4.39	25.01	5.99	2.96	2.78

Table D2.1-Alt3(2010)-5. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.45	0.33	1.97	0.25	0.26	0.24
Containerships 3,000 - 5,000 TEU	0.58	0.43	2.55	0.32	0.33	0.31
Containerships < 3,000 TEU	0.58	0.43	2.55	0.32	0.33	0.31
Subtotal	1.60	1.18	7.06	0.88	0.92	0.86

Table D2.1-Alt3(2010)-6. Annual Shifting Emissions for Cargo Vessels within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-Alt3(2010)-7. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.16	0.44	5.93	4.96	0.60	0.57
Containerships 3,000 - 5,000 TEU	0.21	0.57	7.62	6.38	0.78	0.73
Containerships < 3,000 TEU	0.22	0.61	8.21	6.87	0.84	0.79
Subtotal	0.59	1.63	21.77	18.21	2.22	2.08

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt3(2010)-8. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.12	0.33	4.39	2.81	0.36	0.34
Containerships 3,000 - 5,000 TEU	0.15	0.42	5.44	3.49	0.45	0.42
Containerships < 3,000 TEU	0.15	0.42	5.51	3.53	0.45	0.42
Subtotal	0.43	1.17	15.35	9.83	1.26	1.18

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt3(2010)-9. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.19	0.53	6.97	4.46	0.57	0.53
Containerships 3,000 - 5,000 TEU	0.23	0.62	8.17	5.23	0.67	0.63
Containerships < 3,000 TEU	0.22	0.60	7.93	5.08	0.65	0.61
Subtotal	0.64	1.76	23.07	14.77	1.89	1.77

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt3(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.15	1.90	1.22	0.16	0.15
Containerships 3,000 - 5,000 TEU	0.06	0.17	2.23	1.43	0.18	0.17
Containerships < 3,000 TEU	0.06	0.17	2.17	1.39	0.18	0.17
Subtotal	0.17	0.48	6.31	4.04	0.52	0.48

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt3(2010)-11. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.84	7.80	102.36	65.54	8.38	7.85
Containerships 3,000 - 5,000 TEU	3.56	9.80	128.54	82.30	10.52	9.86
Containerships < 3,000 TEU	2.41	6.63	86.94	55.67	7.11	6.67
Subtotal	8.81	24.23	317.83	203.51	26.01	24.37

Table D2.1-Alt3(2010)-12. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Vessel Mode	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-Alt3(2010)-13. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels during Hoteling - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5

Table D2.1-Alt3(2010)-14. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt3(2010)-15. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.01	0.06	0.17	0.74	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.12	0.32	1.40	0.04	0.04
Containerships < 3,000 TEU	0.02	0.23	0.61	2.67	0.07	0.07
Subtotal	0.03	0.41	1.10	4.81	0.13	0.13

Table D2.1-Alt3(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.13	0.59	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.09	0.25	1.11	0.03	0.03
Containerships < 3,000 TEU	0.01	0.18	0.48	2.12	0.06	0.06
Subtotal	0.03	0.33	0.87	3.82	0.11	0.10

Table D2.1-Alt3(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.16	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.07	0.30	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.13	0.58	0.02	0.02
Subtotal	0.01	0.09	0.24	1.04	0.03	0.03

Table D2.1-Alt3(2010)-18. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.20	2.40	6.41	28.14	0.79	0.74
Containerships 3,000 - 5,000 TEU	0.31	3.78	10.12	44.41	1.24	1.16
Containerships < 3,000 TEU	0.36	4.34	11.59	50.89	1.42	1.33
Subtotal	0.87	10.52	28.12	123.44	3.46	3.24

Table D2.1-Alt3(2010)-19. Annual Auxiliary Boiler Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.00	0.03	0.09	0.37	0.01	0.01
Docking	0.00	0.01	0.02	0.10	0.00	0.00
Hoteling	0.06	0.77	2.05	8.98	0.25	0.24
Subtotal	0.07	0.81	2.15	9.46	0.26	0.25

Table D2.1-Alt3(2010)-20. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.48	2.47	14.66	0.01	0.61	0.57

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt3(2010)-21. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 3.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt3(2010)-22. Annual Vessel Emissions - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	16.50	37.76	473.64	278.07	39.89	37.38
Ships - Precautionary Area Transit (1)	3.34	7.01	69.11	42.47	6.05	5.67
Ships - Harbor Transit (1)	5.11	6.48	48.95	24.58	4.96	4.64
Ships - Docking (1)	1.78	1.75	13.60	5.97	1.47	1.37
Ships - Hoteling Aux. Sources	9.68	34.75	345.95	326.95	29.47	27.61
Tugboats - Cargo Vessel Assist (1)	0.52	2.69	15.93	0.01	0.67	0.62
Subtotal	36.93	90.44	967.19	678.04	82.49	77.29

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt3(2010)-23. Daily Vessel Emissions - Berths 136-147 Terminal Project - Alternative 3.

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Subtotal	169	418	4,498	2,833	351	329
Project Year 2010						
Ships - Fairway Transit (1)	90.4	206.9	2,595.3	1,523.7	218.6	204.8
Ships - Precautionary Area Transit (1)	18.3	38.4	378.7	232.7	33.1	31.0
Ships - Harbor Transit (1)	28.0	35.5	268.2	134.7	27.2	25.4
Ships - Docking (1)	9.8	9.6	74.5	32.7	8.0	7.5
Ships - Hoteling Aux. Sources	53.0	190.4	1,895.6	1,791.5	161.5	151.3
Tugboats - Cargo Vessel Assist (1)	2.8	14.8	87.3	0.0	3.6	3.4
Subtotal	202	496	5,300	3,715	452	424

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt3(2010)-24. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - Alternative 3.

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips (3)	Truck Miles to Offsite Railyard (4)	Local Truck Trip Miles (5)	Composite VMT/ Truck Trip
Year 2010	1,351,400	188,339	362,175	800,886	508,868	1,125,271	9.6	55.0	40.9

(1) Annual throughput estimates from Rail Master Plan.

(2) Based on 50/50/26.8/6.7/7.3% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(3) Based on 50/50/61.4/62.1/63.4% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(4) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average of local/external-SCAB trip lengths (20/90) that originate from/are destined to the POLA.

Table D2.1-Alt3(2010)-25. ADT Estimates - Berths 136-147 Terminal Project Alternative 3

Alternative/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
2010	1,628,577	4,462	6,109

(1) = annual trips/ 266.6 days.

Table D2.1-Alt3(2010)-26. On-Road Truck Operational Data for the Berths 136-147 Terminal Project - Alternative 3

Activity/Project Scenario	Idling Time/ Trip (Hrs) (1)	Miles/ Trip (2)	ADT	Idling Hrs/ Day	Miles/ Day
On-Terminal					
Year 2010	0.25	0.81	4,477	1,119	3,607
Off-Terminal					
Year 2010	0.30	40.9	4,477	1,343	182,945

Notes: (1) 2003 on-terminal durations from PEI. Post-2003 on-terminal durations from TraPac (TraPac 2006).

(2) On-terminal mileage/trip based upon current/proposed terminal gate systems. Off-terminal miles/trip from data presented in Table D1.2.34.

Table D2.1-Alt3(2010)-27. Daily Truck Emissions for the Berths 136-147 Terminal Project - Alternative 3.

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	28.1	116.8	278.9	0.2	4.1	3.81
Year 2010 - Driving	73.2	150.4	288.4	0.2	20.3	18.64
Subtotal - Year 2010	101.3	267.2	567.4	0.4	24.4	22.5
Off-Terminal						
Year 2010 - Idling	33.8	140.1	334.7	0.2	5.0	4.58
Year 2010 - Driving	941.4	3,320.5	9,238.2	7.8	400.8	368.76
Subtotal - Year 2010	975.1	3,460.6	9,572.9	8.0	405.8	373.3
Total Daily Truck Emissions by Project Year						
Year 2010	1,076.4	3,727.8	10,140.2	8.4	430.2	395.8

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-Alt3(2010)-28. Road Dust Emissions for the Berths 136-147 Terminal Project - Alternative 3.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	64.72	10.94
Off-Terminal		
Year 2010	144.69	24.45
Combined On/Off-Terminal		
Year 2010	209.41	35.39

Notes: (1) 47.05 % freeway travel and 52.95% surface street travel

Table D2.1-Alt3(2010)-29. Brake and Tire Wear Emissions for the Berths 136-147 Terminal Project - Alternative 3.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	0.40	0.17
Off-Terminal		
Year 2010	20.17	8.65
Combined On/Off-Terminal		
Year 2010	20.56	8.82

Table D2.1-Alt3(2010)-30. Total Non-Combustive Truck Generated PM Emissions for the Berths 136-147 Terminal Project - Alternative 3.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	65.12	11.11
Off-Terminal		
Year 2010	164.85	33.10
Combined On/Off-Terminal		
Year 2010	230	44

Table D2.1-Alt3(2010)-31. Train Trip Generation Rates - Berths 136-147
Terminal Project - Alternative 3

Project Scenario/Rail Yard	Annual Round Trips
Year 2010	
To/from Berths 136-147 ICTF	308
To/from Carson/LA Rail Yards	593

Table D2.1-Alt3(2010)-32. Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 3 Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	0.52	2.81	5.79	0.00	0.27	0.25
Top Picks	0.25	0.79	3.29	0.00	0.13	0.12
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03	0.03
Subtotal	4.17	12.31	56.11	1.04	1.71	1.57
Berths 136-147/Inbound						
Hostler	0.20	1.05	2.17	0.00	0.10	0.09
Top Picks	0.09	0.30	1.23	0.00	0.05	0.05
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Subtotal	3.60	9.71	49.23	1.03	1.42	1.31
Carson or LA Railyards/Outbound						
Hostler	1.00	5.40	11.14	0.01	0.52	0.48
Top Picks	0.48	1.53	6.33	0.00	0.26	0.24
Line Haul Locomotive - Road Haul	5.70	14.35	78.71	1.77	2.19	2.01
Line Haul Locomotive - Notch 1	0.42	1.07	5.84	0.13	0.16	0.15
Yard Locomotive - Switching	0.18	0.72	2.43	0.00	0.07	0.06
Subtotal	7.78	23.06	104.45	1.91	3.19	2.94
Carson or LA Railyards/Inbound						
Hostler	0.38	2.03	4.18	0.00	0.19	0.18
Top Picks	0.18	0.57	2.37	0.00	0.10	0.09
Line Haul Locomotive - Road Haul	5.70	14.35	78.71	1.77	2.19	2.01
Line Haul Locomotive - Notch 1	0.21	0.53	2.92	0.07	0.08	0.07
Subtotal	6.46	17.48	88.18	1.84	2.56	2.35
Total Tons Per Year	22.02	62.57	297.97	5.82	8.89	8.18

Table D2.1-Alt3(2010)-33. Summary of Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 3.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Baseline Year 2003						
Project Year 2010						
ICTF Equipment	3.09	14.48	36.51	0.02	1.62	1.49
Trains	18.93	48.09	261.46	5.79	7.27	6.68
Subtotal	22.02	62.57	297.97	5.82	8.89	8.18

Table D2.1-Alt3(2010)-34. Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project Alternative 3.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons) ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	15,898,312	10.94	59.10	121.87	0.08	5.68	5.23
Terminal Equipment - 176-250 Hp	19,061,051	9.64	30.63	127.06	0.09	5.17	4.76
Terminal Equipment - 250-500 Hp	3,662,306	1.40	5.30	21.48	0.02	0.83	0.77
Subtotal	38,621,669	21.98	95.03	270.41	0.19	11.69	10.75

Note: (1) In year 2030 and beyond, Hp-Hrs increased an additional 6% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-Alt3(2010)-35. Annual Operational Emissions - Berths 136-147 Terminal Project Alternative 3.

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	16.50	37.76	473.64	278.07	39.89	37.38
Ships - Precautionary Area Transit (1)	3.34	7.01	69.11	42.47	6.05	5.67
Ships - Harbor Transit (1)	5.11	6.48	48.95	24.58	4.96	4.64
Ships - Docking (1)	1.78	1.75	13.60	5.97	1.47	1.37
Ships - Hoteling Aux. Sources	9.68	34.75	345.95	326.95	29.47	27.61
Tugboats - Cargo Vessel Assist (1)	0.52	2.69	15.93	0.01	0.67	0.62
Terminal Equipment	21.98	95.03	270.41	0.19	11.69	10.75
On-road Trucks	196.45	680.32	1,850.59	1.53	120.48	80.30
Trains	18.93	48.09	261.46	5.79	7.27	6.68
Railyard Equipment	3.09	14.48	36.51	0.02	1.62	1.49
Commuting	1.81	24.62	3.18	0.02	3.43	3.15
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	279.60	954.56	3,394.91	685.61	227.13	179.82

Note: (1) Includes auxiliary generator emissions.

Table D2.1-Alt3(2010)-36. Daily Operational Emissions - Berths 136-147 Terminal Project Alternative 3 - 365 days/year all sources.

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	90	207	2,595	1,524	219	205
Ships - Precautionary Area Transit (1)	18	38	379	233	33	31
Ships - Harbor Transit (1)	28	35	268	135	27	25
Ships - Docking (1)	10	10	75	33	8	8
Ships - Hoteling Aux. Sources	53	190	1,896	1,791	161	151
Tugboats - Cargo Vessel Assist (1)	3	15	87	0	4	3
Terminal Equipment	120	521	1,482	1	64	59
On-road Trucks	1,076	3,728	10,140	8	660	440
Trains	104	263	1,433	32	40	37
Railyard Equipment	17	79	200	0	9	8
Commuting	10	135	17	0	19	17
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	1,532	5,230	18,602	3,757	1,245	985
Project Year 2010	Daily 2010 Emissions within the Harbor for comparsion to PP Impacts					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	7	9	67	34	7	6
Ships - Docking (1)	10	10	75	33	8	8
Ships - Hoteling Aux. Sources	53	190	1,896	1,791	161	151
Tugboats - Cargo Vessel Assist (1)	3	15	87	0	4	3
Terminal Equipment	120	521	1,482	1	64	59
On-road Trucks	151.9	423.9	1,034.2	0.8	42.0	39
Trains	0.5	1.4	6.8	0.1	0.2	0
Railyard Equipment	1.1	5.0	12.5	0.0	0.6	1
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	349	1,183	4,690	1,860	288	268

Note: (1) Harbor transit emissions are 25% of the daily total and on-road truck emissions equal to on-terminal emissions + the ratio of Alt 3 peak daily truck trips/ proposed project peak daily truck trips (4477/5390) times the data in Table C3-A1-20 (project on-road emissions).

Table D2.1-Alt4(2010)-1. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Alternative 4.

Project Scenario/Ship Type	Annual Ship Visits	Annual Shifts	TEU Moves/ Ship Visit (1)	Hoteling Time/ Visit (Hours) (2)	Annual TEU Movements
Project Year 2010					
Containerships 8,000 - 9,000 TEU	-		12,584	84.0	-
Containerships 5,000 - 6,000 TEU	18		8,017	72.0	144,306
Containerships 3,000 - 5,000 TEU	31		5,100	60.0	158,100
Containerships < 3,000 TEU	49		3,063	36.0	150,087
Subtotal	98				452,493
General Cargo	19		15,810	39.8	300,390
Auto Carrier	15		2,027	17.4	30,405
Table D2.1-Alt4(2010)-40. Equipment Usage Associated with One Outbound Train Trip at the Carson/Los Angeles					

Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000 TEUs at berths 121-131 in year 2001.

(2) Assumes that 4 cranes would service <3,000 and 3-5,000 TEU vessels @ 1600 lifts/day = 2992 TEUs/day, and 5 cranes would service 5-6,000 TEU vessels @ 2000 lifts/day = 3740 TEUs/day.
8-9,000 TEU vessels @ 2400 lifts/day = 4488 TEUs/day (TraPac 2006).

Table D2.1-Alt4(2010)-2. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.61	3.51	41.76	23.68	3.52	3.29
Containerships 3,000 - 5,000 TEU	1.92	4.36	54.35	31.23	4.53	4.24
Containerships < 3,000 TEU	1.78	4.16	53.85	31.24	4.46	4.18
General Cargo	0.39	0.91	11.73	6.80	0.97	0.91
Auto Carrier	0.33	0.77	9.96	5.78	0.83	0.77
Subtotal	6.03	13.71	171.64	98.72	14.31	13.40
Table D2.1-Alt4(2010)-40. Equipment Usage Associated with One Outbound Train Trip at the Carson/Los Angeles						

Note: (1) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt4(2010)-3. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.34	0.55	4.36	2.07	0.41	0.38
Containerships 3,000 - 5,000 TEU	0.39	0.70	6.16	3.14	0.56	0.52
Containerships < 3,000 TEU	0.26	0.57	6.80	3.87	0.57	0.54
General Cargo	0.05	0.10	1.27	0.73	0.11	0.10
Auto Carrier	0.04	0.10	1.28	0.74	0.11	0.10
Subtotal	1.07	2.02	19.87	10.54	1.75	1.64

Table D2.1-Alt4(2010)-4. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.47	0.47	2.67	0.64	0.32	0.30
Containerships 3,000 - 5,000 TEU	0.56	0.55	3.14	0.75	0.37	0.35
Containerships < 3,000 TEU	0.46	0.46	2.60	0.62	0.31	0.29
General Cargo	0.06	0.07	0.45	0.16	0.05	0.04
Auto Carrier	0.06	0.08	0.51	0.19	0.05	0.05
Subtotal	1.61	1.63	9.37	2.37	1.10	1.03

Table D2.1-Alt4(2010)-5. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.17	0.13	0.75	0.09	0.10	0.09
Containerships 3,000 - 5,000 TEU	0.20	0.15	0.89	0.11	0.12	0.11
Containerships < 3,000 TEU	0.17	0.12	0.73	0.09	0.10	0.09
General Cargo	0.02	0.01	0.07	0.01	0.01	0.01
Auto Carrier	0.02	0.01	0.08	0.01	0.01	0.01
Subtotal	0.57	0.42	2.53	0.32	0.33	0.31

Table D2.1-Alt4(2010)-6. Annual Shifting Emissions for Cargo Vessels within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.28	0.28	1.59	0.38	0.19	0.18
Docking	0.10	0.08	0.45	0.06	0.06	0.05
Subtotal	0.38	0.35	2.04	0.44	0.25	0.23

Table D2.1-Alt4(2010)-7. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.06	0.17	2.27	1.90	0.23	0.22
Containerships 3,000 - 5,000 TEU	0.07	0.20	2.66	2.22	0.27	0.25
Containerships < 3,000 TEU	0.06	0.18	2.37	1.98	0.24	0.23
General Cargo	0.01	0.04	0.54	0.45	0.05	0.05
Auto Carrier	0.02	0.04	0.56	0.47	0.06	0.05
Subtotal	0.23	0.63	8.39	7.02	0.86	0.80

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt4(2010)-8. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.13	1.68	1.08	0.14	0.13
Containerships 3,000 - 5,000 TEU	0.05	0.14	1.90	1.21	0.16	0.15
Containerships < 3,000 TEU	0.04	0.12	1.59	1.02	0.13	0.12
General Cargo	0.01	0.02	0.31	0.20	0.03	0.02
Auto Carrier	0.01	0.03	0.37	0.24	0.03	0.03
Subtotal	0.16	0.45	5.85	3.75	0.48	0.45

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4(2010)-9. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.07	0.20	2.67	1.71	0.22	0.20
Containerships 3,000 - 5,000 TEU	0.08	0.22	2.85	1.82	0.23	0.22
Containerships < 3,000 TEU	0.06	0.17	2.28	1.46	0.19	0.18
General Cargo	0.01	0.03	0.36	0.23	0.03	0.03
Auto Carrier	0.01	0.03	0.46	0.29	0.04	0.04
Subtotal	0.24	0.66	8.62	5.52	0.71	0.66

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.02	0.06	0.73	0.47	0.06	0.06
Containerships 3,000 - 5,000 TEU	0.02	0.06	0.78	0.50	0.06	0.06
Containerships < 3,000 TEU	0.02	0.05	0.62	0.40	0.05	0.05
General Cargo	0.00	0.00	0.06	0.04	0.00	0.00
Auto Carrier	0.00	0.01	0.08	0.05	0.01	0.01
Subtotal	0.06	0.17	2.27	1.45	0.19	0.17
Subtotal	0.06	0.22	2.88	1.35	0.18	0.17

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4(2010)-11. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.09	2.99	39.20	25.10	3.21	3.01
Containerships 3,000 - 5,000 TEU	1.24	3.41	44.77	28.67	3.66	3.43
Containerships < 3,000 TEU	0.69	1.91	25.06	16.04	2.05	1.92
General Cargo	0.13	0.36	4.70	3.01	0.38	0.36
Auto Carrier	0.09	0.23	3.08	1.97	0.25	0.24
Subtotal	3.24	8.91	116.81	74.79	9.56	8.96

Table D2.1-Alt4(2010)-12. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.02	0.05	0.69	0.32	0.04	0.04
Docking	0.01	0.01	0.19	0.09	0.01	0.01
Subtotal	0.02	0.07	0.88	0.41	0.06	0.05

Table D2.1-Alt4(2010)-13. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels during Hoteling - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Containership < 3,000 TEU	0.43	1.17	15.10	7.05	0.97	0.91
Subtotal	0.43	1.17	15.10	7.05	0.97	0.91

Table D2.1-Alt4(2010)-14. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
General Cargo	-	-	-	-	-	-
Auto Carrier	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.

Table D2.1-Alt4(2010)-15. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.02	0.06	0.28	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.00	0.04	0.11	0.49	0.01	0.01
Containerships < 3,000 TEU	0.01	0.07	0.18	0.77	0.02	0.02
General Cargo	0.00	0.01	0.02	0.07	0.00	0.00
Auto Carrier	0.00	0.01	0.04	0.17	0.00	0.00
Subtotal	0.01	0.15	0.41	1.78	0.05	0.05

Table D2.1-Alt4(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.02	0.05	0.22	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.09	0.39	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.14	0.61	0.02	0.02
General Cargo	0.00	0.00	0.01	0.05	0.00	0.00
Auto Carrier	0.00	0.01	0.03	0.14	0.00	0.00
Subtotal	0.01	0.12	0.32	1.41	0.04	0.04

Table D2.1-Alt4(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.01	0.06	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.11	0.00	0.00
Containerships < 3,000 TEU	0.00	0.01	0.04	0.17	0.00	0.00
General Cargo	0.00	0.00	0.00	0.01	0.00	0.00
Auto Carrier	0.00	0.00	0.01	0.02	0.00	0.00
Subtotal	0.00	0.03	0.08	0.37	0.01	0.01

Table D2.1-Alt4(2010)-18. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.08	0.92	2.45	10.78	0.30	0.28
Containerships 3,000 - 5,000 TEU	0.11	1.32	3.52	15.47	0.43	0.41
Containerships < 3,000 TEU	0.10	1.25	3.34	14.67	0.41	0.38
General Cargo	0.01	0.11	0.30	1.31	0.04	0.03
Auto Carrier	0.01	0.14	0.36	1.59	0.04	0.04
Subtotal	0.31	3.73	9.98	43.81	1.23	1.15

Table D2.1-Alt4(2010)-19. Annual Auxiliary Boiler Emissions during Cargo Vessel Shifts - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10	PM2.5
Year 2003 Baseline						
Transit	0.00	0.03	0.09	0.37	0.01	0.01
Docking	0.00	0.01	0.02	0.10	0.00	0.00
Hoteling	0.06	0.77	2.05	8.98	0.25	0.24
Subtotal	0.07	0.81	2.15	9.46	0.26	0.25

Table D2.1-Alt4(2010)-20. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.28	1.43	8.48	0.00	0.35	0.33

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt4(2010)-21. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 4.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.02	0.13	0.73	0.00	0.03	0.03

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt4(2010)-22. Annual Vessel Emissions - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	6.26	14.34	180.02	105.74	15.16	14.21
Ships - Precautionary Area Transit (1)	1.24	2.62	26.12	16.07	2.28	2.14
Ships - Harbor Transit (1)	1.86	2.41	18.31	9.30	1.84	1.73
Ships - Docking (1)	0.64	0.63	4.88	2.13	0.53	0.49
Ships - Hoteling Aux. Sources	3.55	12.64	126.79	118.61	10.79	10.11
Tugboats - Cargo Vessel Assist (1)	0.30	1.56	9.21	0.01	0.38	0.36
Subtotal	13.85	34.19	365.34	251.86	30.98	29.03
Subtotal	15.59	41.62	429.55	271.14	33.37	31.27

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt4(2010)-23. Daily Vessel Emissions - Berths 136-147 Terminal Project - Alternative 4.

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	34.3	78.6	986.4	579.4	83.1	77.8
Ships - Precautionary Area Transit (1)	6.8	14.4	143.1	88.1	12.5	11.7
Ships - Harbor Transit (1)	10.2	13.2	100.3	51.0	10.1	9.5
Ships - Docking (1)	3.5	3.4	26.7	11.7	2.9	2.7
Ships - Hoteling Aux. Sources	19.4	69.2	694.7	649.9	59.1	55.4
Tugboats - Cargo Vessel Assist (1)	1.6	8.5	50.5	0.0	2.1	2.0
Subtotal	76	187	2,002	1,380	170	159

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt4(2010)-24. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project Alternative 4

Year	TEUs to Offsite Railyard (1)	TEUs to Local Deilveries (1)	Truck Trips to Offsite Railyard (1)	Local Truck Trips (1)	Truck Miles to Offsite Railyard (2)	Local Truck Trip Miles (3)	Composite VMT/ Truck Trip
Year 2010	226,200	226,200	313,650	313,650	11.3	55.0	33.2

Notes: (1) Assumed to be 50% of Berths 136-147 annual cargo throughput.

(2) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(3) Average of local/external-SCAB trip lengths (20/90) that originate from/are destined to the POLA.

Table D2.1-Alt4(2010)-25. ADT Estimates - Berths 136-147 Terminal Project - Alternative 4

Cargo Type/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
Container			
2010	627,300	1,719	2,353
General Cargo			
Table D2.1-Alt4(2010)-40. E	12,516	34	47
Auto			
2010	6,081	17	23

Note: (1) = annual trips/ 266.6 days.

Table D2.1-Alt4(2010)-26. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Project - Alternative 4.

Activity/Project Scenario	Idling Time/ Trip (Hrs) (1)	Miles/ Trip (2)	ADT	Idling Hrs/ Day	Miles/ Day
On-Terminal All Truck Types					
Year 2010	0.25	0.81	1,770	442	1,426
Off-Terminal - Container Trucks					
Year 2010	0.30	33.2	1,719	516	56,973
Off-Terminal - General Cargo Trucks					
Year 2010	0.30	15.0	34	10	514
Off-Terminal - Auto Trucks					
Table D2.1-Alt4(2010)-40. Equipment Usage A	0.30	10.0	17	5	167

Notes: (1) 2003 on-terminal durations from PEI. Post-2003 on-terminal durations from TraPac (TraPac 2006).

(2) On-terminal mileage/trip based upon current/proposed terminal gate systems. Off-terminal miles/trip from data presented in Table D1.2.34.

Table D2.1-Alt4(2010)-27. Daily Truck Emissions for the Berths 136-147 Terminal Project - Alternative 4.

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	10.5	33.7	114.0	0.1	1.4	1.3
Year 2010 - Driving	28.3	57.9	113.2	0.1	8.1	7.5
Subtotal - Year 2010	38.9	91.6	227.2	0.2	9.5	8.7
Off-Terminal						
Year 2010 - Idling	12.6	40.4	136.8	0.1	1.7	1.5
Year 2010 - Driving	290.0	1,012.9	2,882.6	2.5	133.0	122.4
Subtotal - Year 2010	302.6	1,053.3	3,019.4	2.6	134.7	123.9
Total Daily Truck Emissions by Project Year						
Year 2010	341.5	1,144.9	3,246.6	2.8	144.2	132.6

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-Alt4(2010)-28. Road Dust Emissions for the Berths 1
Project - Alternative 4.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	63.7	10.8
Off-Terminal		
Year 2010	177.0	29.9
Off-Terminal - General Cargo Trucks		
Year 2010	0.4	0.1
Off-Terminal - Auto Trucks		
Year 2010	0.1	0.0
Combined On/Off-Terminal		
Year 2010	241.2	40.8

Notes: (1) 47.05 % freeway travel and 52.95% surface street travel

Table D2.1-Alt4(2010)-29. Brake and Tire Wear Emissions for th
Terminal Project - Alternative 4.

Activity	Daily Emissions (Pounds)	
	PM10	PM2.5
On-Terminal		
Year 2010	0.4	0.2
Off-Terminal		
Year 2010	24.7	10.6
Off-Terminal - General Cargo Trucks		
Year 2010	0.1	0.0
Off-Terminal - Auto Trucks		
Year 2010	0.0	0.0
Combined On/Off-Terminal		
Year 2010	25.1	10.8

Table D2.1-Alt4(2010)-30. Total Non-Combustive Truck Generate
for the Berths 136-147 Terminal Project - Alternative 4.

	Daily Emissions (Pounds)	
Activity	PM10	PM2.5
On-Terminal		
Year 2010	64.0	10.9
Off-Terminal		
Year 2010	201.7	40.5
Off-Terminal - General Cargo Trucks		
Year 2010	0.5	0.1
Year 2030	0.5	0.1
Off-Terminal - Auto Trucks		
Year 2010	0.2	0.0
Combined On/Off-Terminal		
Year 2010	266	52

Table D2.1-Alt4(2010)-31. Train Trip Generation Rates - Berths 136-147
Terminal Project - Alternative 4

Project Scenario/Rail Yard	Annual Round Trips
Year 2010	
To/from Berths 136-147 ICTF	-
To/from Carson/LA Rail Yards	371

Table D2.1-Alt4(2010)-32. Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 4 Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Yard Locomotive - Switching	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Berths 136-147/Inbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Carson or LA Railyards/Outbound						
Hostler	0.62	3.37	6.96	0.00	0.32	0.30
Top Picks	0.30	0.95	3.95	0.00	0.16	0.15
Line Haul Locomotive - Road Haul	3.56	8.96	49.16	1.10	1.37	1.26
Line Haul Locomotive - Notch 1	0.26	0.67	3.65	0.08	0.10	0.09
Yard Locomotive - Switching	0.11	0.45	1.52	0.00	0.04	0.04
Subtotal	4.86	14.40	65.23	1.19	2.00	1.84
Carson or LA Railyards/Inbound						
Hostler	0.23	1.27	2.61	0.00	0.12	0.11
Top Picks	0.11	0.36	1.48	0.00	0.06	0.06
Line Haul Locomotive - Road Haul	3.56	8.96	49.16	1.10	1.37	1.26
Line Haul Locomotive - Notch 1	0.13	0.33	1.83	0.04	0.05	0.05
Subtotal	4.04	10.92	55.07	1.15	1.60	1.47
Total Tons Per Year	8.89	25.32	120.31	2.34	3.59	3.31

Table D2.1-Alt4(2010)-33. Summary of Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 4.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	1.27	5.95	15.00	0.01	0.67	0.61
Trains	7.62	19.37	105.31	2.33	2.93	2.69
Subtotal	8.89	25.32	120.31	2.34	3.59	3.31

Table D2.1-Alt4(2010)-34. Container Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project Alternative 4.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	5,323,240	3.66	19.79	40.81	0.03	1.90	1.75
Terminal Equipment - 176-250 Hp	6,382,222	3.23	10.25	42.54	0.03	1.73	1.59
Terminal Equipment - 250-500 Hp	1,226,252	0.47	1.78	7.19	0.01	0.28	0.26
Subtotal	12,931,714	7.36	31.82	90.54	0.06	3.91	3.60
et							
ff-road							

Table D2.1-Alt4(2010)-35. Break Bulk Terminal Equipment Annual Emissions - Berths 136-147 Terminal Project Alternative 4.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	266,162	0.18	0.99	2.04	0.00	0.10	0.09
Terminal Equipment - 176-250 Hp	319,111	0.16	0.51	2.13	0.00	0.09	0.08
Terminal Equipment - 250-500 Hp	61,313	0.02	0.09	0.36	0.00	0.01	0.01
Subtotal	646,586	0.37	1.59	4.53	0.00	0.20	0.18

Note: (1) Assumed to = 5% of the annual container terminal equipment usages.

Table D2.1-Alt4(2010)-36. Auto Terminal Source Annual Emissions - Berths 136-147 Terminal Project Alternative 4.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
All Project Years							
Terminal Equipment		0.04	0.50	0.21	0.00	0.00	0.00
Autos		0.01	0.16	0.01	0.00	0.00	0.00
Subtotal		0.05	0.66	0.23	0.00	0.0013	0.0012

Note: (1) From PEI Tables 4.6 and 4.8, then factored by 30,400/256,467. Based upon 2001 emission factors.

Table D2.1-Alt4(2010)-37. Combined Terminal Source Annual Emissions - Berths 136-147 Terminal Project Alternative 4

Project Scenario/Equipment Horsepower		Annual Emissions (Tons)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Container Terminal Equipment		7.36	31.82	90.54	0.06	3.91	3.60
Break Bulk Terminal Equipment		0.37	1.59	4.53	0.00	0.20	0.18
Auto Terminal Equipment		0.05	0.66	0.23	0.00	0.00	0.00
Subtotal		7.78	34.07	95.29	0.07	4.11	3.78

Table D2.1-Alt4(2010)-38. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Alternative 4.

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	6.26	14.34	180.02	105.74	15.16	14.21
Ships - Precautionary Area Transit (1)	1.24	2.62	26.12	16.07	2.28	2.14
Ships - Harbor Transit (1)	1.86	2.41	18.31	9.30	1.84	1.73
Ships - Docking (1)	0.64	0.63	4.88	2.13	0.53	0.49
Ships - Hoteling Aux. Sources	3.55	12.64	126.79	118.61	10.79	10.11
Tugboats - Cargo Vessel Assist (1)	0.30	1.56	9.21	0.01	0.38	0.36
Terminal Equipment	7.78	34.07	95.29	0.07	4.11	3.78
On-road Trucks	62.32	208.95	592.50	0.50	74.92	33.62
Trains	7.62	19.37	105.31	2.33	2.93	2.69
Railyard Equipment	1.27	5.95	15.00	0.01	0.67	0.61
Commuting	0.60	8.19	1.06	0.01	1.14	1.05
Pier A Railyard	0.41	1.58	5.53	0.00	0.16	0.14
Project Year 2010 Total	93.86	312.30	1,180.03	254.78	114.90	70.92

Table D2.1-Alt4(2010)-39. Daily Operational Emissions - Berths 136-147 Terminal Project Alternative 4 - 365 days/year all sources.

	Pounds Per Day					
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	34	79	986	579	83	78
Ships - Precautionary Area Transit (1)	7	14	143	88	12	12
Ships - Harbor Transit (1)	10	13	100	51	10	9
Ships - Docking (1)	3	3	27	12	3	3
Ships - Hoteling Aux. Sources	19	69	695	650	59	55
Tugboats - Cargo Vessel Assist (1)	2	9	50	0	2	2
Terminal Equipment	43	187	522	0	23	21
On-road Trucks	341	1,145	3,247	3	411	184
Trains	42	106	577	13	16	15
Railyard Equipment	7	33	82	0	4	3
Commuting	3	45	6	0	6	6
Pier A Railyard	2	9	30	0	1	1
Project Year 2010 Total	514	1,711	6,466	1,396	630	389
Project Year 2010	Daily 2010 Emissions within the Harbor for comparsion to PP Impacts					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	3	3	25	13	3	2
Ships - Docking (1)	3	3	27	12	3	3
Ships - Hoteling Aux. Sources	19	69	695	650	59	55
Tugboats - Cargo Vessel Assist (1)	2	9	50	0	2	2
Terminal Equipment	43	187	522	0	23	21
On-road Trucks	59	154	412	0	16	15
Trains						
Railyard Equipment						
Commuting						
Pier A Railyard	2	9	30	0	1	1
Project Year 2010 Total	131	433	1,761	675	106	99

Note: (1) Harbor transit emissions are 25% of the daily total and on-road truck emissions equal to on-terminal emissions + the ratio of Alt 4 peak daily truck trips/ proposed project peak daily truck trips (1770/5390) times the data in Table C3-A1-20 (project on-road emissions).

Table D2.1.Alt5(2010)-1. Proposed Phase-In Mitigations Implementation Schedule - Berths 136-147 Terminal Projects.

	Year/Compliance Rate Fraction of All Ship Visits				
Mitigation Measure		2010			
VSRP		0.95			
Non-VSRP		0.05			
AMP		0.40			
Non-AMP		0.60			
Auxiliary Engines - 2.7% S RO		0.56			
Auxiliary Engines - 0.78% S MGO		0.24			
Auxiliary Engines - 0.2% S MGO		0.20			
OGV Main Engines - 2.7% S RO		0.80			
OGV Main Engines - 0.5% S MGO					
OGV Main Engines - 0.2% S MGO		0.20			
Slide Valves		0.25			
Non-Slide Valves		0.75			
Annex VI Complaint Vessels		0.35			
Non-Annex VI Vessels		0.65			

Table D2.1.Alt5(2010)-2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Propulsion Max Hp (2)	Fairway (1) Load Factor (3)	Modal Hp	Distance (NM)	Speed (Kts) (4)	Hours Per Trip	Hp-Hrs/ Trip	kW-Hrs/ Trip (5)
Non-Compliance with VSRP								
Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
Containership 5,000 - 6,000 TEU	74,043	0.83	61,530	39.9	22.6	1.76	108,416	80,878
Containership 3,000 - 5,000 TEU	50,651	0.83	42,091	39.9	20.8	1.92	80,625	60,146
Containership < 3,000 TEU	26,525	0.83	22,043	39.9	18.2	2.19	48,229	35,979
General Cargo	10,993	0.83	9,135	38.9	14.7	2.64	24,156	18,021
Auto Carrier	15,418	0.83	12,813	39.6	17.6	2.24	28,736	21,437
Compliance with VSRP within VSRP Zone (6)(7)								
Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,043	0.83	61,530	17.9	22.6	0.79	48,638	36,284
Containership 5,000 - 6,000 TEU - In VSRPZ	74,043	0.12	9,152	22.0	12.0	1.83	16,779	12,517
Containership 5,000 - 6,000 TEU - Total kW-Hrs								48,801
Containership 3,000 - 5,000 TEU - Outside VSRPZ	50,651	0.83	42,091	17.9	20.8	0.86	36,170	26,983
Containership 3,000 - 5,000 TEU - In VSRPZ	50,651	0.16	8,043	22.0	12.0	1.83	14,746	11,000
Containership 3,000 - 5,000 TEU - Total kW-Hrs								37,983
Containership < 3,000 TEU - Outside VSRPZ	26,525	0.83	22,043	17.9	18.2	0.98	21,637	16,141
Containership < 3,000 TEU - In VSRPZ	26,525	0.24	6,278	22.0	12.0	1.83	11,509	8,586
Containership < 3,000 TEU - Total kW-Hrs								24,727
General Cargo - Outside VSRPZ	10,993	0.83	9,135	16.9	14.7	1.15	10,477	7,816
General Cargo - In VSRPZ	10,993	0.45	4,975	22.0	12.0	1.83	9,121	6,804
General Cargo - Total kW-Hrs								14,620
Auto Carrier - Outside VSRPZ	15,418	0.83	12,813	17.6	17.6	1.00	12,751	9,512
Auto Carrier - In VSRPZ	15,418	0.26	4,035	22.0	12.0	1.83	7,398	5,519
Auto Carrier - Total kW-Hrs								15,031
Compliance with VSRP within entire Fairway (8)								
Containership 8,000 - 9,000 TEU	93,000	0.09	8,694	39.9	12.0	3.33	28,909	21,566
Containership 5,000 - 6,000 TEU	74,043	0.12	9,152	39.9	12.0	3.33	30,430	22,701
Containership 3,000 - 5,000 TEU	50,651	0.16	8,043	39.9	12.0	3.33	26,743	19,951
Containership < 3,000 TEU	26,525	0.24	6,278	39.9	12.0	3.33	20,873	15,572
General Cargo	10,993	0.45	4,975	38.9	12.0	3.24	16,107	12,016
Auto Carrier	15,418	0.26	4,035	39.6	12.0	3.30	13,300	9,922

Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes for each vessel type (see Table D2.1.Alt5(2010)-5a).

(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.

(3) PEI page 68.

(4) Represents service speed, which is 94% of maximum speed (PEI page 68).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within/outside the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) ~ 22/17.9 nautical miles (NM).

(7) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).

Table D2.1.Alt5(2010)-3. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Transit	kW-Hrs/ Transit
Non-Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	1.61	2,818
Containership 5,000 - 6,000 TEU	12,431	0.13	1.76	2,847
Containership 3,000 - 5,000 TEU	8,137	0.13	1.92	2,026
Containership < 3,000 TEU	4,315	0.13	2.19	1,227
General Cargo	1,777	0.17	2.64	799
Auto Carrier	2,850	0.15	2.24	959
Compliance with VSRP within VSRP Zone (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	2.55	4,482
Containership 5,000 - 6,000 TEU	12,431	0.13	2.62	4,240
Containership 3,000 - 5,000 TEU	8,137	0.13	2.69	2,848
Containership < 3,000 TEU	4,315	0.13	2.81	1,579
General Cargo	1,777	0.17	2.98	900
Auto Carrier	2,850	0.15	2.83	1,209
Compliance with VSRP within entire Fairway (8)				
Containership 8,000 - 9,000 TEU	13,501	0.13	3.33	5,836
Containership 5,000 - 6,000 TEU	12,431	0.13	3.33	5,373
Containership 3,000 - 5,000 TEU	8,137	0.13	3.33	3,517
Containership < 3,000 TEU	4,315	0.13	3.33	1,865
General Cargo	1,777	0.17	3.24	978
Auto Carrier	2,850	0.15	3.30	1,409

Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from 5,000-6,000 TEU vessel rating.

(2) PEI Table 2.19.

(3) See Table D2.1.Alt5(2010)-2 for estimated vessel transit durations within the fairway for each mode of operation.

Table D2.1.Alt5(2010)-4. OGV Main Engine Emission Factors Multipliers for Use of Slide Valves

Main Engine Load Factor	VOC	CO	NOx	SOx	PM
> 25%	0.70	1.00	0.70	1.00	0.75
<25%	0.15	1.00	0.70	1.00	0.40

Notes: (1) Reduction factors for slide valves at high main engine loads are from CARB for PM, and from MAN B&W for VOC and NOx.

(2) Slide valve reduction factors for VOC and PM at low loads are from "MV Sine Maersk Emission Measurements & Retrofit Control Technology Discussion", MAN B&W Diesel A/S, April 8, 2004. No data are provided for NOx at low loads, so the high load reduction factor was conservatively used.

Table D2.1.Alt5(2010)-5. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project Alternative 5 - Vessels that Comply with Proposed VSRP.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.70	4.89	42.30	17.88	3.39	3.17
Containerships 3,000 - 5,000 TEU	2.88	6.00	63.81	29.28	4.83	4.52
Containerships < 3,000 TEU	2.72	6.35	80.41	38.74	5.92	5.54
Subtotal	8.30	17.23	186.52	85.91	14.13	13.24

Note: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Without slide valves

Table D2.1.Alt5(2010)-6. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project Alternative 5 - Non-Compliant Vessels with the Proposed VSRP.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.24	0.55	6.96	3.35	0.51	0.48
Containerships 3,000 - 5,000 TEU	0.33	0.76	9.64	4.65	0.71	0.66
Containerships < 3,000 TEU	0.33	0.77	9.78	4.71	0.72	0.67
Subtotal	0.89	2.08	26.38	12.71	1.94	1.82

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Without slide valves

Table D2.1.Alt5(2010)-7. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Alternative 5 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.82	1.35	10.44	4.12	0.87	0.81
Containerships 3,000 - 5,000 TEU	1.02	1.85	15.97	6.75	1.28	1.20
Containerships < 3,000 TEU	0.73	1.62	18.91	8.93	1.42	1.33
Subtotal	2.57	4.82	45.32	19.81	3.57	3.34

(2) Without slide valves

Table D2.1.Alt5(2010)-8. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.16	1.15	6.39	1.27	0.67	0.63
Containerships 3,000 - 5,000 TEU	1.48	1.46	8.15	1.62	0.86	0.80
Containerships < 3,000 TEU	1.31	1.30	7.23	1.44	0.76	0.71
Subtotal	3.95	3.90	21.77	4.33	2.29	2.14

Table D2.1.Alt5(2010)-9. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.42	0.31	1.80	0.19	0.21	0.20
Containerships 3,000 - 5,000 TEU	0.53	0.39	2.30	0.24	0.27	0.25
Containerships < 3,000 TEU	0.47	0.35	2.04	0.21	0.24	0.22
Subtotal	1.42	1.05	6.15	0.64	0.71	0.67

(2) Without slide valves

Table D2.1.Alt5(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project Alternative 5 - Vessels that Comply with VSRP.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.20	0.54	7.10	3.89	0.51	0.48
Containerships 3,000 - 5,000 TEU	0.24	0.66	8.67	4.74	0.62	0.58
Containerships < 3,000 TEU	0.22	0.60	7.79	4.26	0.56	0.52
Subtotal	0.66	1.81	23.56	12.89	1.69	1.59

Note: (1) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

Table D2.1.Alt5(2010)-11. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project Alternative 5 - Non-Compliant Vessels within VSRP.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.01	0.02	0.20	0.11	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.01	0.02	0.26	0.14	0.02	0.02
Containerships < 3,000 TEU	0.01	0.02	0.27	0.15	0.02	0.02
Subtotal	0.02	0.06	0.73	0.40	0.05	0.05

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1.Alt5(2010)-12. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.11	0.31	4.09	2.24	0.29	0.28
Containerships 3,000 - 5,000 TEU	0.14	0.38	4.99	2.73	0.36	0.34
Containerships < 3,000 TEU	0.13	0.34	4.48	2.45	0.32	0.30
Subtotal	0.38	1.04	13.56	7.42	0.97	0.91

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1.Alt5(2010)-13. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.18	0.50	6.49	3.55	0.47	0.44
Containerships 3,000 - 5,000 TEU	0.21	0.57	7.49	4.10	0.54	0.50
Containerships < 3,000 TEU	0.18	0.49	6.45	3.53	0.46	0.43
Subtotal	0.57	1.57	20.42	11.17	1.47	1.37

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1.Alt5(2010)-14. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.14	1.77	0.97	0.13	0.12
Containerships 3,000 - 5,000 TEU	0.06	0.16	2.05	1.12	0.15	0.14
Containerships < 3,000 TEU	0.05	0.14	1.76	0.96	0.13	0.12
Subtotal	0.16	0.43	5.58	3.05	0.40	0.38

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1.Alt5(2010)-15. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.59	4.38	57.18	31.27	4.11	3.85
Containerships 3,000 - 5,000 TEU	1.97	5.42	70.66	38.65	5.07	4.76
Containerships < 3,000 TEU	1.18	3.25	42.41	23.20	3.05	2.85
Subtotal	4.75	13.05	170.25	93.12	12.23	11.46

Table D2.1.Alt5(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 5 - VSRP-Compliant.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1.Alt5(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Alternative 5 - VSRP-Non-Compliant.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1.Alt5(2010)-18. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.06	0.16	0.69	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.11	0.29	1.29	0.04	0.03
Containerships < 3,000 TEU	0.02	0.19	0.50	2.19	0.06	0.06
Subtotal	0.03	0.35	0.95	4.17	0.12	0.11

Table D2.1.Alt5(2010)-19. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.13	0.55	0.02	0.01
Containerships 3,000 - 5,000 TEU	0.01	0.09	0.23	1.02	0.03	0.03
Containerships < 3,000 TEU	0.01	0.15	0.39	1.73	0.05	0.05
Subtotal	0.02	0.28	0.75	3.31	0.09	0.09

Table D2.1.Alt5(2010)-20. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.03	0.15	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.02	0.06	0.28	0.01	0.01
Containerships < 3,000 TEU	0.00	0.04	0.11	0.47	0.01	0.01
Subtotal	0.01	0.08	0.21	0.90	0.03	0.02

(2) Does not assume use of low-sulfur fuels.

Table D2.1.Alt5(2010)-21. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.19	2.24	6.00	26.35	0.74	0.69
Containerships 3,000 - 5,000 TEU	0.29	3.49	9.32	40.91	1.15	1.07
Containerships < 3,000 TEU	0.29	3.54	9.48	41.61	1.16	1.09
Subtotal	0.77	9.27	24.80	108.87	3.05	2.86

(2) Does not assume use of low-sulfur fuels.

Table D2.1.Alt5(2010)-22. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 5 .

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.42	2.14	12.70	0.01	0.53	0.49

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1.Alt5(2010)-23. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Alternative 5 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Subtotal (1)	0.03	0.19	1.11	0.00	0.05	0.05
Project Year 2010						

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1.Alt5(2010)-24. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project Alternative 5 - Vessels that Comply with VSRP + Slide Valves

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	2.13	4.89	39.13	17.88	2.88	2.70
Containerships 3,000 - 5,000 TEU	2.27	6.00	59.03	29.28	4.10	3.85
Containerships < 3,000 TEU	2.14	6.35	74.38	38.74	5.03	4.71
Subtotal	6.53	17.23	172.54	85.91	12.01	11.25

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1.Alt5(2010)-25. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147
Terminal Project Alternative 5 - Non-Compliant Vessels within VSRP + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.22	0.55	6.44	3.35	0.48	0.45
Containerships 3,000 - 5,000 TEU	0.30	0.76	8.92	4.65	0.67	0.62
Containerships < 3,000 TEU	0.31	0.77	9.04	4.71	0.67	0.63
Subtotal	0.83	2.08	24.40	12.71	1.82	1.70

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1.Alt5(2010)-26. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Alternative 5 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.64	1.35	9.65	4.12	0.74	0.69
Containerships 3,000 - 5,000 TEU	0.80	1.85	14.78	6.75	1.09	1.02
Containerships < 3,000 TEU	0.58	1.62	17.49	8.93	1.21	1.13
Subtotal	2.03	4.82	41.92	19.81	3.03	2.84
Subtotal	0.83	8.83	43.84	3.78	1.00	0.94

Table D2.1.Alt5(2010)-27. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 5 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.91	1.15	5.91	1.27	0.57	0.54
Containerships 3,000 - 5,000 TEU	1.16	1.46	7.54	1.62	0.73	0.68
Containerships < 3,000 TEU	1.03	1.30	6.69	1.44	0.65	0.61
Subtotal	3.11	3.90	20.14	4.33	1.95	1.82

Table D2.1.Alt5(2010)-28. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Alternative 5 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.33	0.31	1.67	0.19	0.18	0.17
Containerships 3,000 - 5,000 TEU	0.42	0.39	2.13	0.24	0.23	0.21
Containerships < 3,000 TEU	0.37	0.35	1.89	0.21	0.20	0.19
Subtotal	1.12	1.05	5.69	0.64	0.61	0.57

Table D2.1.Alt5(2010)-29. Annual Vessel Emissions - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	8.04	21.18	221.23	111.91	15.57	14.59
Ships - Precautionary Area Transit (1)	2.43	6.22	56.43	31.39	4.12	3.86
Ships - Harbor Transit (1)	3.70	5.75	41.31	18.80	3.50	3.28
Ships - Docking (1)	1.28	1.55	11.47	4.60	1.03	0.97
Ships - Hoteling Aux. Sources	5.51	22.33	195.05	201.99	15.27	14.31
Tugboats - Cargo Vessel Assist (1)	0.45	2.33	13.80	0.01	0.58	0.54
Subtotal	21.41	59.35	539.29	368.70	40.08	37.56

Note: (1) Includes auxiliary power emissions.

Table D2.1.Alt5(2010)-30. Daily Vessel Emissions - Berths 136-147 Terminal Project - Alternative 5 .

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	44.0	116.0	1,212.2	613.2	85.3	80.0
Ships - Precautionary Area Transit (1)	13.3	34.1	309.2	172.0	22.6	21.2
Ships - Harbor Transit (1)	20.3	31.5	226.4	103.0	19.2	18.0
Ships - Docking (1)	7.0	8.5	62.9	25.2	5.7	5.3
Ships - Hoteling Aux. Sources	30.2	122.3	1,068.8	1,106.8	83.7	78.4
Tugboats - Cargo Vessel Assist (1)	2.5	12.8	75.6	0.0	3.2	3.0
Subtotal	117	325	2,955	2,020	220	206

Note: (1) Includes auxiliary power emissions.

Table D2.1.Alt5(2010)-31. On-Road Truck Mitigated Emission Factors - Berths 136-147 Terminal Project Alternatives Scen

Project Year/Mode - Diesel Trucks	Emission Factors (Grams/Mile)						References
	ROG	CO	NOx	SOx	DPM	PM10	
Project Year 2010							
On-road Truck - Idle	7.44	30.48	127.16	0.07	0.36	0.36	EMFAC2007
On-road Truck - 10 mph	2.38	4.95	10.75	0.03	0.45	0.45	EMFAC2007
On-road Truck - 25 mph	0.51	2.03	6.20	0.02	0.20	0.20	EMFAC2007
On-road Truck - 55 mph	0.29	1.48	5.33	0.02	0.24	0.24	EMFAC2007
On-road Trucks - Composite Off-Terminal	0.63	2.16	6.39	0.02	0.24	0.24	(4)

Notes: (1) From EMFAC2002 (ARB 2003). Units in grams/mile for each project year, at 60 degrees and 50% relative humidity, except idle factors in units of grams/hour. PM10 non-idle factors include combustive and tire and break wear emissions. Based on age distribution of year 2001 POLA truck fleet, as used in the PEI.

(2) Based on 10% at 10 miles per hour (mph), 50% at 25 mph, and 40% at 55 mph. Although not included in this composite emission factor, 30 minutes of idling mode included in emission estimates for each truck trip.

(3) Mitigated emission factors assume that the Port truck fleet would convert to 2007 EPA standards (Tier 4) at the following rate: 15/30/50/70/90/100% in years 2007/2008/2009/2010/2011/2012. Data obtained from China Shipping Truck Efs Ops.xls file. Year 2007/2010 data other then DPM interpolated between 2005 and 2015 data.

(4) Same as (2), except based on 10% at 10 miles per hour (mph), 60% at 25 mph, and 30% at 55 mph.

(5) Same as (2), except based on 10% at 10 miles per hour (mph), 70% at 25 mph, and 20% at 55 mph.

(6) Driving emission factors are Gm/Mile; idling emission factors are Gm/hour.

Table D2.1.Alt5(2010)-32. Daily Mitigated Truck Emissions for the Berths 136-147 Terminal Project - Alternative 5

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	13.8	56.7	236.7	0.1	0.7	0.6
Year 2010 - Driving	14.2	29.7	64.5	0.2	2.7	2.5
Subtotal - Year 2010	28.1	86.4	301.2	0.3	3.4	3.1
Off-Terminal						
Year 2010 - Idling	16.6	68.1	284.1	0.1	0.8	0.7
Year 2010 - Driving	190.5	651.5	1,930.9	6.0	71.3	65.6
Subtotal - Year 2010	207.1	719.6	2,215.0	6.1	72.1	66.4
Year 2010	235.2	806.1	2,516.2	6.4	75.5	69.5

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1.Alt5(2010)-33. Mitigated Emission Factors for Rail/ICTF Equipment - Berths 136-147 Terminal Project Alternatives.

Project Scenario/ Equipment - Horsepower	Emission Factors (Gm/Hp-Hr)						References
	ROG	CO	NOx	SOx	PM	PM10	
Year 2010							
Terminal Equipment - 121-175 Hp - Unmitigated	0.62	3.37	6.95	0.00	0.32	0.32	(1)
Terminal Equipment - 176-250 Hp - Unmitigated	0.46	1.46	6.05	0.00	0.25	0.25	(1)
100-175 Hp - Tier 4 Standard	0.30	3.37	0.30	0.00	0.02	0.02	(7)
176-500 Hp - Tier 4 Standard	0.30	1.46	0.30	0.00	0.02	0.02	(7)
Line Haul Locomotive - Year 2010	0.51	1.28	7.02	0.16	0.20	0.20	(6)
Switch Yard Locomotive - Year 2010	0.60	2.40	8.10	0.005	0.23	0.23	(5)

Notes: (1) Estimated with the use of the ARB OFFROAD Model with consideration of fleet turnover with adopted future EPA off-road emission standards. See Table D2-??.

(2) Represents national average emission factors for line haul/switch yard locomotives for a given year (EPA 1998). ROG = THC * 1.27. Year 2003 data for switch engines = 1999 values, as current PHL fleet is pre-1973 vintage (pre-Tier 0). Year 2003 line haul/switch loco diesel fuel assumed to be 0.22/0.035% sulfur (S) (PEI pages 223 and 229), although PM emission factors for switch locos not subsequently reduced, due to the antiquated age of the PHL engines.

(3) Locomotive Emissions Final Rulemaking (EPA 1997), except PM reduced by 4% to simulate use of ULSD.

(4) Assumes fleet has an Mitigated Annual average of 75% Pre-Tier 0 and 25% Tier 2 standards + use of ULSD .

(5) Assumes 100% conversion of existing fleet to Tier 2 standard engines + use of ULSD.

(6) Represents average EPA emission factors for line haul locomotives for a given year + the use of 500 ppm S diesel by 2008 and ULSD by 2012, as stated in the EPA non-road diesel fuel rule. These fuels would produce 25/28% reductions in PM emissions from an assumed S fuel content of 0.2%.

(7) See Table D2.1.Alt5(2010)-33.

(8) NOx/PM values reduced by 90% from switch engine Tier 2 standards (8.10/0.24).

Table D2.1.Alt5(2010)-34. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 5 Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	0.47	2.81	4.69	0.00	0.22	0.20
Top Picks	0.23	0.79	2.66	0.00	0.11	0.10
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03	0.03
Subtotal	4.10	12.31	54.37	1.04	1.63	1.50
Berths 136-147/Inbound						
Hostler	0.17	1.05	1.76	0.00	0.08	0.08
Top Picks	0.09	0.30	1.00	0.00	0.04	0.04
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Subtotal	3.58	9.71	48.58	1.03	1.40	1.28
Carson or LA Railyards/Outbound						
Hostler	0.79	4.78	7.98	0.01	0.37	0.34
Top Picks	0.40	1.35	4.54	0.00	0.19	0.17
Line Haul Locomotive - Road Haul	5.04	12.71	69.70	1.56	1.94	1.78
Line Haul Locomotive - Notch 1	0.37	0.94	5.18	0.12	0.14	0.13
Yard Locomotive - Switching	0.16	0.64	2.15	0.00	0.06	0.06
Subtotal	6.77	20.42	89.54	1.69	2.70	2.48
Carson or LA Railyards/Inbound						
Hostler	0.30	1.79	2.99	0.00	0.14	0.13
Top Picks	0.15	0.51	1.70	0.00	0.07	0.06
Line Haul Locomotive - Road Haul	5.04	12.71	69.70	1.56	1.94	1.78
Line Haul Locomotive - Notch 1	0.19	0.47	2.59	0.06	0.07	0.07
Subtotal	5.68	15.48	76.98	1.63	2.22	2.04
Total Tons Per Year	20.13	57.93	269.47	5.39	7.95	7.31

Table D2.1.Alt5(2010)-35. Summary of Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 5.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	2.60	13.39	27.32	0.02	1.22	1.12
Trains	17.53	44.54	242.16	5.36	6.73	6.19
Subtotal	20.13	57.93	269.47	5.39	7.95	7.31

Table D2.1.Alt5(2010)-36. Mitigated Annual Train Emissions from the Relocated Pier A Rail Yard - Berths 136-147 Terminal Proposed Project Alternatives.

Project Year/Emission Source	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Line Haul Locomotive	0.05	0.12	0.64	0.01	0.02	0.02
Yard Locomotive - Low UsageTrip	0.14	0.56	1.90	0.00	0.05	0.05
Yard Locomotive - Medium UsageTrip	0.22	0.90	3.03	0.00	0.09	0.08
Subtotal	0.41	1.58	5.57	0.02	0.16	0.15

Note: (1) Yard locomotive NOx/PM emissions reduced 90% from Tier 2 standard levels.

Table D2.1.Alt5(2010)-37. Future Baseline Diesel-Powered Unmitigated Emission Factors for Terminal Equipmen
Berths 136-147 Terminal Project Alternatives.

Project Scenario/Equipment Horsepower	Emission Factors (1)					References
	ROG	CO	NOx	SOx	PM10	
Project Year 2010						
Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	OFFR2007
Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	OFFR2007
Terminal Equipment - 250-500 Hp	0.35	1.31	5.32	0.004	0.21	OFFR2007

Notes: (1) Data calculated from OFFROAD Emissions Model factors estimated for the year 2001 terminal equipment fleet (ARB 2004) with the use of an equipment replacement rate of 15 years and taking into consideration future off-road emission standards implementation schedule and equipment deterioration factors.

Table D2.1.Alt5(2010)-38. Mitigated Emission Factors for Terminal Equipment -
Berths 136-147 Terminal Project Alternatives.

Mitigation Scenario/Equipment Horsepower	Emission Factors (Gm/Hp-Hr)					References
	ROG	CO	NOx	SOx	PM10	
EPA Tier 4 Off-road Diesel Engine Standards						
100-175 Hp	0.30	3.70	0.30	0.004	0.015	(1)
176-500 Hp	0.30	2.60	0.30	0.004	0.015	(1)

Notes: (1) NOx/PM = Tier 4 off-road standards from EPA Rule. CO/NMHC = Tier 2 or 3 stds, as there are no Tier 4 stds for these.

Table D2.1.Alt5(2010)-39. Terminal Equipment Annual Mitigated Emissions - Berths 136-147 Terminal Project Alternative 5.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons) (1)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	14,078,336	8.68	52.33	87.27	0.07	4.07	3.74
Terminal Equipment - 176-250 Hp	16,879,017	8.54	27.12	91.13	0.08	3.72	3.42
Terminal Equipment - 250-500 Hp	3,243,060	1.34	5.07	15.52	0.02	0.61	0.56
Subtotal	34,200,412	18.56	84.53	193.91	0.17	8.40	7.73

Note: (1) Mitigations begin in year 2010 and are complete by 2015.

(2) In year 2038, Hp-Hrs increased an additional 19% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1.Alt5(2010)-40. Mitigated Annual Operational Emissions - Berths 136-147 Terminal Project Alternati

	Tons Per Year					
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	8.04	21.18	221.23	111.91	15.57	14.59
Ships - Precautionary Area Transit (1)	2.43	6.22	56.43	31.39	4.12	3.86
Ships - Harbor Transit (1)	3.70	5.75	41.31	18.80	3.50	3.28
Ships - Docking (1)	1.28	1.55	11.47	4.60	1.03	0.97
Ships - Hoteling Aux. Sources	5.51	22.33	195.05	201.99	15.27	14.31
Tugboats - Cargo Vessel Assist (1)	0.45	2.33	13.80	0.01	0.58	0.54
Terminal Equipment	18.56	84.53	193.91	0.17	8.40	7.73
On-road Trucks	42.93	147.11	459.20	1.17	45.27	18.73
Trains	17.53	44.54	242.16	5.36	6.73	6.19
Railyard Equipment	2.60	13.39	27.32	0.02	1.22	1.12
Commuting	2.16	29.46	3.80	0.02	4.10	3.77
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	105.60	379.95	1,471.25	375.46	105.95	75.24

Note: (1) Includes auxiliary generator emissions.

Table D2.1.Alt5(2010)-41. Mitigated Average Daily Operational Emissions - Berths 136-147 Terminal Project Alternative 5 - 365 days/year all sources.

	Pounds Per Day					
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	44	116	1,212	613	85	80
Ships - Precautionary Area Transit (1)	13	34	309	172	23	21
Ships - Harbor Transit (1)	20	31	226	103	19	18
Ships - Docking (1)	7	9	63	25	6	5
Ships - Hoteling Aux. Sources	30	122	1,069	1,107	84	78
Tugboats - Cargo Vessel Assist (1)	2	13	76	0	3	3
Terminal Equipment	102	463	1,063	1	46	42
On-road Trucks	235	806	2,516	6	248	103
Trains	96	244	1,327	29	37	34
Railyard Equipment	14	73	150	0	7	6
Commuting	12	161	21	0	22	21
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	579	2,082	8,062	2,057	581	412
Project Year 2010	Daily 2010 Emissions within the Harbor for comparsion to PP Impacts					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	5	8	57	26	5	4
Ships - Docking (1)	7	9	63	25	6	5
Ships - Hoteling Aux. Sources	30	122	1,069	1,107	84	78
Tugboats - Cargo Vessel Assist (1)	2	13	76	0	3	3
Terminal Equipment	102	463	1,063	1	46	42
On-road Trucks	66	205	653	1	17	15
Trains	0.5	1.37	6.77	0.13	0.19	0
Railyard Equipment	1.0	5.0	10.1	0.0	0.5	0
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	216	834	3,027	1,160	161	150

Note: (1) Harbor transit emissions are 25% of the daily total and on-road truck emissions equal to on-terminal emissions + the ratio of Alt 5 peak daily truck trips/ proposed project peak daily truck trips (3377/5390) times the data in Table C3-A1-20 (project on-road emissions).

Table D2.1-PPMit(2010)-1. Proposed Phase-In Mitigations Implementation Schedule - Berths 136-147 Terminal Projects.

	Year/Compliance Rate Fraction of All Ship Visits				
Mitigation Measure		2010			
VSRP		0.95			
Non-VSRP		0.05			
AMP		0.40			
Non-AMP		0.60			
Auxiliary Engines - 2.7% S RO		0.56			
Auxiliary Engines - 0.78% S MGO		0.24			
Auxiliary Engines - 0.2% S MGO		0.20			
OGV Main Engines - 2.7% S RO		0.80			
OGV Main Engines - 0.5% S MGO					
OGV Main Engines - 0.2% S MGO		0.20			
Slide Valves		0.25			
Non-Slide Valves		0.75			
Annex VI Complaint Vessels		0.35			
Non-Annex VI Vessels		0.65			

Table D2.1-PPMit(2010)-2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Propulsion Max Hp (2)	Fairway (1) Load Factor (3)	Modal Hp	Distance (NM)	Speed (Kts) (4)	Hours Per Trip	Hp-Hrs/ Trip	kW-Hrs/ Trip (5)
Non-Compliance with VSRP								
Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
Containership 5,000 - 6,000 TEU	74,043	0.83	61,530	39.9	22.6	1.76	108,416	80,878
Containership 3,000 - 5,000 TEU	50,651	0.83	42,091	39.9	20.8	1.92	80,625	60,146
Containership < 3,000 TEU	26,525	0.83	22,043	39.9	18.2	2.19	48,229	35,979
General Cargo	10,993	0.83	9,135	38.9	14.7	2.64	24,156	18,021
Auto Carrier	15,418	0.83	12,813	39.6	17.6	2.24	28,736	21,437
Compliance with VSRP within VSRP Zone (6)(7)								
Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,043	0.83	61,530	17.9	22.6	0.79	48,638	36,284
Containership 5,000 - 6,000 TEU - In VSRPZ	74,043	0.12	9,152	22.0	12.0	1.83	16,779	12,517
Containership 5,000 - 6,000 TEU - Total kW-Hrs								48,801
Containership 3,000 - 5,000 TEU - Outside VSRPZ	50,651	0.83	42,091	17.9	20.8	0.86	36,170	26,983
Containership 3,000 - 5,000 TEU - In VSRPZ	50,651	0.16	8,043	22.0	12.0	1.83	14,746	11,000
Containership 3,000 - 5,000 TEU - Total kW-Hrs								37,983
Containership < 3,000 TEU - Outside VSRPZ	26,525	0.83	22,043	17.9	18.2	0.98	21,637	16,141
Containership < 3,000 TEU - In VSRPZ	26,525	0.24	6,278	22.0	12.0	1.83	11,509	8,586
Containership < 3,000 TEU - Total kW-Hrs								24,727
General Cargo - Outside VSRPZ	10,993	0.83	9,135	16.9	14.7	1.15	10,477	7,816
General Cargo - In VSRPZ	10,993	0.45	4,975	22.0	12.0	1.83	9,121	6,804
General Cargo - Total kW-Hrs								14,620
Auto Carrier - Outside VSRPZ	15,418	0.83	12,813	17.6	17.6	1.00	12,751	9,512
Auto Carrier - In VSRPZ	15,418	0.26	4,035	22.0	12.0	1.83	7,398	5,519
Auto Carrier - Total kW-Hrs								15,031
Compliance with VSRP within entire Fairway (8)								
Containership 8,000 - 9,000 TEU	93,000	0.09	8,694	39.9	12.0	3.33	28,909	21,566
Containership 5,000 - 6,000 TEU	74,043	0.12	9,152	39.9	12.0	3.33	30,430	22,701
Containership 3,000 - 5,000 TEU	50,651	0.16	8,043	39.9	12.0	3.33	26,743	19,951
Containership < 3,000 TEU	26,525	0.24	6,278	39.9	12.0	3.33	20,873	15,572
General Cargo	10,993	0.45	4,975	38.9	12.0	3.24	16,107	12,016
Auto Carrier	15,418	0.26	4,035	39.6	12.0	3.30	13,300	9,922

Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes for each vessel type (see Table D2.1-PPMit(2010)-5a).

(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.

(3) PEI page 68.

(4) Represents service speed, which is 94% of maximum speed (PEI page 68).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within/outside the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) ~ 22/17.9 nautical miles (NM).

(7) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).

Table D2.1-PPMit(2010)-3. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Transit	kW-Hrs/ Transit
Non-Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	1.61	2,818
Containership 5,000 - 6,000 TEU	12,431	0.13	1.76	2,847
Containership 3,000 - 5,000 TEU	8,137	0.13	1.92	2,026
Containership < 3,000 TEU	4,315	0.13	2.19	1,227
General Cargo	1,777	0.17	2.64	799
Auto Carrier	2,850	0.15	2.24	959
Compliance with VSRP within VSRP Zone (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	2.55	4,482
Containership 5,000 - 6,000 TEU	12,431	0.13	2.62	4,240
Containership 3,000 - 5,000 TEU	8,137	0.13	2.69	2,848
Containership < 3,000 TEU	4,315	0.13	2.81	1,579
General Cargo	1,777	0.17	2.98	900
Auto Carrier	2,850	0.15	2.83	1,209
Compliance with VSRP within entire Fairway (8)				
Containership 8,000 - 9,000 TEU	13,501	0.13	3.33	5,836
Containership 5,000 - 6,000 TEU	12,431	0.13	3.33	5,373
Containership 3,000 - 5,000 TEU	8,137	0.13	3.33	3,517
Containership < 3,000 TEU	4,315	0.13	3.33	1,865
General Cargo	1,777	0.17	3.24	978
Auto Carrier	2,850	0.15	3.30	1,409

Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from 5,000-6,000 TEU vessel rating.

(2) PEI Table 2.19.

(3) See Table D2.1-PPMit(2010)-2 for estimated vessel transit durations within the fairway for each mode of operation.

Table D2.1-PPMit(2010)-4. OGV Main Engine Emission Factors Multipliers for Use of Slide Valves

Main Engine Load Factor	VOC	CO	NOx	SOx	PM
> 25%	0.70	1.00	0.70	1.00	0.75
<25%	0.15	1.00	0.70	1.00	0.40

Notes: (1) Reduction factors for slide valves at high main engine loads are from CARB for PM, and from MAN B&W for VOC and NOx.

(2) Slide valve reduction factors for VOC and PM at low loads are from "MV Sine Maersk Emission Measurements & Retrofit Control Technology Discussion", MAN B&W Diesel A/S, April 8, 2004. No data are provided for NOx at low loads, so the high load reduction factor was conservatively used.

Table D2.1-PPMit(2010)-5. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Vessels that Comply with Proposed VSRP.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	1.52	2.39	17.30	6.56	1.48	1.39
Containerships 5,000 - 6,000 TEU	3.01	5.45	47.11	19.91	3.77	3.53
Containerships 3,000 - 5,000 TEU	3.33	6.95	73.93	33.93	5.59	5.24
Containerships < 3,000 TEU	3.15	7.35	93.14	44.88	6.85	6.42
Subtotal	11.01	22.13	231.47	105.28	17.70	16.58

Note: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Without slide valves

Table D2.1-PPMit(2010)-6. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Non-Compliant Vessels with the Proposed VSRP.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.10	0.24	3.08	1.48	0.23	0.21
Containerships 5,000 - 6,000 TEU	0.26	0.61	7.75	3.73	0.57	0.53
Containerships 3,000 - 5,000 TEU	0.38	0.88	11.17	5.38	0.82	0.77
Containerships < 3,000 TEU	0.38	0.89	11.33	5.46	0.83	0.78
Subtotal	1.13	2.63	33.32	16.06	2.45	2.30

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Without slide valves

Table D2.1-PPMit(2010)-7. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.51	0.71	4.55	1.51	0.41	0.39
Containerships 5,000 - 6,000 TEU	0.91	1.50	11.62	4.59	0.97	0.91
Containerships 3,000 - 5,000 TEU	1.18	2.14	18.51	7.82	1.48	1.39
Containerships < 3,000 TEU	0.85	1.88	21.90	10.35	1.64	1.54
Subtotal	3.46	6.23	56.58	24.27	4.50	4.22

(2) Without slide valves

Table D2.1-PPMit(2010)-8. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.56	0.56	3.10	0.62	0.33	0.31
Containerships 5,000 - 6,000 TEU	1.29	1.28	7.12	1.42	0.75	0.70
Containerships 3,000 - 5,000 TEU	1.71	1.69	9.44	1.88	0.99	0.93
Containerships < 3,000 TEU	1.52	1.50	8.38	1.67	0.88	0.83
Subtotal	5.08	5.02	28.03	5.57	2.95	2.76

Table D2.1-PPMit(2010)-9. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.20	0.15	0.88	0.09	0.10	0.10
Containerships 5,000 - 6,000 TEU	0.46	0.34	2.01	0.21	0.23	0.22
Containerships 3,000 - 5,000 TEU	0.62	0.45	2.66	0.28	0.31	0.29
Containerships < 3,000 TEU	0.55	0.40	2.36	0.25	0.27	0.26
Subtotal	1.83	1.35	7.91	0.82	0.92	0.86

(2) Without slide valves

Table D2.1-PPMit(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Vessels that Comply with VSRP.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.08	0.23	2.98	1.63	0.21	0.20
Containerships 5,000 - 6,000 TEU	0.22	0.61	7.91	4.33	0.57	0.53
Containerships 3,000 - 5,000 TEU	0.28	0.77	10.04	5.49	0.72	0.68
Containerships < 3,000 TEU	0.25	0.69	9.02	4.94	0.65	0.61
Subtotal	0.84	2.30	29.96	16.39	2.15	2.02

Note: (1) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

Table D2.1-PPMit(2010)-11. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Non-Compliant Vessels within VSRP.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.01	0.08	0.04	0.01	0.01
Containerships 5,000 - 6,000 TEU	0.01	0.02	0.22	0.12	0.02	0.01
Containerships 3,000 - 5,000 TEU	0.01	0.02	0.30	0.17	0.02	0.02
Containerships < 3,000 TEU	0.01	0.02	0.31	0.17	0.02	0.02
Subtotal	0.03	0.07	0.91	0.50	0.07	0.06

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-PPMit(2010)-12. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.05	0.13	1.72	0.94	0.12	0.12
Containerships 5,000 - 6,000 TEU	0.13	0.35	4.55	2.49	0.33	0.31
Containerships 3,000 - 5,000 TEU	0.16	0.44	5.78	3.16	0.42	0.39
Containerships < 3,000 TEU	0.14	0.40	5.19	2.84	0.37	0.35
Subtotal	0.48	1.32	17.24	9.43	1.24	1.16

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PPMit(2010)-13. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.08	0.21	2.72	1.49	0.20	0.18
Containerships 5,000 - 6,000 TEU	0.20	0.55	7.23	3.95	0.52	0.49
Containerships 3,000 - 5,000 TEU	0.24	0.67	8.67	4.74	0.62	0.58
Containerships < 3,000 TEU	0.21	0.57	7.47	4.08	0.54	0.50
Subtotal	0.73	2.00	26.09	14.27	1.87	1.76

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PPMit(2010)-14. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.02	0.06	0.74	0.41	0.05	0.05
Containerships 5,000 - 6,000 TEU	0.06	0.15	1.97	1.08	0.14	0.13
Containerships 3,000 - 5,000 TEU	0.07	0.18	2.37	1.30	0.17	0.16
Containerships < 3,000 TEU	0.06	0.16	2.04	1.12	0.15	0.14
Subtotal	0.20	0.55	7.13	3.90	0.51	0.48

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-PPMit(2010)-15. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.77	2.10	27.44	15.01	1.97	1.85
Containerships 5,000 - 6,000 TEU	1.78	4.88	63.67	34.83	4.57	4.28
Containerships 3,000 - 5,000 TEU	2.28	6.28	81.86	44.78	5.88	5.51
Containerships < 3,000 TEU	1.37	3.77	49.13	26.87	3.53	3.31
Subtotal	6.19	17.03	222.11	121.48	15.95	14.95

Table D2.1-PPMit(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - VSRP-Compliant.

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-PPMit(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - VSRP-Non-Compliant.

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-PPMit(2010)-18. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.02	0.06	0.27	0.01	0.01
Containerships 5,000 - 6,000 TEU	0.01	0.07	0.18	0.77	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.13	0.34	1.49	0.04	0.04
Containerships < 3,000 TEU	0.02	0.22	0.58	2.53	0.07	0.07
Subtotal	0.04	0.43	1.15	5.06	0.14	0.13

Table D2.1-PPMit(2010)-19. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.02	0.05	0.21	0.01	0.01
Containerships 5,000 - 6,000 TEU	0.00	0.05	0.14	0.61	0.02	0.02
Containerships 3,000 - 5,000 TEU	0.01	0.10	0.27	1.19	0.03	0.03
Containerships < 3,000 TEU	0.01	0.17	0.46	2.01	0.06	0.05
Subtotal	0.03	0.34	0.91	4.02	0.11	0.11

Table D2.1-PPMit(2010)-20. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.06	0.00	0.00
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.17	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.07	0.32	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.13	0.55	0.02	0.01
Subtotal	0.01	0.09	0.25	1.10	0.03	0.03

(2) Does not assume use of low-sulfur fuels.

Table D2.1-PPMit(2010)-21. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.08	1.01	2.70	11.88	0.33	0.31
Containerships 5,000 - 6,000 TEU	0.21	2.50	6.68	29.34	0.82	0.77
Containerships 3,000 - 5,000 TEU	0.33	4.04	10.80	47.40	1.33	1.24
Containerships < 3,000 TEU	0.34	4.11	10.98	48.20	1.35	1.26
Subtotal	0.96	11.65	31.16	136.81	3.83	3.59
Subtotal	1.20	14.57	38.96	171.04	4.79	4.49

(2) Does not assume use of low-sulfur fuels.

Table D2.1-PPMit(2010)-22. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year (1)					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.51	2.60	15.43	0.01	0.64	0.60

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-PPMit(2010)-23. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Vessel Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.04	0.24	1.33	0.00	0.06	0.06

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-PPMit(2010)-24. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Vessels that Comply with VSRP + Slide Valves

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	1.20	2.39	16.00	6.56	1.26	1.18
Containerships 5,000 - 6,000 TEU	2.37	5.45	43.58	19.91	3.20	3.00
Containerships 3,000 - 5,000 TEU	2.63	6.95	68.39	33.93	4.76	4.46
Containerships < 3,000 TEU	2.48	7.35	86.15	44.88	5.82	5.46
Subtotal	8.67	22.13	214.11	105.28	15.04	14.10

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-PPMit(2010)-25. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Project - Non-Compliant Vessels within VSRP + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.10	0.24	2.85	1.48	0.21	0.20
Containerships 5,000 - 6,000 TEU	0.24	0.61	7.17	3.73	0.53	0.50
Containerships 3,000 - 5,000 TEU	0.35	0.88	10.33	5.38	0.77	0.72
Containerships < 3,000 TEU	0.35	0.89	10.48	5.46	0.78	0.73
Subtotal	1.04	2.63	30.82	16.06	2.30	2.15

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-PPMit(2010)-26. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Mitigated Project + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.40	0.71	4.21	1.51	0.35	0.33
Containerships 5,000 - 6,000 TEU	0.72	1.50	10.75	4.59	0.82	0.77
Containerships 3,000 - 5,000 TEU	0.93	2.14	17.12	7.82	1.26	1.18
Containerships < 3,000 TEU	0.67	1.88	20.26	10.35	1.40	1.31
Subtotal	2.72	6.23	52.34	24.27	3.83	3.59

Table D2.1-PPMit(2010)-27. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Project + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.44	0.56	2.87	0.62	0.28	0.26
Containerships 5,000 - 6,000 TEU	1.02	1.28	6.58	1.42	0.64	0.60
Containerships 3,000 - 5,000 TEU	1.35	1.69	8.73	1.88	0.84	0.79
Containerships < 3,000 TEU	1.20	1.50	7.75	1.67	0.75	0.70
Subtotal	4.00	5.02	25.93	5.57	2.50	2.35

Table D2.1-PPMit(2010)-28. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Mitigated Project + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	0.16	0.15	0.81	0.09	0.09	0.08
Containerships 5,000 - 6,000 TEU	0.37	0.34	1.86	0.21	0.20	0.19
Containerships 3,000 - 5,000 TEU	0.48	0.45	2.46	0.28	0.26	0.25
Containerships < 3,000 TEU	0.43	0.40	2.19	0.25	0.23	0.22
Subtotal	1.44	1.35	7.32	0.82	0.78	0.73

Table D2.1-PPMit(2010)-29. Annual Vessel Emissions - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	10.58	27.13	275.81	138.22	19.56	18.33
Ships - Precautionary Area Transit (1)	3.24	7.99	70.74	38.77	5.21	4.88
Ships - Harbor Transit (1)	4.76	7.37	52.93	23.86	4.49	4.21
Ships - Docking (1)	1.65	1.99	14.70	5.82	1.32	1.24
Ships - Hoteling Aux. Sources	7.15	28.68	253.27	258.30	19.78	18.54
Tugboats - Cargo Vessel Assist (1)	0.55	2.83	16.76	0.01	0.70	0.66
Subtotal	27.92	75.99	684.21	464.97	51.06	47.85
Subtotal	11.82	82.65	474.76	236.30	16.24	15.22

Note: (1) Includes auxiliary power emissions.

Table D2.1-PPMit(2010)-30. Daily Vessel Emissions - Berths 136-147 Terminal Project - Mitigated Project .

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	58.0	148.6	1,511.3	757.4	107.2	100.4
Ships - Precautionary Area Transit (1)	17.7	43.8	387.6	212.4	28.5	26.7
Ships - Harbor Transit (1)	26.1	40.4	290.0	130.7	24.6	23.1
Ships - Docking (1)	9.0	10.9	80.6	31.9	7.2	6.8
Ships - Hoteling Aux. Sources	39.2	157.2	1,387.8	1,415.3	108.4	101.6
Tugboats - Cargo Vessel Assist (1)	3.0	15.5	91.8	0.1	3.8	3.6
Subtotal	153	416	3,749	2,548	280	262

Note: (1) Includes auxiliary power emissions.

Table D2.1-PPMit(2010)-31. On-Road Truck Mitigated Emission Factors - Berths 136-147 Terminal Project Alternatives Scena

Mitigated Project	Emission Factors (Grams/Mile)						
Project Year/Mode - Diesel Trucks	ROG	CO	NOx	SOx	DPM	PM10	References
Project Year 2010							
On-road Truck - Idle	7.44	30.48	127.16	0.07	0.36	0.36	EMFAC2007
On-road Truck - 10 mph	2.38	4.95	10.75	0.03	0.45	0.45	EMFAC2007
On-road Truck - 25 mph	0.51	2.03	6.20	0.02	0.20	0.20	EMFAC2007
On-road Truck - 55 mph	0.29	1.48	5.33	0.02	0.24	0.24	EMFAC2007
On-road Trucks - Composite Off-Terminal	0.63	2.16	6.39	0.02	0.24	0.24	(4)

Notes: (1) From EMFAC2002 (ARB 2003). Units in grams/mile for each project year, at 60 degrees and 50% relative humidity, except idle factors in units of grams/hour. PM10 non-idle factors include combustive and tire and break wear emissions. Based on age distribution of year 2001 POLA truck fleet, as used in the PEI.

(2) Based on 10% at 10 miles per hour (mph), 50% at 25 mph, and 40% at 55 mph. Although not included in this composite emission factor, 30 minutes of idling mode included in emission estimates for each truck trip.

(3) Mitigated emission factors assume that the Port truck fleet would convert to 2007 EPA standards (Tier 4) at the following rate: 15/30/50/70/90/100% in years 2007/2008/2009/2010/2011/2012. Data obtained from China Shipping Truck Efs Ops.xls file. Year 2007/2010 data other then DPM interpolated between 2005 and 2015 data.

(4) Same as (2), except based on 10% at 10 miles per hour (mph), 60% at 25 mph, and 30% at 55 mph.

(5) Same as (2), except based on 10% at 10 miles per hour (mph), 70% at 25 mph, and 20% at 55 mph.

(6) Driving emission factors are Gm/Mile; idling emission factors are Gm/hour.

Table D2.1-PPMit(2010)-32. Daily Mitigated Truck Emissions for the Berths 136-147 Terminal Project - Mitigated Project

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	22.1	90.6	377.9	0.2	1.1	1.0
Year 2010 - Driving	22.7	47.4	102.9	0.3	4.3	4.0
Subtotal - Year 2010	44.8	138.0	480.7	0.5	5.4	4.9
Off-Terminal						
Year 2010 - Idling	26.5	108.7	453.4	0.2	1.3	1.2
Year 2010 - Driving	308.9	1,056.4	3,130.6	9.7	115.7	106.4
Subtotal - Year 2010	335.4	1,165.0	3,584.0	9.9	116.9	107.6
Year 2010	380.3	1,303.0	4,064.8	10.4	122.3	112.5

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-PPMit(2010)-33. Mitigated Emission Factors for Rail/ICTF Equipment - Berths 136-147 Terminal Project Alternatives.

Project Scenario/ Equipment - Horsepower	Emission Factors (Gm/Hp-Hr)						References
	ROG	CO	NOx	SOx	PM	PM10	
Year 2010							
Terminal Equipment - 121-175 Hp - Unmitigated	0.62	3.37	6.95	0.00	0.32	0.32	(1)
Terminal Equipment - 176-250 Hp - Unmitigated	0.46	1.46	6.05	0.00	0.25	0.25	(1)
100-175 Hp - Tier 4 Standard	0.30	3.37	0.30	0.00	0.02	0.02	(7)
176-500 Hp - Tier 4 Standard	0.30	1.46	0.30	0.00	0.02	0.02	(7)
Line Haul Locomotive - Year 2010	0.51	1.28	7.02	0.16	0.20	0.20	(6)
Switch Yard Locomotive - Year 2010	0.60	2.40	8.10	0.005	0.23	0.23	(5)

Notes: (1) Estimated with the use of the ARB OFFROAD Model with consideration of fleet turnover with adopted future EPA off-road emission standards. See Table D2-??.

(2) Represents national average emission factors for line haul/switch yard locomotives for a given year (EPA 1998). ROG = THC * 1.27. Year 2003 data for switch engines = 1999 values, as current PHL fleet is pre-1973 vintage (pre-Tier 0). Year 2003 line haul/switch loco diesel fuel assumed to be 0.22/0.035% sulfur (S) (PEI pages 223 and 229), although PM emission factors for switch locos not subsequently reduced, due to the antiquated age of the PHL engines.

(3) Locomotive Emissions Final Rulemaking (EPA 1997), except PM reduced by 4% to simulate use of ULSD.

(4) Assumes fleet has an Mitigated Annual average of 75% Pre-Tier 0 and 25% Tier 2 standards + use of ULSD .

(5) Assumes 100% conversion of existing fleet to Tier 2 standard engines + use of ULSD.

(6) Represents average EPA emission factors for line haul locomotives for a given year + the use of 500 ppm S diesel by 2008 and ULSD by 2012, as stated in the EPA non-road diesel fuel rule. These fuels would produce 25/28% reductions in PM emissions from an assumed S fuel content of 0.2%.

(7) See Table D2.1-PPMit(2010)-33.

(8) NOx/PM values reduced by 90% from switch engine Tier 2 standards (8.10/0.24).

Table D2.1-PPMit(2010)-34. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project - Mitigated Project Year 2010.

	Tons per Year					
ICTF/Train Direction/Source Activity	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	0.47	2.81	4.69	0.00	0.22	0.20
Top Picks	0.23	0.79	2.66	0.00	0.11	0.10
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03	0.03
Subtotal	4.10	12.31	54.37	1.04	1.63	1.50
Berths 136-147/Inbound						
Hostler	0.17	1.05	1.76	0.00	0.08	0.08
Top Picks	0.09	0.30	1.00	0.00	0.04	0.04
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23	1.13
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04	0.04
Subtotal	3.58	9.71	48.58	1.03	1.40	1.28
Carson or LA Railyards/Outbound						
Hostler	1.05	6.33	10.56	0.01	0.49	0.45
Top Picks	0.52	1.79	6.01	0.01	0.25	0.23
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56	2.36
Line Haul Locomotive - Notch 1	0.50	1.25	6.85	0.15	0.19	0.18
Yard Locomotive - Switching	0.21	0.84	2.84	0.00	0.08	0.07
Subtotal	8.96	27.04	118.55	2.24	3.57	3.29
Carson or LA Railyards/Inbound						
Hostler	0.39	2.38	3.96	0.00	0.18	0.17
Top Picks	0.20	0.67	2.25	0.00	0.09	0.08
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56	2.36
Line Haul Locomotive - Notch 1	0.25	0.62	3.43	0.08	0.10	0.09
Subtotal	7.52	20.50	101.92	2.15	2.94	2.70
Total Tons Per Year	24.16	69.56	323.42	6.46	9.54	8.77

Table D2.1-PPMit(2010)-35. Summary of Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project - Mitigated Project.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	3.13	16.12	32.89	0.03	1.46	1.35
Trains	21.03	53.44	290.53	6.43	8.07	7.43
Subtotal	24.16	69.56	323.42	6.46	9.54	8.77

Table D2.1-PPMit(2010)-36. Mitigated Annual Train Emissions from the Relocated Pier A Rail Yard - Berths 136-147 Terminal Project Alternatives.

Project Year/Emission Source	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Line Haul Locomotive	0.05	0.12	0.64	0.01	0.02	0.02
Yard Locomotive - Low UsageTrip	0.14	0.56	1.90	0.00	0.05	0.05
Yard Locomotive - Medium UsageTrip	0.22	0.90	3.03	0.00	0.09	0.08
Subtotal	0.41	1.58	5.57	0.02	0.16	0.15

Note: (1) Yard locomotive NOx/PM emissions reduced 90% from Tier 2 standard levels.

Table D2.1-PPMit(2010)-37. Future Baseline Diesel-Powered Unmitigated Emission Factors for Terminal Equipm
Berths 136-147 Terminal Project Alternatives.

Project Scenario/Equipment Horsepower	Emission Factors (1)					References
	ROG	CO	NOx	SOx	PM10	
Project Year 2010						
Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	OFFR2007
Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	OFFR2007
Terminal Equipment - 250-500 Hp	0.35	1.31	5.32	0.004	0.21	OFFR2007

Notes: (1) Data calculated from OFFROAD Emissions Model factors estimated for the year 2001 terminal equipment fleet (ARB 2004) with the use of an equipment replacement rate of 15 years and taking into consideration future off-road emission standards implementation schedule and equipment deterioration factors.

Table D2.1-PPMit(2010)-38. Mitigated Emission Factors for Terminal Equipment -
Berths 136-147 Terminal Project Alternatives.

Mitigation Scenario/Equipment Horsepower	Emission Factors (Gm/Hp-Hr)					References
	ROG	CO	NOx	SOx	PM10	
EPA Tier 4 Off-road Diesel Engine Standards						
100-175 Hp	0.30	3.70	0.30	0.004	0.015	(1)
176-500 Hp	0.30	2.60	0.30	0.004	0.015	(1)

Notes: (1) NOx/PM = Tier 4 off-road standards from EPA Rule. CO/NMHC = Tier 2 or 3 stds, as there are no Tier 4 stds for these.

Table D2.1-PPMit(2010)-39. Terminal Equipment Annual Mitigated Emissions - Berths 136-147 Terminal Project - Mitigated Project.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons) (1)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	18,639,323	11.49	69.29	115.54	0.09	5.39	4.96
Terminal Equipment - 176-250 Hp	22,347,347	11.30	35.91	120.65	0.11	4.93	4.53
Terminal Equipment - 250-500 Hp	4,293,720	1.77	6.72	20.54	0.02	0.80	0.74
Subtotal	45,280,390	24.57	111.91	256.73	0.22	11.12	10.23

Note: (1) Mitigations begin in year 2010 and are complete by 2015.

(2) In year 2038, Hp-Hrs increased an additional 19% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-PPMit(2010)-40. Mitigated Annual Operational Emissions - Berths 136-147 Terminal Project - Mitig

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	10.58	27.13	275.81	138.22	19.56	18.33
Ships - Precautionary Area Transit (1)	3.24	7.99	70.74	38.77	5.21	4.88
Ships - Harbor Transit (1)	4.76	7.37	52.93	23.86	4.49	4.21
Ships - Docking (1)	1.65	1.99	14.70	5.82	1.32	1.24
Ships - Hoteling Aux. Sources	7.15	28.68	253.27	258.30	19.78	18.54
Tugboats - Cargo Vessel Assist (1)	0.55	2.83	16.76	0.01	0.70	0.66
Terminal Equipment	24.57	111.91	256.73	0.22	11.12	10.23
On-road Trucks	69.40	237.80	741.82	1.90	73.15	30.31
Trains	21.03	53.44	290.53	6.43	8.07	7.43
Railyard Equipment	3.13	16.12	32.89	0.03	1.46	1.35
Commuting	2.16	29.46	3.80	0.02	4.10	3.77
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	148.62	526.29	2,015.56	473.60	149.13	101.08

Note: (1) Includes auxiliary generator emissions.

Table D2.1-PPMit(2010)-41. Mitigated Average Daily Operational Emissions - Berths 136-147 Terminal Project Mitigated Projec

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	58	149	1,511	757	107	100
Ships - Precautionary Area Transit (1)	18	44	388	212	29	27
Ships - Harbor Transit (1)	26	40	290	131	25	23
Ships - Docking (1)	9	11	81	32	7	7
Ships - Hoteling Aux. Sources	39	157	1,388	1,415	108	102
Tugboats - Cargo Vessel Assist (1)	3	16	92	0	4	4
Terminal Equipment	135	613	1,407	1	61	56
On-road Trucks	380	1,303	4,065	10	401	369
Trains	115	293	1,592	35	44	41
Railyard Equipment	17	88	180	0	8	7
Commuting	12	161	21	0	22	21
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	814	2,884	11,044	2,595	817	757
Net Change from Existing Conditions	(364)	(1,959)	(1,255)	955	(117)	7
Net Change from NFAB Year 2010	(566)	(2,442)	(4,108)	324	(320)	(128)

Note: (1) Includes auxiliary generator emissions.

Table D2.1-PPMit(2010)-42. Mitigated Year 2010 Project Daily Emissions for Impact Comparsion to Alts (Pounds)						
Project Scenario/Source Type	ROG	CO	NOx	SOx	PM10	PM2.5
Ships - Fairway Transit						
Ships - Precautionary Area Transit						
Ships - Harbor Transit	7	10	73	33	6	6
Ships - Docking	9	11	81	32	7	7
Ships - Hoteling Aux. Sources	39	157	1,388	1,415	108	102
Tugboats - Cargo Vessel Assist	3	16	92	0	4	4
Terminal Equipment	135	613	1,407	1	61	56
On-road Trucks	62	189	636	1	10	9
Trains	0.5	1.4	6.8	0.1	0.2	0
Railyard Equipment	1.0	5.0	10.1	0.0	0.5	0
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	258	1,010	3,722	1,482	198	184

Note: (1) Harbor transit = 25% of daily emissions and on-road truck emissions equal to on-termeinal emissions + Project on-road emissions, as shown in Table C3-A1-Mit-20.

Table D2.1-PPMit(2010)-43. Estimation of Mitigated Ambient Impacts from Project Alternatives

	ug/m3				
Mitigated Project Criteria Pollutant Impacts	CO	NO2	SOx	PM10	PM2.5
1-hour	2,427	1,542			
8-hr	524				
24-hr - NFAB Impact				30.0	27.5
24-hr - CEQA Impact				21.7	20.0
Annual		27			
	Year 2010 Mitigated Daily Emissions in Harbor/Impact Factors				
Alternative Mit. Daily Emissions/Ambient Impact Factors	CO	NO2	SOx	PM10	PM2.5
Mit Alt 3 Emissions	866	3,195		171	159
Factor to apply to Mit Project impacts	0.86	0.86		0.86	0.86
1-hour	2,079	1,324			
8-hr	449				
24-hr - NFAB Impact				25.9	23.8
24-hr - CEQA Impact				18.8	17.3
Annual		23.2			
Mit Alt 4 Emissions	311	1,171		62	58
Factor to apply to Mit Project impacts	0.31	0.31		0.32	0.32
1-hour	747	485			
8-hr	161				
24-hr - NFAB Impact				9.5	8.7
24-hr - CEQA Impact				6.8	6.3
Annual		8.5			

PP Mit Non-cancer Impacts	PP	CEQA Base	CEQA Inc	PP	NFAB	NEPA Inc	
Chronic Non-cancer							Residential
							Occupational
							Sensitive
							Student
							Recreational
Acute Non-cancer	1.85	1.72	0.13	2.51	1.87	0.64	Residential
	2.44	2.23	0.21	3.19	2.38	0.81	Occupational
	1.12	1.05	0.07	2.32	1.72	0.60	Sensitive
	1.53	1.45	0.08	1.93	1.42	0.51	Student
	3.19	3.21	(0.02)	3.32	2.47	0.85	Recreational

Mit Alt 3	Mit Alt 3	CEQA Base	CEQA Increment	Mit Alt 3	No Federal Action Baseline	NEPA Increment	
Chronic Non-cancer	-	-	-	-	-	-	Residential
	-	-	-	-	-	-	Occupational
	-	-	-	-	-	-	Sensitive
	-	-	-	-	-	-	Student
	-	-	-	-	-	-	Recreational
Acute Non-cancer	1.60	1.72	(0.12)	2.17	2.17	-	Residential
	2.11	2.23	(0.12)	2.76	2.76	-	Occupational
	0.97	1.05	(0.08)	2.00	2.00	-	Sensitive
	1.32	1.45	(0.13)	1.67	1.67	-	Student
	2.76	3.21	(0.45)	2.87	2.87	-	Recreational

Table D2.1-Alt4Mit(2010)-1. Proposed Phase-In Mitigations Implementation Schedule - Berths 136-147 Termina

	Year/Compliance Rate Fraction of All Ship Visits				
Mitigation Measure		2010			
VSRP		0.95			
Non-VSRP		0.05			
AMP		0.40			
Non-AMP		0.60			
Auxiliary Engines - 2.7% S RO		0.56			
Auxiliary Engines - 0.78% S MGO		0.24			
Auxiliary Engines - 0.2% S MGO		0.20			
OGV Main Engines - 2.7% S RO		0.80			
OGV Main Engines - 0.5% S MGO					
OGV Main Engines - 0.2% S MGO		0.20			
Slide Valves		0.25			
Non-Slide Valves		0.75			
Annex VI Complaint Vessels		0.35			
Non-Annex VI Vessels		0.65			

Table D2.1-Alt4Mit(2010)-2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Propulsion Max Hp (2)	Fairway (1) Load Factor (3)	Modal Hp	Distance (NM)	Speed (Kts) (4)	Hours Per Trip	Hp-Hrs/ Trip	kW-Hrs/ Trip (5)
Non-Compliance with VSRP								
Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
Containership 5,000 - 6,000 TEU	74,043	0.83	61,530	39.9	22.6	1.76	108,416	80,878
Containership 3,000 - 5,000 TEU	50,651	0.83	42,091	39.9	20.8	1.92	80,625	60,146
Containership < 3,000 TEU	26,525	0.83	22,043	39.9	18.2	2.19	48,229	35,979
General Cargo	10,993	0.83	9,135	38.9	14.7	2.64	24,156	18,021
Auto Carrier	15,418	0.83	12,813	39.6	17.6	2.24	28,736	21,437
Compliance with VSRP within VSRP Zone (6)(7)								
Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,043	0.83	61,530	17.9	22.6	0.79	48,638	36,284
Containership 5,000 - 6,000 TEU - In VSRPZ	74,043	0.12	9,152	22.0	12.0	1.83	16,779	12,517
Containership 5,000 - 6,000 TEU - Total kW-Hrs								48,801
Containership 3,000 - 5,000 TEU - Outside VSRPZ	50,651	0.83	42,091	17.9	20.8	0.86	36,170	26,983
Containership 3,000 - 5,000 TEU - In VSRPZ	50,651	0.16	8,043	22.0	12.0	1.83	14,746	11,000
Containership 3,000 - 5,000 TEU - Total kW-Hrs								37,983
Containership < 3,000 TEU - Outside VSRPZ	26,525	0.83	22,043	17.9	18.2	0.98	21,637	16,141
Containership < 3,000 TEU - In VSRPZ	26,525	0.24	6,278	22.0	12.0	1.83	11,509	8,586
Containership < 3,000 TEU - Total kW-Hrs								24,727
General Cargo - Outside VSRPZ	10,993	0.83	9,135	16.9	14.7	1.15	10,477	7,816
General Cargo - In VSRPZ	10,993	0.45	4,975	22.0	12.0	1.83	9,121	6,804
General Cargo - Total kW-Hrs								14,620
Auto Carrier - Outside VSRPZ	15,418	0.83	12,813	17.6	17.6	1.00	12,751	9,512
Auto Carrier - In VSRPZ	15,418	0.26	4,035	22.0	12.0	1.83	7,398	5,519
Auto Carrier - Total kW-Hrs								15,031
Compliance with VSRP within entire Fairway (8)								
Containership 8,000 - 9,000 TEU	93,000	0.09	8,694	39.9	12.0	3.33	28,909	21,566
Containership 5,000 - 6,000 TEU	74,043	0.12	9,152	39.9	12.0	3.33	30,430	22,701
Containership 3,000 - 5,000 TEU	50,651	0.16	8,043	39.9	12.0	3.33	26,743	19,951
Containership < 3,000 TEU	26,525	0.24	6,278	39.9	12.0	3.33	20,873	15,572
General Cargo	10,993	0.45	4,975	38.9	12.0	3.24	16,107	12,016
Auto Carrier	15,418	0.26	4,035	39.6	12.0	3.30	13,300	9,922

Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes for each vessel type (see Table D2.1-Alt4Mit(2010)-5a).

(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.

(3) PEI page 68.

(4) Represents service speed, which is 94% of maximum speed (PEI page 68).

(5) 1 kW-Hr = 0.746 Hp-Hrs.

(6) Length of fairway within/outside the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) ~ 22/17.9 nautical miles (NM).

(7) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).

Table D2.1-Alt4Mit(2010)-3. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit - Berths 136-147 Terminal Project Alternatives.

Mode/Vessel Type	Auxiliary kW per Vessel (1)	Load Factor (2)	Hours/ Transit	kW-Hrs/ Transit
Non-Compliance with VSRP (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	1.61	2,818
Containership 5,000 - 6,000 TEU	12,431	0.13	1.76	2,847
Containership 3,000 - 5,000 TEU	8,137	0.13	1.92	2,026
Containership < 3,000 TEU	4,315	0.13	2.19	1,227
General Cargo	1,777	0.17	2.64	799
Auto Carrier	2,850	0.15	2.24	959
Compliance with VSRP within VSRP Zone (3)				
Containership 8,000 - 9,000 TEU	13,501	0.13	2.55	4,482
Containership 5,000 - 6,000 TEU	12,431	0.13	2.62	4,240
Containership 3,000 - 5,000 TEU	8,137	0.13	2.69	2,848
Containership < 3,000 TEU	4,315	0.13	2.81	1,579
General Cargo	1,777	0.17	2.98	900
Auto Carrier	2,850	0.15	2.83	1,209
Compliance with VSRP within entire Fairway (8)				
Containership 8,000 - 9,000 TEU	13,501	0.13	3.33	5,836
Containership 5,000 - 6,000 TEU	12,431	0.13	3.33	5,373
Containership 3,000 - 5,000 TEU	8,137	0.13	3.33	3,517
Containership < 3,000 TEU	4,315	0.13	3.33	1,865
General Cargo	1,777	0.17	3.24	978
Auto Carrier	2,850	0.15	3.30	1,409

Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from 5,000-6,000 TEU vessel rating.

(2) PEI Table 2.19.

(3) See Table D2.1-Alt4Mit(2010)-2 for estimated vessel transit durations within the fairway for each mode of operation.

Table D2.1-Alt4Mit(2010)-4. OGV Main Engine Emission Factors Multipliers for Use of Slide Valves

Main Engine Load Factor	VOC	CO	NOx	SOx	PM
> 25%	0.70	1.00	0.70	1.00	0.75
<25%	0.15	1.00	0.70	1.00	0.40

Notes: (1) Reduction factors for slide valves at high main engine loads are from CARB for PM, and from MAN B&W for VOC and NOx.

(2) Slide valve reduction factors for VOC and PM at low loads are from "MV Sine Maersk Emission Measurements & Retrofit Control Technology Discussion", MAN B&W Diesel A/S, April 8, 2004. No data are provided for NOx at low loads, so the high load reduction factor was conservatively used.

Table D2.1-Alt4Mit(2010)-5. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - Vessels that Comply with Proposed VSRP.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	1.10	2.00	17.31	7.31	1.38	1.30
Containerships 3,000 - 5,000 TEU	1.09	2.27	24.12	11.07	1.83	1.71
Containerships < 3,000 TEU	0.96	2.24	28.35	13.66	2.09	1.95
Subtotal	3.62	7.61	83.79	38.79	6.33	5.93

Note: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Without slide valves

Table D2.1-Alt4Mit(2010)-6. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - Non-Compliant Vessels with the Proposed VSRP.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.10	0.22	2.85	1.37	0.21	0.20
Containerships 3,000 - 5,000 TEU	0.12	0.29	3.65	1.76	0.27	0.25
Containerships < 3,000 TEU	0.12	0.27	3.45	1.66	0.25	0.24
Subtotal	0.02	0.05	0.67	0.32	0.05	0.05

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Without slide valves

Table D2.1-Alt4Mit(2010)-7. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.34	0.55	4.27	1.69	0.36	0.33
Containerships 3,000 - 5,000 TEU	0.39	0.70	6.04	2.55	0.48	0.45
Containerships < 3,000 TEU	0.26	0.57	6.67	3.15	0.50	0.47
Subtotal	0.05	0.10	1.24	0.59	0.09	0.09

(2) Without slide valves

Table D2.1-Alt4Mit(2010)-8. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.47	0.47	2.61	0.52	0.27	0.26
Containerships 3,000 - 5,000 TEU	0.56	0.55	3.08	0.61	0.32	0.30
Containerships < 3,000 TEU	0.46	0.46	2.55	0.51	0.27	0.25
Subtotal	0.05	0.07	0.42	0.13	0.04	0.04

Table D2.1-Alt4Mit(2010)-9. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.17	0.13	0.74	0.08	0.09	0.08
Containerships 3,000 - 5,000 TEU	0.20	0.15	0.87	0.09	0.10	0.09
Containerships < 3,000 TEU	0.17	0.12	0.72	0.07	0.08	0.08
Subtotal	0.02	0.01	0.07	0.01	0.01	0.01

(2) Without slide valves

Table D2.1-Alt4Mit(2010)-10. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - Vessels that Comply with VSP

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.08	0.22	2.91	1.59	0.21	0.20
Containerships 3,000 - 5,000 TEU	0.09	0.25	3.28	1.79	0.24	0.22
Containerships < 3,000 TEU	0.08	0.21	2.75	1.50	0.20	0.18
Subtotal	0.02	0.04	0.56	0.31	0.04	0.04

Note: (1) Fuel types assumed for each project year identified in Table D3-A1.1

(2) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

Table D2.1-Alt4Mit(2010)-11. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairwa Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - Non-Compliant Vessels within VSRP.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.08	0.04	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.00	0.01	0.10	0.05	0.01	0.01
Containerships < 3,000 TEU	0.00	0.01	0.10	0.05	0.01	0.01
Subtotal	0.00	0.00	0.02	0.01	0.00	0.00

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-Alt4Mit(2010)-12. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.05	0.13	1.67	0.92	0.12	0.11
Containerships 3,000 - 5,000 TEU	0.05	0.14	1.89	1.03	0.14	0.13
Containerships < 3,000 TEU	0.04	0.12	1.58	0.86	0.11	0.11
Subtotal	0.01	0.02	0.31	0.17	0.02	0.02

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4Mit(2010)-13. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.07	0.20	2.65	1.45	0.19	0.18
Containerships 3,000 - 5,000 TEU	0.08	0.22	2.83	1.55	0.20	0.19
Containerships < 3,000 TEU	0.06	0.17	2.27	1.24	0.16	0.15
Subtotal	0.01	0.03	0.36	0.20	0.03	0.02

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4Mit(2010)-14. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.02	0.06	0.73	0.40	0.05	0.05
Containerships 3,000 - 5,000 TEU	0.02	0.06	0.77	0.42	0.06	0.05
Containerships < 3,000 TEU	0.02	0.05	0.62	0.34	0.04	0.04
Subtotal	0.00	0.00	0.06	0.03	0.00	0.00

Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).

Table D2.1-Alt4Mit(2010)-15. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.65	1.79	23.39	12.79	1.68	1.57
Containerships 3,000 - 5,000 TEU	0.74	2.05	26.71	14.61	1.92	1.80
Containerships < 3,000 TEU	0.42	1.15	14.95	8.18	1.07	1.01
Subtotal	0.08	0.22	2.81	1.53	0.20	0.19

Table D2.1-Alt4Mit(2010)-16. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - VSRP-Compliant.

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-Alt4Mit(2010)-17. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Fairway Zone - Berths 136-147 Terminal Project - Mitigated Alternative 4 - VSRP-Non-Compliant.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	-	-	-	-	-	-
Containerships 3,000 - 5,000 TEU	-	-	-	-	-	-
Containerships < 3,000 TEU	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Does not assume use of low-sulfur fuels.

Table D2.1-Alt4Mit(2010)-18. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the Precautionary Area - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.02	0.06	0.28	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.00	0.04	0.11	0.49	0.01	0.01
Containerships < 3,000 TEU	0.01	0.07	0.18	0.77	0.02	0.02
Subtotal	0.00	0.03	0.08	0.33	0.01	0.01

Table D2.1-Alt4Mit(2010)-19. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.02	0.05	0.22	0.01	0.01
Containerships 3,000 - 5,000 TEU	0.00	0.03	0.09	0.39	0.01	0.01
Containerships < 3,000 TEU	0.00	0.05	0.14	0.61	0.02	0.02
Subtotal	0.00	0.02	0.05	0.24	0.01	0.01

Table D2.1-Alt4Mit(2010)-20. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.00	0.01	0.01	0.06	0.00	0.00
Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.11	0.00	0.00
Containerships < 3,000 TEU	0.00	0.01	0.04	0.17	0.00	0.00
Subtotal	0.00	0.00	0.01	0.04	0.00	0.00

(2) Does not assume use of low-sulfur fuels.

Table D2.1-Alt4Mit(2010)-21. Annual Auxiliary Boiler Emissions during Cargo Vessel Hoteling - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.08	0.92	2.45	10.78	0.30	0.28
Containerships 3,000 - 5,000 TEU	0.11	1.32	3.52	15.47	0.43	0.41
Containerships < 3,000 TEU	0.10	1.25	3.34	14.67	0.41	0.38
Subtotal	0.04	0.54	1.43	6.29	0.18	0.16

(2) Does not assume use of low-sulfur fuels.

Table D2.1-Alt4Mit(2010)-22. Annual Tugboat Emissions for Cargo Vessel Assists - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year (1)					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal	0.21	1.06	6.33	0.00	0.26	0.25

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt4Mit(2010)-23. Annual Auxiliary Generator Emissions for Tugboats during Cargo Vessel Assists - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Subtotal (1)	0.02	0.10	0.55	0.00	0.03	0.02

Note: (1) Assumes 3 tug assists per ship visit for all post-baseline years.

Table D2.1-Alt4Mit(2010)-24. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-14 Terminal Project - Mitigated Alternative 4 - Vessels that Comply with VSRP + Slide Valves

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.87	2.00	16.01	7.31	1.18	1.10
Containerships 3,000 - 5,000 TEU	0.86	2.27	22.32	11.07	1.55	1.45
Containerships < 3,000 TEU	0.76	2.24	26.22	13.66	1.77	1.66
Subtotal	0.23	0.67	7.85	4.09	0.53	0.50

Notes: (1) Assumes 25/50/95% VSRP compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-Alt4Mit(2010)-25. Annual Cargo Vessel Emissions within the POLA Fairway Zone - Berths 136-14 Terminal Project - Mitigated Alternative 4 - Non-Compliant Vessels within VSRP + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.09	0.22	2.63	1.37	0.20	0.18
Containerships 3,000 - 5,000 TEU	0.11	0.29	3.37	1.76	0.25	0.24
Containerships < 3,000 TEU	0.11	0.27	3.19	1.66	0.24	0.22
Subtotal	0.02	0.05	0.62	0.32	0.05	0.04

Note: (1) Assumes 75/50/05% VSRP non-compliance rates for years 2003/2007/post-2007.

(2) Fuel types assumed for each project year identified in Table D3-A1.1

Table D2.1-Alt4Mit(2010)-26. Annual Cargo Vessel Emissions within the POLA Precautionary Area - Berths 136-147 Terminal Project - Mitigated Alternative 4 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.26	0.55	3.95	1.69	0.30	0.28
Containerships 3,000 - 5,000 TEU	0.30	0.70	5.59	2.55	0.41	0.38
Containerships < 3,000 TEU	0.20	0.57	6.17	3.15	0.43	0.40
Subtotal	0.04	0.10	1.15	0.59	0.08	0.07

Table D2.1-Alt4Mit(2010)-27. Annual Cargo Vessel Emissions for Transit within the POLA Breakwater - Berths 136-147 Terminal Project - Mitigated Alternative 4 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.37	0.47	2.42	0.52	0.23	0.22
Containerships 3,000 - 5,000 TEU	0.44	0.55	2.85	0.61	0.28	0.26
Containerships < 3,000 TEU	0.36	0.46	2.36	0.51	0.23	0.21
Subtotal	0.04	0.07	0.39	0.13	0.03	0.03

Table D2.1-Alt4Mit(2010)-28. Annual Cargo Vessel Emissions for Docking Activities - Berths 136-147 Terminal Project - Mitigated Alternative 4 + Slide Valves.

	Tons Per Year					
Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Containerships 8,000 - 9,000 TEU	-	-	-	-	-	-
Containerships 5,000 - 6,000 TEU	0.13	0.13	0.68	0.08	0.07	0.07
Containerships 3,000 - 5,000 TEU	0.16	0.15	0.80	0.09	0.09	0.08
Containerships < 3,000 TEU	0.13	0.12	0.67	0.07	0.07	0.07
Subtotal	0.01	0.01	0.07	0.01	0.01	0.01

Table D2.1-Alt4Mit(2010)-29. Annual Vessel Emissions - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

Project Scenario/Emission Source	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	3.49	9.28	98.15	49.82	6.89	6.45
Ships - Precautionary Area Transit (1)	1.01	2.63	24.05	13.74	1.75	1.64
Ships - Harbor Transit (1)	1.52	2.42	17.42	8.27	1.47	1.38
Ships - Docking (1)	0.52	0.63	4.64	1.90	0.42	0.39
Ships - Hoteling Aux. Sources	2.29	9.55	80.94	87.49	6.39	5.99
Tugboats - Cargo Vessel Assist (1)	0.22	1.16	6.87	0.00	0.29	0.27
Subtotal	9.05	25.67	232.07	161.21	17.21	16.12

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt4Mit(2010)-30. Daily Vessel Emissions - Berths 136-147 Terminal Project - Mitigated Alternative 4 .

Project Scenario/Emission Source	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	19.1	50.9	537.8	273.0	37.7	35.4
Ships - Precautionary Area Transit (1)	5.5	14.4	131.8	75.3	9.6	9.0
Ships - Harbor Transit (1)	8.3	13.3	95.5	45.3	8.1	7.6
Ships - Docking (1)	2.8	3.4	25.4	10.4	2.3	2.1
Ships - Hoteling Aux. Sources	12.6	52.3	443.5	479.4	35.0	32.8
Tugboats - Cargo Vessel Assist (1)	1.2	6.4	37.7	0.0	1.6	1.5
Subtotal	50	141	1,272	883	94	88

Note: (1) Includes auxiliary power emissions.

Table D2.1-Alt4Mit(2010)-31. On-Road Truck Mitigated Emission Factors - Berths 136-147 Terminal Project Alternatives S

Project Year/Mode - Diesel Trucks	Emission Factors (Grams/Mile)						References
	ROG	CO	NOx	SOx	DPM	PM10	
Project Year 2010							
On-road Truck - Idle	7.44	30.48	127.16	0.07	0.36	0.36	EMFAC2007
On-road Truck - 10 mph	2.38	4.95	10.75	0.03	0.45	0.45	EMFAC2007
On-road Truck - 25 mph	0.51	2.03	6.20	0.02	0.20	0.20	EMFAC2007
On-road Truck - 55 mph	0.29	1.48	5.33	0.02	0.24	0.24	EMFAC2007
On-road Trucks - Composite Off-Terminal	0.63	2.16	6.39	0.02	0.24	0.24	(4)
LNG-Powered Trucks - AllYears							
On-road Truck - Idle	1.58	7.52	19.91	-		0.05	(6)

Notes: (1) From EMFAC2002 (ARB 2003). Units in grams/mile for each project year, at 60 degrees and 50% relative humidity, except idle factors in units of grams/hour. PM10 non-idle factors include combustive and tire and break wear emissions. Based on age distribution of year 2001 POLA truck fleet, as used in the PEI.

(2) Based on 10% at 10 miles per hour (mph), 50% at 25 mph, and 40% at 55 mph. Although not included in this composite emission factor, 30 minutes of idling mode included in emission estimates for each truck trip.

(3) Mitigated emission factors assume that the Port truck fleet would convert to 2007 EPA standards (Tier 4) at the following rate: 15/30/50/70/90/100% in years 2007/2008/2009/2010/2011/2012. Data obtained from China Shipping Truck Efs Ops.xls file. Year 2007/2010 data other then DPM interpolated between 2005 and 2015 data.

(4) Same as (2), except based on 10% at 10 miles per hour (mph), 60% at 25 mph, and 30% at 55 mph.

(5) Same as (2), except based on 10% at 10 miles per hour (mph), 70% at 25 mph, and 20% at 55 mph.

(6) Driving emission factors are Gm/Mile; idling emission factors are Gm/hour.

Table D2.1-Alt4Mit(2010)-32. Daily Mitigated Truck Emissions for the Berths 136-147 Terminal Project - Mitigated Alternative 4

Location/Project Scenario - Mode	Pounds per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
On-Terminal (1)						
Year 2010 - Idling	7.3	29.7	124.0	0.1	0.3	0.3
Year 2010 - Driving	7.5	15.6	33.8	0.1	1.4	1.3
Subtotal - Year 2010	14.7	45.3	157.8	0.2	1.8	1.6
Off-Terminal						
Year 2010 - Idling	8.7	35.7	148.9	0.1	0.4	0.4
Year 2010 - Driving	78.2	267.3	792.2	2.5	29.3	26.9
Subtotal - Year 2010	86.9	303.0	941.0	2.5	29.7	27.3
Year 2010	101.6	348.3	1,098.8	2.7	31.4	28.9

Notes: (1) On-terminal driving emissions calculated with 10 mph emission factors.

Table D2.1-Alt4Mit(2010)-33. Mitigated Emission Factors for Rail/ICTF Equipment - Berths 136-147 Terminal Project Alternatives.

Project Scenario/ Equipment - Horsepower	Emission Factors (Gm/Hp-Hr)						References
	ROG	CO	NOx	SOx	PM	PM10	
Year 2010							
Terminal Equipment - 121-175 Hp - Unmitigated	0.62	3.37	6.95	0.00	0.32	0.32	(1)
Terminal Equipment - 176-250 Hp - Unmitigated	0.46	1.46	6.05	0.00	0.25	0.25	(1)
100-175 Hp - Tier 4 Standard	0.30	3.37	0.30	0.00	0.02	0.02	(7)
176-500 Hp - Tier 4 Standard	0.30	1.46	0.30	0.00	0.02	0.02	(7)
Line Haul Locomotive - Year 2010	0.51	1.28	7.02	0.16	0.20	0.20	(6)
Switch Yard Locomotive - Year 2010	0.60	2.40	8.10	0.005	0.23	0.23	(5)

Notes: (1) Estimated with the use of the ARB OFFROAD Model with consideration of fleet turnover with adopted future EPA off-road emission standards. See Table D2-??.

(2) Represents national average emission factors for line haul/switch yard locomotives for a given year (EPA 1998). ROG = THC * 1.27. Year 2003 data for switch engines = 1999 values, as current PHL fleet is pre-1973 vintage (pre-Tier 0). Year 2003 line haul/switch loco diesel fuel assumed to be 0.22/0.035% sulfur (S) (PEI pages 223 and 229), although PM emission factors for switch locos not subsequently reduced, due to the antiquated age of the PHL engines.

(3) Locomotive Emissions Final Rulemaking (EPA 1997), except PM reduced by 4% to simulate use of ULSD.

(4) Assumes fleet has an Mitigated Annual average of 75% Pre-Tier 0 and 25% Tier 2 standards + use of ULSD .

(5) Assumes 100% conversion of existing fleet to Tier 2 standard engines + use of ULSD.

(6) Represents average EPA emission factors for line haul locomotives for a given year + the use of 500 ppm S diesel by 2008 and ULSD by 2012, as stated in the EPA non-road diesel fuel rule. These fuels would produce 25/28% reductions in PM emissions from an assumed S fuel content of 0.2%.

(7) See Table D2.1-Alt4Mit(2010)-33.

(8) NOx/PM values reduced by 90% from switch engine Tier 2 standards (8.10/0.24).

Table D2.1-Alt4Mit(2010)-34. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project - Mitigated Alternative 4 Year 2010.

ICTF/Train Direction/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Berths 136-147/Outbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Yard Locomotive - Switching	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Berths 136-147/Inbound						
Hostler	-	-	-	-	-	-
Top Picks	-	-	-	-	-	-
Line Haul Locomotive - Road Haul	-	-	-	-	-	-
Line Haul Locomotive - Notch 1	-	-	-	-	-	-
Subtotal	-	-	-	-	-	-
Carson or LA Railyards/Outbound						
Hostler	0.56	3.37	5.63	0.00	0.26	0.24
Top Picks	0.28	0.95	3.20	0.00	0.13	0.12
Line Haul Locomotive - Road Haul	3.56	8.96	49.16	1.10	1.37	1.26
Line Haul Locomotive - Notch 1	0.26	0.67	3.65	0.08	0.10	0.09
Yard Locomotive - Switching	0.11	0.45	1.52	0.00	0.04	0.04
Subtotal	4.77	14.40	63.15	1.19	1.90	1.75
Carson or LA Railyards/Inbound						
Hostler	0.21	1.27	2.11	0.00	0.10	0.09
Top Picks	0.10	0.36	1.20	0.00	0.05	0.05
Line Haul Locomotive - Road Haul	3.56	8.96	49.16	1.10	1.37	1.26
Line Haul Locomotive - Notch 1	0.13	0.33	1.83	0.04	0.05	0.05
Subtotal	4.00	10.92	54.29	1.15	1.56	1.44
Total Tons Per Year	8.78	25.32	117.44	2.34	3.47	3.19

Table D2.1-Alt4Mit(2010)-35. Summary of Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project - Mitigated Alternative 4.

Project Scenario/Source Activity	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
ICTF Equipment	1.15	5.95	12.14	0.01	0.54	0.50
Trains	7.62	19.37	105.31	2.33	2.93	2.69
Subtotal	8.78	25.32	117.44	2.34	3.47	3.19

Table D2.1-Alt4Mit(2010)-36. Mitigated Annual Train Emissions from the Relocated Pier A Rail Yard - Berths 136-147 Terminal Proposed Project Alternatives.

Project Year/Emission Source	Tons per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Line Haul Locomotive	0.05	0.12	0.64	0.01	0.02	0.02
Yard Locomotive - Low UsageTrip	0.14	0.56	1.90	0.00	0.05	0.05
Yard Locomotive - Medium UsageTrip	0.22	0.90	3.03	0.00	0.09	0.08
Subtotal	0.41	1.58	5.57	0.02	0.16	0.15

Note: (1) Yard locomotive NOx/PM emissions reduced 90% from Tier 2 standard levels.

Table D2.1-Alt4Mit(2010)-37. Future Baseline Diesel-Powered Unmitigated Emission Factors for Terminal Equipn
Berths 136-147 Terminal Project Alternatives.

Project Scenario/Equipment Horsepower	Emission Factors (1)					References
	ROG	CO	NOx	SOx	PM10	
Project Year 2010						
Terminal Equipment - 121-175 Hp	0.62	3.37	6.95	0.004	0.32	OFFR2007
Terminal Equipment - 176-250 Hp	0.46	1.46	6.05	0.004	0.25	OFFR2007
Terminal Equipment - 250-500 Hp	0.35	1.31	5.32	0.004	0.21	OFFR2007

Notes: (1) Data calculated from OFFROAD Emissions Model factors estimated for the year 2001 terminal equipment fleet (ARB 2004) with the use of an equipment replacement rate of 15 years and taking into consideration future off-road emission standards implementation schedule and equipment deterioration factors.

Table D2.1-Alt4Mit(2010)-38. Mitigated Emission Factors for Terminal Equipment -
Berths 136-147 Terminal Project Alternatives.

Mitigation Scenario/Equipment Horsepower	Emission Factors (Gm/Hp-Hr)					References
	ROG	CO	NOx	SOx	PM10	
EPA Tier 4 Off-road Diesel Engine Standards						
100-175 Hp	0.30	3.70	0.30	0.004	0.015	(1)
176-500 Hp	0.30	2.60	0.30	0.004	0.015	(1)

Notes: (1) NOx/PM = Tier 4 off-road standards from EPA Rule. CO/NMHC = Tier 2 or 3 stds, as there are no Tier 4 stds for these.

Table D2.1-Alt4Mit(2010)-39. Terminal Equipment Annual Mitigated Emissions - Berths 136-147 Terminal Project - Mitigated Alternative 4.

Project Scenario/Equipment Horsepower	Annual Hp-Hrs	Annual Emissions (Tons) (1)					
		ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010							
Terminal Equipment - 121-175 Hp	5,323,240	3.28	19.79	33.00	0.03	1.54	1.42
Terminal Equipment - 176-250 Hp	6,382,222	3.23	10.25	34.46	0.03	1.41	1.29
Terminal Equipment - 250-500 Hp	1,226,252	0.51	1.92	5.87	0.01	0.23	0.21
Subtotal	12,931,714	7.02	31.96	73.32	0.06	3.18	2.92

Note: (1) Mitigations begin in year 2010 and are complete by 2015.

(2) In year 2038, Hp-Hrs increased an additional 19% to simulate the effects of additional equipment usage needed to handle future cargo levels within a constrained terminal space (>8,000 TEUs/acre).

Table D2.1-Alt4Mit(2010)-40. Mitigated Annual Operational Emissions - Berths 136-147 Terminal Project Alter

Project Scenario/Source Type	Tons Per Year					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	3.49	9.28	98.15	49.82	6.89	6.45
Ships - Precautionary Area Transit (1)	1.01	2.63	24.05	13.74	1.75	1.64
Ships - Harbor Transit (1)	1.52	2.42	17.42	8.27	1.47	1.38
Ships - Docking (1)	0.52	0.63	4.64	1.90	0.42	0.39
Ships - Hoteling Aux. Sources	2.29	9.55	80.94	87.49	6.39	5.99
Tugboats - Cargo Vessel Assist (1)	0.22	1.16	6.87	0.00	0.29	0.27
Terminal Equipment	7.02	31.96	73.32	0.06	3.18	2.92
On-road Trucks	18.54	63.56	200.54	0.49	19.57	7.91
Trains	7.62	19.37	105.31	2.33	2.93	2.69
Railyard Equipment	1.15	5.95	12.14	0.01	0.54	0.50
Commuting	2.16	29.46	3.80	0.02	4.10	3.77
Pier A Railyard	0.41	1.58	5.57	0.02	0.16	0.15
Project Year 2010 Total	45.95	177.55	632.75	164.15	47.67	34.06

Note: (1) Includes auxiliary generator emissions.

Table D2.1-Alt4Mit(2010)-41. Mitigated Average Daily Operational Emissions - Berths 136-147 Terminal Proje
Alternative 4 - 365 days/year all sources.

Project Scenario/Source Type	Pounds Per Day					
	ROG	CO	NOx	SOx	PM10	PM2.5
Project Year 2010						
Ships - Fairway Transit (1)	19	51	538	273	38	35
Ships - Precautionary Area Transit (1)	6	14	132	75	10	9
Ships - Harbor Transit (1)	8	13	95	45	8	8
Ships - Docking (1)	3	3	25	10	2	2
Ships - Hoteling Aux. Sources	13	52	444	479	35	33
Tugboats - Cargo Vessel Assist (1)	1	6	38	0	2	1
Terminal Equipment	38	175	402	0	17	16
On-road Trucks	102	348	1,099	3	107	43
Trains	42	106	577	13	16	15
Railyard Equipment	6	33	67	0	3	3
Commuting	12	161	21	0	22	21
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	252	973	3,467	899	261	187
Project Year 2010	Daily 2010 Emissions within Port for comparsion to Mit PP Impacts					
Ships - Fairway Transit (1)						
Ships - Precautionary Area Transit (1)						
Ships - Harbor Transit (1)	2	3	24	11	2	2
Ships - Docking (1)	3	3	25	10	2	2
Ships - Hoteling Aux. Sources	13	52	444	479	35	33
Tugboats - Cargo Vessel Assist (1)	1	6	38	0	2	1
Terminal Equipment	38	175	402	0	17	16
On-road Trucks	20	62	209	0	3	3
Trains	-	-	-	-	-	-
Railyard Equipment	-	-	-	-	-	-
Commuting						
Pier A Railyard	2	9	31	0	1	1
Project Year 2010 Total	80	311	1,171	502	62	58

Table C3-A1-20 . 2003 CEQA Baseline Acute Roadway Emissions - Berths 136-147 Terminal No Proejct.

Link	Length (Mi)	MPH	PHT	Pounds per Hour						# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	PM2.5	
I-110 NB from C St. to Anaheim	0.50	25	121	0.34	1.69	0.80	0.02	0.21	0.19	8
I-110 SB from Anaheim to C St.	0.37	40	105	0.13	0.65	0.50	0.01	0.09	0.08	6
I-110 SB Offramp to C St.	0.23	35	256	0.23	1.17	0.77	0.02	0.16	0.14	10
I-110 NB Offramp to C St.	0.25	35	23	0.02	0.11	0.07	0.00	0.01	0.01	8
Figueroa St. - C St. to Main Gate	0.16	10	256	1.05	2.09	0.86	0.02	0.34	0.31	5
HBB - East of Main Gate to Fries Av	0.84	25	95	0.45	2.23	1.06	0.03	0.28	0.25	24
HBB - Fries Ave. to Alameda St.	0.52	25	72	0.21	1.05	0.50	0.01	0.13	0.12	15
Alameda St - HBB to Anaheim St.	0.65	35	72	0.18	0.92	0.60	0.02	0.12	0.11	28
Fries Ave. - HBB to Water St.	0.31	25	167	0.29	1.45	0.69	0.02	0.18	0.17	10
Pier A St. - Water St. to PAS Gate	0.71	35	57	0.16	0.81	0.53	0.01	0.11	0.10	23
Main Gate Road - HBB to Gate	0.06	5	161	0.45	0.66	0.32	0.01	0.12	0.11	3
Gate - Main	0.06	5	161	0.45	0.66	0.32	0.01	0.12	0.11	2
Gate - Water St.	0.06	5	110	0.31	0.45	0.22	0.00	0.08	0.08	2
Gate - Pier A St.	0.04	5	57	0.10	0.14	0.07	0.00	0.03	0.02	2

Notes: (1) Based on 365 days per year and 24 hours per day.

Table C3-A1-21. Gate Truck ADT Distribution - Berths 136-147 Terminal No Project

Gate	PHT Ratio		PHT In	PHT Out	Total PHT
	In	Out			
Main	0.65	###	107	54	161
Water Street	-	###	-	110	110
Pier A Street	0.35	-	57	-	57
					328

Table C3-A1-46. Locomotive Usage within the PHL Rail Yard - Berths 136-147 Terminal Project

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Year 2003 Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358
								552,318

Notes: (1) Activity data based on year 2003 annual usage.

PHL Locomotive 2003 Emission Factors - Berths 136-147 Terminal

Year/Source Type	Emission Factors (Gm/Hp-Hr)						
	TOG	ROG	CO	NOx	NO2	SOx	PM
Year 2003							
Line Haul Locomotive - Year 2003	0.69	0.61	1.28	10.66	2.75	0.69	0.32
Switch Yard Locomotive - Year 2003	1.46	1.28	1.83	17.40	4.49	0.11	0.44

D2.2.1-Crit-CB-1. Alternative 0 - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description	# of Sources	Source Area Width (m)	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
	1	360			9.49	8.72	1.54	1.42
	1	350			8.97	8.24	1.46	1.34
	1	315			7.27	6.67	1.18	1.09
	1	210			3.23	2.97	0.52	0.48
	1	195			2.78	2.56	0.45	0.42
Terminal	1	175			2.24	2.06	0.36	0.34
Equipment	1	160			1.87	1.72	0.30	0.28
	1	160			1.87	1.72	0.30	0.28
	1	160			1.87	1.72	0.30	0.28
	1	140			1.44	1.32	0.23	0.21
	1	130			1.24	1.14	0.20	0.18
	1	100			0.73	0.67	0.12	0.11
	1	98			0.70	0.65	0.11	0.11
	1	96			0.67	0.62	0.11	0.10
	1	80			0.47	0.43	0.08	0.07
	1	360			0.00	0.00	0.00	0.00
	1	350			0.00	0.00	0.00	0.00
	1	315			0.00	0.00	0.00	0.00
	1	210			0.00	0.00	0.00	0.00
	1	195			0.00	0.00	0.00	0.00
	1	175			0.00	0.00	0.00	0.00
Terminal	1	160			0.00	0.00	0.00	0.00
Trucks	1	160			0.00	0.00	0.00	0.00
	1	160			0.00	0.00	0.00	0.00
	1	140			0.00	0.00	0.00	0.00
	1	130			0.00	0.00	0.00	0.00
	1	100			0.00	0.00	0.00	0.00
	1	98			0.00	0.00	0.00	0.00
	1	96			0.00	0.00	0.00	0.00
	1	80			0.00	0.00	0.00	0.00
	8	50			0.00	0.00	0.03	0.02
	8	50			0.00	0.00	0.03	0.02
	8	50			0.00	0.00	0.03	0.02
I-110 NB from	8	50			0.00	0.00	0.03	0.02
C St. to	8	50			0.00	0.00	0.03	0.02
Anaheim	8	50			0.00	0.00	0.03	0.02
	8	50			0.00	0.00	0.03	0.02
	8	50			0.00	0.00	0.03	0.02
	6	50			0.00	0.00	0.02	0.01
	6	50			0.00	0.00	0.02	0.01
I-110 SB from	6	50			0.00	0.00	0.02	0.01
Anaheim to C	6	50			0.00	0.00	0.02	0.01
St.	6	50			0.00	0.00	0.02	0.01
	6	50			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
I-110 SB	10	15			0.00	0.00	0.02	0.01
Offramp to C	10	15			0.00	0.00	0.02	0.01
St.	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	10	15			0.00	0.00	0.02	0.01
	32	25			0.00	0.00	0.00	0.00
	32	25			0.00	0.00	0.00	0.00
	32	25			0.00	0.00	0.00	0.00
I-110 NB	32	25			0.00	0.00	0.00	0.00
Offramp to C	32	25			0.00	0.00	0.00	0.00
St.	32	25			0.00	0.00	0.00	0.00
	32	25			0.00	0.00	0.00	0.00
	32	25			0.00	0.00	0.00	0.00
	5	50			0.00	0.00	0.07	0.06
Figueroa St. -	5	50			0.00	0.00	0.07	0.06
C St. to Main	5	50			0.00	0.00	0.07	0.06
Gate	5	50			0.00	0.00	0.07	0.06
	5	50			0.00	0.00	0.07	0.06
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
HRR - East of	24	27			0.00	0.00	0.01	0.01

D2.2.1-Crit-CB-1. Alternative 0 - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description	# of Sources	Source Area Width (m)	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
HBB - East of Main Gate to Fries Ave.	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
	24	27			0.00	0.00	0.01	0.01
HBB - Fries Ave. to Alameda	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
	15	27			0.00	0.00	0.01	0.01
Alameda St - HBB to Anaheim St.	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
	28	27			0.00	0.00	0.00	0.00
Fries Ave. - HBB to Water St.	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
	10	25			0.00	0.00	0.02	0.02
Pier A St. - Water St. to	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00

D2.2.1-Crit-CB-1. Alternative 0 - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description	# of Sources	Source Area Width (m)	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
PAS Gate	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
	23	25			0.00	0.00	0.00	0.00
Main Gate	3	15			0.00	0.00	0.04	0.04
Road - HBB to	3	15			0.00	0.00	0.04	0.04
Gate	3	15			0.00	0.00	0.04	0.04
Gate - Main	2	25			0.00	0.00	0.06	0.06
	2	25			0.00	0.00	0.06	0.06
Gate - Water	2	25			0.00	0.00	0.04	0.04
St.	2	25			0.00	0.00	0.04	0.04
Gate - Pier A	2	25			0.00	0.00	0.01	0.01
St.	2	25			0.00	0.00	0.01	0.01

D2.2.1-Crit-CB-2. Alternative 0 - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description		PHL Railyard											
# of Sources		1	1	1	1	1	1	1	1	1	1	1	1
Source Area Width (m)		120	118	105	105	100	85	65	54	50	48	48	36
Pollutant	CAS #												
Criteria Pollutants													
Carbon Monoxide	630080	0.07	0.07	0.05	0.05	0.05	0.04	0.02	0.01	0.01	0.01	0.01	0.01
Nitrogen Dioxide	10102440	0.17	0.17	0.13	0.13	0.12	0.09	0.05	0.04	0.03	0.03	0.03	0.02
PM10		0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5		0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

D2.2.1-Crit-CB-3. Alternative 0 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	total # of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxid 630080	Nitrogen Dioxi 10102440	PM10	PM2.5
Maneuvering - Vessel Transit Far	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
	37	100			1.04	3.78	0.81	0.76
Maneuvering - Tug Transit Far	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03

D2.2.1-Crit-CB-4. Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m	Pollutant CAS #	Criteria Pollutants	Carbon Monoxid 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
Maneuvering - Vessel Transit Near	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
	37	100			0.70	2.47	0.54	0.50
Maneuvering - Near Berth Near	0	0			10.37	24.94	5.88	5.51
Maneuvering - Tug Transit Near	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
Maneuvering - Tug Near Berth Near	1	300			3.71	6.59	0.92	0.86

D2.2.1-Crit-CB-5. Alternative 0 - Hourly Acute Emission Rates Sc

Stack Description		3000_VH1 (Hoteling -		
Stack ID #		3001	3002	3003
# of Sources		3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #			
Criteria Pollutants				
Carbon Monoxide	630080	1.19	1.19	1.19
Nitrogen Dioxide	10102440	2.76	2.76	2.76
PM10		0.93	0.93	0.93
PM2.5		0.87	0.87	0.87

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
Terminal Equipment	2	450			18.75	11.09	1.86	1.71
	2	400			14.81	8.77	1.47	1.35
	1	400			14.81	8.77	1.47	1.35
	1	250			5.79	3.42	0.57	0.53
	4	175			2.83	1.68	0.28	0.26
	4	175			2.83	1.68	0.28	0.26
	4	175			2.83	1.68	0.28	0.26
	4	175			2.83	1.68	0.28	0.26
	1	125			1.45	0.86	0.14	0.13
	3	100			0.93	0.55	0.09	0.08
	3	100			0.93	0.55	0.09	0.08
	3	100			0.93	0.55	0.09	0.08
Terminal Trucks	2	450			3.08	2.77	0.12	0.11
	2	400			2.43	2.19	0.09	0.09
	1	400			2.43	2.19	0.09	0.09
	1	250			0.95	0.85	0.04	0.03
	4	175			0.47	0.42	0.02	0.02
	4	175			0.47	0.42	0.02	0.02
	4	175			0.47	0.42	0.02	0.02
	4	175			0.47	0.42	0.02	0.02
	1	125			0.24	0.21	0.01	0.01
	3	100			0.15	0.14	0.01	0.01
	3	100			0.15	0.14	0.01	0.01
	3	100			0.15	0.14	0.01	0.01
ICTF - Trains	2	125			1.13	0.03	0.01	0.01
	2	125			1.13	0.03	0.01	0.01
	2	100			0.72	0.02	0.00	0.00
	2	100			0.72	0.02	0.00	0.00
	3	75			0.41	0.01	0.00	0.00
	3	75			0.41	0.01	0.00	0.00
	3	75			0.41	0.01	0.00	0.00
	3	50			0.18	0.00	0.00	0.00
	3	50			0.18	0.00	0.00	0.00
	3	50			0.18	0.00	0.00	0.00
ICTF - Equipment	2	125			0.61	0.32	0.06	0.05
	2	125			0.61	0.32	0.06	0.05
	2	100			0.39	0.21	0.04	0.03
	2	100			0.39	0.21	0.04	0.03
	3	75			0.22	0.12	0.02	0.02
	3	75			0.22	0.12	0.02	0.02
	3	75			0.22	0.12	0.02	0.02
	3	50			0.10	0.05	0.01	0.01
	3	50			0.10	0.05	0.01	0.01
	3	50			0.10	0.05	0.01	0.01
I-110 NB from HBB to Anaheim	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
	8	50			0.04	0.03	0.00	0.00
I-110 SB from Anaheim to HBB	6	50			0.03	0.03	0.00	0.00
	6	50			0.03	0.03	0.00	0.00
	6	50			0.03	0.03	0.00	0.00
	6	50			0.03	0.03	0.00	0.00
	6	50			0.03	0.03	0.00	0.00
	6	50			0.03	0.03	0.00	0.00
I-110 SB Offramp	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
	11	15			0.01	0.01	0.00	0.00
	11	15			0.01	0.01	0.00	0.00
I-110 NB Offramp to HBB	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
HBB - Fig. St. to I-110 NB Offramp	4	32			0.04	0.04	0.00	0.00
	4	32			0.04	0.04	0.00	0.00
	4	32			0.04	0.04	0.00	0.00
	4	32			0.04	0.04	0.00	0.00
HBB - I-110 NB Offramp to Fries Ave.	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
	18	32			0.05	0.04	0.01	0.00
HBB - Fries Ave. to Alameda	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
	13	32			0.02	0.01	0.00	0.00
Alameda - HBB to Anaheim	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
	16	32			0.02	0.01	0.00	0.00
	16	32			0.02	0.01	0.00	0.00
Fries Ave. - HBB to Water St.	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
	8	25			0.06	0.05	0.01	0.01
Water St. - Fries A. to Main Gate	5	25			0.04	0.03	0.00	0.00
	5	25			0.04	0.03	0.00	0.00
	5	25			0.04	0.03	0.00	0.00
	5	25			0.04	0.03	0.00	0.00
	5	25			0.04	0.03	0.00	0.00
Gate - Main	3	70			0.22	0.12	0.01	0.01
	3	70			0.22	0.12	0.01	0.01
	3	70			0.22	0.12	0.01	0.01
Fries Ave. - Water St. to Pier A St.	3	25			0.04	0.03	0.00	0.00
	3	25			0.04	0.03	0.00	0.00
	3	25			0.04	0.03	0.00	0.00
Pier A St. - Fries Ave. to PAS Gate	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
	22	25			0.01	0.01	0.00	0.00
Gate - Pier A St.	4	35			0.05	0.03	0.00	0.00
	4	35			0.05	0.03	0.00	0.00
	4	35			0.05	0.03	0.00	0.00
	4	35			0.05	0.03	0.00	0.00

Alternative 1 - Hourl Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		PHL Railyard													
# of Sources		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100	100	75	75	75	75	50
Pollutant	CAS #														
Criteria Pollutants															
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
PM10		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	ource Area Width (m	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			630080	10102440		
Maneuvering - Vessel Transit Far	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
	37	100	-	-	-	-
Maneuvering - Tug Transit Far	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11
	37	100	0.12	0.69	0.12	0.11

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Widt	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
	37	100			1.04	3.59	0.65	0.61
Maneuverin	37	100			1.04	3.59	0.65	0.61
g - Vessel	37	100			1.04	3.59	0.65	0.61
Transit Near	37	100			1.04	3.59	0.65	0.61
Maneuverin g - Near Berth Near	0	0			10.37	23.70	7.03	6.58
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
Maneuverin	37	100			0.15	0.42	0.04	0.03
g - Tug	37	100			0.15	0.42	0.04	0.03
Transit Near	37	100			0.15	0.42	0.04	0.03
Maneuverin g - Tug Near Berth Near	1	300			3.71	6.59	0.92	0.86

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
Carbon Monoxide	630080	0.91	0.91	0.91			
Nitrogen Dioxide	10102440	1.78	1.78	1.78			
PM10		0.56	0.56	0.56			
PM2.5		0.53	0.53	0.53			

Table H5-A1.6. 70-Year Annual Average Locomotive NOx Emissions within the Berths 136-147 Terminal ICTF - Berths 136-147 Terminal Proposed Project.

Project Year	Calendar Year	Annual Nox Emissions Tons (1)
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	1.41
3	2009	2.83
4	2010	4.24
5	2011	5.76
6	2012	7.28
7	2013	8.81
8	2014	10.33
9	2015	11.85
10	2016	12.04
11	2017	12.22
12	2018	12.40
13	2019	12.59
14	2020	12.77
15	2021	12.95
16	2022	13.13
17	2023	13.32
18	2024	13.50
19	2025	13.68
20	2026	13.60
21	2027	13.51
22	2028	13.42
23	2029	13.33
24	2030	13.24
25	2031	13.15
26	2032	13.06
27	2033	12.98
28	2034	12.89
29	2035	12.80
30	2036	12.71
31	2037	12.62
32	2038	12.53
33	2039	12.51
34	2040	12.48
70	2076	12.48
70-Yr Ave. - Tons/Year		11.79
Pounds/Year (2)		23,577
Pounds/Hour (2)		2.69

Note: (1) Year 2040 locomotive PM emission factor = 0.16 grams/Hp-Hr.

(2) Based on 365 days per year and 24 hours per day.

Table H5-A1.7. 70-Year Annual Average Haul Line Locomotive
NOx Emission Estimates - Berths 136-147 Proposed Project.

Project Year	Calendar Year	Annual Nox Emissions Tons (1)
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	29.54
3	2009	59.07
4	2010	88.61
5	2011	119.49
6	2012	150.37
7	2013	181.25
8	2014	212.13
9	2015	243.00
10	2016	245.60
11	2017	248.20
12	2018	250.79
13	2019	253.39
14	2020	255.98
15	2021	258.58
16	2022	261.17
17	2023	263.77
18	2024	266.36
19	2025	268.96
20	2026	266.37
21	2027	263.79
22	2028	261.21
23	2029	258.62
24	2030	256.04
25	2031	253.45
26	2032	250.87
27	2033	248.28
28	2034	245.70
29	2035	243.12
30	2036	240.53
31	2037	237.95
32	2038	235.36
33	2039	234.60
34	2040	233.83
70	2076	233.83
70-Yr Ave. - Tons/Year		225.77
Within Model Domain (1)		5.16
Pounds/Year (1)(2)		10,321
Pounds/Hour (1)(2)		1.18

Note: (1) Locomotive emissions from the Berths 136-147 ICTF to Anaheim St.

(2) Based on 365 days per year and 24 hours per day.

Table H5-A1.8. 70-Year Annual Average NOx Emission Estimates for R
Equipment within the Berths 136-147 Terminal ICTF- Proposed

Project Year	Calendar Year	Annual Nox Emissions Tons
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	4.16
3	2009	8.33
4	2010	12.49
5	2011	10.87
6	2012	9.25
7	2013	7.63
8	2014	6.01
9	2015	4.39
10	2016	4.51
11	2017	4.62
12	2018	4.74
13	2019	4.86
14	2020	4.98
15	2021	5.10
16	2022	5.21
17	2023	5.33
18	2024	5.45
19	2025	5.57
20	2026	5.31
21	2027	5.05
22	2028	4.78
23	2029	4.52
24	2030	4.26
25	2031	4.00
26	2032	3.74
27	2033	3.48
28	2034	3.22
29	2035	2.96
30	2036	2.70
31	2037	2.44
32	2038	2.18
33	2039	2.18
34	2040	2.18
70	2076	2.18
70-Yr Ave. - Tons/Year		3.50
Pounds/Year (1)		7,002
Pounds/Hour (1)		0.80

Note: (1) Based on 365 days per year and 24 hours per day.

Print this table in landscape???

Table H5-A1.20 . Peak Annual (Year 2010) Roadway Link NOx Emissions - Berths 136-147 Terminal Proposed Project.

	Link	Length (Mi)	MPH	MPH EF (Gm/Mi)	NO2/ADT (Grams)	ADT	NO2/Link (Gm/Day)	NO2/Link (Lbs/Year) (1)	NO2/Link (Lbs/Hour) (1)	# of Vol. Sources	Total Miles per Link
1	I-110 NB from HBB to Anaheim	0.50	35	5.36	2.67	1,994	5,317.0	4,278.5	0.488	8	991
2	I-110 SB from Anaheim to HBB	0.37	40	5.33	1.99	1,725	3,424.8	2,755.9	0.315	6	643
3	I-110 SB Offramp	0.23	25	5.56	1.30	1,725	2,234.0	1,797.7	0.205	11	402
4	I-110 NB Offramp to HBB	0.31	40	5.33	1.67	377	629.3	506.4	0.058	12	118
5	HBB - Fig. St. to I-110 NB Offramp	0.16	35	5.36	0.83	3,719	3,098.6	2,493.4	0.285	4	578
6	HBB - I-110 NB Offramp to Fries Ave.	0.72	35	5.36	3.84	4,096	15,726.8	12,655.0	1.445	18	2,932
7	HBB - Fries Ave. to Alameda	0.52	35	5.36	2.77	1,294	3,586.8	2,886.2	0.329	13	669
8	Alameda - HBB to Anaheim	0.65	35	5.36	3.47	1,294	4,483.5	3,607.8	0.412	16	836
9	Fries Ave. - HBB to Water St.	0.25	25	5.56	1.38	5,390	7,446.7	5,992.2	0.684	8	1,339
10	Water St. - Fries A. to Main Gate	0.16	25	5.56	0.86	3,773	3,257.9	2,621.6	0.299	5	586
11	Gate - Main	0.13	5	13.95	1.82	3,773	6,864.3	5,523.5	0.631	3	492
12	Fries Ave. - Water St. to Pier A St.	0.22	25	5.56	1.21	1,617	1,954.8	1,572.9	0.180	3	352
13	Pier A St. - Fries Ave. to PAS Gate	0.67	35	5.36	3.58	1,617	5,793.0	4,661.5	0.532	22	1,080
14	Gate - Pier A St.	0.09	5	13.95	1.21	1,617	1,961.2	1,578.1	0.180	4	141
	70-Year Average Berths 136-147 ADT					5,390	65,779	52,931	6.04		11,157

Notes: (1) Based on 365 days per year and 24 hours per day.

Table H5-A1.21. Gate Truck ADT Distribution - Berths 136-147 Terminal Proposed Project.

Gate	ADT Ratio In	ADT Ratio Out	ADT In	ADT Out	Total ADT
Main	0.60	0.80	1,617	2,156	3,773
Pier A Street	0.40	0.20	1,078	539	1,617
					5,390

New gate construction will reduce throughputs during that time???

TableC2-36. Year 2010 Port Fleet On-Road Truck Emission Factors - Berths 136-147

Project Year/Mode	Emission Factors (Grams/Mile) TOG	ROG	CO	NOx	NO2	SOx	PM10
Year 2010							
5 mph	18.91	16.64	25.54	54.05	13.95	0.04	3.85
10 mph	10.46	9.21	18.92	36.27	9.36	0.03	2.55
25 mph	2.04	1.80	8.59	21.55	5.56	0.02	0.87
35 mph	1.31	1.16	6.00	20.79	5.36	0.02	0.62
40 mph	1.13	0.99	5.10	20.65	5.33	0.02	0.58

Table H5-A1.27. Peak Annual (Year 2010) PM Emission Rate Simulations - Berths 136-147
Terminal Proposed Project.

Activity	# of Sources	Nox Lbs/Year	No2 Lbs/Year	No2 Lbs/Hour (1)	Volume Source Lbs/Year	Volume Source Lbs/Hour (1)
OGVs - Fairway (2)	44	366,477	366,477		8,329	
OGVs - Precautionary Area (2)	31	152,462	71,657		2,312	
OGVs - Harbor Transit (2)	37	111,506	52,073		1,407	
OGVs - Docking (2)	1	30,993	9,298		9,298	
OGVs - Hoteling - Point Sources	12	806,018	207,953		17,329	
Tugboats - Harbor Transit (2)(3)	37	20,115	9,394		254	
Tugboats - Docking (2)(3)	1	13,410	4,023		4,023	
Terminal Equipment	Var.	634,055	163,586		(4)	
On-road Trucks - Ops inside Terminal	Var.	249,315	64,323		(4)	
ICTF - Trains	Var.	8,476	2,187		(4)	
ICTF - Railyard Equipment	Var.	24,981	6,445		(4)	
Trains - Haul from ICTF to Anaheim St.	62	4,051	1,045		17	
Trains - Within Relocated PHL Railyard	Var.	11,144	2,875		(4)	

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary engines.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable source areas. See Table H5-A1.28.

Table H5-A1.28. Volume Source Dimensions andYear 2010 NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
OGV - Transit Fairrway									
	100	10,000	44	2.3	8,329	-	440,000	100.00	366,477.4
Totals		10,000	44	2.3	366,477	-	440,000	100.00	366,477.4
OGV - Transit Precautionary Area									
	100	10,000	31	3.2	2,312	-	310,000	100.00	152,461.6
Totals		10,000	31	3.2	71,657	-	310,000	100.00	152,461.6
OGV - Harbor Transit									
	100	10,000	37	2.7	1,407	-	370,000	100.00	111,506.3
Totals		10,000	37	2.7	52,073	-	370,000	100.00	111,506.3
OGV - Docking									
	300	90,000	1	100.0	9,298	-	90,000	100.00	30,992.8
Totals		90,000	1	100.0	9,298	-	90,000	100.00	30,992.8
Tugboat - Harbor Transit									
	100	10,000	37	2.7	254	-	370,000	100.00	20,114.9
Totals		10,000	37	2.7	9,394	-	370,000	100.00	20,114.9
Tugboat - Docking									
	300	90,000	1	100.0	4,023	-	90,000	100.00	13,409.9
Totals		90,000	1	100.0	4,023	-	90,000	100.00	13,409.9
Terminal - Equipment									
	450	202,500	1	26.9	43,985	-	202,500	26.89	170,484.5
	400	160,000	1	21.2	34,754	-	160,000	21.24	134,703.8
	400	160,000	1	21.2	34,754	-	160,000	21.24	134,703.8
	250	62,500	1	8.3	13,576	-	62,500	8.30	52,618.7
	175	30,625	1	4.1	6,652	-	30,625	4.07	25,783.2
	175	30,625	1	4.1	6,652	-	30,625	4.07	25,783.2
	175	30,625	1	4.1	6,652	-	30,625	4.07	25,783.2
	175	30,625	1	4.1	6,652	-	30,625	4.07	25,783.2
	125	15,625	1	2.1	3,394	-	15,625	2.07	13,154.7
	100	10,000	1	1.3	2,172	-	10,000	1.33	8,419.0
	100	10,000	1	1.3	2,172	-	10,000	1.33	8,419.0
	100	10,000	1	1.3	2,172	-	10,000	1.33	8,419.0
Totals		753,125	12	100	163,586	-	753,125	100	634,055
Terminal - Trucks									
	450	202,500	1	26.9	17,295	-	202,500	26.89	67,035.7
	400	160,000	1	21.2	13,665	-	160,000	21.24	52,966.5
	400	160,000	1	21.2	13,665	-	160,000	21.24	52,966.5
	250	62,500	1	8.3	5,338	-	62,500	8.30	20,690.0
	175	30,625	1	4.1	2,616	-	30,625	4.07	10,138.1
	175	30,625	1	4.1	2,616	-	30,625	4.07	10,138.1
	175	30,625	1	4.1	2,616	-	30,625	4.07	10,138.1
	175	30,625	1	4.1	2,616	-	30,625	4.07	10,138.1
	125	15,625	1	2.1	1,335	-	15,625	2.07	5,172.5
	100	10,000	1	1.3	854	-	10,000	1.33	3,310.4
	100	10,000	1	1.3	854	-	10,000	1.33	3,310.4
	100	10,000	1	1.3	854	-	10,000	1.33	3,310.4
Totals		753,125	12	100	64,323	-	753,125	100	249,315

Table H5-A1.28. Volume Source Dimensions andYear 2010 NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
ICTF - Trains									
	125	15,625	1	20.7	452	-	15,625	20.66	1,751.2
	125	15,625	1	20.7	452	-	15,625	20.66	1,751.2
	100	10,000	1	13.2	289	-	10,000	13.22	1,120.8
	100	10,000	1	13.2	289	-	10,000	13.22	1,120.8
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
Totals		75,625	10	100	2,187	-	75,625	100	8,476
ICTF - Equipment									
	125	15,625	1	20.7	1,332	-	15,625	20.66	5,161.4
	125	15,625	1	20.7	1,332	-	15,625	20.66	5,161.4
	100	10,000	1	13.2	852	-	10,000	13.22	3,303.3
	100	10,000	1	13.2	852	-	10,000	13.22	3,303.3
	75	5,625	1	7.4	479	-	5,625	7.44	1,858.1
	75	5,625	1	7.4	479	-	5,625	7.44	1,858.1
	75	5,625	1	7.4	479	-	5,625	7.44	1,858.1
	50	2,500	1	3.3	213	-	2,500	3.31	825.8
	50	2,500	1	3.3	213	-	2,500	3.31	825.8
	50	2,500	1	3.3	213	-	2,500	3.31	825.8
Totals		75,625	10	100	6,445	-	75,625	100	24,981
Trains - Haul from ICTF to Anaheim St.									
	20	400	62	1.6	17	-	24,800	100.00	4,050.8
Totals		400	62	1.6	1,045	-	24,800	100.00	4,050.8
Relocated PHL Rail Yard - Trains									
	200	40,000	1	22.9	660	-	40,000	22.94	2,556.4
	150	22,500	1	12.9	371	-	22,500	12.90	1,438.0
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	50	2,500	1	1.4	41	-	2,500	1.43	159.8
Totals		174,375	14	100	2,875	-	174,375	100	11,144
I-110 NB from HBB to Anaheim									
	50	2,500	8	12.5	535	0.061	20,000	100.00	4,278.5
Totals		2,500	8	12.5	4,278	0.49	20,000	100.00	4,278.5
I-110 SB from Anaheim to HBB									
	50	2,500	6	16.7	459	0.052	15,000	100.00	2,755.9
Totals		2,500	6	16.7	2,756	0.31	15,000	100.00	2,755.9

Table H5-A1.28. Volume Source Dimensions andYear 2010 NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
I-110 SB Offramp									
	15	225	11	9.1	163	0.019	2,475	100.00	1,797.7
Totals		225	11	9.1	1,798	0.21	2,475	100.00	1,797.7
I-110 NB Offramp to HBB									
	21	441	12	8.3	42	0.0048	5,292	100.00	506.4
Totals		441	12	8.3	506	0.06	5,292	100.00	506.4
HBB - Figueroa St. to I-110 NB Off-ramp									
	32	1,024	4	25.0	623	0.071	4,096	100.00	2,493.4
Totals		1,024	4	25.0	2,493	0.28	4,096	100.00	2,493.4
HBB - I-110 NB Off-ramp to Fries Ave.									
	32	1,024	18	5.6	703	0.080	18,432	100.00	12,655.0
Totals		1,024	18	5.6	12,655	1.44	18,432	100.00	12,655.0
HBB - Fries Ave. to Alameda									
	32	1,024	13	7.7	222	0.025	13,312	100.00	2,886.2
Totals		1,024	13	7.7	2,886	0.33	13,312	100.00	2,886.2
Alameda - HBB to Anaheim									
	32	1,024	16	6.3	225	0.026	16,384	100.00	3,607.8
Totals		1,024	16	6.3	3,608	0.41	16,384	100.00	3,607.8
Fries Ave. - HBB to Water St.									
	25	625	8	12.5	749	0.086	5,000	100.00	5,992.2
Totals		625	8	12.5	5,992	0.68	5,000	100.00	5,992.2
Water St. - Main Gate to Fries Ave.									
	25	625	5	20.0	524	0.060	3,125	100.00	2,621.6
Totals		625	5	20.0	2,622	0.30	3,125	100.00	2,621.6
Main Gate									
	70	4,900	3	33.3	1,841	0.210	14,700	100.00	5,523.5
Totals		4,900	3	33.3	5,524	0.63	14,700	100.00	5,523.5
Fries Ave. - Water St. to Pier A St.									
	25	625	3	33.3	524	0.060	1,875	100.00	1,572.9
Totals		625	3	33.3	1,573	0.18	1,875	100.00	1,572.9
Pier A St. - Fries Ave. to PAS Gate									
	25	625	22	4.5	212	0.024	13,750	100.00	4,661.5
Totals		625	22	4.5	4,661	0.53	13,750	100.00	4,661.5
Pier A St. Gate									
	35	1,225	4	25.0	395	0.045	4,900	100.00	1,578.1
Totals		1,225	4	25.0	1,578	0.18	4,900	100.00	1,578.1

Table C2-34. Hourly Vessel Emissions - Berths 136-147 Terminal Project - Alternative 1.

Vessel Type	Pounds per Hour (1)							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Fairway Transit								
Containerships 8,000 - 9,000 TEU	2.2	1.5	4.3	56.9		47.6	5.8	5.4
Containerships 5,000 - 6,000 TEU	2.1	1.4	3.9	52.4		43.8	5.3	5.0
Containerships 3,000 - 5,000 TEU	1.4	0.9	2.6	34.3		28.7	3.5	3.3
Containerships < 3,000 TEU	0.7	0.5	1.4	18.2		15.2	1.9	1.7
Precautionary Area Transit								
Containerships 8,000 - 9,000 TEU	48.0	33.1	50.8	378.4	177.8	190.1	36.7	34.4
Containerships 5,000 - 6,000 TEU	30.9	21.3	39.2	339.1	159.4	190.7	30.8	28.8
Containerships 3,000 - 5,000 TEU	20.6	14.2	28.5	263.5	123.9	156.0	23.4	21.9
Containerships < 3,000 TEU	9.1	6.3	15.5	174.8	82.2	115.4	14.8	13.9
Harbor Transit								
Containerships 8,000 - 9,000 TEU	54.5	37.6	46.0	350.0	163.5	160.2	35.6	33.3
Containerships 5,000 - 6,000 TEU	44.3	30.5	38.4	299.3	139.8	142.9	30.0	28.1
Containerships 3,000 - 5,000 TEU	29.9	20.6	25.9	196.0	91.5	95.5	19.9	18.6
Containerships < 3,000 TEU	15.7	10.8	13.9	102.6	47.9	55.0	10.5	9.8
Docking								
Containerships 8,000 - 9,000 TEU	19.0	13.1	12.4	97.3	29.2	38.2	10.6	9.9
Containerships 5,000 - 6,000 TEU	15.4	10.6	10.4	83.1	24.9	34.6	8.9	8.3
Containerships 3,000 - 5,000 TEU	10.4	7.2	7.0	54.5	16.3	23.1	5.9	5.5
Containerships < 3,000 TEU	5.5	3.8	3.8	28.5	8.6	13.4	3.1	2.9
Hoteling								
Containerships 8,000 - 9,000 TEU	2.8	1.9	6.3	68.2	17.6	57.9	5.7	5.4
Containerships 5,000 - 6,000 TEU	2.6	1.8	6.0	64.3	16.6	55.4	5.4	5.1
Containerships 3,000 - 5,000 TEU	2.1	1.5	5.1	51.9	13.4	47.5	4.4	4.1
Containerships < 3,000 TEU	1.3	0.9	3.6	32.1	8.3	34.7	2.8	2.6
Tugboats					NO2 (HT)			NO2 (Docking
Tugboats - Cargo Vessel Assist 2003 baseline	2.1	1.8	9.3	61.5	28.7	4.0	2.4	18.4
Tugboats - Cargo Vessel Assist 2007	2.0	1.8	9.3	58.0	27.1	0.0	2.4	17.4
Tugboats - Cargo Vessel Assist 2010	2.0	1.8	9.3	54.9	25.6	0.0	2.3	16.5
Tugboats - Cargo Vessel Assist 2015	2.0	1.8	9.3	49.8	23.2	0.0	2.1	14.9
Tugboats - Cargo Vessel Assist 2030	2.0	1.7	9.3	37.1	17.3	0.0	1.6	11.1

Table C3-A1-20 . Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour						# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	PM2.5	
I-110 NB from HBB to Anaheim	0.50	35	199	0.29	1.31	1.17	0.00	0.14	0.13	8
I-110 SB from Anaheim to HBB	0.37	40	172	0.16	0.72	0.76	0.00	0.08	0.07	6
I-110 SB Offramp	0.23	25	172	0.18	0.76	0.49	0.00	0.08	0.07	11
I-110 NB Offramp to HBB	0.31	40	38	0.03	0.13	0.14	0.00	0.01	0.01	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	372	0.17	0.76	0.68	0.00	0.08	0.07	4
HBB - I-110 NB Offramp to Fries Av	0.72	35	410	0.85	3.88	3.47	0.01	0.40	0.37	18
HBB - Fries Ave. to Alameda	0.52	35	129	0.19	0.88	0.79	0.00	0.09	0.08	13
Alameda - HBB to Anaheim	0.65	35	129	0.24	1.11	0.99	0.00	0.11	0.11	16
Fries Ave. - HBB to Water St.	0.25	25	539	0.60	2.54	1.64	0.01	0.26	0.24	8
Water St. - Fries A. to Main Gate	0.16	25	377	0.26	1.11	0.72	0.00	0.11	0.10	5
Gate - Main	0.13	5	377	2.05	2.77	1.51	0.00	0.42	0.38	3
Fries Ave. - Water St. to Pier A St.	0.22	25	162	0.16	0.67	0.43	0.00	0.07	0.06	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	162	0.31	1.43	1.28	0.00	0.15	0.14	22
Gate - Pier A St.	0.09	5	162	0.59	0.79	0.43	0.00	0.12	0.11	4
Notes: (1) Based on 365 days per year and 24 hours per day.				60.9	188.6	562.1	0.5	21.2	19.5	

TableC2-37. Hourly On-Terminal Truck Emissions for the Berths 136-147 Terminal Project - Alternativ

Location/Project Scenario - Mode	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
On-Terminal								
Subtotal - Year 2003	17.4	15.3	43.7	60.9	15.7	0.4	3.5	3.2
Subtotal - Year 2007	14.0	12.3	33.7	52.7	13.6	0.0	2.7	2.5
Subtotal - Year 2010	13.9	12.2	32.2	68.3	17.6	0.0	2.9	2.7
Subtotal - Year 2015	7.1	6.2	19.1	39.9	10.3	0.0	0.9	0.8
Subtotal - Year 2030	4.3	3.8	15.0	39.6	10.2	0.0	0.2	0.2

TableC2-49. Summary of Hourly Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 1

Project Scenario/Source Activity	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Project Year 2010								
ICTF Equipment	0.7	0.6	2.9	7.4	1.9	0.0	0.3	0.3
Trains - Road Haul	4.5	4.0	10.0	54.7	14.1	1.2	1.5	1.4
Outbound Trains - Rail Yard	1.2	1.0	3.0	13.9	3.6	0.2	0.4	0.4
Inbound Trains - Rail Yard	0.8	0.7	1.8	9.9	2.5	0.2	0.3	0.3

Table C3-A1-46. Locomotive Usage within the PHL Rail Yard - Berths 136-147 Terminal Project

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Year 2003 Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358

Notes: (1) Activity data based on year 2003 annual usage.

PHL Locomotive Emission Factors - Berths 136-147 Terminal

Year/Source Type	Emission Factors (Gm/Hp-Hr)						
	TOG	ROG	CO	NOx	NO2	SOx	PM
Year 2010							
Line Haul Locomotive - Year 2010	0.58	0.51	1.28	7.02	1.81	0.16	0.20
Switch Yard Locomotive - Year 2010	0.68	0.60	2.40	8.10	2.09	0.005	0.23

Table C3-A1-48. Annual Train Emissions within the Existing Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions

Project Year/Emission Source	Pounds per Hour				
	TOG	CO	NO2	SOx	PM
Project Year 2010/Source Activity					
Line Haul Locomotive	0.13	0.28	0.40	0.03	0.04
Yard Locomotive - Low UsageTrip	0.08	0.27	0.23	0.00	0.03
Yard Locomotive - Medium UsageTrip	0.15	0.54	0.47	0.00	0.05
Year 2010 Pounds per Hour (1)	0.17	0.62	0.54	0.04	0.06

Note: (1) Factored by 1.15 to represent 15% growth.

TableC2-56. Terminal Equipment Annual Average Hourly Emissions - Berths 136-147 Terminal Project Alternative 1.

Project Scenario/Equipment Horsepower	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Baseline - Year 2003	5.3	4.6	16.8	59.9	15.4	0.8	2.7	2.5
Project Year 2007	6.9	6.1	22.2	71.0	18.3	0.0	3.1	2.8
Project Year 2010	8.0	7.1	30.5	86.8	22.4	0.1	3.8	3.5
Project Year 2015	1.6	1.4	28.9	10.8	2.8	0.1	0.4	0.4
Project Year 2030	2.4	2.1	48.5	7.9	2.0	0.1	0.6	0.5

TableC2-56. Terminal Equipment Annual Average Hourly Emissions for the 8 AM to 5 PM Shift - Berths 136-147 Terminal Project Alternative 1.

Project Scenario/Equipment Horsepower	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Baseline - Year 2003	11.2	9.9	35.9	127.7	33.0	1.7	5.8	5.4
Project Year 2007	14.7	13.0	47.4	151.4	39.1	0.1	6.5	6.0
Project Year 2010	17.1	15.1	65.1	185.2	47.8	0.1	8.0	7.4
Project Year 2015	3.5	3.0	61.6	23.1	6.0	0.1	0.9	0.8
Project Year 2030	5.1	4.5	103.4	16.8	4.3	0.2	1.2	1.1

TableC2-56. Terminal Equipment Peak Hourly Emissions for the 8 AM to 5 PM Shift - Berths 136-147 Terminal Project Alternative 1.

Project Scenario/Equipment Horsepower	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Baseline - Year 2003	14.0	12.3	44.9	159.7	41.2	2.1	7.3	6.7
Project Year 2007	18.4	16.2	59.2	189.2	48.8	0.1	8.1	7.5
Project Year 2010	21.4	18.8	81.4	231.5	59.7	0.2	10.0	9.2
Project Year 2015	4.3	3.8	77.0	28.9	7.5	0.2	1.1	1.0
Project Year 2030	6.4	5.6	129.3	20.9	5.4	0.3	1.5	1.4

Fraction of Weekly Cargo Handled on Week-end	Peak Month Factor	Week Day Factor	Peak Day Factor
0.15	0.091	0.17	0.16

Total hours/year - 10 vacation days	8,520
Annual hours/6-day work week	7,303

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)			Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
Terminal Equipment	1	450			21.88	16.06	2.69	2.48
	2	400			17.29	12.69	2.13	1.96
	2	400			17.29	12.69	2.13	1.96
	1	250			6.75	4.96	0.83	0.76
	5	175			3.31	2.43	0.41	0.37
	5	175			3.31	2.43	0.41	0.37
	5	175			3.31	2.43	0.41	0.37
	5	175			3.31	2.43	0.41	0.37
	5	125			1.69	1.24	0.21	0.19
	2	100			1.08	0.79	0.13	0.12
	2	100			1.08	0.79	0.13	0.12
	1	100			1.08	0.79	0.13	0.12
Terminal Trucks	1	450			8.65	4.74	0.79	0.73
	2	400			6.83	3.74	0.62	0.57
	2	400			6.83	3.74	0.62	0.57
	1	250			2.67	1.46	0.24	0.22
	5	175			1.31	0.72	0.12	0.11
	5	175			1.31	0.72	0.12	0.11
	5	175			1.31	0.72	0.12	0.11
	5	175			1.31	0.72	0.12	0.11
	5	125			0.67	0.37	0.06	0.06
	2	100			0.43	0.23	0.04	0.04
	2	100			0.43	0.23	0.04	0.04
	1	100			0.43	0.23	0.04	0.04
ICTF - Trains	2	125			0.62	0.74	0.08	0.07
	2	125			0.62	0.74	0.08	0.07
	2	100			0.40	0.48	0.05	0.05
	2	100			0.40	0.48	0.05	0.05
	3	75			0.22	0.27	0.03	0.03
	3	75			0.22	0.27	0.03	0.03
	3	75			0.22	0.27	0.03	0.03
	3	50			0.10	0.12	0.01	0.01
	3	50			0.10	0.12	0.01	0.01
	3	50			0.10	0.12	0.01	0.01
ICTF - Equipment	2	125			0.60	0.39	0.07	0.06
	2	125			0.60	0.39	0.07	0.06
	2	100			0.39	0.25	0.04	0.04
	2	100			0.39	0.25	0.04	0.04
	3	75			0.22	0.14	0.02	0.02
	3	75			0.22	0.14	0.02	0.02
	3	75			0.22	0.14	0.02	0.02
	3	50			0.10	0.06	0.01	0.01
	3	50			0.10	0.06	0.01	0.01
	3	50			0.10	0.06	0.01	0.01
I-110 NB from HBB to Anaheim	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
	8	50			0.16	0.15	0.02	0.02
I-110 SB from Anaheim to HBB	6	50			0.12	0.13	0.01	0.01
	6	50			0.12	0.13	0.01	0.01
	6	50			0.12	0.13	0.01	0.01
	6	50			0.12	0.13	0.01	0.01
	6	50			0.12	0.13	0.01	0.01
	6	50			0.12	0.13	0.01	0.01
I-110 SB Offramp	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
	11	15			0.07	0.04	0.01	0.01
I-110 NB Offramp	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)			Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
to HBB	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
	12	21			0.01	0.01	0.00	0.00
HBB - Fig. St. to I-110 NB Offramp	4	32			0.19	0.17	0.02	0.02
	4	32			0.19	0.17	0.02	0.02
	4	32			0.19	0.17	0.02	0.02
	4	32			0.19	0.17	0.02	0.02
HBB - I-110 NB Offramp to Fries Ave.	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
	18	32			0.22	0.19	0.02	0.02
HBB - Fries Ave. to Alameda	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
	13	32			0.07	0.06	0.01	0.01
Alameda - HBB to Anaheim	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
	16	32			0.07	0.06	0.01	0.01
Fries Ave. - HBB to Water St.	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
	8	25			0.32	0.21	0.03	0.03
Water St. - Fries A. to Main Gate	5	25			0.22	0.14	0.02	0.02
	5	25			0.22	0.14	0.02	0.02
	5	25			0.22	0.14	0.02	0.02
	5	25			0.22	0.14	0.02	0.02
	5	25			0.22	0.14	0.02	0.02
Gate - Main	3	70			0.92	0.50	0.14	0.13
	3	70			0.92	0.50	0.14	0.13
	3	70			0.92	0.50	0.14	0.13
Fries Ave. - Water St. to Pier A St.	3	25			0.22	0.14	0.02	0.02
	3	25			0.22	0.14	0.02	0.02

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)			Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
					630080	10102440		
St. to Pier A St.	3	25			0.22	0.14	0.02	0.02
Pier A St. - Fries Ave. to PAS Gate	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
	22	25			0.06	0.06	0.01	0.01
Gate - Pier A St.	4	35			0.20	0.11	0.03	0.03
	4	35			0.20	0.11	0.03	0.03
	4	35			0.20	0.11	0.03	0.03
	4	35			0.20	0.11	0.03	0.03

Alternative 1 - Hourl Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		PHL Railyard													
# of Sources		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100	100	75	75	75	75	50
Pollutant	CAS #														
Criteria Pollutants															
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
PM10		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel Transit Far															Maneuvering - Tug Transit Far															
# of Sources		37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Pollutant	CAS #																														
Criteria Pollutants																															
Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Nitrogen Dioxide	10102440	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
PM10		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
PM2.5		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel Transit Near																						Maneuvering - Near Berth Near	
# of Sources		37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	1	37
Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	300	100
Pollutant	CAS #																								
Criteria Pollutants																									
Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	12.43	0.15
Nitrogen Dioxide	10102440	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	29.20	0.42
PM10		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	10.55	0.04
PM2.5		0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	9.89	0.03

Alternative 1 - Hourly Acute Emissior

Source		Maneuvering - Tug Transit Near																					Maneuvering - Tug Near Berth
# of Sources		37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	1
Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	300
Pollutant	CAS #																						
Criteria Pollutants																							
Carbon Monoxide	630080	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	3.71
Nitrogen Dioxide	10102440	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	6.59
PM10		0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.92
PM2.5		0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.86

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
Carbon Monoxide	630080	1.19	1.19	1.19	2.01	2.01	2.01
Nitrogen Dioxide	10102440	2.76	2.76	2.76	5.53	5.53	5.53
PM10		0.93	0.93	0.93	1.81	1.81	1.81
PM2.5		0.87	0.87	0.87	1.69	1.69	1.69

Alternative 1 - Hourly Acute Emission Rates

		Source Area Width (	Pollutant	eria Polluta	Carbon Monoxide	Nitrogen Dioxide	PM	PM2.5
Source	# of Sourc		CAS #		630,080	10,102,440		
HT - 8-9kVessel	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
	37	100			1.2440	4.4178	0.9613	
Docking - 8-9kVessel	1	300			12.4257	29.2039	10.5550	9.8900
Hoteling - <3kVessel	3	N/A(point)			1.1908	2.7573	0.9265	
	3	N/A(point)			1.1908	2.7573	0.9265	
	3	N/A(point)			1.1908	2.7573	0.9265	
Hoteling - 5-6kVessel	3	N/A(point)			2.0097	5.5285	1.8055	
	3	N/A(point)			2.0097	5.5285	1.8055	
	3	N/A(point)			2.0097	5.5285	1.8055	
Tugboats -HT-2010	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
	37	100			0.1504	0.4156	0.0371	
Tugboats - Docking - 2010	1	300			3.7087	10.2521	0.9151	
	12	450			8.6496	4.7384	0.7900	
	12	400			6.8342	3.7439	0.6242	

Alternative 1 - Hourly Acute Emission Rates

Source	# of Sourc	Source Area Width (	Pollutant CAS #	eria Pollutа	Carbon Monoxide 630,080	Nitrogen Dioxide 10,102,440	PM	PM2.5
Trucks On-Terminal - 2010	12	400			6.8342	3.7439	0.6242	
	12	250			2.6696	1.4625	0.2438	
	12	175			1.3081	0.7166	0.1195	
	12	175			1.3081	0.7166	0.1195	
	12	175			1.3081	0.7166	0.1195	
	12	175			1.3081	0.7166	0.1195	
	12	175			1.3081	0.7166	0.1195	
	12	100			0.4271	0.2340	0.0390	
	12	100			0.4271	0.2340	0.0390	
	12	100			0.4271	0.2340	0.0390	
I-110 NB from HBB to Anaheim	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
	8				0.1638	0.1465	0.0170	0.0157
I-110 SB from Anaheim to HBB	6				0.1204	0.1258	0.0136	0.0125
	6				0.1204	0.1258	0.0136	0.0125
	6				0.1204	0.1258	0.0136	0.0125
	6				0.1204	0.1258	0.0136	0.0125
	6				0.1204	0.1258	0.0136	0.0125
	6				0.1204	0.1258	0.0136	0.0125
I-110 SB Offramp	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
	11				0.0692	0.0448	0.0070	0.0064
I-110 NB Offramp to HBB	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
	12				0.0111	0.0116	0.0012	0.0011
HBB - Fig. St. to I-110 NB Offramp	4				0.1910	0.1708	0.0198	0.0182
	4				0.1910	0.1708	0.0198	0.0182
	4				0.1910	0.1708	0.0198	0.0182
	4				0.1910	0.1708	0.0198	0.0182
HBB - I-110 NB Offramp to Fries Ave.	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
	18				0.2154	0.1926	0.0224	0.0206
HBB - Fries Ave. to Alameda	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	13				0.0680	0.0608	0.0071	0.0065
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066

Alternative 1 - Hourly Acute Emission Rates

Source	# of Sourc	Source Area Width (	Pollutant CAS #	eria Pollutа	Carbon Monoxide 630,080	Nitrogen Dioxide 10,102,440	PM	PM2.5
Alameda - HBB to Anaheim	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
	16				0.0691	0.0618	0.0072	0.0066
Fries Ave. - HBB to Water St.	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
	8				0.3170	0.2052	0.0320	0.0294
Water St. - Fries A. to Main Gate	5				0.2219	0.1436	0.0224	0.0206
	5				0.2219	0.1436	0.0224	0.0206
	5				0.2219	0.1436	0.0224	0.0206
	5				0.2219	0.1436	0.0224	0.0206
	5				0.2219	0.1436	0.0224	0.0206
Gate - Main	3				0.9240	0.5044	0.1393	0.1282
	3				0.9240	0.5044	0.1393	0.1282
	3				0.9240	0.5044	0.1393	0.1282
Fries Ave. - Water St. to Pier A St.	3				0.2219	0.1436	0.0224	0.0206
	3				0.2219	0.1436	0.0224	0.0206
	3				0.2219	0.1436	0.0224	0.0206
Pier A St. - Fries Ave. to PAS Gate	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
	22				0.0649	0.0581	0.0067	0.0062
Gate - Pier A St.	4				0.1980	0.1081	0.0298	0.0275
Outbound - Rail Yard - 2010	2	125			0.6215	0.7432	0.0806	
	2	100			0.3978	0.4756	0.0516	
	3	75			0.2237	0.2675	0.0290	
	3	50			0.0994	0.1189	0.0129	
ICTF Equipment - 2010	2	125			0.6032	0.3924	0.0676	
	2	100			0.3861	0.2511	0.0433	
	3	75			0.2172	0.1413	0.0244	
	3	50			0.0965	0.0628	0.0108	
Terminal Equipment - 2010	1	450			21.8776	16.0613	2.6909	
	2	400			17.2860	12.6904	2.1262	
	1	250			6.7524	4.9572	0.8305	
	5	175			3.3087	2.4290	0.3312	
	2	100			1.0804	0.7932	0.1329	
	1	100			1.0804	0.7932	0.1329	
PHL Railyard 2010	1	200			0.1412	0.1229	0.0136	0.0125
	1	150			0.0794	0.0692	0.0076	0.0070
	1	125			0.0551	0.0480	0.0053	0.0049
	1	125			0.0551	0.0480	0.0053	0.0049
	1	125			0.0551	0.0480	0.0053	0.0049
	1	100			0.0353	0.0307	0.0034	0.0031
	1	100			0.0353	0.0307	0.0034	0.0031
	1	100			0.0353	0.0307	0.0034	0.0031
	1	100			0.0353	0.0307	0.0034	0.0031
	1	75			0.0199	0.0173	0.0019	0.0018
	1	75			0.0199	0.0173	0.0019	0.0018
	1	75			0.0199	0.0173	0.0019	0.0018
	1	75			0.0199	0.0173	0.0019	0.0018
	1	50			0.0088	0.0077	0.0008	0.0008

Table D2.2.1-Crit-PP-CO-1. Auto Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour						# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	PM2.5	
I-110 NB from HBB to Anaheim	0.50	35	53	-	0.13	-	-	-	-	8
I-110 SB from Anaheim to HBB	0.37	40	46	-	0.08	-	-	-	-	6
I-110 SB Offramp	0.23	25	46	-	0.06	-	-	-	-	11
I-110 NB Offramp to HBB	0.31	40	10	-	0.01	-	-	-	-	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	99	-	0.08	-	-	-	-	4
HBB - I-110 NB Offramp to Fries Av	0.72	35	109	-	0.40	-	-	-	-	18
HBB - Fries Ave. to Alameda	0.52	35	34	-	0.09	-	-	-	-	13
Alameda - HBB to Anaheim	0.65	35	34	-	0.11	-	-	-	-	16
Fries Ave. - HBB to Water St.	0.25	25	144	-	0.21	-	-	-	-	8
Water St. - Fries A. to Main Gate	0.16	25	101	-	0.09	-	-	-	-	5
Gate - Main	0.13	5	101	-	0.13	-	-	-	-	3
Fries Ave. - Water St. to Pier A St.	0.22	25	43	-	0.06	-	-	-	-	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	43	-	0.15	-	-	-	-	22
Gate - Pier A St.	0.09	5	43	-	0.04	-	-	-	-	4
Notes: (1) Based on 365 days per year and 24 hours per day.				-	16.5	-	-	-	-	

Table C3-A1-21. Gate Truck ADT Distribution - Berths 136-147 Terminal Proposed Project.

Gate	PHT Ratio		PHT In	PHT Out	Total PHT
	In	Out			
Main	0.60	###	43	57	101
Pier A Street	0.40	###	29	14	43
					144

Table D2.2.1-Crit-PP-CO-2. Proposed Project ADT - A

Project Scenario/Vehicle Type	ADT (1)	Peak Hour Trips (2)
Baseline- Year 2003		
Autos		-
Year 2007		
Autos		-
Year 2010		
Autos	1,437	144
Year 2015		
Autos		-
Year 2030		
Heavy Duty Truck		-

(1) ADT = 365 days per year.

(2) PHT = 10% of ADT

Table D2.2.1-Crit-PP-CO-3 Year 2010 On-Road Light Duty Auto Emission Factors - Berths

	Emission Factors (Grams/Mile)						
Project Year/Mode	TOG	ROG	CO	NOx	NO2	SOx	PM10
Year 2010							
5 mph			4.49				
10 mph			3.85				
25 mph			2.72				
35 mph			2.30				
40 mph			2.16				

Table D2.2.1-Crit-PP-CO-4. Hourly On-Terminal Truck Emissions for the Berths 136-147 Termir

Location/Project Scenario - Mode	Pounds per Hour						
	TOG	ROG	CO	NOx	NO2	SOx	PM10
On-Terminal							
Subtotal - Year 2003	17.4	15.3	43.7	60.9	15.7	0.4	3.5
Subtotal - Year 2007	14.0	12.3	33.7	52.7	13.6	0.0	2.7
Subtotal - Year 2010	13.9	12.2	32.2	68.3	17.6	0.0	2.9
Subtotal - Year 2015	7.1	6.2	19.1	39.9	10.3	0.0	0.9
Subtotal - Year 2030	4.3	3.8	15.0	39.6	10.2	0.0	0.2

Table D2.2.1-Crit-PP-CO-5. Proposed Project CO Auto - Hourly Acute Emission Rates Scenario 2 (2010)

	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
I-110 NB from HBB to Anaheim	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
	8	50			0.02	-	-	-
I-110 SB from Anaheim to HBB	6	50			0.01	-	-	-
	6	50			0.01	-	-	-
	6	50			0.01	-	-	-
	6	50			0.01	-	-	-
	6	50			0.01	-	-	-
	6	50			0.01	-	-	-
I-110 SB Offramp	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
	11	15			0.01	-	-	-
I-110 NB Offramp to HBB	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
	12	21			0.00	-	-	-
HBB - Fig. St. to I-110 NB Offramp	4	32			0.02	-	-	-
	4	32			0.02	-	-	-
	4	32			0.02	-	-	-
	4	32			0.02	-	-	-
HBB - I-110 NB Offramp to Fries Ave.	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-

Table D2.2.1-Crit-PP-CO-5. Proposed Project CO Auto - Hourly Acute Emission Rates Scenario 2 (2010)

	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
	18	32			0.02	-	-	-
HBB - Fries Ave. to Alameda	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
	13	32			0.01	-	-	-
Alameda - HBB to Anaheim	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
	16	32			0.01	-	-	-
Fries Ave. - HBB to Water St.	8	25			0.03	-	-	-
	8	25			0.03	-	-	-
	8	25			0.03	-	-	-
	8	25			0.03	-	-	-
	8	25			0.03	-	-	-
	8	25			0.03	-	-	-
	8	25			0.03	-	-	-

Table D2.2.1-Crit-PP-CO-5. Proposed Project CO Auto - Hourly Acute Emission Rates Scenario 2 (2010)

	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
	8	25			0.03	-	-	-
Water St. - Fries A. to Main Gate	5	25			0.02	-	-	-
	5	25			0.02	-	-	-
	5	25			0.02	-	-	-
	5	25			0.02	-	-	-
	5	25			0.02	-	-	-
Gate - Main	3	70			0.04	-	-	-
	3	70			0.04	-	-	-
	3	70			0.04	-	-	-
Fries Ave. - Water St. to Pier A St.	3	25			0.02	-	-	-
	3	25			0.02	-	-	-
	3	25			0.02	-	-	-
Pier A St. - Fries Ave. to PAS Gate	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
	22	25			0.01	-	-	-
Gate - Pier A St.	4	35			0.01	-	-	-
	4	35			0.01	-	-	-
	4	35			0.01	-	-	-
	4	35			0.01	-	-	-

Table H6-A1.6. 70-Year Annual Average Locomotive NOx Emissions within the Berths 136-147 Terminal ICTF - Berths 136-147 Terminal Proposed Project.

Project Year	Calendar Year	Annual NOx Emissions Tons (1)
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	1.41
3	2009	2.83
4	2010	4.24
5	2011	5.13
6	2012	6.02
7	2013	6.91
8	2014	7.80
9	2015	8.69
10	2016	8.76
11	2017	8.83
12	2018	8.91
13	2019	8.98
14	2020	9.05
15	2021	9.12
16	2022	9.20
17	2023	9.27
18	2024	9.34
19	2025	9.42
20	2026	9.24
21	2027	9.06
22	2028	8.88
23	2029	8.70
24	2030	8.52
25	2031	8.43
26	2032	8.34
27	2033	8.25
28	2034	8.16
29	2035	8.07
30	2036	7.98
31	2037	7.89
32	2038	7.80
33	2039	7.71
70	2073	7.62
70-Yr Ave. - Tons/Year		7.61
Pounds/Year (2)		15,226
Pounds/Hour (2)		1.74

Note: (1) Year 2040 locomotive PM emission factor = 0.16 grams/Hp-Hr.

(2) Based on 365 days per year and 24 hours per day.

Table H6-A1.7. 70-Year Annual Average Haul Line Locomotive NOx Emission Estimates - Berths 136-147 Proposed Project.

Project Year	Calendar Year	Annual NOx Emissions Tons (1)
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	29.54
3	2009	59.07
4	2010	88.61
5	2011	119.49
6	2012	150.37
7	2013	181.25
8	2014	212.13
9	2015	243.00
10	2016	244.86
11	2017	246.71
12	2018	248.56
13	2019	250.41
14	2020	252.26
15	2021	254.11
16	2022	255.96
17	2023	257.81
18	2024	259.66
19	2025	261.51
20	2026	256.28
21	2027	251.05
22	2028	245.82
23	2029	240.59
24	2030	235.36
25	2031	232.75
26	2032	230.13
27	2033	227.52
28	2034	224.90
29	2035	222.29
30	2036	219.67
31	2037	217.06
32	2038	214.44
33	2039	211.83
34	2040	209.21
70	2073	209.21
70-Yr Ave. - Tons/Year		208.37
Within Model Domain (1)		26.32
Pounds/Year (1)(2)		52,641
Pounds/Hour (1)(2)		6.01

Note: (1) Locomotive emissions from the Berths 136-147 ICTF to Anaheim St.

(2) Based on 365 days per year and 24 hours per day.

Table H6-A1.8. 70-Year Annual Average NOx Emission Estimates for R
Equipment within the Berths 136-147 Terminal ICTF- Proposed

Project Year	Calendar Year	Annual NOx Emissions Tons
-	2001	
-	2002	
-	2003	
-	2004	
-	2005	
-	2006	
1	2007	-
2	2008	3.37
3	2009	6.74
4	2010	10.11
5	2011	8.42
6	2012	6.73
7	2013	5.04
8	2014	3.35
9	2015	1.67
10	2016	1.70
11	2017	1.73
12	2018	1.76
13	2019	1.79
14	2020	1.82
15	2021	1.85
16	2022	1.88
17	2023	1.91
18	2024	1.94
19	2025	1.97
20	2026	1.99
21	2027	2.02
22	2028	2.05
70	2073	2.11
70-Yr Ave. - Tons/Year		2.45
Pounds/Year (1)		4,893
Pounds/Hour (1)		0.56

Note: (1) Based on 365 days per year and 24 hours per day.

Print this table in landscape???

Table H6-A1.20 . 70-Year Annual Average Roadway Link PM Emissions - Berths 136-147 Terminal Proposed Project.

	Link	Length (Mi)	MPH	MPH EF (Gm/Mi)	NOx/ADT (Grams)	ADT	NOX/Link (Gm/Day)	NO2/Link (Lbs/Year) (1)	NO2/Link (Lbs/Hour) (1)	# of Vol. Sources	Total Miles per Link
1	I-110 NB from HBB to Anaheim	0.50	35	1.45	0.72	1,994	1,436.1	1,155.6	0.132	8	991
2	I-110 SB from Anaheim to HBB	0.37	40	1.40	0.52	1,725	901.5	725.4	0.083	6	643
3	I-110 SB Offramp	0.23	25	1.60	0.37	1,725	642.5	517.0	0.059	11	402
4	I-110 NB Offramp to HBB	0.31	40	1.40	0.44	377	165.6	133.3	0.015	12	118
5	HBB - Fig. St. to I-110 NB Offramp	0.16	35	1.45	0.23	3,719	836.9	673.4	0.077	4	578
6	HBB - I-110 NB Offramp to Fries Ave.	0.72	35	1.45	1.04	4,096	4,247.7	3,418.0	0.390	18	2,932
7	HBB - Fries Ave. to Alameda	0.52	35	1.45	0.75	1,294	968.8	779.5	0.089	13	669
8	Alameda - HBB to Anaheim	0.65	35	1.45	0.94	1,294	1,211.0	974.4	0.111	16	836
9	Fries Ave. - HBB to Water St.	0.25	25	1.60	0.40	5,390	2,141.8	1,723.4	0.197	8	1,339
10	Water St. - Fries A. to Main Gate	0.16	25	1.60	0.25	3,773	937.0	754.0	0.086	5	586
11	Gate - Main	0.13	5	3.94	0.51	3,773	1,941.2	1,562.0	0.178	3	492
12	Fries Ave. - Water St. to Pier A St.	0.22	25	1.60	0.35	1,617	562.2	452.4	0.052	3	352
13	Pier A St. - Fries Ave. to PAS Gate	0.67	35	1.45	0.97	1,617	1,564.6	1,259.0	0.144	22	1,080
14	Gate - Pier A St.	0.09	5	3.94	0.34	1,617	554.6	446.3	0.051	4	141
	Berths 136-147 ADT - 2010					5,390	18,111	14,574	1.66		11,157

Notes: (1) Based on 365 days per year and 24 hours per day.

Table H6-A1.21. Gate Truck ADT Distribution - Berths 136-147 Terminal Proposed Project.

Gate	ADT Ratio In	ADT Ratio Out	ADT In	ADT Out	Total ADT
Main	0.60	0.80	1,617	2,156	3,773
Pier A Street	0.40	0.20	1,078	539	1,617
					5,390

New gate construction will reduce throughputs during that time???

TableC2-36. Year 2010 Port Fleet On-Road Truck Emission Factors - Berths 136-147

Project Year/Mode	Emission Factors (Grams/Mile) TOG	ROG	CO	NOx	NO2	SOx	PM10
Year 2010							
5 mph	4.93	4.34	7.48	15.29	3.94	0.04	0.34
10 mph	2.70	2.38	4.95	10.75	2.77	0.03	0.45
25 mph	0.58	0.51	2.03	6.20	1.60	0.02	0.20
35 mph	0.41	0.36	1.64	5.62	1.45	0.02	0.17
40 mph	0.35	0.31	1.52	5.44	1.40	0.02	0.17

Table H6-A1.27. 70-Year Average Annual PM Emission Rate Simulations - Berths 136-147 Terminal

Proposed Project - Alternative 1 Mitigated 2

Activity	# of Sources	NOx Lbs/Year	NO2 Lbs/Year	NO2 Lbs/Hour (1)	Volume Source Lbs/Year	Volume Source Lbs/Hour (1)
OGVs - Fairway (2)	44	192,166	192,166		4,367	
OGVs - Precautionary Area (2)	31	141,472	66,492		2,145	
OGVs - Harbor Transit (2)	37	105,866	49,440		1,336	
OGVs - Docking (2)	1	29,403	8,821		8,821	
OGVs - Hoteling - Point Sources	12	506,542	130,688		10,891	
Tugboats - Harbor Transit (2)(3)	37	20,115	9,394		254	
Tugboats - Docking (2)(3)	1	13,410	4,023		4,023	
Terminal Equipment	Var.	513,461	132,473		(4)	
On-road Trucks - Ops inside Terminal	Var.	175,472	45,272		(4)	
ICTF - Trains	Var.	8,476	2,187		(4)	
ICTF - Railyard Equipment	Var.	20,212	5,215		(4)	
Trains - Haul from ICTF to Anaheim St.	62	4,051	1,045		16.9	
Trains - Within Relocated PHL Railyard	Var.	11,144	2,875		(4)	

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary engines.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable source areas. See Table H6-A1.28.

Table H6-A1.28. Volume Source Dimensions and NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
OGV - Transit Fairrway									
	100	10,000	44	2.3	4,367	-	440,000	100.00	192,166.0
Totals		10,000	44	2.3	4,367	-	440,000	100.00	192,166.0
OGV - Transit Precautionary Area									
	100	10,000	31	3.2	2,145	-	310,000	100.00	141,472.4
Totals		10,000	31	3.2	2,145	-	310,000	100.00	141,472.4
OGV - Harbor Transit									
	100	10,000	37	2.7	1,336	-	370,000	100.00	105,866.3
Totals		10,000	37	2.7	1,336	-	370,000	100.00	105,866.3
OGV - Docking									
	300	90,000	1	100.0	8,821	-	90,000	100.00	29,403.1
Totals		90,000	1	100.0	8,821	-	90,000	100.00	29,403.1
Tugboat - Harbor Transit									
	100	10,000	37	2.7	254	-	370,000	100.00	20,114.9
Totals		10,000	37	2.7	254	-	370,000	100.00	20,114.9
Tugboat - Docking									
	300	90,000	1	100.0	4,023	-	90,000	100.00	13,409.9
Totals		90,000	1	100.0	4,023	-	90,000	100.00	13,409.9
Terminal - Equipment									
	450	202,500	1	26.9	35,619	-	202,500	26.89	138,059.2
	400	160,000	1	21.2	28,144	-	160,000	21.24	109,083.8
	400	160,000	1	21.2	28,144	-	160,000	21.24	109,083.8
	250	62,500	1	8.3	10,994	-	62,500	8.30	42,610.9
	175	30,625	1	4.1	5,387	-	30,625	4.07	20,879.3
	175	30,625	1	4.1	5,387	-	30,625	4.07	20,879.3
	175	30,625	1	4.1	5,387	-	30,625	4.07	20,879.3
	175	30,625	1	4.1	5,387	-	30,625	4.07	20,879.3
	125	15,625	1	2.1	2,748	-	15,625	2.07	10,652.7
	100	10,000	1	1.3	1,759	-	10,000	1.33	6,817.7
	100	10,000	1	1.3	1,759	-	10,000	1.33	6,817.7
	100	10,000	1	1.3	1,759	-	10,000	1.33	6,817.7
Totals		753,125	12	100	132,473	-	753,125	100	513,461
Terminal - Trucks									
	450	202,500	1	26.9	12,173	-	202,500	26.89	47,180.9
	400	160,000	1	21.2	9,618	-	160,000	21.24	37,278.7
	400	160,000	1	21.2	9,618	-	160,000	21.24	37,278.7
	250	62,500	1	8.3	3,757	-	62,500	8.30	14,562.0
	175	30,625	1	4.1	1,841	-	30,625	4.07	7,135.4
	175	30,625	1	4.1	1,841	-	30,625	4.07	7,135.4
	175	30,625	1	4.1	1,841	-	30,625	4.07	7,135.4
	175	30,625	1	4.1	1,841	-	30,625	4.07	7,135.4
	125	15,625	1	2.1	939	-	15,625	2.07	3,640.5
	100	10,000	1	1.3	601	-	10,000	1.33	2,329.9
	100	10,000	1	1.3	601	-	10,000	1.33	2,329.9
	100	10,000	1	1.3	601	-	10,000	1.33	2,329.9
Totals		753,125	12	100	45,272	-	753,125	100	175,472

Table H6-A1.28. Volume Source Dimensions and NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
ICTF - Trains									
	125	15,625	1	20.7	452	-	15,625	20.66	1,751.2
	125	15,625	1	20.7	452	-	15,625	20.66	1,751.2
	100	10,000	1	13.2	289	-	10,000	13.22	1,120.8
	100	10,000	1	13.2	289	-	10,000	13.22	1,120.8
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	75	5,625	1	7.4	163	-	5,625	7.44	630.4
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
	50	2,500	1	3.3	72	-	2,500	3.31	280.2
Totals		75,625	10	100	2,187	-	75,625	100	8,476
ICTF - Equipment									
	125	15,625	1	20.7	1,077	-	15,625	20.66	4,176.1
	125	15,625	1	20.7	1,077	-	15,625	20.66	4,176.1
	100	10,000	1	13.2	690	-	10,000	13.22	2,672.7
	100	10,000	1	13.2	690	-	10,000	13.22	2,672.7
	75	5,625	1	7.4	388	-	5,625	7.44	1,503.4
	75	5,625	1	7.4	388	-	5,625	7.44	1,503.4
	75	5,625	1	7.4	388	-	5,625	7.44	1,503.4
	50	2,500	1	3.3	172	-	2,500	3.31	668.2
	50	2,500	1	3.3	172	-	2,500	3.31	668.2
	50	2,500	1	3.3	172	-	2,500	3.31	668.2
Totals		75,625	10	100	5,215	-	75,625	100	20,212
Trains - Haul from ICTF to Anaheim St.									
	20	400	62	1.6	17	-	24,800	100.00	4,050.8
Totals		400	62	1.6	17	-	24,800	100.00	4,050.8
Relocated PHL Rail Yard - Trains									
	200	40,000	1	22.9	660	-	40,000	22.94	2,556.4
	150	22,500	1	12.9	371	-	22,500	12.90	1,438.0
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	125	15,625	1	9.0	258	-	15,625	8.96	998.6
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	100	10,000	1	5.7	165	-	10,000	5.73	639.1
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	75	5,625	1	3.2	93	-	5,625	3.23	359.5
	50	2,500	1	1.4	41	-	2,500	1.43	159.8
Totals		174,375	14	100	2,875	-	174,375	100	11,144
I-110 NB from HBB to Anaheim									
	50	2,500	8	12.5	144	0.016	20,000	100.00	1,155.6
Totals		2,500	8	12.5	144	0.016	20,000	100.00	1,155.6
I-110 SB from Anaheim to HBB									
	50	2,500	6	16.7	121	0.014	15,000	100.00	725.4
Totals		2,500	6	16.7	121	0.014	15,000	100.00	725.4

Table H6-A1.28. Volume Source Dimensions and NO2 Emissions Simulations - Berths 136-147 Terminal Proposed Project.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source NO2 Lbs/Year	Source NO2 Lbs/Hour	Combined Source Area (m2)	% of Total Source Area	Combined Source Emissions (lbs/yr)
I-110 SB Offramp									
	15	225	11	9.1	47	0.005	2,475	100.00	517.0
Totals		225	11	9.1	47	0.005	2,475	100.00	517.0
I-110 NB Offramp to HBB									
	21	441	12	8.3	11	0.0013	5,292	100.00	133.3
Totals		441	12	8.3	11	0.001	5,292	100.00	133.3
HBB - Figueroa St. to I-110 NB Off-ramp									
	32	1,024	4	25.0	168	0.019	4,096	100.00	673.4
Totals		1,024	4	25.0	168	0.019	4,096	100.00	673.4
HBB - I-110 NB Off-ramp to Fries Ave.									
	32	1,024	18	5.6	190	0.022	18,432	100.00	3,418.0
Totals		1,024	18	5.6	190	0.022	18,432	100.00	3,418.0
HBB - Fries Ave. to Alameda									
	32	1,024	13	7.7	60	0.007	13,312	100.00	779.5
Totals		1,024	13	7.7	60	0.007	13,312	100.00	779.5
Alameda - HBB to Anaheim									
	32	1,024	16	6.3	61	0.007	16,384	100.00	974.4
Totals		1,024	16	6.3	61	0.007	16,384	100.00	974.4
Fries Ave. - HBB to Water St.									
	25	625	8	12.5	215	0.025	5,000	100.00	1,723.4
Totals		625	8	12.5	215	0.025	5,000	100.00	1,723.4
Water St. - Main Gate to Fries Ave.									
	25	625	5	20.0	151	0.017	3,125	100.00	754.0
Totals		625	5	20.0	151	0.017	3,125	100.00	754.0
Main Gate									
	70	4,900	3	33.3	521	0.059	14,700	100.00	1,562.0
Totals		4,900	3	33.3	521	0.059	14,700	100.00	1,562.0
Fries Ave. - Water St. to Pier A St.									
	25	625	3	33.3	151	0.017	1,875	100.00	452.4
Totals		625	3	33.3	151	0.017	1,875	100.00	452.4
Pier A St. - Fries Ave. to PAS Gate									
	25	625	22	4.5	57	0.007	13,750	100.00	1,259.0
Totals		625	22	4.5	57	0.007	13,750	100.00	1,259.0
Pier A St. Gate									
	35	1,225	4	25.0	112	0.013	4,900	100.00	446.3
Totals		1,225	4	25.0	112	0.013	4,900	100.00	446.3

TableC2-37. Hourly On-Terminal Truck Emissions for the Berths 136-147 Terminal Project - Alternative 1.

Location/Project Scenario - Mode	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
On-Terminal								
Subtotal - Year 2003	3.9	3.4	19.1	51.4	13.2	0.3	1.7	1.5
Subtotal - Year 2007	3.1	2.7	14.0	36.3	9.4	0.0	1.0	0.9
Subtotal - Year 2010	5.1	4.5	13.8	48.1	12.4	0.0	0.5	0.5
Subtotal - Year 2015	1.8	1.6	10.4	16.5	4.3	0.0	0.4	0.4
Subtotal - Year 2030	2.0	1.7	11.4	16.1	4.2	0.0	0.4	0.3

Table C3-A1-Mit-20 . Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour					# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	
I-110 NB from HBB to Anaheim	0.50	35	199	0.09	0.36	0.32	0.00	0.04	8
I-110 SB from Anaheim to HBB	0.37	40	172	0.05	0.22	0.20	0.00	0.02	6
I-110 SB Offramp	0.23	25	172	0.05	0.18	0.14	0.00	0.02	11
I-110 NB Offramp to HBB	0.31	40	38	0.01	0.04	0.04	0.00	0.00	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	372	0.05	0.21	0.18	0.00	0.02	4
HBB - I-110 NB Offramp to Fries Av	0.72	35	410	0.26	1.06	0.94	0.01	0.11	18
HBB - Fries Ave. to Alameda	0.52	35	129	0.06	0.24	0.21	0.00	0.03	13
Alameda - HBB to Anaheim	0.65	35	129	0.07	0.30	0.27	0.00	0.03	16
Fries Ave. - HBB to Water St.	0.25	25	539	0.17	0.60	0.47	0.01	0.06	8
Water St. - Fries A. to Main Gate	0.16	25	377	0.08	0.26	0.21	0.00	0.03	5
Gate - Main	0.13	5	377	0.54	0.81	0.43	0.00	0.04	3
Fries Ave. - Water St. to Pier A St.	0.22	25	162	0.05	0.16	0.12	0.00	0.02	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	162	0.10	0.39	0.34	0.00	0.04	22
Gate - Pier A St.	0.09	5	162	0.15	0.23	0.12	0.00	0.01	4
Notes: (1) Based on 365 days per year and 24 hours per day.				17.3	50.5	154.8	0.5	4.6	

Link	I-110 NB from	I-110 SB from	I-110 SB Offr	I-110 NB Offr	HBB - Fig. St	HBB - I-110 N	HBB - Fries A	Alameda - HE
(Mi)	0	0	0	0	0	1	1	1
MPH	35	40	25	40	35	35	35	35
PHT	199	172	172	38	372	410	129	129
TOG	0.09	0.05	0.05	0.01	0.05	0.26	0.06	0.07
CO	0.36	0.22	0.18	0.04	0.21	1.06	0.24	0.30
NO2	0.32	0.20	0.14	0.04	0.18	0.94	0.21	0.27
SOx	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
PM10	0.04	0.02	0.02	0.00	0.02	0.11	0.03	0.03
Sources	8	6	11	12	4	18	13	16

Fries Ave. - H	Water St. - F	Gate - Main	Fries Ave. - V	Pier A St. - F	Gate - Pier A
0	0	0	0	1	0
25	25	5	25	35	5
539	377	377	162	162	162
0.17	0.08	0.54	0.05	0.10	0.15
0.60	0.26	0.81	0.16	0.39	0.23
0.47	0.21	0.43	0.12	0.34	0.12
0.01	0.00	0.00	0.00	0.00	0.00
0.06	0.03	0.04	0.02	0.04	0.01
8	5	3	3	22	4

TableC2-49. Summary of Hourly Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project Alternative 1

Project Scenario/Source Activity	Pounds per Hour						
	TOG	ROG	CO	NOx	NO2	SOx	PM10
Project Year 2010							
ICTF Equipment	1.1	1.0	5.0	10.2	2.6	0.0	0.5
Trains - Road Haul	4.5	4.0	10.0	54.7	14.1	1.2	1.5
Outbound Trains - Rail Yard	0.3	0.3	1.2	4.1	1.1	0.0	0.1
Inbound Trains - Rail Yard	0.8	0.7	1.8	9.9	2.5	0.2	0.3

Table D1.2.PPMit-. Mitigated Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions
Berths 136-147 Terminal Project Alternative 1 Year 2010

ICTF/Train Direction/Source Activity	Tons per Year				
	ROG	CO	NOx	SOx	PM10
Berths 136-147/Outbound					
Hostler	0.47	2.81	4.69	0.00	0.22
Top Picks	0.23	0.79	2.66	0.00	0.11
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04
Yard Locomotive - Switching	0.09	0.36	1.20	0.00	0.03
Subtotal	4.10	12.31	54.37	1.04	1.63
Berths 136-147/Inbound					
Hostler	0.17	1.05	1.76	0.00	0.08
Top Picks	0.09	0.30	1.00	0.00	0.04
Line Haul Locomotive - Road Haul	3.21	8.08	44.31	0.99	1.23
Line Haul Locomotive - Notch 1	0.11	0.28	1.52	0.03	0.04
Subtotal	3.58	9.71	48.58	1.03	1.40
Carson or LA Railyards/Outbound					
Hostler	1.05	6.33	10.56	0.01	0.49
Top Picks	0.52	1.79	6.01	0.01	0.25
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56
Line Haul Locomotive - Notch 1	0.50	1.25	6.85	0.15	0.19
Yard Locomotive - Switching	0.21	0.84	2.84	0.00	0.08
Subtotal	8.96	27.04	118.55	2.24	3.57
Carson or LA Railyards/Inbound					
Hostler	0.39	2.38	3.96	0.00	0.18
Top Picks	0.20	0.67	2.25	0.00	0.09
Line Haul Locomotive - Road Haul	6.68	16.83	92.28	2.07	2.56
Line Haul Locomotive - Notch 1	0.25	0.62	3.43	0.08	0.10
Subtotal	7.52	20.50	101.92	2.15	2.94
Total Tons Per Year	24.16	69.56	323.42	6.46	9.54

Table D1.2.PPMit-. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions
Berths 136-147 Terminal Project Alternative 1 Year 2015

	Tons per Year				
ICTF/Train Direction/Source Activity	ROG	CO	NOx	SOx	PM10
Berths 136-147/Outbound					
Hostler	0.73	8.25	0.73	0.01	0.04
Top Picks	0.48	2.33	0.48	0.01	0.02
Line Haul Locomotive - Road Haul	8.70	23.71	121.50	0.09	3.20
Line Haul Locomotive - Notch 1	0.30	0.81	4.17	0.00	0.11
Yard Locomotive - Switching	0.26	1.04	0.35	0.00	0.01
Subtotal	10.47	36.14	127.23	0.11	3.38
Berths 136-147/Inbound					
Hostler	0.28	3.09	0.28	0.00	0.01
Top Picks	0.18	0.87	0.18	0.00	0.01
Line Haul Locomotive - Road Haul	8.70	23.71	121.50	0.09	3.20
Line Haul Locomotive - Notch 1	0.30	0.81	4.17	0.00	0.11
Subtotal	9.46	28.49	126.12	0.10	3.33
Carson or LA Railyards/Outbound					
Hostler	0.15	1.63	0.15	0.00	0.01
Top Picks	0.09	0.46	0.09	0.00	0.00
Line Haul Locomotive - Road Haul	1.59	4.34	22.26	0.02	0.59
Line Haul Locomotive - Notch 1	0.12	0.32	1.65	0.00	0.04
Yard Locomotive - Switching	0.05	0.22	0.07	0.00	0.00
Subtotal	2.01	6.98	24.22	0.02	0.64
Carson or LA Railyards/Inbound					
Hostler	0.05	0.61	0.05	0.00	0.00
Top Picks	0.04	0.17	0.04	0.00	0.00
Line Haul Locomotive - Road Haul	1.59	4.34	22.26	0.02	0.59
Line Haul Locomotive - Notch 1	0.06	0.16	0.83	0.00	0.02
Subtotal	1.74	5.29	23.17	0.02	0.61
Total Tons Per Year	23.68	76.89	300.75	0.25	7.97

Table D1.2.PPMit-. Mitigated Annual Train and Rail Yard Cargo Handling Equipment Emissions
Berths 136-147 Terminal Project Alternative 1 Year 2038

ICTF/Train Direction/Source Activity	Tons per Year				
	ROG	CO	NOx	SOx	PM10
Berths 136-147/Outbound					
Hostler	0.93	10.45	0.93	0.01	0.05
Top Picks	0.61	2.95	0.61	0.01	0.03
Line Haul Locomotive - Road Haul	7.83	30.06	117.68	0.11	2.80
Line Haul Locomotive - Notch 1	0.27	1.03	4.04	0.00	0.10
Yard Locomotive - Switching	0.33	1.32	0.45	0.00	0.01
Subtotal	9.97	45.82	123.70	0.14	2.99
Berths 136-147/Inbound					
Hostler	0.35	3.92	0.35	0.01	0.02
Top Picks	0.23	1.11	0.23	0.00	0.01
Line Haul Locomotive - Road Haul	7.83	30.06	117.68	0.11	2.80
Line Haul Locomotive - Notch 1	0.27	1.03	4.04	0.00	0.10
Subtotal	8.68	36.12	122.29	0.12	2.93
Carson or LA Railyards/Outbound					
Hostler	0.23	2.60	0.23	0.00	0.01
Top Picks	0.15	0.73	0.15	0.00	0.01
Line Haul Locomotive - Road Haul	1.80	6.91	27.05	0.03	0.64
Line Haul Locomotive - Notch 1	0.13	0.51	2.01	0.00	0.05
Yard Locomotive - Switching	0.09	0.35	0.12	0.00	0.00
Subtotal	2.40	11.11	29.56	0.03	0.71
Carson or LA Railyards/Inbound					
Hostler	0.09	0.98	0.09	0.00	0.00
Top Picks	0.06	0.28	0.06	0.00	0.00
Line Haul Locomotive - Road Haul	1.80	6.91	27.05	0.03	0.64
Line Haul Locomotive - Notch 1	0.07	0.26	1.00	0.00	0.02
Subtotal	2.01	8.42	28.20	0.03	0.68
Total Tons Per Year	23.06	101.46	303.76	0.33	7.30

Berths 136-147 Terminal Project Alternative 1.

Project Scenario/Equipment Horsepower	Pounds per Hour						
	TOG	ROG	CO	NOx	NO2	SOx	PM10
Baseline - Year 2003	12.9	11.3	43.3	155.7	40.2	2.1	6.7
Project Year 2007	12.6	11.0	49.9	168.9	43.6	0.1	5.2
Project Year 2010	20.4	17.9	81.7	187.5	48.4	0.2	8.1
Project Year 2015	16.2	14.2	83.0	47.2	12.2	0.2	2.0
Project Year 2030	16.5	14.5	84.7	45.1	11.6	0.2	1.9

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sourc	Source Are	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
Terminal Equipment	1	450			21.98	13.01	2.18	2.01
	2	400			17.36	10.28	1.73	1.59
	2	400			17.36	10.28	1.73	1.59
	1	250			6.78	4.01	0.67	0.62
	5	175			3.32	1.97	0.33	0.30
	5	175			3.32	1.97	0.33	0.30
	5	175			3.32	1.97	0.33	0.30
	5	175			3.32	1.97	0.33	0.30
	5	125			1.70	1.00	0.17	0.15
	2	100			1.09	0.64	0.11	0.10
	2	100			1.09	0.64	0.11	0.10
	1	100			1.09	0.64	0.11	0.10
Terminal Trucks	1	450			3.71	3.33	0.14	0.13
	2	400			2.93	2.64	0.11	0.11
	2	400			2.93	2.64	0.11	0.11
	1	250			1.14	1.03	0.04	0.04
	5	175			0.56	0.50	0.02	0.02
	5	175			0.56	0.50	0.02	0.02
	5	175			0.56	0.50	0.02	0.02
	5	175			0.56	0.50	0.02	0.02
	5	125			0.29	0.26	0.01	0.01
	2	100			0.18	0.16	0.01	0.01
	2	100			0.18	0.16	0.01	0.01
	1	100			0.18	0.16	0.01	0.01
ICTF - Trains	2	125			0.25	0.22	0.02	0.02
	2	125			0.25	0.22	0.02	0.02
	2	100			0.16	0.14	0.02	0.01
	2	100			0.16	0.14	0.02	0.01
	3	75			0.09	0.08	0.01	0.01
	3	75			0.09	0.08	0.01	0.01
	3	75			0.09	0.08	0.01	0.01
	3	50			0.04	0.03	0.00	0.00
	3	50			0.04	0.03	0.00	0.00
	3	50			0.04	0.03	0.00	0.00
ICTF - Equipment	2	125			1.04	0.55	0.09	0.09
	2	125			1.04	0.55	0.09	0.09
	2	100			0.66	0.35	0.06	0.06
	2	100			0.66	0.35	0.06	0.06
	3	75			0.37	0.20	0.03	0.03
	3	75			0.37	0.20	0.03	0.03
	3	75			0.37	0.20	0.03	0.03
	3	50			0.17	0.09	0.02	0.01
	3	50			0.17	0.09	0.02	0.01
	3	50			0.17	0.09	0.02	0.01
I-110 NB from HBB to Anaheim	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
	8	50			0.04	0.04	0.00	0.00
I-110 SB from Anaheim to HBB	6	50			0.04	0.03	0.00	0.00
	6	50			0.04	0.03	0.00	0.00
	6	50			0.04	0.03	0.00	0.00
	6	50			0.04	0.03	0.00	0.00
	6	50			0.04	0.03	0.00	0.00
	6	50			0.04	0.03	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sourc	Source Ar	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
I-110 SB Offramp	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
	11	15			0.02	0.01	0.00	0.00
I-110 NB Offramp to HBB	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
	12	21			0.00	0.00	0.00	0.00
HBB - Fig. St. to I-110 NB Offramp	4	32			0.05	0.05	0.01	0.00
	4	32			0.05	0.05	0.01	0.00
	4	32			0.05	0.05	0.01	0.00
	4	32			0.05	0.05	0.01	0.00
HBB - I-110 NB Offramp to Fries Ave.	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
	18	32			0.06	0.05	0.01	0.01
HBB - Fries Ave. to Alameda	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	13	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sourc	Source Ar	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
Alameda - HBB to Anaheim	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00
	16	32			0.02	0.02	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sourc	Source Ar	Pollutant	Criteria Pollutants	Carbon Monoxide	Nitrogen Dioxide	PM10	PM2.5
			CAS #		630080	10102440		
Fries Ave. - HBB to Water St.	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
	8	25			0.07	0.06	0.01	0.01
Water St. - Fries A. to Main Gate	5	25			0.05	0.04	0.01	0.00
	5	25			0.05	0.04	0.01	0.00
	5	25			0.05	0.04	0.01	0.00
	5	25			0.05	0.04	0.01	0.00
	5	25			0.05	0.04	0.01	0.00
Gate - Main	3	70			0.27	0.14	0.01	0.01
	3	70			0.27	0.14	0.01	0.01
	3	70			0.27	0.14	0.01	0.01
Fries Ave. - Water St. to Pier A St.	3	25			0.05	0.04	0.01	0.00
	3	25			0.05	0.04	0.01	0.00
	3	25			0.05	0.04	0.01	0.00
Pier A St. - Fries Ave. to PAS Gate	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
	22	25			0.02	0.02	0.00	0.00
Gate - Pier A St.	4	35			0.06	0.03	0.00	0.00
	4	35			0.06	0.03	0.00	0.00
	4	35			0.06	0.03	0.00	0.00
	4	35			0.06	0.03	0.00	0.00

Alternative 1 - Hourl Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		PHL Railyard													
# of Sources		1	1	1	1	1	1	1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100	100	75	75	75	75	50
Pollutant	CAS #														
Criteria Pollutants															
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
PM10		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM2.5		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source	# of Sources	Source Area Width (m)	Pollutant CAS #	Criteria Pollutants	Carbon Monoxide 630080	Nitrogen Dioxide 10102440	PM10	PM2.5
Maneuvering - Vessel Transit Near	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
	37	100			1.24	4.19	0.76	0.71
Maneuvering - Near Berth Near	1	300			12.43	27.66	8.31	7.79
Maneuvering - Tug Transit Near	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
	37	100			0.15	0.42	0.04	0.03
Maneuvering - Tug Near Berth Near	1	300			3.71	6.59	0.92	0.86

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
Carbon Monoxide	630080	0.91	0.91	0.91	1.39	1.39	1.39
Nitrogen Dioxide	10102440	1.78	1.78	1.78	3.43	3.43	3.43
PM10		0.56	0.56	0.56	1.02	1.02	1.02
PM2.5		0.53	0.53	0.53	0.96	0.96	0.96

Table C3-A1-46. Locomotive Usage within the PHL Rail Yard - Berths 136-147 Terminal Project

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Year 2003 Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358
								552,318

Notes: (1) Activity data based on year 2003 annual usage.

PHL Locomotive Emission Factors - Berths 136-147 Terminal

Year/Source Type	Emission Factors (Gm/Hp-Hr)						
	TOG	ROG	CO	NOx	NO2	SOx	PM
Year 2010							
Line Haul Locomotive - Year 2010	0.58	0.51	1.28	7.02	1.81	0.158	0.20
Switch Yard Locomotive - Year 2010	0.68	0.60	2.40	8.10	2.09	0.005	0.23

Berths 136-147

TOG Speciation	CAS #	TOG Profile # 504	TOG Profile # 818	Max TOG Profile (1)	REL (ug/m3)	relative risk
		(% of TOG/100)				
Benzene	71432	0.022	0.02	0.022	1,300	0.00002
Formaldehyde	50000	0.001	0.147	0.147	94	0.00156
Xylenes	1210	0.0034		0.0034	22,000	0.00000
Methanol	67561		0.0003	0.0003	28,000	0.00000
MEK	78933		0.015	0.015	13,000	0.00000
m-Xylene	108383	0.0031	0.0061	0.0061	22,000	0.00000
o-Xylene	95476	0.0045	0.0034	0.0045	22,000	0.00000
p-Xylene	106423		0.00095	0.00095	22,000	0.00000
Styrene	100425		0.00058	0.00058	21,000	0.00000
Toluene	108883	0.022	0.015	0.022	37,000	0.00000
					Total	0.00158

Note: (1) All OGV sources use the greater of TOG profiles 504 or 818.

(2) All sources other then OGV use TOG profile 818.

Berths 136-147

TOG Speciation	CAS #	PM Profile # 111	PM Profile # 112	PM Profile # 116	PM Profile # 425	Max PM Profile (1)	REL (ug/m3)	relative risk
		(% of PM)/100						
Ammonia	7664417				0.0033	0.0033	3,200.0	0.0000
Arsenic	7440382	0.0003	0.0053		0.000004	0.0053	0.2	0.0279
Copper	7440508	0.0005			0.00003	0.0005	100.0	0.0000
Mercury	7439976				0.000026	0.000026	1.8	0.0000
Nickel	7440020	0.0055	0.0005		0.000016	0.0055	6.0	0.0009
Sulfates	9960	0.44	0.25	0.15	0.018	0.44	120.0	0.0037
Vanadium	7440622	0.0055		0.0055	0.000015	0.0055	30.0	0.0002
							Total PM	0.03268
							Total VOC	0.00158
							PM/VOC	20.6

Note: (1) All OGV sources use the greater of PM profiles 111, 112, 116, or 425.

(2) Locomotives use the greater of PM profiles 116 or 425.

(2) Tugboats, truck, and terminal equipment use PM profile 425.

CB - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description		Terminal Equipment							
# of Sources		1	1	1	1	1	1	1	1
Source Area Width (m)		360	350	315	210	195	175	160	160
Pollutant	CAS #								
Criteria Pollutants									
TOG		2.97	2.80	2.27	1.01	0.87	0.70	0.59	0.59
Carbon Monoxide	630080	9.49	8.97	7.27	3.23	2.78	2.24	1.87	1.87
Nitrogen Dioxide	10102440	8.72	8.24	6.67	2.97	2.56	2.06	1.72	1.72
Sulfur Dioxide	7446095	0.45	0.42	0.34	0.15	0.13	0.11	0.09	0.09
PM		1.54	1.46	1.18	0.52	0.45	0.36	0.30	0.30
TOG Speciation									
Benzene	71432	0.06	0.06	0.05	0.02	0.02	0.01	0.01	0.01
Formaldehyde	50000	0.44	0.41	0.33	0.15	0.13	0.10	0.09	0.09
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.04	0.04	0.03	0.02	0.01	0.01	0.01	0.01
m-Xylene	108383	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00
o-Xylene	95476	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.04	0.04	0.03	0.02	0.01	0.01	0.01	0.01
PM Speciation									
Ammonia	7664417	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	1	1	1	1	1	1	1	1	1	1
160	140	130	100	98	96	80	360	350	315	210
0.59	0.45	0.39	0.23	0.22	0.21	0.15	3.57	3.38	2.74	1.22
1.87	1.44	1.24	0.73	0.70	0.67	0.47	7.24	6.85	5.55	2.46
1.72	1.32	1.14	0.67	0.65	0.62	0.43	3.67	3.47	2.81	1.25
0.09	0.07	0.06	0.03	0.03	0.03	0.02	0.09	0.09	0.07	0.03
0.30	0.23	0.20	0.12	0.11	0.11	0.08	0.85	0.81	0.65	0.29
0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.07	0.07	0.05	0.02
0.09	0.07	0.06	0.03	0.03	0.03	0.02	0.53	0.50	0.40	0.18
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.05	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.05	0.05	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Terminal Trucks										
1	1	1	1	1	1	1	1	1	1	1
195	175	160	160	160	140	130	100	98	96	80

1.05	0.84	0.71	0.71	0.71	0.54	0.47	0.28	0.26	0.25	0.18
2.13	1.71	1.43	1.43	1.43	1.10	0.94	0.56	0.54	0.52	0.36
1.08	0.87	0.73	0.73	0.73	0.56	0.48	0.28	0.27	0.26	0.18
0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
0.25	0.20	0.17	0.17	0.17	0.13	0.11	0.07	0.06	0.06	0.04

0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
0.15	0.12	0.10	0.10	0.10	0.08	0.07	0.04	0.04	0.04	0.03
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 NB from C St. to Anaheim								I-110 SB from A		
8	8	8	8	8	8	8	8	6	6	6
50	50	50	50	50	50	50	50	50	50	50

0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02	0.02	0.02
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.08	0.08	0.08
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ıaheim to C St.			I-110 SB Offramp to C St.							
6	6	6	10	10	10	10	10	10	10	10
50	50	50	15	15	15	15	15	15	15	15

0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		I-110 NB Offramp to C St.								I
10	10	8	8	8	8	8	8	8	8	5
15	15	25	25	25	25	25	25	25	25	50
0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21
0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
0.08	0.08	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.17
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figueroa St. - C St. to Main Gate										
5	5	5	5	24	24	24	24	24	24	24
50	50	50	50	27	27	27	27	27	27	27

0.21	0.21	0.21	0.21	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.18	0.18	0.18	0.18	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.17	0.17	0.17	0.17	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.07	0.07	0.07	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HBB - East of Main Gate to Fries Ave.

24	24	24	24	24	24	24	24	24	24	24
27	27	27	27	27	27	27	27	27	27	27

0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

24	24	24	24	24	24	15	15	15	15	15
27	27	27	27	27	27	27	27	27	27	27

0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HBB - Fries Ave. to Alameda										
15	15	15	15	15	15	15	15	15	15	28
27	27	27	27	27	27	27	27	27	27	27

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

28	28	28	28	28	28	28	28	28	28	28
27	27	27	27	27	27	27	27	27	27	27

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alameda St - HBB to Anaheim St.

28	28	28	28	28	28	28	28	28	28	28
27	27	27	27	27	27	27	27	27	27	27

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

					Fries Ave. - HBB to Water					
28	28	28	28	28	10	10	10	10	10	10
27	27	27	27	27	25	25	25	25	25	25

0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03
0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03
0.02	0.02	0.02	0.02	0.02	0.07	0.07	0.07	0.07	0.07	0.07
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

St.										
10	10	10	10	23	23	23	23	23	23	23
25	25	25	25	25	25	25	25	25	25	25

0.03	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.03	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.07	0.07	0.07	0.07	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pier A St. - Water St. to PAS Gate

23	23	23	23	23	23	23	23	23	23	23
25	25	25	25	25	25	25	25	25	25	25

0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

					Main Gate Road - HBB to Gate			Gate - Main		Gate - W
23	23	23	23	23	3	3	3	2	2	2
25	25	25	25	25	15	15	15	25	25	25
0.01	0.01	0.01	0.01	0.01	0.15	0.15	0.15	0.23	0.23	0.16
0.01	0.01	0.01	0.01	0.01	0.13	0.13	0.13	0.20	0.20	0.14
0.02	0.02	0.02	0.02	0.02	0.11	0.11	0.11	0.16	0.16	0.11
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.06	0.06	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.03	0.03	0.02
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Water St.	Gate - Pier A St.	
2	2	2
25	25	25

0.16	0.05	0.05
0.14	0.04	0.04
0.11	0.03	0.03
0.00	0.00	0.00
0.04	0.01	0.01

0.00	0.00	0.00
0.02	0.01	0.01
-	-	-
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

CB - Hourly Acute Emission Rates Scenario 2 (2010)									
Stack Description		PHL Railyard							
# of Sources		1	1	1	1	1	1	1	1
Source Area Width (m)		120	118	105	105	100	85	65	54
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.06	0.06	0.05	0.05	0.04	0.03	0.02	0.01
Carbon Monoxide	630080	0.08	0.08	0.06	0.06	0.06	0.04	0.02	0.02
Nitrogen Dioxide	10102440	0.20	0.19	0.15	0.15	0.14	0.10	0.06	0.04
Sulfur Dioxide	7446095	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01
PM		0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
TOG Speciation									
Benzene	71432	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Formaldehyde	50000	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Xylene	108383	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	1	1	1
50	48	48	36
0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01
0.03	0.03	0.03	0.02
0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
-	-	-	-
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00

CB - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel							
total # of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Carbon Monoxide	630080	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Nitrogen Dioxide	10102440	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
Sulfur Dioxide	7446095	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
PM		0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
TOG Speciation									
Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Formaldehyde	50000	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100

1.20	1.20	1.20	1.20	1.20	1.20	1.20	0.03	0.03	0.03	0.03
1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.15	0.15	0.15	0.15
3.78	3.78	3.78	3.78	3.78	3.78	3.78	0.42	0.42	0.42	0.42
3.86	3.86	3.86	3.86	3.86	3.86	3.86	0.00	0.00	0.00	0.00
0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.04	0.04	0.04	0.04

0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CB - Hourly Acute Emission Rates Scenario 2 (2010)

Source									
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Carbon Monoxide	630080	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Nitrogen Dioxide	10102440	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
Sulfur Dioxide	7446095	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
PM		0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
TOG Speciation									
Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Formaldehyde	50000	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Vessel Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100

1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78	3.78
3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86	3.86
0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81

0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Maneuvering - Near Berth Near							
37	37	37	1	37	37	37	37	37	37	37
100	100	100	300	100	100	100	100	100	100	100

1.20	1.20	1.20	15.39	0.03	0.03	0.03	0.03	0.03	0.03	0.03
1.04	1.04	1.04	10.37	0.15	0.15	0.15	0.15	0.15	0.15	0.15
3.78	3.78	3.78	24.94	0.47	0.47	0.47	0.47	0.47	0.47	0.47
3.86	3.86	3.86	34.60	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.81	0.81	0.81	8.87	0.04	0.04	0.04	0.04	0.04	0.04	0.04

0.03	0.03	0.03	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.18	0.18	0.18	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.06	-	-	-	-	-	-	-
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.36	0.36	0.36	4.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100

0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Maneuvering - Tug Near Berth Near
37	37	37	37	1
100	100	100	100	300
0.03	0.03	0.03	0.03	0.82
0.15	0.15	0.15	0.15	3.71
0.47	0.47	0.47	0.47	7.38
0.07	0.07	0.07	0.07	1.60
0.04	0.04	0.04	0.04	0.98
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.12
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00

CB - Hourly Acute Emission Rates Scenario 2 (2010)

Stack Description		3000_VH1 (Hoteling - <3kVessel)		
Stack ID #		3001	3002	3003
# of Sources		3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #			
Criteria Pollutants				
TOG		0.44	0.44	0.44
Carbon Monoxide	630080	1.19	1.19	1.19
Nitrogen Dioxide	10102440	2.76	2.76	2.76
Sulfur Dioxide	7446095	11.58	11.58	11.58
PM		0.93	0.93	0.93
TOG Speciation				
Benzene	71432	0.01	0.01	0.01
Formaldehyde	50000	0.06	0.06	0.06
Xylenes	1210	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00
MEK	78933	0.01	0.01	0.01
m-Xylene	108383	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00
Toluene	108883	0.01	0.01	0.01
PM Speciation				
Ammonia	7664417	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00
Nickel	7440020	0.01	0.01	0.01
Sulfates	9960	0.41	0.41	0.41
Vanadium	7440622	0.01	0.01	0.01

Table C2-34. Hourly Vessel Emissions - Berths 136-147 Terminal Project - NFAB.

	Pounds per Hour (1)								
Vessel Type	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5	
Fairway Transit									
Containerships 8,000 - 9,000 TEU	2.5	1.7	4.9	59.6		41.0	2.4		
Containerships 5,000 - 6,000 TEU	1.7	1.2	3.4	41.3		29.1	1.7		
Containerships 3,000 - 5,000 TEU	1.0	0.7	2.0	23.4		17.5	1.0		
Containerships < 3,000 TEU	0.6	0.4	1.3	14.9		12.0	0.6		
Precautionary Area Transit									
Containerships 8,000 - 9,000 TEU	48.3	33.3	50.4	381.3	179.2	254.6	58.2		
Containerships 5,000 - 6,000 TEU	30.4	20.9	37.0	318.9	149.9	244.2	47.1		
Containerships 3,000 - 5,000 TEU	18.3	12.7	24.2	224.9	105.7	184.6	33.4		
Containerships < 3,000 TEU	7.9	5.4	12.6	149.6	70.3	136.0	21.1		
Harbor Transit									
Containerships 8,000 - 9,000 TEU	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Containerships 5,000 - 6,000 TEU	36.1	24.9	38.4	284.6	132.9	122.0	23.9	22.41	
Containerships 3,000 - 5,000 TEU	24.4	16.8	25.9	186.0	86.9	82.2	15.8	14.79	
Containerships < 3,000 TEU	12.8	8.8	13.9	97.3	45.5	48.2	8.3	7.80	
Docking									
Containerships 8,000 - 9,000 TEU	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Containerships 5,000 - 6,000 TEU	12.5	8.6	10.4	79.0	23.7	29.7	7.0	6.58	
Containerships 3,000 - 5,000 TEU	8.4	5.8	7.0	51.7	15.5	20.0	4.6	4.36	
Containerships < 3,000 TEU	4.4	3.0	3.8	27.0	8.1	11.9	2.5	2.30	
Hoteling									
Containerships 8,000 - 9,000 TEU	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
Containerships 5,000 - 6,000 TEU	1.6	1.1	4.2	39.9	10.3	36.4	3.1	2.87	
Containerships 3,000 - 5,000 TEU	1.3	0.9	3.6	32.5	8.4	32.3	2.5	2.37	
Containerships < 3,000 TEU	0.9	0.6	2.7	20.7	5.4	25.9	1.7	1.58	
Tugboats					NO2 (HT)			NO2 (Docking)	PM2.5
Tugboats - Cargo Vessel Assist 2003 baseline	2.1	1.8	9.3	61.5	28.7	4.0	2.4	18.4	
Tugboats - Cargo Vessel Assist 2007	2.0	1.8	9.3	58.0	27.1	0.0	2.4	17.4	
Tugboats - Cargo Vessel Assist 2010	2.6	1.8	9.3	54.9	25.6	0.0	2.3	16.5	2.14
Tugboats - Cargo Vessel Assist 2015	2.0	1.8	9.3	49.8	23.2	0.0	2.1	14.9	
Tugboats - Cargo Vessel Assist 2030	2.0	1.7	9.3	37.1	17.3	0.0	1.6	11.1	

Notes (1) Values for Precautionary Area Transit, Harbor Transit, and Docking are given in pounds per activity since these activities last less than one hour in duration.

TableC2-34. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - NFAB

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips (3)	Truck Miles to Offsite Railyard (4)	Local Truck Trip Miles (5)	Composite VMT/ Truck Trip
Baseline - Year 2003	891,976	-	445,988	445,988	598,795	598,795	11.3	20.0	15.7
Year 2007	1,038,400	-	519,200	519,200	719,925	719,925	11.3	20.0	15.7
Year 2010	1,346,800	188,339	360,942	797,519	495,116	1,093,981	11.3	20.0	17.3
Year 2015	1,491,000	552,709	12,380	925,911	17,036	1,274,124	11.3	20.0	19.9
Year 2030	1,697,000	700,810	123,881	872,309	149,251	1,050,954	11.3	20.0	18.9

(1) Annual throughput estimates from Rail Master Plan.

(2) Based on 50/50/26.8/6.7/7.3% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(3) Based on 50/50/61.4/62.1/63.4% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(4) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average local trip length with origin/destination at the POLA.

West Basin Container Terminal Daily Trips

ADT Estimates - Berths 136-147

Alternative/Project Year	Truck Trips		
	Annual	ADT	Peak Daily (1)
2003 - Baseline	1,197,589	3,281	4,492
2007	1,439,850	3,945	5,401
2010	1,589,097	4,354	5,961
2015	1,291,160	3,537	4,843
2030	1,200,205	3,288	4,502

(1) = annual trips/ 266.6 days.

TableC2-37. Hourly On-Terminal Truck Emissions for the Berths 136-147 Terminal Project - NI

Location/Project Scenario - Mode	Pounds per Hour						
	TOG	ROG	CO	NOx	NO2	SOx	PM10
On-Terminal							
Subtotal - Year 2003	3.9	3.4	19.1	51.4	13.2	0.3	1.7
Subtotal - Year 2007	3.0	2.7	13.3	37.8	9.8	0.0	1.0
Subtotal - Year 2010	2.1	1.8	7.5	31.4	8.1	0.0	0.1
Subtotal - Year 2015	6.4	5.6	15.4	48.5	12.5	0.1	0.8
Subtotal - Year 2030	1.2	1.1	6.7	15.5	4.0	0.0	0.3

TableC2-49. Summary of Hourly Train and Rail Yard Cargo Handling Equipment Emissions - Berths 136-147 Terminal Project NFAB

Project Scenario/Source Activity	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Project Year 2010								
ICTF Equipment	0.6	0.6	2.9	6.0	1.6	0.0	0.3	0.25
Trains - Road Haul	2.7	2.3	26.3	2.3	0.6	0.0	0.1	0.11
Outbound Trains - Rail Yard	0.7	0.6	5.5	0.6	0.1	0.0	0.0	0.03
Inbound Trains - Rail Yard	0.5	0.4	4.7	0.4	0.1	0.0	0.0	0.02
Project Year 2015								
ICTF Equipment	0.1	0.1	2.6	0.9	0.2	0.0	0.0	
Trains - Road Haul	4.2	3.7	10.0	51.1	13.2	0.0	1.3	
Outbound Trains - Rail Yard	1.1	1.0	3.0	13.3	3.4	0.0	0.4	
Inbound Trains - Rail Yard	0.7	0.7	1.8	9.2	2.4	0.0	0.2	
Project Year 2030								
ICTF Equipment	0.1	0.1	2.6	0.3	0.1	0.0	0.0	
Trains - Road Haul	3.3	2.9	10.0	41.9	10.8	0.0	1.0	
Outbound Trains - Rail Yard	0.9	0.8	3.0	11.6	3.0	0.0	0.3	
Inbound Trains - Rail Yard	0.6	0.5	1.8	7.5	1.9	0.0	0.2	

TableC2-56. Terminal Equipment Peak Hourly Emissions for the 8 AM to 5 PM Shift - Berths 136-147 Terminal Project NFAB.

Project Scenario/Equipment Horsepower	Pounds per Hour							
	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5
Baseline - Year 2003	14.0	12.3	44.9	159.7	41.2	2.1	7.3	
Project Year 2007	17.5	15.4	56.4	180.1	46.5	0.1	7.8	
Project Year 2010	17.4	15.3	69.7	159.9	41.3	0.1	6.9	6.4
Project Year 2015	3.7	3.3	65.7	24.7	6.4	0.2	0.9	
Project Year 2030	3.7	3.2	74.7	12.1	3.1	0.2	0.9	

	A	B	C	D	E
1	Berths 136-147				
2			TOG Profile # 504	TOG Profile # 818	Max TOG Profile (1)
3	TOG Speciation	CAS #	(% of TOG/100)		
4	Benzene	71432	0.022	0.02	0.022
5	Formaldehyde	50000	0.001	0.147	0.147
6	Xylenes	1210	0.0034		0.0034
7	Methanol	67561		0.0003	0.0003
8	MEK	78933		0.015	0.015
9	m-Xylene	108383	0.0031	0.0061	0.0061
10	o-Xylene	95476	0.0045	0.0034	0.0045
11	p-Xylene	106423		0.00095	0.00095
12	Styrene	100425		0.00058	0.00058
13	Toluene	108883	0.022	0.015	0.022
14	Note: (1) All OGV sources use the greater of TOG profiles 504 or 818.				
15	(2) All sources other then OGV use TOG profile 818.				

	A	B	C	D	E	F	G
1	Berths 136-147						
2			PM Profile # 111	PM Profile # 112	PM Profile # 116	PM Profile # 425	Max PM Profile (1)
3	PM Speciation	CAS #	(% of PM)/100				
4	Ammonia	7664417				0.0033	0.0033
5	Arsenic	7440382	0.0003	0.0053		0.000004	0.0053
6	Copper	7440508	0.0005			0.00003	0.0005
7	Mercury	7439976				0.000026	0.000026
8	Nickel	7440020	0.0055	0.0005		0.000016	0.0055
9	Sulfates	9960	0.44	0.25	0.15	0.018	0.44
10	Vanadium	7440622	0.0055		0.0055	0.000015	0.0055
11	Note: (1) All OGV sources use the greater of PM profiles 111, 112, 116, or 425.						
12	(2) Locomotives use the greater of PM profiles 116 or 425.						
13	(2) Tugboats, truck, and terminal equipment use PM profile 425.						

NFAB - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Terminal Equipment							
# of Sources		1	2	2	1	5	5	5	5
Source Area Width (m)		450	400	400	250	175	175	175	175
Pollutant	CAS #								
Criteria Pollutants									
TOG		4.68	3.70	3.70	1.44	0.71	0.71	0.71	0.71
Carbon Monoxide	630080	18.75	14.81	14.81	5.79	2.83	2.83	2.83	2.83
Nitrogen Dioxide	10102440	11.09	8.77	8.77	3.42	1.68	1.68	1.68	1.68
Sulfur Dioxide	7446095	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01
PM		1.86	1.47	1.47	0.57	0.28	0.28	0.28	0.28
TOG Speciation									
Benzene	71432	0.09	0.07	0.07	0.03	0.01	0.01	0.01	0.01
Formaldehyde	50000	0.69	0.54	0.54	0.21	0.10	0.10	0.10	0.10
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.07	0.06	0.06	0.02	0.01	0.01	0.01	0.01
m-Xylene	108383	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00
o-Xylene	95476	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.07	0.06	0.06	0.02	0.01	0.01	0.01	0.01
PM Speciation									
Ammonia	7664417	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

										Terminal Trucks
5	2	2	1	1	2	2	1	5	5	5
125	100	100	100	450	400	400	250	175	175	175
0.36	0.23	0.23	0.23	0.56	0.44	0.44	0.17	0.08	0.08	0.08
1.45	0.93	0.93	0.93	2.02	1.60	1.60	0.62	0.31	0.31	0.31
0.86	0.55	0.55	0.55	2.18	1.72	1.72	0.67	0.33	0.33	0.33
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.14	0.09	0.09	0.09	0.02	0.02	0.02	0.01	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.05	0.03	0.03	0.03	0.08	0.07	0.07	0.03	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									ICTF -
5	5	2	2	1	2	2	2	2	3
175	125	100	100	100	125	125	100	100	75
0.08	0.04	0.03	0.03	0.03	0.13	0.13	0.09	0.09	0.05
0.31	0.16	0.10	0.10	0.10	1.13	1.13	0.72	0.72	0.41
0.33	0.17	0.11	0.11	0.11	0.03	0.03	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trains									
3	3	3	3	3	2	2	2	2	3
75	75	50	50	50	125	125	100	100	75
0.05	0.05	0.02	0.02	0.02	0.13	0.13	0.09	0.09	0.05
0.41	0.41	0.18	0.18	0.18	0.61	0.61	0.39	0.39	0.22
0.01	0.01	0.00	0.00	0.00	0.32	0.32	0.21	0.21	0.12
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.04	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

quipment					I-110 NB from HBB to Anah				
3	3	3	3	3	8	8	8	8	8
75	75	50	50	50	50	50	50	50	50
0.05	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.22	0.22	0.10	0.10	0.10	0.04	0.04	0.04	0.04	0.04
0.12	0.12	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

neim			I-110 SB from Anaheim to HBB						
8	8	8	6	6	6	6	6	6	11
50	50	50	50	50	50	50	50	50	15
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.01
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 SB Offramp									
11	11	11	11	11	11	11	11	11	11
15	15	15	15	15	15	15	15	15	15
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 NB Offramp to HBB									
12	12	12	12	12	12	12	12	12	12
21	21	21	21	21	21	21	21	21	21
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		HBB - Fig. St. to I-110 NB Offramp							
12	12	4	4	4	4	18	18	18	18
21	21	32	32	32	32	32	32	32	32
0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HBB - I-110 NB Offramp to Fries Ave.									
18	18	18	18	18	18	18	18	18	18
32	32	32	32	32	32	32	32	32	32
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									HBB - Fr
18	18	18	18	13	13	13	13	13	13
32	32	32	32	32	32	32	32	32	32
0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.02	0.02	0.02
0.04	0.04	0.04	0.04	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ies Ave. to Alameda									
13	13	13	13	13	13	13	16	16	16
32	32	32	32	32	32	32	32	32	32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alameda - HBB to Anaheim									
16	16	16	16	16	16	16	16	16	16
32	32	32	32	32	32	32	32	32	32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Fries Ave. - HBB to Water St.						
16	16	16	8	8	8	8	8	8	8
32	32	32	25	25	25	25	25	25	25
0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave.
8	5	5	5	5	5	3	3	3	3
25	25	25	25	25	25	70	70	70	25
0.02	0.01	0.01	0.01	0.01	0.01	0.15	0.15	0.15	0.01
0.06	0.04	0.04	0.04	0.04	0.04	0.22	0.22	0.22	0.04
0.05	0.03	0.03	0.03	0.03	0.03	0.12	0.12	0.12	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

. - Water St. to Pier A									
3	3	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pier A St. - Fries Ave. to PAS Gate

22	22	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Gate - Pier A St.			
22	22	22	22	4	4	4	4
25	25	25	25	35	35	35	35
0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.03
0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05
0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NFAB - Hourly Acut NFAB - Hourly Acute Emission Rates Scenario 2 (2010)

Source								PHL Railyard	
# of Sources		1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03
Sulfur Dioxide	7446095	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
PM		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
TOG Speciation									
Benzene	71432	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Formaldehyde	50000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Xylene	108383	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	1	1	1	1	1
100	75	75	75	75	50
0.01	0.01	0.01	0.01	0.01	0.00
0.04	0.02	0.02	0.02	0.02	0.01
0.03	0.02	0.02	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

NFAB - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel							
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Carbon Monoxide	630080	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Nitrogen Dioxide	10102440	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
Sulfur Dioxide	7446095	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
PM		0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
TOG Speciation									
Benzene	71432	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Formaldehyde	50000	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.04	0.04	0.04	0.04
1.04	1.04	1.04	1.04	1.04	1.04	1.04	0.15	0.15	0.15	0.15
3.59	3.59	3.59	3.59	3.59	3.59	3.59	0.42	0.42	0.42	0.42
3.30	3.30	3.30	3.30	3.30	3.30	3.30	0.00	0.00	0.00	0.00
0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.04	0.04	0.04	0.04
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

NFAB - Hourly Acute Emission Rates Scenario 2 (2010)

Source									
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Carbon Monoxide	630080	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Nitrogen Dioxide	10102440	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
Sulfur Dioxide	7446095	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
PM		0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
TOG Speciation									
Benzene	71432	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Formaldehyde	50000	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Vessel Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59	3.59
3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Maneuvering - Near Berth Near							
37	37	37	1	37	37	37	37	37	37	37
100	100	100	300	100	100	100	100	100	100	100
0.98	0.98	0.98	12.47	0.04	0.04	0.04	0.04	0.04	0.04	0.04
1.04	1.04	1.04	10.37	0.15	0.15	0.15	0.15	0.15	0.15	0.15
3.59	3.59	3.59	23.70	0.42	0.42	0.42	0.42	0.42	0.42	0.42
3.30	3.30	3.30	29.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.65	0.65	0.65	7.03	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.02	0.02	0.02	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.14	0.14	0.14	1.83	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.04	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.28	0.28	0.28	3.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Maneuvering - Tug Near Berth Near
37	37	37	37	1
100	100	100	100	300
0.04	0.04	0.04	0.04	1.04
0.15	0.15	0.15	0.15	3.71
0.42	0.42	0.42	0.42	6.59
0.00	0.00	0.00	0.00	0.01
0.04	0.04	0.04	0.04	0.92
0.00	0.00	0.00	0.00	0.02
0.01	0.01	0.01	0.01	0.15
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00

NFAB - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
TOG		0.28	0.28	0.28			
Carbon Monoxide	630080	0.91	0.91	0.91			
Nitrogen Dioxide	10102440	1.78	1.78	1.78			
Sulfur Dioxide	7446095	8.63	8.63	8.63			
PM		0.56	0.56	0.56			
TOG Speciation							
Benzene	71432	0.01	0.01	0.01	-	-	-
Formaldehyde	50000	0.04	0.04	0.04	-	-	-
Xylenes	1210	0.00	0.00	0.00	-	-	-
Methanol	67561	0.00	0.00	0.00	-	-	-
MEK	78933	0.00	0.00	0.00	-	-	-
m-Xylene	108383	0.00	0.00	0.00	-	-	-
o-Xylene	95476	0.00	0.00	0.00	-	-	-
p-Xylene	106423	0.00	0.00	0.00	-	-	-
Styrene	100425	0.00	0.00	0.00	-	-	-
Toluene	108883	0.01	0.01	0.01	-	-	-
PM Speciation							
Ammonia	7664417	0.00	0.00	0.00	-	-	-
Arsenic	7440382	0.00	0.00	0.00	-	-	-
Copper	7440508	0.00	0.00	0.00	-	-	-
Mercury	7439976	0.00	0.00	0.00	-	-	-
Nickel	7440020	0.00	0.00	0.00	-	-	-
Sulfates	9960	0.25	0.25	0.25	-	-	-
Vanadium	7440622	0.00	0.00	0.00	-	-	-

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	ourly Acute Emission Rates													
2	Source													
3	# of Sources		37	37	37	37	37	37	37	37	37	37	37	37
4	Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100
5	Pollutant	CAS #												
6	Criteria Pollutants													
7	TOG		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	Carbon Monoxide	630080	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	Nitrogen Dioxide	10102440	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	Sulfur Dioxide	7446095	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	PM		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12	TOG Speciation													
13	Benzene	71432	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
14	Formaldehyde	50000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
15	Xylenes	1210	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	Methanol	67561	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	MEK	78933	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	m-Xylene	108383	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	o-Xylene	95476	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
20	p-Xylene	106423	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
21	Styrene	100425	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
22	Toluene	108883	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23	PM Speciation													
24	Ammonia	7664417	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	Arsenic	7440382	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	Copper	7440508	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	Mercury	7439976	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	Nickel	7440020	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
29	Sulfates	9960	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	Vanadium	7440622	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
31														
32														
33														
34														
35														
36														

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1																
2	HT - 8-9kVessel															
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
11	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
12																
13	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
14	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
15	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
16	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
17	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
18	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
19	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
21	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
22	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
23																
24	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
25	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
26	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
27	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
28	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
29	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
30	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
31																
32																
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36																

	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
1																
2										Docking - 8-9kVessel	Hoteling - <3kVessel			Hoteling - 5-6kVessel		
3	37	37	37	37	37	37	37	37	37	1	3	3	3	3	3	3
4	100	100	100	100	100	100	100	100	100	300	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
5																
6																
7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	12.47	0.28	0.28	0.28			
8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	10.37	0.91	0.91	0.91			
9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	23.70	1.78	1.78	1.78			
10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	29.72	8.63	8.63	8.63			
11	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	7.03	0.56	0.56	0.56			
12																
13	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.27	0.01	0.01	0.01	-	-	-
14	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.83	0.04	0.04	0.04	-	-	-
15	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.04	0.00	0.00	0.00	-	-	-
16	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	-	-	-
17	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.19	0.00	0.00	0.00	-	-	-
18	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.08	0.00	0.00	0.00	-	-	-
19	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.06	0.00	0.00	0.00	-	-	-
20	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.01	0.00	0.00	0.00	-	-	-
21	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.01	0.00	0.00	0.00	-	-	-
22	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.27	0.01	0.01	0.01	-	-	-
23																
24	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.02	0.00	0.00	0.00	-	-	-
25	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.04	0.00	0.00	0.00	-	-	-
26	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	-	-	-
27	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00	0.00	0.00	0.00	-	-	-
28	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.04	0.00	0.00	0.00	-	-	-
29	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	3.09	0.25	0.25	0.25	-	-	-
30	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.04	0.00	0.00	0.00	-	-	-
31																
32																
33																
34																
35																
36																

	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ
1																
2																
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
1																
2		Tugboats -HT- 2010														
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP
1																
2						Tugboats - Docking - 2010	Trucks On-Terminal - 2010									
3	37	37	37	37	37	1	12	12	12	12	12	12	12	12	12	12
4	100	100	100	100	100	300	450	400	400	250	175	175	175	175	175	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	1.04	0.56	0.44	0.44	0.17	0.08	0.08	0.08	0.08	0.08	0.03
8	0.15	0.15	0.15	0.15	0.15	3.71	2.02	1.60	1.60	0.62	0.31	0.31	0.31	0.31	0.31	0.10
9	0.42	0.42	0.42	0.42	0.42	10.25	2.18	1.72	1.72	0.67	0.33	0.33	0.33	0.33	0.33	0.11
10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.92	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.15	0.08	0.07	0.07	0.03	0.01	0.01	0.01	0.01	0.01	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF
1																
2			I-110 NB from HBB to Anaheim								I-110 SB from Anaheim to HBB					
3	12	12	8	8	8	8	8	8	8	8	6	6	6	6	6	6
4	100	100														
5																
6																
7	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
8	0.10	0.10	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
9	0.11	0.11	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV
1																
2	I-110 SB Offramp															I-1
3	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	12
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL
1																
2	.10 NB Offramp to HBB							HBB - Fig. St. to I-110 NB Offramp								
3	12	12	12	12	12	12	12	4	4	4	4	18	18	18	18	18
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB
1																
2			HBB - I-110 NB Offramp to Fries Ave.													
3	18	18	18	18	18	18	18	18	18	18	18	18	18	13	13	13
4																
5																
6																
7	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
8	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.02
9	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.01	0.01	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR
1																
2			HBB - Fries Ave. to Alameda													
3	13	13	13	13	13	13	13	13	13	13	16	16	16	16	16	16
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH
1																
2	Alameda - HBB to Anaheim										Fries Ave. - HBB to Water St.					
3	16	16	16	16	16	16	16	16	16	16	8	8	8	8	8	8
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.06	0.06	0.06	0.06	0.06	0.06
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.05
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
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35																
36																

	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX
1																
2			Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave. - Water St. to Pier A St.					
3	8	8	5	5	5	5	5	3	3	3	3	3	3	22	22	22
4																
5																
6																
7	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.15	0.15	0.15	0.01	0.01	0.01	0.00	0.00	0.00
8	0.06	0.06	0.04	0.04	0.04	0.04	0.04	0.22	0.22	0.22	0.04	0.04	0.04	0.01	0.01	0.01
9	0.05	0.05	0.03	0.03	0.03	0.03	0.03	0.12	0.12	0.12	0.03	0.03	0.03	0.01	0.01	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN
1															Expanded	up
2	Pier A St. - Fries Ave. to PAS Gate															
3	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID
1	to	here	------>													
2				Gate - Pier A St.	Outbound - Rail Yard - 2010				ICTF Equipment - 2010				Terminal Equipment - 20			
3	22	22	22	4	2	2	3	3	2	2	3	3	1	2	1	5
4					125	100	75	50	125	100	75	50	450	400	250	175
5																
6																
7	0.00	0.00	0.00	0.03	0.13	0.09	0.05	0.02	0.13	0.09	0.05	0.02	4.68	3.70	1.44	0.71
8	0.01	0.01	0.01	0.05	1.13	0.72	0.41	0.18	0.61	0.39	0.22	0.10	18.75	14.81	5.79	2.83
9	0.01	0.01	0.01	0.03	0.03	0.02	0.01	0.00	0.32	0.21	0.12	0.05	11.09	8.77	3.42	1.68
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.01
11	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.04	0.02	0.01	1.86	1.47	0.57	0.32
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.07	0.03	0.01
14	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00	0.02	0.01	0.01	0.00	0.69	0.54	0.21	0.10
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06	0.02	0.01
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.01	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.06	0.02	0.01
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.01	0.01
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
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36																

	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT
1																
2	10		PHL Railyard 2010													
3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	100	100	200	150	125	125	125	100	100	100	100	75	75	75	75	50
5																
6																
7	0.23	0.23	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
8	0.93	0.93	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
9	0.55	0.55	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
10	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.09	0.09	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.03	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	BE	BF	BG	BH	BI	BJ	BK	BL
1	Table C2-34. Hourly Vessel Emissions - Berths 136-147 Terminal Project - Proposed Project							
2		Pounds per Hour (1)						
3	Vessel Type	TOG	ROG	CO	NOx	NO2	SOx	PM10
4	Fairway Transit							
5	Containerships 8,000 - 9,000 TEU	2.2	1.5	4.3	56.9		47.6	5.8
6	Containerships 5,000 - 6,000 TEU	2.1	1.4	3.9	52.4		43.8	5.3
7	Containerships 3,000 - 5,000 TEU	1.4	0.9	2.6	34.3		28.7	3.5
8	Containerships < 3,000 TEU	0.7	0.5	1.4	18.2		15.2	1.9
9	Precautionary Area Transit							
10	Containerships 8,000 - 9,000 TEU	48.0	33.1	50.8	378.4	177.8	190.1	36.7
11	Containerships 5,000 - 6,000 TEU	30.9	21.3	39.2	339.1	159.4	190.7	30.8
12	Containerships 3,000 - 5,000 TEU	20.6	14.2	28.5	263.5	123.9	156.0	23.4
13	Containerships < 3,000 TEU	9.1	6.3	15.5	174.8	82.2	115.4	14.8
14	Harbor Transit							
15	Containerships 8,000 - 9,000 TEU	54.5	37.6	46.0	350.0	163.5	160.2	35.6
16	Containerships 5,000 - 6,000 TEU	44.3	30.5	38.4	299.3	139.8	142.9	30.0
17	Containerships 3,000 - 5,000 TEU	29.9	20.6	25.9	196.0	91.5	95.5	19.9
18	Containerships < 3,000 TEU	15.7	10.8	13.9	102.6	47.9	55.0	10.5
19	Docking							
20	Containerships 8,000 - 9,000 TEU	19.0	13.1	12.4	97.3	29.2	38.2	10.6
21	Containerships 5,000 - 6,000 TEU	15.4	10.6	10.4	83.1	24.9	34.6	8.9
22	Containerships 3,000 - 5,000 TEU	10.4	7.2	7.0	54.5	16.3	23.1	5.9
23	Containerships < 3,000 TEU	5.5	3.8	3.8	28.5	8.6	13.4	3.1
24	Hoteling							
25	Containerships 8,000 - 9,000 TEU	2.8	1.9	6.3	68.2	17.6	57.9	5.7
26	Containerships 5,000 - 6,000 TEU	2.6	1.8	6.0	64.3	16.6	55.4	5.4
27	Containerships 3,000 - 5,000 TEU	2.1	1.5	5.1	51.9	13.4	47.5	4.4
28	Containerships < 3,000 TEU	1.3	0.9	3.6	32.1	8.3	34.7	2.8
29	Tugboats					NO2 (HT)		
30	Tugboats - Cargo Vessel Assist 2003 baseline	2.1	1.8	9.3	61.5	28.7	4.0	2.4
31	Tugboats - Cargo Vessel Assist 2007	2.0	1.8	9.3	58.0	27.1	0.0	2.4
32	Tugboats - Cargo Vessel Assist 2010	2.0	1.8	9.3	54.9	25.6	0.0	2.3
33	Tugboats - Cargo Vessel Assist 2015	2.0	1.8	9.3	49.8	23.2	0.0	2.1
34	Tugboats - Cargo Vessel Assist 2030	2.0	1.7	9.3	37.1	17.3	0.0	1.6
35	Notes (1) Values for Precautionary Area Transit, Harbor Transit, and Docking are given in pounds per activity since these							
36	activities last less than one hour in duration.							

TableC2-34. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - Proposed Project

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips (3)	Truck Miles to Offsite Railyard (4)	Local Truck Trip Miles (5)	Composite VMT/ Truck Trip
Baseline - Year 2003	891,976	-	445,988	445,988	598,795	598,795	11.3	20.0	15.7
Year 2007	1,091,200	-	545,600	545,600	744,330	744,330	11.3	20.0	15.7
Year 2010	1,584,400	188,339	424,619	971,442	599,342	1,371,172	11.3	20.0	17.4
Year 2015	1,747,500	552,709	109,594	1,085,198	149,673	1,482,070	11.3	20.0	19.2
Year 2030	2,389,000	700,810	174,397	1,513,793	188,015	1,631,999	11.3	20.0	19.1

(1) Annual throughput estimates from Rail Master Plan.

(2) Based on 50/50/26.8/6.7/7.3% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(3) Based on 50/50/61.4/62.1/63.4% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(4) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average local trip length with origin/destination at the POLA.

West Basin Container Terminal Daily Trips

ADT Estimates - Berths 136-147

Alternative/Project Year	Truck Trips			TT/TEUs
	Annual	ADT	Peak Daily (1)	
2003 - Baseline	1,197,589	3,281	4,492	1.34
2007	1,488,659	4,079	5,584	1.36
2010	1,970,515	5,399	7,391	1.41
2015	1,631,743	4,471	6,121	1.37
2030	1,820,013	4,986	6,827	1.08

(1) = annual trips/ 266.6 days.

	W	X	Y	Z	AA	AB	AC	AD
1	TableC2-37. Hourly On-Terminal Truck Emissions for the Berths 136-147 Terminal Project - P							
2		Pounds per Hour						
3	Location/Project Scenario - Mode	TOG	ROG	CO	NOx	NO2	SOx	PM10
4	On-Terminal							
5								
6								
7	Subtotal - Year 2003	17.4	15.3	43.7	60.9	15.7	0.4	3.5
8								
9								
10	Subtotal - Year 2007	14.0	12.3	33.7	52.7	13.6	0.0	2.7
11								
12								
13	Subtotal - Year 2010	13.9	12.2	32.2	68.3	17.6	0.0	2.9
14								
15								
16	Subtotal - Year 2015	7.1	6.2	19.1	39.9	10.3	0.0	0.9
17								
18								
19	Subtotal - Year 2030	4.3	3.8	15.0	39.6	10.2	0.0	0.2

	Q	R	S	T	U	V	W	X
148	TableC2-49. Summary of Hourly Train and Rail Yard Cargo Handling Equipment							
149	Emissions - Berths 136-147 Terminal Project Proposed Project							
150		Pounds per Hour						
151	Project Scenario/Source Activity	TOG	ROG	CO	NOx	NO2	SOx	PM10
152	Project Year 2010							
153	ICTF Equipment	2.3	2.0	9.5	24.0	6.2	0.0	1.1
154	Trains - Road Haul	4.5	4.0	10.0	54.7	14.1	1.2	1.5
155	Outbound Trains - Rail Yard	1.2	1.0	3.0	13.9	3.6	0.2	0.4
156	Inbound Trains - Rail Yard	0.8	0.7	1.8	9.9	2.5	0.2	0.3
157	Project Year 2015							
158	ICTF Equipment	0.1	0.1	3.1	1.1	0.3	0.0	0.0
159	Trains - Road Haul	4.2	3.7	10.0	51.1	13.2	0.0	1.3
160	Outbound Trains - Rail Yard	1.1	1.0	3.0	13.3	3.4	0.0	0.4
161	Inbound Trains - Rail Yard	0.7	0.7	1.8	9.2	2.4	0.0	0.2
162	Project Year 2030							
163	ICTF Equipment	0.1	0.1	3.2	0.4	0.1	0.0	0.0
164	Trains - Road Haul	3.0	2.6	10.0	39.1	10.1	0.0	0.9
165	Outbound Trains - Rail Yard	0.9	0.8	3.0	11.1	2.9	0.0	0.3
166	Inbound Trains - Rail Yard	0.5	0.5	1.8	7.0	1.8	0.0	0.2

	R	S	T	U	V	W	X	Y
22	TableC2-56. Terminal Equipment Peak Hourly Emissions for the 8 AM to 5 PM Shift -							
23	Berths 136-147 Terminal Project Proposed Project.							
24		Pounds per Hour						
25	Project Scenario/Equipment Horsepower	TOG	ROG	CO	NOx	NO2	SOx	PM10
26	Baseline - Year 2003	14.0	12.3	44.9	159.7	41.2	2.1	7.3
27	Project Year 2007	18.4	16.2	59.2	189.2	48.8	0.1	8.1
28	Project Year 2010	21.4	18.8	81.4	231.5	59.7	0.2	10.0
29	Project Year 2015	4.3	3.8	77.0	28.9	7.5	0.2	1.1
30	Project Year 2030	6.4	5.6	129.3	20.9	5.4	0.3	1.5

	A	B	C	D	E
1	Berths 136-147				
2			TOG Profile # 504	TOG Profile # 818	Max TOG Profile (1)
3	TOG Speciation	CAS #	(% of TOG/100)		
4	Benzene	71432	0.022	0.02	0.022
5	Formaldehyde	50000	0.001	0.147	0.147
6	Xylenes	1210	0.0034		0.0034
7	Methanol	67561		0.0003	0.0003
8	MEK	78933		0.015	0.015
9	m-Xylene	108383	0.0031	0.0061	0.0061
10	o-Xylene	95476	0.0045	0.0034	0.0045
11	p-Xylene	106423		0.00095	0.00095
12	Styrene	100425		0.00058	0.00058
13	Toluene	108883	0.022	0.015	0.022
14	Note: (1) All OGV sources use the greater of TOG profiles 504 or 818.				
15	(2) All sources other then OGV use TOG profile 818.				

	A	B	C	D	E	F	G
1	Berths 136-147						
2			PM Profile # 111	PM Profile # 112	PM Profile # 116	PM Profile # 425	Max PM Profile (1)
3	PM Speciation	CAS #	(% of PM)/100				
4	Ammonia	7664417				0.0033	0.0033
5	Arsenic	7440382	0.0003	0.0053		0.000004	0.0053
6	Copper	7440508	0.0005			0.00003	0.0005
7	Mercury	7439976				0.000026	0.000026
8	Nickel	7440020	0.0055	0.0005		0.000016	0.0055
9	Sulfates	9960	0.44	0.25	0.15	0.018	0.44
10	Vanadium	7440622	0.0055		0.0055	0.000015	0.0055
11	Note: (1) All OGV sources use the greater of PM profiles 111, 112, 116, or 425.						
12	(2) Locomotives use the greater of PM profiles 116 or 425.						
13	(2) Tugboats, truck, and terminal equipment use PM profile 425.						

Proposed Project - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Terminal Equipment							
# of Sources		1	2	2	1	5	5	5	5
Source Area Width (m)		450	400	400	250	175	175	175	175
Pollutant	CAS #								
Criteria Pollutants									
TOG		5.75	4.54	4.54	1.78	0.87	0.87	0.87	0.87
Carbon Monoxide	630080	21.88	17.29	17.29	6.75	3.31	3.31	3.31	3.31
Nitrogen Dioxide	10102440	16.06	12.69	12.69	4.96	2.43	2.43	2.43	2.43
Sulfur Dioxide	7446095	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01
PM		2.69	2.13	2.13	0.83	0.41	0.41	0.41	0.41
TOG Speciation									
Benzene	71432	0.12	0.09	0.09	0.04	0.02	0.02	0.02	0.02
Formaldehyde	50000	0.85	0.67	0.67	0.26	0.13	0.13	0.13	0.13
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.09	0.07	0.07	0.03	0.01	0.01	0.01	0.01
m-Xylene	108383	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00
p-Xylene	106423	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.09	0.07	0.07	0.03	0.01	0.01	0.01	0.01
PM Speciation									
Ammonia	7664417	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.05	0.04	0.04	0.01	0.01	0.01	0.01	0.01
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

										Terminal Trucks
5	2	2	1	1	2	2	1	5	5	5
125	100	100	100	450	400	400	250	175	175	175
0.44	0.28	0.28	0.28	3.73	2.95	2.95	1.15	0.56	0.56	0.56
1.69	1.08	1.08	1.08	8.65	6.83	6.83	2.67	1.31	1.31	1.31
1.24	0.79	0.79	0.79	4.74	3.74	3.74	1.46	0.72	0.72	0.72
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.21	0.13	0.13	0.13	0.79	0.62	0.62	0.24	0.12	0.12	0.12
0.01	0.01	0.01	0.01	0.07	0.06	0.06	0.02	0.01	0.01	0.01
0.07	0.04	0.04	0.04	0.55	0.43	0.43	0.17	0.08	0.08	0.08
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.06	0.04	0.04	0.02	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.06	0.04	0.04	0.02	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									ICTF -
5	5	2	2	1	2	2	2	2	3
175	125	100	100	100	125	125	100	100	75
0.56	0.29	0.18	0.18	0.18	0.24	0.24	0.15	0.15	0.09
1.31	0.67	0.43	0.43	0.43	0.62	0.62	0.40	0.40	0.22
0.72	0.37	0.23	0.23	0.23	0.74	0.74	0.48	0.48	0.27
0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.03	0.03	0.02
0.12	0.06	0.04	0.04	0.04	0.08	0.08	0.05	0.05	0.03
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.08	0.04	0.03	0.03	0.03	0.04	0.04	0.02	0.02	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trains									
3	3	3	3	3	2	2	2	2	3
75	75	50	50	50	125	125	100	100	75
0.09	0.09	0.04	0.04	0.04	0.48	0.48	0.31	0.31	0.17
0.22	0.22	0.10	0.10	0.10	1.96	1.96	1.26	1.26	0.71
0.27	0.27	0.12	0.12	0.12	1.28	1.28	0.82	0.82	0.46
0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.01	0.01	0.01	0.22	0.22	0.14	0.14	0.08
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00
0.01	0.01	0.01	0.01	0.01	0.07	0.07	0.04	0.04	0.03
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

quipment					I-110 NB from HBB to Anah				
3	3	3	3	3	8	8	8	8	8
75	75	50	50	50	50	50	50	50	50
0.17	0.17	0.08	0.08	0.08	0.04	0.04	0.04	0.04	0.04
0.71	0.71	0.31	0.31	0.31	0.16	0.16	0.16	0.16	0.16
0.46	0.46	0.20	0.20	0.20	0.15	0.15	0.15	0.15	0.15
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.08	0.08	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

neim			I-110 SB from Anaheim to HBB						
8	8	8	6	6	6	6	6	6	11
50	50	50	50	50	50	50	50	50	15
0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.02
0.16	0.16	0.16	0.12	0.12	0.12	0.12	0.12	0.12	0.07
0.15	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.13	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 SB Offramp									
11	11	11	11	11	11	11	11	11	11
15	15	15	15	15	15	15	15	15	15

0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 NB Offramp to HBB									
12	12	12	12	12	12	12	12	12	12
21	21	21	21	21	21	21	21	21	21
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		HBB - Fig. St. to I-110 NB Offramp							
12	12	4	4	4	4	18	18	18	18
21	21	32	32	32	32	32	32	32	32
0.00	0.00	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
0.01	0.01	0.19	0.19	0.19	0.19	0.22	0.22	0.22	0.22
0.01	0.01	0.17	0.17	0.17	0.17	0.19	0.19	0.19	0.19
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HBB - I-110 NB Offramp to Fries Ave.

18	18	18	18	18	18	18	18	18	18
32	32	32	32	32	32	32	32	32	32
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									HBB - Fr
18	18	18	18	13	13	13	13	13	13
32	32	32	32	32	32	32	32	32	32
0.05	0.05	0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01
0.22	0.22	0.22	0.22	0.07	0.07	0.07	0.07	0.07	0.07
0.19	0.19	0.19	0.19	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ies Ave. to Alameda									
13	13	13	13	13	13	13	16	16	16
32	32	32	32	32	32	32	32	32	32
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alameda - HBB to Anaheim									
16	16	16	16	16	16	16	16	16	16
32	32	32	32	32	32	32	32	32	32
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Fries Ave. - HBB to Water St.						
16	16	16	8	8	8	8	8	8	8
32	32	32	25	25	25	25	25	25	25
0.02	0.02	0.02	0.08	0.08	0.08	0.08	0.08	0.08	0.08
0.07	0.07	0.07	0.32	0.32	0.32	0.32	0.32	0.32	0.32
0.06	0.06	0.06	0.21	0.21	0.21	0.21	0.21	0.21	0.21
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave.
8	5	5	5	5	5	3	3	3	3
25	25	25	25	25	25	70	70	70	25
0.08	0.05	0.05	0.05	0.05	0.05	0.68	0.68	0.68	0.05
0.32	0.22	0.22	0.22	0.22	0.22	0.92	0.92	0.92	0.22
0.21	0.14	0.14	0.14	0.14	0.14	0.50	0.50	0.50	0.14
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.02	0.02	0.02	0.02	0.02	0.14	0.14	0.14	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.10	0.10	0.10	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

. - Water St. to Pier A									
3	3	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.05	0.05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.22	0.22	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.14	0.14	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pier A St. - Fries Ave. to PAS Gate

22	22	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Gate - Pier A St.			
22	22	22	22	4	4	4	4
25	25	25	25	35	35	35	35
0.01	0.01	0.01	0.01	0.15	0.15	0.15	0.15
0.06	0.06	0.06	0.06	0.20	0.20	0.20	0.20
0.06	0.06	0.06	0.06	0.11	0.11	0.11	0.11
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Proposed Project - IProposed Project - Hourly Acute Emission Rates Scenario 2 (2010)

Source		PHL Railyard							
# of Sources		1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03
Sulfur Dioxide	7446095	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
PM		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
TOG Speciation									
Benzene	71432	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Formaldehyde	50000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Xylene	108383	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	1	1	1	1	1
100	75	75	75	75	50
0.01	0.01	0.01	0.01	0.01	0.00
0.04	0.02	0.02	0.02	0.02	0.01
0.03	0.02	0.02	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

Proposed Project - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel							
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Nitrogen Dioxide	10102440	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
Sulfur Dioxide	7446095	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
PM		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
TOG Speciation									
Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Formaldehyde	50000	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Xylenes	1210	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sulfates	9960	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Vanadium	7440622	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
1.47	1.47	1.47	1.47	1.47	1.47	1.47	0.03	0.03	0.03	0.03
1.24	1.24	1.24	1.24	1.24	1.24	1.24	0.15	0.15	0.15	0.15
4.42	4.42	4.42	4.42	4.42	4.42	4.42	0.42	0.42	0.42	0.42
4.33	4.33	4.33	4.33	4.33	4.33	4.33	0.00	0.00	0.00	0.00
0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.04	0.04	0.04	0.04
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00
0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Proposed Project - Hourly Acute Emission Rates Scenario 2 (2010)

Source									
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Nitrogen Dioxide	10102440	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
Sulfur Dioxide	7446095	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
PM		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
TOG Speciation									
Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Formaldehyde	50000	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Xylenes	1210	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sulfates	9960	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Vanadium	7440622	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Maneuvering - Vessel Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

			Maneuvering - Near Berth Near							
37	37	37	1	37	37	37	37	37	37	37
100	100	100	300	100	100	100	100	100	100	100
1.47	1.47	1.47	19.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03
1.24	1.24	1.24	12.43	0.15	0.15	0.15	0.15	0.15	0.15	0.15
4.42	4.42	4.42	29.20	0.42	0.42	0.42	0.42	0.42	0.42	0.42
4.33	4.33	4.33	38.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.96	0.96	0.96	10.55	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.03	0.03	0.03	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.22	0.22	0.22	2.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.06	-	-	-	-	-	-	-
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.42	0.42	0.42	4.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Maneuvering - Tug Near Berth Near
37	37	37	37	1
100	100	100	100	300
0.03	0.03	0.03	0.03	0.81
0.15	0.15	0.15	0.15	3.71
0.42	0.42	0.42	0.42	6.59
0.00	0.00	0.00	0.00	0.01
0.04	0.04	0.04	0.04	0.92
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.12
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00

Proposed Project - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
TOG		0.44	0.44	0.44	0.87	0.87	0.87
Carbon Monoxide	630080	1.19	1.19	1.19	2.01	2.01	2.01
Nitrogen Dioxide	10102440	2.76	2.76	2.76	5.53	5.53	5.53
Sulfur Dioxide	7446095	11.58	11.58	11.58	18.46	18.46	18.46
PM		0.93	0.93	0.93	1.81	1.81	1.81
TOG Speciation							
Benzene	71432	0.01	0.01	0.01	0.02	0.02	0.02
Formaldehyde	50000	0.06	0.06	0.06	0.13	0.13	0.13
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.01	0.01	0.01	0.01	0.01	0.01
m-Xylene	108383	0.00	0.00	0.00	0.01	0.01	0.01
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.01	0.01	0.01	0.02	0.02	0.02
PM Speciation							
Ammonia	7664417	0.00	0.00	0.00	0.01	0.01	0.01
Arsenic	7440382	0.00	0.00	0.00	0.01	0.01	0.01
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.01	0.01	0.01	0.01	0.01	0.01
Sulfates	9960	0.41	0.41	0.41	0.79	0.79	0.79
Vanadium	7440622	0.01	0.01	0.01	0.01	0.01	0.01

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	ect - Hourly Acute Emission Rates													
2	Source													
3	# of Sources		37	37	37	37	37	37	37	37	37	37	37	37
4	Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100
5	Pollutant	CAS #												
6	Criteria Pollutants													
7	TOG		1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
8	Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
9	Nitrogen Dioxide	10102440	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
10	Sulfur Dioxide	7446095	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
11	PM		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
12	TOG Speciation													
13	Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
14	Formaldehyde	50000	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
15	Xylenes	1210	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
16	Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
18	m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
19	o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
23	PM Speciation													
24	Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	Arsenic	7440382	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
26	Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Nickel	7440020	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
29	Sulfates	9960	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
30	Vanadium	7440622	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
31														
32														
33														
34														
35														
36														

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1																
2	HT - 8-9kVessel															
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47
8	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
9	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
10	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33
11	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
12																
13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
14	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
15	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
18	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
19	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
29	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
30	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
31																
32																
33																
34																
35																
36																

	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
1																
2										Docking - 8-9kVessel	Hoteling - <3kVessel			Hoteling - 5-6kVessel		
3	37	37	37	37	37	37	37	37	37	1	3	3	3	3	3	3
4	100	100	100	100	100	100	100	100	100	300	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
5																
6																
7	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	1.47	19.05	0.44	0.44	0.44	0.87	0.87	0.87
8	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	12.43	1.19	1.19	1.19	2.01	2.01	2.01
9	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	29.20	2.76	2.76	2.76	5.53	5.53	5.53
10	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	4.33	38.18	11.58	11.58	11.58	18.46	18.46	18.46
11	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	10.55	0.93	0.93	0.93	1.81	1.81	1.81
12																
13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.42	0.01	0.01	0.01	0.02	0.02	0.02
14	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	2.80	0.06	0.06	0.06	0.13	0.13	0.13
15	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
17	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.29	0.01	0.01	0.01	0.01	0.01	0.01
18	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.12	0.00	0.00	0.00	0.01	0.01	0.01
19	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
22	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.42	0.01	0.01	0.01	0.02	0.02	0.02
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01	0.01	0.01
25	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.00	0.00	0.00	0.01	0.01	0.01
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.01	0.01	0.01	0.01
29	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	4.64	0.41	0.41	0.41	0.79	0.79	0.79
30	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.01	0.01	0.01	0.01
31																
32																
33																
34																
35																
36																

	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ
1																
2																
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
1																
2		Tugboats -HT- 2010														
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP
1																
2						Tugboats - Docking - 2010	Trucks On-Terminal - 2010									
3	37	37	37	37	37	1	12	12	12	12	12	12	12	12	12	12
4	100	100	100	100	100	300	450	400	400	250	175	175	175	175	175	100
5																
6																
7	0.03	0.03	0.03	0.03	0.03	0.81	3.73	2.95	2.95	1.15	0.56	0.56	0.56	0.56	0.56	0.18
8	0.15	0.15	0.15	0.15	0.15	3.71	8.65	6.83	6.83	2.67	1.31	1.31	1.31	1.31	1.31	0.43
9	0.42	0.42	0.42	0.42	0.42	10.25	4.74	3.74	3.74	1.46	0.72	0.72	0.72	0.72	0.72	0.23
10	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.92	0.79	0.62	0.62	0.24	0.12	0.12	0.12	0.12	0.12	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.06	0.06	0.02	0.01	0.01	0.01	0.01	0.01	0.00
14	0.00	0.00	0.00	0.00	0.00	0.12	0.55	0.43	0.43	0.17	0.08	0.08	0.08	0.08	0.08	0.03
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.01	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF
1																
2			I-110 NB from HBB to Anaheim								I-110 SB from Anaheim to HBB					
3	12	12	8	8	8	8	8	8	8	8	6	6	6	6	6	6
4	100	100														
5																
6																
7	0.18	0.18	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
8	0.43	0.43	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.12	0.12	0.12	0.12	0.12	0.12
9	0.23	0.23	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.13
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.03	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV
1																
2	I-110 SB Offramp											I-1				
3	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	12
4																
5																
6																
7	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00
8	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.01	0.01	0.01	0.01	0.01
9	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.01	0.01	0.01	0.01	0.01
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL
1																
2	.10 NB Offramp to HBB							HBB - Fig. St. to I-110 NB Offramp								
3	12	12	12	12	12	12	12	4	4	4	4	18	18	18	18	18
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05
8	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.19	0.19	0.19	0.19	0.22	0.22	0.22	0.22	0.22
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.17	0.17	0.17	0.17	0.19	0.19	0.19	0.19	0.19
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB
1																
2			HBB - I-110 NB Offramp to Fries Ave.													
3	18	18	18	18	18	18	18	18	18	18	18	18	18	13	13	13
4																
5																
6																
7	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.01	0.01	0.01
8	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.07	0.07	0.07
9	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.06	0.06
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR
1																
2	HBB - Fries Ave. to Alameda															
3	13	13	13	13	13	13	13	13	13	13	16	16	16	16	16	16
4																
5																
6																
7	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
8	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
9	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH
1																
2	Alameda - HBB to Anaheim										Fries Ave. - HBB to Water St.					
3	16	16	16	16	16	16	16	16	16	16	8	8	8	8	8	8
4																
5																
6																
7	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.08	0.08	0.08	0.08	0.08	0.08
8	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.32	0.32	0.32	0.32	0.32	0.32
9	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.21	0.21	0.21	0.21	0.21	0.21
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03	0.03	0.03	0.03
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX
1																
2			Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave. - Water St. to Pier A St.					
3	8	8	5	5	5	5	5	3	3	3	3	3	3	22	22	22
4																
5																
6																
7	0.08	0.08	0.05	0.05	0.05	0.05	0.05	0.68	0.68	0.68	0.05	0.05	0.05	0.01	0.01	0.01
8	0.32	0.32	0.22	0.22	0.22	0.22	0.22	0.92	0.92	0.92	0.22	0.22	0.22	0.06	0.06	0.06
9	0.21	0.21	0.14	0.14	0.14	0.14	0.14	0.50	0.50	0.50	0.14	0.14	0.14	0.06	0.06	0.06
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.14	0.14	0.14	0.02	0.02	0.02	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.10	0.10	0.10	0.01	0.01	0.01	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN
1															Expanded	up
2	Pier A St. - Fries Ave. to PAS Gate															
3	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
4																
5																
6																
7	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
8	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
9	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID
1	to	here	------>													
2				Gate - Pier A St.	Outbound - Rail Yard - 2010				ICTF Equipment - 2010				Terminal Equipment - 20			
3	22	22	22	4	2	2	3	3	2	2	3	3	1	2	1	5
4					125	100	75	50	125	100	75	50	450	400	250	175
5																
6																
7	0.01	0.01	0.01	0.15	0.24	0.15	0.09	0.04	0.48	0.31	0.17	0.08	5.75	4.54	1.78	0.87
8	0.06	0.06	0.06	0.20	0.62	0.40	0.22	0.10	1.96	1.26	0.71	0.31	21.88	17.29	6.75	3.31
9	0.06	0.06	0.06	0.11	0.74	0.48	0.27	0.12	1.28	0.82	0.46	0.20	16.06	12.69	4.96	2.43
10	0.00	0.00	0.00	0.00	0.05	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.01
11	0.01	0.01	0.01	0.03	0.08	0.05	0.03	0.01	0.22	0.14	0.08	0.04	2.69	2.13	0.83	0.33
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.12	0.09	0.04	0.02
14	0.00	0.00	0.00	0.02	0.04	0.02	0.01	0.01	0.07	0.04	0.03	0.01	0.85	0.67	0.26	0.13
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.09	0.07	0.03	0.01
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.01
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.09	0.07	0.03	0.01
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.04	0.01	0.01
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT
1																
2	10		PHL Railyard 2010													
3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	100	100	200	150	125	125	125	100	100	100	100	75	75	75	75	50
5																
6																
7	0.28	0.28	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
8	1.08	1.08	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
9	0.79	0.79	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
10	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.13	0.13	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.04	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

Table C3-A1-3. 70-Year Annual Average PM Emission Rate
for Vessel Transit within Precautionary Area -
Berths 136-147 Terminal Project Existing Conditions.

Project Year	Calendar Year	Tons/Year PM	Pounds Per Year	Pounds Per Hour
-	2003	3.78		
-	2004	3.78		
-	2005	3.78		
-	2006	3.78		
1	2007	3.78		
2	2008	3.78		
3	2009	3.78		
4	2010	3.78		
5	2011	3.78		
6	2012	3.78		
7	2013	3.78		
8	2014	3.78		
9	2015	3.78		
10	2016	3.78		
11	2017	3.78		
12	2018	3.78		
13	2019	3.78		
14	2020	3.78		
15	2021	3.78		
16	2022	3.78		
17	2023	3.78		
18	2024	3.78		
19	2025	3.78		
20	2026	3.78		
21	2027	3.78		
22	2028	3.78		
23	2029	3.78		
24	2030	3.78		
25	2031	3.78		
26	2032	3.78		
27	2033	3.78		
28	2034	3.78		
29	2035	3.78		
30	2036	3.78		
31	2037	3.78		
32	2038	3.78		
33	2039	3.78		
34	2040	3.78		
35	2041	3.78		
36	2042	3.78		
37	2043	3.78		
38	2044	3.78		
39	2045	3.78		
40	2046	3.78		
41	2047	3.78		
42	2048	3.78		
43	2049	3.78		
44	2050	3.78		
45	2051	3.78		
46	2052	3.78		
47	2053	3.78		
48	2054	3.78		
49	2055	3.78		
50	2056	3.78		
51	2057	3.78		
52	2058	3.78		
53	2059	3.78		
54	2060	3.78		
55	2061	3.78		
56	2062	3.78		
57	2063	3.78		
58	2064	3.78		
59	2065	3.78		
60	2066	3.78		
61	2067	3.78		
62	2068	3.78		
63	2069	3.78		
64	2070	3.78		
65	2071	3.78		
66	2072	3.78		
67	2073	3.78		
68	2074	3.78		
69	2075	3.78		
70	2076	3.78		
70-Yr Ave. (1)		3.78	7,566	0.86

Notes: (1) Includes vessel main power plant and auxiliary engine emissions.

Table C3-A1-3. 70-Year Annual Average PM Emission Rate
for Vessel Transit within Breakwater -
Berths 136-147 Terminal Project Existing Conditions.

Project Year	Calendar Year	Tons/Year PM	Pounds Per Year	Pounds Per Hour
-	2003	3.15		
-	2004	3.15		
-	2005	3.15		
-	2006	3.15		
1	2007	3.15		
2	2008	3.15		
3	2009	3.15		
4	2010	3.15		
5	2011	3.15		
6	2012	3.15		
7	2013	3.15		
8	2014	3.15		
9	2015	3.15		
10	2016	3.15		
11	2017	3.15		
12	2018	3.15		
13	2019	3.15		
14	2020	3.15		
15	2021	3.15		
16	2022	3.15		
17	2023	3.15		
18	2024	3.15		
19	2025	3.15		
20	2026	3.15		
21	2027	3.15		
22	2028	3.15		
23	2029	3.15		
24	2030	3.15		
25	2031	3.15		
26	2032	3.15		
27	2033	3.15		
28	2034	3.15		
29	2035	3.15		
30	2036	3.15		
31	2037	3.15		
32	2038	3.15		
33	2039	3.15		
34	2040	3.15		
35	2041	3.15		
36	2042	3.15		
37	2043	3.15		
38	2044	3.15		
39	2045	3.15		
40	2046	3.15		
41	2047	3.15		
42	2048	3.15		
43	2049	3.15		
44	2050	3.15		
45	2051	3.15		
46	2052	3.15		
47	2053	3.15		
48	2054	3.15		
49	2055	3.15		
50	2056	3.15		
51	2057	3.15		
52	2058	3.15		
53	2059	3.15		
54	2060	3.15		
55	2061	3.15		
56	2062	3.15		
57	2063	3.15		
58	2064	3.15		
59	2065	3.15		
60	2066	3.15		
61	2067	3.15		
62	2068	3.15		
63	2069	3.15		
64	2070	3.15		
65	2071	3.15		
66	2072	3.15		
67	2073	3.15		
68	2074	3.15		
69	2075	3.15		
70	2076	3.15		
70-Yr Ave. (1)		3.15	6,308	0.72

Notes: (1) Includes vessel maneuvering and transient auxiliary engine within the POLA breakwater.

Table C3-A1-2. 70-Year Average Annual PM Emission Rate Simulations - Berths 136-147 Terminal Project Existing Conditions.

Project Scenario/Activity	Tons/Year PM
Year 2003 Baseline	
Ships - Fairway Transit (1)	10.35
Ships - Precautionary Area Transit	3.78
Ships - Harbor Transit (2)	3.15
Ships - Docking	0.94
Ships - Hoteling Aux. Sources	17.89
Tugboats	0.31
Project Year 2007	
Ships - Fairway Transit (1)	10.39
Ships - Precautionary Area Transit	3.78
Ships - Harbor Transit (2)	3.15
Ships - Docking	0.94
Ships - Hoteling Aux. Sources	17.89
Tugboats	0.30
Project Year 2010	
Ships - Fairway Transit (1)	9.62
Ships - Precautionary Area Transit	3.78
Ships - Harbor Transit (2)	3.15
Ships - Docking	0.94
Ships - Hoteling Aux. Sources	17.89
Tugboats	0.29
Project Year 2015	
Ships - Fairway Transit (1)	9.33
Ships - Precautionary Area Transit	3.78
Ships - Harbor Transit (2)	3.15
Ships - Docking	0.94
Ships - Hoteling Aux. Sources	17.89
Tugboats	0.27
Project Year 2030	
Ships - Fairway Transit (1)	9.33
Ships - Precautionary Area Transit	3.78

Table C3-A1-3. 70-Year Annual Average PM Emission Rate for Vessel Transit Hoteling - Berths 136-147 Terminal Project Existing Conditions.

Project Year	Calendar Year	Tons/Year PM	Pounds Per Year	Pounds Per Hour
-	2003	17.89		
-	2004	17.89		
-	2005	17.89		
-	2006	17.89		
1	2007	17.89		
2	2008	17.89		
3	2009	17.89		
4	2010	17.89		
5	2011	17.89		
6	2012	17.89		
7	2013	17.89		
8	2014	17.89		
9	2015	17.89		
10	2016	17.89		
11	2017	17.89		
12	2018	17.89		
13	2019	17.89		
14	2020	17.89		
15	2021	17.89		
16	2022	17.89		
17	2023	17.89		
18	2024	17.89		
19	2025	17.89		
20	2026	17.89		
21	2027	17.89		
22	2028	17.89		
23	2029	17.89		
24	2030	17.89		
25	2031	17.89		
26	2032	17.89		
27	2033	17.89		
28	2034	17.89		
29	2035	17.89		
30	2036	17.89		
31	2037	17.89		
32	2038	17.89		
33	2039	17.89		
34	2040	17.89		
35	2041	17.89		
36	2042	17.89		
37	2043	17.89		
38	2044	17.89		
39	2045	17.89		
40	2046	17.89		
41	2047	17.89		
42	2048	17.89		
43	2049	17.89		
44	2050	17.89		
45	2051	17.89		
46	2052	17.89		
47	2053	17.89		
48	2054	17.89		
49	2055	17.89		
50	2056	17.89		
51	2057	17.89		
52	2058	17.89		
53	2059	17.89		
54	2060	17.89		
55	2061	17.89		
56	2062	17.89		
57	2063	17.89		
58	2064	17.89		
59	2065	17.89		
60	2066	17.89		
61	2067	17.89		
62	2068	17.89		
63	2069	17.89		
64	2070	17.89		
65	2071	17.89		
66	2072	17.89		
67	2073	17.89		
68	2074	17.89		
69	2075	17.89		
70	2076	17.89		
70-Yr Ave.		17.89	35,784	4.08

Table C3-A1-3. 70-Year Annual Average PM Emission Rate
for Vessel Transit within Fairway - Berths 136-147
Terminal Project Existing Conditions.

Project Year	Calendar Year	Tons/Year PM	Pounds Per Year	Pounds Per Hour
-	2003	10.35		
-	2004	10.36		
-	2005	10.37		
-	2006	10.38		
1	2007	10.39		
2	2008	10.14		
3	2009	9.88		
4	2010	9.62		
5	2011	9.56		
6	2012	9.50		
7	2013	9.44		
8	2014	9.38		
9	2015	9.33		
10	2016	9.33		
11	2017	9.33		
12	2018	9.33		
13	2019	9.33		
14	2020	9.33		
15	2021	9.33		
16	2022	9.33		
17	2023	9.33		
18	2024	9.33		
19	2025	9.33		
20	2026	9.33		
21	2027	9.33		
22	2028	9.33		
23	2029	9.33		
24	2030	9.33		
25	2031	9.33		
26	2032	9.33		
27	2033	9.33		
28	2034	9.33		
29	2035	9.33		
30	2036	9.33		
31	2037	9.33		
32	2038	9.33		
33	2039	9.33		
34	2040	9.33		
35	2041	9.33		
36	2042	9.33		
37	2043	9.33		
38	2044	9.33		
39	2045	9.33		
40	2046	9.33		
41	2047	9.33		
42	2048	9.33		
43	2049	9.33		
44	2050	9.33		
45	2051	9.33		
46	2052	9.33		
47	2053	9.33		
48	2054	9.33		
49	2055	9.33		
50	2056	9.33		
51	2057	9.33		
52	2058	9.33		
53	2059	9.33		
54	2060	9.33		
55	2061	9.33		
56	2062	9.33		
57	2063	9.33		
58	2064	9.33		
59	2065	9.33		
60	2066	9.33		
61	2067	9.33		
62	2068	9.33		
63	2069	9.33		
64	2070	9.33		
65	2071	9.33		
66	2072	9.33		
67	2073	9.33		
68	2074	9.33		
69	2075	9.33		
70	2076	9.33		
70-Yr Ave. (1)		9.37	18,746	2.14

Notes: (1) Includes vessel main power plant and auxiliary engine emissions.

Table C3-A1-46. Existing Locomotive Usage within the Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions.

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358

Notes: (1) Activity data based on year 2003 annual usage

PM Emission Factors for Locomotives - Berths 136-147 Terminal No Project.

Source Type	PM EFs (1)
Line Haul Locomotive - Year 2003	0.32
Line Haul Locomotive - Year 2007	0.29
Line Haul Locomotive - Year 2010	0.20
Line Haul Locomotive - Year 2015	0.17
Line Haul Locomotive - Year 2030	0.12
Line Haul Locomotive - Year 2040	0.16
Switch Yard Locomotive - Year 2003	0.44
Switch Yard Locomotive - Year 2007	0.39
Switch Yard Locomotive - Year 2010	0.23
Switch Yard Locomotive - Year 2015	0.23
Switch Yard Locomotive - Year 2030	0.23
Switch Yard Locomotive - Year 2040	0.23

Notes: (1) See Table -----

Table C3-A1-48. Annual Train Emissions within the Existing Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions.

Project Year/Emission Source	Tons per Year PM10
Year 2003 Baseline	
Line Haul Locomotive	0.03
Yard Locomotive - Low UsageTrip	0.09
Yard Locomotive - Medium UsageTrip	0.14
Subtotal	0.26
Project Year 2007 (1)	
Line Haul Locomotive	0.02
Yard Locomotive - Low UsageTrip	0.08
Yard Locomotive - Medium UsageTrip	0.13
Subtotal	0.24
Project Year 2010 (1)	
Line Haul Locomotive	0.02
Yard Locomotive - Low UsageTrip	0.05
Yard Locomotive - Medium UsageTrip	0.08
Subtotal	0.15
Project Year 2015 (1)	
Line Haul Locomotive	0.02
Yard Locomotive - Low UsageTrip	0.05
Yard Locomotive - Medium UsageTrip	0.08
Subtotal	0.15
Project Year 2030 (1)	
Line Haul Locomotive	0.01
Yard Locomotive - Low UsageTrip	0.06
Yard Locomotive - Medium UsageTrip	0.10
Subtotal	0.17
Project Year 2040 (1)	
Line Haul Locomotive	0.02
Yard Locomotive - Low UsageTrip	0.06
Yard Locomotive - Medium UsageTrip	0.10
Subtotal	0.18
Project Year 2076 (1)	
Line Haul Locomotive	0.02
Yard Locomotive - Low UsageTrip	0.08
Yard Locomotive - Medium UsageTrip	0.13
Subtotal	0.23

Note: (1) Assumes an annual activity growth rate of 1% from 2003 levels.

Table C3-A1-50. 70-Year Annual Average PM Emissions for Locomotives within the Existing Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions.

Project Year	Calendar Year	Annual PM Emissions Tons (1)
-	2003	0.26
-	2004	0.25
-	2005	0.25
-	2006	0.24
1	2007	0.24
2	2008	0.21
3	2009	0.18
4	2010	0.15
5	2011	0.15
6	2012	0.15
7	2013	0.15
8	2014	0.15
9	2015	0.15
10	2016	0.15
11	2017	0.15
12	2018	0.15
13	2019	0.16
14	2020	0.16
15	2021	0.16
16	2022	0.16
17	2023	0.16
18	2024	0.16
19	2025	0.16
20	2026	0.16
21	2027	0.16
22	2028	0.16
23	2029	0.17
24	2030	0.17
25	2031	0.17
26	2032	0.17
27	2033	0.17
28	2034	0.17
29	2035	0.18
30	2036	0.18
31	2037	0.18
32	2038	0.18
33	2039	0.18
34	2040	0.18
35	2041	0.19
36	2042	0.19
37	2043	0.19
38	2044	0.19
39	2045	0.19
40	2046	0.19
41	2047	0.19
42	2048	0.20
43	2049	0.20
44	2050	0.20
45	2051	0.20
46	2052	0.20
47	2053	0.20
48	2054	0.20
49	2055	0.20
50	2056	0.21
51	2057	0.21
52	2058	0.21
53	2059	0.21
54	2060	0.21
55	2061	0.21
56	2062	0.21
57	2063	0.22
58	2064	0.22
59	2065	0.22
60	2066	0.22
61	2067	0.22
62	2068	0.22
63	2069	0.22
64	2070	0.22
65	2071	0.23
66	2072	0.23
67	2073	0.23
68	2074	0.23
69	2075	0.23
70	2076	0.23
70-Yr Ave.		0.19
Pounds/Year (2)		378
Pounds/Hour (2)		0.04

Note: (1) Assumes an annual activity growth rate of 1% from 2003 levels.

Note: (1) Based on 365 days per year and 24 hours per day.

Table C3-A1-20 . 70-Year Annual Average Roadway Link PM Emissions - Berths 136-147 Terminal No Proejct.

Link	Length (Mi)	MPH	PHT	Pounds per Hour					# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	
I-110 NB from C St. to Anaheim	0.50	25	121	0.34	0.30	0.80	0.02	0.21	8
I-110 SB from Anaheim to C St.	0.37	40	105	0.13	0.12	0.50	0.01	0.09	6
I-110 SB Offramp to C St.	0.23	35	256	0.23	0.20	0.77	0.02	0.16	10
I-110 NB Offramp to C St.	0.25	35	23	0.02	0.02	0.07	0.00	0.01	8
Figueroa St. - C St. to Main Gate	0.16	10	256	1.05	0.92	0.86	0.02	0.34	5
HBB - East of Main Gate to Fries Ave.	0.84	25	95	0.45	0.40	1.06	0.03	0.28	24
HBB - Fries Ave. to Alameda St.	0.52	25	72	0.21	0.19	0.50	0.01	0.13	15
Alameda St - HBB to Anaheim St.	0.65	35	72	0.18	0.16	0.60	0.02	0.12	28
Fries Ave. - HBB to Water St.	0.31	25	167	0.29	0.26	0.69	0.02	0.18	10
Pier A St. - Water St. to PAS Gate	0.71	35	57	0.16	0.14	0.53	0.01	0.11	23
Main Gate Road - HBB to Gate	0.06	5	161	0.45	0.40	0.32	0.01	0.12	3
Gate - Main	0.06	5	161	0.45	0.40	0.32	0.01	0.12	2
Gate - Water St.	0.06	5	110	0.31	0.27	0.22	0.00	0.08	2
Gate - Pier A St.	0.04	5	57	0.10	0.09	0.07	0.00	0.03	2

Notes: (1) Based on 365 days per year and 24 hours per day.

Table C3-A1-21. Gate Truck ADT Distribution - Berths 136-147 Terminal No Project

Gate	PHT Ratio		PHT In	PHT Out	Total PHT
	In	Out			
Main	0.65	0.33	107	54	161
Water Street	-	0.67	-	110	110
Pier A Street	0.35	-	57	-	57
					328

Table C3-A1-22. Terminal Equipment (121-175 Hp) Future Year PM Emission Estimates - Berths 136-147 Terminal Project Existing Conditions.

Calendar Year	Project Year	Annual Hp-Hrs (1)	TE Usage Correction Factor (2)	PM Emission Factor (Gm/Hp-Hr) (3)	Annual PM Emissions (Tons) (4)
2003	Baseline	10,493,875	1.00	0.521	6.03
2004	-	10,493,875	1.00	0.528	6.11
2005	-	10,493,875	1.00	0.530	6.13
2006	-	10,493,875	1.00	0.396	4.58
2007	1	10,493,875	1.00	0.391	4.52
2008	2	10,493,875	1.00	0.371	4.29
2009	3	10,493,875	1.00	0.348	4.02
2010	4	10,493,875	1.00	0.324	3.75
2011	5	10,493,875	1.00	0.300	3.48
2012	6	10,493,875	1.00	0.270	3.13
2013	7	10,493,875	1.00	0.239	2.77
2014	8	10,493,875	1.00	0.208	2.41
2015	9	10,493,875	1.00	0.176	2.04
2016	10	10,493,875	1.00	0.144	1.67
2017	11	10,493,875	1.00	0.112	1.29
2018	12	10,493,875	1.00	0.096	1.11
2019	13	10,493,875	1.00	0.083	0.96
2020	14	10,493,875	1.00	0.073	0.85
2021	15	10,493,875	1.00	0.063	0.73
2022	16	10,493,875	1.00	0.054	0.63
2023	17	10,493,875	1.00	0.045	0.53
2024	18	10,493,875	1.00	0.037	0.43
2025	19	10,493,875	1.00	0.028	0.32
2026	20	10,493,875	1.00	0.019	0.22
2027	21	10,493,875	1.00	0.021	0.24
2028	22	10,493,875	1.00	0.021	0.24
2029	23	10,493,875	1.00	0.021	0.24
2030	24	10,493,875	1.00	0.021	0.24
2031	25	10,493,875	1.00	0.021	0.24
2032	26	10,493,875	1.00	0.021	0.24
2033	27	10,493,875	1.00	0.021	0.24
2034	28	10,493,875	1.00	0.021	0.24
2035	29	10,493,875	1.00	0.021	0.24
2036	30	10,493,875	1.00	0.021	0.24
2037	31	10,493,875	1.00	0.021	0.24
2038	32	10,493,875	1.00	0.021	0.24
2039	33	10,493,875	1.00	0.021	0.24
2040	34	10,493,875	1.00	0.021	0.24
2041	35	10,493,875	1.00	0.021	0.24
2042	36	10,493,875	1.00	0.021	0.24
2043	37	10,493,875	1.00	0.021	0.24
2044	38	10,493,875	1.00	0.021	0.24
2045	39	10,493,875	1.00	0.021	0.24
2046	40	10,493,875	1.00	0.021	0.24
2047	41	10,493,875	1.00	0.021	0.24
2048	42	10,493,875	1.00	0.021	0.24
2049	43	10,493,875	1.00	0.021	0.24
2050	44	10,493,875	1.00	0.021	0.24
2051	45	10,493,875	1.00	0.021	0.24
2052	46	10,493,875	1.00	0.021	0.24
2053	47	10,493,875	1.00	0.021	0.24
2054	48	10,493,875	1.00	0.021	0.24
2055	49	10,493,875	1.00	0.021	0.24
2056	50	10,493,875	1.00	0.021	0.24
2057	51	10,493,875	1.00	0.021	0.24
2058	52	10,493,875	1.00	0.021	0.24
2059	53	10,493,875	1.00	0.021	0.24
2060	54	10,493,875	1.00	0.021	0.24
2061	55	10,493,875	1.00	0.021	0.24
2062	56	10,493,875	1.00	0.021	0.24
2063	57	10,493,875	1.00	0.021	0.24
2064	58	10,493,875	1.00	0.021	0.24
2065	59	10,493,875	1.00	0.021	0.24
2066	60	10,493,875	1.00	0.021	0.24
2067	61	10,493,875	1.00	0.021	0.24

2068	62	10,493,875	1.00	0.021	0.24
2069	63	10,493,875	1.00	0.021	0.24
2070	64	10,493,875	1.00	0.021	0.24
2071	65	10,493,875	1.00	0.021	0.24
2072	66	10,493,875	1.00	0.021	0.24
2073	67	10,493,875	1.00	0.021	0.24
2074	68	10,493,875	1.00	0.021	0.24
2075	69	10,493,875	1.00	0.021	0.24
2076	70	10,493,875	1.00	0.021	0.24
70-Yr Ave.				0.06	0.73

Note: (1) Equal to year 2003 equipment Hp-Hrs * project year throughput / year 2003 throughput.

(2) See Table C3-A1-

(3) See Table C3-A1-

(4) Equal to Annual Hp-Hrs * TEU Usage Correction Factor * PM Emission Factor / 453.6 Gm/Lb / 2000 Lb/Ton.

Table C3-A1-22. Project Terminal Equipment (176-250 Hp) Future Year PM
Estimates - Berths 136-147 Terminal Project Existing

Calendar Year	Project Year	Annual Hp-Hrs (1)	TE Usage Correction Factor (2)	PM Emission Factor (Gm/Hp-Hr) (3)
2003	Baseline	12,581,479	1.00	0.243
2004	-	12,581,479	1.00	0.288
2005	-	12,581,479	1.00	0.326
2006	-	12,581,479	1.00	0.295
2007	1	12,581,479	1.00	0.289
2008	2	12,581,479	1.00	0.275
2009	3	12,581,479	1.00	0.261
2010	4	12,581,479	1.00	0.246
2011	5	12,581,479	1.00	0.232
2012	6	12,581,479	1.00	0.212
2013	7	12,581,479	1.00	0.191
2014	8	12,581,479	1.00	0.169
2015	9	12,581,479	1.00	0.146
2016	10	12,581,479	1.00	0.123
2017	11	12,581,479	1.00	0.100
2018	12	12,581,479	1.00	0.091
2019	13	12,581,479	1.00	0.082
2020	14	12,581,479	1.00	0.074
2021	15	12,581,479	1.00	0.065
2022	16	12,581,479	1.00	0.057
2023	17	12,581,479	1.00	0.048
2024	18	12,581,479	1.00	0.039
2025	19	12,581,479	1.00	0.027
2026	20	12,581,479	1.00	0.022
2027	21	12,581,479	1.00	0.024
2028	22	12,581,479	1.00	0.024
2029	23	12,581,479	1.00	0.024
2030	24	12,581,479	1.00	0.024
2031	25	12,581,479	1.00	0.024
2032	26	12,581,479	1.00	0.024
2033	27	12,581,479	1.00	0.024
2034	28	12,581,479	1.00	0.024
2035	29	12,581,479	1.00	0.024
2036	30	12,581,479	1.00	0.024
2037	31	12,581,479	1.00	0.024
2038	32	12,581,479	1.00	0.024
2039	33	12,581,479	1.00	0.024
2040	34	12,581,479	1.00	0.024
2041	35	12,581,479	1.00	0.024
2042	36	12,581,479	1.00	0.024
2043	37	12,581,479	1.00	0.024
2044	38	12,581,479	1.00	0.024
2045	39	12,581,479	1.00	0.024
2046	40	12,581,479	1.00	0.024
2047	41	12,581,479	1.00	0.024
2048	42	12,581,479	1.00	0.024
2049	43	12,581,479	1.00	0.024
2050	44	12,581,479	1.00	0.024
2051	45	12,581,479	1.00	0.024
2052	46	12,581,479	1.00	0.024
2053	47	12,581,479	1.00	0.024
2054	48	12,581,479	1.00	0.024
2055	49	12,581,479	1.00	0.024
2056	50	12,581,479	1.00	0.024
2057	51	12,581,479	1.00	0.024
2058	52	12,581,479	1.00	0.024
2059	53	12,581,479	1.00	0.024
2060	54	12,581,479	1.00	0.024
2061	55	12,581,479	1.00	0.024
2062	56	12,581,479	1.00	0.024
2063	57	12,581,479	1.00	0.024
2064	58	12,581,479	1.00	0.024
2065	59	12,581,479	1.00	0.024
2066	60	12,581,479	1.00	0.024
2067	61	12,581,479	1.00	0.024

2068	62	12,581,479	1.00	0.024
2069	63	12,581,479	1.00	0.024
2070	64	12,581,479	1.00	0.024
2071	65	12,581,479	1.00	0.024
2072	66	12,581,479	1.00	0.024
2073	67	12,581,479	1.00	0.024
2074	68	12,581,479	1.00	0.024
2075	69	12,581,479	1.00	0.024
2076	70	12,581,479	1.00	0.024
70-Yr Ave.				0.056

Note: (1) Equal to year 2003 equipment Hp-Hrs * project year throughput / year 2003 t

(2) See Table C3-A1-

(3) See Table C3-A1-

(4) Equal to Annual Hp-Hrs * TEU Usage Correction Factor * PM Emission Fact
453.6 Gm/Lb / 2000 Lb/Ton.

Table C3-A1-22. Project Terminal Equipment (251-500 Hp) Future Year PM
Estimates - Berths 136-147 Terminal Project Existing

Calendar Year	Project Year	Annual Hp-Hrs (1)	TE Usage Correction Factor (2)	PM Emission Factor (Gm/Hp-Hr) (3)
2003	Baseline	2,417,350	1.00	0.217
2004	-	2,417,350	1.00	0.219
2005	-	2,417,350	1.00	0.220
2006	-	2,417,350	1.00	0.220
2007	1	2,417,350	1.00	0.218
2008	2	2,417,350	1.00	0.216
2009	3	2,417,350	1.00	0.212
2010	4	2,417,350	1.00	0.207
2011	5	2,417,350	1.00	0.200
2012	6	2,417,350	1.00	0.186
2013	7	2,417,350	1.00	0.170
2014	8	2,417,350	1.00	0.153
2015	9	2,417,350	1.00	0.135
2016	10	2,417,350	1.00	0.115
2017	11	2,417,350	1.00	0.094
2018	12	2,417,350	1.00	0.086
2019	13	2,417,350	1.00	0.078
2020	14	2,417,350	1.00	0.070
2021	15	2,417,350	1.00	0.062
2022	16	2,417,350	1.00	0.054
2023	17	2,417,350	1.00	0.045
2024	18	2,417,350	1.00	0.036
2025	19	2,417,350	1.00	0.028
2026	20	2,417,350	1.00	0.018
2027	21	2,417,350	1.00	0.018
2028	22	2,417,350	1.00	0.018
2029	23	2,417,350	1.00	0.018
2030	24	2,417,350	1.00	0.018
2031	25	2,417,350	1.00	0.018
2032	26	2,417,350	1.00	0.018
2033	27	2,417,350	1.00	0.018
2034	28	2,417,350	1.00	0.018
2035	29	2,417,350	1.00	0.018
2036	30	2,417,350	1.00	0.018
2037	31	2,417,350	1.00	0.018
2038	32	2,417,350	1.00	0.018
2039	33	2,417,350	1.00	0.018
2040	34	2,417,350	1.00	0.018
2041	35	2,417,350	1.00	0.018
2042	36	2,417,350	1.00	0.018
2043	37	2,417,350	1.00	0.018
2044	38	2,417,350	1.00	0.018
2045	39	2,417,350	1.00	0.018
2046	40	2,417,350	1.00	0.018
2047	41	2,417,350	1.00	0.018
2048	42	2,417,350	1.00	0.018
2049	43	2,417,350	1.00	0.018
2050	44	2,417,350	1.00	0.018
2051	45	2,417,350	1.00	0.018
2052	46	2,417,350	1.00	0.018
2053	47	2,417,350	1.00	0.018
2054	48	2,417,350	1.00	0.018
2055	49	2,417,350	1.00	0.018
2056	50	2,417,350	1.00	0.018
2057	51	2,417,350	1.00	0.018
2058	52	2,417,350	1.00	0.018
2059	53	2,417,350	1.00	0.018
2060	54	2,417,350	1.00	0.018
2061	55	2,417,350	1.00	0.018
2062	56	2,417,350	1.00	0.018
2063	57	2,417,350	1.00	0.018
2064	58	2,417,350	1.00	0.018
2065	59	2,417,350	1.00	0.018
2066	60	2,417,350	1.00	0.018
2067	61	2,417,350	1.00	0.018

2068	62	2,417,350	1.00	0.018
2069	63	2,417,350	1.00	0.018
2070	64	2,417,350	1.00	0.018
2071	65	2,417,350	1.00	0.018
2072	66	2,417,350	1.00	0.018
2073	67	2,417,350	1.00	0.018
2074	68	2,417,350	1.00	0.018
2075	69	2,417,350	1.00	0.018
2076	70	2,417,350	1.00	0.018
70-Yr Ave.				0.047

Note: (1) Equal to year 2003 equipment Hp-Hrs * project year throughput / year 2003 t

(2) See Table C3-A1-

(3) See Table C3-A1-

(4) Equal to Annual Hp-Hrs * TEU Usage Correction Factor * PM Emission Fact
453.6 Gm/Lb / 2000 Lb/Ton.

Table C3-A1-25. 70-Year Annualized PM Emission Estimates for Terminal Equipm

Equipment Type	70-Yr Annualized Project PM Emissions		
	Tons	Lbs/Year	Lbs/Hour (1)
Terminal Equipment - 121-175 Hp	0.73	1,460	0.17
Terminal Equipment - 176-250 Hp	0.78	1,564	0.18
Terminal Equipment - 250-500 Hp	0.13	251	0.03
Total	1.64	3,275	0.37

Notes: (1) Based on 365 days per year and 16 hours per day.

Table C3-A1-27. 70-Year Average Annual PM Emission Rate Simulations - Berths 136-147
Terminal Project Existing Conditions.

Activity	# of Sources	PM Emission Rate Lbs/Year	PM Emission Rate Lbs/Hour (1)	Volume Source Lbs/Year	Volume Source Lbs/Hour (1)
OGVs - Fairway (2)	44	18,746	2.14	426	0.049
OGVs - Precautionary Area (2)	31	7,566	0.86	244	0.028
OGVs - Harbor Transit (2)	37	6,308	0.72	170	0.019
OGVs - Docking (2)	1	1,871	0.21	1,871	0.214
OGVs - Hoteling - Point Sources	9	35,784	4.08	3,976	0.454
Tugboats - Harbor Transit (2)(3)	37	262	0.03	7	0.001
Tugboats - Docking (2)(3)	1	174	0.02	174	0.020
Terminal Equipment	Var.	3,275	0.37	(4)	(4)
On-road Trucks - Inside Terminal	Var.	#REF!	#REF!	(4)	(4)
Trains - Within Existing PHL Railyard	Var.	378	0.04	(4)	(4)

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary sources.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable volume source areas. See Table C3-A1-28.

Table C3-A1-28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year	Source PM Lbs/Hour
OGV - Transit Fairrway						
	100	10,000	44	2.3	426	0.05
Totals		10,000	44	2.3	426	0.05
OGV - Transit Precautionary Area						
	100	10,000	31	3.2	244	0.03
Totals		10,000	31	3.2	244	0.03
OGV - Harbor Transit						
	100	10,000	37	2.7	170	0.02
Totals		10,000	37	2.7	170	0.02
OGV - Docking						
	300	90,000	1	100.0	1,871	0.21
Totals		90,000	1	100.0	1,871	0.21
Tugboat - Harbor Transit						
	100	10,000	37	2.7	7	0.00
Totals		10,000	37	2.7	7	0.00
Tugboat - Docking						
	300	90,000	1	100.0	174	0.02
Totals		90,000	1	100.0	174	0.02
Terminal - Equipment						
	360	129,600	1	21.2	693	0.08
	350	122,500	1	20.0	655	0.07
	315	99,225	1	16.2	530	0.06
	210	44,100	1	7.2	236	0.03
	195	38,025	1	6.2	203	0.02
	175	30,625	1	5.0	164	0.02
	160	25,600	1	4.2	137	0.02
	160	25,600	1	4.2	137	0.02
	160	25,600	1	4.2	137	0.02
	140	19,600	1	3.2	105	0.01
	130	16,900	1	2.8	90	0.01
	100	10,000	1	1.6	53	0.01
	98	9,604	1	1.6	51	0.01
	96	9,216	1	1.5	49	0.01
	80	6,400	1	1.0	34	0.00
Totals		612,595	15	100	3,275	0.37

Table C3-A1-28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project

Terminal - Trucks						
	360	129,600	1	21.2	#REF!	#REF!
	350	122,500	1	20.0	#REF!	#REF!
	315	99,225	1	16.2	#REF!	#REF!
	210	44,100	1	7.2	#REF!	#REF!
	195	38,025	1	6.2	#REF!	#REF!
	175	30,625	1	5.0	#REF!	#REF!
	160	25,600	1	4.2	#REF!	#REF!
	160	25,600	1	4.2	#REF!	#REF!
	160	25,600	1	4.2	#REF!	#REF!
	140	19,600	1	3.2	#REF!	#REF!
	130	16,900	1	2.8	#REF!	#REF!
	100	10,000	1	1.6	#REF!	#REF!
	98	9,604	1	1.6	#REF!	#REF!
	96	9,216	1	1.5	#REF!	#REF!
	80	6,400	1	1.0	#REF!	#REF!
Totals		612,595	15	100	#REF!	#REF!
Trains - Within Existing PHL Railyard						
	120	14,400	1	17.3	65	0.01
	118	13,924	1	16.7	63	0.01
	105	11,025	1	13.3	50	0.01
	105	11,025	1	13.3	50	0.01
	100	10,000	1	12.0	45	0.01
	85	7,225	1	8.7	33	0.00
	65	4,225	1	5.1	19	0.00
	54	2,916	1	3.5	13	0.00
	50	2,500	1	3.0	11	0.00
	48	2,304	1	2.8	10	0.00
	48	2,304	1	2.8	10	0.00
	36	1,296	1	1.6	6	0.00
Totals		83,144	12	100	378	0.04
I-110 NB from C St. to Anaheim						
	50	2,500	8	12.5	0	0.026
Totals		2,500	8	12.5	0	0.026
I-110 SB from Anaheim to C St.						
	50	2,500	6	16.7	0	0.015
Totals		2,500	6	16.7	0	0.015
I-110 SB Offramp to C St.						
	15	225	10	10.0	0	0.016
Totals		225	10	10.0	0	0.016
I-110 NB Offramp to C St.						
	25	625	8	12.5	0	0.002
Totals		625	8	12.5	0	0.002

Table C3-A1-28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project

Figueroa St. - C St. to Main Gate						
	50	2,500	5	20.0	0	0.0682
Totals		2,500	5	20.0	0	0.068
HBB - East of Main Gate to Fries Ave.						
	27	729	24	4.2	0	0.012
Totals		729	24	4.2	0	0.012
HBB - Fries Ave. to Alameda						
	27	729	15	6.7	0	0.009
Totals		729	15	6.7	0	0.009
Alameda St - HBB to Anaheim St.						
	27	729	28	3.6	0	0.004
Totals		729	28	3.6	0	0.004
Fries Ave. - HBB to Water St.						
	25	625	10	10.0	0	0.018
Totals		625	10	10.0	0	0.018
Pier A St. - Water St. to PAS Gate						
	25	625	23	4.3	0	0.005
Totals		625	23	4.3	0	0.005
Main Gate Road - HBB to Gate						
	15	225	3	33.3	0	0.041
Totals		225	3	33.3	0	0.041
Gate - Main						
	25	625	2	50.0	0	0.062
Totals		625	2	50.0	0	0.062
Gate - Water St.						
	25	625	2	50.0	0	0.042
Totals		625	2	50.0	0	0.042
Gate - Pier A St.						
	25	625	2	50.0	0	0.013
Totals		625	2	50.0	0	0.013

Table C3-A1-46. Locomotive Usage within the PHL Rail Yard - Berths 136-147 Terminal Project

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Year 2003 Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358
								552,318

Notes: (1) Activity data based on year 2003 annual usage. Year 2010 usages = 1.15 times 2003 usages.

Table C3-A1-48. Annual Train Emissions within the Existing Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions.

Project Year/Emission Source	Pounds per Hour				
	TOG	CO	NO2	SOx	PM
Project Year 2003/Source Activity					
Line Haul Locomotive	0.15	0.28	0.60	0.15	0.07
Yard Locomotive - Low UsageTrip	0.16	0.20	0.50	0.01	0.05
Yard Locomotive - Medium UsageTrip	0.33	0.41	1.00	0.02	0.10
Year 2010 Pounds per Hour	0.37	0.47	1.15	0.17	0.11

Table C3-A1-28. Volume Source Dimensions and Emissions - Berths 136-147 Terminal Project Existing Conditions.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	Fraction of Total Source Area	Pounds per Hour				
					TOG	CO	NO2	SOx	PM
Trains Within PHL Railyard									
	120	14,400	1	0.17	0.065	0.081	0.199	0.030	0.020
	118	13,924	1	0.17	0.063	0.079	0.193	0.029	0.019
	105	11,025	1	0.13	0.050	0.062	0.153	0.023	0.015
	105	11,025	1	0.13	0.050	0.062	0.153	0.023	0.015
	100	10,000	1	0.12	0.045	0.056	0.138	0.021	0.014
	85	7,225	1	0.09	0.032	0.041	0.100	0.015	0.010
	65	4,225	1	0.05	0.019	0.024	0.058	0.009	0.006
	54	2,916	1	0.04	0.013	0.016	0.040	0.006	0.004
	50	2,500	1	0.03	0.011	0.014	0.035	0.005	0.003
	48	2,304	1	0.03	0.010	0.013	0.032	0.005	0.003
	48	2,304	1	0.03	0.010	0.013	0.032	0.005	0.003
	36	1,296	1	0.02	0.006	0.007	0.018	0.003	0.002
Totals		83,144	12	1.00	0.37	0.47	1.15	0.17	0.11

Table C3-A1-20 . Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour					# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	
I-110 NB from HBB to Anaheim	0.50	35	166	0.07	0.30	0.26	0.00	0.03	8
I-110 SB from Anaheim to HBB	0.37	40	143	0.04	0.18	0.17	0.00	0.02	6
I-110 SB Offramp	0.23	25	143	0.04	0.15	0.12	0.00	0.01	11
I-110 NB Offramp to HBB	0.31	40	31	0.01	0.03	0.03	0.00	0.00	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	309	0.04	0.17	0.15	0.00	0.02	4
HBB - I-110 NB Offramp to Fries Ave.	0.72	35	340	0.22	0.88	0.78	0.01	0.09	18
HBB - Fries Ave. to Alameda	0.52	35	107	0.05	0.20	0.18	0.00	0.02	13
Alameda - HBB to Anaheim	0.65	35	107	0.06	0.25	0.22	0.00	0.03	16
Fries Ave. - HBB to Water St.	0.25	25	448	0.14	0.50	0.39	0.00	0.05	8
Water St. - Fries A. to Main Gate	0.16	25	313	0.06	0.22	0.17	0.00	0.02	5
Gate - Main	0.13	5	313	0.44	0.67	0.36	0.00	0.03	3
Fries Ave. - Water St. to Pier A St.	0.22	25	134	0.04	0.13	0.10	0.00	0.01	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	134	0.08	0.32	0.29	0.00	0.03	22
Gate - Pier A St.	0.09	5	134	0.13	0.19	0.10	0.00	0.01	4

Notes: (1) Based on 365 days per year and 24 hours per day.

Link	I-110 NB from	I-110 SB from	I-110 SB Offra	I-110 NB Offra	HBB - Fig. St.	HBB - I-110 NB	HBB - Fries Av	Alameda - HBB	Fries Ave. - HB	Water St. - Fri	Gate - Main	Fries Ave. - W	Pier A St. - Fri	Gate - Pier A S
(Mi)	0	0	0	0	0	1	1	1	0	0	0	0	1	0
MPH	35	40	25	40	35	35	35	35	25	25	5	25	35	5
PHT	166	143	143	31	309	340	107	107	448	313	313	134	134	134
TOG	0.07	0.04	0.04	0.01	0.04	0.22	0.05	0.06	0.14	0.06	0.44	0.04	0.08	0.13
CO	0.30	0.18	0.15	0.03	0.17	0.88	0.20	0.25	0.50	0.22	0.67	0.13	0.32	0.19
NO2	0.26	0.17	0.12	0.03	0.15	0.78	0.18	0.22	0.39	0.17	0.36	0.10	0.29	0.10
SOx	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM10	0.03	0.02	0.01	0.00	0.02	0.09	0.02	0.03	0.05	0.02	0.03	0.01	0.03	0.01
Sources	8	6	11	12	4	18	13	16	8	5	3	3	22	4

Table C3-A1-46. Locomotive Usage within the PHL Rail Yard - Berths 136-147 Terminal Project

Equipment Type	Hp	Load Factor	Number Active	Hourly Hp-Hr	Hours/ Trip	Trips/ Day	Days/ Year	Year 2003 Annual Hp-Hr
Line Haul Locomotive	3,965	0.05	2	397	0.25	2	365	72,361
Yard Locomotive - Low UsageTrip	2,000	0.10	1	202	0.25	10	365	184,599
Yard Locomotive - Medium UsageTrip	2,000	0.10	1	202	0.50	8	365	295,358
								552,318

Notes: (1) Activity data based on year 2003 annual usage and 2010 = 2003 activity time 1.15.

Table C3-A1-48. Annual Train Emissions within the Existing Pier A Rail Yard - Berths 136-147 Terminal Existing Conditions.

Project Year/Emission Source	Pounds per Hour				
	TOG	CO	NO2	SOx	PM
Project Year 2010/Source Activity					
Line Haul Locomotive	0.13	0.28	0.40	0.03	0.04
Yard Locomotive - Low UsageTrip	0.08	0.27	0.23	0.00	0.03
Yard Locomotive - Medium UsageTrip	0.15	0.54	0.47	0.00	0.05
Year 2010 Pounds per Hour (1)	0.17	0.62	0.54	0.04	0.06

Note: (1) Factored by 1.15 to give a 7-year growth in emissions.

Table C3-A1-28. Volume Source Dimensions and Emissions - Berths 136-147 Terminal Alt 1 Project Year 2010 Conditions.

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	Fraction of Total Source Area	Pounds per Hour				
					TOG	CO	NO2	SOx	PM
Trains Within PHL Railyard									
	200	40,000	1	0.23	0.040	0.141	0.123	0.009	0.014
	150	22,500	1	0.13	0.023	0.079	0.069	0.005	0.008
	125	15,625	1	0.09	0.016	0.055	0.048	0.004	0.005
	125	15,625	1	0.09	0.016	0.055	0.048	0.004	0.005
	125	15,625	1	0.09	0.016	0.055	0.048	0.004	0.005
	100	10,000	1	0.06	0.010	0.035	0.031	0.002	0.003
	100	10,000	1	0.06	0.010	0.035	0.031	0.002	0.003
	100	10,000	1	0.06	0.010	0.035	0.031	0.002	0.003
	100	10,000	1	0.06	0.010	0.035	0.031	0.002	0.003
	75	5,625	1	0.03	0.006	0.020	0.017	0.001	0.002
	75	5,625	1	0.03	0.006	0.020	0.017	0.001	0.002
	75	5,625	1	0.03	0.006	0.020	0.017	0.001	0.002
	75	5,625	1	0.03	0.006	0.020	0.017	0.001	0.002
	50	2,500	1	0.01	0.003	0.009	0.008	0.001	0.001
Totals		174,375	14	1.00	0.17	0.62	0.54	0.04	0.06

Table C3-A1-20 . Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour					# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	
I-110 NB from HBB to Anaheim	0.50	35	199	0.29	1.31	1.17	0.00	0.14	8
I-110 SB from Anaheim to HBB	0.37	40	172	0.16	0.72	0.76	0.00	0.08	6
I-110 SB Offramp	0.23	25	172	0.18	0.76	0.49	0.00	0.08	11
I-110 NB Offramp to HBB	0.31	40	38	0.03	0.13	0.14	0.00	0.01	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	372	0.17	0.76	0.68	0.00	0.08	4
HBB - I-110 NB Offramp to Fries Ave.	0.72	35	410	0.85	3.88	3.47	0.01	0.40	18
HBB - Fries Ave. to Alameda	0.52	35	129	0.19	0.88	0.79	0.00	0.09	13
Alameda - HBB to Anaheim	0.65	35	129	0.24	1.11	0.99	0.00	0.11	16
Fries Ave. - HBB to Water St.	0.25	25	539	0.60	2.54	1.64	0.01	0.26	8
Water St. - Fries A. to Main Gate	0.16	25	377	0.26	1.11	0.72	0.00	0.11	5
Gate - Main	0.13	5	377	2.05	2.77	1.51	0.00	0.42	3
Fries Ave. - Water St. to Pier A St.	0.22	25	162	0.16	0.67	0.43	0.00	0.07	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	162	0.31	1.43	1.28	0.00	0.15	22
Gate - Pier A St.	0.09	5	162	0.59	0.79	0.43	0.00	0.12	4

Notes: (1) Based on 365 days per year and 24 hours per day.

Link	I-110 NB from	I-110 SB from	I-110 SB Offra	I-110 NB Offra	HBB - Fig. St.	HBB - I-110 NB	HBB - Fries Av	Alameda - HBB	Fries Ave. - HB	Water St. - Fri	Gate - Main	Fries Ave. - W	Pier A St. - Fri	Gate - Pier A S
(Mi)	0	0	0	0	0	1	1	1	0	0	0	0	1	0
MPH	35	40	25	40	35	35	35	35	25	25	5	25	35	5
PHT	199	172	172	38	372	410	129	129	539	377	377	162	162	162
TOG	0.29	0.16	0.18	0.03	0.17	0.85	0.19	0.24	0.60	0.26	2.05	0.16	0.31	0.59
CO	1.31	0.72	0.76	0.13	0.76	3.88	0.88	1.11	2.54	1.11	2.77	0.67	1.43	0.79
NO2	1.17	0.76	0.49	0.14	0.68	3.47	0.79	0.99	1.64	0.72	1.51	0.43	1.28	0.43
SOx	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
PM10	0.14	0.08	0.08	0.01	0.08	0.40	0.09	0.11	0.26	0.11	0.42	0.07	0.15	0.12
Sources	8	6	11	12	4	18	13	16	8	5	3	3	22	4

	A	B	C	D	E	F
1	Table H3-A1.1. Ship Visit and Throughput Data - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
2		Annual	Annual	TEU Moves/	Hoteling Time/	Annual
3	Project Scenario/Ship Type	Ship Visits	Shifts	Ship Visit (1)	Visit (Hours) (2)	TEU Movements
4	Baseline - Year 2003					
5	Containerships 3,000 - 5,000 TEU	68		5,100	60.0	346,800
6	Containerships < 3,000 TEU	148	30	3,063	36.0	545,214
7	Subtotal	246				892,014
8	Project Year 2007					
9	Containerships 5,000 - 6,000 TEU	26		8,017	72.0	208,442
10	Containerships 3,000 - 5,000 TEU	80		5,100	60.0	408,000
11	Containerships < 3,000 TEU	155		3,063	36.0	474,765
12	Subtotal	261				1,091,207
13	Project Year 2010					
14	Containerships 8,000 - 9,000 TEU	21		12,584	84.0	264,264
15	Containerships 5,000 - 6,000 TEU	48		8,017	72.0	384,816
16	Containerships 3,000 - 5,000 TEU	92		5,100	60.0	469,200
17	Containerships < 3,000 TEU	161		3,063	36.0	493,143
18	Subtotal	322				1,611,423
19	Project Year 2015					
20	Containerships 8,000 - 9,000 TEU	42		12,584	84.0	528,528
21	Containerships 5,000 - 6,000 TEU	72		8,017	72.0	577,224
22	Containerships 3,000 - 5,000 TEU	68		5,100	60.0	346,800
23	Containerships < 3,000 TEU	99		3,063	36.0	303,237
24	Subtotal	281				1,755,789
25	Project Year 2030					
26	Containerships 8,000 - 9,000 TEU	79		12,584	84.0	994,136
27	Containerships 5,000 - 6,000 TEU	111		8,017	72.0	889,887
28	Containerships 3,000 - 5,000 TEU	66		5,100	60.0	336,600
29	Containerships < 3,000 TEU	55		3,063	36.0	168,465
30	Subtotal	311				2,389,088
31	Notes: (1) Throughputs for vessels <3,000 and 3,000-5,000 TEUs based upon current and future expected operations at the					
32	Berths 136-147 terminal. Thrghput for 5,000-6,000 TEU vessels based upon average throughput of vessels >5000					
33	TEUs at berths 121-131 in year 2001. Thrghput for 8,000-9,000 TEU vessels based upon an expected capacity of					
34	8,800 TEUs (Samsung Heavy Industries 2003) * 1.43 (the ratio of throughput per ship visit/vessel capacity for					
35	vessels >5,000 TEUs that called at Berths 121-131 in 2001) = 12,584 TEUs/SV.					
36	(2) Assumes that 4 cranes would service <3,000 and 3-5,000 TEU vessels @ 1600 lifts/day = 2992 TEUs/day,					
37	5 cranes would service 5-6,000 TEU vessels @ 2000 lifts/day = 3740 TEUs/day, and 6 cranes would service					
38	8-9,000 TEU vessels @ 2400 lifts/day = 4488 TEUs/day (TraPac 2006).					

	A	B	C	D	E	F
76	Table H3-A1.1. Proposed Phase-In Mitigations Implementation Schedule - Berths 136-147 Terminal Projects.					
77		Year/Compliance Rate Fraction of All Ship Visits				
78	Mitigation Measure	2007	2010	2015	2020	2030
79	VSRP	0.50	0.90	1.00	1.00	1.00
80	Non-VSRP	0.50	0.10			
81	AMP		0.35	0.75	0.90	0.90
82	Non-AMP	1.00	0.65	0.25	0.10	0.10
83	Auxiliary Engines - 2.7% S RO	0.63	0.60	0.10	0.05	0.05
84	Auxiliary Engines - 0.5% S MGO	0.37	0.20			
85	Auxiliary Engines - 0.2% S MGO		0.20	0.90	0.95	0.95
86	OGV Main Engines - 2.7% S RO	1.00	0.80	0.10	0.05	0.05
87	OGV Main Engines - 0.5% S MGO					
88	OGV Main Engines - 0.2% S MGO		0.20	0.90	0.95	0.95
89	Slide Valves	-	0.25	0.90	1.00	1.00
90	Non-Slide Valves	1.00	0.75	0.10		
91	Annex VI Complaint Vessels		0.35	0.75	0.90	0.90
92	Non-Annex VI Vessels	1.00	0.65	0.25	0.10	0.10

	H	I	J	K	L	M	N	O	P
1	Table H3-A1.2. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Fairway Zone -								
2	Berths 136-147 Terminal Project Alternatives.								
3			Fairway (1)						
4		Propulsion	Load	Modal	Distance	Speed	Hours	Hp-Hrs/	kW-Hrs/
5	Mode/Vessel Type	Max Hp (2)	Factor (3)	Hp	(NM)	(Kts) (4)	Per Trip	Trip	Trip (5)
6	Non-Compliance with VSRP (6)								
7	Containership 8,000 - 9,000 TEU	93,000	0.83	77,283	39.9	24.9	1.61	124,070	92,556
8	Containership 5,000 - 6,000 TEU	74,688	0.83	62,066	39.9	22.6	1.76	109,360	81,583
9	Containership 3,000 - 5,000 TEU	46,562	0.83	38,693	39.9	20.8	1.92	74,115	55,290
10	Containership < 3,000 TEU	23,481	0.83	19,513	39.9	18.2	2.19	42,693	31,849
11	General Cargo	12,504	0.83	10,390	38.9	14.7	2.64	27,475	20,496
12	Auto Carrier	14,311	0.83	11,893	39.6	17.6	2.24	26,672	19,898
13	Compliance with VSRP (7)								
14	Containership 8,000 - 9,000 TEU - Outside VSRPZ	93,000	0.83	77,283	17.9	24.9	0.72	55,661	41,523
15	Containership 8,000 - 9,000 TEU - In VSRPZ	93,000	0.09	8,694	22.0	12.0	1.83	15,940	11,891
16	Containership 8,000 - 9,000 TEU - Total kW-Hrs								53,414
17	Containership 5,000 - 6,000 TEU - Outside VSRPZ	74,688	0.83	62,066	17.9	22.6	0.79	49,061	36,600
18	Containership 5,000 - 6,000 TEU - In VSRPZ	74,688	0.12	9,232	22.0	12.0	1.83	16,925	12,626
19	Containership 5,000 - 6,000 TEU - Total kW-Hrs								49,226
20	Containership 3,000 - 5,000 TEU - Outside VSRPZ	46,562	0.83	38,693	17.9	20.8	0.86	33,250	24,804
21	Containership 3,000 - 5,000 TEU - In VSRPZ	46,562	0.16	7,394	22.0	12.0	1.83	13,555	10,112
22	Containership 3,000 - 5,000 TEU - Total kW-Hrs								34,917
23	Containership < 3,000 TEU - Outside VSRPZ	23,481	0.83	19,513	17.9	18.2	0.98	19,153	14,288
24	Containership < 3,000 TEU - In VSRPZ	23,481	0.24	5,557	22.0	12.0	1.83	10,188	7,600
25	Containership < 3,000 TEU - Total kW-Hrs								21,889
26	General Cargo - Outside VSRPZ	12,504	0.83	10,390	16.9	14.7	1.15	11,916	8,890
27	General Cargo - In VSRPZ	12,504	0.45	5,658	22.0	12.0	1.83	10,374	7,739
28	General Cargo - Total kW-Hrs								16,629
29	Auto Carrier - Outside VSRPZ	14,311	0.83	11,893	17.6	17.6	1.00	11,836	8,829
30	Auto Carrier - In VSRPZ	14,311	0.26	3,746	22.0	12.0	1.83	6,867	5,123
31	Auto Carrier - Total kW-Hrs								13,952
32	Notes: (1) Vessel route between the boundary of the SCAQMD waters and the Precautionary Area. Based upon data from the								
33	Port of Los Angeles Baseline Air Emissions Inventory (PEI) (Starcrest 2005) Table 2.8 and expected usage of fairway routes								
34	for each vessel type (see Table H3-A1.5a).								
35	(2) Average maximum horsepower rating from Lloyds data, ship builders (Samsung Heavy Industries 2003), and PEI Table 2.26.								
36	(3) PEI page 68.								
37	(4) Represents service speed, which is 94% of maximum speed (PEI page 68).								
38	(5) 1 kW-Hr = 0.746 Hp-Hrs.								
39	(6) Length of fairway within the Vessel Speed Reduction Program (VSRP) Zone (VSRPZ) = 22 nautical miles (NM).								
40	(7) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).								

Table H3-A1.3. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip in the POLA Precautionary Area - Berths 136-147 Terminal Project Alternatives.

	Precautionary Area (1)							
Vessel Type	Propulsion Max Hp	Load Factor (2)	Modal Hp	Distance (NM)	Speed (Kts) (3)	Hours	Hp-Hrs/ Trip	kW-Hrs/ Trip
Containership 8,000 - 9,000 TEU	93,000	0.07	6,697	10.4	11.0	0.95	6,332	4,723
Containership 5,000 - 6,000 TEU	74,688	0.10	7,111	10.4	11.0	0.95	6,723	5,015
Containership 3,000 - 5,000 TEU	46,562	0.12	5,695	10.4	11.0	0.95	5,384	4,017
Containership < 3,000 TEU	23,481	0.18	4,280	10.4	11.0	0.95	4,047	3,019
General Cargo	12,504	0.19	2,387	9.5	9.0	1.06	2,528	1,886
Auto Carrier	14,311	0.20	2,885	10.1	11.0	0.92	2,652	1,978

Notes: (1) Portion of the trip between the fairway and POLA breakwater.

(2) Load factor derived from Propeller Law, where load factor = (actual speed/max. speed) ^{3} (PEI page 99).

(3) Average transit speeds obtained from PEI Table 2.8.

Table H3-A1.4. Cargo Vessel Propulsion Engine Usage per One-Way Ship Trip within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Operational Mode/Vessel Type	Propulsion Max Hp	Load Factor (2)	Modal Hp	Hours/ Mode (3)	Hp-Hrs/ Trip	kW-Hrs/ Trip
Transit (1)						
Containership 8,000 - 9,000 TEU	93,000	0.037	3,441	0.75	2,581	1,925
Containership 5,000 - 6,000 TEU	74,688	0.037	2,763	0.75	2,073	1,546
Containership 3,000 - 5,000 TEU	46,562	0.037	1,723	0.75	1,292	964
Containership < 3,000 TEU	23,481	0.037	869	0.75	652	486
General Cargo	12,504	0.060	750	0.75	563	420
Auto Carrier	14,311	0.065	930	0.75	698	520
Docking						
Containership 8,000 - 9,000 TEU	93,000	0.020	1,860	0.21	381	284
Containership 5,000 - 6,000 TEU	74,688	0.020	1,494	0.21	306	228
Containership 3,000 - 5,000 TEU	46,562	0.020	931	0.21	191	142
Containership < 3,000 TEU	23,481	0.020	470	0.21	96	72
General Cargo	12,504	0.020	250	0.13	31	23
Auto Carrier	14,311	0.020	286	0.13	36	27

Notes: (1) Average one-way transit operations between the POLA breakwater and the Berth 136-149 Terminal.

(2) Transit load factors based upon the average of inbound and outbound load factors in PEI Table 2.46. Docking load factors obtained from PEI Table 2.46.

(3) One-way transit durations = 3.7 nm @ 5 kts. Docking durations obtained from PEI Table 2.51.

Table H3-A1.5. Cargo Vessel Propulsion Engine Usage for Shifts within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.

Operational Mode/Vessel Type (1)	Propulsion Max Hp	Load Factor (2)	Modal Hp	Hours/ Mode (3)	Hp-Hrs/ Trip	kW-Hrs/ Trip
Transit						
Containership < 3,000 TEU	23,481	0.037	869	0.75	652	486
Docking						
Containership < 3,000 TEU	23,481	0.020	470	0.21	96	72

Notes: (1) Vessel usage within the POLA and to Berths 136-147. Equal to 1 transit + docking operation estimated in Table H3-A1.4.

Table H3-A1.5a. Cargo Vessel Transit Distances within the Fairway and Precautionary Areas - Berths 136-147 Terminal Project Alternatives.

	Fairway 1-way Route Length (1)/ Percent in Route (2)			
Vessel Type	North	West	South	Ave. Length
	39.5	43.5	36.0	
Container	90.0	10.0	-	39.9
General Cargo	60.0	10.0	30.0	38.9
Auto	80.0	10.0	10.0	39.6

	VSRP Zone 1-way Distance within Fairway/Percent in Route (2)			
Vessel Type	North	West	South	Ave. Length
	22.4	19.2	13.6	
Container	90.0	10.0	-	22.1
General Cargo	60.0	10.0	30.0	19.4
Auto	80.0	10.0	10.0	21.2

	Precautionary Area 1-way Route Length (1)/Percent in Route (2)			
	North (3)	West (3)	South (3)	Ave. Length
	10.4	10.4	7.5	
Container	90.0	10.0	-	10.4
General Cargo	60.0	10.0	30.0	9.5
Auto	80.0	10.0	10.0	10.1

Notes: (1) Route lengths in units of nautical miles (nm) (from PEI Table 2.8).
(2) Based upon expected transit distribution patterns (TraPac 2004).

	R	S	T	U	V
1	Table H3-A1.6. Cargo Vessel Auxiliary Generator Usage per One-Way Fairway Transit -				
2	Berths 136-147 Terminal Project Alternatives.				
3		Auxiliary kW	Load	Hours/	kW-Hrs/
4	Mode/Vessel Type	per Vessel (1)	Factor (2)	Transit	Transit
5	Non-Compliance with VSRP (3)				
6	Containership 8,000 - 9,000 TEU	15,000	0.13	1.61	3,131
7	Containership 5,000 - 6,000 TEU	10,366	0.13	1.76	2,374
8	Containership 3,000 - 5,000 TEU	5,837	0.13	1.92	1,453
9	Containership < 3,000 TEU	3,681	0.13	2.19	1,047
10	General Cargo	1,777	0.17	2.64	799
11	Auto Carrier	2,027	0.13	2.24	591
12	Compliance with VSRP (3)				
13	Containership 8,000 - 9,000 TEU	15,000	0.13	2.55	4,979
14	Containership 5,000 - 6,000 TEU	10,366	0.13	2.62	3,536
15	Containership 3,000 - 5,000 TEU	5,837	0.13	2.69	2,043
16	Containership < 3,000 TEU	3,681	0.13	2.81	1,347
17	General Cargo	1,777	0.17	2.98	900
18	Auto Carrier	2,027	0.13	2.83	745
19	Notes: (1) PEI Table 2.18, except kW rating for 8,000-9,000 vessel estimated by extrapolation from				
20	5,000-6,000 TEU vessel rating.				
21	(2) PEI Table 2.19.				
22	(3) See Table H3-A1.2 for estimated vessel transit durations within the fairway for each mode of oper				
23					
24	Table H3-A1.7. Cargo Vessel Auxiliary Generator Usage per One-Way Precautionary				
25	Area Transit - Berths 136-147 Terminal Project Alternatives.				
26		Auxiliary kW	Load	Hours/	kW-Hrs/
27	Vessel Type	per Vessel	Factor (1)	Transit	Transit
28	Containership 8,000 - 9,000 TEU	15,000	0.25	0.95	3,545
29	Containership 5,000 - 6,000 TEU	10,366	0.25	0.95	2,450
30	Containership 3,000 - 5,000 TEU	5,837	0.25	0.95	1,380
31	Containership < 3,000 TEU	3,681	0.25	0.95	870
32	General Cargo	1,777	0.27	1.06	508
33	Auto Carrier	2,027	0.30	0.92	559
34	Notes: (1) PEI Table 2.19.				
35					
36	Table H3-A1.8. Cargo Vessel Auxiliary Generator Usage per One-Way Transit and Docking				
37	within the POLA Breakwater - Berths 136-147 Terminal Project Alternatives.				
38		Auxiliary kW	Load	Hours/	kW-Hrs/
39	Vessel Type/Operational Mode	per Vessel	Factor (1)	Mode (2)	Transit
40	Transit (1)				
41	Containership 8,000 - 9,000 TEU	15,000	0.50	0.75	5,625
42	Containership 5,000 - 6,000 TEU	10,366	0.50	0.75	3,887
43	Containership 3,000 - 5,000 TEU	5,837	0.50	0.75	2,189
44	Containership < 3,000 TEU	3,681	0.50	0.75	1,380
45	General Cargo	1,777	0.45	0.75	600
46	Auto Carrier	2,027	0.67	0.75	1,019
47	Docking				
48	Containership 8,000 - 9,000 TEU	15,000	0.50	0.21	1,538
49	Containership 5,000 - 6,000 TEU	10,366	0.50	0.21	1,063
50	Containership 3,000 - 5,000 TEU	5,837	0.50	0.21	598
51	Containership < 3,000 TEU	3,681	0.50	0.21	377
52	General Cargo	1,777	0.45	0.13	100
53	Auto Carrier	2,027	0.67	0.13	170
54	Notes: (1) PEI Table 2.19.				
55	(2) See Table H3-A1.4 for estimated vessel transit/docking durations within the Harbor.				

	R	S	T	U	V
57	Table H3-A1.9. Cargo Vessel Hoteling Auxiliary Generator Usage per Ship Visit -				
58	Berths 136-147 Terminal Project Alternatives.				
59		Auxiliary kW	Load	Hours/	kW-Hrs/
60	Vessel Type	per Vessel	Factor (1)	Visit (2)	Visit
61	Containership 8,000 - 9,000 TEU	15,000	0.17	84.0	214,200
62	Containership 5,000 - 6,000 TEU	10,366	0.17	72.0	126,880
63	Containership 3,000 - 5,000 TEU	5,837	0.17	60.0	59,537
64	Containership < 3,000 TEU	3,681	0.17	36.0	22,528
65	General Cargo	1,777	0.22	39.8	15,559
66	Auto Carrier	2,027	0.24	17.4	8,465
67	Notes: (1) PEI Table 2.19.				
68	(2) From Table H3-A1.1, except PEI Table 2.24 for auto carrier and general cargo vessels.				
69					
70	Table H3-A1.10. Cargo Vessel Auxiliary Generator Usage per Shift within the POLA				
71	Breakwater - Berths 136-147 Terminal Project Alternatives.				
72		Auxiliary kW	Load	Hours/	kW-Hrs/
73	Vessel Type	per Vessel	Factor (1)	Visit (1)	Year
74	Transit (1)				
75	Containership < 3,000 TEU	3,681	0.50	0.75	1,380
76	Docking				
77	Containership < 3,000 TEU	3,681	0.50	0.21	377
78	Notes: (1) From Table H3-A1.8.				
79					
80	Table H3-A1.11. Cargo Vessel Auxiliary Generator Usage during Hoteling per Shift -				
81	Berths 136-147 Terminal Project Alternatives.				
82		Auxiliary kW	Load	Hours/	kW-Hrs/
83	Vessel Type	per Vessel (1)	Factor (2)	Visit (1)	Transit
84	Containership < 3,000 TEU	3,681	0.17	36.0	22,528
85	Notes: (1) From Table H3-A1.9.				
86					
87	Table H3-A1.12. Cargo Vessel Auxiliary Boiler Usage per Ship Visit -				
88	Berths 136-147 Terminal Project Alternatives.				
89		Hourly Fuel			
90	Vessel Type	Usage (1)			
91	All Cargo Vessels	0.014			
92	Notes: (1) Units in tons/hour of fuel consumption (PEI Section 2.5.6).				
93	This usage assumed for all vessel locations.				

	X	Y	Z	AA	AB	AC	AD	AE
1	Table H3-A1.13. Baseline Year 2003 Cargo Vessel Tugboat Assist Usage - Berths 136-147 Terminal Project Alternatives.							
2		Tugboat	Load	Hours/	Hp-Hr/	Annual #	Annual	Annual
3	Vessel Type	Max Hp (1)	Factor (2)	Assist (3)	Assist	of Assists (4)	Hp-Hrs	kW-Hrs
4	Containership 3,000 - 5,000 TEU	4,543	0.31	1.24	1,748	158	277,023	206,659
5	Containership < 3,000 TEU	4,543	0.31	1.24	1,748	237	414,031	308,867
6	Totals						691,054	515,526
7	Notes: (1) (Starcrest 2006)							
8	(2) From PEI, Table 3.9.							
9	(3) Duration 1-way vessel trip due to harbor transit and docking durations presented in Tables H3-A1.4 and H3-A1.5 times 1.3 to account for tug							
10	movement and assist time. General cargo and auto carrier vessels assumed to require the same tugboat assist usage as							
11	containerships <3,000 TEUs.							
12	(4) Estimated by multiplying the ratio of 2003/2001 throughputs for the Berths 136-147 terminal by tug activitiy during the 2001 baseline year.							
13	All future project years would have 3 tug assists per ship visit.							
14								
15	Table H3-A1.14. Baseline Year 2003 Tugboat Aux. Generator Usage during Cargo Vessel Assists - Berths 136-147							
16	Terminal Project Alternatives.							
17		Aux.	Load	Hours/	Hp-Hr/	Annual #	Annual	Annual
18	Vessel Type	Engine Hp (1)	Factor (2)	Assist (3)	Assist	of Assists	Hp-Hrs	kW-Hrs
19	Containership 3,000 - 5,000 TEU	258	0.43	1.61	179	158	28,369	21,163
20	Containership < 3,000 TEU	258	0.43	1.61	179	237	42,399	31,630
21	Totals						70,768	52,793
22	Notes: (1) (Starcrest 2006)							
23	(2) From PEI Table 3.9.							
24	(3) Duration = 1.3 times tug assist time in Table H3-A1.13 to account for usage when main engines are shut down in stand-by mode. General cargo/							
25	auto carrier vessels would require the same usage as containerships <3,000 TEUs.							

	AG	AH	AI	AJ	AK	AL	AM
1	Table H3-A1.15. Emissions Factors for Vessels - Berths 136-147 Terminal Project Alternatives.						
2		Emission Factors (Gm/kW-Hr)					
3	Operational Mode/Ship-Engine Type	ROG	CO	NOx	SOx	PM	Source
4	Cruise/Main Engine						
5	OGVs - Slow Speed Diesel Main Engines - 2.7% S RFO	0.60	1.40	18.10	10.50	2.40	(1)
6	OGVs - Slow Speed Diesel Main Engines - 0.5% S RFO	0.60	1.40	16.29	2.00	0.89	(1)
7	OGVs - Slow Speed Diesel Main Engines - 0.2% S RFO	0.60	1.40	16.29	0.74	0.84	(1)
8	<20% Main Engine Load Emission Factors						
9	OGVs - Slow Speed Diesel 2% Load Adjustment Factor	31.62	10.00	4.63	1.00	7.29	(2)
10	OGVs - Slow Speed Diesel 3% Load Adjustment Factor	17.21	6.67	2.92	1.00	4.33	(2)
11	OGVs - Slow Speed Diesel 4% Load Adjustment Factor	11.18	5.00	2.21	1.00	3.09	(2)
12	OGVs - Slow Speed Diesel 5% Load Adjustment Factor	8.00	4.00	1.83	1.00	2.44	(2)
13	OGVs - Slow Speed Diesel 6% Load Adjustment Factor	6.09	3.33	1.60	1.00	2.04	(2)
14	OGVs - Slow Speed Diesel 7% Load Adjustment Factor	4.83	2.86	1.45	1.00	1.79	(2)
15	OGVs - Slow Speed Diesel 9% Load Adjustment Factor	3.31	2.22	1.27	1.00	1.48	(2)
16	OGVs - Slow Speed Diesel 10% Load Adjustment Factor	2.83	2.00	1.22	1.00	1.38	(2)
17	OGVs - Slow Speed Diesel 12% Load Adjustment Factor	2.15	1.67	1.14	1.00	1.24	(2)
18	OGVs - Slow Speed Diesel 16% Load Adjustment Factor	1.40	1.25	1.05	1.00	1.08	(2)
19	OGVs - Slow Speed Diesel 18% Load Adjustment Factor	1.17	1.11	1.02	1.00	1.04	(2)
20	OGVs - Slow Speed Diesel 19% Load Adjustment Factor	1.08	1.05	1.01	1.00	1.02	(2)
21	<20% Main Engine Load Emission Factors - 2.7% S RFO						
22	OGVs - Slow Speed Diesel 2% Load Emission Factor	18.97	14.00	83.80	10.50	17.50	(3)
23	OGVs - Slow Speed Diesel 3.7% Load Emission Factor	7.79	7.70	43.86	10.50	8.31	(3)
24	OGVs - Slow Speed Diesel 6.5% Load Emission Factor	3.28	4.33	27.60	10.50	4.60	(3)
25	OGVs - Slow Speed Diesel 7% Load Emission Factor	2.90	4.00	26.25	10.50	4.30	(3)
26	OGVs - Slow Speed Diesel 9% Load Emission Factor	1.99	3.11	22.99	10.50	3.55	(3)
27	OGVs - Slow Speed Diesel 10% Load Emission Factor	1.70	2.80	22.08	10.50	3.31	(3)
28	OGVs - Slow Speed Diesel 12% Load Emission Factor	1.29	2.34	20.63	10.50	2.98	(3)
29	OGVs - Slow Speed Diesel 16% Load Emission Factor	0.84	1.75	19.01	10.50	2.59	(3)
30	OGVs - Slow Speed Diesel 18% Load Emission Factor	0.70	1.55	18.46	10.50	2.50	(3)
31	OGVs - Slow Speed Diesel 19% Load Emission Factor	0.65	1.47	18.28	10.50	2.45	(3)
32	<20% Main Engine Load Emission Factors - 0.5% S MGO						
33	OGVs - Slow Speed Diesel 2% Load Emission Factor	18.97	14.00	75.42	2.00	6.47	(3)
34	OGVs - Slow Speed Diesel 3.7% Load Emission Factor	7.79	7.70	39.47	2.00	3.07	(3)
35	OGVs - Slow Speed Diesel 6.5% Load Emission Factor	3.28	4.33	24.84	2.00	1.70	(3)
36	OGVs - Slow Speed Diesel 7% Load Emission Factor	2.90	4.00	23.62	2.00	1.59	(3)
37	OGVs - Slow Speed Diesel 9% Load Emission Factor	1.99	3.11	20.69	2.00	1.31	(3)
38	OGVs - Slow Speed Diesel 10% Load Emission Factor	1.70	2.80	19.87	2.00	1.23	(3)
39	OGVs - Slow Speed Diesel 12% Load Emission Factor	1.29	2.34	18.57	2.00	1.10	(3)
40	OGVs - Slow Speed Diesel 16% Load Emission Factor	0.84	1.75	17.10	2.00	0.96	(3)
41	OGVs - Slow Speed Diesel 18% Load Emission Factor	0.70	1.55	16.62	2.00	0.92	(3)
42	OGVs - Slow Speed Diesel 19% Load Emission Factor	0.65	1.47	16.45	2.00	0.91	(3)
43	<20% Main Engine Load Emission Factors - 0.2% S MGO						
44	OGVs - Slow Speed Diesel 2% Load Emission Factor	18.97	14.00	75.42	0.74	6.12	(3)
45	OGVs - Slow Speed Diesel 3.7% Load Emission Factor	7.79	7.70	39.47	0.74	2.91	(3)
46	OGVs - Slow Speed Diesel 6.5% Load Emission Factor	3.28	4.33	24.84	0.74	1.61	(3)
47	OGVs - Slow Speed Diesel 7% Load Emission Factor	2.90	4.00	23.62	0.74	1.50	(3)
48	OGVs - Slow Speed Diesel 9% Load Emission Factor	1.99	3.11	20.69	0.74	1.24	(3)
49	OGVs - Slow Speed Diesel 10% Load Emission Factor	1.70	2.80	19.87	0.74	1.16	(3)
50	OGVs - Slow Speed Diesel 12% Load Emission Factor	1.29	2.34	18.57	0.74	1.04	(3)
51	OGVs - Slow Speed Diesel 16% Load Emission Factor	0.84	1.75	17.10	0.74	0.91	(3)
52	OGVs - Slow Speed Diesel 18% Load Emission Factor	0.70	1.55	16.62	0.74	0.87	(3)
53	OGVs - Slow Speed Diesel 19% Load Emission Factor	0.65	1.47	16.45	0.74	0.86	(3)
54	Tugboats - Diesel Main Engines Year 2003	0.37	1.87	12.49	0.80	0.49	(4)
55	Tugboats - Diesel Main Engines Year 2007	0.37	1.87	11.75	0.006	0.48	(4)
56	Tugboats - Diesel Main Engines Year 2010	0.37	1.87	11.11	0.006	0.46	(4)
57	Tugboats - Diesel Main Engines Year 2015	0.36	1.87	10.04	0.006	0.43	(4)
58	Tugboats - Diesel Main Engines Year 2030	0.35	1.87	7.47	0.006	0.33	(4)
59	Auxiliary Generators						
60	OGVs - Medium Speed Diesel - Residual Oil @ 2.7%	0.40	1.10	14.70	12.30	0.80	(6)
61	OGVs - Medium Speed Diesel - Marine Gas Oil @ 0.5% S	0.40	1.10	13.90	2.17	0.30	(6)
62	OGVs - Medium Speed Diesel - Marine Gas Oil @ 0.2% S	0.40	1.10	13.90	0.87	0.28	(6)
63	OGVs - Medium Speed Diesel - Marine Gas Oil @ 0.1% S	0.40	1.10	13.90	0.43	0.27	(6)
64	Tugboats - High Speed Diesel - Year 2003	0.27	1.67	9.94	0.80	0.46	(4)
65	Tugboats - High Speed Diesel - Year 2007	0.27	1.67	9.64	0.004	0.45	(4)
66	Tugboats - High Speed Diesel - Year 2010	0.27	1.67	9.37	0.004	0.43	(4)

	AG	AH	AI	AJ	AK	AL	AM
67	Tugboats - High Speed Diesel - Year 2015	0.27	1.67	8.91	0.004	0.40	(4)
68	Tugboats - High Speed Diesel - Year 2030	0.27	1.67	6.80	0.004	0.28	(4)
69	Auxiliary Boilers						
70	Commercial Vessels	0.76	9.20	24.60	108.00	3.02	(7)
71	Notes: (1) Applies to OGV operations within the fairway and precautionary area (PEI Table 2.20). PM10 factor from Table 2.20 divided by						
72	0.8 to produce PM factor for slow speed diesel engine buring residual oil (See Table 2.9 and section 2.5.1. [Entec 2002]).						
73	(2) Unitless adjustment factors from PEI Table 2.21 that are applied to OGV main power plant emission factors in PEI Table 2.20 to						
74	obtain emission factors for engine loads <20%.						
75	(3) Calculated OGV main power plant low load emission factors.						
76	(4) Composite EFs for category 1/2 diesel engines (Starcrest 2006). Average sulfur (S) content = 0.19% (PEI Section 3.2.2) in						
77	year 2003 and 15 ppm in year 2007+						
78	(5) Table 2.22 (Starcrest 2004). PM emission factors for medium speed diesel engnies burning 0.2% S marine gas, POLA diesel,						
79	and ULSD calculated by Starcrest (Starcrest 2006).						
80	(6) See CS Table 12						
81	(7) Units in Lb/ton fuel from PEI Table 2.23. Original PM10 factor divided by 0.86 to produce DPM factor (Table 1.3-5 [EPA 1998]).						

	AG	AH	AI	AJ	AK	AL	AM
105	Table OGV Main Engine Emission Factors Multipliers for Use of Slide Valves						
106							
107	Main Engine Load Factor	VOC	CO	NOx	SOx	PM	
108	> 25%	0.70	1.00	0.70	1.00	0.75	
109	<25%	0.15	1.00	0.70	1.00	0.40	
110	Notes: (1) Reduction factors for slide valves at high main engine loads are from CARB for PM, and from MAN B&W						
111	for VOC and NOx.						
112	(2) Slide valve reduction factors for VOC and PM at low loads are from "MV Sine Maersk Emission						
113	Measurements & Retrofit Control Technology Discussion", MAN B&W Diesel A/S, April 8, 2004. No						
114	data are provided for NOx at low loads, so the high load reduction factor was conservatively used.						

	AO	AP	AQ	AR	AS	AT
1	Table H3-A1.16a. Annual Cargo Vessel Emissions within the POLA Fairway Zone -					
2	Berths 136-147 Terminal Project Alternative 1 Mit2 - Vessels that Comply with VSRP.					
3		Tons Per Year				
4	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
5	Year 2003 Baseline					
6	Containership 3,000 - 5,000 TEU	0.88	1.96	24.03	13.74	3.21
7	Containership < 3,000 TEU	1.07	2.50	32.32	18.75	4.29
8	Subtotal	1.95	4.46	56.35	32.49	7.50
9	Project Year 2007					
10	Containerships 5,000 - 6,000 TEU	1.10	2.31	26.45	14.81	3.59
11	Containerships 3,000 - 5,000 TEU	2.06	4.62	56.54	32.33	7.56
12	Containerships < 3,000 TEU	2.24	5.24	67.69	39.27	8.98
13	Subtotal	5.40	12.17	150.68	86.41	20.13
14	Project Year 2010					
15	Containerships 8,000 - 9,000 TEU	2.02	3.96	41.85	19.02	5.14
16	Containerships 5,000 - 6,000 TEU	3.64	7.69	86.14	40.07	10.39
17	Containerships 3,000 - 5,000 TEU	4.27	9.57	114.69	54.48	13.62
18	Containerships < 3,000 TEU	4.20	9.79	124.03	59.76	14.60
19	Subtotal	14.13	31.01	366.72	173.33	43.75
20	Project Year 2015					
21	Containerships 8,000 - 9,000 TEU	4.49	8.80	86.36	8.46	5.45
22	Containerships 5,000 - 6,000 TEU	6.07	12.82	133.32	13.37	8.26
23	Containerships 3,000 - 5,000 TEU	3.50	7.86	87.46	8.96	5.33
24	Containerships < 3,000 TEU	2.87	6.69	78.69	8.18	4.76
25	Subtotal	16.94	36.17	385.83	38.97	23.81
26	Project Year 2030					
27	Containerships 8,000 - 9,000 TEU	8.45	16.56	161.54	11.38	9.45
28	Containerships 5,000 - 6,000 TEU	9.36	19.76	204.40	14.74	11.74
29	Containerships 3,000 - 5,000 TEU	3.40	7.63	84.43	6.21	4.77
30	Containerships < 3,000 TEU	1.59	3.72	43.47	3.25	2.44
31	Subtotal	22.81	47.67	493.85	35.58	28.40
32	Note: (1) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.					
33	(2) Without slide valves					

	AO	AP	AQ	AR	AS	AT
36	Table H3-A1.16b. Annual Cargo Vessel Emissions within the POLA Fairway Zone -					
37	Berths 136-147 Terminal Project Alternative 1 Mit2 - Non-Compliant Vessels within VSRP.					
38		Tons Per Year				
39	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
40	Year 2003 Baseline					
41	Containership 3,000 - 5,000 TEU	3.73	8.70	112.52	65.27	14.92
42	Containership < 3,000 TEU	4.68	10.91	141.07	81.83	18.71
43	Subtotal	8.41	19.61	253.59	147.11	33.62
44	Project Year 2007					
45	Containerships 5,000 - 6,000 TEU	1.40	3.27	42.32	24.55	5.61
46	Containerships 3,000 - 5,000 TEU	2.93	6.83	88.25	51.19	11.70
47	Containerships < 3,000 TEU	3.26	7.62	98.49	57.14	13.06
48	Subtotal	7.59	17.72	229.06	132.88	30.37
49	Project Year 2010					
50	Containerships 8,000 - 9,000 TEU	0.26	0.60	7.60	3.66	0.89
51	Containerships 5,000 - 6,000 TEU	0.52	1.21	15.31	7.38	1.80
52	Containerships 3,000 - 5,000 TEU	0.67	1.57	19.89	9.58	2.34
53	Containerships < 3,000 TEU	0.68	1.58	20.05	9.66	2.36
54	Subtotal	2.13	4.96	62.86	30.29	7.40
55	Project Year 2015					
56	Containerships 8,000 - 9,000 TEU					
57	Containerships 5,000 - 6,000 TEU					
58	Containerships 3,000 - 5,000 TEU					
59	Containerships < 3,000 TEU					
60	Subtotal					
61	Project Year 2030					
62	Containerships 8,000 - 9,000 TEU					
63	Containerships 5,000 - 6,000 TEU					
64	Containerships 3,000 - 5,000 TEU					
65	Containerships < 3,000 TEU					
66	Subtotal					
67	Note: (1) Assumes 75/25/20/10% VSRP non-compliance rates for years 2003/2007/2010/post-2014.					
68	(2) Fuel types assumed for each project year identified in Table ???					
69	(2) Without slide valves					

	AO	AP	AQ	AR	AS	AT
71	Table H3-A1.17. Annual Cargo Vessel Emissions within the POLA Precautionary					
72	Area - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
73		Tons Per Year				
74	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
75	Year 2003 Baseline					
76	Containership 3,000 - 5,000 TEU	0.78	1.41	12.43	6.32	1.79
77	Containership < 3,000 TEU	0.69	1.53	18.19	10.34	2.46
78	Subtotal	1.47	2.94	30.61	16.67	4.25
79	Project Year 2007					
80	Containerships 5,000 - 6,000 TEU	0.49	0.80	6.35	3.02	0.95
81	Containerships 3,000 - 5,000 TEU	0.91	1.66	14.62	7.44	2.11
82	Containerships < 3,000 TEU	0.72	1.60	19.05	10.83	2.57
83	Subtotal	2.13	4.06	40.01	21.29	5.64
84	Project Year 2010					
85	Containerships 8,000 - 9,000 TEU	0.63	0.88	5.62	1.87	0.82
86	Containerships 5,000 - 6,000 TEU	0.90	1.49	11.48	4.54	1.53
87	Containerships 3,000 - 5,000 TEU	1.05	1.90	16.47	6.96	2.11
88	Containerships < 3,000 TEU	0.75	1.67	19.39	9.16	2.33
89	Subtotal	3.34	5.93	52.97	22.53	6.78
90	Project Year 2015					
91	Containerships 8,000 - 9,000 TEU	1.27	1.75	10.45	0.75	0.78
92	Containerships 5,000 - 6,000 TEU	1.35	2.23	16.00	1.36	1.09
93	Containerships 3,000 - 5,000 TEU	0.78	1.41	11.31	1.03	0.74
94	Containerships < 3,000 TEU	0.46	1.02	11.07	1.13	0.68
95	Subtotal	3.86	6.41	48.82	4.27	3.30
96	Project Year 2030					
97	Containerships 8,000 - 9,000 TEU	2.38	3.29	19.54	1.01	1.35
98	Containerships 5,000 - 6,000 TEU	2.08	3.44	24.53	1.50	1.55
99	Containerships 3,000 - 5,000 TEU	0.75	1.37	10.91	0.71	0.67
100	Containerships < 3,000 TEU	0.26	0.57	6.12	0.45	0.35
101	Subtotal	5.48	8.67	61.10	3.67	3.92
102	(2) Without slide valves					

	AO	AP	AQ	AR	AS	AT
104	Table H3-A1.18a. Annual Cargo Vessel Emissions for Transit within the POLA					
105	Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
106		Tons Per Year				
107	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
108	Year 2003 Baseline					
109	Containership 3,000 - 5,000 TEU	1.13	1.11	6.34	1.52	1.20
110	Containership < 3,000 TEU	1.24	1.22	6.96	1.67	1.32
111	Subtotal	2.36	2.33	13.29	3.18	2.52
112	Project Year 2007					
113	Containerships 5,000 - 6,000 TEU	0.69	0.68	3.89	0.93	0.74
114	Containerships 3,000 - 5,000 TEU	1.32	1.31	7.46	1.79	1.41
115	Containerships < 3,000 TEU	1.29	1.28	7.28	1.74	1.38
116	Subtotal	3.31	3.27	18.63	4.46	3.53
117	Project Year 2010					
118	Containerships 8,000 - 9,000 TEU	0.69	0.69	3.83	0.76	0.64
119	Containerships 5,000 - 6,000 TEU	1.28	1.26	7.03	1.40	1.18
120	Containerships 3,000 - 5,000 TEU	1.52	1.51	8.40	1.67	1.41
121	Containerships < 3,000 TEU	1.34	1.33	7.42	1.47	1.25
122	Subtotal	4.84	4.78	26.68	5.31	4.49
123	Project Year 2015					
124	Containerships 8,000 - 9,000 TEU	1.39	1.37	7.11	0.31	0.61
125	Containerships 5,000 - 6,000 TEU	1.91	1.89	9.79	0.42	0.85
126	Containerships 3,000 - 5,000 TEU	1.13	1.11	5.77	0.25	0.50
127	Containerships < 3,000 TEU	0.83	0.82	4.23	0.18	0.37
128	Subtotal	5.25	5.19	26.91	1.15	2.33
129	Project Year 2030					
130	Containerships 8,000 - 9,000 TEU	2.61	2.58	13.31	0.41	1.07
131	Containerships 5,000 - 6,000 TEU	2.95	2.91	15.02	0.46	1.20
132	Containerships 3,000 - 5,000 TEU	1.09	1.08	5.57	0.17	0.45
133	Containerships < 3,000 TEU	0.46	0.45	2.34	0.07	0.19
134	Subtotal	7.11	7.03	36.23	1.12	2.90
135	(2) Without slide valves					

	AO	AP	AQ	AR	AS	AT
136	Table H3-A1.18b. Annual Cargo Vessel Emissions for Docking Activities -					
137	Berths 136-147 Terminal Project - Alternative 1 Mit2.					
138		Tons Per Year				
139	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
140	Year 2003 Baseline					
141	Containership 3,000 - 5,000 TEU	0.41	0.30	1.79	0.22	0.37
142	Containership < 3,000 TEU	0.44	0.33	1.96	0.25	0.41
143	Subtotal	0.85	0.63	3.75	0.47	0.78
144	Project Year 2007					
145	Containerships 5,000 - 6,000 TEU	0.25	0.18	1.10	0.14	0.23
146	Containerships 3,000 - 5,000 TEU	0.48	0.35	2.10	0.26	0.44
147	Containerships < 3,000 TEU	0.47	0.34	2.06	0.26	0.43
148	Subtotal	1.19	0.88	5.26	0.66	1.10
149	Project Year 2010					
150	Containerships 8,000 - 9,000 TEU	0.25	0.18	1.08	0.11	0.20
151	Containerships 5,000 - 6,000 TEU	0.46	0.34	1.99	0.21	0.37
152	Containerships 3,000 - 5,000 TEU	0.55	0.40	2.37	0.25	0.44
153	Containerships < 3,000 TEU	0.48	0.36	2.09	0.22	0.39
154	Subtotal	1.74	1.28	7.53	0.78	1.40
155	Project Year 2015					
156	Containerships 8,000 - 9,000 TEU	0.50	0.37	2.01	0.05	0.19
157	Containerships 5,000 - 6,000 TEU	0.69	0.51	2.77	0.06	0.26
158	Containerships 3,000 - 5,000 TEU	0.41	0.30	1.63	0.04	0.16
159	Containerships < 3,000 TEU	0.30	0.22	1.20	0.03	0.11
160	Subtotal	1.89	1.39	7.60	0.17	0.72
161	Project Year 2030					
162	Containerships 8,000 - 9,000 TEU	0.94	0.69	3.76	0.06	0.33
163	Containerships 5,000 - 6,000 TEU	1.06	0.78	4.24	0.07	0.37
164	Containerships 3,000 - 5,000 TEU	0.39	0.29	1.57	0.03	0.14
165	Containerships < 3,000 TEU	0.17	0.12	0.66	0.01	0.06
166	Subtotal	2.56	1.89	10.23	0.16	0.90
167	(2) Without slide valves					
168						
169	Table H3-A1.19. Annual Shifting Emissions for Cargo Vessels within the POLA					
170	Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
171		Tons Per Year				
172	Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10
173	Year 2003 Baseline					
174	Transit	0.25	0.25	1.41	0.34	0.27
175	Docking	0.09	0.07	0.40	0.05	0.08
176	Subtotal	0.34	0.31	1.81	0.39	0.35

	AO	AP	AQ	AR	AS	AT	AU
179	Table H3-A1.20a. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the						
180	Fairway Zone - Berths 136-147 Terminal Project Alternative 1 Mit2 - Vessels that Comply with VSRP.						
181		Tons Per Year (1)					
182	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	
183	Year 2003 Baseline						
184	Containership 3,000 - 5,000 TEU	0.03	0.08	1.10	0.65	0.05	
185	Containership < 3,000 TEU	0.04	0.12	1.58	0.94	0.07	
186	Subtotal	0.07	0.21	2.69	1.59	0.11	
187	Project Year 2007						
188	Containerships 5,000 - 6,000 TEU	0.04	0.11	1.46	0.87	0.06	
189	Containerships 3,000 - 5,000 TEU	0.07	0.20	2.60	1.54	0.11	
190	Containerships < 3,000 TEU	0.09	0.25	3.32	1.97	0.14	
191	Subtotal	0.20	0.56	7.37	4.38	0.31	
192	Project Year 2010						
193	Containerships 8,000 - 9,000 TEU	0.08	0.23	2.98	1.66	0.12	
194	Containerships 5,000 - 6,000 TEU	0.13	0.37	4.84	2.69	0.20	
195	Containerships 3,000 - 5,000 TEU	0.15	0.41	5.36	2.98	0.22	
196	Containerships < 3,000 TEU	0.17	0.47	6.19	3.44	0.26	
197	Subtotal	0.54	1.48	19.38	10.76	0.80	
198	Project Year 2015						
199	Containerships 8,000 - 9,000 TEU	0.18	0.51	6.45	0.93	0.15	
200	Containerships 5,000 - 6,000 TEU	0.22	0.62	7.85	1.13	0.19	
201	Containerships 3,000 - 5,000 TEU	0.12	0.34	4.28	0.62	0.10	
202	Containerships < 3,000 TEU	0.12	0.32	4.11	0.59	0.10	
203	Subtotal	0.65	1.78	22.68	3.27	0.54	
204	Project Year 2030						
205	Containerships 8,000 - 9,000 TEU	0.35	0.95	12.09	1.25	0.26	
206	Containerships 5,000 - 6,000 TEU	0.35	0.95	12.06	1.25	0.26	
207	Containerships 3,000 - 5,000 TEU	0.12	0.33	4.14	0.43	0.09	
208	Containerships < 3,000 TEU	0.07	0.18	2.28	0.24	0.05	
209	Subtotal	0.88	2.41	30.57	3.16	0.67	
210	Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).						
211	(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.						

	AO	AP	AQ	AR	AS	AT	AU
214	Table H3-A1.20b. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting the Fairway						
215	Zone - Berths 136-147 Terminal Project Alternative 1 Mit2 - Non-Compliant Vessels within VSRP.						
216		Tons Per Year (1)					
217	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10	
218	Year 2003 Baseline						
219	Containership 3,000 - 5,000 TEU	0.07	0.18	2.35	1.40	0.10	
220	Containership < 3,000 TEU	0.10	0.28	3.69	2.19	0.16	
221	Subtotal	0.17	0.46	6.04	3.59	0.26	
222	Project Year 2007						
223	Containerships 5,000 - 6,000 TEU	0.03	0.07	0.98	0.58	0.04	
224	Containerships 3,000 - 5,000 TEU	0.05	0.14	1.85	1.10	0.08	
225	Containerships < 3,000 TEU	0.07	0.20	2.58	1.53	0.11	
226	Subtotal	0.15	0.41	5.40	3.21	0.23	
227	Project Year 2010						
228	Containerships 8,000 - 9,000 TEU	0.01	0.02	0.21	0.12	0.01	
229	Containerships 5,000 - 6,000 TEU	0.01	0.03	0.36	0.20	0.01	
230	Containerships 3,000 - 5,000 TEU	0.01	0.03	0.42	0.24	0.02	
231	Containerships < 3,000 TEU	0.01	0.04	0.53	0.30	0.02	
232	Subtotal	0.04	0.12	1.53	0.85	0.06	
233	Project Year 2015						
234	Containerships 8,000 - 9,000 TEU						
235	Containerships 5,000 - 6,000 TEU						
236	Containerships 3,000 - 5,000 TEU						
237	Containerships < 3,000 TEU						
238	Subtotal						
239	Project Year 2030						
240	Containerships 8,000 - 9,000 TEU						
241	Containerships 5,000 - 6,000 TEU						
242	Containerships 3,000 - 5,000 TEU						
243	Containerships < 3,000 TEU						
244	Subtotal						
245	Note: (1) Assumes 75/25/20/10% VSRP non-compliance rates for years 2003/2007/2010/post-2014.						
246	(2) Fuel types assumed for each project year identified in Table ???						

	AO	AP	AQ	AR	AS	AT
249	Table H3-A1.21. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting					
250	the Precautionary Area - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
251		Tons Per Year (1)				
252	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
253	Year 2003 Baseline					
254	Containership 3,000 - 5,000 TEU	0.08	0.23	2.94	1.22	0.10
255	Containership < 3,000 TEU	0.11	0.31	4.03	1.68	0.14
256	Subtotal	0.20	0.54	6.97	2.90	0.24
257	Project Year 2007					
258	Containerships 5,000 - 6,000 TEU	0.06	0.15	2.02	1.20	0.09
259	Containerships 3,000 - 5,000 TEU	0.10	0.27	3.50	2.08	0.15
260	Containerships < 3,000 TEU	0.12	0.33	4.28	2.54	0.18
261	Subtotal	0.27	0.75	9.81	5.82	0.42
262	Project Year 2010					
263	Containerships 8,000 - 9,000 TEU	0.07	0.18	2.36	1.31	0.10
264	Containerships 5,000 - 6,000 TEU	0.10	0.29	3.73	2.07	0.15
265	Containerships 3,000 - 5,000 TEU	0.11	0.31	4.02	2.24	0.17
266	Containerships < 3,000 TEU	0.12	0.34	4.44	2.47	0.18
267	Subtotal	0.40	1.11	14.55	8.08	0.60
268	Project Year 2015					
269	Containerships 8,000 - 9,000 TEU	0.12	0.32	4.05	0.58	0.10
270	Containerships 5,000 - 6,000 TEU	0.15	0.41	5.27	0.76	0.12
271	Containerships 3,000 - 5,000 TEU	0.09	0.24	3.05	0.44	0.07
272	Containerships < 3,000 TEU	0.09	0.25	3.19	0.46	0.08
273	Subtotal	0.45	1.22	15.56	2.24	0.37
274	Project Year 2030					
275	Containerships 8,000 - 9,000 TEU	0.22	0.60	7.60	0.79	0.17
276	Containerships 5,000 - 6,000 TEU	0.23	0.64	8.10	0.84	0.18
277	Containerships 3,000 - 5,000 TEU	0.08	0.23	2.95	0.30	0.06
278	Containerships < 3,000 TEU	0.05	0.14	1.77	0.18	0.04
279	Subtotal	0.59	1.61	20.42	2.11	0.45
280	Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).					

	AO	AP	AQ	AR	AS	AT
282	Table H3-A1.22a. Annual Auxiliary Generator Emissions for Cargo Vessels Transiting					
283	within the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
284		Tons Per Year (1)				
285	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
286	Year 2003 Baseline					
287	Containership 3,000 - 5,000 TEU	0.13	0.36	4.66	1.94	0.16
288	Containership < 3,000 TEU	0.18	0.50	6.39	2.67	0.22
289	Subtotal	0.31	0.86	11.05	4.61	0.38
290	Project Year 2007					
291	Containerships 5,000 - 6,000 TEU	0.09	0.25	3.21	1.91	0.14
292	Containerships 3,000 - 5,000 TEU	0.15	0.42	5.56	3.30	0.24
293	Containerships < 3,000 TEU	0.19	0.52	6.79	4.03	0.29
294	Subtotal	0.43	1.19	15.56	9.24	0.66
295	Project Year 2010					
296	Containerships 8,000 - 9,000 TEU	0.10	0.29	3.74	2.08	0.16
297	Containerships 5,000 - 6,000 TEU	0.16	0.45	5.92	3.29	0.25
298	Containerships 3,000 - 5,000 TEU	0.18	0.49	6.38	3.55	0.26
299	Containerships < 3,000 TEU	0.20	0.54	7.05	3.91	0.29
300	Subtotal	0.64	1.77	23.09	12.83	0.96
301	Project Year 2015					
302	Containerships 8,000 - 9,000 TEU	0.21	0.57	7.28	1.05	0.17
303	Containerships 5,000 - 6,000 TEU	0.25	0.68	8.63	1.24	0.20
304	Containerships 3,000 - 5,000 TEU	0.13	0.36	4.59	0.66	0.11
305	Containerships < 3,000 TEU	0.12	0.33	4.21	0.61	0.10
306	Subtotal	0.71	1.94	24.71	3.56	0.59
307	Project Year 2030					
308	Containerships 8,000 - 9,000 TEU	0.39	1.08	13.66	1.41	0.30
309	Containerships 5,000 - 6,000 TEU	0.38	1.05	13.26	1.37	0.29
310	Containerships 3,000 - 5,000 TEU	0.13	0.35	4.44	0.46	0.10
311	Containerships < 3,000 TEU	0.07	0.18	2.33	0.24	0.05
312	Subtotal	0.97	2.66	33.69	3.48	0.74
313	Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).					

	AO	AP	AQ	AR	AS	AT
315	Table H3-A1.22b. Annual Auxiliary Generator Emissions for Cargo Vessels Docking within					
316	the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
317		Tons Per Year (1)				
318	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
319	Year 2003 Baseline					
320	Containership 3,000 - 5,000 TEU	0.04	0.10	1.27	0.53	0.04
321	Containership < 3,000 TEU	0.05	0.14	1.75	0.73	0.06
322	Subtotal	0.09	0.23	3.02	1.26	0.10
323	Project Year 2007					
324	Containerships 5,000 - 6,000 TEU	0.02	0.07	0.88	0.52	0.04
325	Containerships 3,000 - 5,000 TEU	0.04	0.12	1.52	0.90	0.06
326	Containerships < 3,000 TEU	0.05	0.14	1.86	1.10	0.08
327	Subtotal	0.12	0.32	4.25	2.53	0.18
328	Project Year 2010					
329	Containerships 8,000 - 9,000 TEU	0.03	0.08	1.02	0.57	0.04
330	Containerships 5,000 - 6,000 TEU	0.04	0.12	1.62	0.90	0.07
331	Containerships 3,000 - 5,000 TEU	0.05	0.13	1.74	0.97	0.07
332	Containerships < 3,000 TEU	0.05	0.15	1.93	1.07	0.08
333	Subtotal	0.18	0.48	6.31	3.51	0.26
334	Project Year 2015					
335	Containerships 8,000 - 9,000 TEU	0.06	0.16	1.99	0.29	0.05
336	Containerships 5,000 - 6,000 TEU	0.07	0.19	2.36	0.34	0.06
337	Containerships 3,000 - 5,000 TEU	0.04	0.10	1.25	0.18	0.03
338	Containerships < 3,000 TEU	0.03	0.09	1.15	0.17	0.03
339	Subtotal	0.19	0.53	6.75	0.97	0.16
340	Project Year 2030					
341	Containerships 8,000 - 9,000 TEU	0.11	0.29	3.73	0.39	0.08
342	Containerships 5,000 - 6,000 TEU	0.10	0.29	3.62	0.37	0.08
343	Containerships 3,000 - 5,000 TEU	0.03	0.10	1.21	0.13	0.03
344	Containerships < 3,000 TEU	0.02	0.05	0.64	0.07	0.01
345	Subtotal	0.26	0.73	9.21	0.95	0.20
346	Note: (1) Assumes 37/63% residual/diesel fuel usage (PEI Table 2.3).					

	AO	AP	AQ	AR	AS	AT
349	Table H3-A1.23. Annual Auxiliary Generator Emissions during Cargo Vessel Hoteling -					
350	Berths 136-147 Terminal Project - Alternative 1 Mit2.					
351		Tons Per Year				
352	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
353	Year 2003 Baseline					
354	Containership 3,000 - 5,000 TEU	1.79	4.91	63.35	26.41	2.16
355	Containership < 3,000 TEU	1.47	4.04	52.17	21.75	1.78
356	Subtotal	3.26	8.95	115.52	48.16	3.95
357	Project Year 2007					
358	Containerships 5,000 - 6,000 TEU	1.45	4.00	52.38	31.10	2.24
359	Containerships 3,000 - 5,000 TEU	2.10	5.78	75.62	44.90	3.23
360	Containerships < 3,000 TEU	1.54	4.23	55.44	32.92	2.37
361	Subtotal	5.09	14.01	183.44	108.91	7.83
362	Project Year 2010					
363	Containerships 8,000 - 9,000 TEU	1.29	3.55	46.35	25.74	1.92
364	Containerships 5,000 - 6,000 TEU	1.75	4.80	62.75	34.86	2.60
365	Containerships 3,000 - 5,000 TEU	1.57	4.32	56.43	31.35	2.34
366	Containerships < 3,000 TEU	1.04	2.86	37.37	20.76	1.55
367	Subtotal	5.64	15.52	202.90	112.71	8.41
368	Project Year 2015					
369	Containerships 8,000 - 9,000 TEU	0.99	2.73	34.66	4.99	0.82
370	Containerships 5,000 - 6,000 TEU	1.01	2.77	35.19	5.07	0.83
371	Containerships 3,000 - 5,000 TEU	0.45	1.23	15.60	2.25	0.37
372	Containerships < 3,000 TEU	0.25	0.68	8.59	1.24	0.20
373	Subtotal	2.69	7.40	94.04	13.54	2.23
374	Project Year 2030					
375	Containerships 8,000 - 9,000 TEU	0.75	2.05	26.00	2.69	0.57
376	Containerships 5,000 - 6,000 TEU	0.62	1.71	21.64	2.24	0.47
377	Containerships 3,000 - 5,000 TEU	0.17	0.48	6.04	0.62	0.13
378	Containerships < 3,000 TEU	0.05	0.15	1.90	0.20	0.04
379	Subtotal	1.59	4.39	55.58	5.75	1.22
380						
381	Table H3-A1.24. Annual Auxiliary Generator Emissions during Cargo Vessel Shifts -					
382	Berths 136-147 Terminal Project - Alternative 1 Mit2.					
383		Tons Per Year				
384	Project Scenario/Vessel Mode	ROG	CO	NOx	SOx	PM10
385	Year 2003 Baseline					
386	Transit	0.02	0.05	0.65	0.27	0.02
387	Docking	0.00	0.01	0.18	0.07	0.01
388	Subtotal	0.02	0.06	0.83	0.34	0.03

	AO	AP	AQ	AR	AS	AT
391	Table H3-A1.25. Annual Auxiliary Generator Emissions for Shifted Cargo Vessels					
392	during Hoteling - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
393		Tons Per Year				
394	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
395	Year 2003 Baseline					
396	Containership < 3,000 TEU	0.30	0.82	10.58	4.41	0.36
397	Subtotal	0.30	0.82	10.58	4.41	0.36
398						
399						
400						
401	Table H3-A1.26a. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the					
402	Fairway Zone - Berths 136-147 Terminal Project - Alternative 1 Mit2 - VSRP-Compliant.					
403		Tons Per Year				
404	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
405	Year 2003 Baseline					
406	Containership 3,000 - 5,000 TEU	0.00	0.01	0.02	0.07	0.00
407	Containership < 3,000 TEU	0.00	0.01	0.04	0.16	0.00
408	Subtotal	0.00	0.02	0.05	0.23	0.01
409	Project Year 2007					
410	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.05	0.00
411	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.04	0.16	0.00
412	Containerships < 3,000 TEU	0.00	0.03	0.08	0.33	0.01
413	Subtotal	0.00	0.05	0.12	0.54	0.02
414	Project Year 2010					
415	Containerships 8,000 - 9,000 TEU	0.00	0.01	0.02	0.07	0.00
416	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.17	0.00
417	Containerships 3,000 - 5,000 TEU	0.00	0.03	0.08	0.34	0.01
418	Containerships < 3,000 TEU	0.00	0.05	0.14	0.62	0.02
419	Subtotal	0.01	0.10	0.27	1.20	0.03
420	Project Year 2015					
421	Containerships 8,000 - 9,000 TEU	0.00	0.01	0.04	0.16	0.00
422	Containerships 5,000 - 6,000 TEU	0.00	0.02	0.07	0.29	0.01
423	Containerships 3,000 - 5,000 TEU	0.00	0.02	0.06	0.28	0.01
424	Containerships < 3,000 TEU	0.00	0.04	0.10	0.42	0.01
425	Subtotal	0.01	0.10	0.26	1.15	0.03
426	Project Year 2030					
427	Containerships 8,000 - 9,000 TEU	0.00	0.03	0.07	0.31	0.01
428	Containerships 5,000 - 6,000 TEU	0.00	0.04	0.10	0.44	0.01
429	Containerships 3,000 - 5,000 TEU	0.00	0.02	0.06	0.27	0.01
430	Containerships < 3,000 TEU	0.00	0.02	0.05	0.23	0.01
431	Subtotal	0.01	0.11	0.28	1.25	0.03
432	(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.					
433	(2) Does not assume use of low-sulfur fuels.					

	AO	AP	AQ	AR	AS	AT
435	Table H3-A1.26b. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting the					
436	Fairway Zone - Berths 136-147 Terminal Project - Alternative 1 Mit2 - VSRP-Non-Compliant.					
437		Tons Per Year				
438	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
439	Year 2003 Baseline					
440	Containership 3,000 - 5,000 TEU	0.00	0.01	0.03	0.15	0.00
441	Containership < 3,000 TEU	0.00	0.03	0.08	0.37	0.01
442	Subtotal	0.00	0.04	0.12	0.51	0.01
443	Project Year 2007					
444	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.03	0.00
445	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.03	0.12	0.00
446	Containerships < 3,000 TEU	0.00	0.02	0.06	0.26	0.01
447	Subtotal	0.00	0.03	0.09	0.41	0.01
448	Project Year 2010					
449	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.00	0.01	0.00
450	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.00	0.01	0.00
451	Containerships 3,000 - 5,000 TEU	0.00	0.00	0.01	0.03	0.00
452	Containerships < 3,000 TEU	0.00	0.00	0.01	0.05	0.00
453	Subtotal	0.00	0.01	0.02	0.10	0.00
454	Project Year 2015					
455	Containerships 8,000 - 9,000 TEU					
456	Containerships 5,000 - 6,000 TEU					
457	Containerships 3,000 - 5,000 TEU					
458	Containerships < 3,000 TEU					
459	Subtotal					
460	Project Year 2030					
461	Containerships 8,000 - 9,000 TEU					
462	Containerships 5,000 - 6,000 TEU					
463	Containerships 3,000 - 5,000 TEU					
464	Containerships < 3,000 TEU					
465	Subtotal					
466	(2) Assumes 25/50/75/80% VSRP compliance rates for years 2003/2007/2010/post-2014.					
467	(2) Does not assume use of low-sulfur fuels.					

	AO	AP	AQ	AR	AS	AT
469	Table H3-A1.27. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting					
470	the Precautionary Area - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
471		Tons Per Year				
472	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
473	Year 2003 Baseline					
474	Containership 3,000 - 5,000 TEU	0.00	0.01	0.02	0.10	0.00
475	Containership < 3,000 TEU	0.00	0.02	0.05	0.21	0.01
476	Subtotal	0.00	0.03	0.07	0.31	0.01
477	Project Year 2007					
478	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.04	0.00
479	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.03	0.11	0.00
480	Containerships < 3,000 TEU	0.00	0.02	0.05	0.22	0.01
481	Subtotal	0.00	0.03	0.08	0.37	0.01
482	Project Year 2010					
483	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.03	0.00
484	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.02	0.07	0.00
485	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.03	0.13	0.00
486	Containerships < 3,000 TEU	0.00	0.02	0.05	0.23	0.01
487	Subtotal	0.00	0.04	0.10	0.46	0.01
488	Project Year 2015					
489	Containerships 8,000 - 9,000 TEU	0.00	0.01	0.01	0.06	0.00
490	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.02	0.10	0.00
491	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.10	0.00
492	Containerships < 3,000 TEU	0.00	0.01	0.03	0.14	0.00
493	Subtotal	0.00	0.03	0.09	0.40	0.01
494	Project Year 2030					
495	Containerships 8,000 - 9,000 TEU	0.00	0.01	0.03	0.11	0.00
496	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.04	0.16	0.00
497	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.09	0.00
498	Containerships < 3,000 TEU	0.00	0.01	0.02	0.08	0.00
499	Subtotal	0.00	0.04	0.10	0.44	0.01
500	(2) Does not assume use of low-sulfur fuels.					

	AO	AP	AQ	AR	AS	AT
501	Table H3-A1.28a. Annual Auxiliary Boiler Emissions for Cargo Vessels Transiting within					
502	the POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
503		Tons Per Year				
504	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
505	Year 2003 Baseline					
506	Containership 3,000 - 5,000 TEU	0.00	0.01	0.02	0.08	0.00
507	Containership < 3,000 TEU	0.00	0.01	0.04	0.17	0.00
508	Subtotal	0.00	0.02	0.06	0.24	0.01
509	Project Year 2007					
510	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.03	0.00
511	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.09	0.00
512	Containerships < 3,000 TEU	0.00	0.01	0.04	0.18	0.00
513	Subtotal	0.00	0.03	0.07	0.30	0.01
514	Project Year 2010					
515	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.02	0.00
516	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.05	0.00
517	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.10	0.00
518	Containerships < 3,000 TEU	0.00	0.02	0.04	0.18	0.01
519	Subtotal	0.00	0.03	0.08	0.37	0.01
520	Project Year 2015					
521	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.05	0.00
522	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.02	0.08	0.00
523	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.08	0.00
524	Containerships < 3,000 TEU	0.00	0.01	0.03	0.11	0.00
525	Subtotal	0.00	0.03	0.07	0.32	0.01
526	Project Year 2030					
527	Containerships 8,000 - 9,000 TEU	0.00	0.01	0.02	0.09	0.00
528	Containerships 5,000 - 6,000 TEU	0.00	0.01	0.03	0.13	0.00
529	Containerships 3,000 - 5,000 TEU	0.00	0.01	0.02	0.07	0.00
530	Containerships < 3,000 TEU	0.00	0.01	0.01	0.06	0.00
531	Subtotal	0.00	0.03	0.08	0.35	0.01
532	(2) Does not assume use of low-sulfur fuels.					

	AO	AP	AQ	AR	AS	AT
533	Table H3-A1.28b. Annual Auxiliary Boiler Emissions for Cargo Vessels Docking within the					
534	POLA Breakwater - Berths 136-147 Terminal Project - Alternative 1 Mit2.					
535		Tons Per Year				
536	Project Scenario/Vessel Type	ROG	CO	NOx	SOx	PM10
537	Year 2003 Baseline					
538	Containership 3,000 - 5,000 TEU	0.00	0.00	0.00	0.02	0.00
539	Containership < 3,000 TEU	0.00	0.00	0.01	0.05	0.00
540	Subtotal	0.00	0.01	0.02	0.07	0.00
541	Project Year 2007					
542	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.00	0.01	0.00
543	Containerships 3,000 - 5,000 TEU	0.00	0.00	0.01	0.02	0.00
544	Containerships < 3,000 TEU	0.00	0.00	0.01	0.05	0.00
545	Subtotal	0.00	0.01	0.02	0.08	0.00
546	Project Year 2010					
547	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.00	0.01	0.00
548	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.00	0.01	0.00
549	Containerships 3,000 - 5,000 TEU	0.00	0.00	0.01	0.03	0.00
550	Containerships < 3,000 TEU	0.00	0.00	0.01	0.05	0.00
551	Subtotal	0.00	0.01	0.02	0.10	0.00
552	Project Year 2015					
553	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.00	0.01	0.00
554	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.02	0.00
555	Containerships 3,000 - 5,000 TEU	0.00	0.00	0.00	0.02	0.00
556	Containerships < 3,000 TEU	0.00	0.00	0.01	0.03	0.00
557	Subtotal	0.00	0.01	0.02	0.09	0.00
558	Project Year 2030					
559	Containerships 8,000 - 9,000 TEU	0.00	0.00	0.01	0.02	0.00
560	Containerships 5,000 - 6,000 TEU	0.00	0.00	0.01	0.03	0.00
561	Containerships 3,000 - 5,000 TEU	0.00	0.00	0.00	0.02	0.00
562	Containerships < 3,000 TEU	0.00	0.00	0.00	0.02	0.00
563	Subtotal	0.00	0.01	0.02	0.10	0.00
564	(2) Does not assume use of low-sulfur fuels.					

	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU
2	Table H3-A1. Mitigated Hourly Vessel Emissions - Berths 136-147 Terminal Propose Project - Project Year 2010									
3		Pounds per Hour (1)								
4	Vessel Type	TOG	ROG	CO	NOx	NO2	SOx	PM10	PM2.5	
5	Harbor Transit									
6	Containerships 8,000 - 9,000 TEU	44.3	30.6	46.0	331.7	154.9	136.3	28.1	26.38	
7	Containerships 5,000 - 6,000 TEU	36.1	24.9	38.4	284.6	132.9	122.0	23.9	22.41	
8	Containerships 3,000 - 5,000 TEU	24.4	16.8	25.9	186.0	86.9	82.2	15.8	14.79	
9	Containerships < 3,000 TEU	12.8	8.8	13.9	97.3	45.5	48.2	8.3	7.80	
10	Docking									
11	Containerships 8,000 - 9,000 TEU	15.4	10.6	12.4	92.2	27.7	32.7	8.3	7.79	
12	Containerships 5,000 - 6,000 TEU	12.5	8.6	10.4	79.0	23.7	29.7	7.0	6.58	
13	Containerships 3,000 - 5,000 TEU	8.4	5.8	7.0	51.7	15.5	20.0	4.6	4.36	
14	Containerships < 3,000 TEU	4.4	3.0	3.8	27.0	8.1	11.9	2.5	2.30	
15	Hoteling									
16	Containerships 8,000 - 9,000 TEU	1.7	1.2	4.4	42.2	10.9	37.7	3.2	3.02	
17	Containerships 5,000 - 6,000 TEU	1.6	1.1	4.2	39.9	10.3	36.4	3.1	2.87	
18	Containerships 3,000 - 5,000 TEU	1.3	0.9	3.6	32.5	8.4	32.3	2.5	2.37	
19	Containerships < 3,000 TEU	0.9	0.6	2.7	20.7	5.4	25.9	1.7	1.58	PM2.5
20	Tugboats					NO2 (HT)			NO2 (Docking)	
21	Tugboats - Cargo Vessel Assist 2010	2.6	1.8	9.3	54.9	25.6	0.0	2.3	16.5	2.14
22	Note: (1) Values for Harbor Transit and Docking are given in pounds per activity since these activities last less than one hour in duration.									

	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN
1	Table C2-34. Hourly Vessel Emissions - Berths 136-147 Terminal Project - Alternative 1.									
2		Pounds per Hour (1)								
3	Vessel Type	TOG	ROG	CO	NOx	NO2	SOx	PM10		
4	Fairway Transit									
5	Containerships 8,000 - 9,000 TEU	2.5	1.7	4.9	59.6		41.0	2.4		
6	Containerships 5,000 - 6,000 TEU	1.7	1.2	3.4	41.3		29.1	1.7		
7	Containerships 3,000 - 5,000 TEU	1.0	0.7	2.0	23.4		17.5	1.0		
8	Containerships < 3,000 TEU	0.6	0.4	1.3	14.9		12.0	0.6		
9	Precautionary Area Transit									
10	Containerships 8,000 - 9,000 TEU	48.3	33.3	50.4	381.3	179.2	181.7	49.0		
11	Containerships 5,000 - 6,000 TEU	30.4	20.9	37.0	318.9	149.9	166.8	39.6		
12	Containerships 3,000 - 5,000 TEU	18.3	12.7	24.2	224.9	105.7	122.6	28.1		
13	Containerships < 3,000 TEU	7.9	5.4	12.6	149.6	70.3	89.4	17.7	PM2.5	
14	Harbor Transit									
15	Containerships 8,000 - 9,000 TEU	44.3	30.6	46.0	331.7	154.9	136.3	28.1	26.4	
16	Containerships 5,000 - 6,000 TEU	36.1	24.9	38.4	284.6	132.9	122.0	23.9	22.4	
17	Containerships 3,000 - 5,000 TEU	24.4	16.8	25.9	186.0	86.9	82.2	15.8	14.8	
18	Containerships < 3,000 TEU	12.8	8.8	13.9	97.3	45.5	48.2	8.3	7.8	
19	Docking									
20	Containerships 8,000 - 9,000 TEU	15.4	10.6	12.4	92.2	27.7	32.7	8.3	7.8	
21	Containerships 5,000 - 6,000 TEU	12.5	8.6	10.4	79.0	23.7	29.7	7.0	6.6	
22	Containerships 3,000 - 5,000 TEU	8.4	5.8	7.0	51.7	15.5	20.0	4.6	4.4	
23	Containerships < 3,000 TEU	4.4	3.0	3.8	27.0	8.1	11.9	2.5	2.3	
24	Hoteling									
25	Containerships 8,000 - 9,000 TEU	1.7	1.2	4.4	42.2	10.9	37.7	3.2	3.0	
26	Containerships 5,000 - 6,000 TEU	1.6	1.1	4.2	39.9	10.3	36.4	3.1	2.9	
27	Containerships 3,000 - 5,000 TEU	1.3	0.9	3.6	32.5	8.4	32.3	2.5	2.4	
28	Containerships < 3,000 TEU	0.9	0.6	2.7	20.7	5.4	25.9	1.7	1.6	
29	Tugboats					NO2 (HT)			NO2 (Docking)	
30	Tugboats - Cargo Vessel Assist 2003 baseline	2.1	1.8	9.3	61.5	28.7	4.0	2.4	18.4	
31	Tugboats - Cargo Vessel Assist 2007	2.0	1.8	9.3	58.0	27.1	0.0	2.4	17.4	PM2.5
32	Tugboats - Cargo Vessel Assist 2010	2.6	1.8	9.3	54.9	25.6	0.0	2.3	16.5	2.14
33	Tugboats - Cargo Vessel Assist 2015	2.0	1.8	9.3	49.8	23.2	0.0	2.1	14.9	
34	Tugboats - Cargo Vessel Assist 2030	2.0	1.7	9.3	37.1	17.3	0.0	1.6	11.1	
35	Notes (1) Values for Precautionary Area Transit, Harbor Transit, and Docking are given in pounds per activity since these									
36	activities last less than one hour in duration.									

TableC2-34. On-Road Truck Trip Vehicle Miles Travelled - Berths 136-147 Terminal Project - Alternative 1

Year	B136-149 Throughput (TEUs)	B136-149 ICTF Thruput (TEUs) (1)	TEUs to Offsite Railyard (2)	TEUs to Local Deilveries	Truck Trips to Offsite Railyard (2)	Local Truck Trips (3)	Truck Miles to Offsite Railyard (4)	Local Truck Trip Miles (5)	Composite VMT/ Truck Trip
Baseline - Year 2003	891,976	-	445,988	445,988	598,795	598,795	11.3	20.0	15.7
Year 2007	1,091,200	-	545,600	545,600	756,532	756,532	11.3	20.0	15.7
Year 2010	1,611,350	188,339	431,842	991,169	597,046	1,370,347	11.3	20.0	17.4
Year 2015	1,755,650	552,709	112,682	1,090,259	150,540	1,456,553	11.3	20.0	19.2
Year 2030	2,389,000	700,810	174,397	1,513,793	194,253	1,686,148	11.3	20.0	19.1

(1) Annual throughput estimates from Rail Master Plan.

(2) Based on 50/50/26.8/6.7/7.3% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(3) Based on 50/50/61.4/62.1/63.4% of Berths 136-147 annual cargo throughput for years 2003/2007/2010/2015/2030.

(4) Assumes an even split to Carson ICTF (4.5 miles) and LA railyards (18 miles) = 11.3 miles/trip

(5) Average local trip length with origin/destination at the POLA.

West Basin Container Terminal Daily Trips

ADT Estimates - Berths 136-147

Alternative/Project Year	Truck Trips			TT/TEUs
	Annual	ADT	Peak Daily (1)	
2003 - Baseline	1,197,589	3,281	4,492	1.34
2007	1,513,063	4,145	5,675	1.39
2010	1,967,393	5,390	7,380	1.38
2015	1,607,093	4,403	6,028	1.34
2030	1,880,401	5,152	7,053	1.11

(1) = annual trips/ 266.6 days.

	W	X	Y	Z	AA	AB	AC	AD
1	TableC2-37. Hourly On-Terminal Truck Emissions for the Berths 136-147 Terminal Project - A							
2		Pounds per Hour						
3	Location/Project Scenario - Mode	TOG	ROG	CO	NOx	NO2	SOx	PM10
4	On-Terminal							
5								
6								
7	Subtotal - Year 2003	1.8	1.6	8.4	18.7	4.8	0.1	0.8
8								
9								
10	Subtotal - Year 2007	1.9	1.7	8.0	19.1	4.9	0.0	0.6
11								
12								
13	Subtotal - Year 2010	5.1	4.5	13.8	48.1	12.4	0.0	0.5
14								
15								
16	Subtotal - Year 2015	0.6	0.5	4.0	3.6	0.9	0.0	0.2
17								
18								
19	Subtotal - Year 2030	0.3	0.2	2.3	1.3	0.3	0.0	0.2

	Q	R	S	T	U	V	W	X
148	TableC2-49. Summary of Hourly Train and Rail Yard Cargo Handling Equipment							
149	Emissions - Berths 136-147 Terminal Project Alternative 1							
150		Pounds per Hour						
151	Project Scenario/Source Activity	TOG	ROG	CO	NOx	NO2	SOx	PM10
152	Project Year 2010							
153	ICTF Equipment	0.7	0.6	3.3	6.7	1.7	0.0	0.3
154	Trains - Road Haul	2.7	2.3	26.3	2.3	0.6	0.0	0.1
155	Outbound Trains - Rail Yard	0.7	0.6	5.5	0.6	0.1	0.0	0.0
156	Inbound Trains - Rail Yard	0.5	0.4	4.7	0.4	0.1	0.0	0.0
157	Project Year 2015							
158	ICTF Equipment	0.6	0.5	4.6	0.5	0.1	0.0	0.0
159	Trains - Road Haul	2.7	2.3	26.3	2.3	0.6	0.0	0.1
160	Outbound Trains - Rail Yard	0.7	0.6	5.5	0.6	0.1	0.0	0.0
161	Inbound Trains - Rail Yard	0.5	0.4	4.7	0.4	0.1	0.0	0.0
162	Project Year 2030							
163	ICTF Equipment	3.0	2.7	23.3	2.7	0.7	0.0	0.1
164	Trains - Road Haul	2.7	2.3	26.3	2.3	0.6	0.0	0.1
165	Outbound Trains - Rail Yard	0.7	0.6	5.5	0.6	0.1	0.0	0.0
166	Inbound Trains - Rail Yard	0.5	0.4	4.7	0.4	0.1	0.0	0.0

	R	S	T	U	V	W	X	Y
23	Berths 136-147 Terminal Project Alternative 1.							
24		Pounds per Hour						
25	Project Scenario/Equipment Horsepower	TOG	ROG	CO	NOx	NO2	SOx	PM10
26	Baseline - Year 2003	12.9	11.3	43.3	155.7	40.2	2.1	6.7
27	Project Year 2007	12.6	11.0	49.9	168.9	43.6	0.1	5.2
28	Project Year 2010	20.4	17.9	81.7	187.5	48.4	0.2	8.1
29	Project Year 2015	9.5	8.4	69.8	12.1	3.1	0.2	0.6
30	Project Year 2030	7.9	6.9	113.0	20.3	5.2	0.3	1.0

	A	B	C	D	E
1	Berths 136-147				
2			TOG Profile # 504	TOG Profile # 818	Max TOG Profile (1)
3	TOG Speciation	CAS #	(% of TOG/100)		
4	Benzene	71432	0.022	0.02	0.022
5	Formaldehyde	50000	0.001	0.147	0.147
6	Xylenes	1210	0.0034		0.0034
7	Methanol	67561		0.0003	0.0003
8	MEK	78933		0.015	0.015
9	m-Xylene	108383	0.0031	0.0061	0.0061
10	o-Xylene	95476	0.0045	0.0034	0.0045
11	p-Xylene	106423		0.00095	0.00095
12	Styrene	100425		0.00058	0.00058
13	Toluene	108883	0.022	0.015	0.022
14	Note: (1) All OGV sources use the greater of TOG profiles 504 or 818.				
15	(2) All sources other then OGV use TOG profile 818.				

	A	B	C	D	E	F	G
1	Berths 136-147						
2			PM Profile # 111	PM Profile # 112	PM Profile # 116	PM Profile # 425	Max PM Profile (1)
3	PM Speciation	CAS #	(% of PM)/100				
4	Ammonia	7664417				0.0033	0.0033
5	Arsenic	7440382	0.0003	0.0053		0.000004	0.0053
6	Copper	7440508	0.0005			0.00003	0.0005
7	Mercury	7439976				0.000026	0.000026
8	Nickel	7440020	0.0055	0.0005		0.000016	0.0055
9	Sulfates	9960	0.44	0.25	0.15	0.018	0.44
10	Vanadium	7440622	0.0055		0.0055	0.000015	0.0055
11	Note: (1) All OGV sources use the greater of PM profiles 111, 112, 116, or 425.						
12	(2) Locomotives use the greater of PM profiles 116 or 425.						
13	(2) Tugboats, truck, and terminal equipment use PM profile 425.						

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Terminal Equipment							
# of Sources		1	2	2	1	5	5	5	5
Source Area Width (m)		450	400	400	250	175	175	175	175
Pollutant	CAS #								
Criteria Pollutants									
TOG		5.48	4.33	4.33	1.69	0.83	0.83	0.83	0.83
Carbon Monoxide	630080	21.98	17.36	17.36	6.78	3.32	3.32	3.32	3.32
Nitrogen Dioxide	10102440	13.01	10.28	10.28	4.01	1.97	1.97	1.97	1.97
Sulfur Dioxide	7446095	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01
PM		2.18	1.73	1.73	0.67	0.33	0.33	0.33	0.33
TOG Speciation									
Benzene	71432	0.11	0.09	0.09	0.03	0.02	0.02	0.02	0.02
Formaldehyde	50000	0.81	0.64	0.64	0.25	0.12	0.12	0.12	0.12
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.08	0.06	0.06	0.03	0.01	0.01	0.01	0.01
m-Xylene	108383	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
p-Xylene	106423	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.08	0.06	0.06	0.03	0.01	0.01	0.01	0.01
PM Speciation									
Ammonia	7664417	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.04	0.03	0.03	0.01	0.01	0.01	0.01	0.01
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

										Terminal Trucks
5	2	2	1	1	2	2	1	5	5	5
125	100	100	100	450	400	400	250	175	175	175
0.42	0.27	0.27	0.27	1.37	1.08	1.08	0.42	0.21	0.21	0.21
1.70	1.09	1.09	1.09	3.71	2.93	2.93	1.14	0.56	0.56	0.56
1.00	0.64	0.64	0.64	3.33	2.64	2.64	1.03	0.50	0.50	0.50
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.17	0.11	0.11	0.11	0.14	0.11	0.11	0.04	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.03	0.02	0.02	0.01	0.00	0.00	0.00
0.06	0.04	0.04	0.04	0.20	0.16	0.16	0.06	0.03	0.03	0.03
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.00	0.00	0.00	0.02	0.02	0.02	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									ICTF -
5	5	2	2	1	2	2	2	2	3
175	125	100	100	100	125	125	100	100	75
0.21	0.11	0.07	0.07	0.07	0.13	0.13	0.09	0.09	0.05
0.56	0.29	0.18	0.18	0.18	1.13	1.13	0.72	0.72	0.41
0.50	0.26	0.16	0.16	0.16	0.03	0.03	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Trains									ICTF - Ec
3	3	3	3	3	2	2	2	2	3
75	75	50	50	50	125	125	100	100	75
0.05	0.05	0.02	0.02	0.02	0.15	0.15	0.10	0.10	0.05
0.41	0.41	0.18	0.18	0.18	0.68	0.68	0.43	0.43	0.24
0.01	0.01	0.00	0.00	0.00	0.36	0.36	0.23	0.23	0.13
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.06	0.06	0.04	0.04	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.02	0.02	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

quipment					I-110 NB from HBB to Anah				
3	3	3	3	3	8	8	8	8	8
75	75	50	50	50	50	50	50	50	50
0.05	0.05	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
0.24	0.24	0.11	0.11	0.11	0.04	0.04	0.04	0.04	0.04
0.13	0.13	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

heim			I-110 SB from Anaheim to HBB						
8	8	8	6	6	6	6	6	6	11
50	50	50	50	50	50	50	50	50	15
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.02
0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 SB Offramp									
11	11	11	11	11	11	11	11	11	11
15	15	15	15	15	15	15	15	15	15
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

I-110 NB Offramp to HBB									
12	12	12	12	12	12	12	12	12	12
21	21	21	21	21	21	21	21	21	21
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		HBB - Fig. St. to I-110 NB Offramp							
12	12	4	4	4	4	18	18	18	18
21	21	32	32	32	32	32	32	32	32
0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HBB - I-110 NB Offramp to Fries Ave.

18	18	18	18	18	18	18	18	18	18
32	32	32	32	32	32	32	32	32	32
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

									HBB - Fri
18	18	18	18	13	13	13	13	13	13
32	32	32	32	32	32	32	32	32	32
0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.06	0.06	0.06	0.06	0.02	0.02	0.02	0.02	0.02	0.02
0.05	0.05	0.05	0.05	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

ies Ave. to Alameda									
13	13	13	13	13	13	13	16	16	16
32	32	32	32	32	32	32	32	32	32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alameda - HBB to Anaheim									
16	16	16	16	16	16	16	16	16	16
32	32	32	32	32	32	32	32	32	32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Fries Ave. - HBB to Water St.						
16	16	16	8	8	8	8	8	8	8
32	32	32	25	25	25	25	25	25	25
0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.02	0.02	0.02	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

	Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave.
8	5	5	5	5	5	3	3	3	3
25	25	25	25	25	25	70	70	70	25
0.02	0.02	0.02	0.02	0.02	0.02	0.18	0.18	0.18	0.02
0.07	0.05	0.05	0.05	0.05	0.05	0.27	0.27	0.27	0.05
0.06	0.04	0.04	0.04	0.04	0.04	0.14	0.14	0.14	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

. - Water St. to Pier A									
3	3	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.05	0.05	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pier A St. - Fries Ave. to PAS Gate

22	22	22	22	22	22	22	22	22	22
25	25	25	25	25	25	25	25	25	25
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Gate - Pier A St.			
22	22	22	22	4	4	4	4
25	25	25	25	35	35	35	35
0.00	0.00	0.00	0.00	0.04	0.04	0.04	0.04
0.02	0.02	0.02	0.02	0.06	0.06	0.06	0.06
0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hour Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source								PHL Railyard	
# of Sources		1	1	1	1	1	1	1	1
Source Area Width (m)		200	150	125	125	125	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Carbon Monoxide	630080	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04
Nitrogen Dioxide	10102440	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03
Sulfur Dioxide	7446095	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
PM		0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
TOG Speciation									
Benzene	71432	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Formaldehyde	50000	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
m-Xylene	108383	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1	1	1	1	1	1
100	75	75	75	75	50
0.01	0.01	0.01	0.01	0.01	0.00
0.04	0.02	0.02	0.02	0.02	0.01
0.03	0.02	0.02	0.02	0.02	0.01
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		Maneuvering - Vessel							
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG			-	-	-	-	-	-	-
Carbon Monoxide	630080		-	-	-	-	-	-	-
Nitrogen Dioxide	10102440		-	-	-	-	-	-	-
Sulfur Dioxide	7446095		-	-	-	-	-	-	-
PM			-	-	-	-	-	-	-
TOG Speciation									
Benzene	71432	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-
Xylenes	1210	-	-	-	-	-	-	-	-
Methanol	67561	-	-	-	-	-	-	-	-
MEK	78933	-	-	-	-	-	-	-	-
m-Xylene	108383	-	-	-	-	-	-	-	-
o-Xylene	95476	-	-	-	-	-	-	-	-
p-Xylene	106423	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-
PM Speciation									
Ammonia	7664417	-	-	-	-	-	-	-	-
Arsenic	7440382	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-	-
Nickel	7440020	-	-	-	-	-	-	-	-
Sulfates	9960	-	-	-	-	-	-	-	-
Vanadium	7440622	-	-	-	-	-	-	-	-

Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100

-	-	-	-	-	-	-				
-	-	-	-	-	-	-				
-	-	-	-	-	-	-				
-	-	-	-	-	-	-				
-	-	-	-	-	-	-				

-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

Maneuvering - Tug Transit Far										
37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source									
# of Sources		37	37	37	37	37	37	37	37
Source Area Width (m)		100	100	100	100	100	100	100	100
Pollutant	CAS #								
Criteria Pollutants									
TOG		1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
Nitrogen Dioxide	10102440	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
Sulfur Dioxide	7446095	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
PM		0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
TOG Speciation									
Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Formaldehyde	50000	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
PM Speciation									
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Vessel Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			Maneuvering - Near Berth Near							
37	37	37	1	37	37	37	37	37	37	37
100	100	100	300	100	100	100	100	100	100	100
1.20	1.20	1.20	15.38	0.04	0.04	0.04	0.04	0.04	0.04	0.04
1.24	1.24	1.24	12.43	0.15	0.15	0.15	0.15	0.15	0.15	0.15
4.19	4.19	4.19	27.66	0.42	0.42	0.42	0.42	0.42	0.42	0.42
3.68	3.68	3.68	32.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.76	0.76	0.76	8.31	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.03	0.03	0.03	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.18	0.18	0.18	2.26	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.00	0.00	0.00	0.05	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.02	0.02	0.02	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.33	0.33	0.33	3.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Maneuvering - Tug Transit Near

37	37	37	37	37	37	37	37	37	37	37
100	100	100	100	100	100	100	100	100	100	100
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
-	-	-	-	-	-	-	-	-	-	-
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

				Maneuvering - Tug Near Berth Near
37	37	37	37	1
100	100	100	100	300
0.04	0.04	0.04	0.04	1.04
0.15	0.15	0.15	0.15	3.71
0.42	0.42	0.42	0.42	10.25
0.00	0.00	0.00	0.00	0.01
0.04	0.04	0.04	0.04	0.92
0.00	0.00	0.00	0.00	0.02
0.01	0.01	0.01	0.01	0.15
-	-	-	-	-
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.01
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.02
0.00	0.00	0.00	0.00	0.00

Alternative 1 - Hourly Acute Emission Rates Scenario 2 (2010)

Source		3000_VH1 (Hoteling -			3100_VH2 (Hoteling - 5-		
Stack ID #		3001	3002	3003	3101	3102	3103
# of sources		3	3	3	3	3	3
Source Area Width (m)		N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
Pollutant	CAS #						
Criteria Pollutants							
TOG		0.28	0.28	0.28	0.54	0.54	0.54
Carbon Monoxide	630080	0.91	0.91	0.91	1.39	1.39	1.39
Nitrogen Dioxide	10102440	1.78	1.78	1.78	3.43	3.43	3.43
Sulfur Dioxide	7446095	8.63	8.63	8.63	12.13	12.13	12.13
PM		0.56	0.56	0.56	0.56	0.56	0.56
TOG Speciation							
Benzene	71432	0.01	0.01	0.01	0.01	0.01	0.01
Formaldehyde	50000	0.04	0.04	0.04	0.08	0.08	0.08
Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00
Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00
MEK	78933	0.00	0.00	0.00	0.01	0.01	0.01
m-Xylene	108383	0.00	0.00	0.00	0.00	0.00	0.00
o-Xylene	95476	0.00	0.00	0.00	0.00	0.00	0.00
p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	108883	0.01	0.01	0.01	0.01	0.01	0.01
PM Speciation							
Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00
Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00
Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00
Sulfates	9960	0.25	0.25	0.25	0.25	0.25	0.25
Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	- Hourly Acute Emission Rates													
2	Source													
3	# of Sources		37	37	37	37	37	37	37	37	37	37	37	37
4	Source Area Width (m)		100	100	100	100	100	100	100	100	100	100	100	100
5	Pollutant	CAS #												
6	Criteria Pollutants													
7	TOG		1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
8	Carbon Monoxide	630080	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
9	Nitrogen Dioxide	10102440	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
10	Sulfur Dioxide	7446095	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
11	PM		0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
12	TOG Speciation													
13	Benzene	71432	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
14	Formaldehyde	50000	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
15	Xylenes	1210	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	Methanol	67561	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	MEK	78933	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
18	m-Xylene	108383	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
19	o-Xylene	95476	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	p-Xylene	106423	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Styrene	100425	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	Toluene	108883	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
23	PM Speciation													
24	Ammonia	7664417	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	Arsenic	7440382	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Copper	7440508	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	Mercury	7439976	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Nickel	7440020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	Sulfates	9960	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
30	Vanadium	7440622	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31														
32														
33														
34														
35														
36														

	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD
1																
2	HT - 8-9kVessel															
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
8	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
9	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19
10	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68
11	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
12																
13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
14	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
18	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
19	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT
1																
2										Docking - 8-9kVessel	Hoteling - <3kVessel			Hoteling - 5-6kVessel		
3	37	37	37	37	37	37	37	37	37	1	3	3	3	3	3	3
4	100	100	100	100	100	100	100	100	100	300	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)	N/A(point)
5																
6																
7	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	15.38	0.28	0.28	0.28	0.54	0.54	0.54
8	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	12.43	0.91	0.91	0.91	1.39	1.39	1.39
9	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	4.19	27.66	1.78	1.78	1.78	3.43	3.43	3.43
10	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	3.68	32.71	8.63	8.63	8.63	12.13	12.13	12.13
11	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	8.31	0.56	0.56	0.56	1.02	1.02	1.02
12																
13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.34	0.01	0.01	0.01	0.01	0.01	0.01
14	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	2.26	0.04	0.04	0.04	0.08	0.08	0.08
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.23	0.00	0.00	0.00	0.01	0.01	0.01
18	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.00	0.00	0.00	0.00	0.00	0.00
19	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.07	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
22	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.34	0.01	0.01	0.01	0.01	0.01	0.01
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.01	0.01
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.01	0.01
29	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	3.66	0.25	0.25	0.25	0.45	0.45	0.45
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.01	0.01	0.01
31																
32																
33																
34																
35																
36																

	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ
1																
2																
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ
1																
2		Tugboats -HT- 2010														
3	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37	37
4	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
8	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
9	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP
1																
2						Tugboats - Docking - 2010	Trucks On-Terminal - 2010									
3	37	37	37	37	37	1	12	12	12	12	12	12	12	12	12	12
4	100	100	100	100	100	300	450	400	400	250	175	175	175	175	175	100
5																
6																
7	0.04	0.04	0.04	0.04	0.04	1.04	1.37	1.08	1.08	0.42	0.21	0.21	0.21	0.21	0.21	0.07
8	0.15	0.15	0.15	0.15	0.15	3.71	3.71	2.93	2.93	1.14	0.56	0.56	0.56	0.56	0.56	0.18
9	0.42	0.42	0.42	0.42	0.42	10.25	3.33	2.64	2.64	1.03	0.50	0.50	0.50	0.50	0.50	0.16
10	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.04	0.04	0.04	0.04	0.04	0.92	0.14	0.11	0.11	0.04	0.02	0.02	0.02	0.02	0.02	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.01	0.01	0.01	0.15	0.20	0.16	0.16	0.06	0.03	0.03	0.03	0.03	0.03	0.01
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF
1																
2			I-110 NB from HBB to Anaheim								I-110 SB from Anaheim to HBB					
3	12	12	8	8	8	8	8	8	8	8	6	6	6	6	6	6
4	100	100														
5																
6																
7	0.07	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
8	0.18	0.18	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
9	0.16	0.16	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV
1																
2	I-110 SB Offramp											I-1				
3	11	11	11	11	11	11	11	11	11	11	11	12	12	12	12	12
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00	0.00
9	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL
1																
2	.10 NB Offramp to HBB							HBB - Fig. St. to I-110 NB Offramp								
3	12	12	12	12	12	12	12	4	4	4	4	18	18	18	18	18
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB
1																
2			HBB - I-110 NB Offramp to Fries Ave.													
3	18	18	18	18	18	18	18	18	18	18	18	18	18	13	13	13
4																
5																
6																
7	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
8	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.02	0.02	0.02
9	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.02	0.02
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR
1																
2			HBB - Fries Ave. to Alameda													
3	13	13	13	13	13	13	13	13	13	13	16	16	16	16	16	16
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
9	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH
1																
2	Alameda - HBB to Anaheim										Fries Ave. - HBB to Water St.					
3	16	16	16	16	16	16	16	16	16	16	8	8	8	8	8	8
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.07	0.07	0.07	0.07	0.07	0.07
9	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.06	0.06	0.06	0.06	0.06	0.06
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX
1																
2			Water St. - Fries A. to Main Gate					Gate - Main			Fries Ave. - Water St. to Pier A St.					
3	8	8	5	5	5	5	5	3	3	3	3	3	3	22	22	22
4																
5																
6																
7	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.18	0.18	0.18	0.02	0.02	0.02	0.00	0.00	0.00
8	0.07	0.07	0.05	0.05	0.05	0.05	0.05	0.27	0.27	0.27	0.05	0.05	0.05	0.02	0.02	0.02
9	0.06	0.06	0.04	0.04	0.04	0.04	0.04	0.14	0.14	0.14	0.04	0.04	0.04	0.02	0.02	0.02
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN
1															Expanded	up
2	Pier A St. - Fries Ave. to PAS Gate															
3	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
4																
5																
6																
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
9	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID
1	to	here	------>													
2				Gate - Pier A St.	Outbound - Rail Yard - 2010				ICTF Equipment - 2010				Terminal Equipment - 20			
3	22	22	22	4	2	2	3	3	2	2	3	3	1	2	1	5
4					125	100	75	50	125	100	75	50	450	400	250	175
5																
6																
7	0.00	0.00	0.00	0.04	0.13	0.09	0.05	0.02	0.15	0.10	0.05	0.02	5.48	4.33	1.69	0.83
8	0.02	0.02	0.02	0.06	1.13	0.72	0.41	0.18	0.68	0.43	0.24	0.11	21.98	17.36	6.78	3.32
9	0.02	0.02	0.02	0.03	0.03	0.02	0.01	0.00	0.36	0.23	0.13	0.06	13.01	10.28	4.01	1.97
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.01
11	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.06	0.04	0.02	0.01	2.18	1.73	0.67	0.21
12																
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.09	0.03	0.02
14	0.00	0.00	0.00	0.01	0.02	0.01	0.01	0.00	0.02	0.01	0.01	0.00	0.81	0.64	0.25	0.12
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06	0.03	0.01
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.01	0.01
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.06	0.03	0.01
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.03	0.01	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT
1																
2	10		PHL Railyard 2010													
3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	100	100	200	150	125	125	125	100	100	100	100	75	75	75	75	50
5																
6																
7	0.27	0.27	0.04	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
8	1.09	1.09	0.14	0.08	0.06	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.02	0.02	0.01
9	0.64	0.64	0.12	0.07	0.05	0.05	0.05	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.01
10	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.11	0.11	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12																
13	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.04	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23																
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31																
32																
33																
34																
35																
36																

Table C3-A1-20 . Year 2010 Hourly Roadway Link Emissions - Berths 136-147 Terminal Proposed Project.

Link	Length (Mi)	MPH	PHT	Pounds per Hour					# of Vol. Sources
				TOG	CO	NO2	SOx	PM10	
I-110 NB from HBB to Anaheim	0.50	35	199	0.09	0.36	0.32	0.00	0.04	8
I-110 SB from Anaheim to HBB	0.37	40	172	0.05	0.22	0.20	0.00	0.02	6
I-110 SB Offramp	0.23	25	172	0.05	0.18	0.14	0.00	0.02	11
I-110 NB Offramp to HBB	0.31	40	38	0.01	0.04	0.04	0.00	0.00	12
HBB - Fig. St. to I-110 NB Offramp	0.16	35	372	0.05	0.21	0.18	0.00	0.02	4
HBB - I-110 NB Offramp to Fries Ave.	0.72	35	410	0.26	1.06	0.94	0.01	0.11	18
HBB - Fries Ave. to Alameda	0.52	35	129	0.06	0.24	0.21	0.00	0.03	13
Alameda - HBB to Anaheim	0.65	35	129	0.07	0.30	0.27	0.00	0.03	16
Fries Ave. - HBB to Water St.	0.25	25	539	0.17	0.60	0.47	0.01	0.06	8
Water St. - Fries A. to Main Gate	0.16	25	377	0.08	0.26	0.21	0.00	0.03	5
Gate - Main	0.13	5	377	0.54	0.81	0.43	0.00	0.04	3
Fries Ave. - Water St. to Pier A St.	0.22	25	162	0.05	0.16	0.12	0.00	0.02	3
Pier A St. - Fries Ave. to PAS Gate	0.67	35	162	0.10	0.39	0.34	0.00	0.04	22
Gate - Pier A St.	0.09	5	162	0.15	0.23	0.12	0.00	0.01	4

Notes: (1) Based on 365 days per year and 24 hours per day.

Link	I-110 NB from	I-110 SB from	I-110 SB Offra	I-110 NB Offra	HBB - Fig. St.	HBB - I-110 NB	HBB - Fries Av	Alameda - HBB	Fries Ave. - HB	Water St. - Fri	Gate - Main	Fries Ave. - W	Pier A St. - Fri	Gate - Pier A S
(Mi)	0	0	0	0	0	1	1	1	0	0	0	0	1	0
MPH	35	40	25	40	35	35	35	35	25	25	5	25	35	5
PHT	199	172	172	38	372	410	129	129	539	377	377	162	162	162
TOG	0.09	0.05	0.05	0.01	0.05	0.26	0.06	0.07	0.17	0.08	0.54	0.05	0.10	0.15
CO	0.36	0.22	0.18	0.04	0.21	1.06	0.24	0.30	0.60	0.26	0.81	0.16	0.39	0.23
NO2	0.32	0.20	0.14	0.04	0.18	0.94	0.21	0.27	0.47	0.21	0.43	0.12	0.34	0.12
SOx	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
PM10	0.04	0.02	0.02	0.00	0.02	0.11	0.03	0.03	0.06	0.03	0.04	0.02	0.04	0.01
Sources	8	6	11	12	4	18	13	16	8	5	3	3	22	4

Table H5-A1.27. Chronic Annual PM Emission Rate Simulations for Berths 136-147 Terminal Project - 2003 CEQA Baseline.

Activity	# of Sources	DPM Emission Rate		Volume Source
		Lbs/Year	Lbs/Hour (1)	Lbs/Year
OGVs - Fairway (2)	44	20,697		470
OGVs - Precautionary Area (2)	31	7,566		244
OGVs - Harbor Transit (2)	37	6,308		170
OGVs - Docking (2)	1	1,871		1,871
OGVs - Hoteling - Point Sources	9	35,856		3,984
Tugboats - Harbor Transit (2)(3)	37	366		10
Tugboats - Docking (2)(3)	1	244		244
Terminal Equipment	Var.	19,950		(4)
On-road Trucks - Inside Terminal	Var.	13,943		(4)
Trains - Within Existing PHL Railyard	Var.	517		(4)

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary sources.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable volume source areas. See Table H5-A0.28.

Table H5-A0.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project Existing Conditi

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
OGV - Transit Fairrway					
	100	10,000	44	2.3	470
Totals		10,000	44	2.3	470
OGV - Transit Precautionary Area					
	100	10,000	31	3.2	244
Totals		10,000	31	3.2	244
OGV - Harbor Transit					
	100	10,000	37	2.7	170
Totals		10,000	37	2.7	170
OGV - Docking					
	300	90,000	1	100.0	1,871
Totals		90,000	1	100.0	1,871
Tugboat - Harbor Transit					
	100	10,000	37	2.7	10
Totals		10,000	37	2.7	10
Tugboat - Docking					
	300	90,000	1	100.0	244
Totals		90,000	1	100.0	244
Terminal - Equipment					
	360	129,600	1	21.2	4,221
	350	122,500	1	20.0	3,989
	315	99,225	1	16.2	3,231
	210	44,100	1	7.2	1,436
	195	38,025	1	6.2	1,238
	175	30,625	1	5.0	997
	160	25,600	1	4.2	834
	160	25,600	1	4.2	834
	160	25,600	1	4.2	834
	140	19,600	1	3.2	638
	130	16,900	1	2.8	550
	100	10,000	1	1.6	326
	98	9,604	1	1.6	313
	96	9,216	1	1.5	300
	80	6,400	1	1.0	208
Totals		612,595	15	100	19,950
Terminal - Trucks					
	360	129,600	1	21.2	2,950
	350	122,500	1	20.0	2,788
	315	99,225	1	16.2	2,258
	210	44,100	1	7.2	1,004
	195	38,025	1	6.2	865
	175	30,625	1	5.0	697
	160	25,600	1	4.2	583
	160	25,600	1	4.2	583
	160	25,600	1	4.2	583
	140	19,600	1	3.2	446
	130	16,900	1	2.8	385
	100	10,000	1	1.6	228
	98	9,604	1	1.6	219
	96	9,216	1	1.5	210
	80	6,400	1	1.0	146
Totals		612,595	15	100	13,943

Table H5-A0.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project Existing Conditi

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
Trains - Within Existing PHL Railyard	120	14,400	1	17.3	89
	118	13,924	1	16.7	87
	105	11,025	1	13.3	69
	105	11,025	1	13.3	69
	100	10,000	1	12.0	62
	85	7,225	1	8.7	45
	65	4,225	1	5.1	26
	54	2,916	1	3.5	18
	50	2,500	1	3.0	16
	48	2,304	1	2.8	14
	48	2,304	1	2.8	14
	36	1,296	1	1.6	8
Totals		83,144	12	100	517
I-110 NB from C St. to Anaheim					
	50	2,500	8	12.5	95
Totals		2,500	8	12.5	95
I-110 SB from Anaheim to C St.					
	50	2,500	6	16.7	56
Totals		2,500	6	16.7	56
I-110 SB Offramp to C St.					
	15	225	10	10.0	57
Totals		225	10	10.0	57
I-110 NB Offramp to C St.					
	25	625	8	12.5	7
Totals		625	8	12.5	7
Figueroa St. - C St. to Main Gate					
	50	2,500	5	20.0	249
Totals		2,500	5	20.0	249
HBB - East of Main Gate to Fries Ave.					
	27	729	24	4.2	42
Totals		729	24	4.2	42
HBB - Fries Ave. to Alameda					
	27	729	15	6.7	32
Totals		729	15	6.7	32
Alameda St - HBB to Anaheim St.					
	27	729	28	3.6	16
Totals		729	28	3.6	16
Fries Ave. - HBB to Water St.					
	25	625	10	10.0	66
Totals		625	10	10.0	66
Pier A St. - Water St. to PAS Gate					
	25	625	23	4.3	17
Totals		625	23	4.3	17
Main Gate Road - HBB to Gate					
	15	225	3	33.3	151
Totals		225	3	33.3	151
Gate - Main					
	25	625	2	50.0	227
Totals		625	2	50.0	227
Gate - Water St.					
	25	625	2	50.0	155
Totals		625	2	50.0	155
Gate - Pier A St.					
	25	625	2	50.0	49
Totals		625	2	50.0	49

Table H5-A1.27. Peak Annual (Year 2010) PM Emission Rate Simulations - Berths 136-147
Terminal Project No Federal Action Baseline.

Activity	# of Sources	PM Emission Rate Lbs/Year	PM Emission Rate Lbs/Hour (1)	Volume Source Lbs/Year
OGVs - Fairway (2)	44	12,340		280
OGVs - Precautionary Area (2)	31	9,352		302
OGVs - Harbor Transit (2)	37	7,901		214
OGVs - Docking (2)	1	2,325		2,325
OGVs - Hoteling - Point Sources	9	34,295		3,811
Tugboats - Harbor Transit (2)(3)	37	796		22
Tugboats - Docking (2)(3)	1	530		530
Terminal Equipment	Var.	18,969		(4)
On-road Trucks - Ops inside Terminal	Var.	1,629		(4)
ICTF - Trains	Var.	237		(4)
ICTF - Railyard Equipment	Var.	900		(4)
Trains - Haul from ICTF to Anaheim St.	62	113		1.8
Trains - Within Relocated PHL Railyard	Var.	315		(4)

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary engines.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable source areas. See Table H5-A6.28.

Table H5-A6.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project No Federal A

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year	Source PM Lbs/Hour
OGV - Transit Fairrway						
	100	10,000	44	2.3	280	-
Totals		10,000	44	2.3	280	-
OGV - Transit Precautionary Area						
	100	10,000	31	3.2	302	-
Totals		10,000	31	3.2	302	-
OGV - Harbor Transit						
	100	10,000	37	2.7	214	-
Totals		10,000	37	2.7	214	-
OGV - Docking						
	300	90,000	1	100.0	2,325	-
Totals		90,000	1	100.0	2,325	-
Tugboat - Harbor Transit						
	100	10,000	37	2.7	22	-
Totals		10,000	37	2.7	22	-
Tugboat - Docking						
	300	90,000	1	100.0	530	-
Totals		90,000	1	100.0	530	-
Terminal - Equipment						
	400	160,000	1	23.8	4,509	-
	400	160,000	1	23.8	4,509	-
	350	122,500	1	18.2	3,452	-
	250	62,500	1	9.3	1,761	-
	175	30,625	1	4.5	863	-
	175	30,625	1	4.5	863	-
	175	30,625	1	4.5	863	-
	175	30,625	1	4.5	863	-
	125	15,625	1	2.3	440	-
	100	10,000	1	1.5	282	-
	100	10,000	1	1.5	282	-
	100	10,000	1	1.5	282	-
Totals		673,125	12	100	18,969	-
Terminal - Trucks						
	400	160,000	1	23.8	387	-
	400	160,000	1	23.8	387	-
	350	122,500	1	18.2	296	-
	250	62,500	1	9.3	151	-
	175	30,625	1	4.5	74	-
	175	30,625	1	4.5	74	-
	175	30,625	1	4.5	74	-
	175	30,625	1	4.5	74	-
	125	15,625	1	2.3	38	-
	100	10,000	1	1.5	24	-
	100	10,000	1	1.5	24	-
	100	10,000	1	1.5	24	-
Totals		673,125	12	100	1,629	-
ICTF - Trains						
	125	15,625	1	20.7	49	-
	125	15,625	1	20.7	49	-
	100	10,000	1	13.2	31	-
	100	10,000	1	13.2	31	-
	75	5,625	1	7.4	18	-
	75	5,625	1	7.4	18	-
	75	5,625	1	7.4	18	-
	50	2,500	1	3.3	8	-
	50	2,500	1	3.3	8	-
	50	2,500	1	3.3	8	-
Totals		75,625	10	100	237	-

Table H5-A6.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Project No Federal A

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year	Source PM Lbs/Hour
ICTF - Equipment	125	15,625	1	20.7	186	-
	125	15,625	1	20.7	186	-
	100	10,000	1	13.2	119	-
	100	10,000	1	13.2	119	-
	75	5,625	1	7.4	67	-
	75	5,625	1	7.4	67	-
	75	5,625	1	7.4	67	-
	50	2,500	1	3.3	30	-
	50	2,500	1	3.3	30	-
	50	2,500	1	3.3	30	-
Totals		75,625	10	100	900	-
Trains - Haul from ICTF to Anaheim St.						
	20	400	62	1.6	2	-
Totals		400	62	1.6	2	-
Relocated PHL Rail Yard - Trains						
	200	40,000	1	22.9	72	-
	150	22,500	1	12.9	41	-
	125	15,625	1	9.0	28	-
	125	15,625	1	9.0	28	-
	125	15,625	1	9.0	28	-
	100	10,000	1	5.7	18	-
	100	10,000	1	5.7	18	-
	100	10,000	1	5.7	18	-
	100	10,000	1	5.7	18	-
	75	5,625	1	3.2	10	-
	75	5,625	1	3.2	10	-
	75	5,625	1	3.2	10	-
	75	5,625	1	3.2	10	-
	50	2,500	1	1.4	5	-
Totals		174,375	14	100	315	-
I-110 NB from HBB to Anaheim						
	50	2,500	8	12.5	8	0.001
Totals		2,500	8	12.5	8	0.001
I-110 SB from Anaheim to HBB						
	50	2,500	6	16.7	6	0.001
Totals		2,500	6	16.7	6	0.001
I-110 SB Offramp						
	15	225	11	9.1	3	0.000
Totals		225	11	9.1	3	0.000
I-110 NB Offramp to HBB						
	21	441	12	8.3	1	0.0001
Totals		441	12	8.3	1	0.000
HBB - Figueroa St. to I-110 NB Off-ramp						
	32	1,024	4	25.0	10	0.001
Totals		1,024	4	25.0	10	0.001
HBB - I-110 NB Off-ramp to Fries Ave.						
	32	1,024	18	5.6	11	0.001
Totals		1,024	18	5.6	11	0.001
HBB - Fries Ave. to Alameda						
	32	1,024	13	7.7	3	0.000
Totals		1,024	13	7.7	3	0.000
Alameda - HBB to Anaheim						
	32	1,024	16	6.3	4	0.000
Totals		1,024	16	6.3	4	0.000
Fries Ave. - HBB to Water St.						
	25	625	8	12.5	15	0.002
Totals		625	8	12.5	15	0.002
Water St. - Main Gate to Fries Ave.						
	25	625	5	20.0	11	0.001
Totals		625	5	20.0	11	0.001
Main Gate						
	70	4,900	3	33.3	34	0.004
Totals		4,900	3	33.3	34	0.004
Fries Ave. - Water St. to Pier A St.						
	25	625	3	33.3	11	0.001
Totals		625	3	33.3	11	0.001
Pier A St. - Fries Ave. to PAS Gate						
	25	625	22	4.5	3	0.000
Totals		625	22	4.5	3	0.000
Pier A St. Gate						
	35	1,225	4	25.0	7	0.001
Totals		1,225	4	25.0	7	0.001

	A	B	C	D	E
1	Table H5-A1.27. Peak Annual (Year 2010) PM Emission Rate Simulations - Berths 136-147				
2	Terminal Proposed Project.				
3		# of	PM Emission Rate		Volume Source
4	Activity	Sources	Lbs/Year	Lbs/Hour (1)	Lbs/Year
5	OGVs - Fairway (2)	44	30,930		703
6	OGVs - Precautionary Area (2)	31	13,477		435
7	OGVs - Harbor Transit (2)	37	11,293		305
8	OGVs - Docking (2)	1	3,343		3,343
9	OGVs - Hoteling - Point Sources	12	68,522		5,710
10	Tugboats - Harbor Transit (2)(3)	37	840		23
11	Tugboats - Docking (2)(3)	1	560		560
12	Terminal Equipment	Var.	27,409		(4)
13	On-road Trucks - Ops inside Terminal	Var.	10,721		(4)
14	ICTF - Trains	Var.	237		(4)
15	ICTF - Railyard Equipment	Var.	1,111		(4)
16	Trains - Haul from ICTF to Anaheim St.	62	113		1.8
17	Trains - Within Relocated PHL Railyard	Var.	315		(4)
18	Notes: (1) Based on 365 days/year and 24 hours/day.				
19	(2) Includes vessel main power plant and auxiliary engines.				
20	(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.				
21	(4) Variable source areas. See Table H5-A1.28.				

	H	I	J	K	L	M
1	Table H5-A1.28. Volume Source Dimensions andYear 2010 PM Emissions Simulations - Berths 136-147 T					
2		Width	Area	# of	% of Total	Source PM
3	Activity/Source ID	(meters)	(m2)	Sources	Source Area	Lbs/Year
4	OGV - Transit Fairrway					
5		100	10,000	44	2.3	703
6	Totals		10,000	44	2.3	30,930
7	OGV - Transit Precautionary Area					
8		100	10,000	31	3.2	435
9	Totals		10,000	31	3.2	13,477
10	OGV - Harbor Transit					
11		100	10,000	37	2.7	305
12	Totals		10,000	37	2.7	11,293
13	OGV - Docking					
14		300	90,000	1	100.0	3,343
15	Totals		90,000	1	100.0	3,343
16	Tugboat - Harbor Transit					
17		100	10,000	37	2.7	23
18	Totals		10,000	37	2.7	840
19	Tugboat - Docking					
20		300	90,000	1	100.0	560
21	Totals		90,000	1	100.0	560
22	Terminal - Equipment					
23		450	202,500	1	26.9	7,370
24		400	160,000	1	21.2	5,823
25		400	160,000	1	21.2	5,823
26		250	62,500	1	8.3	2,275
27		175	30,625	1	4.1	1,115
28		175	30,625	1	4.1	1,115
29		175	30,625	1	4.1	1,115
30		175	30,625	1	4.1	1,115
31		125	15,625	1	2.1	569
32		100	10,000	1	1.3	364
33		100	10,000	1	1.3	364
34		100	10,000	1	1.3	364
35	Totals		753,125	12	100	27,409
36	Terminal - Trucks					
37		450	202,500	1	26.9	2,883
38		400	160,000	1	21.2	2,278
39		400	160,000	1	21.2	2,278
40		250	62,500	1	8.3	890
41		175	30,625	1	4.1	436
42		175	30,625	1	4.1	436
43		175	30,625	1	4.1	436
44		175	30,625	1	4.1	436
45		125	15,625	1	2.1	222
46		100	10,000	1	1.3	142
47		100	10,000	1	1.3	142
48		100	10,000	1	1.3	142
49	Totals		753,125	12	100	10,721
50	ICTF - Trains					
51		125	15,625	1	20.7	49
52		125	15,625	1	20.7	49
53		100	10,000	1	13.2	31
54		100	10,000	1	13.2	31
55		75	5,625	1	7.4	18
56		75	5,625	1	7.4	18
57		75	5,625	1	7.4	18
58		50	2,500	1	3.3	8
59		50	2,500	1	3.3	8
60		50	2,500	1	3.3	8
61	Totals		75,625	10	100	237

	H	I	J	K	L	M
1	Table H5-A1.28. Volume Source Dimensions andYear 2010 PM Emissions Simulations - Berths 136-147 T					
2		Width	Area	# of	% of Total	Source PM
3	Activity/Source ID	(meters)	(m2)	Sources	Source Area	Lbs/Year
63	ICTF - Equipment	125	15,625	1	20.7	230
64		125	15,625	1	20.7	230
65		100	10,000	1	13.2	147
66		100	10,000	1	13.2	147
67		75	5,625	1	7.4	83
68		75	5,625	1	7.4	83
69		75	5,625	1	7.4	83
70		50	2,500	1	3.3	37
71		50	2,500	1	3.3	37
72		50	2,500	1	3.3	37
73	Totals		75,625	10	100	1,111
74	Trains - Haul from ICTF to Anaheim St.					
75		20	400	62	1.6	2
76	Totals		400	62	1.6	113
77	Relocated PHL Rail Yard - Trains					
78		200	40,000	1	22.9	72
79		150	22,500	1	12.9	41
80		125	15,625	1	9.0	28
81		125	15,625	1	9.0	28
82		125	15,625	1	9.0	28
83		100	10,000	1	5.7	18
84		100	10,000	1	5.7	18
85		100	10,000	1	5.7	18
86		100	10,000	1	5.7	18
87		75	5,625	1	3.2	10
88		75	5,625	1	3.2	10
89		75	5,625	1	3.2	10
90		75	5,625	1	3.2	10
91		50	2,500	1	1.4	5
92	Totals		174,375	14	100	315
93	I-110 NB from HBB to Anaheim					
94		50	2,500	8	12.5	62
95	Totals		2,500	8	12.5	497
96	I-110 SB from Anaheim to HBB					
97		50	2,500	6	16.7	50
98	Totals		2,500	6	16.7	297
99	I-110 SB Offramp					
100		15	225	11	9.1	25
101	Totals		225	11	9.1	280
102	I-110 NB Offramp to HBB					
103		21	441	12	8.3	5
104	Totals		441	12	8.3	55
105	HBB - Figueroa St. to I-110 NB Off-ramp					
106		32	1,024	4	25.0	72
107	Totals		1,024	4	25.0	290
108	HBB - I-110 NB Off-ramp to Fries Ave.					
109		32	1,024	18	5.6	82
110	Totals		1,024	18	5.6	1,470
111	HBB - Fries Ave. to Alameda					
112		32	1,024	13	7.7	26
113	Totals		1,024	13	7.7	335
114	Alameda - HBB to Anaheim					
115		32	1,024	16	6.3	26
116	Totals		1,024	16	6.3	419
117	Fries Ave. - HBB to Water St.					
118		25	625	8	12.5	117
119	Totals		625	8	12.5	934
120	Water St. - Main Gate to Fries Ave.					
121		25	625	5	20.0	82
122	Totals		625	5	20.0	409
123	Main Gate					
124		70	4,900	3	33.3	508
125	Totals		4,900	3	33.3	1,525
126	Fries Ave. - Water St. to Pier A St.					
127		25	625	3	33.3	82
128	Totals		625	3	33.3	245
129	Pier A St. - Fries Ave. to PAS Gate					
130		25	625	22	4.5	25
131	Totals		625	22	4.5	541
132	Pier A St. Gate					
133		35	1,225	4	25.0	109
134	Totals		1,225	4	25.0	436

Table H6-A1.27. 70-Year Average Annual PM Emission Rate Simulations - Berths 136-147 Terminal
Mitigated Proposed Project

Activity	# of Sources	PM Emission Rate		Volume Source
		Lbs/Year	Lbs/Hour (1)	Lbs/Year
OGVs - Fairway (2)	44	13,628		310
OGVs - Precautionary Area (2)	31	10,418		336
OGVs - Harbor Transit (2)	37	8,982		243
OGVs - Docking (2)	1	2,644		2,644
OGVs - Hoteling - Point Sources	12	39,563		3,297
Tugboats - Harbor Transit (2)(3)	37	840		23
Tugboats - Docking (2)(3)	1	560		560
Terminal Equipment	Var.	22,237		(4)
On-road Trucks - Ops inside Terminal	Var.	1,961		(4)
ICTF - Trains	Var.	237		(4)
ICTF - Railyard Equipment	Var.	900		(4)
Trains - Haul from ICTF to Anaheim St.	62	113		1.8
Trains - Within Relocated PHL Railyard	Var.	315		(4)

Notes: (1) Based on 365 days/year and 24 hours/day.

(2) Includes vessel main power plant and auxiliary engines.

(3) Assumes that 60/40% of total tug boat emissions would occur during transit/docking modes.

(4) Variable source areas. See Table H6-A1.28.

Table H6-A1.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Prop

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
OGV - Transit Fairrway					
	100	10,000	44	2.3	310
Totals		10,000	44	2.3	310
OGV - Transit Precautionary Area					
	100	10,000	31	3.2	336
Totals		10,000	31	3.2	336
OGV - Harbor Transit					
	100	10,000	37	2.7	243
Totals		10,000	37	2.7	243
OGV - Docking					
	300	90,000	1	100.0	2,644
Totals		90,000	1	100.0	2,644
Tugboat - Harbor Transit					
	100	10,000	37	2.7	23
Totals		10,000	37	2.7	23
Tugboat - Docking					
	300	90,000	1	100.0	560
Totals		90,000	1	100.0	560
Terminal - Equipment					
	450	202,500	1	26.9	5,979
	400	160,000	1	21.2	4,724
	400	160,000	1	21.2	4,724
	250	62,500	1	8.3	1,845
	175	30,625	1	4.1	904
	175	30,625	1	4.1	904
	175	30,625	1	4.1	904
	175	30,625	1	4.1	904
	125	15,625	1	2.1	461
	100	10,000	1	1.3	295
	100	10,000	1	1.3	295
	100	10,000	1	1.3	295
Totals		753,125	12	100	22,237
Terminal - Trucks					
	450	202,500	1	26.9	527
	400	160,000	1	21.2	417
	400	160,000	1	21.2	417
	250	62,500	1	8.3	163
	175	30,625	1	4.1	80
	175	30,625	1	4.1	80
	175	30,625	1	4.1	80
	175	30,625	1	4.1	80
	125	15,625	1	2.1	41
	100	10,000	1	1.3	26
	100	10,000	1	1.3	26
	100	10,000	1	1.3	26
Totals		753,125	12	100	1,961

Table H6-A1.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Prop

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
ICTF - Trains					
	125	15,625	1	20.7	49
	125	15,625	1	20.7	49
	100	10,000	1	13.2	31
	100	10,000	1	13.2	31
	75	5,625	1	7.4	18
	75	5,625	1	7.4	18
	75	5,625	1	7.4	18
	50	2,500	1	3.3	8
	50	2,500	1	3.3	8
	50	2,500	1	3.3	8
Totals		75,625	10	100	237

Table H6-A1.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Prop

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
ICTF - Equipment	125	15,625	1	20.7	186
	125	15,625	1	20.7	186
	100	10,000	1	13.2	119
	100	10,000	1	13.2	119
	75	5,625	1	7.4	67
	75	5,625	1	7.4	67
	75	5,625	1	7.4	67
	50	2,500	1	3.3	30
	50	2,500	1	3.3	30
	50	2,500	1	3.3	30
Totals		75,625	10	100	900
Trains - Haul from ICTF to Anaheim St.					
	20	400	62	1.6	2
Totals		400	62	1.6	2
Relocated PHL Rail Yard - Trains					
	200	40,000	1	22.9	72
	150	22,500	1	12.9	41
	125	15,625	1	9.0	28
	125	15,625	1	9.0	28
	125	15,625	1	9.0	28
	100	10,000	1	5.7	18
	100	10,000	1	5.7	18
	100	10,000	1	5.7	18
	100	10,000	1	5.7	18
	75	5,625	1	3.2	10
	75	5,625	1	3.2	10
	75	5,625	1	3.2	10
	75	5,625	1	3.2	10
	50	2,500	1	1.4	5
Totals		174,375	14	100	315
I-110 NB from HBB to Anaheim					
	50	2,500	8	12.5	17
Totals		2,500	8	12.5	17
I-110 SB from Anaheim to HBB					
	50	2,500	6	16.7	13
Totals		2,500	6	16.7	13

Table H6-A1.28. Volume Source Dimensions and PM Emissions Simulations - Berths 136-147 Terminal Prop

Activity/Source ID	Width (meters)	Area (m2)	# of Sources	% of Total Source Area	Source PM Lbs/Year
I-110 SB Offramp					
	15	225	11	9.1	7
Totals		225	11	9.1	7
I-110 NB Offramp to HBB					
	21	441	12	8.3	1
Totals		441	12	8.3	1
HBB - Figueroa St. to I-110 NB Off-ramp					
	32	1,024	4	25.0	20
Totals		1,024	4	25.0	20
HBB - I-110 NB Off-ramp to Fries Ave.					
	32	1,024	18	5.6	22
Totals		1,024	18	5.6	22
HBB - Fries Ave. to Alameda					
	32	1,024	13	7.7	7
Totals		1,024	13	7.7	7
Alameda - HBB to Anaheim					
	32	1,024	16	6.3	7
Totals		1,024	16	6.3	7
Fries Ave. - HBB to Water St.					
	25	625	8	12.5	30
Totals		625	8	12.5	30
Water St. - Main Gate to Fries Ave.					
	25	625	5	20.0	21
Totals		625	5	20.0	21
Main Gate					
	70	4,900	3	33.3	69
Totals		4,900	3	33.3	69
Fries Ave. - Water St. to Pier A St.					
	25	625	3	33.3	21
Totals		625	3	33.3	21
Pier A St. - Fries Ave. to PAS Gate					
	25	625	22	4.5	7
Totals		625	22	4.5	7
Pier A St. Gate					
	35	1,225	4	25.0	15
Totals		1,225	4	25.0	15