PORT OF LOS ANGELES
INVENTORY OF AIR EMISSIONS - 2018

THE PORT OF LOS ANGELES

Technical Report
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Prepared by:
STARCREST CONSULTING GROUP, LLC

INVENTORY OF AIR EMISSIONS FOR CALENDAR YEAR 2018

Prepared for:

THE PORT OF LOS ANGELES

September 2019

Prepared by:

STARCREST CONSULTING GROUP, LLC
ENVIRONMENTAL MANAGEMENT
AIR QUALITY • CLIMATE • SUSTAINABILITY

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Please note that there may be minor numerical inconsistencies between the various sections, tables, and figures of this report, due to rounding associated with emission estimates, percent contribution, and other calculated numbers. Estimates are calculated using more significant figures than presented in the various tables.

EXECUTIVE SUMMARY

The Port of Los Angeles (Port or POLA) annual activity-based emissions inventories serve as the primary tool to track the Port's efforts to reduce air emissions from maritime industry-related sources through implementation of measures identified in the San Pedro Bay Ports Clean Air Action Plan (CAAP) and regulations promulgated at the state and federal levels. Development of the annual air emissions estimates is coordinated with a technical working group (TWG) comprised of representatives from the Port, the Port of Long Beach, and the air regulatory agencies: U.S. Environmental Protection Agency, Region 9 (EPA), California Air Resources Board (CARB), and the South Coast Air Quality Management District (South Coast AQMD).

Summary of 2018 Activity and Emission Estimates

Table ES.1 presents the number of vessel calls and the container cargo throughput for calendar years 2005, 2017 and 2018. Calendar year 2018 was another record year for the Port, as TEU throughput reached 9.46 million TEUs. The TEU throughput increased by 1% in 2018 as compared to the previous year. Even though containership arrivals decreased 5%, the average TEU per call increased 7% as compared to the previous year, indicative of the larger containerships calling and improved efficiency from vessel alliances.

Comparing 2018 to 2005, the TEU throughput increased 26%, containership arrivals decreased 26%, and the average TEU per call increased 71%. The decrease in containership calls with the significant increase in TEU per call handled shows the impact that larger containerships have made since 2005.

Table ES.1: Container Throughput and Vessel Arrival Call Comparison

Year	TEUs	All Arrivals	Containership Arrivals	Average TEUs/Call
2018	9,458,749	1,737	1,096	8,630
2017	9,343,193	1,880	1,154	8,096
2005	7,484,625	2,516	1,479	5,061
Previous Year (2017-2018)	**1%**	**-8%**	**-5%**	**7%**
CAAP Progress (2005-2018)	**26%**	**-31%**	**-26%**	**71%**

Table ES.2 summarizes the 2018 total maritime industry-related mobile source emissions of air pollutants in the South Coast Air Basin (SoCAB) by the following categories: ocean-going vessels (OGVs), harbor craft, cargo handling equipment (CHE), locomotives, and heavy-duty vehicles (HDV).

Table ES.2: 2018 Maritime Industry-related Emissions by Category

Category	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Ocean-going vessels	57	53	43	2,909	110	250	119	205,486
Harbor craft	27	25	27	813	1	581	89	66,092
Cargo handling equipment	8	7	6	464	2	877	86	188,894
Locomotives	33	31	33	886	1	216	51	76,073
Heavy-duty vehicles	9	9	9	1,482	4	209	34	397,027
Total	**134**	**125**	**118**	**6,554**	**118**	**2,132**	**380**	**933,572**

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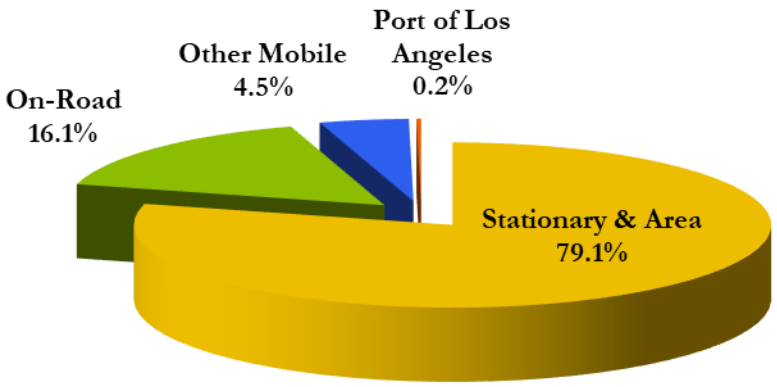
In order to put the maritime industry-related emissions into context, the following figures and tables compare the Port's contributions to the total emissions in the SoCAB by major emission source category. The 2018 SoCAB emissions are based on the 2016 Air Quality Management Plan (AQMP) Appendix III[1], except for the SoCAB on-road emission estimates, which were updated to take into consideration EMFAC2017[2]. Thus, the 2017 SoCAB total emissions do not exactly match 2016 AQMP Appendix III values. It should be noted that neither the SoCAB nor the Port's on-road heavy-duty diesel PM_{10} and $PM_{2.5}$ emissions include brake and tire wear emissions. Due to rounding, the percentages may not total 100%.

Figure ES.1: 2018 PM_{10} Emissions in the South Coast Air Basin



[1]SCAQMD, *Final 2016 AQMP Appendix III, Base & Future Year Emissions Inventories*, March 2017.
[2]*www.arb.ca.gov/emfac/*

Figure ES.2: 2018 $PM_{2.5}$ Emissions in the South Coast Air Basin

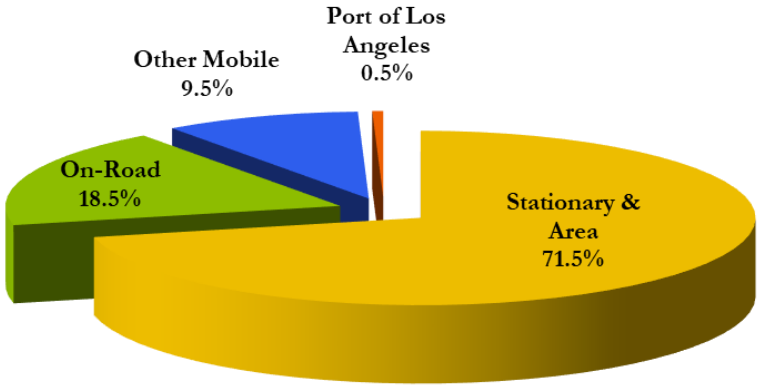


Figure ES.3: 2018 DPM Emissions in the South Coast Air Basin

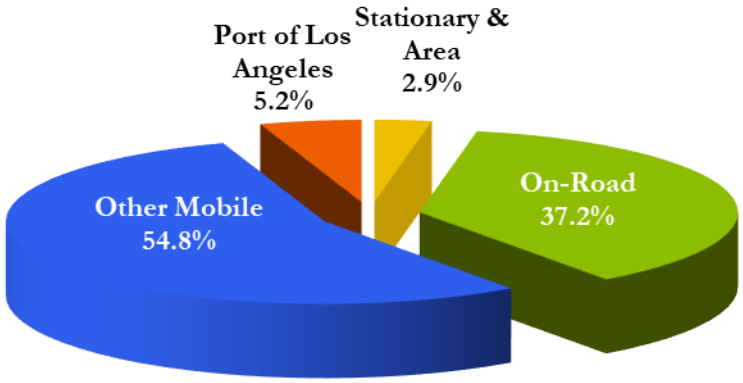


Figure ES.4: 2018 NO_x Emissions in the South Coast Air Basin

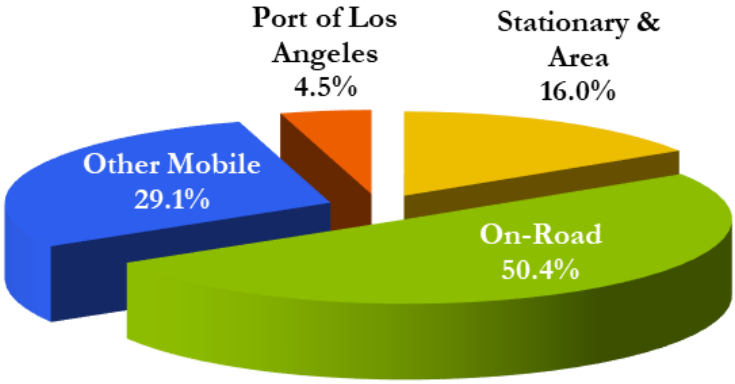
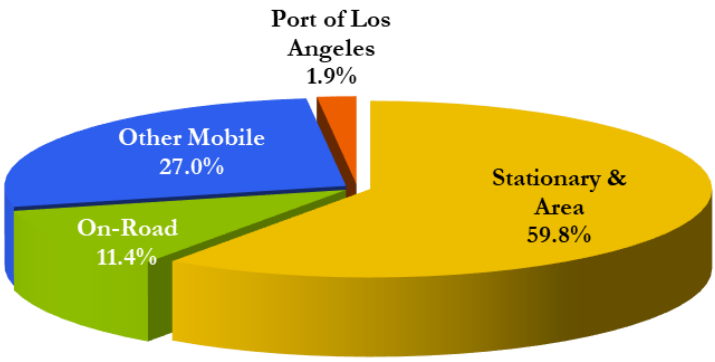


Figure ES.5: 2018 SO_x Emissions in the South Coast Air Basin



Comparison of Emissions from 2005 through 2018

Figure ES.6 presents the decline of the maritime industry-related mobile source emissions in percentage of the total SoCAB emissions from 2005 through 2018. The Port's overall contribution to the SoCAB emissions has decreased significantly for SO_x and DPM emissions since 2005, primarily because of the implementation of various emission reduction programs by the Ports and regulatory agencies, and efficiency improvements from the maritime industry.

Figure ES.6: Port's Emission Contribution in the South Coast Air Basin

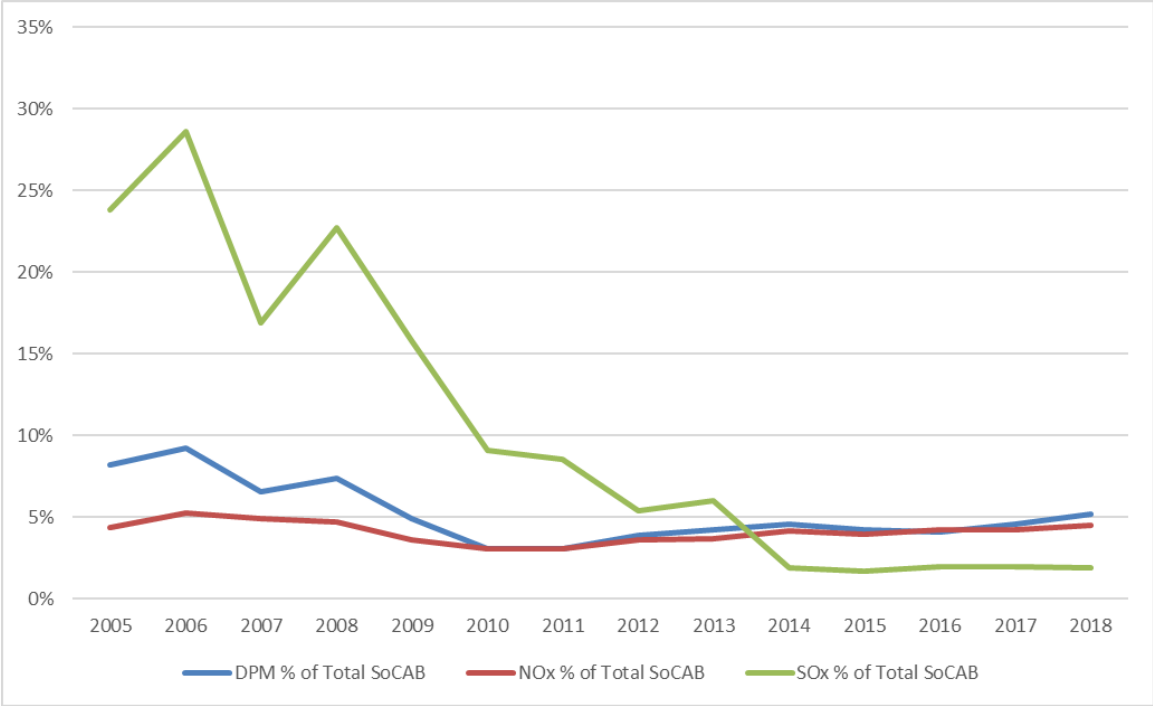


Table ES.3 presents the total net change in emissions from all source categories in 2018 as compared to the previous year and to 2005, all using 2018 methodology. In order to maintain the consistency between the years compared, the previous years' emissions are recalculated whenever new estimation methodologies or data are introduced.

Table ES.3: Maritime Industry-related Emissions Comparison

EI Year	PM_{10} tpy	$PM_{2.5}$ tpy	DPM tpy	NO_x tpy	SO_x tpy	CO tpy	HC tpy	CO_2e tonnes
2018	134	125	118	6,554	118	2,132	380	933,572
2017	132	122	116	6,616	121	1,989	369	907,778
2005	948	820	879	16,206	4,983	3,757	850	1,036,876
Previous Year (2017-2018)	**1%**	**3%**	**1%**	**-1%**	**-2%**	**7%**	**3%**	**3%**
CAAP Progress (2005-2018)	**-86%**	**-85%**	**-87%**	**-60%**	**-98%**	**-43%**	**-55%**	**-10%**

Table ES.4 presents the 2018 and 2005 emissions comparison by source category. Reductions were seen in all pollutants when comparing 2018 to 2005, except for CO emissions for harbor craft and CO_2e emissions for CHE. These reductions occurred even with a 25% increase in TEU throughput in 2018 as compared to 2005. Several factors contributed to lower emissions in 2018 compared to 2005. Major highlights by source category include:

- For OGV, the primary reasons for emission reductions are fuel switching, shore power, Port's Environmental Ship Index (ESI) Incentive Program, and Vessel Speed Reduction (VSR) compliance. The International Maritime Organization (IMO) North American Emission Control Areas (ECA) which augmented the CARB OGV Fuel Regulation by extending the compliance zone from 24 nautical miles (nm) to 200 nm from the shore, continued to be in effect. In 2018, all engines for OGV continued to use fuel with 0.1% sulfur or lower and the At-Berth Regulation (i.e., shore power) was also in effect.
- For harbor craft, the emissions in 2018 are lower than 2005 emissions due to the repowers that have occurred in the last few years as required by the CARB Harbor Craft Regulation or funding incentives, removal of older vessels due to attrition, and more efficient operations.
- For CHE, implementation of CAAP measures and CARB's Cargo Handling Equipment Regulation, along with funding incentives, resulted in replacement of older equipment with cleaner units, retrofits, and repowers, combined with efficiency in operations, led to lower emissions.
- For locomotives, the decreases in fleet-wide emissions from line haul locomotives are due to meeting the terms of the memorandum of understanding (MOU) with CARB, and the replacement of older switching locomotives with new low-emission and ultra-low emission switchers.
- For HDV, the 2012 implementation of the final phase of the Port's Clean Truck Program (CTP) resulted in significant turnover of older trucks to newer and cleaner trucks as compared to 2005.

Table ES.4: Maritime Industry-related 2018-2005 Emissions Comparison by Source Category

	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018								
Ocean-going vessels	57	53	43	2,909	110	250	119	205,486
Harbor craft	27	25	27	813	1	581	89	66,092
Cargo handling equipment	8	7	6	464	2	877	86	188,894
Locomotives	33	31	33	886	1	216	51	76,073
Heavy-duty vehicles	9	9	9	1,482	4	209	34	397,027
Total	**134**	**125**	**118**	**6,554**	**118**	**2,132**	**380**	**933,572**
2005								
Ocean-going vessels	534	429	466	5,295	4,825	470	213	288,251
Harbor craft	55	51	55	1,318	6	364	87	56,925
Cargo handling equipment	54	50	53	1,573	9	822	92	134,621
Locomotives	57	53	57	1,712	98	237	89	82,201
Heavy-duty vehicles	248	238	248	6,307	45	1,865	368	474,877
Total	**948**	**820**	**879**	**16,206**	**4,983**	**3,757**	**850**	**1,036,876**
Change between 2005 and 2018 (percent)								
Ocean-going vessels	-89%	-88%	-91%	-45%	-98%	-47%	-44%	-29%
Harbor craft	-51%	-51%	-51%	-38%	-88%	60%	2%	16%
Cargo handling equipment	-86%	-86%	-89%	-71%	-78%	7%	-7%	40%
Locomotives	-42%	-41%	-42%	-48%	-99%	-9%	-42%	-7%
Heavy-duty vehicles	-96%	-96%	-96%	-77%	-91%	-89%	-91%	-16%
Total	**-86%**	**-85%**	**-87%**	**-60%**	**-98%**	**-43%**	**-55%**	**-10%**

Comparison of Emissions by Source Category from 2017 to 2018

Table ES.5 presents the 2018 and 2017 emissions comparison by source category. The emissions did not change significantly as compared to the previous year. There was a 1% increase in TEU throughput in 2018 from the previous year and a 3% increase in CO_2e emissions. OGV emissions were lower due to fewer vessel calls in 2018. For rail, the PM and hydrocarbon emission factors were about 8% higher due to fleet changes. Although the population for harbor craft and cargo handling equipment decreased and the slight turnover to newer equipment, there was an increase in usage which in turn increased energy consumption in 2018 as compared to 2017, resulting into higher emissions for harbor craft and cargo handling equipment. The CO emissions increase for several categories is due to the fleet turnover to newer engines which have higher CO emission standards. When lowering standards for other pollutants such as PM and NO_x, the corresponding CO standard is often relaxed to allow flexibility for engine manufactures to meet the other standards. Section 9 of this study provides more information about the energy consumption and newer technology comparison by source category.

Table ES.5: Maritime Industry-related 2018-2017 Emissions Comparison by Source Category

	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018								
Ocean-going vessels	57	53	43	2,909	110	250	119	205,486
Harbor craft	27	25	27	813	1	581	89	66,092
Cargo handling equipment	8	7	6	464	2	877	86	188,894
Locomotives	33	31	33	886	1	216	51	76,073
Heavy-duty vehicles	9	9	9	1,482	4	209	34	397,027
Total	**134**	**125**	**118**	**6,554**	**118**	**2,132**	**380**	**933,572**
2017								
Ocean-going vessels	60	56	46	3,061	113	270	129	209,206
Harbor craft	26	24	26	773	1	537	83	62,331
Cargo handling equipment	7	7	5	461	2	783	77	172,945
Locomotives	30	27	30	839	1	208	45	73,346
Heavy-duty vehicles	9	9	9	1,481	4	191	35	389,949
Total	**132**	**122**	**116**	**6,616**	**121**	**1,989**	**369**	**907,778**
Change between 2017 and 2018 (percent)								
Ocean-going vessels	-5%	-5%	-7%	-5%	-3%	-8%	-8%	-2%
Harbor craft	4%	4%	4%	5%	6%	8%	7%	6%
Cargo handling equipment	6%	6%	7%	1%	10%	12%	13%	9%
Locomotives	10%	16%	10%	6%	4%	4%	15%	4%
Heavy-duty vehicles	2%	2%	2%	0%	2%	9%	-3%	2%
Total	**1%**	**3%**	**1%**	**-1%**	**-2%**	**7%**	**3%**	**3%**

Comparison of Emissions Efficiency 2005 through 2018

Table ES.6 summarizes the annualized emissions efficiencies for all five source categories. The overall emission efficiency in 2018 improved for all pollutants as compared to 2005 and previous year. In Table ES.6, a positive percentage means an increase in emissions efficiency.

Table ES.6: Emissions Efficiency Metric Comparison, tons/10,000 TEUs

EI Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.142	0.132	0.124	6.93	0.12	2.25	0.40	987
2017	0.142	0.131	0.125	7.08	0.13	2.13	0.40	972
2005	1.267	1.096	1.175	21.65	6.66	5.02	1.14	1,385
Previous Year (2017-2018)	**0%**	**-1%**	**1%**	**2%**	**8%**	**-6%**	**0%**	**-2%**
CAAP Progress (2005-2018)	**89%**	**88%**	**89%**	**68%**	**98%**	**55%**	**65%**	**29%**

CAAP Standards and Emission Reduction Progress

One of the main purposes of the annual inventories is to provide a progress update on achieving the San Pedro Bay CAAP Standards. These standards consist of the following emission reduction goals, using the 2005 published inventories as a baseline.

- Emission Reduction Standard:
  - By 2014, reduce emissions by 72% for DPM, 22% for NO_x, and 93% for SO_x
  - By 2023, reduce emissions by 77% for DPM, 59% for NO_x, and 93% for SO_x
- Health Risk Reduction Standard: 85% reduction by 2020

Due to the many emission reduction measures undertaken by the Port, as well as statewide and federal regulations and standards, the 2014 and 2023 emission reduction standard are not only met, but exceeded in 2018 for DPM, NO_x and SO_x. Table ES.7 summarizes DPM, NO_x and SO_x percent reductions as compared to the 2014 and 2023 emission reduction standards.

Table ES.7: Reductions as Compared to 2014 and 2023 Emission Reduction Standard

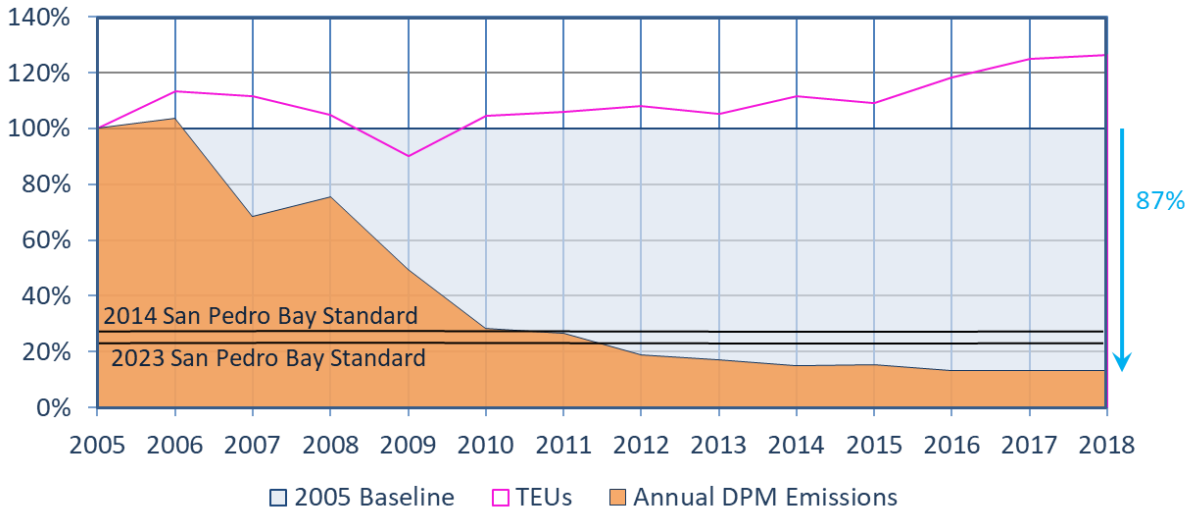
Pollutant	2018 Actual Reductions	2014 Emission Reduction Standard	2023 Emission Reduction Standard
DPM	87%	72%	77%
NO_x	60%	22%	59%
SO_x	98%	93%	93%

The emission reduction standards are represented as a percentage reduction of emissions from 2005 levels and are tied to the regional SoCAB attainment dates for the federal $PM_{2.5}$ and ozone ambient air quality standards in the 2007 AQMP. This EI is used as a tool to track progress in meeting the emission reduction standards.

Figures ES.7 through ES.9 present the 2005 baseline emissions and the year to year percent change in emissions with respect to the 2005 baseline emissions. The 2014 and 2023 standards are also provided as a snapshot of progress to-date towards meeting those standards. The pink line in the figures represents the percentage of TEU throughput as compared to 2005 TEU throughput. These figures provide context to the relative correlation between cargo throughput and emissions.

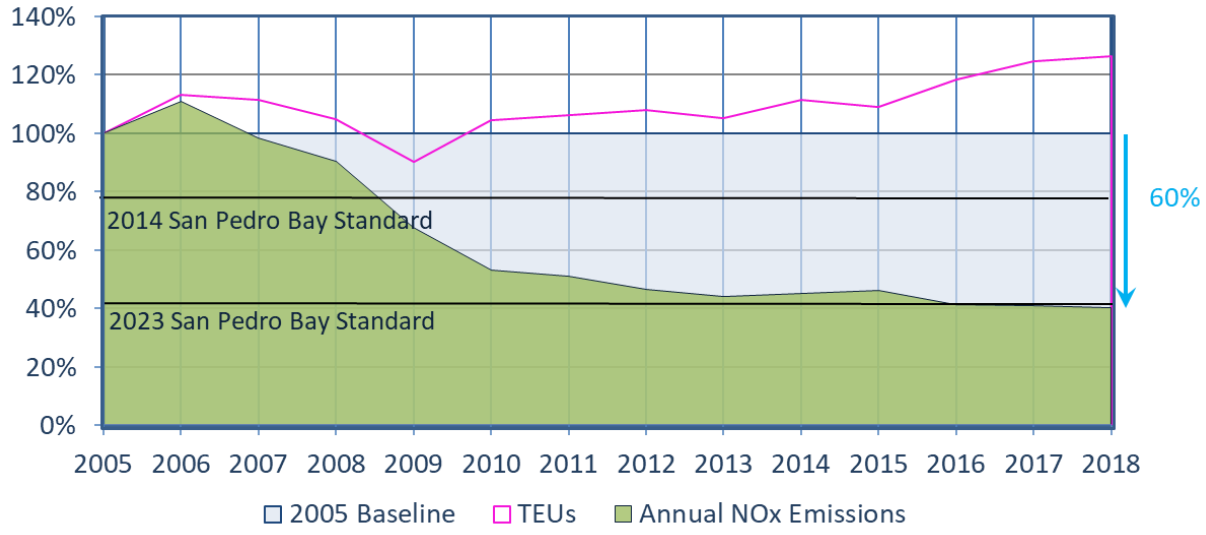
Figure ES.7 shows that the Port has surpassed the 2014 and 2023 DPM emission reduction standards with an 87% emission reduction. In 2018, 0.1% sulfur fuel for OGVs from the IMO North American ECA, which augmented CARB's fuel rule, was in effect. There was an increase in the number of ships using shore-power due to the CARB shore power rule.

Figure ES.7: DPM Reductions to Date



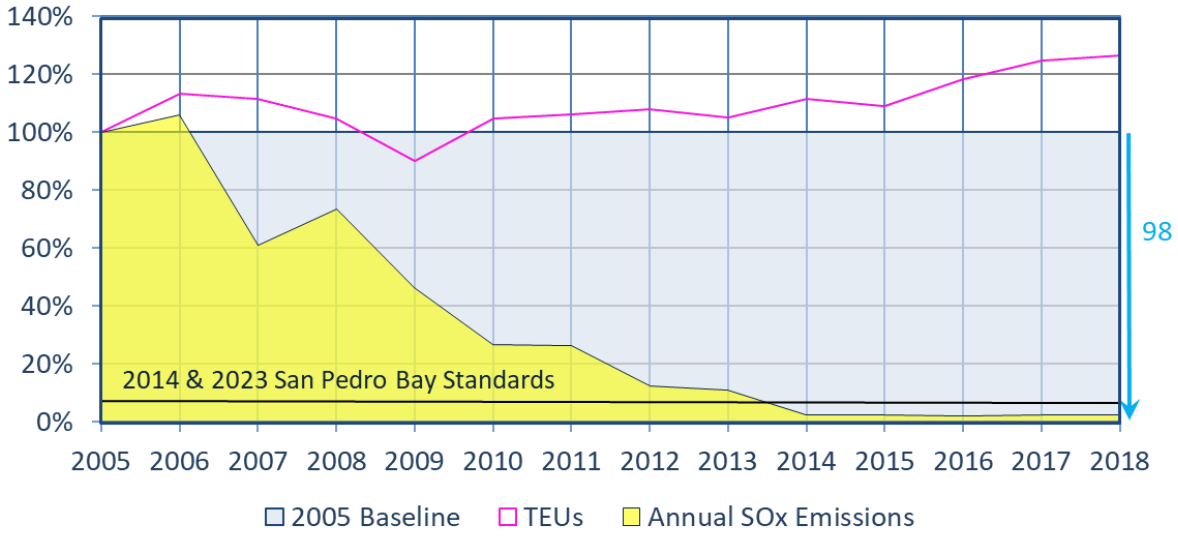
As demonstrated in Figure ES.8, the Port surpassed the 2014 and 2023 NO_x mass emission reduction standard in 2018 with a 60% reduction. This is the second year in a row for the 2023 NO_x mass emission reduction standard (59%) to be surpassed.

Figure ES.8: NO_x Reductions to Date



By 2018, the Port surpassed the 2014 and 2023 SO_x mass emission reduction standards with a 98% reduction. In 2018, 0.1% sulfur fuel for OGVs from the IMO North American ECA was in effect and there was an increase in the number of ships using shore-power, due to the CARB shore power rule, which contributed to the reduction in SO_x.

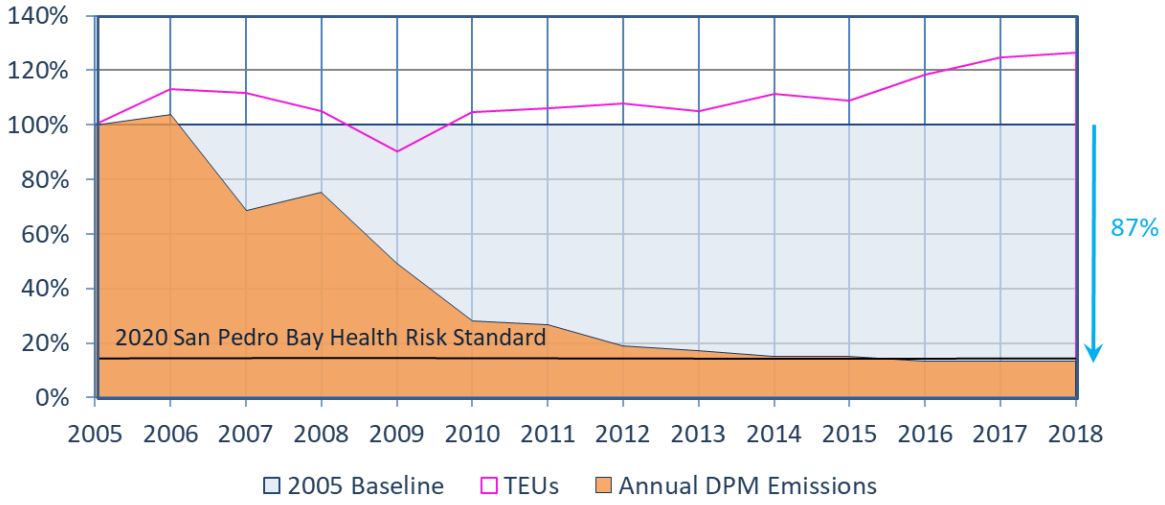
Figure ES.9: SO_x Reductions to Date



Health Risk Reduction Progress

Progress to-date on health risk reduction is determined by comparing the change in DPM mass emissions to the 2005 baseline. Figure ES.10 presents the progress of achieving the standard to date. In 2018, with an 87% reduction, the Port exceeded the 2020 Health Risk Reduction Standard (85%).

Figure ES.10: Health Risk Reduction Benefits to Date



SECTION 1 INTRODUCTION

The Port of Los Angeles (Port or POLA) 2018 Inventory of Air Emissions study presents maritime industry-related emission estimates based on 2018 activity levels. The report also includes a comparison of the estimated 2018 emissions with the 2005 baseline year and previous year emission estimates to track the Port's emission reduction progress under the San Pedro Bay Ports Clean Air Action Plan (CAAP). As in previous inventories, the following five source categories are included:

- Ocean-going vessels (OGV)
- Harbor craft
- Cargo handling equipment (CHE)
- Locomotives
- Heavy-duty vehicles (HDV)

Exhaust emissions of the following pollutants that can cause regional and local air quality impacts have been estimated:

- Particulate matter (PM) (10-micron, 2.5-micron)
- Diesel particulate matter (DPM)
- Oxides of nitrogen (NO_x)
- Oxides of sulfur (SO_x)
- Hydrocarbons (HC)
- Carbon monoxide (CO)

This study also includes estimates of greenhouse gases (GHGs) carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) emitted from maritime industry-related tenant operational mobile sources. To normalize the three GHG values into a single number representing CO_2 equivalents (CO_2e) the GHG emission estimates are multiplied by the following values and summed.[3]

- CO_2 – 1
- CH_4 – 25
- N_2O - 298

For presentation purposes in the report, only CO_2e values are reported because they include all three GHGs in an equivalent measure to CO_2, which makes up by far the greatest mass of GHG emissions from the source categories included in this inventory. The greenhouse gas emissions are presented in metric tons (tonnes), while the criteria pollutant emissions are shown in tons.

[3]EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015*, April 2017.

Geographical Domain

The geographical extent of the inventory includes emissions from the aforementioned maritime industry-related emission sources operating within the harbor district. For commercial marine vessels, the domain lies within the harbor and up to the study area boundary comprised of an over-water area bounded in the north by the southern Ventura County line at the coast, and in the south with the southern Orange county line at the coast.

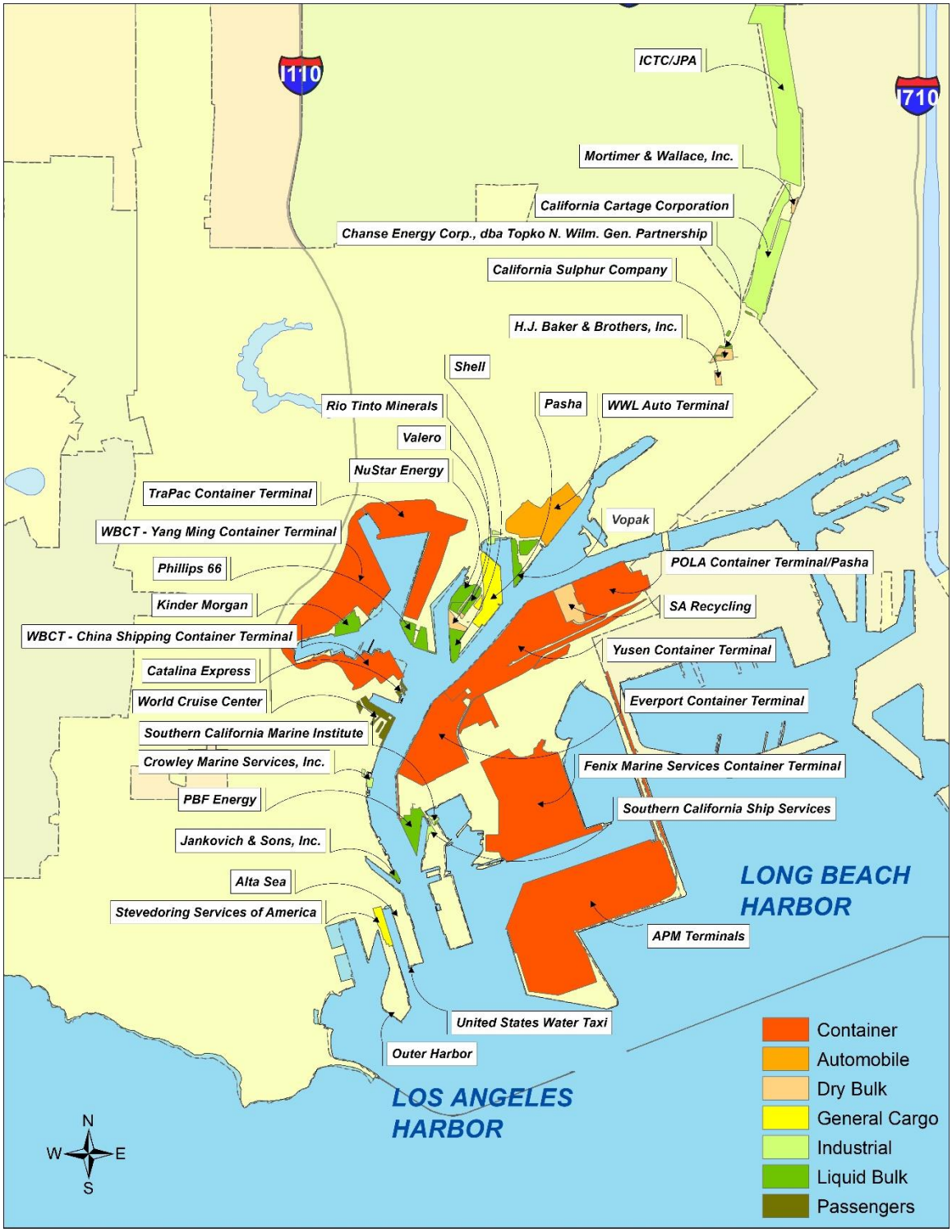
For rail locomotives and on-road trucks, the domain extends from the Port to the cargo's first point of rest within the South Coast Air Basin (SoCAB) or up to the SoCAB boundary, whichever comes first.

Figure 1.1 shows the geographical extent of this inventory, and other overlapping regulatory boundaries.

Figure 1.1: Emissions Inventory Geographical Extent

Figure 1.2 shows the land area of active Port terminals in 2018. The geographical scope for cargo handling equipment is the terminals and facilities on which they operate.

Figure 1.2: Port Boundary Area of Study



SECTION 2 REGULATORY AND CAAP MEASURES

This section summarizes the regulatory initiatives and Port measures related to port activity. Almost all maritime industry-related emissions come from five emission source categories: OGVs, harbor craft, CHE, locomotives, and HDVs. The responsibility for the control of emissions from the majority of these sources falls under the jurisdiction of local (South Coast AQMD), state (California Air Resources Board [CARB]), or federal (U.S. Environmental Protection Agency [EPA]) agencies.

Clean Air Action Plan (CAAP) Strategies

At the end of 2017, the Ports of Los Angeles and Long Beach released the final CAAP 2017 Update[4]. The CAAP 2017 Update contains new strategies from all sources that move cargo through the ports, including the deployment of zero and near-zero emission trucks and cargo handling equipment, and the expansion of programs that reduce ship emissions. The focus of the Update is to work in collaboration with industry stakeholders, regulatory agencies, local communities, and environmental groups for the next 20 years to reduce emissions and combat climate change. The CAAP 2017 strategies that will affect future emission reductions for both Ports include:

- Advancing the Clean Trucks Program to phase out older trucks and transition to near-zero emissions in the early years and zero-emissions by 2035, with a truck rate to take effect in 2020.
- Requiring terminal operators to purchase zero-emissions equipment if feasible, or near-zero or cleanest technology available when procuring new equipment.
- Further reducing emissions from ships at-berth, and transitioning the oldest, most polluting ships out of the San Pedro Bay fleet.
- Accelerating the deployment of cleaner engines and operational strategies to reduce harbor craft emissions.
- Expanding use of on-dock rail to shift more cargo leaving the port to go by rail.

San Pedro Bay Emissions Reduction Standards

The 2017 CAAP Update did not alter the existing 2010 CAAP Update goals that set health risk and emission reduction standards but did incorporate two new emission targets to reduce GHGs from port-related sources as described below.

[4] *www.cleanairactionplan.org/documents/final-2017-clean-air-action-plan-update.pdf/*

Health Risk Reduction Standard

To complement the CARB's Air Pollution Reduction Programs including the Diesel Risk Reduction Plan, the Ports developed the following standard for reducing overall maritime industry-related health risk impacts, relative to 2005 emissions level:

- By 2020, reduce the population-weighted cancer risk of maritime industry-related DPM emissions by 85% in highly impacted communities located proximate to Port sources and throughout the residential areas in the Port region.

Emission Reduction Standard

The Ports developed the following standards for reducing air pollutant emissions from maritime industry-related activities, relative to 2005 emission levels:

- By 2014, reduce emissions of NO_x by 22%, SO_x by 93%, and DPM by 72% to support attainment of the National Ambient Air Quality Standards (NAAQS) for fine particulate matter ($PM_{2.5}$) standards.
- By 2023, reduce emissions of NO_x by 59%, SO_x by 93%, and DPM by 77% to support attainment of the federal 8-hour ozone standards and NAAQS fine particulate matter ($PM_{2.5}$) standards.

2017 CAAP Update New Emission Reduction Targets

- Reduce GHGs from port-related sources to 40% below 1990 levels by 2030
- Reduce GHGs from port-related sources to 80% below 1990 levels by 2050

Regulatory Programs by Source Category

The following section presents a list of currently adopted regulatory programs and CAAP measures by each major source category that influenced the progress towards the SPBP emission reduction targets from the maritime industry in and around the Port.

Table 2.1: OGV Emission Regulations, Standards and Policies

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
International Maritime Organization (IMO)	NO_x Emission Standard for Marine Engines *www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Nitrogen-oxides-%28NOx%29-%E2%80%93-Regulation-13.aspx*	NO_x	2011 – Tier 2 2016 – Tier 3 for ECA only	Auxiliary and propulsion engines over 130 kW output power on newly built vessels
IMO	Emissions Control Area, Low Sulfur Fuel Requirements for Marine Engines *www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Sulphur-oxides-%28SOx%29-%E2%80%93-Regulation-14.aspx*	DPM, PM, and SO_x	2012 ECA – 1% Sulfur 2015 ECA – 0.1% Sulfur	Significantly reduce emissions due to low sulfur content in fuel by creating Emissions Control Area (ECA)
IMO	Initial IMO Strategy on reduction of GHG emissions from ships – Resolution MEPC.304(72) *www.unfccc.int/sites/default/files/resource/250_IMO%20submission_Talanoa%20Dialogue_April%202018.pdf*	GHG	2050 – 50%	Initial IMO Strategy on reduction of GHG emissions from ships by 50% in 2050 from 2008 level. Goal is to phase out GHG
IMO	Energy Efficiency Design Index (EEDI) for International Shipping *www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Technical-and-Operational-Measures.aspx*	CO_2 and other pollutants	2013	Increases the design efficiencies of ships relating to energy and emissions

Table 2.1: OGV Emission Regulations, Standards and Policies (cont'd)

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
EPA	Emission Standards for Marine Diesel Engines above 30 Liters per Cylinder (Category 3 Engines); Aligns with IMO Annex VI marine engine NO_x standards and low sulfur requirement *www.epa.gov/otaq/oceanvessels.htm#engine-fuel*	DPM, PM, NO_x, and SO_x	2011 – Tier 2 2016 – Tier 3	Auxiliary and propulsion category 3 engines on US flagged new built vessels and requires use of low sulfur fuel
CARB	Regulation to Reduce Emissions from Diesel Auxiliary Engines on Ocean-Going Vessels While At-Berth at a California Port *www.arb.ca.gov/regact/2007/shorepwr07/shorepwr07.htm* and *www.arb.ca.gov/ports/shorepower/forms/regulatoryadvisory/regulatoryadvisory12232013.pdf*	DPM, PM, NO_x, SO_x, CO_2	2014 – 50% 2017 – 70% 2020 – 80%	Shore power (or equivalent) requirements. Vessel operators based on fleet percentage visiting the ports.
CARB	Ocean-going Ship Onboard Incineration *www.arb.ca.gov/ports/shipincin/shipincin.htm*	DPM, PM, and HC	2007	All vessels cannot incinerate within 3 nm of the California coast
CAAP	CAAP Measure – OGV 1 Vessel Speed Reduction (VSR) Program *www.cleanairactionplan.org/strategies/ships/*	All	2008	Vessel operators within 20 nm and 40 nm of Point Fermin
CAAP	CAAP Measure – OGV 2 Reduction of At-Berth OGV Emissions *www.portoflosangeles.org/environment/ogv.asp*	All	2014	Vessel operators and terminals
CAAP	CAAP Measure – OGV 5 and 6 Cleaner OGV Engines and OGV Engine Emissions Reduction Technology Improvements and Environmental Ship Index (ESI) Program *www.cleanairactionplan.org/strategies/ships/*	DPM, PM, and NO_x	2012	Vessel operators who choose to participate in ESI and/or technology demonstrations.

Table 2.2: Harbor Craft Emission Regulations, Standards and Policies

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
EPA	Emission Standards for Harbor Craft Engines *www.epa.gov/regulations-emissions-vehicles-and-engines/domestic-regulations-emissions-marine-compression*	All	2009 – Tier 3 2014 – Tier 4 for 800 hp or greater	Commercial marine diesel engines with displacement less than 30 liters per cylinder
CARB	Low Sulfur Fuel Requirement for Harbor Craft *www.arb.ca.gov/regact/carblohc/carblohc.htm*	DPM, PM, NO_x, and SO_x	2006 – 15 ppm in SCAQMD area	Use of low sulfur diesel fuel in commercial harbor craft operating in SCAQMD
CARB	Regulation to Reduce Emissions from Diesel Engines on Commercial Harbor Craft *www.arb.ca.gov/regact/2010/chc10/chc10.htm*	DPM, PM, and NO_x	2009 to 2020 - schedule varies depending on engine model year	Most harbor craft with home port in SCAQMD must meet more stringent emissions limits according to a compliance schedule
CAAP	CAAP Measure – HC 1 Performance Standards for Harbor Craft *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	All	Varies	Modernization of harbor craft operating at POLA upon lease renewal

Table 2.3: Cargo Handling Equipment Emission Regulations, Standards and Policies

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
EPA	Emission Standards for Non-Road Diesel Powered Equipment *www.epa.gov/otaq/standards/nonroad/nonroadci.htm*	All	2008 through 2015	All non-road equipment
CARB	Cargo Handling Equipment Regulation *www.arb.ca.gov/regact/2011/cargo11/cargo11.htm*	All	2007 through 2017; Opacity test compliance starting in 2016	All Cargo handling equipment
CARB	New Emission Standards, Test Procedures, for Large Spark Ignition (LSI) Engine Forklifts and Other Industrial Equipment *www.arb.ca.gov/regact/2008/lsi2008/lsi2008.htm*	All	2007 – first phase 2010 – second phase	Emission standards for large spark-ignition engines with 25 hp or greater
CARB	Fleet Requirements for Large Spark Ignition Engines *www.arb.ca.gov/regact/2010/offroadlsi10/lsifinalreg.pdf*	All	2009 through 2013	More stringent emissions requirements for fleets of large spark-ignition engines equipment
CAAP	CAAP Measure – CHE1 Performance Standards for CHE *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	All	2007 through 2014	Turnover to Tier 4 cargo handling equipment per lease renewal agreement

Table 2.4: Locomotives Emission Regulations, Standards and Policies

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
EPA	Emission Standards for New and Remanufactured Locomotives and Locomotive Engines- Latest Regulation *www.epa.gov/otaq/standards/nonroad/locomotives.htm*	DPM and NO_x	2011 through 2013 – Tier 3 2015 – Tier 4	All new and remanufactured locomotive engines
EPA	Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel *www.epa.gov/otaq/fuels/dieselfuels/regulations.htm*	SO_x and PM	2010	All locomotive engines
CARB	Low Sulfur Fuel Requirement for Intrastate Locomotives *www.arb.ca.gov/msprog/offroad/loco/loco.htm#intrastate*	SO_x, NO_x, and PM	2007	Intrastate locomotives, mainly switchers
CARB	Statewide 1998 and 2005 Memorandum of Understanding (MOUs) *www.arb.ca.gov/msprog/offroad/loco/loco.htm#intrastate*	NO_x	2010	Union Pacific and BNSF locomotives
CAAP	CAAP Measure – RL1 Pacific Harbor Line (PHL) Rail Switch Engine Modernization *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	PM	2010	Pacific Harbor Line switcher engines
CAAP	CAAP Measure – RL2 Class 1 Line-haul and Switcher Fleet Modernization *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	All	2023 – Tier 3	Class 1 locomotives at ports
CAAP	CAAP Measure – RL3 New and Redeveloped Near-Dock Rail Yards *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	All	2020 – Tier 4	New near-dock rail yards

Table 2.5: Heavy-Duty Vehicles Emission Regulations, Standards and Policies

Agency	Regulation/Standard/Policy	Targeted Pollutants	Years Effective	Impact
CARB/ EPA	Emission Standards for New 2007+ On-Road Heavy-Duty Vehicles *www.arb.ca.gov/msprog/onroadhd/reducstd.htm*	NO_x and PM	2007 2010	All new on-road diesel heavy-duty vehicles
CARB	Heavy-Duty Vehicle On-Board Diagnostics (OBD and OBDII) Requirement *www.arb.ca.gov/msprog/obdprog/section1971_1_clean2013.pdf*	NO_x and PM	2010 +	All new on-road heavy-duty vehicles
CARB	ULSD Fuel Requirement *www.arb.ca.gov/regact/ulsd2003/ulsd2003.htm*	All	2006 - ULSD	All on-road heavy-duty vehicles
CARB	Drayage Truck and Bus Regulation (amended in 2011 and 2014) *www.arb.ca.gov/msprog/onroad/porttruck/drayagevtruckbus.pdf*	All	Phase-in started in 2009	All drayage trucks operating at California ports
CARB	Low NO_x Software Upgrade Program 2007 *www.arb.ca.gov/msprog/hdsoftware/hdsoftware.htm*	NO_x	Starting 2005	1993 to 1998 on-road heavy-duty vehicles that operate in California
CARB	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Regulation *www.arb.ca.gov/cc/hdghg/hdghg.htm*	CO_2	Phase 1 started in 2012	Heavy-duty tractors that pull 53-foot+ trailers in California
CARB	Assembly Bill 32 requiring GHG reductions targets and Governor's Executive Order B – 30-15 *www.arb.ca.gov/cc/ab32/ab32.htm*	CO_2	GHG emissions reduction goals in 2020	All operations in California
CAAP	CAAP Measure – HDV1 Performance Standards for On-Road Heavy-Duty Vehicles; Clean Truck Program *www.portoflosangeles.org/environment/air-quality/san-pedro-bay-ports-clean-air-action-plan*	All	Phase-in started in 2008	Requires on-road heavy-duty vehicles that operate at POLA to have 2007 or newer Model Year (MY) engines by 2012

SECTION 3 OCEAN-GOING VESSELS

Source Description

Based on activity data obtained from the Marine Exchange of Southern California (MarEx), there were a total of 1,737 ocean-going vessels (OGVs, ships, or vessels) activities (arrivals not including shifts) to the Port in 2018. These vessels are grouped by the type of cargo they are designed to carry and fall into one of the following vessel categories or types:

- Auto carrier
- Bulk carrier
- Containership
- Cruise vessel
- General cargo
- Miscellaneous vessel
- Ocean-going tugboat
- Refrigerated vessel (Reefer)
- RoRo
- Tanker

From an emissions contribution perspective, the three predominant vessel types are: containerships, tankers, and cruise ships, with containerships being the most significant vessel category. Emission sources on all vessel categories include main engines (propulsion), auxiliary engines (generators), and auxiliary boilers (boilers).

Table 3.1 presents the numbers of arrivals, departures, and shifts associated with vessels at the Port in 2018.

Table 3.1: 2018 Total OGV Activities

Vessel Type	Arrival	Departure	Shift	Total
Auto Carrier	68	67	7	142
Bulk	78	73	67	218
Bulk - Heavy Load	2	2	2	6
Container - 2000	184	183	7	374
Container - 4000	129	127	2	258
Container - 5000	65	65	9	139
Container - 6000	281	280	22	583
Container - 7000	51	51	5	107
Container - 8000	176	171	9	356
Container - 9000	50	50	9	109
Container - 10000	34	35	10	79
Container - 11000	16	15	0	31
Container - 13000	72	69	5	146
Container - 14000	26	27	0	53
Container - 17000	12	12	1	25
Cruise	116	116	1	233
General Cargo	33	27	38	98
Ocean Tugboat (ATB/ITB)	88	92	94	274
Miscellaneous	4	4	4	12
Reefer	20	20	35	75
RoRo	26	26	3	55
Tanker - Chemical	99	95	153	347
Tanker - Handysize	34	33	40	107
Tanker - Panamax	70	97	231	398
Tanker - Aframax	3	3	4	10
Total	**1,737**	**1,740**	**758**	**4,235**

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Geographical Domain

The geographical domain or overwater boundary for OGVs includes the berths and waterways in the Port proper and all vessel movements within the 40-nautical mile (nm) arc from Point Fermin as shown previously in Figure 1.1. The northern boundary is the Ventura County line and the southern boundary is the Orange County line. It should be noted that the overwater boundary extends further off the coast to incorporate the South Coast air quality modeling domain, although most of the vessel movements occur within the 40-nm arc.

Data and Information Acquisition

Similar to previous inventories, various sources of data and operational knowledge about the Port's marine activities are used to compile the data necessary to estimate emissions from OGV:

- Marine Exchange of Southern California
- Vessel Speed Reduction Program speed data
- Los Angeles Pilot Service
- IHS Maritime World Register of Ships[5]
- VBP data
- ESI fuel and engine data
- Port Wharfinger data, including tanker load and discharge activity data
- Port and terminal shore power activity data, including usage of alternative at-berth emission control technologies (AMECS and METS-1)

[5] IHS, *www.ihsmarkit.com/products/maritime-world-ship-register.html*

Operational Profiles

Table 3.2 presents the auxiliary engine load defaults by vessel type, by mode, used to estimate emissions. Values in this table are based on VBP data. For the cruise ship auxiliary engine load defaults, please refer to Table 3.3.

Table 3.2: Average Auxiliary Engine Load Defaults, kW

Vessel Type	Transit	Maneuvering	Berth Hotelling	Anchorage Hotelling
Auto Carrier	520	1,238	859	622
Bulk	255	675	150	253
Bulk - Heavy Load	255	675	150	253
Container - 2000	968	2,099	966	942
Container - 4000	1,454	2,314	1,148	1,124
Container - 5000	1,811	3,293	945	967
Container - 6000	1,509	2,237	1,039	1,464
Container - 7000	1,498	2,445	1,225	884
Container - 8000	1,544	2,666	980	1,055
Container - 9000	1,514	2,864	1,061	996
Container - 10000	1,757	2,210	1,163	1,051
Container - 11000	2,213	2,944	1,341	1,684
Container - 13000	1,678	2,418	1,234	1,220
Container - 14000	1,475	2,105	1,118	1,114
Container - 17000	1,483	1,994	1,000	1,000
Cruise	na	na	na	na
General Cargo	516	1,439	722	180
Ocean Tug (ATB/ITB)	79	208	102	79
Miscellaneous	643	597	228	200
Reefer	513	1,540	890	513
RoRo	434	1,301	751	434
Tanker - Chemical	658	890	816	402
Tanker - Handysize	537	601	820	560
Tanker - Panamax	561	763	623	379
Tanker - Aframax	576	719	724	474

For all cruise ships (diesel electric and non-diesel electric) that visited the Port in 2018, house load defaults are listed in Table 3.3.

Table 3.3: Cruise Ship Average Auxiliary Engine Load Defaults, kW

Passenger Range	Transit	Maneuvering	Berth Hotelling
<1,500	3,994	5,268	3,069
1,500 < 2,000	7,000	9,000	5,613
2,000 < 2,500	11,000	11,350	6,900
2,500 < 3,000	9,781	8,309	6,089
3,000 < 3,500	8,292	10,369	8,292
3,500 < 4,000	9,945	11,411	10,445

Table 3.4 presents the load defaults for the auxiliary boilers for diesel electric cruise ships and tankers.

Table 3.4: Auxiliary Boiler Load Defaults by Mode for Diesel Electric Vessels, kW

Vessel Type	Transit	Maneuvering	Berth Hotelling	Anchorage Hotelling
Cruise - Diesel-Electric	0	0	1,414	0
Tanker - Diesel-Electric	0	145	220	220

Table 3.5 presents the load defaults for the auxiliary boilers by vessel type and by mode. Tankers' boilers produce steam for steam-powered liquid cargo pumps when discharging, steam powered inert gas fans, and to heat fuel for pumping. Less steam is needed when liquid cargo is being loaded. Since loading and discharging data was available for the tankers that visited the Port, a lower boiler load of 875 kW was used for tankers known to be loading cargo while at berth, while the higher boiler load listed in the table was used as a default for the tanker calls that were discharging cargo.

In the table below, auxiliary boiler load for the cruise vessel type is for non-diesel electric cruise vessels. Ocean-going tugboats do not have boilers; therefore, their boiler energy default is zero.

Table 3.5: Auxiliary Boiler Load Defaults by Mode, kW

Vessel Type	Transit	Maneuvering	Berth Hotelling	Anchorage Hotelling
Auto Carrier	87	184	314	305
Bulk	35	94	125	125
Bulk - Heavy Load	35	94	125	125
Container - 2000	149	284	352	350
Container - 4000	179	333	449	446
Container - 5000	247	473	579	572
Container - 6000	206	520	597	595
Container - 7000	412	639	678	677
Container - 8000	253	521	653	703
Container - 9000	341	526	619	618
Container - 10000	314	383	511	511
Container - 11000	315	517	694	694
Container - 13000	186	253	522	511
Container - 14000	240	474	290	472
Container - 17000	216	485	585	585
Cruise	282	361	612	306
General Cargo	56	124	160	160
Ocean Tug (ATB/ITB)	0	0	0	0
Miscellaneous	33	65	96	96
Reefer	104	237	304	304
RoRo	67	148	259	251
Tanker - Chemical	59	136	568	255
Tanker - Handysize	144	144	2,586	144
Tanker - Panamax	167	351	3,421	451
Tanker - Aframax	179	438	5,030	375

Hotelling

Tables 3.6 and 3.7 summarize the hotelling times in hours at berth and at anchorage. Hotelling time is the entire duration of time that a ship spends at berth or anchorage for each visit.

Table 3.6: 2018 Hotelling Times at Berth, hours

Vessel Type	Berth Hotelling Time, hours		
	Min	Max	Avg
Auto Carrier	6.2	47.6	16.5
Bulk	18.8	235.8	75.5
Bulk - Heavy Load	39.1	555.8	229.7
Container - 2000	10.8	82.1	32.4
Container - 4000	10.9	317.0	45.6
Container - 5000	10.1	175.5	57.6
Container - 6000	2.8	202.8	64.9
Container - 7000	29.1	177.8	71.4
Container - 8000	28.0	203.9	89.6
Container - 9000	10.9	155.8	85.0
Container - 10000	13.2	147.7	86.6
Container - 11000	84.2	168.6	107.0
Container - 13000	83.0	216.4	122.4
Container - 14000	86.6	192.0	125.2
Container - 17000	14.0	236.4	118.1
Cruise	6.9	172.7	13.6
General Cargo	5.9	134.1	59.7
Ocean Tugboat (ATB/ITB)	10.9	116.0	30.8
Miscellaneous	0.25	1,222.3	252.0
Reefer	4.4	109.9	30.8
RoRo	22.2	42.4	35.5
Tanker - Chemical	11.2	110.5	36.0
Tanker - Handysize	20.5	60.2	34.7
Tanker - Panamax	10.6	100.1	46.7
Tanker - Aframax	36.3	190.9	111.9

DB ID705

Table 3.7: 2018 Hotelling Times at Anchorage, hours

Vessel Type	Min	Max	Avg	Vessel Count
Auto Carrier	24.8	66.0	44.7	4
Bulk	5.3	367.5	50.3	45
Bulk - Heavy Load	41.3	41.3	41.3	1
Container - 2000	10.2	24.5	19.9	5
Container - 4000	12.7	12.7	12.7	1
Container - 5000	4.8	35.8	16.1	4
Container - 6000	10.2	177.1	51.9	7
Container - 7000	1.9	1.9	1.9	1
Container - 8000	8.7	118.4	28.3	7
Container - 9000	5.8	10.8	8.8	3
Container - 10000	22.6	41.8	34.5	3
Container - 11000	0.0	0.0	0.0	0
Container - 13000	5.7	32.8	15.1	5
Container - 14000	0.0	0.0	0.0	0
Container - 17000	42.8	42.8	42.8	1
Cruise	6.8	6.8	6.8	1
General Cargo	1.9	208.9	67.2	21
Ocean Tugboat (ATB/ITB)	0.9	179.1	24.5	8
Miscellaneous	0	0	0	0
Reefer	6.5	195.8	48.9	5
RoRo	5.4	5.4	5.4	1
Tanker - Chemical	1.5	275.2	36.5	65
Tanker - Handysize	2.7	114.0	31.1	7
Tanker - Panamax	2.8	6,399.8	90.0	65
Tanker - Aframax	6.2	94.6	39.9	3

DB ID705

Frequent Callers

Table 3.8 provides the percentage of frequent callers. For this EI, a frequent caller is defined as a vessel that made six or more calls in one calendar year. Table 3.4 shows that 15% of vessels that called the Port in 2018 are frequent callers with six or more calls.

Table 3.8: 2018 Percentage of Frequent Callers

Vessel Type	Frequent Vessels	Total Vessels	Percent Frequent Vessels
Auto Carrier	2	36	6%
Bulk	0	72	0%
Bulk - Heavy Load	0	2	0%
Container - 2000	13	15	87%
Container - 4000	14	25	56%
Container - 5000	5	14	36%
Container - 6000	19	65	29%
Container - 7000	5	10	50%
Container - 8000	12	49	24%
Container - 9000	0	19	0%
Container - 10000	0	16	0%
Container - 11000	0	9	0%
Container - 13000	8	20	40%
Container - 14000	3	7	43%
Container - 17000	1	4	25%
Cruise	6	30	20%
General Cargo	0	32	0%
Ocean Tugboat (ATB/ITB)	3	9	33%
Miscellaneous	0	1	0%
Reefer	0	17	0%
RoRo	1	1	100%
Tanker - Chemical	1	80	1%
Tanker - Handysize	2	7	29%
Tanker - Panamax	0	72	0%
Tanker - Aframax	0	3	0%
Total	**95**	**615**	
Average			**15%**

Vessel Characteristics

Averages by vessel type characteristics for the fleet calling the port are based on the IHS Maritime World Register of Ships and summarized in Table 3.9. Vessel type characteristics include averages of year built, deadweight, maximum rated speed, and main and auxiliary installed engine power ratings, based on the specific vessels that called the Port in 2018.

Table 3.9: 2018 Vessel Type Characteristics

Vessel Type	Average Year Built	Age (Years)	DWT (tonnes)	Max Speed (knots)	Main Eng (kW)	Aux Eng (kW)
Auto Carrier	2006	12	21,755	19.8	13,261	3,125
Bulk	2012	6	43,412	14.4	7,613	2,035
Bulk - Heavy Load	2000	18	49,060	14.5	8,734	na
Container - 2000	2003	15	35,305	21.4	21,166	6,585
Container - 4000	2007	11	61,809	23.9	45,011	7,234
Container - 5000	2001	17	66,759	24.5	49,887	6,706
Container - 6000	2008	10	79,058	24.8	57,194	10,878
Container - 7000	2006	12	86,356	25.1	60,382	11,575
Container - 8000	2010	8	100,467	25.1	64,318	13,312
Container - 9000	2012	6	115,318	23.2	54,543	14,079
Container - 10000	2014	4	121,234	23.5	57,600	12,916
Container - 11000	2010	8	121,289	24.3	57,579	13,712
Container - 13000	2012	6	145,590	24.0	66,157	14,711
Container - 14000	2014	4	153,123	23.6	60,409	14,833
Container - 17000	2011	7	153,597	23.6	71,466	18,470
Cruise	2004	14	6,506	20.2	41,558	9,051
General Cargo	2008	10	42,565	15.2	9,381	2,662
Ocean Tugboat (ATB/ITB)	2008	10	2,928	15.0	5,932	285
Miscellaneous	1967	51	419	12.5	1,285	600
Reefer	1994	24	12,797	20.3	11,441	4,683
RoRo	2014	4	24,750	20.0	19,040	na
Tanker - Chemical	2011	7	41,667	14.6	8,159	2,810
Tanker - Handysize	2001	17	46,966	14.8	9,066	2,918
Tanker - Panamax	2006	12	70,812	14.8	11,435	2,728
Tanker - Aframax	2013	5	109,652	14.8	12,486	2,674

DB ID695

Emissions Estimation Methodology

The methodology to estimate 2018 emissions from OGVs is described in Section 2 of the San Pedro Bay Ports Emissions Inventory Methodology Report[6] Version 1 (2019). The following improvements were made in estimating 2018 OGV emissions: Added Vessel Boarding Program (VBP) data related to vessel operations collected since the 2017 EI.

Emission Estimates

The following tables present the estimated OGV emissions categorized in different ways, such as by engine type, by operating mode, and by vessel type. A summary of the OGV emission estimates by vessel type for all pollutants for the year 2018 is presented in Table 3.10. The criteria pollutant emissions are in tons per year (tpy), while the greenhouse gas emissions are in tonnes per year. The emissions for bulk heavy load vessels are rolled up with the bulk vessel type.

Table 3.10: Ocean-Going Vessel Emissions by Vessel Type

Vessel Type	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Auto Carrier	0.8	0.7	0.7	46.7	1.2	3.9	1.7	2,409
Bulk	1.3	1.2	1.1	64.2	2.7	5.6	1.9	4,029
Container - 2000	3.8	3.6	2.6	169.1	9.9	14.3	6.1	14,278
Container - 4000	2.9	2.6	2.4	219.1	5.0	11.2	6.0	10,347
Container - 5000	2.5	2.3	2.1	128.4	3.6	14.6	7.8	7,150
Container - 6000	8.4	7.8	6.6	497.1	11.8	48.3	25.7	30,488
Container - 7000	1.8	1.7	1.4	96.0	2.4	10.5	6.2	6,080
Container - 8000	5.3	4.9	3.7	338.4	8.0	22.9	12.9	22,105
Container - 9000	1.8	1.7	1.2	100.0	4.6	7.6	3.7	7,969
Container - 10000	0.8	0.7	0.5	61.6	1.3	2.3	1.3	3,870
Container - 11000	0.7	0.6	0.6	32.6	1.1	3.7	2.1	2,270
Container - 13000	2.5	2.3	1.9	140.6	3.8	12.1	7.1	9,184
Container - 14000	1.0	0.9	0.9	43.0	1.2	6.1	3.1	2,962
Container - 17000	0.5	0.4	0.4	29.5	0.7	1.9	1.0	1,787
Cruise	6.9	6.5	6.6	327.1	12.1	29.2	11.4	18,285
General Cargo	1.1	1.0	0.9	51.1	1.5	4.8	1.8	3,250
Ocean Tugboat (ATB/ITB)	0.7	0.7	0.7	33.0	1.2	3.0	1.3	1,654
Miscellaneous	0.3	0.3	0.2	11.8	0.7	1.0	0.4	999
Reefer	0.7	0.7	0.6	34.8	1.4	3.1	1.3	1,965
RoRo	0.7	0.6	0.6	33.9	1.2	2.2	0.8	1,704
Tanker - Chemical	3.0	2.8	2.4	132.2	5.7	12.3	4.3	10,000
Tanker - Handysize	1.3	1.2	0.8	51.2	3.5	4.5	1.8	5,146
Tanker - Panamax	7.8	7.3	3.7	255.7	23.4	23.2	9.3	35,039
Tanker - Aframax	0.5	0.4	0.1	12.3	1.8	1.1	0.5	2,516
Total	**57.0**	**52.9**	**42.7**	**2,909.4**	**110.0**	**249.5**	**119.5**	**205,486**

DB ID692

[6] *San Pedro Bay Ports Emissions Inventory Methodology Report Version 1-2019. www.portoflosangeles.org/environment/air-quality/air-emissions-inventory*

Table 3.11 presents summaries of emission estimates by engine type in tons per year. The emissions for the CARB-certified capture and control system to treat emissions from auxiliary engines are rolled up into the auxiliary engine emissions in this table.

Table 3.11: Ocean-Going Vessel Emissions by Engine Type

Engine Type	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Main Engine	18.8	17.4	17.9	1,565.3	26.6	111.5	68.2	53,026
Auxiliary Engine	24.7	23.0	24.7	1,143.0	37.1	117.6	41.2	65,208
Auxiliary Boiler	13.5	12.5	0.0	201.1	46.4	20.4	10.2	87,253
Total	**57.0**	**52.9**	**42.7**	**2,909.4**	**110.0**	**249.5**	**119.5**	**205,486**

DB ID692

Table 3.12 presents summaries of emission estimates by the various modes in tons per year. For each mode, the engine type emissions are also listed. At-berth hotelling and at-anchorage hotelling are listed separately. Transit and harbor maneuvering emissions include both berth and anchorage calls.

Table 3.12: Ocean-Going Vessel Emissions by Mode

Mode	Engine Type	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Transit	Main	16.4	15.2	15.6	1,406.4	24.7	94.9	53.6	48,778
Transit	Auxiliary Engine	6.5	6.1	6.5	299.8	8.8	29.1	10.6	16,684
Transit	Auxiliary Boiler	0.4	0.3	0.0	5.7	1.2	0.6	0.3	2,480
Total Transit		**23.4**	**21.6**	**22.2**	**1,712.0**	**34.6**	**124.6**	**64.5**	**67,941**
Maneuvering	Main	2.3	2.2	2.3	158.8	2.0	16.6	14.6	4,248
Maneuvering	Auxiliary Engine	2.3	2.1	2.3	104.9	3.1	10.1	3.7	5,793
Maneuvering	Auxiliary Boiler	0.2	0.2	0.0	3.0	0.6	0.3	0.1	1,283
Total Maneuvering		**4.8**	**4.5**	**4.6**	**266.7**	**5.7**	**27.0**	**18.4**	**11,324**
Hotelling at-berth	Main	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Hotelling at-berth	Auxiliary Engine	12.8	11.9	12.8	595.2	20.1	64.8	22.0	34,973
Hotelling at-berth	Auxiliary Boiler	11.5	10.6	0.0	171.7	38.7	17.4	8.7	74,479
Total Hotelling at-berth		**24.3**	**22.6**	**12.8**	**766.9**	**58.8**	**82.2**	**30.7**	**109,452**
Hotelling at-anchorage	Main	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Hotelling at-anchorage	Auxiliary Engine	3.1	2.9	3.1	143.1	5.1	13.5	4.9	7,758
Hotelling at-anchorage	Auxiliary Boiler	1.4	1.3	0.0	20.8	5.9	2.1	1.1	9,010
Total Hotelling at-anchorage		**4.5**	**4.2**	**3.1**	**163.8**	**11.0**	**15.6**	**6.0**	**16,768**
Total		**57.0**	**52.9**	**42.7**	**2,909.4**	**110.0**	**249.5**	**119.5**	**205,486**

DB ID694

SECTION 4 HARBOR CRAFT

This section presents emission estimates for the commercial harbor craft source category, including source descriptions, geographical domain, data acquisition, operational profiles, emissions estimation methodology and emission estimates.

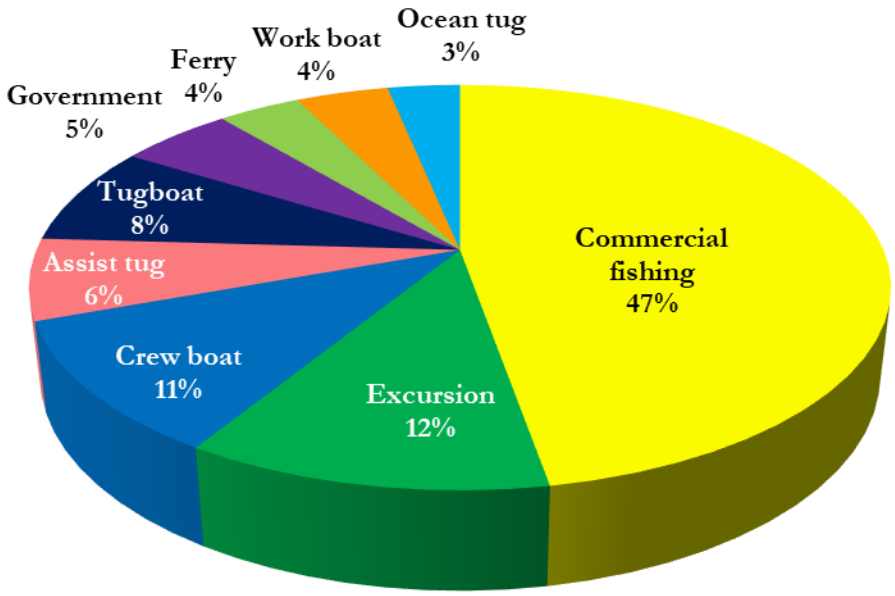
Source Description

Harbor craft are commercial vessels that spend the majority of their time within or near the port and harbor. The harbor craft emissions inventory consists of the following vessel types:

- Assist tugboats
- Commercial fishing vessels
- Crew boats
- Ferry vessels
- Excursion vessels
- Government vessels
- Tugboats
- Ocean tugs
- Work boats

Recreational vessels are not considered to be commercial harbor craft; therefore, their emissions are not included in this inventory. Figure 4.1 presents the distribution of the commercial harbor craft inventoried for the Port in 2018.

Figure 4.1: Distribution of Commercial Harbor Craft Population by Vessel Type



Ocean tugs included in this section are different from the articulated tug barge (ATB) discussed in the ocean-going section of this report. ATB are seen as specialized single vessels and are included in the marine exchange data for ocean-going vessels. The ocean tugs in this section are not rigidly connected to the barge and are typically not home-ported at the Port but may make frequent calls with barges. They are different from tugboats because their average engine loads are higher than tugboats, which tend to idle more between jobs. Tugboats are typically home-ported in San Pedro Bay harbor and primarily operate within the harbor area but can also operate outside the harbor depending on their work assignments. For this inventory, assist tugs are separated from tugboats due to the load factor used for assist tugs, which is different than the load factor for tugboats.

Geographical Domain

The geographical domain for harbor craft is the same as that for ocean-going vessels.

Data and Information Acquisition

Commercial harbor craft companies were contacted to obtain key operational parameters for their vessels. These include:

- Vessel type
- Engine count
- Engine horsepower (or kilowatts) for main and auxiliary engines
- Engine model year
- Operating hours in calendar year 2018
- Vessel repower information

Operational Profiles

Tables 4.1 and 4.2 summarize the main and auxiliary engine data, respectively, for each vessel type. The averages by vessel type have been used as defaults for vessels for which the model year, horsepower, or operating hour information is missing. Defaults were used mainly for commercial fishing vessels and resulted in the use of defaults for 12% of engine model year values, 12% of horsepower values, and 13% of operating hours.

There are a number of companies that operate harbor craft in both the Ports of Los Angeles and Long Beach harbors. The activity hours for the vessels that are common to both ports reflect work performed during 2018 for the Port of Los Angeles harbor only.

Table 4.1: Summary of Propulsion Engine Data by Vessel Category

Harbor Craft Type	Vessel Count	Engine Count	Model year			Horsepower			Annual Operating Hours		
			Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Assist tug	14	29	1980	2014	2007	600	2,575	2,046	0	2,385	1,429
Commercial fishing	102	113	1957	2016	2009	150	1,000	376	100	3,800	1,453
Crew boat	23	55	2003	2016	2010	180	1,450	574	0	1,636	563
Excursion	25	49	1986	2015	2008	45	630	372	0	4,000	1,383
Ferry	8	20	2008	2015	2011	2,250	2,680	2,298	690	4,104	1,277
Government	11	21	1993	2012	2005	240	1,770	586	38	800	325
Ocean tug	7	14	2004	2012	2008	1,800	3,385	2,126	200	2,384	1,130
Tugboat	17	33	2001	2018	2010	235	1,500	788	79	850	430
Work boat	9	17	2008	2015	2012	135	1,000	498	34	2,952	903
Total	**216**	**351**									

DB ID423

Table 4.2: Summary of Auxiliary Engine Data by Vessel Category

Harbor Craft Type	Vessel Count	Engine Count	Model year			Horsepower			Annual Operating Hours		
			Minimum	Maximum	Average	Minimum	Maximum	Average	Minimum	Maximum	Average
Assist tug	14	32	1980	2016	2011	107	400	184	0	3,144	1,310
Commercial fishing	102	43	1957	2016	2009	12	185	72	100	3,800	2,001
Crew boat	23	26	2002	2018	2010	11	107	58	0	1,462	583
Excursion	25	27	1992	2016	2009	16	54	38	0	4,000	2,083
Ferry	8	16	2008	2017	2012	18	120	69	384	2,486	1,067
Government	11	15	2002	2012	2004	50	1555	522	2	735	119
Ocean tug	7	15	2004	2016	2009	60	339	131	189	1,204	584
Tugboat	17	25	2004	2018	2010	15	121	62	100	2,707	623
Work boat	9	11	1979	2015	2006	40	101	69	0	4,161	971
Total	**216**	**210**									

DB ID422

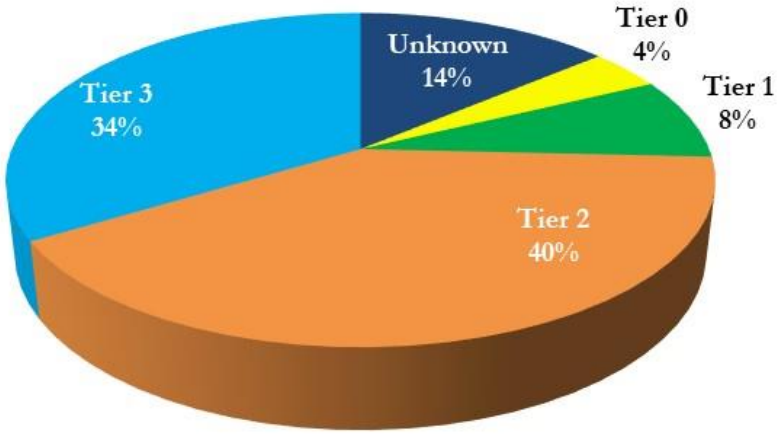
Harbor craft engines with known model year and horsepower are categorized according to their respective EPA marine engine standards (known as "tier level"). In the case where engine information gathered from harbor craft operators fails to identify the specific EPA tier level, the tier level is assigned for that engine based on engine model year and horsepower.[7] These assumptions are consistent with CARB's harbor craft emission factors, which follow the same model year grouping as EPA emissions standards for marine engines.

Table 4.3: Harbor Craft Marine Engine EPA Tier Levels

EPA Tier Level	Marine Engine Model Year Range	Horsepower Range
Tier 0	1999 and older	All
Tier 1	2000 to 2003	< 500 hp
Tier 1	2000 to 2006	> 500 hp
Tier 2	2004 up to Tier 3	< 500 hp
Tier 2	2007 up to Tier 3	> 500 hp
Tier 3	2009 and newer	0 to 120 hp
Tier 3	2013 and newer	> 120 to 175 hp
Tier 3	2014 and newer	> 175 to 500 hp
Tier 3	2013 and newer	> 500 to 750 hp
Tier 3	2012 to 2017	> 750 to 1,900 hp
Tier 3	2013 to 2016	> 1,900 to 3,300 hp
Tier 3	2014 to 2016	> 3,300 hp

Figure 4.2 provides the distribution by Tier of all harbor craft propulsion and auxiliary engines operating at the Port in 2018. If model year and/or horsepower information are not available, the engines are classified as "unknown."

Figure 4.2: Distribution of Harbor Craft Engines by Engine Standards



[7]CFR (Code of Federal Regulation), 40 CFR, subpart 94.8 for Tier 1 and 2 and subpart 1042.101 for Tier 3.

Table 4.4 summarizes the energy consumption (kW-hr) per engine tier used to estimate 2018 harbor craft emissions. The newer Tier 2 and Tier 3 engines make up 91% of the harbor craft energy consumption, indicating higher use of cleaner engines. Energy consumption of harbor craft engines with unknown tier is distributed among other tiers based on defaults used for missing model year or horsepower for emissions calculations.

Table 4.4: Harbor Craft Energy Consumption by Engine Tier, kW-hr and %

Engine Tier	2018 kW-hr	2018 % of Total
Tier 0	616,570	1%
Tier 1	8,045,079	8%
Tier 2	67,347,755	67%
Tier 3	23,961,703	24%
Total	**99,971,106**	**100%**

Emissions Estimation Methodology

The emissions calculation methodology and the emission rates are described in Section 3 of the San Pedro Bay Ports Emissions Inventory Methodology Report[8] Version 1 (2019). Harbor craft emissions are estimated for each engine individually, based on the engine's model year, power rating, and annual hours of operation. The Port's harbor craft emission calculation methodology is similar to the methodology used by the CARB emissions inventory for commercial harbor craft operating in California[9].

Emission Estimates

Table 4.5 summarizes the estimated 2018 harbor craft emissions by vessel type and engine type. In order for the total emissions to be consistently displayed for each pollutant, the individual values in each table column do not, in some cases, add up to the listed total in the table. This is because there are fewer decimal places displayed (for readability) than are included in the calculated total. The criteria pollutants are listed as tons per year while the CO_2e values are listed as tonnes (metric tons) per year.

[8] *San Pedro Bay Ports Emissions Inventory Methodology Report Version 1-2019. www.portoflosangeles.org/environment/air-quality/air-emissions-inventory*

[9] CARB, *Commercial Harbor Craft Regulatory Activities*, Appendix B: Emissions Estimation Methodology for Commercial Harbor Craft Operating in California. *www.arb.ca.gov/msei/chc-appendix-b-emission-estimates-ver02-27-2012.pdf.*

Table 4.5: Harbor Craft Emissions by Vessel and Engine Type

Harbor Craft Type	Engine Type	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Assist Tug	Auxiliary	0.5	0.5	0.5	16.7	0.0	14.6	2.4	1,658
	Propulsion	6.2	5.7	6.2	176.6	0.2	127.1	18.6	14,332
Assist Tug Total		**6.7**	**6.2**	**6.7**	**193.3**	**0.2**	**141.7**	**21.0**	**15,989**
Commercial Fishing	Auxiliary	0.6	0.6	0.6	15.5	0.0	12.7	3.2	1,362
	Propulsion	3.0	2.7	3.0	100.4	0.1	76.7	11.1	8,464
Commercial Fishing Total		**3.6**	**3.3**	**3.6**	**115.8**	**0.1**	**89.4**	**14.3**	**9,826**
Crew boat	Auxiliary	0.1	0.1	0.1	1.8	0.0	1.4	0.4	144
	Propulsion	1.4	1.3	1.4	45.7	0.0	33.5	5.0	4,065
Crew boat Total		**1.5**	**1.4**	**1.5**	**47.5**	**0.0**	**34.9**	**5.4**	**4,209**
Excursion	Auxiliary	0.3	0.2	0.3	5.5	0.0	4.7	1.9	463
	Propulsion	2.0	1.8	2.0	66.1	0.1	48.9	7.1	5,399
Excursion Total		**2.3**	**2.1**	**2.3**	**71.7**	**0.1**	**53.6**	**9.0**	**5,862**
Ferry	Auxiliary	0.1	0.1	0.1	3.4	0.0	2.6	0.7	287
	Propulsion	4.9	4.5	4.9	145.4	0.1	111.2	15.6	12,134
Ferry Total		**5.0**	**4.7**	**5.0**	**148.7**	**0.1**	**113.8**	**16.3**	**12,421**
Government	Auxiliary	0.0	0.0	0.0	1.0	0.0	0.5	0.1	63
	Propulsion	0.8	0.7	0.8	16.3	0.0	6.8	1.5	1,009
Government Total		**0.8**	**0.8**	**0.8**	**17.4**	**0.0**	**7.3**	**1.6**	**1,073**
Ocean Tug	Auxiliary	0.1	0.1	0.1	2.3	0.0	1.9	0.4	213
	Propulsion	5.7	5.2	5.7	168.7	0.1	102.6	15.9	12,552
Ocean Tug Total		**5.8**	**5.3**	**5.8**	**171.0**	**0.1**	**104.4**	**16.2**	**12,765**
Tugboat	Auxiliary	0.1	0.1	0.1	2.7	0.0	2.1	0.5	230
	Propulsion	0.8	0.7	0.8	22.5	0.0	16.3	2.3	1,789
Tugboat Total		**0.9**	**0.8**	**0.9**	**25.2**	**0.0**	**18.3**	**2.8**	**2,019**
Work boat	Auxiliary	0.0	0.0	0.0	1.2	0.0	0.9	0.3	104
	Propulsion	0.7	0.6	0.7	21.4	0.0	16.3	2.2	1,823
Work boat Total		**0.7**	**0.7**	**0.7**	**22.7**	**0.0**	**17.2**	**2.5**	**1,928**
Harbor Craft Total		**27.4**	**25.2**	**27.4**	**813.3**	**0.7**	**580.7**	**89.1**	**66,092**

DB ID427

SECTION 5 CARGO HANDLING EQUIPMENT

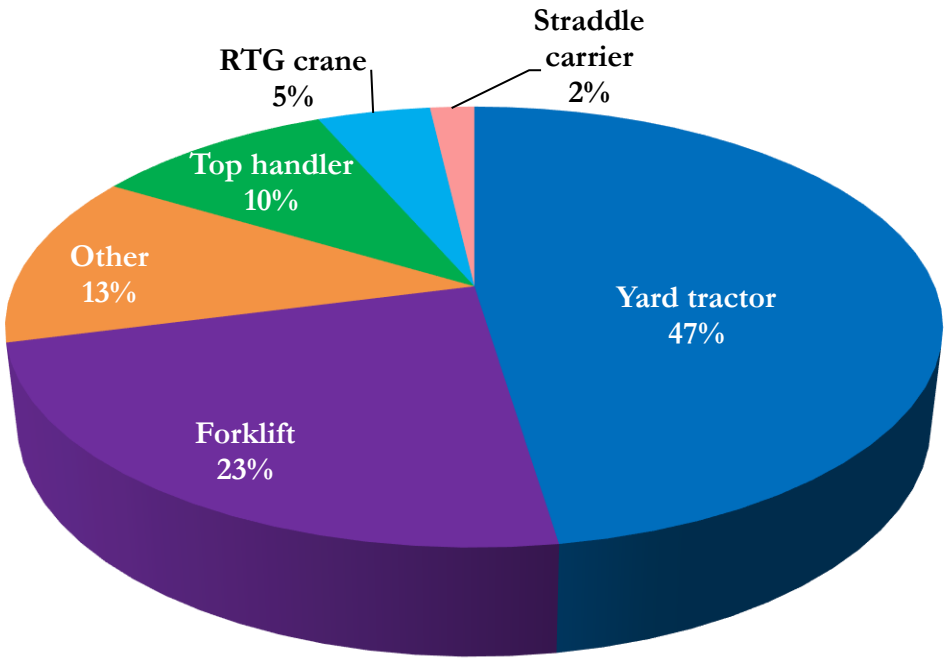
This section presents emissions estimates for the CHE source category, including source descriptions, geographical domain, data acquisition, operational profiles, emissions estimation methodology, and emission estimates.

Source Description

The CHE category includes equipment that moves cargo (including cargo in containers, general cargo, and bulk cargo) to and from marine vessels, railcars, and on-road trucks. The equipment is typically operated at marine terminals or at rail yards and not on public roadways. This inventory includes cargo handling equipment fueled by diesel, gasoline, propane, liquefied natural gas (LNG), and electricity. Due to the diversity of cargo handled by the Port's terminals, there is a wide range of equipment types.

Figure 5.1 presents the population distribution of the 2,085 pieces of equipment inventoried at the Port for calendar year 2018. The 13% for other equipment captures a variety of terminal equipment, such as bulldozer, cone vehicle, excavator, loader, man lift, material handler, rail pusher, reach stacker, skid steer loader, side pick, sweeper, and truck. The hybrid and conventional RTG crane counts are included under RTG crane. The hybrid and conventional straddle carrier counts are included under straddle carrier.

Figure 5.1: CHE Count Distribution by Equipment Type



Geographical Domain

The geographical domain for CHE is the terminals within the Port.

Data and Information Acquisition

The maintenance and/or CHE operating staff of each terminal were contacted in person, by e-mail, or by telephone, to obtain equipment count and activity information on the CHE specific to their terminal's operation for the 2018 calendar year.

Operational Profiles

Table 5.1 summarizes the cargo handling equipment data collected from the terminals and facilities for the calendar year 2018. The table includes the count of all equipment as well as the range and the average of horsepower, model year, and annual operating hours by equipment type for equipment with known operating parameters. The averages by CHE engine and fuel type were used as defaults for the missing information. Defaults were used for 7% of engine model year values, 2% of horsepower values, and 1% of operating hours.

The table includes the characteristics of main and small auxiliary engines (20 kW) for rubber tired gantry cranes (RTGs) in the RTG crane row. These averages are not used as defaults for either the main or auxiliary engine. Instead, the separate averages for main and auxiliary engines are used for the RTG cranes. The count column is equipment count, not engine count. For the electric-powered equipment shown in the table, "na" denotes "not applicable" for engine size, model year and operating hours.

Table 5.1: CHE Engine Characteristics for All Terminals

Equipment	Engine Type	Count	Power (hp)			Model Year			Annual Activity Hours		
			Min	Max	Average	Min	Max	Average	Min	Max	Average
Stacking Crane	Electric	29	na	na	na	na	na	na	na	na	na
Bulldozer	Diesel	3	200	310	255	2006	2007	2007	165	574	333
Cone Vehicle	Diesel	23	25	35	32	2010	2016	2014	0	3,524	1,015
Crane	Diesel	8	130	751	265	1969	2014	1997	0	1,130	573
Crane	Electric	3	na	na	na	na	na	na	na	na	na
Wharf crane	Electric	81	na	na	na	na	na	na	na	na	na
Excavator	Diesel	1	371	371	371	2010	2010	2010	0	0	0
Forklift	Diesel	115	56	388	178	1985	2018	2010	0	3,347	595
Forklift	Electric	8	na	na	na	na	na	na	na	na	na
Forklift	Gasoline	7	45	45	45	2010	2012	2011	122	1,620	670
Forklift	Propane	356	32	200	73	1988	2017	2000	0	5,436	688
Loader	Diesel	11	55	460	263	1999	2015	2009	0	4,244	1,573
Loader	Electric	2	na	na	na	na	na	na	na	na	na
Man lift	Diesel	19	49	152	85	2000	2018	2008	0	710	235
Man lift	Electric	5	na	na	na	na	na	na	na	na	na
Man lift	Gasoline	1	60	60	60	2007	2007	2007	88	88	88
Material handler	Diesel	9	371	475	396	2005	2011	2008	190	3,450	2,014
Miscellaneous	Diesel	1	268	268	268	2007	2007	2007	292	292	292
Miscellaneous	Electric	2	na	na	na	na	na	na	na	na	na
Rail pusher	Diesel	2	194	200	197	2000	2012	2006	0	95	48
Reach stacker	Diesel	1	250	250	250	2013	2013	2013	290	290	290
RMG cranes	Electric	10	na	na	na	na	na	na	na	na	na
Hybrid RTG	Diesel	12	197	302	267	2011	2018	2016	275	3,288	1,541
RTG crane	Diesel	89	27	779	491	1998	2015	2008	0	7,174	2,249
Side pick	Diesel	15	152	275	242	2000	2017	2013	42	1,500	665
Skid steer loader	Diesel	4	56	75	68	1994	2012	2005	88	1,091	610
Hybrid Straddle Carrier	Diesel	12	102	102	102	2016	2016	2016	645	2,814	2,217
Straddle carrier	Diesel	28	425	425	425	2013	2015	2014	3,062	5,402	4,783
Sweeper	Diesel	5	96	260	158	2000	2009	2005	402	2,601	1,474
Sweeper	Gasoline	4	190	205	200	2002	2005	2004	0	2,660	743
Top handler	Diesel	213	250	400	336	1999	2018	2011	0	6,056	2,273
Truck	Diesel	21	185	540	349	2005	2014	2008	33	3,968	976
Truck	Propane	1	na	na	na	1973	1973	1973	95	95	95
Yard tractor	Diesel	789	173	250	232	1995	2016	2011	0	4,480	1,933
Yard tractor	LNG	17	230	230	230	2009	2010	2010	284	2,470	987
Yard tractor	Propane	178	174	231	199	2000	2011	2007	0	2,558	1,597
Total count		**2,085**									

DB ID228

Table 5.2 is a summary of the emission reduction technologies utilized in cargo handling equipment, including diesel oxidation catalysts (DOC), diesel particulate filters (DPF), and BlueCAT retrofit for large-spark ignition (LSI) engines. There is significantly less equipment with DOCs than in earlier years because the older equipment equipped with DOCs are being phased out of the terminal fleets. Equipment with DPF retrofits are also being phased out as existing equipment with DPFs are replaced with newer pieces of equipment with Tier 4 engines.

Table 5.2: Count of CHE Utilizing Emission Reduction Technologies

Equipment	DOC Retrofit	On-Road Engines	DPF Retrofit	Vycon Retrofit	BlueCAT LSI Equip
Forklift	0	0	49	0	208
RTG crane	6	0	9	0	0
Side pick	0	0	3	0	0
Top handler	0	0	81	0	0
Yard tractor	0	740	4	0	0
Sweeper	0	1	2	0	0
Other	0	12	37	0	0
Total	**6**	**753**	**185**	**0**	**208**

DB ID234

Table 5.3 shows the distribution of equipment by fuel type. The "other" electric equipment includes automatic stacking carriers (ASCs), cranes, pallet jacks, manlifts, and rubber mounted gantry (RMG) cranes.

Table 5.3: Count of CHE Equipment by Fuel Type

Equipment	Electric	LNG	Propane	Gasoline	Diesel	Total
Forklift	8	0	356	7	115	486
Wharf crane	81	0	0	0	0	81
RTG crane	0	0	0	0	101	101
Side pick	0	0	0	0	15	15
Top handler	0	0	0	0	213	213
Yard tractor	0	17	178	0	789	984
Other	51	0	1	5	148	205
Total	**140**	**17**	**535**	**12**	**1,381**	**2,085**

DB ID235

Table 5.4 summarizes the distribution of diesel cargo handling equipment's engines including smaller auxiliary RTG engines by off-road diesel engine standards[10] (Tier 0, 1, 2, 3, 4 interim, and 4 final) based on model year and horsepower range. The table also lists the count of each type of equipment using on-road diesel engines. The table does not reflect the fact that some of the engines may be cleaner than the Tier level they are certified to because of use of emissions control devices added to existing equipment. The "Unknown" Tier column shown in the table represents equipment with missing horsepower or model year information necessary for Tier level classifications. Due to the recent significant number of straddle carriers in the inventory, they were taken out of the "other" category for the count of diesel engines by engine standards.

Table 5.4: Count of Diesel Engines by Engine Standards

Equipment Type	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4i	Tier 4f	Unknown Tier	On-road Engine	Total Diesel Engines
Forklift	7	1	8	34	36	21	8	0	115
RTG crane	0	1	53	12	40	19	0	0	125
Side pick	0	2	0	1	0	9	3	0	15
Top handler	0	9	25	48	32	99	0	0	213
Yard tractor	4	0	0	0	0	45	0	740	789
Other	5	9	11	28	15	25	2	13	108
Straddle Carrier	0	0	0	0	17	23	0	0	40
Total	**16**	**22**	**97**	**123**	**140**	**241**	**13**	**753**	**1,405**
Percent	**1%**	**2%**	**7%**	**9%**	**10%**	**17%**	**1%**	**54%**	

DB ID878

Table 5.5 summarizes the energy consumption (kW-hr) for the diesel equipment by engine tier and the other engine types (i.e. gasoline, propane and LNG), but not electric. Energy consumption of cargo handling equipment engines with unknown tier is distributed among other tiers based on defaults used for missing model year or horsepower for emissions calculations.

[10]EPA, *Nonroad Compression-Ignition Engines- Exhaust Emission Standards,* June 2004

Table 5.5: Equipment Energy Consumption by Engine Tier, kW-hr and %

Engine Type	Engine Tier	Energy Consumption kW-hr	Percent Total
Diesel	Tier 0	632,270	0.3%
Diesel	Tier 1	1,952,107	0.8%
Diesel	Tier 2	10,442,641	4.3%
Diesel	Tier 3	20,733,689	8.5%
Diesel	Tier 4i	31,333,925	12.9%
Diesel	Tier 4f	57,315,391	23.6%
Diesel	Onroad engines	99,199,890	40.9%
Gasoline		359,148	0.1%
Propane		19,632,355	8.1%
LNG		1,125,669	0.5%
Total		**242,727,087**	

Emissions Estimation Methodology

The emissions calculation methodology and the emission rates are described in Section 4 of the San Pedro Bay Ports Emissions Inventory Methodology Report[11] Version 1 (2019).

Emission Estimates

The emissions calculation methodology used to estimate CHE emissions is consistent with CARB's latest methodology for estimating emissions from CHE[12]. The CHE emissions methodology is described in the SPBP Emissions Inventory Methodology Report[13] Version 1 (2019).

[11] *San Pedro Bay Ports Emissions Inventory Methodology Report Version 1-2019. www.portoflosangeles.org/environment/air-quality/air-emissions-inventory*

[12] CARB, Appendix B: Emission Estimation Methodology for Cargo Handling Equipment Operating at Ports and Intermodal Rail Yards in California. *www.arb.ca.gov/regact/2011/cargo11/cargoappb.pdf,%20viewed%2022%20July%202015.*

[13] *San Pedro Bay Ports Emissions Inventory Methodology Report Version 1-2019. www.portoflosangeles.org/environment/air-quality/air-emissions-inventory*

Table 5.6 summarizes the CHE emissions by terminal type and Table 5.7 provides a more detailed summary of cargo handling equipment emissions by equipment and engine type. The "Other" category is for intermodal yard and other facilities located on port property.

Table 5.6: CHE Emissions by Terminal Type

Terminal Type	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Auto	0.0	0.0	0.0	0.1	0.0	2.8	0.2	34
Break-Bulk	0.6	0.5	0.6	33.0	0.1	18.8	2.9	6,590
Container	6.5	6.1	5.0	401.5	1.9	753.3	73.9	176,485
Cruise	0.0	0.0	0.0	0.8	0.0	1.9	0.1	75
Dry Bulk	0.1	0.1	0.1	7.0	0.0	5.0	0.6	454
Liquid	0.0	0.0	0.0	0.2	0.0	0.4	0.1	53
Other	0.3	0.3	0.1	21.3	0.0	95.4	8.4	5,203
Total	**7.5**	**7.0**	**5.8**	**463.9**	**2.0**	**877.4**	**86.2**	**188,894**

Table 5.7 presents the emissions by cargo handling equipment type and engine type.

Table 5.7: CHE Emissions by Equipment and Engine Type

Equipment	Engine	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Bulldozer	Diesel	0.0	0.0	0.0	0.4	0.0	0.2	0.0	87
Cone vehicle	Diesel	0.0	0.0	0.0	1.5	0.0	2.3	0.2	205
Crane	Diesel	0.1	0.1	0.1	2.8	0.0	1.2	0.2	313
Excavator	Diesel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Forklift	Diesel	0.1	0.1	0.1	8.1	0.0	8.3	0.7	1,901
Forklift	Gasoline	0.0	0.0	0.0	0.2	0.0	3.6	0.3	51
Forklift	Propane	0.3	0.3	0.0	17.3	0.0	109.4	4.6	2,907
Loader	Diesel	0.1	0.1	0.1	8.8	0.0	3.4	0.7	1,426
Man lift	Diesel	0.0	0.0	0.0	0.7	0.0	0.7	0.1	96
Man lift	Gasoline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2
Material handler	Diesel	0.1	0.1	0.1	12.7	0.0	5.0	1.2	2,319
Miscellaneous	Diesel	0.0	0.0	0.0	0.1	0.0	0.0	0.0	23
Rail pusher	Diesel	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5
Reach stacker	Diesel	0.0	0.0	0.0	0.1	0.0	0.0	0.0	24
RTG crane	Diesel	1.5	1.4	1.5	91.0	0.2	39.0	8.1	18,709
Side pick	Diesel	0.0	0.0	0.0	0.7	0.0	1.7	0.1	830
Skid steer loader	Diesel	0.0	0.0	0.0	0.4	0.0	0.4	0.0	49
Straddle carrier	Diesel	0.2	0.1	0.2	12.8	0.1	16.2	2.3	6,837
Sweeper	Diesel	0.1	0.1	0.1	2.4	0.0	1.9	0.2	508
Sweeper	Gasoline	0.0	0.0	0.0	5.6	0.0	22.2	1.3	307
Top handler	Diesel	1.5	1.4	1.5	134.2	0.6	118.4	18.6	54,994
Truck	Diesel	0.3	0.3	0.3	6.9	0.0	4.5	0.7	2,082
Truck	Propane	0.0	0.0	0.0	0.2	0.0	0.4	0.0	11
Yard tractor	Diesel	1.7	1.5	1.7	92.4	1.0	185.9	11.6	79,614
Yard tractor	LNG	0.0	0.0	0.0	1.1	0.0	0.1	3.6	745
Yard tractor	Propane	1.4	1.4	0.0	63.8	0.0	352.6	31.8	14,850
Total		**7.5**	**7.0**	**5.8**	**463.9**	**2.03**	**877.4**	**86.2**	**188,894**

DB ID237

SECTION 6 LOCOMOTIVES

This section presents emission estimates for the railroad locomotives source category, including source description, geographical domain, data and information acquisition, operational profiles, the emissions estimation methodology, and the emissions estimates.

Source Description

Railroad operations are typically described in terms of two different types of operations, line haul and switching. Line haul refers to the movement of cargo by train over long distances. Line haul operations occur at or near the Port as the initiation or termination of a line haul trip, as cargo is either picked up for transport to destinations across the country or is dropped off for shipment overseas. Switching refers to short movements of rail cars, such as in the assembling and disassembling of trains at various locations in and around the Port, sorting of the cars of inbound cargo trains into contiguous "fragments" for subsequent delivery to terminals, and the short distance hauling of rail cargo within the Port. It is important to recognize that "outbound" rail freight is cargo that has arrived on vessels and is being shipped to locations across the U.S., whereas "inbound" rail freight is destined for shipment out of the Port by vessel. This is contrary to the usual port terminology of cargo off-loaded from vessels referred to as "inbound" and that loaded onto vessels as "outbound." Outbound rail cargo is also referred to as eastbound and inbound rail cargo is also referred to as westbound.

The Port is served by three railway companies:

- Burlington Northern Santa Fe Railway Company (BNSF)
- Union Pacific Railroad (UP)
- Pacific Harbor Line (PHL)

BNSF and UP provide line haul service to and from the Port and also operate switching services at their off-port locations, while PHL performs most of the switching operations within the Port. Locomotives used for line haul operations are typically equipped with large, powerful engines of over 4,000 hp, while switch engines are smaller, typically having one or more engines totaling 1,200 to 3,000 hp. The locomotives used in switching service at the Port are primarily new, low-emitting locomotives specifically designed for switching duty. The switching locomotives are operated by PHL within the Port and by UP at the near-port railyard.

Geographical Domain

The specific activities included in this emissions inventory are movements of cargo within Port boundaries, and directly to or from Port-owned properties such as terminals and on-Port rail yards, within and to the boundary of the SoCAB. The inventory does not include rail movements of cargo that occur solely outside the Port, such as off-port rail yard switching, and movements that neither begin nor end at a Port property, such as east-bound line hauls that initiate in central Los Angeles intermodal yards. Please refer to Section 1 for a description of the geographical domain of the emissions inventory with regard to locomotive operations.

Data and Information Acquisition

Information from the following general sources was used to estimate emissions associated with maritime industry-related activities of locomotives operating both within the Port and outside the Port to the boundary of the SoCAB:

- Previous emissions studies
- Port cargo statistics
- Input from railroad operators
- Published information sources
- CARB MOU line-haul fleet compliance data

The Port continues to use the most recent, locally-specific data available, including MOU compliance data reflective of actual recent line haul fleet mix characteristics in the SoCAB. In addition, PHL has been providing fuel consumption information for each locomotive in service in each calendar year, along with the engine tier levels of the locomotives. Table 6.1 lists the number of locomotives of each tier level that were operated in 2018, and the percentage of fuel used by locomotives in each tier. Discussion of the tiers and a list of tier-specific emission factors are included in Section 5 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019).

Table 6.1: PHL Switching Fleet Mix, 2018

Locomotive Tier Level /Power Type	Count	% of Fuel Consumed
Genset	6	11%
Tier 3	1	2%
Tier 3+	18	86%
Tier 4	1	1%
Totals	**26**	**100%**

Operational Profiles

The goods movement rail system in terms of the activities that are carried out by locomotive operators is the same as described in detail in Section 5 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019).

Emissions Estimation Methodology

The emission calculation methodology used to estimate locomotive emissions is consistent with the methodology described in detail in Section 5 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019). Tables that contain information specific to this EI are presented below.

Table 6.2 presents the MOU compliance information submitted by both railroads and the composite of both railroads' pre-Tier 0 through Tier 4 locomotive NO_x emissions for calendar year 2017, showing a weighted average NO_x emission factor of 5.48 g/hphr.[14] The 2017 reports were used instead of the 2018, due to the timing of the inventory data collection phase and of the posting of the compliance reports by CARB. The emission factors based on the 2018 compliance report will be used for the future 2019 EI.

[14]Notes from railroads' MOU compliance submissions:
1. For more information on the U.S. EPA locomotive emission standards please visit. *www.epa.gov/oms/locomotives.htm.*
2. Number of locomotives is the sum of all individual locomotives that visited or operated within the SoCAB at any time during 2014.

Table 6.2: MOU Compliance Data, MW-hr and g NO_x/hp-hr

Engine Tier	Number of Locomotives	Megawatt-hours (MW-hr)	%MW-hr by Tier Level	Wt'd Avg NOx (g/bhp-hr)	Tier Contribution to Fleet Average (g/bhp-hr)
BNSF					
Pre-Tier 0	196	1,826	0.6%	13.0	0.08
Tier 0	152	6,880	2.4%	7.7	0.19
Tier 1	1,403	109,907	39%	6.1	2.36
Tier 2	1,392	89,654	32%	4.9	1.55
Tier 3	1,168	63,666	22%	4.7	1.05
Tier 4	255	12,391	4.4%	1	0.04
ULEL	0	0	0%	-	-
Total BNSF	**4,566**	**284,324**	**100%**		**5.3**
UP					
Pre-Tier 0	55	323	0.2%	11.0	0.02
Tier 0	1,726	40,951	22.6%	7.8	1.76
Tier 1	1,891	40,549	22%	6.5	1.46
Tier 2	1,479	53,247	29%	4.9	1.44
Tier 3	817	38,386	21%	4.9	1.04
Tier 4	100	5,430	3.0%	1.1	0.03
ULEL	39	2,207	1%	2.6	0.03
Total UP	**6,107**	**181,093**	**100%**		**5.8**
		ULEL Credit Used			0.3
		UP Fleet Average			**5.5**
Both RRs, excluding ULELs and ULEL credits					
Pre-Tier 0	251	2,149	0%	12.7	0.06
Tier 0	1,878	47,831	10%	7.8	0.80
Tier 1	3,294	150,456	32%	6.2	2.02
Tier 2	2,871	142,901	31%	4.9	1.51
Tier 3	1,985	102,052	22%	4.8	1.05
Tier 4	355	17,821	3.85%	1.0	0.040
Total both	**10,634**	**463,210**	**96%**		**5.48**

Emission factors for particulate matter (PM_{10}), HC, and CO were calculated using the tier-specific emission rates for those pollutants published by EPA[15] and used to develop weighted average emission factors using the megawatt hour (MW-hr) figures provided in the railroads' submissions. These results are presented in Table 6.3.

Table 6.3: Fleet MW-hr and PM, HC, CO Emission Factors, g/bhp-hr

Engine Tier	MW-hr	% of MW-hr	EPA Tier-specific			Fleet Composite		
			PM_{10}	HC	CO	PM_{10}	HC	CO
			g/bhp-hr			g/bhp-hr		
Pre-Tier 0	2,149	0%	0.32	0.48	1.28	0.00	0.00	0.01
Tier 0	47,831	10%	0.32	0.48	1.28	0.03	0.05	0.13
Tier 1	150,456	32%	0.32	0.47	1.28	0.10	0.15	0.42
Tier 2	142,901	31%	0.18	0.26	1.28	0.06	0.08	0.40
Tier 3	102,052	22%	0.08	0.13	1.28	0.02	0.03	0.28
Tier 4	17,821	3.85%	0.015	0.04	1.28	0.00	0.00	0.05
Totals	**463,210**	**100%**				**0.21**	**0.32**	**1.28**

Emission factors for $PM_{2.5}$ and DPM were calculated as fractions of PM_{10}, with $PM_{2.5}$ calculated as 94% of PM_{10} consistent with CARB methodology and DPM equal to PM_{10}, since all PM emissions from diesel engines are defined as DPM. Rounding of emission factors before and after the conversion resulted in the emission factor values shown. Table 6.4 summarizes the latest emission factors for line haul locomotives, presented in units of g/hp-hr. The greenhouse gas emission factors are unchanged from the previous EI.

Table 6.4: Emission Factors for Line Haul Locomotives, g/bhp-hr

	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2	N_2O	CH_4
EF, g/bhp-hr	0.21	0.20	0.21	5.48	0.005	1.28	0.32	494	0.013	0.04

[15]EPA Office of Transportation and Air Quality, "Emission Factors for Locomotives" EPA-420-F-09-025 April 2009.

On-Port Line Haul Emissions

The estimated number of trains per year, locomotives per train, and on-port hours per train are multiplied together to calculate total locomotive hours per year. This activity information is summarized in Table 6.5.

Table 6.5: Estimated On-Port Line Haul Locomotive Activity

Activity Measure	Inbound	Outbound	Total
Trains per Year	4,130	3,964	8,094
Locomotives per Train	3	3	N/A
Hours on Port per Trip	1	2.5	N/A
Locomotive Hours per Year	12,390	29,730	42,120

Out-of-Port Line Haul Emissions

For out-of-port line haul estimates, Table 6.5 has updated values for the 2018 EI. Table 6.6 lists the estimated totals of travel distance, out-of-port trains per year, out-of-port million gross tons (MMGT), out-of-port MMGT-miles, gallons of fuel used, and horsepower-hours. The gross ton-miles are calculated by multiplying distance in miles by number of trains by the average weight of a train, which is estimated to be 7,276 tons. Fuel consumption is calculated by multiplying gross ton-miles by the average fuel consumption factor of 1.005 gallons per thousand gross ton-miles. Overall horsepower hours are calculated by multiplying the fuel used by the fuel consumption conversion factor of 20.8 hp-hr/gal.

Table 6.6: Gross Ton-Mile, Fuel Use, and Horsepower-hour Estimate

	Distance miles	Trains per year	MMGT per year	MMGT-miles per year
Alameda Corridor	21	5,722	42	882
Central LA to Air Basin Boundary	84	5,722	42	3,528
Million gross ton-miles				**4,410**
Estimated gallons of fuel (millions)				**4.43**
Estimated million horsepower-hours				**92.1**

Emission Estimates

A summary of estimated emissions from locomotive operations related to the Port is presented below in Table 6.7. These emissions include operations within the Port and maritime industry-related emissions outside the Port out to the boundary of the SoCAB. The "maritime industry-related" off-port activity is associated with cargo movements having either their origin or termination at the Port. Emissions resulting from the movement of cargo originating or terminating at one of the off-port rail yards are not included. The criteria pollutants are listed as tons per year, while the CO_2e values are listed as tonnes (metric tons) per year.

In order for the total emissions to be consistently displayed for each pollutant, the individual values in the table entries do not, in some cases, add up to the totals listed in the table. This is because there are fewer decimal places displayed (for readability) than are included in the calculated totals.

Table 6.7: Locomotive Operations Estimated Emissions

Activity Component	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Switching	0.5	0.4	0.5	48.2	0.07	20.1	2.4	6,877
Line Haul	32.1	30.6	32.1	837.9	0.76	195.7	48.9	69,196
Total	**32.6**	**31.0**	**32.6**	**886.1**	**0.83**	**215.8**	**51.3**	**76,073**

DB ID696

SECTION 7 HEAVY-DUTY VEHICLES

This section presents emission estimates for the HDV emission source category, including source description, geographical domain, data and information acquisition, operational profiles, the emissions estimation methodology, and the emission estimates.

Source Description

Heavy-duty vehicles (specifically heavy-duty trucks) are used extensively to move cargo, particularly containerized cargo, to and from the marine terminals. Trucks deliver cargo to both local and national destinations. The local activity is often referred to as drayage and includes the transfer of containers between terminals and off-port railcar loading facilities. In the course of their daily operations, both local and national destined trucks are driven onto and through the terminals, where they deliver and/or pick up cargo. They are also driven on the public roads within the Port boundaries and on the public roads outside the Port.

While most of the trucks that service the Port's terminals are diesel-fueled vehicles, alternatively-fueled trucks, primarily those fueled by LNG, made approximately 4% of the terminal calls in 2018, according to an evaluation of the Port's Clean Truck Program (CTP) activity records and the Port Drayage Truck Registry (PDTR). Vehicles using fuel other than diesel fuel do not emit diesel particulate matter, so the diesel particulate emission estimates presented in this inventory have been adjusted to take the alternative-fueled trucks into account.

The most common configuration of HDV is the articulated tractor-trailer (truck and semi-trailer) having five axles, including the trailer axles. The most common type of trailer in the study area is the container chassis, built to accommodate standard-sized cargo containers. Additional trailer types include tankers, boxes, and flatbeds. A tractor traveling without an attached trailer is called a "bobtail" while a tractor pulling an unloaded container trailer chassis is known simply as a "chassis." These vehicles are all classified as heavy HDVs regardless of their actual weight because the classification is based on gross vehicle weight rating (GVWR), which is a rating of the vehicle's total carrying capacity. Therefore, the emission estimates do not distinguish among the different configurations.

Geographical Domain

The two major geographical components of truck activities have been evaluated for this inventory:

- On-terminal operations, which include waiting for terminal entry, transiting the terminal to drop off and/or pick up cargo, and departing the terminal.
- On-road operations, consisting of travel on public roads within the SoCAB. This also includes travel on public roads within the Port boundaries and those of the adjacent Port of Long Beach.

Data and Information Acquisition

Information regarding on-terminal truck activity, such as average times and distances while on the terminals, is collected during in-person and/or telephone interviews with terminal personnel. For on-road operations, the volumes (number of trucks), distances, and average speeds on roadway segments between defined intersections are estimated using trip generation and travel demand models that have been developed for these purposes. The trip generation model is used to develop truck trip numbers for container terminals, while the terminal interviews are used to obtain trip counts associated with non-container terminals.

Operational Profiles

Table 7.1 illustrates the range and average of reported operating characteristics of on-terminal truck activities at port container terminals, while Table 7.2 shows similar summary data for the non-container terminals and facilities. The total numbers of terminal calls in 2018 were 4,080,931 associated with the Port's container terminals and 930,444 associated with the non-container facilities. The total number of container terminal calls is estimated by the trip generation model on which truck travel estimates are based, while non-container terminal calls were obtained from the terminal operators. The non-container terminal number includes activity at the Port's peel-off yard that operated in 2018, totaling approximately 30,000 calls. The peel-off yard was established to improve terminal efficiency by allowing containers off-loaded from ships to be quickly removed from the container terminal and placed in the yard, to be picked up for further transport at a later time.

Table 7.1: Summary of Reported Container Terminal Operating Characteristics

	Speed (mph)	Distance (miles)	Gate In (hours)	Unload/ Load (hours)	Gate Out (hours)
Maximum	15	1.50	0.17	0.90	0.07
Minimum	10	0.90	0.08	0.45	0.00
Average	12.5	1.32	0.12	0.68	0.03

Table 7.2: Summary of Reported Non-Container Facility Operating Characteristics

	Speed (mph)	Distance (miles)	Gate In (hours)	Unload/ Load (hours)	Gate Out (hours)
Maximum	20	1.30	0.08	0.47	0.05
Minimum	5	0.02	0.00	0.00	0.00
Average	8.6	0.48	0.03	0.14	0.01

Table 7.3 presents further detail on the on-terminal operating parameters provided by terminal operators, listing total estimated miles traveled and hours of idling on-terminal and waiting at entry gates. Terminals are listed by type.

Table 7.3: Estimated On-Terminal VMT and Idling Hours by Terminal

Terminal Type	Total Miles Traveled	Total Hours Idling (all trips)
Container	1,379,510	984,050
Container	1,181,414	677,344
Container	1,084,233	730,050
Container	1,068,284	427,313
Container	556,331	457,428
Container	320,492	214,730
Auto	1,463	994.5
Break Bulk	28,000	6,300
Break Bulk	11,000	7,040
Dry Bulk	3,250	1040
Dry Bulk	1,250	375
Liquid Bulk	3,125	375
Liquid Bulk	18	0
Other	387,595	174,418
Other	189,800	27,740
Other	188,369	27,531
Other	67,600	8,320
Other	3,000	14,100
Other	1,900	3,325
Other	40	320
Total	**6,476,672**	**3,762,793**

Emissions Estimation Methodology

The emission estimating methodology for the Port's on-road truck fleet is described in Section 6 of the San Pedro Bay Ports Emissions Inventory Methodology Report[16], 2019. HDV emission estimates are based on estimates of vehicle miles traveled (VMT), average speeds, CARB's on-road vehicle emissions model EMFAC2017, and HDV model year information specific to the San Pedro Bay ports. The most recent version of the model, EMFAC2017, reflects CARB's current understanding of motor vehicle travel activities and their associated emission levels.

Table 7.4 summarizes the speed-specific composite emission factors developed from the EMFAC2017 model and the model year distribution discussed below.

Table 7.4: Speed-Specific Composite Exhaust Emission Factors

Speed (mph)	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2	N_2O	CH_4	Units
0 (Idle)	0.0038	0.0037	0.0037	26.4429	0.0538	22.6205	1.0346	5,728	0.8892	0.0609	g/hr
5	0.0636	0.0608	0.0610	15.7788	0.0358	4.7498	1.1386	3,788	0.5954	0.0670	g/mi
10	0.0571	0.0546	0.0548	13.2144	0.0308	3.5933	0.8952	3,260	0.5124	0.0527	g/mi
15	0.0486	0.0465	0.0467	10.3284	0.0252	2.3952	0.6130	2,670	0.4197	0.0361	g/mi
20	0.0432	0.0413	0.0414	8.5930	0.0219	1.7049	0.4384	2,320	0.3646	0.0258	g/mi
25	0.0395	0.0378	0.0379	7.4850	0.0196	1.2608	0.3233	2,071	0.3255	0.0190	g/mi
30	0.0372	0.0356	0.0358	6.6607	0.0177	0.9392	0.2407	1,878	0.2952	0.0142	g/mi
35	0.0361	0.0345	0.0347	6.0227	0.0163	0.6986	0.1797	1,729	0.2718	0.0106	g/mi
40	0.0360	0.0344	0.0345	5.5501	0.0153	0.5202	0.1350	1,618	0.2543	0.0079	g/mi
45	0.0367	0.0351	0.0353	5.2288	0.0146	0.3902	0.1026	1,540	0.2421	0.0060	g/mi
50	0.0384	0.0367	0.0368	5.0526	0.0141	0.2986	0.0797	1,495	0.2350	0.0047	g/mi
55	0.0408	0.0391	0.0392	5.0183	0.0140	0.2378	0.0640	1,480	0.2326	0.0038	g/mi
60	0.0446	0.0427	0.0428	5.1744	0.0142	0.2218	0.0598	1,507	0.2369	0.0035	g/mi
65	0.0495	0.0474	0.0475	5.5264	0.0149	0.2383	0.0637	1,574	0.2475	0.0037	g/mi
70	0.0495	0.0474	0.0475	5.5433	0.0149	0.2446	0.0642	1,574	0.2475	0.0038	g/mi

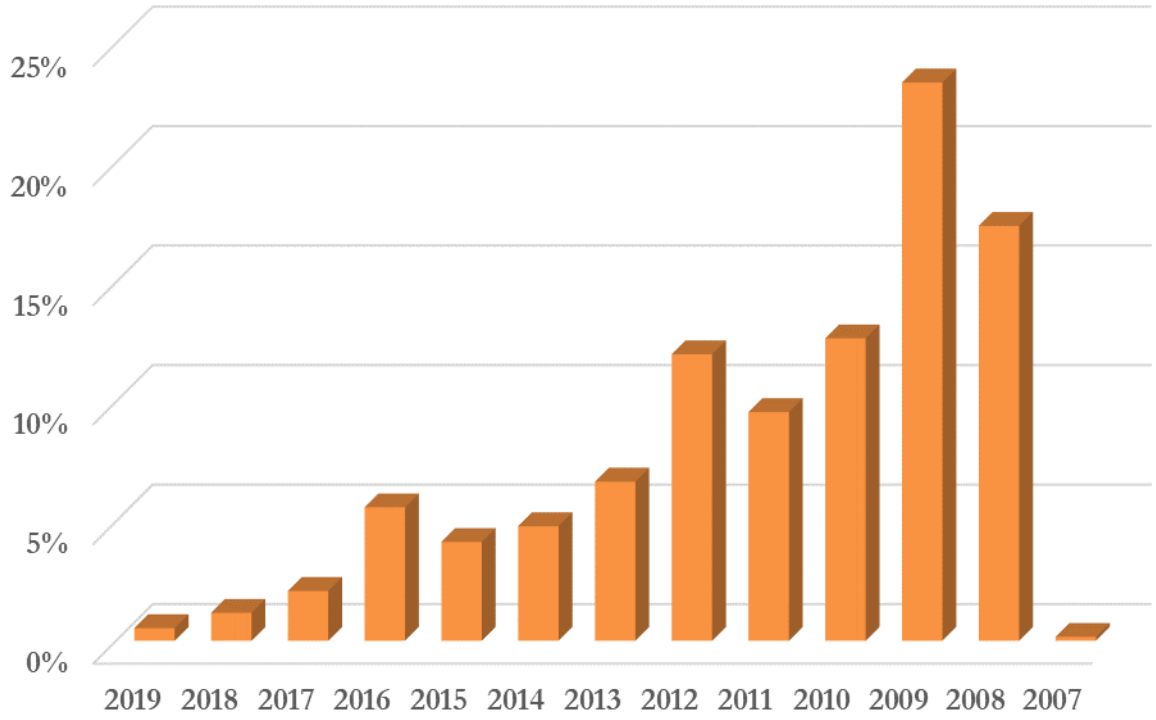
[16] *San Pedro Bay Ports Emissions Inventory Methodology Report Version 1-2019. www.portoflosangeles.org/environment/air-quality/air-emissions-inventory*

Model Year Distribution

Since vehicle emissions vary according to the vehicle's model year and age, the activity level of trucks within each model year is an important part of developing emission estimates. The 2018 model year distribution for the current emissions inventory is based on call data originating from radio frequency identification (RFID) data, which tracked over 7.8 million truck calls made to the Port of Los Angeles and the Port of Long Beach in 2018, as well as model year data drawn from the PDTR. The PDTR contains model year information on all registered drayage trucks serving the Port and the fuel type used by each truck, from which an adjustment factor for the DPM emission estimates was developed for non-diesel fueled vehicles. The RFID data provided the number of calls made by each model year of truck.

The distribution of the model years of the trucks that called at both the Port and POLB terminals during 2018, which was used to develop the composite emission factors listed above, is presented in Figure 7.1. The call weighted average age of the trucks calling at San Pedro Bay port terminals in 2018 was approximately 7 years.

Figure 7.1: Model Year Distribution of the Heavy-Duty Truck Fleet



Emission Estimates

The estimates of 2018 HDV emissions are presented in this section. As discussed above, on-terminal emissions are based on terminal-specific information such as the number of trucks passing through the terminal and the distance they travel on-terminal, and the Port-wide totals are the sum of the terminal-specific estimates. The on-road emissions have been estimated using travel demand model results to estimate how many miles in total the trucks travel along defined roadways in the SoCAB on the way to their first cargo drop-off point. The on-terminal estimates include the sum of driving and idling emissions calculated separately. The idling emissions are likely to be somewhat over-estimated since the idling estimates are based on the entire time that trucks are on terminal (except for driving time), which does not account for times that trucks are turned off while on terminal. No data source has been identified that would provide a reliable estimate of the average percentage of time the trucks' engines are turned off while on terminal. The on-road estimates include idling emissions as a normal part of the driving cycle because the average speeds include estimates of normal traffic idling times, and the emission factors are designed to take this into account.

In order for the total emissions to be consistently displayed for each pollutant, the individual values in each table column do not, in some cases, add up to the listed total in the tables. This is due to fewer decimal places displayed for readability than are included in the calculated total.

Emission estimates for HDV activity associated with Port terminals and other facilities are presented in the following tables. Table 7.5 summarizes emissions from HDVs associated with all Port terminals.

Table 7.5: HDV Emissions

Activity Location	VMT	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
On-Terminal	6,476,672	0.4	0.4	0.4	195	0.4	115.6	9.8	42,842
On-Road	218,712,342	9.1	8.7	8.7	1,287	3.5	93.3	24.5	354,184
Total	**225,189,014**	**9.5**	**9.1**	**9.1**	**1,482**	**4.0**	**208.9**	**34.3**	**397,027**

Table 7.6 presents HDV emissions associated with container terminal activity separately from emissions associated with other port terminals and facilities.

Table 7.6: HDV Emissions Associated with Container Terminals

Activity Location	VMT	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
On-Terminal	5,590,263	0.3	0.3	0.3	174	0.4	105.5	8.6	38,302
On-Road	203,992,717	8.5	8.1	8.1	1,200	3.3	87.2	22.9	330,452
Total	**209,582,980**	**8.8**	**8.4**	**8.5**	**1,375**	**3.7**	**192.7**	**31.5**	**368,754**

Table 7.7 presents emissions associated with other port terminals and facilities separately.

Table 7.7: HDV Emissions Associated with Other Port Terminals

Activity Location	VMT	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
On-Terminal	886,409	0.1	0.1	0.1	20	0.0	10.1	1.1	4,541
On-Road	14,719,624	0.6	0.6	0.6	87	0.2	6.1	1.6	23,732
Total	**15,606,034**	**0.7**	**0.6**	**0.6**	**107**	**0.3**	**16.2**	**2.7**	**28,273**

SECTION 8 SUMMARY OF 2018 EMISSION RESULTS

Table 8.1 summarizes the 2018 total maritime industry-related emissions associated with the Port of Los Angeles by category. Tables 8.2 through 8.4 present DPM, NO_x and SO_x emissions in the context of Port-wide and air basin-wide emissions by source category and subcategory.

Table 8.1: Emissions by Source Category

Category	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
Ocean-going vessels	57	53	43	2,909	110	250	119	205,486
Harbor craft	27	25	27	813	1	581	89	66,092
Cargo handling equipment	8	7	6	464	2	877	86	188,894
Locomotives	33	31	33	886	1	216	51	76,073
Heavy-duty vehicles	9	9	9	1,482	4	209	34	397,027
Total	**134**	**125**	**118**	**6,554**	**118**	**2,132**	**380**	**933,572**

DB ID457

Table 8.2: DPM Emissions by Category and Percent Contribution

Category	Subcategory	DPM Emissions	Percent DPM Emissions of Total		
			Category	Port	SoCAB AQMP
OGV	Auto carrier	0.7	2%	1%	0.0%
OGV	Bulk vessel	1.1	3%	1%	0.0%
OGV	Containership	24.2	57%	21%	1.1%
OGV	Cruise	6.6	15%	6%	0.3%
OGV	General cargo	0.9	2%	1%	0.0%
OGV	Other	1.5	4%	1%	0.1%
OGV	Reefer	0.6	1%	1%	0.0%
OGV	Tanker	7.0	16%	6%	0.3%
OGV	**Subtotal**	**43**	**100%**	**36%**	**1.9%**
Harbor Craft	Assist tug	6.7	24%	6%	0.3%
Harbor Craft	Harbor tug	0.9	3%	1%	0.0%
Harbor Craft	Commercial fishing	3.6	13%	3%	0.2%
Harbor Craft	Ferry	5.0	18%	4%	0.2%
Harbor Craft	Ocean tugboat	5.8	21%	5%	0.3%
Harbor Craft	Government	0.8	3%	1%	0.0%
Harbor Craft	Excursion	2.3	8%	2%	0.1%
Harbor Craft	Crewboat	1.5	5%	1%	0.1%
Harbor Craft	Work boat	0.7	3%	1%	0.0%
Harbor Craft	**Subtotal**	**27**	**100%**	**23%**	**1.2%**
CHE	RTG crane	1.5	27%	1%	0.1%
CHE	Forklift	0.1	1%	0%	0.0%
CHE	Top handler, side pick	1.5	27%	1%	0.1%
CHE	Other	0.9	15%	1%	0.0%
CHE	Yard tractor	1.7	30%	1%	0.1%
CHE	**Subtotal**	**6**	**100%**	**5%**	**0.3%**
Locomotives	Switching	0.5	1%	0%	0.0%
Locomotives	Line haul	32.1	99%	27%	1.4%
Locomotives	**Subtotal**	**33**	**100%**	**28%**	**1.4%**
HDV	On-Terminal	0.4	4%	0%	0.0%
HDV	On-Road	8.7	96%	7%	0.4%
HDV	**Subtotal**	**9**	**100%**	**8%**	**0.4%**
Port	**Total**	**118**		**100%**	**5.2%**
SoCAB AQMP	**Total**	**2,274**			

Table 8.3: NO_x Emissions by Category and Percent Contribution

Category	Subcategory	NO_x Emissions	Percent NO_x Emissions of Total		
			Category	Port	SoCAB AQMP
OGV	Auto carrier	47	2%	1%	0.0%
OGV	Bulk vessel	64	2%	1%	0.0%
OGV	Containership	1,855	64%	28%	1.3%
OGV	Cruise	327	11%	5%	0.2%
OGV	General cargo	51	2%	1%	0.0%
OGV	Other	79	3%	1%	0.1%
OGV	Reefer	35	1%	1%	0.0%
OGV	Tanker	451	16%	7%	0.3%
OGV	**Subtotal**	**2,909**	**100%**	**44%**	**2.0%**
Harbor Craft	Assist tug	193	24%	2.9%	0.1%
Harbor Craft	Harbor tug	25	3%	0.4%	0.0%
Harbor Craft	Commercial fishing	116	14%	1.8%	0.1%
Harbor Craft	Ferry	149	18%	2.3%	0.1%
Harbor Craft	Ocean tugboat	171	21%	2.6%	0.1%
Harbor Craft	Government	17	2%	0.3%	0.0%
Harbor Craft	Excursion	72	9%	1.1%	0.0%
Harbor Craft	Crewboat	48	6%	0.7%	0.0%
Harbor Craft	Work boat	23	3%	0.3%	0.0%
Harbor Craft	**Subtotal**	**813**	**100%**	**12%**	**0.6%**
CHE	RTG crane	91	20%	1.4%	0.1%
CHE	Forklift	26	5%	0.4%	0.0%
CHE	Top handler, side pick	135	29%	2.1%	0.1%
CHE	Other	55	12%	0.8%	0.0%
CHE	Yard tractor	157	34%	2.4%	0.1%
CHE	**Subtotal**	**464**	**100%**	**7%**	**0.3%**
Locomotives	Switching	48	5%	0.7%	0.0%
Locomotives	Line haul	838	95%	12.8%	0.6%
Locomotives	**Subtotal**	**886**	**100%**	**14%**	**0.6%**
HDV	On-Terminal	195	13%	3%	0.1%
HDV	On-Road	1,287	87%	20%	0.9%
HDV	**Subtotal**	**1,482**	**100%**	**23%**	**1.0%**
Port	**Total**	**6,554**		**100%**	**4.5%**
SoCAB AQMP	**Total**	**144,883**			

Table 8.4: SO_x Emissions by Category and Percent Contribution

Category	Subcategory	SO_x Emissions	Percent SO_x Emissions of Total		
			Category	Port	SoCAB AQMP
OGV	Auto carrier	1.2	1%	1%	0%
OGV	Bulk vessel	2.7	2%	2%	0%
OGV	Containership	53.5	49%	45%	1%
OGV	Cruise	12.1	11%	10%	0%
OGV	General cargo	1.5	1%	1%	0%
OGV	Other	3.1	3%	3%	0%
OGV	Reefer	1.4	1%	1%	0%
OGV	Tanker	34.4	31%	29%	1%
OGV	**Subtotal**	**110**	**100%**	**94%**	**2%**
Harbor Craft	Assist tug	0.2	24%	0%	0%
Harbor Craft	Harbor tug	0.0	3%	0%	0%
Harbor Craft	Commercial fishing	0.1	15%	0%	0%
Harbor Craft	Ferry	0.1	19%	0%	0%
Harbor Craft	Ocean tugboat	0.1	19%	0%	0%
Harbor Craft	Government	0.0	2%	0%	0%
Harbor Craft	Excursion	0.1	9%	0%	0%
Harbor Craft	Crewboat	0.0	6%	0%	0%
Harbor Craft	Work boat	0.0	3%	0%	0%
Harbor Craft	**Subtotal**	**0.7**	**100%**	**1%**	**0%**
CHE	RTG crane	0.2	10%	0%	0%
CHE	Forklift	0.0	1%	0%	0%
CHE	Top handler, side pick	0.6	31%	1%	0%
CHE	Other	0.2	8%	0%	0%
CHE	Yard tractor	1.0	50%	1%	0%
CHE	**Subtotal**	**2.0**	**100%**	**2%**	**0%**
Locomotives	Switching	0.1	8%	0%	0%
Locomotives	Line haul	0.8	92%	1%	0%
Locomotives	**Subtotal**	**0.8**	**100%**	**1%**	**0%**
HDV	On-Terminal	0.4	11%	0%	0%
HDV	On-Road	3.5	89%	3%	0%
HDV	**Subtotal**	**4.0**	**100%**	**3%**	**0%**
Port	**Total**	**118**		**100%**	**1.9%**
SoCAB AQMP	**Total**	**6,322**			

To place the maritime industry-related emissions into context, the following figures compare the Port's contributions to the total emissions in the South Coast Air Basin by major emission source category. The 2018 SoCAB emissions are based on the 2016 AQMP Appendix III[17], except for the SoCAB on-road emission estimates which were updated to take into consideration EMFAC2017[18]. Thus, the 2018 SoCAB total emissions do not exactly match 2016 AQPM Appendix III values. It should be noted that neither the SoCAB nor the Port's on-road heavy-duty diesel PM_{10} and $PM_{2.5}$ emissions include brake and tire wear emissions. Due to rounding, the percentages may not total 100%.

Figure 8.1: 2018 PM_{10} Emissions in the South Coast Air Basin

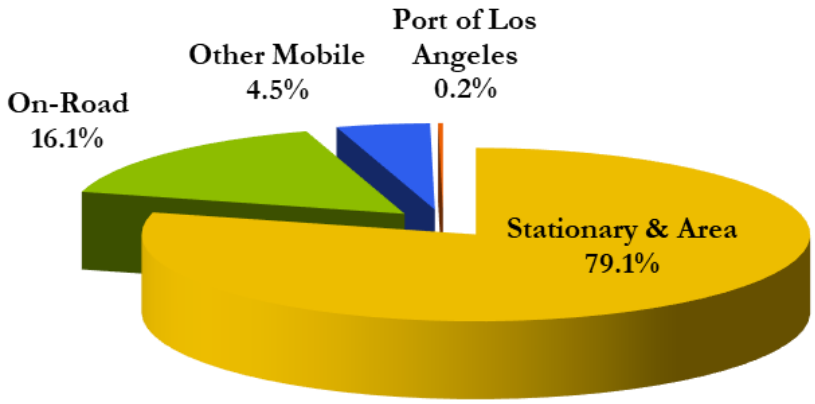
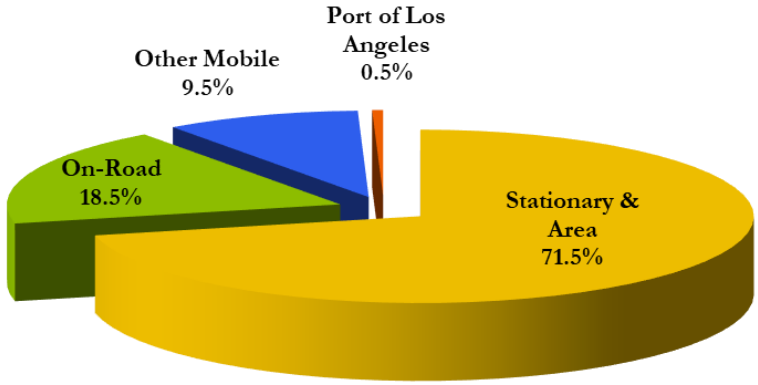


Figure 8.2: 2018 $PM_{2.5}$ Emissions in the South Coast Air Basin



[17]SCAQMD, *Final 2016 AQMP Appendix III, Base & Future Year Emissions Inventories*, March 2017. Except on-road emissions based on EMFAC2014 are replaced with EMFAC2017 estimates.
[18]ARB, *www.arb.ca.gov/emfac/*

Figure 8.3: 2018 DPM Emissions in the South Coast Air Basin

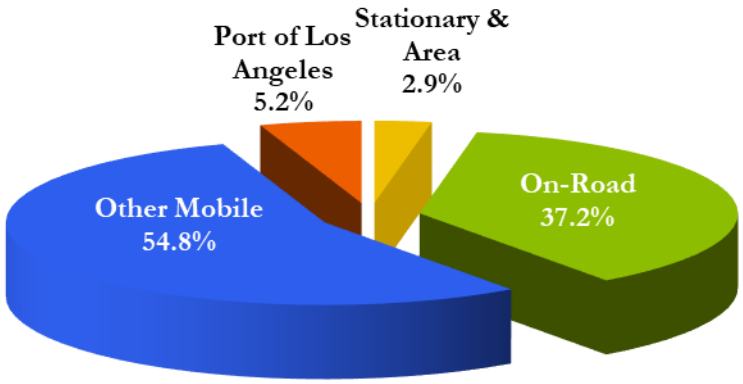


Figure 8.4: 2018 NO_x Emissions in the South Coast Air Basin

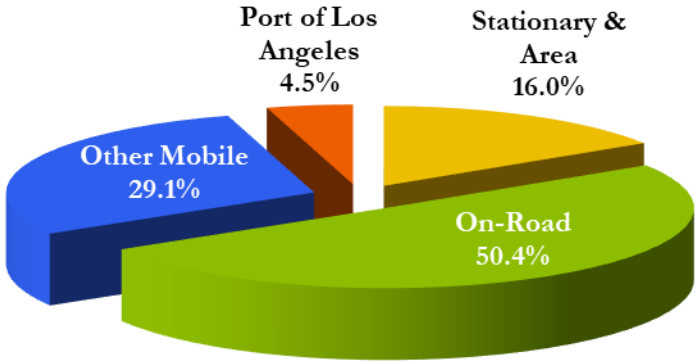
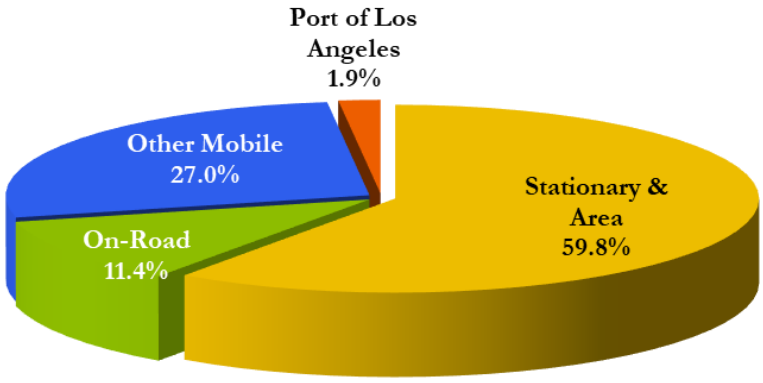


Figure 8.5: 2018 SO_x Emissions in the South Coast Air Basin



SECTION 9 COMPARISON OF 2018 AND PREVIOUS YEARS' FINDINGS AND EMISSION ESTIMATES

This section compares 2018 emissions to emissions in both the previous year and 2005, in terms of overall emissions, and for each source category. Comparisons by emission source categories are addressed in separate subsections in table and chart formats, with the explanation of the findings and differences in emissions between years.

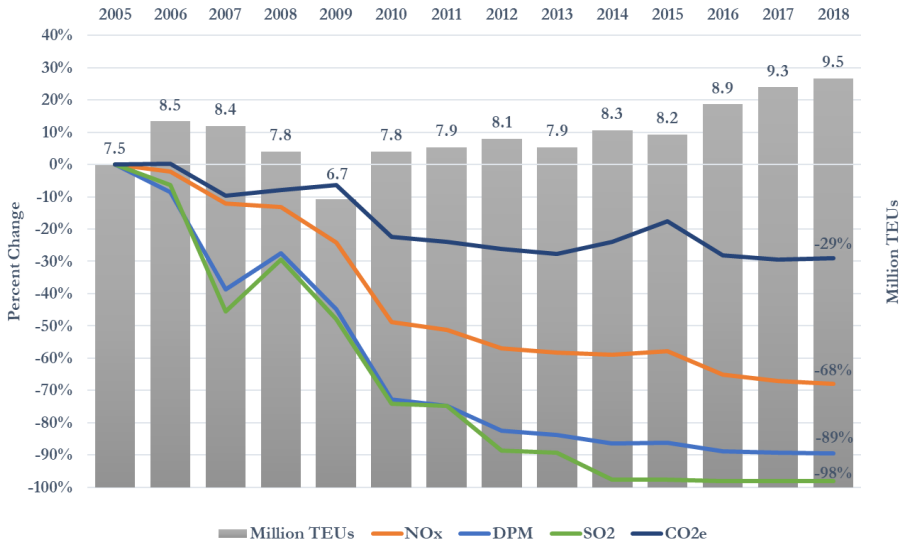
The tables and charts in this section summarize the percent change from the previous year (2018 vs 2017) and for the CAAP Progress (2018 vs 2005) using 2018 methodology for the emissions comparison. CAAP progress is tracked by comparing emissions each year to 2005 emissions, since 2005 is considered the baseline year for CAAP. Table 9.1 compares emissions efficiency, tons of emissions per 10,000 TEUs, in 2018 as compared to 2005 and the previous year. A positive percent change for the emissions efficiency comparison means an improvement in efficiency.

Table 9.1: Emissions Efficiency Metric, tons/10,000 TEUs

EI Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.142	0.132	0.124	6.93	0.12	2.25	0.40	987
2017	0.142	0.131	0.125	7.09	0.13	2.13	0.40	972
2005	1.267	1.096	1.175	21.65	6.66	5.02	1.14	1,385
Previous Year (2017-2018)	**0%**	**-1%**	**1%**	**2%**	**8%**	**-6%**	**0%**	**-2%**
CAAP Progress (2005-2018)	**89%**	**88%**	**89%**	**68%**	**98%**	**55%**	**65%**	**29%**

Figure 8.6 presents the efficiency improvement per TEU trend for 2005 to 2018.

Figure 8.6: Emissions Efficiency Trend



Ocean-Going Vessels

The methodology used to estimate ocean going vessel emissions for this 2018 inventory did not change from the methodology used in the previous year inventory. The emissions calculation methodology and the emission rates are described in Section 2 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019). The 2017 activity and emissions are slightly different from the values in the 2017 EI report due to addition of ocean tug (ATB/ITB) activity.

The various emission reduction strategies implemented for ocean-going vessels are listed in Table 9.2. The table lists the percentage of calls that participated in the specific control strategy for 2018, the previous year, and 2005. The following OGV emission reductions strategies are listed:

- Shore Power refers to vessel calls using shore power at berth, instead of running their diesel-powered auxiliary engines;
- VSR[19] refers to the vessels reducing their transit speed to 12 knots or lower within 20 and 40 nm of the Port;
- ESI[20] refers to the number of vessel calls that participated in ports' ESI program and using ship-specific low sulfur (S) fuel, which in several cases contained S levels below the regulated S level of 0.1% resulting in additional SO_x, PM, $PM_{2.5}$, and DPM benefit. Fuel correction factors specific to the S content of the fuel were developed and used based on fuel quality data provided as part of the ESI program;
- Engine International Air Pollution Prevention (EIAPP) certificates refers to the number of vessel calls using ship-specific NO_x emission factors for main and auxiliary engines, where vessel specific EIAPP certificates with actual NO_x rating was available through the ESI program or the VBP.

In 2018, in addition to the shore power calls listed in the table, an additional 4% of vessel calls used alternative technology to comply with the At-Berth Regulation. The alternative technology includes the Maritime Emissions Treatment System (METS) and Advanced Maritime Emission Control System (AMECS).

Table 9.2: OGV Emission Reduction Strategies

Year	Shore Power	VSR 20 nm	VSR 40 nm	ESI	EIAPP Main Eng	EIAPP Aux Eng
2018	44%	91%	85%	56%	61%	61%
2017	42%	92%	84%	53%	60%	60%
2005	2%	65%	na	0%	5%	5%

DB ID1790

[19] *www.portoflosangeles.org/pdf/VSR_Program_Overview.pdf*
[20] *www.portoflosangeles.org/environment/progress/initiatives/environmental-ship-index/*

Since 2005, fuel switching from heavy fuel oil (HFO) to low sulfur content fuel such as marine gas oil (MGO) or marine distillate oil (MDO) is a major emission reduction strategy for OGV. In 2005, fuel switching was voluntary and only 7% of main engines and 27% of auxiliary engines switched fuel. In 2018, all vessels switched fuel (100%) to 0.1% sulfur content MGO to comply with Phase II of CARB's marine fuel regulation and the North American Emissions Control Area (ECA) requirements or less than 0.1% S fuel reported by vessels participating in the ESI program.

Table 9.3 summarizes the main engine tier levels for 2018, the previous year and 2005. The "No Tier" level is for vessels that do not have diesel engines, such as steamships. IMO Tier I refers to calls by vessels meeting or exceeding IMO's Tier I standards (vessels constructed from 2000-2010), IMO Tier II refers to calls by vessels meeting or exceeding IMO's Tier II standards (vessels constructed from 2011-2015), and IMO Tier III refers to calls by vessels meeting or exceeding the IMO's Tier III standards, which are in effect in the North American ECA for vessels constructed on or after January 1, 2016. In 2018, one small cruise vessel with certified Tier III main engines visited the Port of Los Angeles.

Table 9.3: OGV Main Engine Tiers

Year	IMO Tier 0	IMO Tier I	IMO Tier II	IMO Tier III	No Tier
2018	9%	62%	25%	0.1%	4%
2017	10%	66%	20%	0.0%	4%
2005	59%	37%	0%	0.0%	4%

DB ID1789

Table 9.4 presents the ship emissions source activity in terms of total energy consumption (expressed as kW-hrs). In 2018, the total energy consumption decreased 2% compared to the previous year and decreased by 31% compared to 2005. The kW-hrs associated with the METS and AMECS technology generators are included in the total kW-hrs shown in the table. The main engine activity has decreased through the years mainly due to the VSR program, while the auxiliary engine activity has decreased, due to shore power regulation. The boiler activity increase is due to larger vessels staying longer at berth and no program or regulation to decrease the boiler activity.

Table 9.4: OGV Energy Consumption Comparison, kW-hr

Year	All Engines Total kW-hr	Main Eng Total kW-hr	Aux Eng Total kW-hr	Boiler Total kW-hr
2018	258,929,191	73,154,123	92,801,884	92,432,475
2017	264,682,305	76,003,983	98,132,780	90,102,094
2005	375,883,856	116,098,665	187,017,287	72,767,905
Previous Year (2017-2018)	**-2%**	**-4%**	**-5%**	**3%**
CAAP Progress (2005-2018)	**-31%**	**-37%**	**-50%**	**27%**

Table 9.5 compares the OGV emissions for calendar years 2018, the previous year and 2005. Reductions in OGV emissions are mainly attributed to increased participation in the Port's VSR program, the CARB shore power regulation, CARB marine fuel regulation, and the Port's ESI-based incentive program. Between 2017 and 2018, OGV emissions mainly decreased, due to fewer vessels calling the Port in 2018.

Table 9.5: OGV Emissions Comparison

EI Year	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018	57	53	43	2,909	110	250	119	205,486
2017	60	56	46	3,061	113	270	129	209,206
2005	534	429	466	5,295	4,825	470	213	288,251
Previous Year (2017-2018)	**-5%**	**-5%**	**-7%**	**-5%**	**-3%**	**-8%**	**-8%**	**-2%**
CAAP Progress (2005-2018)	**-89%**	**-88%**	**-91%**	**-45%**	**-98%**	**-47%**	**-44%**	**-29%**

DB ID692

Table 9.6 shows the emissions efficiency changes between 2018, the previous year, and 2005. A positive percent change for the emissions efficiency comparison means an improvement in efficiency.

Table 9.6: OGV Emissions Efficiency Metric Comparison, tons/10,000 TEUs

EI Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC
2018	0.06	0.06	0.05	3.08	0.12	0.26	0.13
2017	0.06	0.06	0.05	3.28	0.12	0.29	0.14
2005	0.71	0.57	0.62	7.08	6.45	0.63	0.29
Previous Year (2017-2018)	**6%**	**7%**	**8%**	**6%**	**4%**	**9%**	**9%**
CAAP Progress (2005-2018)	**92%**	**90%**	**93%**	**57%**	**98%**	**58%**	**56%**

Harbor Craft

The methodology used to estimate harbor craft emissions for this 2018 inventory did not change from the methodology used in the previous year inventory. The emissions calculation methodology and the emission rates are described in Section 3 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019).

In 2018, the Port received engine model year, horsepower and hours of activity for vessels that received Carl Moyer grants. This information was used for commercial fishing vessels that previously lacked this specific information. Therefore, 2017 emissions for commercial fishing vessel category were re-estimated using the latest activity obtained from the Carl Moyer grant funding. As a result, the overall 2017 emissions and activity (i.e. kW-hrs) changed slightly from what was published in the 2017 inventory.

Table 9.7 summarizes the number of harbor craft inventoried for 2018, the previous year and 2005. Overall, the total vessel count decreased by 9% between 2017 and 2018 and decreased by 24% between 2005 and 2018. The decrease in vessels is mainly due to fewer commercial fishing vessels in 2018.

Table 9.7: Harbor Craft Count Comparison

Harbor Vessel Type	2018	2017	2005
Assist tug	14	14	16
Commercial fishing	102	120	156
Crew boat	23	24	14
Excursion	25	25	24
Ferry	8	8	7
Government	11	11	26
Ocean tug	7	7	7
Tugboat	17	18	21
Work boat	9	10	14
Total	**216**	**237**	**285**

DB ID196

Table 9.8 summarizes the percent distribution of engines based on EPA's engine standards. The decrease in unknowns for the 2017 and 2018 calendar years is due to new data received from the South Coast AQMD's Carl Moyer Program which provided engine model year and horsepower for commercial fishing vessels that were previously missing. Specifically, in previous years the horsepower was unknown for many of the repowered commercial fishing vessels, therefore they were classified as unknown prior to receiving this data. This data also included estimated annual hours which were also used. These hours may be conservative as they may include time spent outside of the inventory geographical domain.

Tier 1, 2 and 3 engine categories for the Port's harbor craft inventory is based on the EPA's emission standards for marine engines[21]. Tier 0 engines are unregulated engines built prior to the promulgation of the EPA emission standards. The percentages in the "unknown" column represent engines missing model year, or horsepower, or both.

Table 9.8: Harbor Craft Engine Standards Comparison by Tier

Year	Tier 0	Tier 1	Tier 2	Tier 3	Unknown
2018	4%	8%	41%	34%	14%
2017	4%	7%	41%	30%	18%
2005	15%	27%	3%	0%	55%

DB ID1631

Table 9.9 summarizes the overall energy consumption of harbor craft (kW-hr), which increased by 6% in 2018 compared to the previous year. The energy consumption increased by 16% in 2018 as compared to 2005.

Table 9.9: Harbor Craft Comparison

Year	Vessel Count	Engine Count	Total kW-hr
2018	216	561	99,971,106
2017	237	580	94,282,510
2005	285	578	86,105,024
Previous Year (2017-2018)	**-9%**	**-3%**	**6%**
CAAP Progress (2005-2018)	**-24%**	**-3%**	**16%**

[21]Code of Federal Regulation, *40 CFR, subpart 94.8 for Tier 1 and 2 and subpart 1042.101 for Tier 3*

Table 9.10 shows the harbor craft energy consumption (kW-hr) comparison by engine tier for calendar years 2018, previous year and 2005.

Table 9.10: Harbor Craft Energy Consumption Comparison by Engine Tier, kW-hr

Engine Tier	2018 % of Total	2017 % of Total	2005 % of Total
Tier 0	1%	1%	55%
Tier 1	8%	16%	30%
Tier 2	67%	63%	15%
Tier 3	24%	20%	0%
Total	**100%**	**100%**	**100%**

Table 9.11 shows the emissions comparisons for calendar 2018, the previous year, and 2005 for harbor craft. In 2018, emissions for all pollutants increased as compared to the previous year. The increase is mainly due higher energy consumption (see Table 9.9).

Table 9.11: Harbor Craft Emission Comparison

Year	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018	27	25	27	813	0.7	581	89	66,092
2017	26	24	26	773	0.7	537	83	62,331
2005	55	51	55	1,318	6.3	364	87	56,925
Previous Year (2017-2018)	**4%**	**4%**	**4%**	**5%**	**6%**	**8%**	**7%**	**6%**
CAAP Progress (2005-2018)	**-51%**	**-51%**	**-51%**	**-38%**	**-88%**	**60%**	**2%**	**16%**

DB ID427

Compared to 2005, emissions decreased for PM, NO_x, and SO_x. The emissions increased for CO, hydrocarbon, and CO_2e.

The increase in CO is more directly related to an increase in Tier 2 and Tier 3 engines that have higher CO emission rates compared to pre-Tier 2. Due to the stringency of PM and (NO_x + HC) standards of Tier 2 engines, less stringent Tier 2 CO standards were adopted which resulted in higher CO emission rates.

Since 2005, there has been an increase in Tier 2 and Tier 3 engines due to vessel repowers, CARB's in-use harbor craft regulation, and new vessels bought by companies over the last few years. The focus of Tier 2 and Tier 3 engine standards is on PM and NO_x reduction; therefore the hydrocarbon emissions did not change significantly and the CO_2 emissions have increased over time.

Table 9.12 shows the emissions efficiency changes in 2018 as compared to the previous year and 2005. It should be noted that total harbor craft emissions were used for this efficiency comparison although emissions from several harbor craft types (e.g., commercial fishing vessels) are not dependent on container throughput. A positive percent for the emissions efficiency comparison means an improvement in efficiency.

Table 9.12: Harbor Craft Emissions Efficiency Metric Comparison, tons/10,000 TEUs

Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.03	0.03	0.03	0.86	0.00	0.61	0.09	70
2017	0.03	0.03	0.03	0.83	0.00	0.58	0.09	67
2005	0.07	0.07	0.07	1.76	0.01	0.49	0.12	76
Previous Year (2017-2018)	**-4%**	**-4%**	**-4%**	**-4%**	**0%**	**-7%**	**-6%**	**-5%**
CAAP Progress (2005-2018)	**61%**	**60%**	**61%**	**51%**	**88%**	**-26%**	**20%**	**8%**

Cargo Handling Equipment

The methodology used to estimate CHE emissions for the 2018 inventory did not change from the methodology used in the previous year inventory. The emissions calculation methodology and the emission rates are described in Section 4 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019).

Table 9.13 shows that the number of units of cargo handling equipment decreased by 5%, while the overall energy consumption (measured as total kW-hrs, the product of the rated engine size in kW, annual operating hours and load factors) increased by 9% in 2018 as compared to 2017. This shows that compared to the previous year, less equipment is operating at the terminals, but at higher usage level to handle increased TEU throughput.

From 2005 to 2018, there was a 17% increase in population and 40% increase in activity level.

Table 9.13: CHE Count and Activity Comparison

Year	Count	Energy Consumption (kW-hrs)	TEU	Activity per TEU
2018	2,085	242,727,087	9,458,749	26
2017	2,189	222,085,376	9,343,193	24
2005	1,782	173,108,402	7,484,624	23
Previous Year (2017-2018)	**-5%**	**9%**	**1%**	**8%**
CAAP Progress (2005-2018)	**17%**	**40%**	**26%**	**11%**

Table 9.14 summarizes the numbers of pieces of cargo handling equipment using various engine and power types, including electric, LNG, diesel, propane, and gasoline. Compared to the previous year, there was hardly any change in the percent of engine type for the equipment.

Table 9.14: Count of CHE Equipment Type

Equipment	Electric	LNG	Propane	Gasoline	Diesel	Total
2018						
Forklift	8	0	356	7	115	486
Wharf crane	81	0	0	0	0	81
RTG crane	0	0	0	0	101	101
Side pick	0	0	0	0	15	15
Top handler	0	0	0	0	213	213
Yard tractor	0	17	178	0	789	984
Other	51	0	1	5	148	205
Total	**140**	**17**	**535**	**12**	**1,381**	**2,085**
	6.7%	**0.8%**	**25.7%**	**0.6%**	**66.2%**	
2017						
Forklift	8	0	379	7	117	511
Wharf crane	84	0	0	0	0	84
RTG crane	0	0	0	0	102	102
Side pick	0	0	0	0	21	21
Top handler	0	0	0	0	217	217
Yard tractor	0	17	180	0	845	1,042
Other	57	0	1	5	149	212
Total	**149**	**17**	**560**	**12**	**1,451**	**2,189**
	6.8%	**0.8%**	**25.6%**	**0.5%**	**66.3%**	
2005						
Forklift	0	0	263	8	151	422
Wharf crane	67	0	0	0	0	67
RTG crane	0	0	0	0	98	98
Side pick	0	0	0	0	41	41
Top handler	0	0	0	0	127	127
Yard tractor	0	0	53	0	848	901
Other	12	0	0	3	111	126
Total	**79**	**0**	**316**	**11**	**1,376**	**1,782**
	4.4%	**0.0%**	**17.7%**	**0.6%**	**77.2%**	

DB ID235

Table 9.15 summarizes the number and percentage of diesel-powered CHE with various emission controls by equipment type in 2018, the previous year and 2005. The emission controls for CHE include: DOC retrofits, DPF retrofits, on-road engines (CHE equipped with on-road certified engines instead of off-road engines), and the use of ULSD with a maximum sulfur content of 15 ppm. Several items to note include:

- Since some emission controls can be used in combination with others, the number of units of equipment with controls cannot be added across to come up with the total equipment count (counts of equipment with controls would be greater than the total equipment counts).
- With implementation of the Port's CAAP measure for CHE and CARB's CHE regulation, the relative percentage of cargo handling equipment equipped with new on-road engines increased significantly when compared to 2005.
- Mainly due to equipment turnover, the DOC count has decreased significantly since 2005 as older equipment with DOCs were replaced with newer equipment that does not require the use of DOCs or not replaced at all.
- In recent years, similar to DOCs, there is a decrease in DPFs due to older equipment with DPFs replaced with newer equipment that meet Tier 4 engine standards or not replaced at all, but just taken out of service.
- ULSD is used by all diesel equipment since 2006. For 2005, ULSD was used by some diesel equipment, but not all.

Table 9.15: Count of CHE Diesel Equipment Emissions Control Matrix

Equipment	DOC Installed	On-Road Engines	DPF Installed	ULSD Fuel	Total Diesel-Powered Equipment	% of Diesel Powered Equipment DOC Installed	On-Road Engines	DPF Installed	ULSD Fuel
2018									
Forklift	0	0	49	115	115	0.0%	0%	43%	100%
RTG crane	6	0	9	101	101	5.9%	0%	9%	100%
Side pick	0	0	3	15	15	0.0%	0%	20%	100%
Top handler	0	0	81	213	213	0.0%	0%	38%	100%
Yard tractor	0	740	4	789	789	0.0%	94%	1%	100%
Sweeper	0	1	2	5	5	0.0%	20%	40%	100%
Other	0	12	37	143	143	0.0%	8%	26%	100%
Total	**6**	**753**	**185**	**1,381**	**1,381**	**0.4%**	**55%**	**13%**	**100%**
2017									
Forklift	0	0	50	117	117	0.0%	0%	43%	100%
RTG crane	6	0	38	102	102	5.9%	0%	37%	100%
Side pick	0	0	3	21	21	0.0%	0%	14%	100%
Top handler	0	0	102	217	217	0.0%	0%	47%	100%
Yard tractor	0	795	4	845	845	0.0%	94%	0%	100%
Sweeper	0	1	2	5	5	0.0%	20%	40%	100%
Other	0	12	40	144	144	0.0%	8%	28%	100%
Total	**6**	**808**	**239**	**1,451**	**1,451**	**0.4%**	**56%**	**16%**	**100%**
2005									
Forklift	3	0	0	27	151	2%	0%	0%	18%
RTG crane	0	0	0	36	98	0%	0%	0%	37%
Side pick	14	0	0	16	41	34%	0%	0%	39%
Top handler	48	0	0	79	127	38%	0%	0%	62%
Yard tractor	520	164	0	483	848	61%	19%	0%	57%
Sweeper	0	0	0	0	8	0%	0%	0%	0%
Other	0	1	0	65	103	0%	1%	0%	63%
Total	**585**	**165**	**0**	**706**	**1,376**	**43%**	**12%**	**0%**	**51%**

Table 9.16 compares the total number of cargo handling equipment units with off-road diesel engines (meeting Tier 0, 1, 2, 3, 4i, and 4 off-road diesel engine standards) and those equipped with on-road diesel engines for 2018, the previous year and 2005. Since classification of engine standards is based on the engine's model year and horsepower, equipment with missing horsepower or model year information are listed separately under the Unknown Tier column in this table.

Implementation of the CAAP's CHE measure and CARB's CHE regulation have resulted in a steady increase in the prevalence of newer and cleaner equipment (i.e., primarily Tier 3 and Tier 4) replacing the older and higher-emitting equipment (Tier 0, Tier 1, and Tier 2).

Table 9.16: Count of CHE Diesel Engine Tier and On-road Engine

Year	Tier 0	Tier 1	Tier 2	Tier 3	Tier 4i	Tier 4f	On-road Engine	Unknown Tier	Total Diesel Engines
2018	16	22	97	123	140	241	753	13	1,405
2017	16	29	106	138	144	215	808	19	1,475
2005	256	582	360	0	0	0	165	13	1,376
Previous Year	**0%**	**-24%**	**-8%**	**-11%**	**-3%**	**12%**	**-7%**	**-32%**	**-5%**
CAAP Progress	**-94%**	**-96%**	**-73%**	**NA**	**NA**	**NA**	**356%**	**0%**	**2%**

DB ID878

Table 9.17 shows the equipment energy consumption (kW-hr) comparison by engine type.

Table 9.17: Distribution of CHE Energy Consumption by Engine Type, %

Engine Type	Engine Tier	Energy Consumption kW-hr	Percent Total
Diesel	Tier 0	632,270	0.3%
Diesel	Tier 1	1,952,107	0.8%
Diesel	Tier 2	10,442,641	4.3%
Diesel	Tier 3	20,733,689	8.5%
Diesel	Tier 4i	31,333,925	12.9%
Diesel	Tier 4	57,315,391	23.6%
Diesel	Onroad engines	99,199,890	40.9%
Gasoline		359,148	0.1%
Propane		19,632,355	8.1%
LNG		1,125,669	0.5%
Total		**242,727,087**	

Table 9.18 shows the cargo handling equipment emissions comparisons for 2018, the previous year and 2005. Compared to the previous year, all emissions increased, due to increase in activity. However, the increase in NO_x emissions is minimal due to increase in Tier 4 equipment, which has the lowest NO_x standards.

The reductions in 2018 emissions compared to 2005 emissions are largely due to the implementation of the Port's CHE measures and CARB's CHE regulation. The efforts resulted in the introduction of newer equipment with cleaner engines and the installation of emission controls. The increase in CO_2 is mainly due to the increase in energy consumption in 2018 as compared to 2005.

Table 9.18: CHE Emissions Comparison

Year	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018	8	7	6	464	2	877	86	188,894
2017	7	7	5	461	2	783	77	172,945
2005	54	50	53	1,573	9	822	92	134,621
Previous Year (2017-2018)	**6%**	**6%**	**7%**	**1%**	**10%**	**12%**	**13%**	**9%**
CAAP Progress (2005-2018)	**-86%**	**-86%**	**-89%**	**-71%**	**-78%**	**7%**	**-7%**	**40%**

DB ID237

Table 9.19 shows the emissions efficiency changes in 2017 from 2005 and previous year. A positive percentage change for the emissions efficiency comparison means an improvement in efficiency with respect to a particular pollutant.

Table 9.19: CHE Emissions Efficiency Metric Comparison, tons/10,000 TEUs

Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.008	0.007	0.006	0.490	0.002	0.927	0.091	200
2017	0.008	0.007	0.006	0.493	0.002	0.838	0.082	185
2005	0.072	0.066	0.071	2.102	0.013	1.099	0.123	180
Previous Year (2017-2018)	**-5%**	**-5%**	**-6%**	**1%**	**0%**	**-11%**	**-11%**	**-8%**
CAAP Progress (2005-2018)	**89%**	**89%**	**91%**	**77%**	**85%**	**16%**	**26%**	**-11%**

Locomotives

The methodology used to estimate locomotive emissions in this 2018 inventory is the same as that used in the previous year inventory. The emissions calculation methodology and the emission rates are described in Section 5 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019).

Table 9.20 shows the throughput comparisons for locomotives for 2018, the previous year, and 2005.

Table 9.20: Throughput Comparison, million TEUs

Throughput	2005	2017	2018
Total	7.48	9.34	9.46
On-dock lifts	1.02	1.25	1.35
On-dock TEUs	1.84	2.26	2.42
% On-dock	25%	24%	26%

Table 9.21 shows the locomotive emission estimates for calendar years 2018, the previous year, and 2005.

Table 9.21: Locomotive Emission Comparison

Year	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018	33	31	33	886	1	216	51	76,073
2017	30	27	30	839	1	208	45	73,346
2005	57	53	57	1,712	98.0	237	89	82,201
Previous Year (2017-2018)	**10%**	**16%**	**10%**	**6%**	**4%**	**4%**	**15%**	**4%**
CAAP Progress (2005-2018)	**-43%**	**-41%**	**-43%**	**-48%**	**-99%**	**-9%**	**-42%**	**-7%**

DB ID428

Compared to 2005, the decrease in emissions are due to PHL's and UP's fleet turnover to ultra-low emissions switching locomotives, the use of ULSD, and the Class 1 railroads' compliance with the MOU and introduction of newer locomotives. CO_2e emissions have been reduced since 2005 despite the increase in rail throughput through the freight movement efficiency improvements implemented by the railroads and terminals. The increase in emissions from 2017 to 2018 were due to the higher rail throughput experienced by the Port and change in the line haul fleet mix.

Table 9.22 shows the emissions efficiency changes in 2018 from the previous year and from 2005. A positive percentage for the emissions efficiency comparison means an improvement in efficiency. For locomotive emissions efficiency, the on-dock lifts were used as opposed to TEU throughput, since this is a more direct way to measure efficiency for the locomotives. For the CAAP progress (2018 vs. 2005), emissions efficiencies have improved for all pollutants. The efficiency in 2018 compared to the previous year improved slightly for NO_x, CO and CO_2e.

Table 9.22: Locomotive Emissions Efficiency Comparison, tons/10,000 on-dock lifts

Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.24	0.23	0.24	6.59	0.01	1.60	0.38	565
2017	0.24	0.21	0.24	6.69	0.01	1.66	0.36	585
2005	0.56	0.52	0.56	16.75	0.96	2.32	0.87	804
Previous Year (2017-2018)	**-2%**	**-8%**	**-2%**	**2%**	**0%**	**3%**	**-7%**	**3%**
CAAP Progress (2005-2018)	**57%**	**56%**	**57%**	**61%**	**99%**	**31%**	**56%**	**30%**

Heavy-Duty Vehicles

The methodology used to estimate HDV emissions in this 2018 inventory is the same as that used in the previous year inventory. The emissions calculation methodology and the emission rates are described in Section 6 of the San Pedro Bay Ports Emissions Inventory Methodology Report Version 1 (2019). The latest version of CARB's emission model, EMFAC2017, was used in 2018, as it was also used in 2017. The 2017 emissions are slightly different than the emissions presented in the 2017 EI report, due to minor changes in the way idling emission factors and SO_x running emission factors are calculated.

Table 9.23 shows the total port-wide idling time based on information provided by the terminal operators which, as noted previously, relates to time spent on terminal that may not solely be time spent idling. Total idling increased 12% as compared to the previous year and increased by 25% since 2005, with the increase being due to the increase in TEU throughput.

Table 9.23: HDV Idling Time Comparison, hours

Year	Total Idling Time (hours)
2018	3,762,793
2017	3,373,541
2005	3,017,252
Previous Year (2017-2018)	**12%**
CAAP Progress (2005-2018)	**25%**

Table 9.24 summarizes the average age of the truck fleet in 2018, the previous year and 2005. The average age of the trucks visiting the Port was 7 years in 2018.

Table 9.24: Fleet Weighted Average Age, years

Year	Call-Weighted Average Age (years)
2018	7
2017	6
2005	11

Table 9.25 summarizes the HDV emissions for 2018, the previous year and 2005. The HDV emissions of all pollutants have decreased significantly from 2005 largely due to increasingly stringent on-road engine emission standards and the implementation of the CTP.

The increase in emissions from 2017 are the result of increase in VMT and idle time resulting from the increased port throughput. Continued fleet turnover to newer, lower emitting trucks resulted in NO_x emissions not increasing by the same margin as VMT, although turnover was not enough to prevent a small increase in PM emissions.

Table 9.25: HDV Emissions Comparison

Year	VMT	PM_{10} tons	$PM_{2.5}$ tons	DPM tons	NO_x tons	SO_x tons	CO tons	HC tons	CO_2e tonnes
2018	225,189,014	9.5	9.1	9.1	1,482	4.0	209	34	397,027
2017	220,325,276	9.3	8.9	8.9	1,481	3.9	191	35	389,949
2005	266,434,761	248	238	248	6,307	45	1,865	368	474,877
Previous Year (2017-2018)	**2%**	**2%**	**2%**	**2%**	**0%**	**2%**	**9%**	**-3%**	**2%**
CAAP Progress (2005-2018)	**-15%**	**-96%**	**-96%**	**-96%**	**-77%**	**-91%**	**-89%**	**-91%**	**-16%**

As an overall measure of the changes in HDV emissions independent of changes in throughput, Table 9.26 illustrates the changes in emissions in average grams per mile (g/mi) between 2005 and 2018 and between 2017 and 2018. The units of grams per mile are used because they show the changes independent of changes in throughput, which can complicate the comparisons. The figures have been calculated by dividing overall HDV emissions by overall miles traveled and include idling emissions, as well as emissions from driving at various speeds, on-terminal and on-road. Particulate emissions have been reduced most dramatically from 2005 to 2018, followed by the other pollutants except for CO_2e, which is strongly tied to fuel consumption, which has not changed significantly since 2005. The CTP and engine emission standards are responsible for most reductions, including the particulate and NO_x decreases, while fuel sulfur standards, specifically the introduction of ultra-low sulfur diesel fuel (ULSD), are responsible for the SO_x reduction.

Table 9.26: Fleet Average Emissions, g/mile

Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.0381	0.0365	0.0366	5.9851	0.0159	0.8418	0.1405	1,599
2017	0.0383	0.0366	0.0367	6.1152	0.0176	0.7877	0.1486	1,606
2005	0.8457	0.8091	0.8457	21.4756	0.1529	6.3487	1.2536	1,617
% Change (2017-2018)	**0%**	**0%**	**0%**	**-2%**	**-10%**	**7%**	**-5%**	**0%**
% Change (2005-2018)	**-95%**	**-95%**	**-96%**	**-72%**	**-90%**	**-87%**	**-89%**	**-1%**

Figure 9.1 illustrates the HDV model year distribution for calendar years 2009 through 2018, showing the peak of 2009 model year trucks that largely persists in each calendar year. The elevated percentages of newer, 2010+ trucks starting in calendar year 2016 can also be seen in the figure.

Figure 9.1: Model Year Distribution

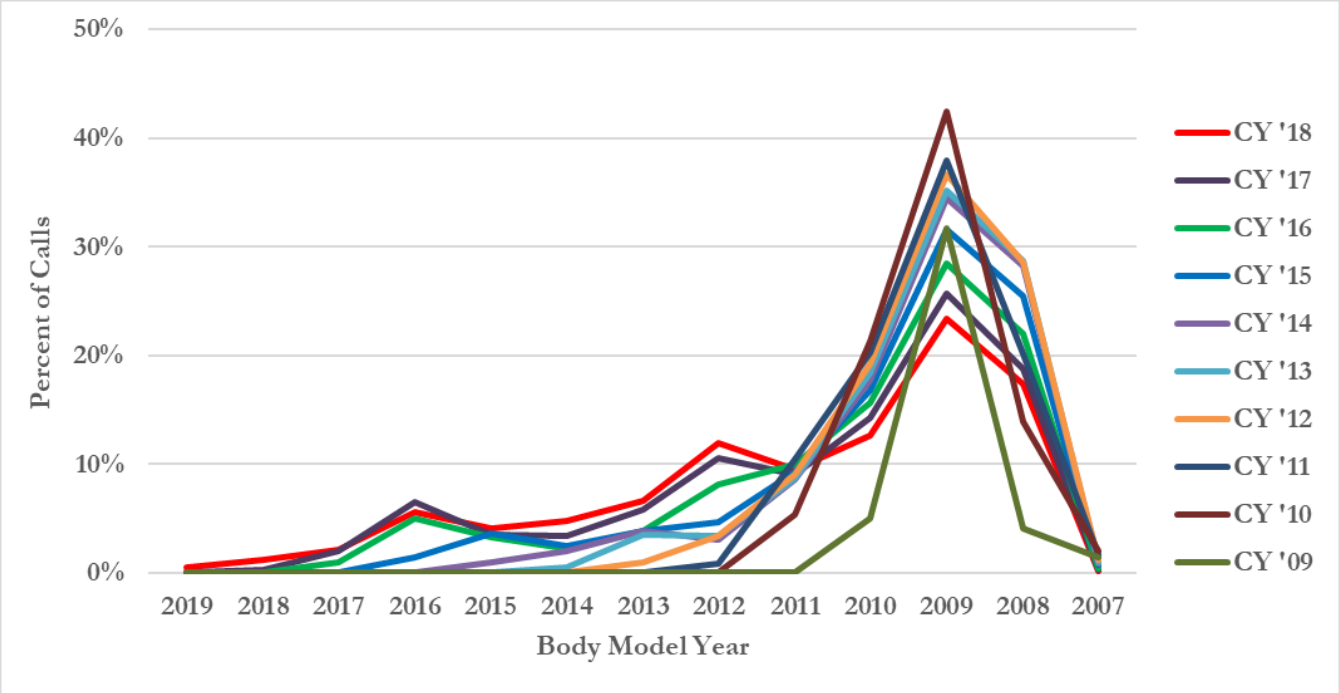


Table 9.27 shows the emissions efficiency changes for HDVs. A positive percentage for the emissions efficiency comparison means an improvement in efficiency. Comparing 2018 to 2005 for CAAP progress, HDV emissions efficiency has improved for all pollutants. Comparing 2018 to the previous year, emissions efficiency improved for NO_x and SO_x, remained the same for hydrocarbon and did not improve for PM, CO and CO_2e.

Table 9.27: HDV Emissions Efficiency Metrics Comparison, tons/10,000 TEUs

Year	PM_{10}	$PM_{2.5}$	DPM	NO_x	SO_x	CO	HC	CO_2e
2018	0.0100	0.0096	0.0096	1.566	0.004	0.22	0.04	420
2017	0.0099	0.0095	0.0095	1.586	0.004	0.20	0.04	418
2005	0.3320	0.3177	0.3320	8.432	0.060	2.49	0.49	635
Previous Year (2017-2018)	**-1%**	**-1%**	**-1%**	**1%**	**0%**	**-10%**	**0%**	**-1%**
CAAP Progress (2005-2018)	**97%**	**97%**	**97%**	**81%**	**93%**	**91%**	**92%**	**34%**

CAAP Standards and Progress

One of the main purposes of the annual inventories is to provide a progress update on achieving the CAAP's San Pedro Bay Standards. These standards consist of the following emission reduction goals, compared to the 2005 inventories:

- Emission Reduction Standard:
  - By 2014, achieve emission reductions of 72% for DPM, 22% for NO_x, and 93% for SO_x
  - By 2023, achieve emission reductions of 77% for DPM, 59% for NO_x, and 93% for SO_x
- Health Risk Reduction Standard: 85% reduction by 2020

Due to the many emission reduction measures undertaken by the Port, as well as statewide and federal regulations and standards, the 2014 and 2023 emission reduction standards have been met and exceeded in 2018 for DPM, NO_x, and SO_x. Below is a summary of DPM, NO_x, and SO_x percent reductions as compared to the 2014/2023 emission reduction standards.

Table 9.28: Reductions as Compared to 2014 and 2023 Emission Reduction Standard

Pollutant	2018 Actual Reductions	2014 Emission Reduction Standard	2023 Emission Reduction Standard
DPM	87%	72%	77%
NO_x	60%	22%	59%
SO_x	98%	93%	93%

The following tables show the standardized estimates of emissions by source category for calendar years 2018, previous years, and 2005 using current year methodology and the percent reduction of emissions from 2005 levels.

Table 9.29: DPM Emissions Comparison by Source Category, tons

Category	2005	2017	2018
Ocean-going vessels	466	46	43
Harbor Craft	55	26	27
Cargo handling equipment	53	5	6
Locomotives	57	30	33
Heavy-duty vehicles	248	9	9
Total	**879**	**116**	**118**
% Cumulative Change		**87%**	**87%**

Table 9.30: NO_x Emissions Comparison by Source Category, tons

Category	2005	2017	2018
Ocean-going vessels	5,295	3,061	2,909
Harbor Craft	1,318	773	813
Cargo handling equipment	1,573	461	464
Locomotives	1,712	839	886
Heavy-duty vehicles	6,307	1,481	1,482
Total	**16,206**	**6,616**	**6,554**
% Cumulative Change		**59%**	**60%**

Table 9.31: SO_x Emissions Comparison by Source Category, tons

Category	2005	2017	2018
Ocean-going vessels	4,825	113	110
Harbor Craft	6	1	1
Cargo handling equipment	9	2	2
Locomotives	98	1	1
Heavy-duty vehicles	45	4	4
Total	**4,983**	**121**	**118**
% Cumulative Change		**98%**	**98%**

APPENDIX A: CHE Inventory

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Automatic Stacking Crane	ASC 01L	Kalmar	ASC 4+	Electric				0	2418	CHE Electric					
Automatic Stacking Crane	ASC 01W	Kalmar	ASC 4+	Electric				0	2301	CHE Electric					
Automatic Stacking Crane	ASC 02L	Kalmar	ASC 4+	Electric				0	2381	CHE Electric					
Automatic Stacking Crane	ASC 02W	Kalmar	ASC 4+	Electric				0	2221	CHE Electric					
Automatic Stacking Crane	ASC 03L	Kalmar	ASC 4+	Electric				0	2307	CHE Electric					
Automatic Stacking Crane	ASC 03W	Kalmar	ASC 4+	Electric				0	1961	CHE Electric					
Automatic Stacking Crane	ASC 04L	Kalmar	ASC 4+	Electric				0	2347	CHE Electric					
Automatic Stacking Crane	ASC 04W	Kalmar	ASC 4+	Electric				0	2150	CHE Electric					
Automatic Stacking Crane	ASC 07L	Kalmar	ASC 4+	Electric				0	2027	CHE Electric					
Automatic Stacking Crane	ASC 07W	Kalmar	ASC 4+	Electric				0	1631	CHE Electric					
Automatic Stacking Crane	ASC 08L	Kalmar	ASC 4+	Electric				0	1338	CHE Electric					
Automatic Stacking Crane	ASC 08W	Kalmar	ASC 4+	Electric				0	1998	CHE Electric					
Automatic Stacking Crane	ASC 09L	Kalmar	ASC 4+	Electric				0	2196	CHE Electric					
Automatic Stacking Crane	ASC 09W	Kalmar	ASC 4+	Electric				0	2062	CHE Electric					
Automatic Stacking Crane	ASC 10L	Kalmar	ASC 4+	Electric				0	2216	CHE Electric					
Automatic Stacking Crane	ASC 10W	Kalmar	ASC 4+	Electric				0	1928	CHE Electric					
Automatic Stacking Crane	ASC 11L	Kalmar	ASC 4+	Electric				0	961	CHE Electric					
Automatic Stacking Crane	LAXASC7022	Kalmar	ASC 4+	Electric				0	2361	CHE Electric					
Automatic Stacking Crane	LAXASC7023	Kalmar	ASC 4+	Electric				0	2467	CHE Electric					
Automatic Stacking Crane	LAXASC7024	Kalmar	ASC 4+	Electric				0	2491	CHE Electric					
Automatic Stacking Crane	LAXASC7025	Kalmar	ASC 4+	Electric				0	2402	CHE Electric					
Automatic Stacking Crane	LAXASC7026	Kalmar	ASC 4+	Electric				0	2527	CHE Electric					
Automatic Stacking Crane	LAXASC7027	Kalmar	ASC 4+	Electric				0	2366	CHE Electric					
Automatic Stacking Crane	LAXASC7028	Kalmar	ASC 4+	Electric				0	2421	CHE Electric					
Automatic Stacking Crane	LAXASC7029	Kalmar	ASC 4+	Electric				0	2315	CHE Electric					
Automatic Stacking Crane	LAXASC7030	Kalmar	ASC 4+	Electric				0	2869	CHE Electric					
Automatic Stacking Crane	LAXASC7031	Kalmar	ASC 4+	Electric				0	2150	CHE Electric					
Automatic Stacking Crane	LAXASC7032	Kalmar	ASC 5.0	Electric				0	1992	CHE Electric					
Automatic Stacking Crane	LAXASC7033	Kalmar	ASC 5.0	Electric				0	1586	CHE Electric					
Bulldozer	403005	Caterpillar	D8T	Diesel	Caterpillar	C15	2006	310	574	CHE Diesel					
Bulldozer	404001	Caterpillar	D6R	Diesel	Caterpillar	C9	2007	200	165	CHE Diesel			5/15/2011		
Bulldozer	404002	Caterpillar	D6R	Diesel	Caterpillar	C9	2007		260	CHE Diesel			5/7/2015		
Cone Vehicle	41301	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	1018	CHE Diesel					
Cone Vehicle	41302	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	2506	CHE Diesel					
Cone Vehicle	41303	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	2103	CHE Diesel					
Cone Vehicle	41304	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	2100	CHE Diesel					
Cone Vehicle	41305	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	2146	CHE Diesel					
Cone Vehicle	41306	MEC	IBZ	Diesel	Kubota	D1105E	2013	25	2206	CHE Diesel					
Cone Vehicle	41307	MEC	IBZ	Diesel	Kubota	D1105E	2016	25	0	CHE Diesel					
Cone Vehicle	41308	MEC	IBZ	Diesel	Kubota	D1105E	2016	25	0	CHE Diesel					
Cone Vehicle	EMSU711	Motrec	RR662SD	Diesel			2010	35	1358	CHE Diesel			1/1/2014		
Cone Vehicle	EMSU712	Motrec	RR662SD	Diesel			2010	35	573	CHE Diesel			1/1/2014		
Cone Vehicle	EMSU713	Motrec	RR662SD	Diesel			2010	35	883	CHE Diesel			1/1/2014		
Cone Vehicle	EMSU714	Motrec	RR662SD	Diesel			2010	35	380	CHE Diesel			1/1/2014		
Cone Vehicle	EMSU745	Motrec	RR662SD	Diesel			2014	35	3524	CHE Diesel					
Cone Vehicle	EMSU746	Motrec	RR662SD	Diesel			2014	35	1306	CHE Diesel					
Cone Vehicle	EMSU747	Motrec	RR662SD	Diesel			2014	35	3248	CHE Diesel					
Cone Vehicle	LAXCCT301	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT302	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT303	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT304	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT305	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT306	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT307	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					
Cone Vehicle	LAXCCT308	Motrec	RR-662	Diesel	Kubota Corp	V1505-ET04	2015	35	0	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Crane	203001	Manitowoc	400W	Diesel	Detroit Dies	NS-743-B320	1969	245	0	CHE Diesel					
Crane	209001	Grove	RT855B	Diesel	Caterpillar	3116	1995	205	589	CHE Diesel					
Crane	220001	Liebherr	LHM550	Diesel	Liebherr	D9512A7-04	2014	751	1130	CHE Diesel					
Crane	Cran301	P&H	Omega 35T	Diesel	Detroit Dies	6V53	1987	244	28	CHE Diesel					
Crane	Cran302	P&H 75T	75T	Diesel	Detroit Dies	75T	1987	244	631	CHE Diesel					
Crane	LAC1641	Terex	RT550	Diesel	Cummins	6bta5.9	2003	174	257	CHE Diesel					
Crane	LAC1642	Terex	RT230	Diesel	Cummins	6BT5.9	2004	130	327	CHE Diesel					
Crane	LAC1643	Terex	RT230-2	Diesel	Cummins	6BT5.9	2014	130	411	CHE Diesel					
Crane	LAXIYC001	Paceco		Electric				0	951	CHE Electric					
Crane	LAXIYC002	Paceco		Electric				0	1045	CHE Electric					
Crane	LAXIYC003	Paceco		Electric				0	929	CHE Electric					
Electric wharf crane	APSZ171	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ172	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ173	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ174	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ175	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ176	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ177	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ178	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ179	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ180	Noell		Electric				0	0	CHE Electric					
Electric wharf crane	APSZ181	Noell		Electric				0	1469	CHE Electric					
Electric wharf crane	APSZ182	Noell		Electric				0	1958	CHE Electric					
Electric wharf crane	ELWC36			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC37			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC38			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC39			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC40			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC41			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC42			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC43			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC44			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC45			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC46			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC47			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC48			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC49			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC50			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC51			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC52			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC53			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC54			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC55			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC56			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC57			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC58			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC59	MITSUBISHI	7820-5	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC60	MITSUBISHI	7820-6	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC61	MITSUBISHI	7820-7	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC62	ZPMC	J111A00-8	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC63	ZPMC	J111A00-9	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC64	ZPMC	ZP-2073-10	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC65	ZPMC	ZP-2073-11	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC66	ZPMC	ZP-2073-12	Electric				0	0	CHE Electric					
Electric wharf crane	ELWC67			Electric				0	0	CHE Electric					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Electric wharf crane	ELWC68			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC69			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC70			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC71			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC72			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC74			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC75			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC76			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC77			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC78			Electric				0	0	CHE Electric					
Electric wharf crane	ELWC79			Electric				0	364	CHE Electric					
Electric wharf crane	ELWC80			Electric				0	996	CHE Electric					
Electric wharf crane	ELWC81			Electric				0	781	CHE Electric					
Electric wharf crane	ELWC82			Electric				0	0	CHE Electric					
Electric wharf crane	EMSZ713	ZPMC	J481A	Electric				0	5169	CHE Electric					
Electric wharf crane	EMSZ714	ZPMC	J481A	Electric				0	5320	CHE Electric					
Electric wharf crane	EMSZ715	ZPMC	J481A	Electric				0	5422	CHE Electric					
Electric wharf crane	EMSZ716	ZPMC	J481A	Electric				0	5411	CHE Electric					
Electric wharf crane	LAXSTS101	Paceco		Electric				0	341	CHE Electric					
Electric wharf crane	LAXSTS102	Paceco		Electric				0	558	CHE Electric					
Electric wharf crane	LAXSTS103	Paceco		Electric				0	2110	CHE Electric					
Electric wharf crane	LAXSTS104	Paceco		Electric				0	398	CHE Electric					
Electric wharf crane	LAXSTS105	Paceco		Electric				0	2577	CHE Electric					
Electric wharf crane	LAXSTS106	Paceco		Electric				0	2718	CHE Electric					
Electric wharf crane	LAXSTS107	Paceco		Electric				0	1431	CHE Electric					
Electric wharf crane	LAXSTS108	Paceco		Electric				0	2717	CHE Electric					
Electric wharf crane	LAXSTS109	Paceco		Electric				0	3479	CHE Electric					
Electric wharf crane	LAXSTS110	Paceco		Electric				0	1941	CHE Electric					
Electric wharf crane	STSY10	Mitsubishi	60T	Electric				0	2848	CHE Electric					
Electric wharf crane	STSY2	Mitsubishi	60T	Electric				0	3605	CHE Electric					
Electric wharf crane	STSY3	Mitsubishi	50T	Electric				0	3630	CHE Electric					
Electric wharf crane	STSY4	Mitsubishi	50T	Electric				0	3515	CHE Electric					
Electric wharf crane	STSY5	Mitsui/Paceco	70T	Electric				0	3543	CHE Electric					
Electric wharf crane	STSY6	Mitsui/Paceco	70T	Electric				0	3499	CHE Electric					
Electric wharf crane	STSY7	Mitsui/Paceco	70T	Electric				0	3336	CHE Electric					
Electric wharf crane	STSY8	Mitsui/Paceco	70T	Electric				0	3067	CHE Electric					
Electric wharf crane	STSY9	Mitsubishi	60T	Electric				0	511	CHE Electric					
Excavator	108018	Caterpillar	345B	Diesel	Caterpillar	C13		2010	371	0 CHE Diesel		11/15/2011			
Forklift	23	Caterpillar	V-300B	Diesel	Caterpillar		3208	1990	117	295 CHE Diesel		1/1/2010			
Forklift	219	Caterpillar	V-330B	Diesel	Caterpillar		3208	1985	125	280 CHE Diesel		1/1/2010			
Forklift	220	Caterpillar	V-330B	Diesel	Caterpillar		3208	1985	125	376 CHE Diesel		1/1/2010			
Forklift	223	Caterpillar	V-330B	Diesel	Caterpillar		3208	1985	125	460 CHE Diesel		1/1/2010			
Forklift	338	Kalmar	DCD160-12	Diesel	Cummins	QSB6.7		2016	173	23 CHE Diesel					
Forklift	339	Kalmar	DCD160-12	Diesel	Cummins	QSB6.7		2016	173	263 CHE Diesel					
Forklift	1009	Hyster	H100XM	LPG	GMC		3.6	2002	165	1102 CHE Propane					
Forklift	1205	Hyster	H80XL	LPG	GMC		3.6	1995	165	101 CHE Propane					
Forklift	1210	Hyster	H50FT	Diesel	YANMAR	3.3L		2014	165	1929 CHE Diesel					
Forklift	1215	Hyster	H50FT	LPG	PSI		2.2	2014	59	139 CHE Propane					
Forklift	1216	Hyster	H50FT	LPG	PSI		2.2	2015	59	144 CHE Propane					
Forklift	1293	Mitsubishi	FG30	LPG	Mitsubishi	4G64		1996	55	385 CHE Propane					8/6/2013
Forklift	1294	Mitsubishi	FG30	LPG	Mitsubishi	4G64		1995	55	289 CHE Propane					8/6/2013
Forklift	1300	Mitsubishi	FG30	LPG	Mitsubishi	4G64		1995	55	372 CHE Propane					8/6/2013
Forklift	1356	Mitsubishi	P6000	LPG	Mitsubishi	FG30		1995	62	385 CHE Propane					2/11/2013
Forklift	1357			LPG						289 CHE Propane					2/11/2013
Forklift	1803	Yale	GLP100MJNB	LPG	GMC		3.6	2005	160	253 CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	1804	Yale	GLP100MJNB	LPG	GMC	3.6	2005	160	350	CHE Propane					
Forklift	1805	Yale	GLP100MJNB	LPG	GMC	3.6	2005	160	106	CHE Propane					
Forklift	1812	Yale	GLP100	LPG			2008	160	201	CHE Propane					
Forklift	1813	Yale	GLP100	LPG			2008	160	46	CHE Propane					
Forklift	1980	Hyster	H100FT	LPG			2011		630	CHE Propane					
Forklift	2054	Taylor	TX360L	Diesel	Cummins	5.9	2007	137	145	CHE Diesel			5/13/2013		
Forklift	2071	Taylor	TX360L	Diesel	Cummins	5.9	2007	137	55	CHE Diesel			3/12/2014		
Forklift	2077	Yale	GDP360EBEC(	Diesel			2009		83	CHE Diesel			8/13/2013		
Forklift	2306	Nissan	FO4G40V-LP	LPG			2002	122	259	CHE Propane					
Forklift	2307	Nissan	FO4G40V-LP	LPG			2002	122	139	CHE Propane					
Forklift	2308	Nissan	FO4G40V-LP	LPG			2002	122	117	CHE Propane					
Forklift	2364	Nissan	PL50LP	LPG			2007	122	221	CHE Propane					
Forklift	2365	Nissan	PL50LP	LPG			2007	122	284	CHE Propane					
Forklift	2366	Nissan	JP80BYLP	LPG			2007	122	232	CHE Propane					
Forklift	2367	Nissan	JP80BYLP	LPG			2007	122	418	CHE Propane					
Forklift	2368	Nissan	JP80BYLP	LPG			2007	122	396	CHE Propane					
Forklift	2369	Nissan	JP80BYLP	LPG			2007	122	366	CHE Propane					
Forklift	2370	Nissan	JP80BYLP	LPG			2007	122	53	CHE Propane					
Forklift	2371	Nissan	JP80BYLP	LPG			2007	122	304	CHE Propane					
Forklift	2372	Nissan	JP80BYLP	LPG			2007	122	384	CHE Propane					
Forklift	2373	Nissan	JP80BYLP	LPG			2007	122	340	CHE Propane					
Forklift	2791	Taylor	TH350L	Diesel	Cummins	5.9	2004	190	1255	CHE Diesel			1/15/2014		
Forklift	2792	Taylor	TH350L	Diesel	Cummins	5.9	2004	152	1830	CHE Diesel			8/18/2014		
Forklift	2796	Taylor	TH350L	Diesel	Cummins	5.9	2005	152	1107	CHE Diesel			2/21/2013		
Forklift	2797	Taylor	TH350L	Diesel	Cummins	5.9	2005	152	714	CHE Diesel			8/14/2014		
Forklift	3064	Caterpillar	18 F4	Electric				0	0	CHE Electric					
Forklift	3067	Caterpillar	18 F4	Electric				0	0	CHE Electric					
Forklift	3069	Caterpillar	18 F4	Electric				0	0	CHE Electric					
Forklift	3090	Kalmar	DCD160-12	Diesel	Cummins	QSB 6.7	2016	173	274	CHE Diesel					
Forklift	3091	Kalmar	DCD160-12	Diesel	Cummins	QSB 6.7	2016	173	180	CHE Diesel					
Forklift	5061	Clark	C25L	LPG	GM	DPSIB2.7G	2016	96	225	CHE Propane					
Forklift	5062	Clark	C25L	LPG	GM	DPSIB2.7G	2016	96	244	CHE Propane					
Forklift	6004	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	108	CHE Propane					
Forklift	6005	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	114	CHE Propane					
Forklift	6006	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	172	CHE Propane					
Forklift	6007	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	99	CHE Propane					
Forklift	6008	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	135	CHE Propane					
Forklift	6009	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	216	CHE Propane					
Forklift	6010	Toyota	8FGU32	LPG	Toyota	4Y	2017	42	399	CHE Propane					
Forklift	6019	Caterpillar	GP30	LPG	Mitsubishi		2000	55	178	CHE Propane					1/22/2014
Forklift	6023	Caterpillar	GP30	LPG	Mitsubishi		2003	57	227	CHE Propane					8/23/2013
Forklift	6025	Caterpillar	GP30	LPG	Mitsubishi		2003	62	169	CHE Propane					8/6/2013
Forklift	6031	Caterpillar	P6000	LPG	Nissan		2004	43	210	CHE Propane					
Forklift	6034	Caterpillar	P6000	LPG	Nissan		2004	62	140	CHE Propane					
Forklift	6037	Caterpillar	P6000	LPG	Nissan		2004	43	77	CHE Propane					
Forklift	6039	Caterpillar	P6000	LPG	Mitsubishi		2004	62	69	CHE Propane					
Forklift	6040	Caterpillar	P6000	LPG	Nissan		2004	62	0	CHE Propane					
Forklift	6041	Caterpillar	P6000	LPG	Nissan		2004	62	105	CHE Propane					
Forklift	6044	Caterpillar	P6000	LPG	Nissan		2004	43	190	CHE Propane					
Forklift	6045	Caterpillar	P6000	LPG	Nissan		2004	43	58	CHE Propane					
Forklift	7023	Taylor	TE-300-M	Diesel	Cummins	6BTA	1996	115	601	CHE Diesel		1/1/2012			
Forklift	7026	Taylor	TE-250-M	Diesel	Cummins	6BTA	1993	210	129	CHE Diesel		1/1/2012			
Forklift	7087	Taylor	T-360L	Diesel			2007	260	3209	CHE Diesel		1/1/2012			
Forklift	7088	Hoist	P36	Diesel			2007	160	651	CHE Diesel		1/1/2012			
Forklift	7089		SMV16-600B	Diesel			2011	248	1732	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	7091		SMV16-600B	Diesel			2011	248	962	CHE Diesel					
Forklift	7092			Diesel			2016		1597	CHE Diesel					
Forklift	7093			Diesel			2016		1245	CHE Diesel					
Forklift	61302	Hyster	H300HD	Diesel	Cummins	QSB6.7	2013	129	477	CHE Diesel					
Forklift	62002	Raymond Pacer	R30-C30TT	Electric				0	0	CHE Electric					
Forklift	70123	Toyota	7FU45	LPG	GM	4.3 Vortec	2008	200	1200	CHE Propane					
Forklift	601009	Caterpillar	V80F	LPG	Perkins		1989	65	240	CHE Propane					
Forklift	601021	Caterpillar	DP150	Diesel	Deutz	TCD2012L042V	2010	131	854	CHE Diesel					
Forklift	601035	Caterpillar	P33000-D	Diesel	Mitsubishi	6M60	2007	148	615	CHE Diesel					
Forklift	601051	Caterpillar	PD10000	Diesel	Mitsubishi	SS-DP	2011	75	378	CHE Diesel					
Forklift	601052	Caterpillar	PD10000	Diesel	Mitsubishi	SS-DP	2011	75	743	CHE Diesel					
Forklift	601060	Caterpillar	DP50CN1-D	Diesel	Caterpillar	3914/2200	2013	75	941	CHE Diesel					
Forklift	606035	Hyster	H80XL	LPG	GM		2007	100	225	CHE Propane					
Forklift	606044	Hyster	H300XL	Diesel	Perkins		1993	175	113	CHE Diesel			4/5/2011		
Forklift	609014	Linde	H35D	Diesel	Volkswagon	BAEU	2007	59	647	CHE Diesel					
Forklift	609031	Linde	H50D	Diesel	Volkswagon	CBJ.B.	2009	74	549	CHE Diesel					
Forklift	6001F	Hyster	H50FT	LPG	Mazda	2.2L	2010	46	114	CHE Propane					
Forklift	6002F	Hyster	H50FT	LPG	Mazda	2.2L	2010	46	611	CHE Propane					
Forklift	6003F	Hyster	H50FT	LPG	Mazda	2.2L	2010	46	440	CHE Propane					
Forklift	APSF416	Hyster	H135XL	LPG	Mitsubishi	4G52	1992	49	5	CHE Propane					
Forklift	APSF454	Hyster	N40FR	Electric				0	0	CHE Electric					
Forklift	APSF502	Daewoo	G355-2	LPG	GM	Vortec	2000	85	147	CHE Propane					
Forklift	CC1	Toyota		LPG			2002	43	225	CHE Propane					1/1/2008
Forklift	CC100	Hyster		LPG			1990	98	125	CHE Propane					1/1/2012
Forklift	CC108	Toyota		LPG			1997	43	339	CHE Propane					1/1/2008
Forklift	CC109	Toyota		LPG			1997	43	106	CHE Propane					1/1/2008
Forklift	CC11	Toyota		LPG			1991	43	102	CHE Propane					1/1/2008
Forklift	CC110	Toyota		LPG			1997	43	821	CHE Propane					1/1/2008
Forklift	CC111	Toyota		LPG			1997	43	193	CHE Propane					1/1/2008
Forklift	CC112	Toyota		LPG			1997	90	229	CHE Propane					1/1/2008
Forklift	CC113	Toyota		LPG			1997	90	275	CHE Propane					1/1/2008
Forklift	CC114	Toyota		LPG			1997	43	864	CHE Propane					1/1/2008
Forklift	CC116	Hyster		LPG			1992	98	0	CHE Propane					1/1/2008
Forklift	CC119	Hyster		LPG				110	0	CHE Propane					1/1/2008
Forklift	CC12	Toyota		LPG			1991	43	967	CHE Propane					1/1/2008
Forklift	CC120	Hyster		LPG			1991	98	14	CHE Propane					1/1/2012
Forklift	CC123	Hyster		LPG			1991	98	0	CHE Propane					1/1/2008
Forklift	CC124	Hyster		LPG			1994	98	0	CHE Propane					1/1/2012
Forklift	CC125	Clark		LPG			1999	64	659	CHE Propane					1/1/2008
Forklift	CC126	Clark		LPG			1999	64		CHE Propane					1/1/2008
Forklift	CC128	Clark		LPG			1999	64	589	CHE Propane					1/1/2008
Forklift	CC129	Clark		LPG			1999	64	341	CHE Propane					1/1/2008
Forklift	CC131	Clark		LPG			1999	64	505	CHE Propane					1/1/2008
Forklift	CC132	Clark		LPG			2000	64	512	CHE Propane					1/1/2008
Forklift	CC133	Clark		LPG			1999	64	670	CHE Propane					1/1/2008
Forklift	CC134	Clark		LPG			1999	64	496	CHE Propane					1/1/2008
Forklift	CC135	Clark		LPG			1999	64		CHE Propane					1/1/2008
Forklift	CC136	Clark		LPG			1999	64	654	CHE Propane					1/1/2008
Forklift	CC138	Clark		LPG			1999	64	15	CHE Propane					1/1/2008
Forklift	CC139	Clark		LPG			1999	64	686	CHE Propane					1/1/2008
Forklift	CC14	Toyota		LPG			1991	43	867	CHE Propane					1/1/2008
Forklift	CC140	Clark		LPG			2000	64	503	CHE Propane					1/1/2012
Forklift	CC141	Clark		LPG			2000	64	558	CHE Propane					1/1/2012
Forklift	CC144	Clark		LPG			2000	64	758	CHE Propane					1/1/2012
Forklift	CC146	Clark		LPG			2000	64	809	CHE Propane					1/1/2012

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	CC147	Clark		LPG			2000	64	667	CHE Propane					1/1/2012
Forklift	CC148	Clark		LPG			2000	64	651	CHE Propane					1/1/2012
Forklift	CC149	Clark		LPG			2000	64	343	CHE Propane					1/1/2012
Forklift	CC15	Toyota		LPG			1997	43	1867	CHE Propane					1/1/2008
Forklift	CC151	Clark		LPG			2000	64	625	CHE Propane					1/1/2012
Forklift	CC152	Clark		LPG			2000	64	806	CHE Propane					1/1/2012
Forklift	CC153	Clark		LPG			2000	64	400	CHE Propane					1/1/2012
Forklift	CC155	Clark		LPG			2000	64		CHE Propane					1/1/2012
Forklift	CC156	Clark		LPG			2000	64		CHE Propane					1/1/2012
Forklift	CC157	Clark		LPG			2000	64	371	CHE Propane					1/1/2012
Forklift	CC158	Clark		LPG			2000	64	807	CHE Propane					1/1/2012
Forklift	CC16	Clark		LPG			1999	64	1045	CHE Propane					1/1/2008
Forklift	CC16F	Toyota		LPG			1994	32	239	CHE Propane					
Forklift	CC17	Toyota		LPG			1997	43	1658	CHE Propane					1/1/2008
Forklift	CC175	Hyster		LPG			1994	43	17	CHE Propane					1/1/2008
Forklift	CC177	Hyster		LPG			1994	98	0	CHE Propane					1/1/2008
Forklift	CC18	Toyota		LPG			1991	43	839	CHE Propane					1/1/2008
Forklift	CC2	Toyota		LPG			2002	43	1130	CHE Propane					1/1/2008
Forklift	CC20	Toyota		LPG			1991	43	712	CHE Propane					1/1/2008
Forklift	CC200	Toyota		LPG			1991	72	40	CHE Propane					1/1/2012
Forklift	CC201	Toyota		LPG			1991	43	2489	CHE Propane					1/1/2012
Forklift	CC202	Toyota		LPG			1991	43	1863	CHE Propane					1/1/2008
Forklift	CC203	Toyota		LPG			1991	43	1572	CHE Propane					1/1/2008
Forklift	CC204	Toyota		LPG			1991	43	1093	CHE Propane					1/1/2008
Forklift	CC205	Toyota		LPG			1991	43	282	CHE Propane					1/1/2008
Forklift	CC206	Toyota		LPG			1990	43	2245	CHE Propane					1/1/2008
Forklift	CC207	Toyota		LPG			1991	43	1200	CHE Propane					1/1/2008
Forklift	CC208	Toyota		LPG			1991	43	2840	CHE Propane					1/1/2008
Forklift	CC209	Toyota		LPG			1991	43	543	CHE Propane					1/1/2008
Forklift	CC21	Toyota		LPG			1990	72	0	CHE Propane					1/1/2008
Forklift	CC210	Toyota		LPG			1991	43	1964	CHE Propane					1/1/2008
Forklift	CC211	Toyota		LPG			1996	43	352	CHE Propane					1/1/2008
Forklift	CC212	Toyota		LPG			1996	43	2499	CHE Propane					1/1/2008
Forklift	CC213	Toyota		LPG			1996	43	2317	CHE Propane					1/1/2008
Forklift	CC214	Toyota		LPG			1996	43	2563	CHE Propane					1/1/2008
Forklift	CC218	Toyota		LPG			1996	43	1097	CHE Propane					1/1/2008
Forklift	CC219	Toyota		LPG			1996	43	1593	CHE Propane					1/1/2008
Forklift	CC21D	Dae		LPG				64	794	CHE Propane					1/1/2008
Forklift	CC22	Toyota		LPG			1996	43	109	CHE Propane					1/1/2008
Forklift	CC220	Toyota		LPG			1997	43	2484	CHE Propane					1/1/2008
Forklift	CC221	Toyota		LPG			2008	43	564	CHE Propane					
Forklift	CC222	Toyota		LPG			2008	43	387	CHE Propane					
Forklift	CC223	Toyota		LPG			2008	43	273	CHE Propane					
Forklift	CC224	Toyota		LPG			2008	43	884	CHE Propane					
Forklift	CC225	Toyota		LPG			2008	43	580	CHE Propane					
Forklift	CC226	Toyota		LPG			2008	43	785	CHE Propane					
Forklift	CC227	Toyota		LPG			2008	43	2013	CHE Propane					
Forklift	CC228	Toyota		LPG			2008	43	860	CHE Propane					
Forklift	CC229	Toyota		LPG			2008	43	533	CHE Propane					
Forklift	CC22D	Dae		LPG				64	3	CHE Propane					1/1/2008
Forklift	CC23	Toyota		LPG			1991	43	2	CHE Propane					1/1/2008
Forklift	CC230	Toyota		LPG			2008	43	981	CHE Propane					
Forklift	CC231	Toyota		LPG			2008	43	1416	CHE Propane					
Forklift	CC232	Toyota		LPG			2008	43	742	CHE Propane					
Forklift	CC233	Toyota		LPG			2008	43	1276	CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	CC234	Toyota		LPG			2008	43	1282	CHE Propane					
Forklift	CC235	Toyota		LPG			2008	43	1135	CHE Propane					
Forklift	CC236	Toyota		LPG			2008	43	1584	CHE Propane					
Forklift	CC237	Toyota		LPG			2008	43	890	CHE Propane					
Forklift	CC238	Toyota		LPG			2008	43	1901	CHE Propane					
Forklift	CC239	Toyota		LPG			2008	43	2847	CHE Propane					
Forklift	CC23D	Dae		LPG				64	880	CHE Propane					1/1/2008
Forklift	CC24	Dae		LPG					1184	CHE Propane					
Forklift	CC240	Toyota		LPG			2008	43	1446	CHE Propane					
Forklift	CC241	Toyota		LPG			2008	43	2431	CHE Propane					
Forklift	CC242	Toyota		LPG			2008	43	2633	CHE Propane					
Forklift	CC243	Toyota		LPG			2008	43	690	CHE Propane					
Forklift	CC244	Toyota		LPG			2008	43	2340	CHE Propane					
Forklift	CC245	Toyota		LPG			2008	43	812	CHE Propane					
Forklift	CC25	Toyota		LPG				43	681	CHE Propane					1/1/2008
Forklift	CC26	Toyota		LPG				43	1187	CHE Propane					1/1/2008
Forklift	CC26D	Dae		LPG				64	363	CHE Propane					1/1/2008
Forklift	CC27	Toyota		LPG			1991	43	712	CHE Propane					1/1/2008
Forklift	CC27D	Dae		LPG				64	968	CHE Propane					1/1/2008
Forklift	CC28	Toyota		LPG			1991	43	1376	CHE Propane					1/1/2008
Forklift	CC30	Toyota		LPG			1991	43	864	CHE Propane					1/1/2008
Forklift	CC31	Toyota		LPG			1990	72	0	CHE Propane					1/1/2008
Forklift	CC32	Toyota		LPG			1997	43	1317	CHE Propane					1/1/2008
Forklift	CC33	Toyota		LPG			1996	43	1497	CHE Propane					1/1/2008
Forklift	CC34	Toyota		LPG			1997	43	2473	CHE Propane					1/1/2008
Forklift	CC35	Toyota		LPG			1997	43	2029	CHE Propane					1/1/2008
Forklift	CC36	Toyota		LPG			1997	43	2344	CHE Propane					1/1/2008
Forklift	CC37	Toyota		LPG			1997	43	17	CHE Propane					1/1/2008
Forklift	CC38	Toyota		LPG			1991	43	834	CHE Propane					1/1/2008
Forklift	CC39	Toyota		LPG			1997	43	856	CHE Propane					1/1/2008
Forklift	CC4	Toyota		LPG			1996	43	2303	CHE Propane					1/1/2008
Forklift	CC40	Toyota		LPG			1991	43	1181	CHE Propane					1/1/2008
Forklift	CC41	Toyota		LPG			1990	72	0	CHE Propane					1/1/2008
Forklift	CC43	Toyota		LPG			1991	43	938	CHE Propane					1/1/2008
Forklift	CC44	Toyota		LPG			1991	43	716	CHE Propane					1/1/2008
Forklift	CC46	Toyota		LPG			1991	43	17	CHE Propane					1/1/2008
Forklift	CC47	Toyota		LPG			1991	43	860	CHE Propane					1/1/2008
Forklift	CC48	Toyota		LPG			1991	43	1037	CHE Propane					1/1/2008
Forklift	CC49	Toyota		LPG			1991	43	1338	CHE Propane					1/1/2008
Forklift	CC5	Toyota		LPG			1991	43	1517	CHE Propane					1/1/2008
Forklift	CC50	Toyota		LPG			1991	72	96	CHE Propane					1/1/2012
Forklift	CC51	Toyota		LPG			1991	43	1989	CHE Propane					1/1/2008
Forklift	CC52	Toyota		LPG			1991	43	1576	CHE Propane					1/1/2008
Forklift	CC55	Toyota		LPG			1991	43	739	CHE Propane					1/1/2008
Forklift	CC56	Toyota		LPG			1991	43	912	CHE Propane					1/1/2008
Forklift	CC57	Toyota		LPG			1991	43	1976	CHE Propane					1/1/2008
Forklift	CC58	Toyota		LPG			1991	43	839	CHE Propane					1/1/2008
Forklift	CC59	Toyota		LPG			1991	43	754	CHE Propane					1/1/2008
Forklift	CC6	Toyota		LPG			1997	43	1238	CHE Propane					1/1/2008
Forklift	CC60	Toyota		LPG			1991	43	2744	CHE Propane					1/1/2008
Forklift	CC61	Toyota		LPG			1997	43	5	CHE Propane					1/1/2008
Forklift	CC62	Toyota		LPG			1997	43	5436	CHE Propane					1/1/2008
Forklift	CC63	Toyota		LPG			1997	43	830	CHE Propane					1/1/2008
Forklift	CC64	Toyota		LPG			1997	43	665	CHE Propane					1/1/2008
Forklift	CC65	Toyota		LPG			1991	43	976	CHE Propane					1/1/2008

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	CC67	Toyota		LPG			1997	43	788	CHE Propane					1/1/2008
Forklift	CC68	Toyota		LPG			1997	43	742	CHE Propane					1/1/2008
Forklift	CC69	Toyota		LPG			1997	43	607	CHE Propane					1/1/2008
Forklift	CC7	Toyota		LPG			1991	43	1191	CHE Propane					1/1/2008
Forklift	CC70	Toyota		LPG			1991	43	1648	CHE Propane					1/1/2008
Forklift	CC71	Toyota		LPG			1991	43	1192	CHE Propane					1/1/2008
Forklift	CC73	Toyota		LPG			1997	43	869	CHE Propane					1/1/2008
Forklift	CC74	Toyota		LPG			1991	43	623	CHE Propane					1/1/2008
Forklift	CC75	Toyota		LPG			1991	43	1285	CHE Propane					1/1/2008
Forklift	CC8	Toyota		LPG				72	919	CHE Propane					1/1/2008
Forklift	CC81	Toyota		LPG			1997	43	3	CHE Propane					1/1/2008
Forklift	CC82	Toyota		LPG			1991	43	931	CHE Propane					1/1/2008
Forklift	CC83	Toyota		LPG			1991	43	753	CHE Propane					1/1/2008
Forklift	CC86	Toyota		LPG			1991	43	828	CHE Propane					1/1/2008
Forklift	CC87	Toyota		LPG			1991	43	792	CHE Propane					1/1/2008
Forklift	CC88	Toyota		LPG			1990	43	0	CHE Propane					1/1/2008
Forklift	CC89	Toyota		LPG			2002	43	583	CHE Propane					1/1/2008
Forklift	CC9	Toyota		LPG			1991	43	2	CHE Propane					1/1/2008
Forklift	CC90	Toyota		LPG			1997	43	1803	CHE Propane					1/1/2008
Forklift	CC91	Toyota		LPG			1997	43	2175	CHE Propane					1/1/2008
Forklift	CC92	Toyota		LPG			1997	43	2308	CHE Propane					1/1/2008
Forklift	CC93	Toyota		LPG			1997	43	1011	CHE Propane					1/1/2008
Forklift	CC94	Toyota		LPG			1997	43	2227	CHE Propane					1/1/2008
Forklift	CC95	Toyota		LPG			1997	43		CHE Propane					1/1/2008
Forklift	CC96	Toyota		LPG			1997	43	3232	CHE Propane					1/1/2008
Forklift	CC97	Toyota		LPG			1997	43	2698	CHE Propane					1/1/2008
Forklift	CC98	Toyota		LPG			1997	43	629	CHE Propane					1/1/2008
Forklift	CC99	Toyota		LPG			1997	43	2009	CHE Propane					1/1/2008
Forklift	CC9F	Toyota		LPG			1990	72	237	CHE Propane					1/1/2008
Forklift	CCD1	Toyota		LPG			1993	43	57	CHE Propane					1/1/2008
Forklift	CCD3	Toyota		LPG			1993	43	1960	CHE Propane					1/1/2008
Forklift	CCD4	Toyota		LPG			1993	43	2353	CHE Propane					1/1/2008
Forklift	CCD5	Toyota		LPG			1993	43	345	CHE Propane					1/1/2008
Forklift	CCT1	Toyota		LPG			1996	43	1006	CHE Propane					1/1/2008
Forklift	CCT2	Toyota		LPG			1991	43	85	CHE Propane					1/1/2008
Forklift	CCT3	Toyota		LPG			1991	43	1258	CHE Propane					1/1/2008
Forklift	EMSF631	Clark	GCS20MB	LPG	Mitsubishi	4G52	1988	49	32	CHE Propane					
Forklift	EMSF632	Clark	GCS 20	LPG	Mitsubishi	4G52	1988	49	2	CHE Propane					
Forklift	EMSF684	Taylor	TE800L	Diesel	Cummins		2018	330	0	CHE Diesel					
Forklift	EMSF686	Komatsu	FG40ZT-8	LPG	Nissan	TB45L	2007	86	366	CHE Propane					
Forklift	EMSF687	Komatsu	FG40ZT-8	LPG	Nissan	TB45L	2007	86	219	CHE Propane					
Forklift	EMSF694	Hoist	P360	Diesel	Cummins	QSB6.7	2010	160	0	CHE Diesel		3/1/2013			
Forklift	EMSF695	Hoist	P360	Diesel	Cummins	QSB6.7	2010	160	0	CHE Diesel		3/15/2013			
Forklift	EMSF696	Nissan	PF80YLP	LPG	Nissan	TB45	2010	95	724	CHE Propane					
Forklift	EMSF697	Nissan	PF80YLP	LPG	Nissan	TB45	2010	95	1781	CHE Propane					
Forklift	EMSF698	Nissan	PF80YLP	LPG	Nissan	TB45	2010	95	280	CHE Propane					
Forklift	EMSF699	Nissan	PF80YLP	LPG	Nissan	TB45	2010	95	546	CHE Propane					
Forklift	EMSF700	Nissan	PF80YLP	LPG	Nissan	TB45	2010	95	367	CHE Propane					
Forklift	EMSF703	Taylor	TX360M	Diesel	Cummins	QSB6.7	2008	160	0	CHE Diesel					
Forklift	EMSF704	Clark	C40L	LPG	GM	4.3L	2012	120	868	CHE Propane					
Forklift	EMSF705	Clark	C40L	LPG	GM	4.3L	2012	120	164	CHE Propane					
Forklift	EMSF706	Clark	C40L	LPG	GM	4.3L	2012	120	1556	CHE Propane					
Forklift	EMSF707	Clark	C40L	LPG	GM	4.3L	2012	120	17	CHE Propane					
Forklift	EMSF708	Clark	C40L	LPG	GM	4.3L	2012	120	1530	CHE Propane					
Forklift	EMSF709	Toyota	8FGUS25-147V	LPG	Toyota	:2403050	2012	51	172	CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	EMSF710	Toyota	8FGUS25-147V	LPG	Toyota	:2403050	2012	51	335	CHE Propane					
Forklift	EMSF716	Mitsubishi	FG45N-LE	LPG	Nissan	TB45	2013	95	903	CHE Propane					
Forklift	EMSF717	Mitsubishi	FG45N-LE	LPG	Nissan	TB45	2013	95	1061	CHE Propane					
Forklift	EMSF718	Mitsubishi	FG45N-LE	LPG	Nissan	TB45	2013	95	778	CHE Propane					
Forklift	EMSF719	Hoist	P360	Diesel	Cummins	QSB6.7	2013	173	0	CHE Diesel					
Forklift	EMSF721	Hyster	H90FT	LPG	GM	4.3L	2014	100	436	CHE Propane					
Forklift	EMSF722	Hyster	H90FT	LPG	GM	4.3L	2014	100	398	CHE Propane					
Forklift	EMSF723	Hyster	H90FT	LPG	GM	4.3L	2014	100	223	CHE Propane					
Forklift	EMSF724	Hyster	H90FT	LPG	GM	4.3L	2014	100	522	CHE Propane					
Forklift	EMSF725	Toyota	8FGU25	LPG	Toyota	204Y	2014	51	470	CHE Propane					
Forklift	EMSF726	Toyota	8FGU25	LPG	Toyota	204Y	2014	51	740	CHE Propane					
Forklift	EMSF730	Hyster	P360	Diesel	Cummins	QSB6.7	2016	164	300	CHE Diesel			12/30/2013		
Forklift	EMSF731	Hyster	P360	Diesel	Cummins	QSB6.7	2016	164	300	CHE Diesel			12/30/2013		
Forklift	EMSU733	Hyster	H360HD2	Diesel	Cummins	QSB6.7	2011	155	0	CHE Diesel			12/30/2013		
Forklift	F16	Kalmar	15T	Diesel	Cummins	Q5B6.7	2007	220	83	CHE Diesel			5/4/2012		
Forklift	F18	Kalmar	15T	Diesel	Cummins	Q5B6.7	2007	220	54	CHE Diesel					
Forklift	F19	Kalmar	15T	Diesel	Cummins	Q5B6.7	2007	220	85	CHE Diesel					
Forklift	F20	Capacity	TJ7000	Diesel	Cummins	QSC8.3L	2007	230	54	CHE Diesel			1/1/2009		
Forklift	F21	Nissan	60	LPG	Nissan	K25L	2007		228	CHE Propane					
Forklift	F22	Nissan	60	LPG	Nissan	K25L	2007		247	CHE Propane					
Forklift	F23	Nissan		LPG	Nissan		2007		800	CHE Propane					
Forklift	F25	Capacity	TJ7000	Diesel	Cummins	QSB6.7	2008	220	124	CHE Diesel			3/1/2010		
Forklift	F26	Capacity	TJ7000	Diesel	Cummins	QSB6.7	2008	220	110	CHE Diesel			3/1/2010		
Forklift	F27	Toyota		Gasoline			2010		852	CHE Gasoline					
Forklift	F28	Toyota		Gasoline			2011		122	CHE Gasoline					
Forklift	F29	Toyota		Gasoline			2011		156	CHE Gasoline					
Forklift	F30	Mitsubishi		Gasoline	Nissan		2012		373	CHE Gasoline					
Forklift	F31	CAT		LPG	Nissan	K25L	2008		57	CHE Propane					
Forklift	F32	CAT		LPG	Nissan	K25L	2008		156	CHE Propane					
Forklift	F33	CAT		LPG	Nissan	K25L	2008		308	CHE Propane					
Forklift	F34			Diesel			2012		1023	CHE Diesel					
Forklift	F35			Diesel	Cummins		2015		1646	CHE Diesel					
Forklift	F36			Diesel	Cummins		2015		1187	CHE Diesel					
Forklift	F37			Diesel	Cummins		2015		1640	CHE Diesel					
Forklift	F38	Hyundai		Diesel	Cummins		2017		102	CHE Diesel					
Forklift	FL18-0101	Taylor	TX360L	Diesel	Cummins	QSB 6.7	2012	173	3052	CHE Diesel					
Forklift	FL18-0102	Fantuzzi	FDC180/1600	Diesel	Caterpillar	Tier 4i C4.4	2014	174	152	CHE Diesel					
Forklift	FL18-0103	Fantuzzi	FDC180/1600	Diesel	Caterpillar	Tier 4i C4.4	2014	174	164	CHE Diesel					
Forklift	FL18-0104	Taylor	TX360L	Diesel	Cummins	QSB 6.7	2015	173	3347	CHE Diesel					
Forklift	FL5-0101	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0102	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0103	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0104	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0105	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0106	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0107	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	FL5-0108	Clark	C50sD	Diesel	Deutz	TD 3.6 L4	2015	56	1500	CHE Diesel					
Forklift	L15/620	Kalmar	DCE-150-6	Diesel	Cummins	QSB6.7	2008	173	201	CHE Diesel			3/12/2015		
Forklift	L15/621	Kalmar	DCE-150-6	Diesel	Cummins	QSB6.7	2008	173	70	CHE Diesel			1/21/2015		
Forklift	L15/622	Kalmar	DCE-150-6	Diesel	Cummins	QSB6.7	2008	173	165	CHE Diesel			1/23/2015		
Forklift	L15/623	Kalmar	DCE-150-6	Diesel	Cummins	QSB6.7	2008	173	1	CHE Diesel			3/12/2015		
Forklift	L15/624	Taylor	TX330SL	Diesel	Cummins	QSB6.7	2012	174	111	CHE Diesel			4/9/2015		
Forklift	L15/625	Taylor	TX330SL	Diesel	Cummins	QSB6.7	2012	174	102	CHE Diesel			3/30/2015		
Forklift	L21/013	Kalmar	DCE160-12	Diesel	Cummins	QSB 5.9L B	2007	185	0	CHE Diesel			4/30/2015		
Forklift	L21/014	Kalmar	DCE160-12	Diesel	Cummins	QSB 5.9L B	2007	185	27	CHE Diesel			4/30/2015		

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	L21/015	Kalmar	DCE160-12	Diesel	Cummins	QSB 5.9L B	2007	185	140	CHE Diesel			4/30/2015		
Forklift	L21/016	Kalmar	DCE160-12	Diesel	Cummins	QSB 5.9L B	2007	185	59	CHE Diesel			8/31/2015		
Forklift	L21/017	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2011	160	147	CHE Diesel			7/17/2015		
Forklift	L21/018	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2011	160	635	CHE Diesel			7/21/2015		
Forklift	L21/019	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2011	160	642	CHE Diesel			7/23/2015		
Forklift	L21/020	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2011	160	335	CHE Diesel			7/24/2015		
Forklift	L21/021	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	360	CHE Diesel					
Forklift	L21/022	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	529	CHE Diesel					
Forklift	L21/023	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	602	CHE Diesel					
Forklift	L21/024	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	568	CHE Diesel					
Forklift	L21/025	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	594	CHE Diesel					
Forklift	L21/026	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	746	CHE Diesel					
Forklift	L21/027	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2013	173	0	CHE Diesel					
Forklift	L21/028	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	603	CHE Diesel					
Forklift	L21/029	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	652	CHE Diesel					
Forklift	L21/030	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	440	CHE Diesel					
Forklift	L21/031	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	740	CHE Diesel					
Forklift	L21/032	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	635	CHE Diesel					
Forklift	L21/033	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	916	CHE Diesel					
Forklift	L21/034	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	890	CHE Diesel					
Forklift	L21/035	Taylor	TXH350L	Diesel	Cummins	QSB6.7	2014	173	474	CHE Diesel					
Forklift	L21/036	Taylor	XH350L	Diesel	Cummins	QSB6.7	2017	173	221	CHE Diesel					
Forklift	L21/037	Taylor	XH350L	Diesel	Cummins	QSB6.7	2017	173	256	CHE Diesel					
Forklift	L26/006	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	305	CHE Diesel			7/1/2016		
Forklift	L26/007	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	500	CHE Diesel			7/1/2016		
Forklift	L26/008	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	65	CHE Diesel			7/1/2016		
Forklift	L26/009	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	345	CHE Diesel			7/1/2016		
Forklift	L26/010	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	225	CHE Diesel			6/27/2017		
Forklift	L26/011	Taylor	TX550RC	Diesel	Cummins	QSB6.7	2012	220	259	CHE Diesel			6/17/2016		
Forklift	L32/701	Kalmar	DCD250	Diesel	Cummins	QSB6.7	2008	260	142	CHE Diesel			2/5/2016		
Forklift	L32/702	Kalmar	DCD250	Diesel	Cummins	QSB6.7	2008	260	60	CHE Diesel			2/5/2016		
Forklift	L34/705	Taylor	TX1700L	Diesel	Cummins	QSL-9	2013	230	511	CHE Diesel					
Forklift	L34/706	Taylor	TX1700L	Diesel	Cummins	QSL-9	2013	230	482	CHE Diesel					
Forklift	L34/707	Taylor	TX1700L	Diesel	Cummins	QSL-9	2013	230	432	CHE Diesel					
Forklift	L44/604	Kalmar	DCD370-12	Diesel	Volvo	TAD1170VE	2014	319	217	CHE Diesel					
Forklift	L44/605	Kalmar	DCD370-12	Diesel	Cummins	QSM11	2004	330	0	CHE Diesel					
Forklift	L44/606	Kalmar	DCD370-12	Diesel	Cummins	QSM11	2004	330	0	CHE Diesel					
Forklift	L5/524P	Clark	C55S	LPG	GM	V6 4.3	2013	93	302	CHE Propane					
Forklift	L5/525P	Clark	C55S	LPG	GM	V6 4.3	2013	93	712	CHE Propane					
Forklift	L5/526P	Clark	C55S	LPG	GM	V6 4.3	2013	93	137	CHE Propane					
Forklift	L5/527P	Clark	C55S	LPG	GM	V6 4.3	2013	93	533	CHE Propane					
Forklift	L5/528P	Clark	C55S	LPG	GM	V6 4.3	2013	93	487	CHE Propane					
Forklift	L5/529P	Clark	C55S	LPG	GM	V6 4.3	2013	93	526	CHE Propane					
Forklift	L5/530P	Clark	C55S	LPG	GM	V6 4.3	2013	93	324	CHE Propane					
Forklift	L5/531P	Clark	C55S	LPG	GM	V6 4.3	2013	93	487	CHE Propane					
Forklift	L5/532P	Clark	C55S	LPG	GM	V6 4.3	2013	93	244	CHE Propane					
Forklift	L5/533P	Clark	C55S	LPG	GM	V6 4.3	2013	93	791	CHE Propane					
Forklift	L5/534P	Clark	C55S	LPG	GM	V6 4.3	2013	93	672	CHE Propane					
Forklift	L5/535P	Clark	C55S	LPG	GM	V6 4.3	2013	93	456	CHE Propane					
Forklift	L5/536P	Clark	C55S	LPG	GM	V6 4.3	2013	93	404	CHE Propane					
Forklift	L5/537P	Clark	C55S	LPG	GM	V6 4.3	2013	93	115	CHE Propane					
Forklift	L5/538P	Clark	C55S	LPG	GM	V6 4.3	2013	93	113	CHE Propane					
Forklift	L50/701	Kalmar	DCF500-12	Diesel	Cummins	QSM11	2008	350	820	CHE Diesel			4/8/2016		
Forklift	L50/702	Kalmar	DCF500-12	Diesel	Volvo	TAD1360VE	2013	348	862	CHE Diesel					
Forklift	L50/801	Taylor	X1000RC	Diesel	Volvo	TAD1371VE	2014	388	451	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	L50/802	Taylor	X1000RC	Diesel	Volvo	TAD1371VE	2014	388	412	CHE Diesel					
Forklift	L8/801P	Clark	C75L	LPG	GM	V6 4.3	2013	93	140	CHE Propane					
Forklift	L8/802P	Clark	C75L	LPG	GM	V6 4.3	2013	93	163	CHE Propane					
Forklift	L9/601	Kalmar	DCE90-6L	Diesel	Perkins	S6S	2004	114	109	CHE Diesel			7/31/2014		
Forklift	LAFL1203	Caterpillar	5,000 lb.	LPG	Caterpillar		1994	122	128	CHE Propane					
Forklift	LAFL1204	Mitsubishi	5,000 lb	LPG	Mitsubishi		1994	122	499	CHE Propane					
Forklift	LAFL1208	Hyster	H330XL	Diesel	Perkins	YH70393*U660399(	1997	150	218	CHE Diesel					
Forklift	LAFL1331			LPG			1995	122	200	CHE Propane					
Forklift	LAFL1343			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1344			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1345			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1346			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1347			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1348			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1349			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1350			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1351			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1352			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1353			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1354			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1355			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1356			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1357			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1358			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1359			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1360			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1361			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1362			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1363			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1364			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1365			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1366			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1367			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1368			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1369			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1370			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1371			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1372			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1373			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1374			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1375			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1376			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1377			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1378			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1379			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1380			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1381			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1382			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1383			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1384			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1385			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1386			LPG			1993	122	200	CHE Propane					1/1/2012
Forklift	LAFL1387	Mitsubishi		LPG			1994	122	200	CHE Propane					1/1/2012
Forklift	LAFL1388	Komatsu		LPG	Komatsu		1995	122	200	CHE Propane					1/1/2012
Forklift	LAFL1389		5000 lb	LPG			1995	122	200	CHE Propane					1/1/2012

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Forklift	LAFL1390	Hyster		LPG	Hyster		1997	122	200	CHE Propane					1/1/2012
Forklift	LAFL1391	Hyster		LPG			2000	122	200	CHE Propane					
Forklift	LAFL1392	Nissan		LPG			2002	122	200	CHE Propane					
Forklift	LAFL1393	Nissan		LPG			2002	122	200	CHE Propane					
Forklift	LAFL1394	Nissan		LPG			2002	122	200	CHE Propane					
Forklift	LAFL1414	Komatsu	5000 lb	LPG			2002	58	1000	CHE Propane					
Forklift	LAFL1415	Komatsu	5000 lb	LPG			2002	58	1000	CHE Propane					
Forklift	LAFL1416	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1417	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1418	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1419	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1420	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1421	Komatsu	6000 lb	LPG			2002	60	1000	CHE Propane					
Forklift	LAFL1647	Nissan	5000lb.	LPG	Nissan	H20-2	1994	50	678	CHE Propane					
Forklift	LAFL1650	Komatsu	5000lb.	LPG	Nissan	FG25T-14	2006	60	663	CHE Propane					
Forklift	LAFL1651	Komatsu	5000lb.	LPG	Nissan	FG25T-12	2002	60	628	CHE Propane					
Forklift	LAFL1652	Komatsu	5000lb.	LPG	Nissan			60	442	CHE Propane					
Forklift	LAFL3020	Komatsu	6000 lb	LPG			2008	60	1000	CHE Propane					
Forklift	LAFL3021	Komatsu	6000 lb	LPG			2008	60	1000	CHE Propane					
Forklift	LAFL3022	Komatsu	6000 lb	LPG			2008	60	1000	CHE Propane					
Forklift	LAFL3023	Komatsu	6000 lb	LPG			2008	60	1000	CHE Propane					
Forklift	LAFLSCS	Hyster	H50XM	LPG	Hyster				532	CHE Propane					
Forklift	LAGPF1567			LPG			2015	125	2179	CHE Propane					
Forklift	WWL1	Nissan	CF01A15V	Gasoline				45	550	CHE Gasoline					
Forklift	WWL2	Nissan	CF01A15V	Gasoline				45	1620	CHE Gasoline					
Forklift	WWL4	Nissan	CPH01A15V	Gasoline				45	1015	CHE Gasoline					
Forklift	WWL5	Nissan	CSP01L15S	Electric				0	0	CHE Electric					
Forklift	WWL6	Hyster	N40XMR2	Electric				0	0	CHE Electric					
Forklift	WWL7	Nissan	CK1B1L15S	Electric				0	0	CHE Electric					
Hybrid RTG	9073	ZPMC	RTG	Diesel			2011	197	1000	CHE Diesel					
Hybrid RTG	9081	Paceco	RTG	Diesel	Caterpillar	C7.1 ACERT	2015	302	3288	CHE Diesel					
Hybrid RTG	9082	Paceco	RTG	Diesel	Caterpillar	C7.1 ACERT	2015	302	3233	CHE Diesel					
Hybrid RTG	9083	Paceco	RTG	Diesel	Caterpillar	C7.1 ACERT	2015	302	2837	CHE Diesel					
Hybrid RTG	9084	Paceco	RTG	Diesel	Caterpillar	C7.1 ACERT	2015	302	2781	CHE Diesel					
Hybrid RTG	9085	Paceco	RTG	Diesel	Caterpillar	C7.1 ACERT	2015	302	2926	CHE Diesel					
Hybrid RTG	FMSZ001	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	362	CHE Diesel					
Hybrid RTG	FMSZ002	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	315	CHE Diesel					
Hybrid RTG	FMSZ003	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	275	CHE Diesel					
Hybrid RTG	FMSZ004	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	562	CHE Diesel					
Hybrid RTG	FMSZ005	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	501	CHE Diesel					
Hybrid RTG	FMSZ006	Paceco-Mitsui		Diesel	Caterpillar	C7	2018	249	410	CHE Diesel					
Hybrid Straddle Carriers	SC0029	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2526	CHE Diesel					
Hybrid Straddle Carriers	SC0030	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	1796	CHE Diesel					
Hybrid Straddle Carriers	SC0031	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2586	CHE Diesel					
Hybrid Straddle Carriers	SC0032	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	1965	CHE Diesel					
Hybrid Straddle Carriers	SC0033	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2190	CHE Diesel					
Hybrid Straddle Carriers	SC0034	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	645	CHE Diesel					
Hybrid Straddle Carriers	SC0035	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2110	CHE Diesel					
Hybrid Straddle Carriers	SC0036	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2169	CHE Diesel					
Hybrid Straddle Carriers	SC0037	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2729	CHE Diesel					
Hybrid Straddle Carriers	SC0038	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2460	CHE Diesel					
Hybrid Straddle Carriers	SC0039	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2814	CHE Diesel					
Hybrid Straddle Carriers	SC0040	Kalmar	HSC350A	Diesel	AGCO	44AWF	2016	102	2618	CHE Diesel					
Loader	306002	Caterpillar	966-D	Diesel	Caterpillar	C-7	2010	300	0	CHE Diesel					
Loader	306003	Caterpillar	966-D	Diesel	Caterpillar	C-7	2010	232	645	CHE Diesel					7/22/2010

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Loader	306019	Caterpillar	966G	Diesel	Caterpillar	3176C	2005	259	1421	CHE Diesel			9/8/2010		
Loader	308005	Caterpillar	980H	Diesel	Caterpillar	C15	2007	318	2115	CHE Diesel			5/8/2015		
Loader	309002	Caterpillar	988-F	Diesel	Caterpillar	3408E	1999	430	2240	CHE Diesel			1/7/2014		
Loader	309015	Caterpillar	988H	Diesel	Caterpillar		2011	210	3840	CHE Diesel			2/27/2015		
Loader	309016	Caterpillar	988K	Diesel	Caterpillar		2013		4244	CHE Diesel					
Loader	712002	Caterpillar	904H	Diesel	Mitsubishi	S4Q2-T	2008	55	1019	CHE Diesel					
Loader	3702001	Hustler		Electric				0	0	CHE Electric					
Loader	3702002	Hustler		Electric				0	0	CHE Electric					
Loader	LAL1563V2	Case	480	Diesel			2009	110	964	CHE Diesel					
Loader	M115	Mijack	M115	Diesel	Cummins	QSX11.9	2010	460	306	CHE Diesel					
Loader	MJ150	Mijack	MJ150	Diesel	Cummins	QSB 6.7	2015	260	509	CHE Diesel					
Man Lift	1005	JLG	86055	Diesel	Deutz	FRM2011	2002	87		CHE Diesel			1/1/2012		
Man Lift	1072	Terex	TB60	Diesel	Cummins	B3.9	2000	80	346	CHE Diesel			1/1/2012		
Man Lift	1113	JLG	86JS	Diesel			2006	87	298	CHE Diesel			1/1/2012		
Man Lift	1209	Skyjack	SJIH 4740	Electric				0	0	CHE Electric					
Man Lift	1211	Skyjack		Diesel			2018	107	0	CHE Diesel					
Man Lift	1212	Skyjack		Diesel			2018	107	0	CHE Diesel					
Man Lift	1213	Skyjack		Electric				0	0	CHE Electric					
Man Lift	60702	Genie lift	S60	Diesel	Deutz	D2011L031	2007	49	467	CHE Diesel					
Man Lift	1002005	JLG Lift	GS2646	Electric				0	0	CHE Electric					
Man Lift	1004003	JLG Lift	600AJ	Diesel			2012	80	710	CHE Diesel					
Man Lift	1004005	JLG Lift	800AJ	Diesel	Deutz	D2011L040	2010	49	364	CHE Diesel					
Man Lift	1004006	JLG Lift	800 AJ	Diesel	Perkins	GP65-4N	2009	65	639	CHE Diesel					
Man Lift	1004007	JLG Lift	800 AJ	Diesel	Perkins	GP65-4N	2009	65	445	CHE Diesel					
Man Lift	1008001	Skyjack	3291	Electric				0	0	CHE Electric					
Man Lift	1008002	Skyjack	3226	Electric				0	0	CHE Electric					
Man Lift	1204ML	Terex	TB85	Diesel	Cummins	B3.9	2000	152	54	CHE Diesel			9/5/2013		
Man Lift	1210TH	Skyjack	SJ1256	Diesel	Deutz AG	TCD 3.6 l4	2017	107	39	CHE Diesel					
Man Lift	EMSU462	Genie	S-125	Diesel			2003	75	62	CHE Diesel			1/1/2014		
Man Lift	EMSU656	JLG	660SJ	Gasoline			2007	60	88	CHE Gasoline					
Man Lift	EMSU679	Genie	S-65	Diesel			2007	75	125	CHE Diesel			1/1/2014		
Man Lift	ML002	Terex	TB60	Diesel	Cummins	B3.9-C	2002	73	69	CHE Diesel			8/20/2014		
Man Lift	ML003	JLG	1350SJP	Diesel	Deutz	TD2011L04	2012	73	154	CHE Diesel					
Man Lift	ML120	JLG		Diesel	Deutz	BF4M2011	2004	87	42	CHE Diesel			9/1/2010		
Man Lift	ML42	JLG	G6-42A	Diesel	Cummins	QSF3.8	2015	110	89	CHE Diesel					
Man Lift	ML86	JLG		Diesel	Deutz	BF4M2011	2006	87	329	CHE Diesel			9/1/2010		
Material Handler	108011	Caterpillar	345C MH	Diesel	Caterpillar	C13	2008	371	1236	CHE Diesel			2/27/2015		
Material Handler	108012	Caterpillar	345C MH	Diesel	Caterpillar	C13	2007	371	2925	CHE Diesel			3/24/2015		
Material Handler	108013	Caterpillar	345C MH	Diesel	Caterpillar	C13	2007	371	2955	CHE Diesel			9/23/2013		
Material Handler	108014	Caterpillar	345C MH	Diesel	Caterpillar	C13	2008	371	3450	CHE Diesel			2/27/2015		
Material Handler	108015	Caterpillar	345	Diesel	Caterpillar	C13	2005	371	3395	CHE Diesel			5/9/2016		
Material Handler	110001	Caterpillar	375-L	Diesel	Caterpillar	C15	2009	475	190	CHE Diesel			6/1/2012		
Material Handler	110007	Caterpillar	375-L	Diesel	Caterpillar	C15	2009	450	508	CHE Diesel			8/1/2011		
Material Handler	127001	Caterpillar	385C	Diesel	Caterpillar	C18	2008	390	1450	CHE Diesel			3/23/2015		
Material Handler	127002	Caterpillar	385C	Diesel	Caterpillar	C18	2011	390	2020	CHE Diesel			3/20/2015		
Miscellaneous	107026	Caterpillar	330DL	Diesel	Caterpillar	C9	2007	268	292	CHE Diesel			4/1/2011		
Miscellaneous	3701005	Lindeman	PA75	Electric			1994	0	0	CHE Electric					
Miscellaneous	3701006	Al John		Electric			2008	0	0	CHE Electric					
Rail Pusher	1031	Trackmobile	4800tm	Diesel	Cummins		2000	200	0	CHE Diesel			1/1/2012		
Rail Pusher	3501010	Rail King	RK320	Diesel	Cummins		2012	194	95	CHE Diesel					
Reach Stacker	302	Kalmar	TD100G	Diesel	Cummins	QSL9 250	2013	250	290	CHE Diesel					
RMG cranes	APSZ183	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ184	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ185	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ186	Noell		Electric				0	0	CHE Electric					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
RMG cranes	APSZ187	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ188	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ189	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ190	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ191	Noell		Electric				0	0	CHE Electric					
RMG cranes	APSZ192	Noell		Electric				0	0	CHE Electric					
Rub-trd Gantry Crane	8100	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		1/1/2012			
Rub-trd Gantry Crane	8100	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8101	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		10/24/2012			
Rub-trd Gantry Crane	8101	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8102	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		7/31/2012			
Rub-trd Gantry Crane	8102	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8103	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		10/11/2012			
Rub-trd Gantry Crane	8103	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8104	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		11/6/2012			
Rub-trd Gantry Crane	8104	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8105	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel					
Rub-trd Gantry Crane	8105	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8106	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		12/27/2012			
Rub-trd Gantry Crane	8106	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8125	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		11/16/2012			
Rub-trd Gantry Crane	8125	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8127	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel		12/13/2012			
Rub-trd Gantry Crane	8127	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8128	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel					
Rub-trd Gantry Crane	8128	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8129	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel			1/23/2013		
Rub-trd Gantry Crane	8129	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8130	Kone	D1703	Diesel	Cummins	QSX 15-G7		2005	680	2567 CHE Diesel			1/31/2013		
Rub-trd Gantry Crane	8130	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8131	Kone	D1703	Diesel	Cummins	QSX 15-G7		2002	680	2567 CHE Diesel		5/21/2012			
Rub-trd Gantry Crane	8131	Kone	D1703	Diesel	Kubota	V3300		2005	27	0 CHE Diesel					
Rub-trd Gantry Crane	8149	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8149	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8150	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8150	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8151	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel			10/1/2014		
Rub-trd Gantry Crane	8151	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8152	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8152	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8154	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8154	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8155	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8155	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8156	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel	1/1/2006				
Rub-trd Gantry Crane	8156	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8188	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel			2/26/2013		
Rub-trd Gantry Crane	8188	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8189	Kone	D1703	Diesel	Cummins	QSX 15-G7		2006	680	2567 CHE Diesel			2/13/2013		
Rub-trd Gantry Crane	8189	Kone	D1703	Diesel	Kubota	V3300		2006	27	0 CHE Diesel					
Rub-trd Gantry Crane	8191	Kone	D1703	Diesel	Cummins	QSX 15-G7		2007	680	2567 CHE Diesel			10/1/2014		
Rub-trd Gantry Crane	8191	Kone	D1703	Diesel	Kubota	V3300		2007	27	0 CHE Diesel					
Rub-trd Gantry Crane	8192	Kone	D1703	Diesel	Cummins	QSX 15-G7		2007	680	2567 CHE Diesel					
Rub-trd Gantry Crane	8192	Kone	D1703	Diesel	Kubota	V3300		2007	27	0 CHE Diesel					
Rub-trd Gantry Crane	9051	ZPMC	RTG	Diesel	Caterpillar		3456	2003	612	1897 CHE Diesel		12/1/2012			

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Rub-trd Gantry Crane	9052	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1947	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9053	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1582	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9054	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1908	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9055	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1962	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9056	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1429	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9057	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1712	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9058	ZPMC	RTG	Diesel	Caterpillar	3456	2003	612	1622	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9061	Paceco	RTG	Diesel	Deutz	8M1015C	2004	454	1979	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9062	Paceco	RTG	Diesel	Deutz	8M1015C	2004	454	2049	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9071	ZPMC	RTG	Diesel	Cummins	QSX15-G7	2005	685	1633	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9072	ZPMC	RTG	Diesel	Cummins	QSX15-G7	2005	685	1558	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9074	ZPMC	RTG	Diesel	Cummins	QSX15-G7	2005	685	2432	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9075	ZPMC	RTG	Diesel	Cummins	QSX15-G7	2005	685	1780	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	9076	ZPMC	RTG	Diesel	Cummins	QSX15-G7	2005	685	1688	CHE Diesel		12/1/2012			
Rub-trd Gantry Crane	90285	Mi Jack	1000RC	Diesel	Detroit	DDEC	2011	320		CHE Diesel					
Rub-trd Gantry Crane	90287	Mi Jack	1000RC	Diesel	Detroit	DDEC	2011	320	812	CHE Diesel					
Rub-trd Gantry Crane	90504	Mi Jack	1200R	Diesel	Cummins	QSL9	2011	320	1678	CHE Diesel					
Rub-trd Gantry Crane	90602	Mi Jack	1200R	Diesel	Detroit	DDEC	2011	320	4077	CHE Diesel					
Rub-trd Gantry Crane	90805	Mi Jack	1200R	Diesel	Cummins	QSL9	2011	320	2793	CHE Diesel					
Rub-trd Gantry Crane	90906	Mi Jack	1200 REH	Diesel	John Deere	4045HF485	2009	137	786	CHE Diesel					
Rub-trd Gantry Crane	91304	Mi Jack	1200R	Diesel	Cummins	QSL9	2011	320	1396	CHE Diesel					
Rub-trd Gantry Crane	91501	Mi Jack	1200R	Diesel	Cummins	QSL9 333	2015	320	4507	CHE Diesel					
Rub-trd Gantry Crane	EMSZ054	Sumitomo	RTG62 / 22.555	Diesel	Detroit	6063GK05	1998	750	5999	CHE Diesel			1/1/2016		
Rub-trd Gantry Crane	EMSZ055	Sumitomo	RTG62 / 22.555	Diesel	Cummins	QSX15G	2014	750	5490	CHE Diesel					
Rub-trd Gantry Crane	EMSZ056	Sumitomo	RTG62 / 22.555	Diesel	Cummins	QSX15G	2014	750	5596	CHE Diesel			1/1/2016		
Rub-trd Gantry Crane	EMSZ057	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	7174	CHE Diesel					
Rub-trd Gantry Crane	EMSZ058	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	4899	CHE Diesel					
Rub-trd Gantry Crane	EMSZ059	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	5135	CHE Diesel					
Rub-trd Gantry Crane	EMSZ060	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	4900	CHE Diesel					
Rub-trd Gantry Crane	EMSZ061	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	4165	CHE Diesel					
Rub-trd Gantry Crane	EMSZ062	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	5000	CHE Diesel					
Rub-trd Gantry Crane	EMSZ063	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	4816	CHE Diesel					
Rub-trd Gantry Crane	EMSZ064	Noell	RTG62 / 22.555	Diesel	Cummins	KTA 19-G2	2013	600	5677	CHE Diesel					
Rub-trd Gantry Crane	EMSZ304	Paceco-Mitsui		Diesel	Cummins	QSX15G	2014	750	3267	CHE Diesel					
Rub-trd Gantry Crane	EMSZ305	Noell		Diesel	Caterpillar	C15	2015	624	3511	CHE Diesel					
Rub-trd Gantry Crane	EMSZ306	Noell		Diesel	Caterpillar	C15	2015	624	5358	CHE Diesel					
Rub-trd Gantry Crane	EMSZ307	Noell		Diesel	Caterpillar	C15	2015	624	4841	CHE Diesel					
Rub-trd Gantry Crane	EMSZ308	Noell		Diesel	Caterpillar	C15	2015	624	5133	CHE Diesel					
Rub-trd Gantry Crane	T-1	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-10	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-11	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-12	ZMPC	RC40.6/56	Diesel	Caterpillar	3456ATAAC	2005	612	2204	CHE Diesel				1/1/2015	
Rub-trd Gantry Crane	T-2	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-3	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-4	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-5	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-6	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-7	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-8	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	T-9	Mitsui-Paceco	RT4023-8-1	Diesel	Caterpillar	C-15	2013	779	2204	CHE Diesel					
Rub-trd Gantry Crane	TR15	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	2864	CHE Diesel					
Rub-trd Gantry Crane	TR16	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	QSX-G14	2013	627	2453	CHE Diesel					
Rub-trd Gantry Crane	TR18	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	QSX-G14	2013	627	2649	CHE Diesel					
Rub-trd Gantry Crane	TR19new	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	QSZ15	2011	410	2013	CHE Diesel					
Rub-trd Gantry Crane	TR20	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	2578	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Rub-trd Gantry Crane	TR21new	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	QSZ15	2011	410	2669	CHE Diesel					
Rub-trd Gantry Crane	TR22	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	2654	CHE Diesel					
Rub-trd Gantry Crane	TR23	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	2955	CHE Diesel					
Rub-trd Gantry Crane	TR24	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	3294	CHE Diesel					
Rub-trd Gantry Crane	TR25	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	3148	CHE Diesel					
Rub-trd Gantry Crane	TR26	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	QSZ15	2011	410	3095	CHE Diesel					
Rub-trd Gantry Crane	TR27	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	3248	CHE Diesel					
Rub-trd Gantry Crane	TR28	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	3041	CHE Diesel					
Rub-trd Gantry Crane	TR29	Mitsui/Paceco	RT-4020-8-I-5	Diesel	Cummins	NTA855	2012	550	2978	CHE Diesel					
Side pick	335	Kalmar		Diesel	Cummins	QSL9 275	2017	275	42	CHE Diesel					
Side pick	336	Fantuzzi	FDC25K7	Diesel	Cummins	QSL9 275	2017	275	208	CHE Diesel					
Side pick	341	Fantuzzi	FDC25K7	Diesel	Cummins	QSL	2016	275	436	CHE Diesel					
Side pick	342	Terex	FDC25K7	Diesel	Cummins	QSL	2016	275	117	CHE Diesel					
Side pick	343	Terex	FDC25K7	Diesel	Cummins	QSL	2016	275	324	CHE Diesel					
Side pick	6330	Taylor	TECSP-156	Diesel	Cummins	QSB5.9	2006	215	78	CHE Diesel			2/13/2013		
Side pick	6380			Diesel			2015		1377	CHE Diesel					
Side pick	6381			Diesel			2015		1492	CHE Diesel					
Side pick	6382			Diesel			2015		1033	CHE Diesel					
Side pick	340SP	Terex	FDC25K7	Diesel	Cummins	QSL	2016	275	94	CHE Diesel					
Side pick	SH 0301	Fantuzzi	FDC25K5	Diesel	Caterpillar	C 7.1 Tier 4F	2014	250	1500	CHE Diesel					
Side pick	SH 0305	Fantuzzi	FDC25K5	Diesel	Cummins	C 7.1 Tier 4F	2014	240	1500	CHE Diesel					
Side pick	SH 306	Fantuzzi	FDC25K5	Diesel	Caterpillar	C 7.1 Tier 4F	2014	250	1500	CHE Diesel					
Side pick	SH1	Taylor	TEC 155H	Diesel	Cummins	5.9L B series	2000	152	131	CHE Diesel			7/11/2014		
Side pick	SH2	Taylor	TEC 155H	Diesel	Cummins	5.9L B series	2000	152	143	CHE Diesel			7/11/2014		
Skid Steer Loader	705001	Caterpillar	252B	Diesel	Mitsubishi	3044C	2007	70	851	CHE Diesel					
Skid Steer Loader	705035	Caterpillar	252B	Diesel	Mitsubishi	3044C	2007	70	409	CHE Diesel					
Skid Steer Loader	705043	Caterpillar	252B	Diesel	Caterpillar	S4S-DTDPB	2012	56	1091	CHE Diesel					
Skid Steer Loader	LASSL1650	Bobcat	853	Diesel	bobcat	KUBTA	1994	75	88	CHE Diesel					
Straddle Carriers	SC001	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5057	CHE Diesel					
Straddle Carriers	SC0010	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5355	CHE Diesel					
Straddle Carriers	SC0011	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5388	CHE Diesel					
Straddle Carriers	SC0012	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5047	CHE Diesel					
Straddle Carriers	SC0013	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4011	CHE Diesel					
Straddle Carriers	SC0014	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4098	CHE Diesel					
Straddle Carriers	SC0015	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5021	CHE Diesel					
Straddle Carriers	SC0016	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4735	CHE Diesel					
Straddle Carriers	SC0017	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4087	CHE Diesel					
Straddle Carriers	SC0018	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5029	CHE Diesel					
Straddle Carriers	SC0019	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	4750	CHE Diesel					
Straddle Carriers	SC002	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5007	CHE Diesel					
Straddle Carriers	SC0020	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5125	CHE Diesel					
Straddle Carriers	SC0021	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	4925	CHE Diesel					
Straddle Carriers	SC0022	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5170	CHE Diesel					
Straddle Carriers	SC0023	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	4254	CHE Diesel					
Straddle Carriers	SC0024	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5141	CHE Diesel					
Straddle Carriers	SC0025	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5316	CHE Diesel					
Straddle Carriers	SC0026	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	4294	CHE Diesel					
Straddle Carriers	SC0027	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5119	CHE Diesel					
Straddle Carriers	SC0028	Kalmar	ESC350WA	Diesel	Volvo	TAD1172VE	2015	425	5402	CHE Diesel					
Straddle Carriers	SC003	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4705	CHE Diesel					
Straddle Carriers	SC004	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5125	CHE Diesel					
Straddle Carriers	SC005	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	3922	CHE Diesel					
Straddle Carriers	SC006	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	5320	CHE Diesel					
Straddle Carriers	SC007	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	4226	CHE Diesel					
Straddle Carriers	SC008	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A"	2013	425	3062	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Straddle Carriers	SC009	Kalmar	ESC350WA	Diesel	AGCO	SISU POWER 98A	2013	425	5242	CHE Diesel					
Sweeper	1073	Elgin	Crosswind	Gasoline	Cummins	ISB205	2002	205	313	CHE Gasoline					
Sweeper	1098	Elgin	Crosswind	Gasoline			2005	205	2660	CHE Gasoline					
Sweeper	1208004	Tymco	DST-6	Diesel	Isuzu	6HKIX	2008	260	1500	CHE Diesel					
Sweeper	EMSU519	Johnston	C-172001	Gasoline			2004	190	0	CHE Gasoline					
Sweeper	EMSU524	Johnston	FC-80	Gasoline			2005	200	0	CHE Gasoline					
Sweeper	S-3	Freightliner		Diesel	Cummins	ISB240	2009	240	2368	CHE On Road Diesel					
Sweeper	S-3a			Diesel	John Deere		2008	99	2601	CHE Diesel					
Sweeper	ST003	Caterpillar	IT14G	Diesel	Caterpillar	3054 DIT	2000	96	498	CHE Diesel			9/19/2013		
Sweeper	ST004	Caterpillar	IT14G	Diesel	Caterpillar	3054 DIT	2000	96	402	CHE Diesel			9/16/2013		
Top handler	318	Taylor	THDC-975	Diesel	Cummins	QSL	2016	350	1277	CHE Diesel					
Top handler	319	Taylor	FDC550G5	Diesel	Cummins	QSG12	2016	400	98	CHE Diesel					
Top handler	331	Taylor	THDC955	Diesel	Cummins	QSL	2016	350	2023	CHE Diesel					
Top handler	337	Fantuzzi	FDC500G5	Diesel	Cummins		2016	350	4566	CHE Diesel					
Top handler	6012	Taylor	TEC-950L	Diesel	Cummins	M11	1999	250	1488	CHE Diesel			1/1/2012		
Top handler	6156	Taylor	THDC-955	Diesel	Cummins	QSM11	2002	250	2211	CHE Diesel			12/1/2012		
Top handler	6183	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	260	1702	CHE Diesel			12/1/2012		
Top handler	6184	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	260	1764	CHE Diesel			12/1/2012		
Top handler	6186	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	260	2259	CHE Diesel			12/1/2012		
Top handler	6187	Taylor	THDC-975	Diesel	Cummins	QSM11	2006	260	2344	CHE Diesel			12/1/2012		
Top handler	6188	Taylor	THDC-975	Diesel	Cummins	QSM11	2006	260	2352	CHE Diesel			12/1/2012		
Top handler	6189	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	2010	CHE Diesel			1/1/2009		
Top handler	6190	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	811	CHE Diesel			1/1/2009		
Top handler	6191	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	818	CHE Diesel			1/1/2009		
Top handler	6192	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	2255	CHE Diesel			1/1/2009		
Top handler	6193	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	1109	CHE Diesel			1/1/2009		
Top handler	6194	Taylor	THDC-975	Diesel	Cummins	QSM11	2007	260	1535	CHE Diesel			1/1/2009		
Top handler	6287	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	454	CHE Diesel			1/1/2012		
Top handler	6289	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	996	CHE Diesel			1/1/2012		
Top handler	6290	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	693	CHE Diesel			1/1/2012		
Top handler	6291	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	1761	CHE Diesel			1/1/2012		
Top handler	6292	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	2047	CHE Diesel			1/1/2012		
Top handler	6295	Taylor	THDC-955	Diesel	Cummins	QSM11	2005	330	1734	CHE Diesel			1/1/2012		
Top handler	6303	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	990	CHE Diesel			1/1/2012		
Top handler	6306	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	1965	CHE Diesel			1/1/2012		
Top handler	6309	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2462	CHE Diesel			1/1/2012		
Top handler	6310	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2350	CHE Diesel			1/1/2012		
Top handler	6311	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2021	CHE Diesel			1/1/2012		
Top handler	6348	Taylor	THDC-975	Diesel	Cummins		2013	348	3415	CHE Diesel					
Top handler	6349	Taylor	THDC-975	Diesel	Cummins		2013	348	3176	CHE Diesel					
Top handler	6350	Taylor	THDC-975	Diesel	Cummins		2013	348	3213	CHE Diesel					
Top handler	6351	Taylor	THDC-975	Diesel	Cummins		2013	348	3328	CHE Diesel					
Top handler	6352	Taylor	THDC-975	Diesel	Cummins		2013	348	3304	CHE Diesel					
Top handler	6353	Taylor		Diesel	Volvo		2014	335	3819	CHE Diesel					
Top handler	6354	Taylor		Diesel	Volvo		2014	335	3392	CHE Diesel					
Top handler	6355	Taylor		Diesel	Volvo		2014	335	3533	CHE Diesel					
Top handler	6356	Taylor		Diesel	Volvo		2014	335	3702	CHE Diesel					
Top handler	6357	Taylor		Diesel	Volvo		2014	335	3344	CHE Diesel					
Top handler	6358	Taylor		Diesel	Volvo		2014	335	3392	CHE Diesel					
Top handler	6359	Taylor		Diesel	Volvo		2014	335	3884	CHE Diesel					
Top handler	6360	Taylor		Diesel	Volvo		2014	335	3177	CHE Diesel					
Top handler	6361	Taylor		Diesel	Volvo		2014	335	3956	CHE Diesel					
Top handler	6364	Hyster		Diesel	Cummins	QSL9	2014	350	3028	CHE Diesel					
Top handler	6365	Hyster		Diesel	Cummins	QSL9	2014	350	3333	CHE Diesel					
Top handler	6366	Hyster		Diesel	Cummins	QSL9	2014	350	2272	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Top handler	6367	Hyster		Diesel	Cummins	QSL9	2014	350	3639	CHE Diesel					
Top handler	6368	Hyster		Diesel	Cummins	QSL9	2014	350	3239	CHE Diesel					
Top handler	6369	Hyster		Diesel	Cummins	QSL9	2014	350	3694	CHE Diesel					
Top handler	6370	Hyster		Diesel	Cummins	QSL9	2014	350	3474	CHE Diesel					
Top handler	6371	Hyster		Diesel	Cummins	QSL9	2014	350	3758	CHE Diesel					
Top handler	6372	Hyster		Diesel	Cummins	QSL9	2014	350	3750	CHE Diesel					
Top handler	6373	Hyster		Diesel	Cummins	QSL9	2014	350	3320	CHE Diesel					
Top handler	6374	Hyster		Diesel	Cummins	QSL9	2014	350	3523	CHE Diesel					
Top handler	6375			Diesel			2015	325	2191	CHE Diesel					
Top handler	6376			Diesel			2015	325	1194	CHE Diesel					
Top handler	6377			Diesel			2015	325	1568	CHE Diesel					
Top handler	6378			Diesel			2015	325	2039	CHE Diesel					
Top handler	6401	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	3150	CHE Diesel			1/1/2009		
Top handler	6402	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2855	CHE Diesel			1/1/2009		
Top handler	6403	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2705	CHE Diesel			1/1/2009		
Top handler	6404	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	3088	CHE Diesel			1/1/2009		
Top handler	6405	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2548	CHE Diesel			1/1/2009		
Top handler	6406	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	3249	CHE Diesel			1/1/2009		
Top handler	6407	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	3190	CHE Diesel			1/1/2009		
Top handler	6408	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2782	CHE Diesel			1/1/2009		
Top handler	6409	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2315	CHE Diesel			1/1/2009		
Top handler	6410	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2675	CHE Diesel			1/1/2009		
Top handler	6411	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2658	CHE Diesel			1/1/2009		
Top handler	6412	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2505	CHE Diesel			1/1/2009		
Top handler	6413	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2623	CHE Diesel			1/1/2009		
Top handler	6414	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	2925	CHE Diesel			1/1/2009		
Top handler	6415	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	260	3345	CHE Diesel			1/1/2009		
Top handler	6416	Taylor	TXLC976	Diesel	Cummins	QSM11	2011	335	1833	CHE Diesel					
Top handler	6417	Taylor	TXLC976	Diesel	Cummins	QSM11	2011	335	2966	CHE Diesel					
Top handler	6418	Taylor	TXLC976	Diesel	Cummins	QSM11	2011	335	272	CHE Diesel					
Top handler	6419	Hyster	H-1150-HDCH	Diesel	Cummins	QSL 9L	2014	370	1376	CHE Diesel					
Top handler	6420	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	943	CHE Diesel					
Top handler	6421	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	2310	CHE Diesel					
Top handler	6422	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	1305	CHE Diesel					
Top handler	6423	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	1706	CHE Diesel					
Top handler	6424	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	1843	CHE Diesel					
Top handler	6425	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2017	363	1846	CHE Diesel					
Top handler	6426	Taylor	XLC 976E	Diesel	Volvo	12.8 L	2017	388	1358	CHE Diesel					
Top handler	6427	Taylor	XLC 976E	Diesel	Volvo	12.8 L	2017	388	1482	CHE Diesel					
Top handler	80801	Linde	C400	Diesel	Cummins	QSM11	2006	325	1302	CHE Diesel			8/1/2011		
Top handler	6312TH	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2772	CHE Diesel			1/1/2012		
Top handler	6313TH	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2275	CHE Diesel			1/1/2012		
Top handler	6314TH	Taylor	THDC-955	Diesel	Cummins	QSM11	2006	335	2765	CHE Diesel			1/1/2012		
Top handler	APSZ228	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	636	CHE Diesel			4/26/2011		
Top handler	APSZ230	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	116	CHE Diesel			5/5/2011		
Top handler	APSZ232	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	34	CHE Diesel			4/26/2011		
Top handler	APSZ233	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	1312	CHE Diesel			5/4/2011		
Top handler	APSZ235	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	516	CHE Diesel			4/1/2012		
Top handler	APSZ238	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	40	CHE Diesel			4/1/2012		
Top handler	APSZ242	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2001	330	7	CHE Diesel			4/1/2012		
Top handler	APSZ243	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2002	330	16	CHE Diesel			4/1/2012		
Top handler	APSZ244	Fantuzzi	MJ500H5	Diesel	Cummins	QSM11C	2000	330	0	CHE Diesel			4/1/2012		
Top handler	EMSZ291	Taylor	THDC-975	Diesel	Cummins	QSM11C	2007	335	1384	CHE Diesel			2/22/2011		
Top handler	EMSZ292	Taylor	THDC-975	Diesel	Cummins	QSM11C	2007	335	1512	CHE Diesel			2/28/2011		
Top handler	EMSZ294	Taylor	THDC-975	Diesel	Cummins	QSM11C	2007	335	1454	CHE Diesel			3/4/2011		

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Top handler	EMSZ296	Taylor	THDC-975	Diesel	Cummins	QSM11C	2007	335	459	CHE Diesel			2/24/2011		
Top handler	EMSZ299	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	335	0	CHE Diesel			2/21/2011		
Top handler	EMSZ300	Taylor	TXC-976	Diesel			2015	330	2937	CHE Diesel					
Top handler	EMSZ301	Taylor	TXC-976	Diesel			2015	330	2720	CHE Diesel					
Top handler	EMSZ302	Taylor	TXC-976	Diesel	Volvo	TAD1360VE	2014	335	3002	CHE Diesel					
Top handler	EMSZ303	Taylor	TXC-976	Diesel			2015	330	3599	CHE Diesel					
Top handler	EMSZ702	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	335		CHE Diesel			3/1/2011		
Top handler	EMSZ703	Taylor	TXC-976	Diesel	Cummins	QSM11	2008	335	1466	CHE Diesel			3/3/2011		
Top handler	EMSZ704	Taylor	TXC-976	Diesel	Volvo	TAD1360VE	2012	335	1737	CHE Diesel					
Top handler	EMSZ705	Taylor	TXC-976	Diesel	Volvo	TAD1360VE	2012	335	3562	CHE Diesel					
Top handler	EMSZ706	Taylor	TXC-976	Diesel	Volvo	TAD1360VE	2012	335	4098	CHE Diesel					
Top handler	EMSZ707	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2012	335	3978	CHE Diesel					
Top handler	EMSZ708	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2012	335	3825	CHE Diesel					
Top handler	EMSZ709	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2012	335	4289	CHE Diesel					
Top handler	EMSZ710	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2012	335	4516	CHE Diesel					
Top handler	EMSZ711	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2012	335	1858	CHE Diesel					
Top handler	EMSZ717	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	2827	CHE Diesel					
Top handler	EMSZ718	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	2674	CHE Diesel					
Top handler	EMSZ719	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	3029	CHE Diesel					
Top handler	EMSZ720	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	3868	CHE Diesel					
Top handler	EMSZ721	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	3426	CHE Diesel					
Top handler	EMSZ723	Taylor	TXLC-976	Diesel	Volvo	L-TAD1360VE	2014	350	4445	CHE Diesel					
Top handler	EMSZ724	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	3402	CHE Diesel					
Top handler	EMSZ725	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	6056	CHE Diesel					
Top handler	EMSZ726	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	2552	CHE Diesel					
Top handler	EMSZ727,	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2014	350	2919	CHE Diesel					
Top handler	EMSZ732	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2015	350	3502	CHE Diesel					
Top handler	EMSZ733	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2015	350	2664	CHE Diesel					
Top handler	EMSZ734	Hyster	H1150HD-CH	Diesel	Cummins	QSL 9L	2015	350	3264	CHE Diesel					
Top handler	EMSZ735	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2015	335	3771	CHE Diesel					
Top handler	EMSZ736	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2015	335	3084	CHE Diesel					
Top handler	EMSZ737	Taylor	TXLC-976	Diesel	Volvo	TAD1360VE	2015	335	3770	CHE Diesel					
Top handler	EMSZ738	H1150HD-CH	2017	Diesel	Cummins	QSL 9L	2017	350	3792	CHE Diesel					
Top handler	EMSZ739 H	H1150HD-CH	2017	Diesel	Cummins	QSL 9L	2017	350	3977	CHE Diesel					
Top handler	EMSZ740 hSTE	H1150HD-CH	2017	Diesel	Cummins	QSL 9L	2017	350	3446	CHE Diesel					
Top handler	EMSZ741	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	2783	CHE Diesel					
Top handler	EMSZ742	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	2695	CHE Diesel					
Top handler	EMSZ743	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	2983	CHE Diesel					
Top handler	EMSZ744	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	3009	CHE Diesel					
Top handler	EMSZ745	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	1392	CHE Diesel					
Top handler	EMSZ746	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	1283	CHE Diesel					
Top handler	EMSZ747	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	967	CHE Diesel					
Top handler	EMSZ748	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	922	CHE Diesel					
Top handler	EMSZ749	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	659	CHE Diesel					
Top handler	EMSZ750	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	694	CHE Diesel					
Top handler	EMSZ751	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	446	CHE Diesel					
Top handler	EMSZ752	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	525	CHE Diesel					
Top handler	EMSZ753	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	319	CHE Diesel					
Top handler	EMSZ754	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	317	CHE Diesel					
Top handler	EMSZ755	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	153	CHE Diesel					
Top handler	EMSZ756	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	271	CHE Diesel					
Top handler	EMSZ757	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	116	CHE Diesel					
Top handler	EMSZ758	Taylor	XLC-976	Diesel	Volvo	TAD1371VE	2018	389	100	CHE Diesel					
Top handler	TH 0201	Taylor	TEC-950L	Diesel	Cummins	QSM-11	2011	330	1500	CHE Diesel			1/1/2012		
Top handler	TH 0203	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2003	330	1500	CHE Diesel			1/1/2011		

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Top handler	TH 0204	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1500	CHE Diesel			1/1/2011		
Top handler	TH 0206	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1500	CHE Diesel			1/1/2011		
Top handler	TH 0207	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2003	330	1700	CHE Diesel			1/1/2011		
Top handler	TH 0209	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1300	CHE Diesel			1/1/2011		
Top handler	TH 0212	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1650	CHE Diesel			1/1/2013		
Top handler	TH 0213	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1700	CHE Diesel			1/1/2011		
Top handler	TH 0214	Fantuzzi	FDC500G5	Diesel	Cummins	QSM11	2004	330	1800	CHE Diesel			1/1/2011		
Top handler	TH 0215	Taylor	TXLC976	Diesel	Volvo T4i	TAD1360WE	2012	256	2000	CHE Diesel					
Top handler	TH 0216	Taylor	TXLC976	Diesel	Volvo T4i	TAD1360WE	2012	256	1600	CHE Diesel					
Top handler	TH 0217	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	2800	CHE Diesel					
Top handler	TH 0218	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3200	CHE Diesel					
Top handler	TH 0219	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3200	CHE Diesel					
Top handler	TH 0220	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3454	CHE Diesel					
Top handler	TH 0221	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	2300	CHE Diesel					
Top handler	TH 0222	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3315	CHE Diesel					
Top handler	TH 0223	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	4714	CHE Diesel					
Top handler	TH 0224	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3253	CHE Diesel					
Top handler	TH 0225	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3100	CHE Diesel					
Top handler	TH 0226	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	3100	CHE Diesel					
Top handler	TH 0227	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	2900	CHE Diesel					
Top handler	TH 0228	Taylor	XLC976	Diesel	Volvo T4F	TAD1375VE	2016	388	2800	CHE Diesel					
Top handler	TH-13	Kone Cranes	SMV 45GC5S	Diesel	Volvo Penta		2016	355		CHE Diesel					
Top handler	TH-14	Kone Cranes	SMV 45GC5S	Diesel	Volvo Penta		2016	355		CHE Diesel					
Top handler	TH16	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	170	CHE Diesel			1/1/2012		
Top handler	TH17	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	370	CHE Diesel			1/1/2012		
Top handler	TH18	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	188	CHE Diesel			1/1/2012		
Top handler	TH19	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	235	CHE Diesel			1/1/2012		
Top handler	TH21	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	366	CHE Diesel			1/1/2012		
Top handler	TH22	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	383	CHE Diesel			1/1/2012		
Top handler	TH23	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	397	CHE Diesel			1/1/2012		
Top handler	TH24	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	341	CHE Diesel					
Top handler	TH25	Fantuzzi	FDS500	Diesel	Cummins	QSM11	2005	330	484	CHE Diesel					
Top handler	TH27	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	1630	CHE Diesel			1/1/2010		
Top handler	TH28	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	2444	CHE Diesel			2/1/2010		
Top handler	TH29	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	4095	CHE Diesel			1/1/2010		
Top handler	TH30	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	2211	CHE Diesel			3/1/2010		
Top handler	TH31	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	2069	CHE Diesel			1/1/2012		
Top handler	TH32	Taylor	TH976	Diesel	Cummins	QSM11	2008	335	2283	CHE Diesel			3/1/2010		
Top handler	TH33	Taylor	TXCL976	Diesel	Volvo	TAD1360V	2011	348	2869	CHE Diesel					
Top handler	TH34	Taylor	TXCL976	Diesel	Volvo	TAD1360V	2011	348	1810	CHE Diesel					
Top handler	TH35	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2012	343	3243	CHE Diesel					
Top handler	TH36	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2012	343	1225	CHE Diesel					
Top handler	TH37	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3595	CHE Diesel					
Top handler	TH38	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	2711	CHE Diesel					
Top handler	TH39	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	2824	CHE Diesel					
Top handler	TH40	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3054	CHE Diesel					
Top handler	TH41	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3291	CHE Diesel					
Top handler	TH42	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3304	CHE Diesel					
Top handler	TH43	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3465	CHE Diesel					
Top handler	TH44	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2013	343	3282	CHE Diesel					
Top handler	TH45	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3145	CHE Diesel					
Top handler	TH46	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3071	CHE Diesel					
Top handler	TH47	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	2831	CHE Diesel					
Top handler	TH48	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3640	CHE Diesel					
Top handler	TH49	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3067	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Top handler	TH50	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3228	CHE Diesel					
Top handler	TH51	Taylor	TXCL976	Diesel	Volvo	TAD1360VE	2015	343	3232	CHE Diesel					
Top handler	TL03	Taylor	TXLC975	Diesel	Volvo	TAD1360VE	2013	343	16	CHE Diesel					
Truck	19010	Ford	FT001	LPG	Ford	330EFV	1973		95	CHE Propane					
Truck	19019	Sterling		Diesel	Caterpillar	C7	2005	250	776	CHE On Road Diesel			11/13/2013		
Truck	19020	Sterling		Diesel	Caterpillar	C7	2005	250	731	CHE On Road Diesel			11/7/2013		
Truck	19025	Sterling		Diesel	Cummins	ISC	2007	330	743	CHE On Road Diesel					
Truck	19026	Sterling	LT8500	Diesel	Cummins	ISC	2008	250	697	CHE On Road Diesel					
Truck	19027	Peterbilt	335	Diesel	Cummins	ISC	2008	250	726	CHE On Road Diesel					
Truck	19028	Freightliner		Diesel	Cummins	ISL	2013	350	1128	CHE On Road Diesel					
Truck	1312008	Terex	40T33-07	Diesel	Caterpillar	C15	2007	540	204	CHE Diesel					
Truck	1312009	Terex	40T 33-07	Diesel	Caterpillar	C-15	2009	540	33	CHE Diesel					
Truck	1312012	Terex	40T 33-07	Diesel	Cummins	QSK19	2006	525	1084	CHE Diesel					
Truck	1312013	Terex	40T 33-07	Diesel	Cummins	QSK19	2007	525	1474	CHE Diesel					
Truck	1312014	Terex	40T 33-07	Diesel	Cummins	QSK19	2007	525	107	CHE Diesel					
Truck	1312015	Terex	T40K-800	Diesel			2012	390	729	CHE Diesel					
Truck	1315001	Terex	TR45	Diesel	Cummins	QSK19	2009	525	2099	CHE Diesel					
Truck	1316001	Caterpillar	TA30	Diesel	Cummins	QSM11	2006	350	196	CHE Diesel					
Truck	1316002	Terex	TA400	Diesel	Scania		2014	444	2455	CHE Diesel					
Truck	MV28	Freightliner		Diesel	Cummins	5.9	2005	185	199	CHE On Road Diesel			1/1/2012		
Truck	MV29	Freightliner		Diesel	Cummins	5.9	2005	185	241	CHE On Road Diesel			1/1/2012		
Truck	MV30	Freightliner		Diesel	Cummins	5.9	2005	185	672	CHE On Road Diesel			1/1/2012		
Truck	T12	Peterbuilt		Diesel	Cummins	ISC	2006	240	995	CHE On Road Diesel					
Truck	T15	Ford	F750	Diesel	Cummins	ISC	2008	240	3968	CHE On Road Diesel					
Truck	T9	Peterbuilt		Diesel	Cummins	ISC	2006	240	1245	CHE On Road Diesel					
Yard tractor	4001	Capacity		Diesel	Cummins	ISB 07	2008	210	880	CHE On Road Diesel					
Yard tractor	4003	Capacity		Diesel	Cummins	ISB 07	2008	210	519	CHE On Road Diesel					
Yard tractor	4004	Capacity		Diesel	Cummins	ISB 07	2008	210	630	CHE On Road Diesel					
Yard tractor	4005	Capacity		Diesel	Cummins	ISB 07	2008	210	502	CHE On Road Diesel					
Yard tractor	4006	Capacity		Diesel	Cummins	ISB 07	2008	210	122	CHE On Road Diesel					
Yard tractor	4007	Capacity		Diesel	Cummins	ISB 07	2008	210	623	CHE On Road Diesel					
Yard tractor	4008	Capacity		Diesel	Cummins	ISB 07	2008	210	124	CHE On Road Diesel					
Yard tractor	4009	Capacity		Diesel	Cummins	ISB 07	2008	210	459	CHE On Road Diesel					
Yard tractor	4010	Capacity		Diesel	Cummins	ISB 07	2008	210	172	CHE On Road Diesel					
Yard tractor	4011	Capacity		Diesel	Cummins	ISB 07	2008	210	132	CHE On Road Diesel					
Yard tractor	4012	Capacity		Diesel	Cummins	ISB 07	2008	210	105	CHE On Road Diesel					
Yard tractor	4013	Capacity		Diesel	Cummins	ISB 07	2008	210	90	CHE On Road Diesel					
Yard tractor	4014	Capacity		Diesel	Cummins	ISB 07	2008	210	69	CHE On Road Diesel					
Yard tractor	4015	Capacity		Diesel	Cummins	ISB 07	2008	210	104	CHE On Road Diesel					
Yard tractor	4016	Capacity		Diesel	Cummins	ISB 07	2008	210	112	CHE On Road Diesel					
Yard tractor	4017	Capacity		Diesel	Cummins	ISB 07	2008	210	182	CHE On Road Diesel					
Yard tractor	4018	Capacity		Diesel	Cummins	ISB 07	2008	210	62	CHE On Road Diesel					
Yard tractor	4019	Capacity		Diesel	Cummins	ISB 07	2008	210	165	CHE On Road Diesel					
Yard tractor	4020	Capacity		Diesel	Cummins	ISB 07	2008	210	105	CHE On Road Diesel					
Yard tractor	4021	Capacity		Diesel	Cummins	ISB 07	2008	210	0	CHE On Road Diesel					
Yard tractor	4022	Capacity		Diesel	Cummins	ISB 07	2008	210	0	CHE On Road Diesel					
Yard tractor	4023	Capacity		Diesel	Cummins	ISB 07	2008	210	0	CHE On Road Diesel					
Yard tractor	4024	Capacity		Diesel	Cummins	ISB 07	2008	210	569	CHE On Road Diesel					
Yard tractor	4025	Capacity		Diesel	Cummins	ISB 07	2008	210	356	CHE On Road Diesel					
Yard tractor	4026	Capacity		Diesel	Cummins	ISB 07	2008	210	102	CHE On Road Diesel					
Yard tractor	4027	Capacity		Diesel	Cummins	ISB 07	2008	210	31	CHE On Road Diesel					
Yard tractor	4028	Capacity		Diesel	Cummins	ISB 07	2008	210	128	CHE On Road Diesel					
Yard tractor	4029	Capacity		Diesel	Cummins	ISB 07	2008	210	136	CHE On Road Diesel					
Yard tractor	4030	Capacity		Diesel	Cummins	ISB 07	2008	210	66	CHE On Road Diesel					
Yard tractor	4031	Capacity		Diesel	Cummins	ISB 07	2008	210	68	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	4032	Capacity		Diesel	Cummins	ISB 07	2008	210	33	CHE On Road Diesel					
Yard tractor	4033	Capacity		Diesel	Cummins	ISB 07	2008	210	267	CHE On Road Diesel					
Yard tractor	4034	Capacity		Diesel	Cummins	ISB 07	2008	210	90	CHE On Road Diesel					
Yard tractor	4035	Capacity		Diesel	Cummins	ISB 07	2008	210	64	CHE On Road Diesel					
Yard tractor	4036	Capacity		Diesel	Cummins	ISB 07	2008	210	100	CHE On Road Diesel					
Yard tractor	4037	Capacity		Diesel	Cummins	ISB 07	2008	210	33	CHE On Road Diesel					
Yard tractor	4038	Capacity		Diesel	Cummins	ISB 07	2008	210	371	CHE On Road Diesel					
Yard tractor	4039	Capacity		Diesel	Cummins	ISB 07	2008	210	23	CHE On Road Diesel					
Yard tractor	4040	Capacity		Diesel	Cummins	ISB 07	2008	210	206	CHE On Road Diesel					
Yard tractor	4041	Capacity		Diesel	Cummins	ISB 07	2008	210	189	CHE On Road Diesel					
Yard tractor	4042	Capacity		Diesel	Cummins	ISB 07	2008	210	150	CHE On Road Diesel					
Yard tractor	4043	Capacity		Diesel	Cummins	ISB 07	2008	210	756	CHE On Road Diesel					
Yard tractor	4044	Capacity		Diesel	Cummins	ISB 07	2008	210	38	CHE On Road Diesel					
Yard tractor	4045	Capacity		Diesel	Cummins	ISB 07	2008	210	173	CHE On Road Diesel					
Yard tractor	4046	Capacity		Diesel	Cummins	ISB 07	2008	210	404	CHE On Road Diesel					
Yard tractor	4047	Capacity		Diesel	Cummins	ISB 07	2008	210	162	CHE On Road Diesel					
Yard tractor	4048	Capacity		Diesel	Cummins	ISB 07	2008	210	205	CHE On Road Diesel					
Yard tractor	4051	Capacity		Diesel	Cummins	ISB 07	2008	210	77	CHE On Road Diesel					
Yard tractor	4052	Capacity		Diesel	Cummins	ISB 07	2008	210	91	CHE On Road Diesel					
Yard tractor	4053	Capacity		Diesel	Cummins	ISB 07	2008	210	120	CHE On Road Diesel					
Yard tractor	4054	Capacity		Diesel	Cummins	ISB 07	2008	210	278	CHE On Road Diesel					
Yard tractor	4966	Ottowa	C-50	Diesel	Cummins	ISB	2005	245	47	CHE On Road Diesel					
Yard tractor	5258	Magnum	TT120	LPG	Cummins	LPG 195	2000	174	0	CHE Propane					
Yard tractor	5260	Magnum	TT120	LPG	Cummins	LPG 195	2000	174	186	CHE Propane					
Yard tractor	5328	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1590	CHE Propane					
Yard tractor	5329	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1633	CHE Propane					
Yard tractor	5330	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1668	CHE Propane					
Yard tractor	5331	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	886	CHE Propane					
Yard tractor	5332	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5333	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5334	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1765	CHE Propane					
Yard tractor	5335	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5336	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	934	CHE Propane					
Yard tractor	5337	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1465	CHE Propane					
Yard tractor	5338	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1723	CHE Propane					
Yard tractor	5339	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1713	CHE Propane					
Yard tractor	5340	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	147	CHE Propane					
Yard tractor	5341	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1740	CHE Propane					
Yard tractor	5342	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1359	CHE Propane					
Yard tractor	5343	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1525	CHE Propane					
Yard tractor	5344	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1496	CHE Propane					
Yard tractor	5345	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1578	CHE Propane					
Yard tractor	5346	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1282	CHE Propane					
Yard tractor	5347	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1295	CHE Propane					
Yard tractor	5348	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5349	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	575	CHE Propane					
Yard tractor	5350	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1331	CHE Propane					
Yard tractor	5351	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	91	CHE Propane					
Yard tractor	5352	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1598	CHE Propane					
Yard tractor	5353	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1654	CHE Propane					
Yard tractor	5354	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1299	CHE Propane					
Yard tractor	5355	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1499	CHE Propane					
Yard tractor	5356	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1303	CHE Propane					
Yard tractor	5357	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1784	CHE Propane					
Yard tractor	5358	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1335	CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	5359	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1411	CHE Propane					
Yard tractor	5360	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5361	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1605	CHE Propane					
Yard tractor	5362	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	52	CHE Propane					
Yard tractor	5363	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1614	CHE Propane					
Yard tractor	5364	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1574	CHE Propane					
Yard tractor	5365	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1724	CHE Propane					
Yard tractor	5366	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1475	CHE Propane					
Yard tractor	5367	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1716	CHE Propane					
Yard tractor	5368	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1419	CHE Propane					
Yard tractor	5375	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5376	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1517	CHE Propane					
Yard tractor	5377	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1431	CHE Propane					
Yard tractor	5378	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1325	CHE Propane					
Yard tractor	5379	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1944	CHE Propane					
Yard tractor	5380	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1407	CHE Propane					
Yard tractor	5381	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	944	CHE Propane					
Yard tractor	5382	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	0	CHE Propane					
Yard tractor	5383	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1208	CHE Propane					
Yard tractor	5384	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1456	CHE Propane					
Yard tractor	5385	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	1770	CHE Propane					
Yard tractor	5386	Kalmar	PT122	LPG	Cummins	LPG 195	2004	195	963	CHE Propane					
Yard tractor	5470	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1993	CHE Propane					
Yard tractor	5471	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1166	CHE Propane					
Yard tractor	5472	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	727	CHE Propane					
Yard tractor	5473	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	224	CHE Propane					
Yard tractor	5474	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	2052	CHE Propane					
Yard tractor	5475	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1949	CHE Propane					
Yard tractor	5476	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1835	CHE Propane					
Yard tractor	5477	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1709	CHE Propane					
Yard tractor	5478	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	191	CHE Propane					
Yard tractor	5479	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1701	CHE Propane					
Yard tractor	5480	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1951	CHE Propane					
Yard tractor	5481	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	2054	CHE Propane					
Yard tractor	5482	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1334	CHE Propane					
Yard tractor	5483	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	150	CHE Propane					
Yard tractor	5484	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	2253	CHE Propane					
Yard tractor	5485	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1934	CHE Propane					
Yard tractor	5486	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1641	CHE Propane					
Yard tractor	5487	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1665	CHE Propane					
Yard tractor	5488	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1678	CHE Propane					
Yard tractor	5489	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1222	CHE Propane					
Yard tractor	5490	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	463	CHE Propane					
Yard tractor	5491	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	1585	CHE Propane					
Yard tractor	5492	Capacity	TJ9000	LPG	Ford	6.8L V10	2011	231	698	CHE Propane					
Yard tractor	5561	Capacity	TJ9000	LPG			2007	195	2176	CHE Propane					
Yard tractor	5562	Capacity	TJ9000	LPG			2007	195	1513	CHE Propane					
Yard tractor	5563	Capacity	TJ9000	LPG			2007	195	1825	CHE Propane					
Yard tractor	5564	Capacity	TJ9000	LPG			2007	195	1567	CHE Propane					
Yard tractor	5565	Capacity	TJ9000	LPG			2007	195	323	CHE Propane					
Yard tractor	5566	Capacity	TJ9000	LPG			2007	195	2115	CHE Propane					
Yard tractor	5567	Capacity	TJ9000	LPG			2007	195	1789	CHE Propane					
Yard tractor	5568	Capacity	TJ9000	LPG			2007	195	2061	CHE Propane					
Yard tractor	5569	Capacity	TJ9000	LPG			2007	195	2138	CHE Propane					
Yard tractor	5570	Capacity	TJ9000	LPG			2007	195	778	CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	5571	Capacity	TJ9000	LPG			2007	195	1804	CHE Propane					
Yard tractor	5572	Capacity	TJ9000	LPG			2007	195	2256	CHE Propane					
Yard tractor	5573	Capacity	TJ9000	LPG			2007	195	2031	CHE Propane					
Yard tractor	5574	Capacity	TJ9000	LPG			2007	195	2153	CHE Propane					
Yard tractor	5575	Capacity	TJ9000	LPG			2007	195	1846	CHE Propane					
Yard tractor	5576	Capacity	TJ9000	LPG			2007	195	1950	CHE Propane					
Yard tractor	5577	Capacity	TJ9000	LPG			2007	195	1608	CHE Propane					
Yard tractor	5578	Capacity	TJ9000	LPG			2007	195	1741	CHE Propane					
Yard tractor	5579	Capacity	TJ9000	LPG			2007	195	1634	CHE Propane					
Yard tractor	5580	Capacity	TJ9000	LPG			2007	195	2096	CHE Propane					
Yard tractor	5581	Capacity	TJ9000	LPG			2007	195	1085	CHE Propane					
Yard tractor	5582	Capacity	TJ9000	LPG			2007	195	2153	CHE Propane					
Yard tractor	5583	Capacity	TJ9000	LPG			2007	195	1898	CHE Propane					
Yard tractor	5584	Capacity	TJ9000	LPG			2007	195	2196	CHE Propane					
Yard tractor	5585	Capacity	TJ9000	LPG			2007	195	2267	CHE Propane					
Yard tractor	5586	Capacity	TJ9000	LPG			2007	195	2336	CHE Propane					
Yard tractor	5587	Capacity	TJ9000	LPG			2007	195	2151	CHE Propane					
Yard tractor	5588	Capacity	TJ9000	LPG			2007	195	2141	CHE Propane					
Yard tractor	5589	Capacity	TJ9000	LPG			2007	195	2294	CHE Propane					
Yard tractor	5590	Capacity	TJ9000	LPG			2007	195	1596	CHE Propane					
Yard tractor	5591	Capacity	TJ9000	LPG			2007	195	498	CHE Propane					
Yard tractor	5592	Capacity	TJ9000	LPG			2007	195	2196	CHE Propane					
Yard tractor	5593	Capacity	TJ9000	LPG			2007	195	1864	CHE Propane					
Yard tractor	5594	Capacity	TJ9000	LPG			2007	195	1900	CHE Propane					
Yard tractor	5595	Capacity	TJ9000	LPG			2007	195	1915	CHE Propane					
Yard tractor	5596	Capacity	TJ9000	LPG			2007	195	323	CHE Propane					
Yard tractor	5597	Capacity	TJ9000	LPG			2007	195	2200	CHE Propane					
Yard tractor	5598	Capacity	TJ9000	LPG			2007	195	2093	CHE Propane					
Yard tractor	5599	Capacity	TJ9000	LPG			2007	195	1901	CHE Propane					
Yard tractor	5600	Capacity	TJ9000	LPG			2007	195	1936	CHE Propane					
Yard tractor	5615	Capacity	TJ9000	LPG			2007	195	2115	CHE Propane					
Yard tractor	5616	Capacity	TJ9000	LPG			2007	195	2299	CHE Propane					
Yard tractor	5652	Capacity	TJ9000	LPG			2007	195	1457	CHE Propane					
Yard tractor	5653	Capacity	TJ9000	LPG			2007	195	1466	CHE Propane					
Yard tractor	5654	Capacity	TJ9000	LPG			2007	195	2243	CHE Propane					
Yard tractor	5655	Capacity	TJ9000	LPG			2007	195	2233	CHE Propane					
Yard tractor	5656	Capacity	TJ9000	LPG			2007	195	1671	CHE Propane					
Yard tractor	5657	Capacity	TJ9000	LPG			2007	195	1249	CHE Propane					
Yard tractor	5665	Capacity	TJ9000	LPG			2007	195	1803	CHE Propane					
Yard tractor	5667	Capacity	TJ9000	LPG			2007	195	2085	CHE Propane					
Yard tractor	5669	Capacity	TJ9000	LPG			2007	195	2244	CHE Propane					
Yard tractor	5671	Capacity	TJ9000	LPG			2007	195	2035	CHE Propane					
Yard tractor	5674	Capacity	TJ9000	LPG			2007	195	2115	CHE Propane					
Yard tractor	5675	Capacity	TJ9000	LPG			2007	195	2055	CHE Propane					
Yard tractor	5676	Capacity	TJ9000	LPG			2007	195	2197	CHE Propane					
Yard tractor	5677	Capacity	TJ9000	LPG			2007	195	1288	CHE Propane					
Yard tractor	5678	Capacity	TJ9000	LPG			2007	195	2094	CHE Propane					
Yard tractor	5679	Capacity	TJ9000	LPG			2007	195	1665	CHE Propane					
Yard tractor	5682	Capacity	TJ9000	LPG			2007	195	2028	CHE Propane					
Yard tractor	5683	Capacity	TJ9000	LPG			2008	195	2319	CHE Propane					
Yard tractor	5686	Capacity	TJ9000	LPG			2008	195	1872	CHE Propane					
Yard tractor	5702	Capacity	TJ9000	LPG			2008	195	2305	CHE Propane					
Yard tractor	5703	Capacity	TJ9000	LPG			2008	195	2402	CHE Propane					
Yard tractor	5704	Capacity	TJ9000	LPG			2008	195	2165	CHE Propane					
Yard tractor	5706	Capacity	TJ9000	LPG			2008	195	2113	CHE Propane					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	5720	Capacity	TJ9000	LPG			2008	195	1847	CHE Propane					
Yard tractor	5724	Capacity	TJ9000	LPG			2008	195	2054	CHE Propane					
Yard tractor	5744	Capacity	TJ9000	LPG			2008	195	2156	CHE Propane					
Yard tractor	5746	Capacity	TJ9000	LPG			2008	195	2112	CHE Propane					
Yard tractor	5747	Capacity	TJ9000	LPG			2008	195	2182	CHE Propane					
Yard tractor	5748	Capacity	TJ9000	LPG			2008	195	2375	CHE Propane					
Yard tractor	5749	Capacity	TJ9000	LPG			2008	195	977	CHE Propane					
Yard tractor	5750	Capacity	TJ9000	LPG			2008	195	2214	CHE Propane					
Yard tractor	5751	Capacity	TJ9000	LPG			2008	195	2304	CHE Propane					
Yard tractor	5752	Capacity	TJ9000	LPG			2008	195	2288	CHE Propane					
Yard tractor	5754	Capacity	TJ9000	LPG			2008	195	2286	CHE Propane					
Yard tractor	5756	Capacity	TJ9000	LPG			2008	195	1747	CHE Propane					
Yard tractor	5769	Capacity	TJ9000	LPG			2008	195	2163	CHE Propane					
Yard tractor	5770	Capacity	TJ9000	LPG			2008	195	1596	CHE Propane					
Yard tractor	5771	Capacity	TJ9000	LPG			2008	195	2359	CHE Propane					
Yard tractor	5772	Capacity	TJ9000	LPG			2008	195	2205	CHE Propane					
Yard tractor	5773	Capacity	TJ9000	LPG			2008	195	2059	CHE Propane					
Yard tractor	5775	Capacity	TJ9000	LPG			2008	195	1769	CHE Propane					
Yard tractor	5778	Capacity	TJ9000	LPG			2008	195	2284	CHE Propane					
Yard tractor	5779	Capacity	TJ9000	LPG			2008	195	1961	CHE Propane					
Yard tractor	5780	Capacity	TJ9000	LPG			2008	195	830	CHE Propane					
Yard tractor	5782	Capacity	TJ9000	LPG			2008	195	2096	CHE Propane					
Yard tractor	5785	Capacity	TJ9000	LPG			2008	195	11	CHE Propane					
Yard tractor	5786	Capacity	TJ9000	LPG			2008	195	2192	CHE Propane					
Yard tractor	5787	Capacity	TJ9000	LPG			2008	195	1250	CHE Propane					
Yard tractor	5788	Capacity	TJ9000	LPG			2008	195	2112	CHE Propane					
Yard tractor	5789	Capacity	TJ9000	LPG			2008	195	2003	CHE Propane					
Yard tractor	5790	Capacity	TJ9000	LPG			2008	195	2558	CHE Propane					
Yard tractor	5791	Capacity	TJ9000	LPG			2008	195	2047	CHE Propane					
Yard tractor	5792	Capacity	TJ9000	LPG			2008	195	2153	CHE Propane					
Yard tractor	5793	Capacity	TJ9000	LPG			2008	195	2100	CHE Propane					
Yard tractor	5794	Capacity	TJ9000	LPG			2008	195	724	CHE Propane					
Yard tractor	5795	Capacity	TJ9000	LPG			2008	195	2299	CHE Propane					
Yard tractor	5796	Capacity	TJ9000	LPG			2008	195	2011	CHE Propane					
Yard tractor	5797	Capacity	TJ9000	LPG			2008	195	1807	CHE Propane					
Yard tractor	21200	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21201	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21202	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21203	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21204	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21205	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	2668	CHE On Road Diesel					
Yard tractor	21206	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21207	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	1958	CHE On Road Diesel					
Yard tractor	21213	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21214	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21216	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	3727	CHE On Road Diesel					
Yard tractor	21217	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21219	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	1739	CHE On Road Diesel					
Yard tractor	21220	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	2407	CHE On Road Diesel					
Yard tractor	21224	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21225	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21227	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21228	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21229	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	232	CHE On Road Diesel					
Yard tractor	21230	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	21231	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21232	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	1598	CHE On Road Diesel					
Yard tractor	21233	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	700	CHE On Road Diesel					
Yard tractor	21238	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	0	CHE On Road Diesel					
Yard tractor	21239	Autocar	ACTT42	Diesel	Cummins	ISB6.7 200	2012	200	2032	CHE On Road Diesel					
Yard tractor	21540	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	1317	CHE On Road Diesel					
Yard tractor	21541	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	560	CHE On Road Diesel					
Yard tractor	21542	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	728	CHE On Road Diesel					
Yard tractor	21543	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	942	CHE On Road Diesel					
Yard tractor	21544	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	796	CHE On Road Diesel					
Yard tractor	21545	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	1829	CHE On Road Diesel					
Yard tractor	21546	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	708	CHE On Road Diesel					
Yard tractor	21547	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	3453	CHE On Road Diesel					
Yard tractor	21548	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	760	CHE On Road Diesel					
Yard tractor	21549	Ottawa	4 x 2	Diesel	Cummins	ISB6.7 200	2015	200	1797	CHE On Road Diesel					
Yard tractor	40078	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	649	CHE On Road Diesel					
Yard tractor	40079	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	903	CHE On Road Diesel					
Yard tractor	40086	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	906	CHE On Road Diesel					
Yard tractor	40090	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	949	CHE On Road Diesel					
Yard tractor	40093	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1599	CHE On Road Diesel					
Yard tractor	40094	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1978	CHE On Road Diesel					
Yard tractor	40095	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1515	CHE On Road Diesel					
Yard tractor	40096	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	639	CHE On Road Diesel					
Yard tractor	40097	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1994	CHE On Road Diesel					
Yard tractor	40098	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1095	CHE On Road Diesel					
Yard tractor	40099	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1133	CHE On Road Diesel					
Yard tractor	40100	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	432	CHE On Road Diesel					
Yard tractor	40101	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1930	CHE On Road Diesel					
Yard tractor	40102	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1165	CHE On Road Diesel					
Yard tractor	40103	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1431	CHE On Road Diesel					
Yard tractor	40104	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	2216	CHE On Road Diesel					
Yard tractor	40105	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1042	CHE On Road Diesel					
Yard tractor	40106	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	2347	CHE On Road Diesel					
Yard tractor	40107	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1742	CHE On Road Diesel					
Yard tractor	40108	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	2296	CHE On Road Diesel					
Yard tractor	40109	Ottowa	C-50	Diesel	Cummins	ISB	2006	245	1755	CHE On Road Diesel					
Yard tractor	40156	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	638	CHE On Road Diesel					
Yard tractor	40157	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1129	CHE On Road Diesel					
Yard tractor	40158	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	959	CHE On Road Diesel					
Yard tractor	40159	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1517	CHE On Road Diesel					
Yard tractor	40160	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2518	CHE On Road Diesel					
Yard tractor	40161	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2265	CHE On Road Diesel					
Yard tractor	40162	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1740	CHE On Road Diesel					
Yard tractor	40163	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1614	CHE On Road Diesel					
Yard tractor	40164	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1576	CHE On Road Diesel					
Yard tractor	40165	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2177	CHE On Road Diesel					
Yard tractor	40166	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1957	CHE On Road Diesel					
Yard tractor	40167	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2336	CHE On Road Diesel					
Yard tractor	40168	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2337	CHE On Road Diesel					
Yard tractor	40169	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2407	CHE On Road Diesel					
Yard tractor	40170	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1863	CHE On Road Diesel					
Yard tractor	40171	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2094	CHE On Road Diesel					
Yard tractor	40172	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1556	CHE On Road Diesel					
Yard tractor	40173	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1441	CHE On Road Diesel					
Yard tractor	40174	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1444	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	40175	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1716	CHE On Road Diesel					
Yard tractor	40176	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2501	CHE On Road Diesel					
Yard tractor	40177	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2130	CHE On Road Diesel					
Yard tractor	40178	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1849	CHE On Road Diesel					
Yard tractor	40179	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2032	CHE On Road Diesel					
Yard tractor	40180	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2263	CHE On Road Diesel					
Yard tractor	40181	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2033	CHE On Road Diesel					
Yard tractor	40182	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1428	CHE On Road Diesel					
Yard tractor	40183	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2398	CHE On Road Diesel					
Yard tractor	40184	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1163	CHE On Road Diesel					
Yard tractor	40185	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1470	CHE On Road Diesel					
Yard tractor	40186	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2124	CHE On Road Diesel					
Yard tractor	40187	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2084	CHE On Road Diesel					
Yard tractor	40188	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2346	CHE On Road Diesel					
Yard tractor	40189	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1310	CHE On Road Diesel					
Yard tractor	40190	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240		CHE On Road Diesel					
Yard tractor	40191	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2647	CHE On Road Diesel					
Yard tractor	40192	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1957	CHE On Road Diesel					
Yard tractor	40193	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2305	CHE On Road Diesel					
Yard tractor	40194	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2395	CHE On Road Diesel					
Yard tractor	40195	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1850	CHE On Road Diesel					
Yard tractor	40196	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1473	CHE On Road Diesel					
Yard tractor	40210	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2259	CHE On Road Diesel					
Yard tractor	40211	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2462	CHE On Road Diesel					
Yard tractor	40212	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2206	CHE On Road Diesel					
Yard tractor	40213	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2473	CHE On Road Diesel					
Yard tractor	40214	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2216	CHE On Road Diesel					
Yard tractor	40215	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2469	CHE On Road Diesel					
Yard tractor	40216	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2637	CHE On Road Diesel					
Yard tractor	40217	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240		CHE On Road Diesel					
Yard tractor	40218	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2260	CHE On Road Diesel					
Yard tractor	40219	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240		CHE On Road Diesel					
Yard tractor	40220	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2317	CHE On Road Diesel					
Yard tractor	40221	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2189	CHE On Road Diesel					
Yard tractor	40222	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	927	CHE On Road Diesel					
Yard tractor	40223	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2080	CHE On Road Diesel					
Yard tractor	40224	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	3666	CHE On Road Diesel					
Yard tractor	40225	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2497	CHE On Road Diesel					
Yard tractor	40226	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2255	CHE On Road Diesel					
Yard tractor	40227	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2413	CHE On Road Diesel					
Yard tractor	40228	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2304	CHE On Road Diesel					
Yard tractor	40229	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2743	CHE On Road Diesel					
Yard tractor	40230	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2036	CHE On Road Diesel					
Yard tractor	40231	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2040	CHE On Road Diesel					
Yard tractor	40232	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1414	CHE On Road Diesel					
Yard tractor	40233	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1629	CHE On Road Diesel					
Yard tractor	40234	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1359	CHE On Road Diesel					
Yard tractor	40235	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	823	CHE On Road Diesel					
Yard tractor	40236	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	3052	CHE On Road Diesel					
Yard tractor	40237	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1296	CHE On Road Diesel					
Yard tractor	40238	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1431	CHE On Road Diesel					
Yard tractor	40239	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2514	CHE On Road Diesel					
Yard tractor	40240	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2365	CHE On Road Diesel					
Yard tractor	40241	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	1471	CHE On Road Diesel					
Yard tractor	40242	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2983	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	40243	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2331	CHE On Road Diesel					
Yard tractor	40244	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2159	CHE On Road Diesel					
Yard tractor	40245	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2003	CHE On Road Diesel					
Yard tractor	40246	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2610	CHE On Road Diesel					
Yard tractor	40247	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2487	CHE On Road Diesel					
Yard tractor	40248	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2597	CHE On Road Diesel					
Yard tractor	40249	Ottowa	C-50	Diesel	Cummins	ISB07	2008	240	2707	CHE On Road Diesel					
Yard tractor	40250	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3610	CHE On Road Diesel					
Yard tractor	40251	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3563	CHE On Road Diesel					
Yard tractor	40252	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2640	CHE On Road Diesel					
Yard tractor	40253	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2647	CHE On Road Diesel					
Yard tractor	40254	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2319	CHE On Road Diesel					
Yard tractor	40255	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3152	CHE On Road Diesel					
Yard tractor	40256	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2295	CHE On Road Diesel					
Yard tractor	40257	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2735	CHE On Road Diesel					
Yard tractor	40258	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2431	CHE On Road Diesel					
Yard tractor	40259	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2905	CHE On Road Diesel					
Yard tractor	40260	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2395	CHE On Road Diesel					
Yard tractor	40261	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3764	CHE On Road Diesel					
Yard tractor	40262	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2899	CHE On Road Diesel					
Yard tractor	40263	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3337	CHE On Road Diesel					
Yard tractor	40264	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2359	CHE On Road Diesel					
Yard tractor	40265	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2741	CHE On Road Diesel					
Yard tractor	40266	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2493	CHE On Road Diesel					
Yard tractor	40267	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3828	CHE On Road Diesel					
Yard tractor	40268	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250		CHE On Road Diesel					
Yard tractor	40269	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2781	CHE On Road Diesel					
Yard tractor	40270	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3045	CHE On Road Diesel					
Yard tractor	40271	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3620	CHE On Road Diesel					
Yard tractor	40272	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	1487	CHE On Road Diesel					
Yard tractor	40273	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2718	CHE On Road Diesel					
Yard tractor	40274	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2614	CHE On Road Diesel					
Yard tractor	40275	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	2226	CHE On Road Diesel					
Yard tractor	40276	Ottawa	4x2	Diesel	Cummins	ISB07	2013	250	3838	CHE On Road Diesel					
Yard tractor	40277			Diesel		ISB6.7	2014	250	2808	CHE On Road Diesel					
Yard tractor	40278			Diesel		ISB6.7	2014	250	2877	CHE On Road Diesel					
Yard tractor	40279			Diesel		ISB6.7	2014	250	2777	CHE On Road Diesel					
Yard tractor	40280			Diesel		ISB6.7	2014	250	2486	CHE On Road Diesel					
Yard tractor	40281			Diesel		ISB6.7	2014	250	2932	CHE On Road Diesel					
Yard tractor	40282			Diesel		ISB6.7	2014	250	2577	CHE On Road Diesel					
Yard tractor	40283			Diesel		ISB6.7	2014	250		CHE On Road Diesel					
Yard tractor	40284			Diesel		ISB6.7	2014	250	2746	CHE On Road Diesel					
Yard tractor	40285			Diesel		ISB6.7	2014	250	3672	CHE On Road Diesel					
Yard tractor	40286			Diesel		ISB6.7	2014	250	2685	CHE On Road Diesel					
Yard tractor	40287			Diesel		ISB6.7	2014	250	2906	CHE On Road Diesel					
Yard tractor	40288			Diesel		ISB6.7	2014	250	2398	CHE On Road Diesel					
Yard tractor	40289			Diesel		ISB6.7	2014	250	2848	CHE On Road Diesel					
Yard tractor	40290			Diesel		ISB6.7	2014	250	2600	CHE On Road Diesel					
Yard tractor	40291			Diesel		ISB6.7	2014	250	2457	CHE On Road Diesel					
Yard tractor	40292			Diesel		ISB6.7	2014	250	2828	CHE On Road Diesel					
Yard tractor	40293			Diesel		ISB6.7	2014	250	2915	CHE On Road Diesel					
Yard tractor	40294			Diesel		ISB6.7	2014	250	2543	CHE On Road Diesel					
Yard tractor	40295			Diesel		ISB6.7	2014	250	2626	CHE On Road Diesel					
Yard tractor	40296			Diesel		ISB6.7	2014	250	2968	CHE On Road Diesel					
Yard tractor	40297			Diesel		ISB6.7	2014	250	2976	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	40298			Diesel		ISB6.7	2014	250	3398	CHE On Road Diesel					
Yard tractor	40299			Diesel		ISB6.7	2014	250	2214	CHE On Road Diesel					
Yard tractor	40300			Diesel		ISB6.7	2014	250	2848	CHE On Road Diesel					
Yard tractor	40301			Diesel		ISB6.7	2014	250	2341	CHE On Road Diesel					
Yard tractor	40302			Diesel		ISB6.7	2014	250	2694	CHE On Road Diesel					
Yard tractor	40303			Diesel		ISB6.7	2014	250	2937	CHE On Road Diesel					
Yard tractor	40304			Diesel		ISB6.7	2014	250	2818	CHE On Road Diesel					
Yard tractor	40305			Diesel		ISB6.7	2014	250	2834	CHE On Road Diesel					
Yard tractor	40306			Diesel		ISB6.7	2014	250	2775	CHE On Road Diesel					
Yard tractor	40307			Diesel		ISB6.7	2014	250	3033	CHE On Road Diesel					
Yard tractor	40308			Diesel		ISB6.7	2014	250	1063	CHE On Road Diesel					
Yard tractor	40309			Diesel		ISB6.7	2014	250	3824	CHE On Road Diesel					
Yard tractor	40310			Diesel		ISB6.7	2014	250	3111	CHE On Road Diesel					
Yard tractor	40311			Diesel		ISB6.7	2014	250	3099	CHE On Road Diesel					
Yard tractor	40312			Diesel		ISB6.7	2014	250	2294	CHE On Road Diesel					
Yard tractor	40313			Diesel		ISB6.7	2014	250	3193	CHE On Road Diesel					
Yard tractor	40314			Diesel		ISB6.7	2014	250	2528	CHE On Road Diesel					
Yard tractor	40315			Diesel		ISB6.7	2014	250	3976	CHE On Road Diesel					
Yard tractor	40316			Diesel		ISB6.7	2014	250	3364	CHE On Road Diesel					
Yard tractor	40317			Diesel		ISB6.7	2014	250	2755	CHE On Road Diesel					
Yard tractor	40318			Diesel		ISB6.7	2014	250	2960	CHE On Road Diesel					
Yard tractor	40319			Diesel		ISB6.7	2014	250	2865	CHE On Road Diesel					
Yard tractor	40320			Diesel		ISB6.7	2014	250	2737	CHE On Road Diesel					
Yard tractor	40321			Diesel		ISB6.7	2014	250	4049	CHE On Road Diesel					
Yard tractor	40322			Diesel		ISB6.7	2014	250	2629	CHE On Road Diesel					
Yard tractor	40373			Diesel			2016	250	137	CHE Diesel					
Yard tractor	40374			Diesel			2016	250	1327	CHE Diesel					
Yard tractor	40375			Diesel			2016	250	999	CHE Diesel					
Yard tractor	40376			Diesel			2016	250	14	CHE Diesel					
Yard tractor	40377			Diesel			2016	250	777	CHE Diesel					
Yard tractor	40378			Diesel			2016	250	1288	CHE Diesel					
Yard tractor	40379			Diesel			2016	250	1019	CHE Diesel					
Yard tractor	40380			Diesel			2016	250	1643	CHE Diesel					
Yard tractor	40381			Diesel			2016	250	900	CHE Diesel					
Yard tractor	40382			Diesel			2016	250	1478	CHE Diesel					
Yard tractor	40383			Diesel			2016	250	933	CHE Diesel					
Yard tractor	40384			Diesel			2016	250	1696	CHE Diesel					
Yard tractor	40385			Diesel			2016	250	1197	CHE Diesel					
Yard tractor	40386			Diesel			2016	250	1243	CHE Diesel					
Yard tractor	40387			Diesel			2016	250	411	CHE Diesel					
Yard tractor	4049YT	Capacity		Diesel	Cummins	ISB 07	2008	210	148	CHE On Road Diesel					
Yard tractor	4050YT	Capacity		Diesel	Cummins	ISB 07	2008	210	91	CHE On Road Diesel					
Yard tractor	4055YT	Capacity		Diesel	Cummins	ISB 07	2008	210	215	CHE On Road Diesel					
Yard tractor	4061YT	Capacity		Diesel	Cummins	ISB 07	2008	210	228	CHE On Road Diesel					
Yard tractor	4066YT	Capacity		Diesel	Cummins	ISB 07	2008	210	825	CHE On Road Diesel					
Yard tractor	EMST001	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	4480	CHE On Road Diesel					
Yard tractor	EMST003	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3164	CHE On Road Diesel					
Yard tractor	EMST004	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3653	CHE On Road Diesel					
Yard tractor	EMST005	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3757	CHE On Road Diesel					
Yard tractor	EMST006	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	2449	CHE On Road Diesel					
Yard tractor	EMST011	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3636	CHE On Road Diesel					
Yard tractor	EMST012	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3549	CHE On Road Diesel					
Yard tractor	EMST013	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	956	CHE On Road Diesel					
Yard tractor	EMST014	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3279	CHE On Road Diesel					
Yard tractor	EMST015	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3204	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	EMST016	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3415	CHE On Road Diesel					
Yard tractor	EMST017	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	2842	CHE On Road Diesel					
Yard tractor	EMST018	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	2287	CHE On Road Diesel					
Yard tractor	EMST019	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3685	CHE On Road Diesel					
Yard tractor	EMST020	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3520	CHE On Road Diesel					
Yard tractor	EMST021	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3992	CHE On Road Diesel					
Yard tractor	EMST022	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3693	CHE On Road Diesel					
Yard tractor	EMST023	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3194	CHE On Road Diesel					
Yard tractor	EMST024	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3914	CHE On Road Diesel					
Yard tractor	EMST025	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3863	CHE On Road Diesel					
Yard tractor	EMST026	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3388	CHE On Road Diesel					
Yard tractor	EMST027	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3850	CHE On Road Diesel					
Yard tractor	EMST768	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST769	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST770	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST771	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST772	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST773	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST774	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1393	CHE On Road Diesel					
Yard tractor	EMST775	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1389	CHE On Road Diesel					
Yard tractor	EMST776	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1930	CHE On Road Diesel					
Yard tractor	EMST777	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2217	CHE On Road Diesel					
Yard tractor	EMST778	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1733	CHE On Road Diesel					
Yard tractor	EMST779	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2494	CHE On Road Diesel					
Yard tractor	EMST780	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1106	CHE On Road Diesel					
Yard tractor	EMST781	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1520	CHE On Road Diesel					
Yard tractor	EMST782	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	471	CHE On Road Diesel					
Yard tractor	EMST783	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1773	CHE On Road Diesel					
Yard tractor	EMST784	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2912	CHE On Road Diesel					
Yard tractor	EMST785	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2177	CHE On Road Diesel					
Yard tractor	EMST786	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2963	CHE On Road Diesel					
Yard tractor	EMST787	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1867	CHE On Road Diesel					
Yard tractor	EMST788	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1582	CHE On Road Diesel					
Yard tractor	EMST789	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST790	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST791	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST792	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST793	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2506	CHE On Road Diesel					
Yard tractor	EMST794	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2457	CHE On Road Diesel					
Yard tractor	EMST795	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1300	CHE On Road Diesel					
Yard tractor	EMST796	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2263	CHE On Road Diesel					
Yard tractor	EMST797	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST798	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1745	CHE On Road Diesel					
Yard tractor	EMST799	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1808	CHE On Road Diesel					
Yard tractor	EMST800	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2169	CHE On Road Diesel					
Yard tractor	EMST801	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	3157	CHE On Road Diesel					
Yard tractor	EMST802	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2749	CHE On Road Diesel					
Yard tractor	EMST803	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST804	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2295	CHE On Road Diesel					
Yard tractor	EMST805	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2011	CHE On Road Diesel					
Yard tractor	EMST806	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1658	CHE On Road Diesel					
Yard tractor	EMST807	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2812	CHE On Road Diesel					
Yard tractor	EMST808	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2185	CHE On Road Diesel					
Yard tractor	EMST809	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST810	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1722	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	EMST811	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2713	CHE On Road Diesel					
Yard tractor	EMST812	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2406	CHE On Road Diesel					
Yard tractor	EMST813	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1693	CHE On Road Diesel					
Yard tractor	EMST814	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST815	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1800	CHE On Road Diesel					
Yard tractor	EMST816	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1920	CHE On Road Diesel					
Yard tractor	EMST817	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2390	CHE On Road Diesel					
Yard tractor	EMST818	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	0	CHE On Road Diesel					
Yard tractor	EMST819	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2019	CHE On Road Diesel					
Yard tractor	EMST820	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1891	CHE On Road Diesel					
Yard tractor	EMST821	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2722	CHE On Road Diesel					
Yard tractor	EMST822	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	2471	CHE On Road Diesel					
Yard tractor	EMST823	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1531	CHE On Road Diesel					
Yard tractor	EMST824	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1946	CHE On Road Diesel					
Yard tractor	EMST825	Capacity	TJ7000	Diesel	Cummins	ISB240	2007	240	1793	CHE On Road Diesel					
Yard tractor	EMST831	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	3026	CHE On Road Diesel					
Yard tractor	EMST832	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	1286	CHE On Road Diesel					
Yard tractor	EMST833	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	1254	CHE On Road Diesel					
Yard tractor	EMST834	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2901	CHE On Road Diesel					
Yard tractor	EMST835	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	1121	CHE On Road Diesel					
Yard tractor	EMST836	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2746	CHE On Road Diesel					
Yard tractor	EMST837	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	497	CHE On Road Diesel					
Yard tractor	EMST838	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	3049	CHE On Road Diesel					
Yard tractor	EMST839	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST840	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2346	CHE On Road Diesel					
Yard tractor	EMST841	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2556	CHE On Road Diesel					
Yard tractor	EMST842	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST843	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	1833	CHE On Road Diesel					
Yard tractor	EMST844	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	1579	CHE On Road Diesel					
Yard tractor	EMST845	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST846	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	579	CHE On Road Diesel					
Yard tractor	EMST847	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2450	CHE On Road Diesel					
Yard tractor	EMST848	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST849	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	534	CHE On Road Diesel					
Yard tractor	EMST850	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2114	CHE On Road Diesel					
Yard tractor	EMST851	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	846	CHE On Road Diesel					
Yard tractor	EMST852	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	375	CHE On Road Diesel					
Yard tractor	EMST853	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2560	CHE On Road Diesel					
Yard tractor	EMST854	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2524	CHE On Road Diesel					
Yard tractor	EMST855	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2727	CHE On Road Diesel					
Yard tractor	EMST856	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2334	CHE On Road Diesel					
Yard tractor	EMST857	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2527	CHE On Road Diesel					
Yard tractor	EMST858	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2826	CHE On Road Diesel					
Yard tractor	EMST859	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2450	CHE On Road Diesel					
Yard tractor	EMST860	Capacity	TJ7000	Diesel	Cummins	ISB	2008	240	2426	CHE On Road Diesel					
Yard tractor	EMST862	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2965	CHE On Road Diesel					
Yard tractor	EMST863	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2672	CHE On Road Diesel					
Yard tractor	EMST864	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2610	CHE On Road Diesel					
Yard tractor	EMST865	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2465	CHE On Road Diesel					
Yard tractor	EMST866	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3222	CHE On Road Diesel					
Yard tractor	EMST867	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3563	CHE On Road Diesel					
Yard tractor	EMST868	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2946	CHE On Road Diesel					
Yard tractor	EMST869	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	166	CHE On Road Diesel					
Yard tractor	EMST870	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2817	CHE On Road Diesel					
Yard tractor	EMST871	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	1689	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	EMST872	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	1356	CHE On Road Diesel					
Yard tractor	EMST873	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2015	CHE On Road Diesel					
Yard tractor	EMST874	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2527	CHE On Road Diesel					
Yard tractor	EMST875	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2983	CHE On Road Diesel					
Yard tractor	EMST876	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2666	CHE On Road Diesel					
Yard tractor	EMST877	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	1958	CHE On Road Diesel					
Yard tractor	EMST878	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	501	CHE On Road Diesel					
Yard tractor	EMST879	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	124	CHE On Road Diesel					
Yard tractor	EMST880	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3469	CHE On Road Diesel					
Yard tractor	EMST881	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2481	CHE On Road Diesel					
Yard tractor	EMST882	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	944	CHE On Road Diesel					
Yard tractor	EMST883	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	835	CHE On Road Diesel					
Yard tractor	EMST884	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST885	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	1552	CHE On Road Diesel					
Yard tractor	EMST886	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2677	CHE On Road Diesel					
Yard tractor	EMST887	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST888	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	1394	CHE On Road Diesel					
Yard tractor	EMST889	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2982	CHE On Road Diesel					
Yard tractor	EMST890	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2984	CHE On Road Diesel					
Yard tractor	EMST891	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	465	CHE On Road Diesel					
Yard tractor	EMST892	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST893	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3542	CHE On Road Diesel					
Yard tractor	EMST894	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3059	CHE On Road Diesel					
Yard tractor	EMST895	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	0	CHE On Road Diesel					
Yard tractor	EMST896	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2796	CHE On Road Diesel					
Yard tractor	EMST897	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	3225	CHE On Road Diesel					
Yard tractor	EMST898	Capacity	TJ9000	Diesel	Cummins	ISB	2008	240	2207	CHE On Road Diesel					
Yard tractor	EMST911	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	600	CHE On Road Diesel					
Yard tractor	EMST912	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220		CHE On Road Diesel					
Yard tractor	EMST913	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	447	CHE On Road Diesel					
Yard tractor	EMST914	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	1717	CHE On Road Diesel					
Yard tractor	EMST915	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220		CHE On Road Diesel					
Yard tractor	EMST916	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	367	CHE On Road Diesel					
Yard tractor	EMST917	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	2498	CHE On Road Diesel					
Yard tractor	EMST918	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	60	CHE On Road Diesel					
Yard tractor	EMST919	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	112	CHE On Road Diesel					
Yard tractor	EMST920	Capacity	TJ9000	Diesel	Cummins	ISB	2012	220	561	CHE On Road Diesel					
Yard tractor	EMST921	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	637	CHE On Road Diesel					
Yard tractor	EMST922	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	0	CHE On Road Diesel					
Yard tractor	EMST923	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	2458	CHE On Road Diesel					
Yard tractor	EMST924	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	1792	CHE On Road Diesel					
Yard tractor	EMST925	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	3248	CHE On Road Diesel					
Yard tractor	EMST926	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	920	CHE On Road Diesel					
Yard tractor	EMST927	Capacity	TJ9000	Diesel	Cummins	ISB	2011	220	3166	CHE On Road Diesel					
Yard tractor	EMST928	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2749	CHE On Road Diesel					
Yard tractor	EMST929	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2670	CHE On Road Diesel					
Yard tractor	EMST930	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2478	CHE On Road Diesel					
Yard tractor	EMST931	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1982	CHE On Road Diesel					
Yard tractor	EMST932	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2300	CHE On Road Diesel					
Yard tractor	EMST933	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	482	CHE On Road Diesel					
Yard tractor	EMST934	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2285	CHE On Road Diesel					
Yard tractor	EMST935	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2209	CHE On Road Diesel					
Yard tractor	EMST936	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3418	CHE On Road Diesel					
Yard tractor	EMST937	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1811	CHE On Road Diesel					
Yard tractor	EMST938	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1999	CHE On Road Diesel					

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Yard tractor	EMST939	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2716	CHE On Road Diesel					
Yard tractor	EMST940	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1604	CHE On Road Diesel					
Yard tractor	EMST941	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1338	CHE On Road Diesel					
Yard tractor	EMST942	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3079	CHE On Road Diesel					
Yard tractor	EMST943	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2872	CHE On Road Diesel					
Yard tractor	EMST944	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2770	CHE On Road Diesel					
Yard tractor	EMST945	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2882	CHE On Road Diesel					
Yard tractor	EMST946	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2366	CHE On Road Diesel					
Yard tractor	EMST947	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2544	CHE On Road Diesel					
Yard tractor	EMST948	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2548	CHE On Road Diesel					
Yard tractor	EMST949	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2324	CHE On Road Diesel					
Yard tractor	EMST950	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3175	CHE On Road Diesel					
Yard tractor	EMST951	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1610	CHE On Road Diesel					
Yard tractor	EMST952	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3514	CHE On Road Diesel					
Yard tractor	EMST953	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3286	CHE On Road Diesel					
Yard tractor	EMST954	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3178	CHE On Road Diesel					
Yard tractor	EMST955	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2458	CHE On Road Diesel					
Yard tractor	EMST956	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3003	CHE On Road Diesel					
Yard tractor	EMST957	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	1937	CHE On Road Diesel					
Yard tractor	EMST958	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	2431	CHE On Road Diesel					
Yard tractor	EMST959	Capacity	TJ9000	Diesel	Cummins	ISB	2013	220	3200	CHE On Road Diesel					
Yard tractor	EMST960	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1901	CHE On Road Diesel					
Yard tractor	EMST961	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3524	CHE On Road Diesel					
Yard tractor	EMST962	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1526	CHE On Road Diesel					
Yard tractor	EMST963	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3499	CHE On Road Diesel					
Yard tractor	EMST964	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2635	CHE On Road Diesel					
Yard tractor	EMST965	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1245	CHE On Road Diesel					
Yard tractor	EMST966	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2595	CHE On Road Diesel					
Yard tractor	EMST967	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2382	CHE On Road Diesel					
Yard tractor	EMST968	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3414	CHE On Road Diesel					
Yard tractor	EMST969	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2435	CHE On Road Diesel					
Yard tractor	EMST970	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2918	CHE On Road Diesel					
Yard tractor	EMST971	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2079	CHE On Road Diesel					
Yard tractor	EMST972	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1643	CHE On Road Diesel					
Yard tractor	EMST973	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2362	CHE On Road Diesel					
Yard tractor	EMST974	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3110	CHE On Road Diesel					
Yard tractor	EMST975	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3231	CHE On Road Diesel					
Yard tractor	EMST976	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2491	CHE On Road Diesel					
Yard tractor	EMST977	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2795	CHE On Road Diesel					
Yard tractor	EMST978	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2432	CHE On Road Diesel					
Yard tractor	EMST979	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2793	CHE On Road Diesel					
Yard tractor	EMST980	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2394	CHE On Road Diesel					
Yard tractor	EMST981	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2260	CHE On Road Diesel					
Yard tractor	EMST982	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2564	CHE On Road Diesel					
Yard tractor	EMST983	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2520	CHE On Road Diesel					
Yard tractor	EMST984	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1220	CHE On Road Diesel					
Yard tractor	EMST985	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2227	CHE On Road Diesel					
Yard tractor	EMST986	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2041	CHE On Road Diesel					
Yard tractor	EMST987	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2649	CHE On Road Diesel					
Yard tractor	EMST988	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2692	CHE On Road Diesel					
Yard tractor	EMST989	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2731	CHE On Road Diesel					
Yard tractor	EMST990	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2020	CHE On Road Diesel					
Yard tractor	EMST991	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1379	CHE On Road Diesel					
Yard tractor	EMST992	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	3534	CHE On Road Diesel					
Yard tractor	EMST993	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2894	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	EMST994	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2136	CHE On Road Diesel					
Yard tractor	EMST995	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	1421	CHE On Road Diesel					
Yard tractor	EMST996	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2505	CHE On Road Diesel					
Yard tractor	EMST997	Capacity	TJ9000	Diesel	Cummins	ISB	2014	220	2857	CHE On Road Diesel					
Yard tractor	EMST998	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3677	CHE On Road Diesel					
Yard tractor	EMST999	Capacity	TJ9000	Diesel	Cummins	ISB	2015	225	3994	CHE On Road Diesel					
Yard tractor	H182	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1436	CHE On Road Diesel					
Yard tractor	H183	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1856	CHE On Road Diesel					
Yard tractor	H184	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1563	CHE On Road Diesel					
Yard tractor	H185	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1452	CHE On Road Diesel					
Yard tractor	H186	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2108	CHE On Road Diesel					
Yard tractor	H187	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1638	CHE On Road Diesel					
Yard tractor	H188	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1825	CHE On Road Diesel					
Yard tractor	H189	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1278	CHE On Road Diesel					
Yard tractor	H190	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1761	CHE On Road Diesel					
Yard tractor	H191	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1256	CHE On Road Diesel					
Yard tractor	H192	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1649	CHE On Road Diesel					
Yard tractor	H193	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1110	CHE On Road Diesel					
Yard tractor	H194	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1380	CHE On Road Diesel					
Yard tractor	H195	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1021	CHE On Road Diesel					
Yard tractor	H196	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1490	CHE On Road Diesel					
Yard tractor	H197	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1326	CHE On Road Diesel					
Yard tractor	H198	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1753	CHE On Road Diesel					
Yard tractor	H199	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1046	CHE On Road Diesel					
Yard tractor	H200	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1932	CHE On Road Diesel					
Yard tractor	H201	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1282	CHE On Road Diesel					
Yard tractor	H202	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1294	CHE On Road Diesel					
Yard tractor	H203	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1089	CHE On Road Diesel					
Yard tractor	H204	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1936	CHE On Road Diesel					
Yard tractor	H205	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2230	CHE On Road Diesel					
Yard tractor	H206	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1555	CHE On Road Diesel					
Yard tractor	H207	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1340	CHE On Road Diesel					
Yard tractor	H208	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1718	CHE On Road Diesel					
Yard tractor	H209	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2118	CHE On Road Diesel					
Yard tractor	H210	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1621	CHE On Road Diesel					
Yard tractor	H211	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1858	CHE On Road Diesel					
Yard tractor	H212	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1247	CHE On Road Diesel					
Yard tractor	H213	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1080	CHE On Road Diesel					
Yard tractor	H214	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1904	CHE On Road Diesel					
Yard tractor	H215	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1676	CHE On Road Diesel					
Yard tractor	H216	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	645	CHE On Road Diesel					
Yard tractor	H217	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1238	CHE On Road Diesel					
Yard tractor	H218	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2139	CHE On Road Diesel					
Yard tractor	H219	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2047	CHE On Road Diesel					
Yard tractor	H220	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1627	CHE On Road Diesel					
Yard tractor	H221	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	1810	CHE On Road Diesel					
Yard tractor	H222	Ottawa	C-50	Diesel	Cummins	ISB07 240	2008	240	2294	CHE On Road Diesel					
Yard tractor	H223	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1697	CHE On Road Diesel					
Yard tractor	H224	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2131	CHE On Road Diesel					
Yard tractor	H225	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1894	CHE On Road Diesel					
Yard tractor	H226	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1919	CHE On Road Diesel					
Yard tractor	H227	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2251	CHE On Road Diesel					
Yard tractor	H228	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2188	CHE On Road Diesel					
Yard tractor	H229	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2315	CHE On Road Diesel					
Yard tractor	H230	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2516	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	H231	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2222	CHE On Road Diesel					
Yard tractor	H232	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2118	CHE On Road Diesel					
Yard tractor	H233	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1982	CHE On Road Diesel					
Yard tractor	H234	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2043	CHE On Road Diesel					
Yard tractor	H235	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2226	CHE On Road Diesel					
Yard tractor	H236	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2399	CHE On Road Diesel					
Yard tractor	H237	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2712	CHE On Road Diesel					
Yard tractor	H238	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2297	CHE On Road Diesel					
Yard tractor	H239	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2081	CHE On Road Diesel					
Yard tractor	H240	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2507	CHE On Road Diesel					
Yard tractor	H241	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2218	CHE On Road Diesel					
Yard tractor	H242	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2528	CHE On Road Diesel					
Yard tractor	H243	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2548	CHE On Road Diesel					
Yard tractor	H244	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2726	CHE On Road Diesel					
Yard tractor	H245	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1778	CHE On Road Diesel					
Yard tractor	H246	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2652	CHE On Road Diesel					
Yard tractor	H247	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2277	CHE On Road Diesel					
Yard tractor	H248	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2301	CHE On Road Diesel					
Yard tractor	H249	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2200	CHE On Road Diesel					
Yard tractor	H250	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2122	CHE On Road Diesel					
Yard tractor	H251	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2491	CHE On Road Diesel					
Yard tractor	H252	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2472	CHE On Road Diesel					
Yard tractor	H253	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2564	CHE On Road Diesel					
Yard tractor	H254	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	1956	CHE On Road Diesel					
Yard tractor	H255	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2450	CHE On Road Diesel					
Yard tractor	H256	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2593	CHE On Road Diesel					
Yard tractor	H257	Capacity	TJ7000	Diesel	Cummins	ISB6.7	2012	240	2717	CHE On Road Diesel					
Yard tractor	H258	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2339	CHE On Road Diesel					
Yard tractor	H259	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2572	CHE On Road Diesel					
Yard tractor	H260	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2845	CHE On Road Diesel					
Yard tractor	H261	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2544	CHE On Road Diesel					
Yard tractor	H262	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2267	CHE On Road Diesel					
Yard tractor	H263	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2755	CHE On Road Diesel					
Yard tractor	H264	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2410	CHE On Road Diesel					
Yard tractor	H265	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2121	CHE On Road Diesel					
Yard tractor	H266	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2486	CHE On Road Diesel					
Yard tractor	H267	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2863	CHE On Road Diesel					
Yard tractor	H268	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3319	CHE On Road Diesel					
Yard tractor	H269	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2664	CHE On Road Diesel					
Yard tractor	H270	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2559	CHE On Road Diesel					
Yard tractor	H271	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2453	CHE On Road Diesel					
Yard tractor	H272	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2481	CHE On Road Diesel					
Yard tractor	H273	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3036	CHE On Road Diesel					
Yard tractor	H274	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3248	CHE On Road Diesel					
Yard tractor	H275	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2576	CHE On Road Diesel					
Yard tractor	H276	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2552	CHE On Road Diesel					
Yard tractor	H277	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2891	CHE On Road Diesel					
Yard tractor	H278	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2649	CHE On Road Diesel					
Yard tractor	H279	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2794	CHE On Road Diesel					
Yard tractor	H280	Ottawa		Diesel	Cummins	ISB6.7	2014	240	1947	CHE On Road Diesel					
Yard tractor	H281	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2783	CHE On Road Diesel					
Yard tractor	H282	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3005	CHE On Road Diesel					
Yard tractor	H283	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2868	CHE On Road Diesel					
Yard tractor	H284	Ottawa		Diesel	Cummins	ISB6.7	2014	240	1849	CHE On Road Diesel					
Yard tractor	H285	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3027	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	H286	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3167	CHE On Road Diesel					
Yard tractor	H287	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2867	CHE On Road Diesel					
Yard tractor	H288	Ottawa		Diesel	Cummins	ISB6.7	2014	240	3012	CHE On Road Diesel					
Yard tractor	H289	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2869	CHE On Road Diesel					
Yard tractor	H290	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2844	CHE On Road Diesel					
Yard tractor	H291	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2871	CHE On Road Diesel					
Yard tractor	H292	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2838	CHE On Road Diesel					
Yard tractor	H293	Ottawa		Diesel	Cummins	ISB6.7	2014	240	2700	CHE On Road Diesel					
Yard tractor	H294	Ottawa		Diesel			2015		1174	CHE On Road Diesel					
Yard tractor	H295	Ottawa		Diesel			2015		1647	CHE On Road Diesel					
Yard tractor	H296	Ottawa		Diesel			2015		1436	CHE On Road Diesel					
Yard tractor	H297	Ottawa		Diesel			2015		1708	CHE On Road Diesel					
Yard tractor	H298	Ottawa		Diesel			2015		1059	CHE On Road Diesel					
Yard tractor	H299	Ottawa		Diesel			2015		2116	CHE On Road Diesel					
Yard tractor	H300	Ottawa		Diesel			2015		1455	CHE On Road Diesel					
Yard tractor	H301	Ottawa		Diesel			2015		1524	CHE On Road Diesel					
Yard tractor	H303	Ottawa		Diesel			2015		1435	CHE On Road Diesel					
Yard tractor	LAYT1564			Diesel			1995	250	2147	CHE Diesel			1/1/2012		
Yard tractor	LAYT1565			Diesel			1995	250	1872	CHE Diesel			1/1/2012		
Yard tractor	LAYT1566			Diesel			1995	250	1168	CHE Diesel			1/1/2012		
Yard tractor	LAYT1567			Diesel			1995	250	1353	CHE Diesel			1/1/2012		
Yard tractor	LAYT3001	Ottawa		LNG	Cummins	BGAS BG-230	2009	230	284	CHE On Road LNG					
Yard tractor	LAYT3002	Ottawa		LNG	Cummins	BGAS BG-230	2009	230	542	CHE On Road LNG					
Yard tractor	LAYT3003	Ottawa		LNG	Cummins	BGAS BG-230	2009	230	771	CHE On Road LNG					
Yard tractor	LAYT3004	Ottawa		LNG	Cummins	BGAS BG-230	2009	230	714	CHE On Road LNG					
Yard tractor	LAYT3005	Ottawa		LNG	Cummins	BGAS BG-230	2009	230	2470	CHE On Road LNG					
Yard tractor	LAYT3006	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3007	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3008	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3009	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3010	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3011	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3012	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3013	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3014	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3015	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3016	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	LAYT3017	Ottawa		LNG	Cummins	ISL-G	2010	230	1000	CHE On Road LNG					
Yard tractor	OTR 1	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 10	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 2	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 3	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 4	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 5	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 8	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	OTR 9	Kalmar	T2 4x2	Diesel	Cummins	ISB 6.7	2016	200	2520	CHE On Road Diesel					
Yard tractor	Y242	Capacity	TJ7000	Diesel	Cummins	ISB-200	2007	200	584	CHE On Road Diesel					
Yard tractor	Y243	Capacity	TJ7000	Diesel	Cummins	ISB-07	2007	200	77	CHE On Road Diesel					
Yard tractor	Y244	Capacity	TJ7000	Diesel	Cummins	ISB-07	2007	200	626	CHE On Road Diesel					
Yard tractor	Y245	Capacity	TJ7000	Diesel	Cummins	ISB-07	2007	200	0	CHE On Road Diesel					
Yard tractor	Y247	Capacity	TJ7000	Diesel	Cummins	ISB-07	2007	200	477	CHE On Road Diesel					
Yard tractor	Y248	Capacity	TJ7000	Diesel	Cummins	ISB-07	2007	200	646	CHE On Road Diesel					
Yard tractor	Y258	Ottowa	4x2	Diesel	Cummins	ISB-6.7	2015	200	581	CHE On Road Diesel					
Yard tractor	Y259	Ottowa	4x2	Diesel	Cummins	ISB-6.7	2015	200	4	CHE On Road Diesel					
Yard tractor	Y260	Ottowa	T2-4x2	Diesel	Cummins	QSB-6.7	2015	173	561	CHE Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	Y261	Ottowa	T2-4x2	Diesel	Cummins	QSB-6.7	2015	173	532	CHE Diesel					
Yard tractor	YT 0201	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0202	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0203	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0204	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0205	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0206	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0207	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0208	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0209	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0210	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0211	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0213	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0214	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0215	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0216	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0217	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0218	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0219	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0220	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0221	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0222	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0223	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0224	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0225	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0226	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0227	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0228	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0229	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0230	Capacity	TJ7000	Diesel	Cummins	ISB 6.7	2007	220	2520	CHE On Road Diesel					
Yard tractor	YT 0231	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0232	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0233	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0234	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0235	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0236	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0237	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0238	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0239	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0240	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0241	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0242	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0243	Capacity	TJ7000	Diesel	Cummins	ISB 220	2008	220	2520	CHE On Road Diesel					
Yard tractor	YT 0244	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0245	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0246	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0247	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0248	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0249	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0250	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0251	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0252	Capacity	TJ9000	Diesel	Cummins	ISB 10	2011	240	2520	CHE On Road Diesel					
Yard tractor	YT 0253	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0254	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0255	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	YT 0256	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0258	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0259	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0260	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0261	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0262	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0263	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0264	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0265	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0266	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0267	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0268	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0269	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0270	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0271	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0272	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0273	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0274	Capacity	TJ9000	Diesel	Cummins	ISB 240	2012	240	2520	CHE On Road Diesel					
Yard tractor	YT 0275	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0276	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0277	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0278	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0279	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0280	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0281	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0283	Capacity	TJ9000	Diesel	Cummins	ISB6.7	2013	240	2520	CHE On Road Diesel					
Yard tractor	YT 0284	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0285	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0286	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0287	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0288	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0290	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0291	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0292	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0293	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0294	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0295	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0296	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0297	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0298	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0299	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0300	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0301	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0302	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0303	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0304	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0305	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0306	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0307	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0308	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0309	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0310	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0311	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 0312	Capacity	TJ9000	Diesel	Cummins	QSB6.7	2015	225	2520	CHE Diesel					
Yard tractor	YT 135	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	697	CHE On Road Diesel					

Port Equip Type	Equip ID	Equip Make	Equip Model	EngineType	Engine Make	Engine Model	Engine Year	HP	Annual Hours	Category	DOC	DPF level 2	DPF level 3	Vycon	Blue Cat
Yard tractor	YT 136	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	540	CHE On Road Diesel					
Yard tractor	YT 137	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1176	CHE On Road Diesel					
Yard tractor	YT 138	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1169	CHE On Road Diesel					
Yard tractor	YT 139	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1159	CHE On Road Diesel					
Yard tractor	YT 140	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	980	CHE On Road Diesel					
Yard tractor	YT 141	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1104	CHE On Road Diesel					
Yard tractor	YT 142	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1327	CHE On Road Diesel					
Yard tractor	YT 143	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	582	CHE On Road Diesel					
Yard tractor	YT 144	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1095	CHE On Road Diesel					
Yard tractor	YT 145	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1035	CHE On Road Diesel					
Yard tractor	YT 146	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1324	CHE On Road Diesel					
Yard tractor	YT 147	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2011	200	1221	CHE On Road Diesel					
Yard tractor	YT 148	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	1146	CHE On Road Diesel					
Yard tractor	YT 149	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	1278	CHE On Road Diesel					
Yard tractor	YT 150	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	1127	CHE On Road Diesel					
Yard tractor	YT 151	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	105	CHE On Road Diesel					
Yard tractor	YT 152	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	1052	CHE On Road Diesel					
Yard tractor	YT 153	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	729	CHE On Road Diesel					
Yard tractor	YT 154	Ottawa	YT-50	Diesel		DOT/EPA Tier 4	2013	200	1257	CHE On Road Diesel					