RECIRCULATED DRAFT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT/ ENVIRONMENTAL IMPACT REPORT

Folsom Dam Safety and Flood Damage Reduction Project Right Bank Stabilization

~~July~~ November 2014

SCH #2006022091

US Army Corps of Engineers

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

CENTRAL VALLEY FLOOD PROTECTION BOARD
PUBLIC SAFETY
AND FLOOD MANAGEMENT
STATE OF CALIFORNIA

SAFCA
Sacramento Area Flood Control Agency

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
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Environmental Resources Branch

FINDING OF NO SIGNIFICANT IMPACT
Folsom Dam Safety and Flood Damage Reduction
Right Bank Stabilization Project

I have reviewed and evaluated the information presented in this Environmental Assessment/ Environmental Impact Report (EA/EIR) prepared for the Folsom Dam Safety Modification Project, Right Bank Stabilization located in Folsom, California. The Folsom Dam Safety Modification Project, referred to as the Joint Federal Project (JFP), is a cooperative effort between the U.S. Department of Interior, Bureau of Reclamation; the U.S. Army Corps of Engineers (Corps); the State of California Central Valley Flood Protection Board (CVFPB); and the Sacramento Area Flood Control Agency (SAFCA). As part of the JFP, the Corps, along with the CVFPB and SAFCA, proposes to use Folsom State Prison land as a staging area and to construct a drain at the stilling basin.

During this review, the possible consequences of the work described in the EA/EIR have been studied with consideration given to environmental, cultural, and engineering feasibility. I have also considered the views of other interested agencies, organizations, and individuals. The environmental effects have been coordinated with the U.S. Fish and Wildlife Service, California State Historic Preservation Officer, the Department of Water Resources, the CVFPB, and SAFCA.

No significant impacts on resources would result from the project. Best management practices, avoidance protocols, minimization and mitigation measures would be used during construction to reduce effects related to air quality, cultural resources, sensitive biological resources, and water quality. Impacts to vegetation would be minimized through revegetation and best management practices.

Based on my review of the EA/EIR and my knowledge of the project area, I have determined that the proposed project would have no significant, long-term effects on environmental, social, or cultural resources. Based on these considerations, I am convinced that there is no need to prepare an environmental impact statement. Therefore, an EA and Finding of No Significant Impact provide adequate environmental documentation for the proposed action.

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Date

____
Mike Farrell
Colonel, U.S. Army
District Engineer

EXECUTIVE SUMMARY

ES.1 Purpose of the SEIS/EIR

This draft Supplemental Environmental ~~Analysis~~ Assessment/Environmental Impact Report (EA/EIR) has been prepared for the Folsom Dam Safety Modification Project, Right Bank Stabilization. A Draft Supplemental EA/EIR for the Folsom Dam Modification Project, Right Bank Stabilization was completed July 2014. Based on additional concurrent construction activities proposed to be completed in 2015, carbon dioxide emissions were recalculated and are now estimated to be 39,000 metric tons which has the potential to exceed thresholds. However, if emissions exceed thresholds, mitigation measures would be implemented to reduced effects to less than significant. These changes warrant the preparation of a supplemental National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) document.

This draft EA/EIR is a supplement to the 2007 Final EIS/EIR for the Folsom Dam Safety and Flood Damage Reduction Project (2007 FEIS/EIR), prepared by the U.S. Bureau of Reclamation. This project is also known as the Folsom Joint Federal Project (Folsom JFP). The Folsom JFP is a cooperative effort between the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation (USBR), the State of California Central Valley Flood Protection Board (CVFPB), and the Sacramento Area Flood Control Agency (SAFCA).

The 2007 FEIS/EIR stated that the design of the spillway approach channel would be determined in the Corps' pre-construction, engineering, and design phase and if needed, supplemental NEPA/CEQA documentation would be prepared. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from Folsom Dam and the new auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River where the two flows converge. This draft EA/EIR examines the impacts of proposed construction slope protection measures along approximately 400 feet of the right bank of the American River.

While this draft Supplemental EA/EIR builds upon and incorporates work already completed as part of the project development process, it does not reproduce in full the prior 2007 FEIS/EIR and ROD documentation. Detailed discussions of the changes to the project and/or conditions of the project area since 2007 are presented in the 2012 Folsom Dam Modification Project Approach Channel Supplemental Environmental Impact Statement/ Environmental Impact Report (2012 SEIS/EIR). The 2012 SEIS/EIR was supplemental to the 2007 FEIS/EIR and analyzed the construction of the approach channel to the auxiliary spillway. This Supplemental EA/EIR incorporates information from those documents by reference, where applicable.

The 2007 FEIS/EIR and ROD, and the 2012 SEIS/EIR and ROD can be reviewed at: http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=1808 and http://www.spk.usace.army.mil/Missions/CivilWorks/FolsomDamAuxiliarySpillway.aspx

ES.2 Project Area

Folsom Dam is located at the confluence of the North and South Forks of the American River, approximately 29 miles upstream from the city of Sacramento, near the city of Folsom (Figure ES-1). The new auxiliary spillway is being constructed on the left abutment of the main dam, immediately downstream of the existing left wing dam.

Construction activities associated with the stabilization of the existing right bank slope will be confined to the lower right bank slope of the American River starting approximately 700 feet downstream from the Folsom Dam powerhouse. The project area for this Supplemental EA/EIR includes the right bank of the American River from the main dam to Folsom Lake Crossing Bridge, and USBR maintenance road to the powerhouse. The project area is shown on the map in Figure ES-2.

ES.3 Background and Need For Action

The evaluation in the 2007 FEIS/EIR was based on technical studies and the level of project design available at the time. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River. After the auxiliary spillway becomes operational, changes in river hydraulics downstream of the stilling basin will occur that have not been experienced to date. Due to the orientation of the auxiliary spillway, an approximately 400 foot reach of the American River right bank slope may be more vulnerable to erosion and scour, depending on how the facilities are operated. As a result, concerns have been raised about what the impacts might be if erosion and scour are increased due to the new auxiliary spillway. Turbulent flow conditions along the right bank side of the American River could result in the displacement and/or release of large blocks of rock. This could result in a partial blockage/obstruction of flow; a rise in tailwater elevation, affecting power generation; and the potential for progressive failure of the upper bank slope.

This draft Supplemental EA/EIR provides this supplemental documentation and evaluates the direct, indirect, and cumulative environmental effects of slope protection measures and identifies mitigation measures to avoid, minimize, and compensate for impacts.

Project Vicinity Map	US Army Corps of Engineers Sacramento District	0 5 10 20 Miles	
		Folsom Dam Modification Project, Approach Channel	
		Date: March 2012	ES - 1

Figure ES-1. Project Vicinity Map.

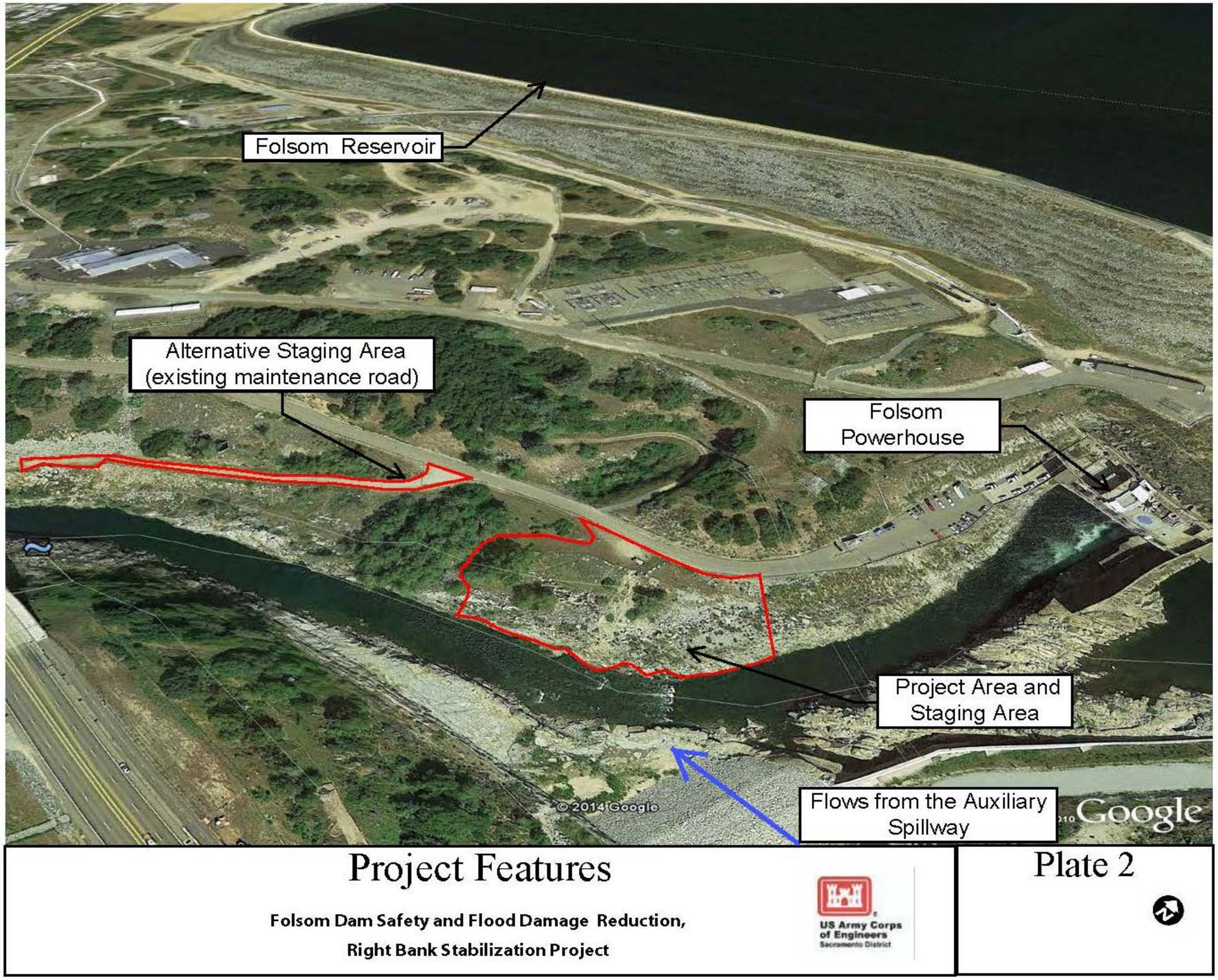

Figure ES-2. Project Area Map.

ES.4 Alternatives

ES.4.1 Alternative 1 – No Action

Under the no action alternative, the Corps and the CVFPB would not implement the slope protection measures proposed in this EA/EIR. During releases in high flow events, the tailwater could reach an elevation of 186.0 feet. Turbulent flow conditions along the right bank of the American River could result in the displacement and/or release of large blocks of rock. This could result in a partial blockage/obstruction of flow; a rise in tailwater elevation, affecting power generation; and the potential for progressive failure of the upper bank slope.

ES.4.2 Alternative 2 – Implement Slope Protection Measures (Preferred Action)

Alternative 2 consists of the permanent installation of approximately 40 rock bolts between 25 and 30 feet in length to pin the rock mass and the construction of a temporary 20-foot wide access road and a platform to allow for mobilization of the crane.

ES.6 Environmental Effects and Mitigation

There would be no significant effects to resources. The project would cause temporary effects to air quality, vegetation and wildlife and water quality, but these effects would be less than significant. Table ES-1 summarizes the potential effects of the alternatives, the significance of those effects, and any potential mitigation measures that would be implemented to reduce any effects to less than significance, if possible.

ES.7 Compliance With Applicable Laws, Policies, and Plans

This document will be adopted as a joint Supplemental EA/EIR and will fully comply with National Environmental Policy Act and California Environmental Quality Act requirements. The project will comply with all Federal laws, regulations, and Executive Orders. In addition, the non-Federal sponsor will comply with all State and local laws and permit requirements.

ES.8 Public Involvement

This draft Supplemental EA/EIR will be circulated for a 45-day review to Federal, State, and local agencies; organizations; and individuals who have an interest in the project. Comment letters and responses from the first public comment period are located in Appendix H. All additional comments received during the public review period will be considered and incorporated into the final Supplemental EA/EIR, as appropriate. ~~A comments and responses appendix will be included in the final Supplemental EA/EIR~~

ES.9 Areas of Controversy

No significant issues have been identified for implementing the slope protection measures. Significant issues identified as areas of controversy by agencies and the public related to construction of the entire Folsom JFP are summarized below. These issues are based on preliminary studies and comments from previous phases during formal and informal agency meetings, workshops, public meetings, telephone discourse, letters, and emails.

- Preliminary air quality emission calculations indicated that concurrent construction of the JFP project phases would result in air emissions that could lead to violations of applicable State ambient air quality standards and not comply with the Federal Clean Air Act (CAA).

- Construction is expected to increase noise levels, affecting local recreationists and adjacent residents, even under circumstances of compliance with the City of Folsom noise ordinances.

- Public comments to the 2007 EIS/EIR identified concerns over temporary curtailment of recreational activities in the project area. However, Folsom Point and the Folsom Point launch area will remain open to recreationists.

- Recreational experience may be degraded in and adjacent to the Folsom JFP project area. Noise, visual esthetics, and access will be compromised during construction during years 2013 to 2017.

ES.10 Unresolved Issues

At this time, there are no unresolved issues. The Corps will continue working with the Sacramento Metropolitan Air Quality Management District and the California Air Resources Board to ensure compliance with the CAA, as discussed in Section ES.9 above.

ES.11 Preferred Plan

Based on the results of the technical, economic, and environmental analyses; coordination with the non-Federal sponsor; and public input, Alternative 2 has been identified as the preferred plan. Based on geotechnical studies, Alternative 2 has been identified as the alternative that meets the public safety standards.

Table ES-1. Comparative Summary of Environmental Effects, Mitigation, and Levels of Significance.

	Alternative 1 – No Action	Alternative 2 – Implement Slope Protection Measures
Aesthetics		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Fisheries		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Hazardous, Toxic, and Radiological Wastes		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Land Use and Socioeconomics		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Noise		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Recreation		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Topography, Geology, and Soils		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.

Traffic		
Effect	No effect.	No effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	Not applicable.
Air Quality		
Effect	No effect.	NOx will exceed SMAQMD standards.
Significance	Not applicable.	Less than significant with mitigation.
Mitigation	Not applicable.	Incorporation of SMAQMD Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices.
Climate Change		
Effect	No effect.	Overall GHG emissions during 2015 have the potential to exceed the 25,000 metric ton CO2e threshold.
Significance	Not applicable.	Less than significant with mitigation.
Mitigation	Not applicable.	All applicable BMPs will be incorporated. If CO2e emissions exceed the 25,000 metric ton / year threshold, then a GHG reduction Plan will be implemented to reduce impacts to less than significant. Therefore, mitigation measures and BMPS will reduce GHG emissions to less than significant.
Cultural Resources		
Effect	No effect.	No adverse effect.
Significance	Not applicable.	Not applicable.
Mitigation	Not applicable.	If archeological deposits are found during project activities, work would be stopped pursuant to 36 CFR 800.13(b), Discoveries without Prior Planning, to determine the significance of the find and, if necessary, complete appropriate discovery procedures.
Special Status Species		
Effect	No effect.	Temporary disturbance to elderberry shrubs; if present, disturbance to Swainson’s hawk, Cooper’s hawk, and white-tailed kites.
Significance	Not applicable.	Less than significant with mitigation
Mitigation	Not applicable.	Incorporating measures from USFWS

		necessary implement CDFG recommendations.
Vegetation and Wildlife		
Effect	No effect.	Potential loss of up to 12 trees.
Significance	Not applicable.	Less than significant with mitigation
Mitigation	Not applicable.	Recommendations proposed by USFWS. Site restoration, planting of trees and/or mitigation bank credits.
Water Quality		
Effect	No effect.	Accidental spills of construction-related substances such as oils and fuels can contaminate both surface water and ground water. Potential for fugitive dust, construction runoff, and incidental fallback of materials to enter waterways.
Significance	Not applicable.	Less than significant with mitigation.
Mitigation	Not applicable.	Implementing standard BMPs to avoid or minimize any effects of construction on surface waters as part of the SWPPP and NPDES permits.

CONTENTS

TABLES

FIGURES

PLATES

APPENDICES

ACRONYMS & ABBREVIATIONS

APE	area of potential effects
BMPs	best management practices
CARB	California Air Resources Board
CAA	Clean Air Act
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CH_4	methane
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Corps	U.S. Army Corps of Engineers
CVFPB	Central Valley Flood Protection Board
CVRWQCB	Central Valley Regional Water Quality Control Board
CWA	Clean Water Act
dB	decibels
dBA	“A-weighted” decibel
EA	Environmental Assessment
EA/EIR	Environmental Assessment/Environmental Impact Report
EA/IS	Environmental Assessment/Initial Study
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
FEIS/EIR	Final Environmental Impact Statement/Environmental Impact Report
Folsom Facility	Folsom Dam and its associated facilities
FONSI	Finding of No Significant Impact
GCR	General Conformity Rule
GHG	greenhouse gas
HFC	hydrofluorocarbons
HOV lanes	bus/carpool lanes
HTRW	hazardous, toxic, and radiological wastes
JFP	Joint Federal Project
L_{50}	noise level exceeded more than 30 minutes per hour
LOS	level of service
µg/m3	micrograms per cubic meter
MIAD	Mormon Island Auxiliary Dam
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide

NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	ozone
OPR	Governor's Office of Planning and Research
Pb	lead
PFC	perfluorocarbons
PM	particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	inhalable particulate matter
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SAFCA	Sacramento Area Flood Protection Agency
SF_6	sulfur hexafluoride
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
WRDA	Water Resources Development Act

1.0 INTRODUCTION

1.1 Proposed Action

The U.S. Army Corps of Engineers (Corps) and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom Dam Safety and Flood Damage Reduction Project (Folsom JFP), previously addressed in the Final Environmental Impact Statement/Environmental Impact Report on the Dam Safety and Flood Damage Reduction Project (2007 FEIS/EIR), issued by the U.S. Bureau of Reclamation (USBR) in 2007 (USBR 2007). These design refinements include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The purposed action would ensure the right bank slope remains stable where flows from the main dam and the auxiliary spillway converge. Construction details of these design refinements are included in Section 2.2.

1.2 Background and Need

The Folsom JFP is a cooperative effort among the Corps, CVFPB, USBR, and the Sacramento Area Flood Control Agency (SAFCA). The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Folsom Dam is a concrete gravity dam 340 feet high and 1,400 feet long flanked by left and right earthfill wing dams. The Folsom Facility also includes Morman Island Auxiliary Dam and eight earthfill dikes. The storage capacity for the reservoir is 977,000 acre-feet at an elevation of 466 feet. Construction of Folsom Dam by the Corps began in October 1948 and was completed in May 1956. The auxiliary spillway is currently under construction by the Corps and will be completed in approximately Fall 2017.

Operation of this spillway would increase water discharge capability from the reservoir and help to provide a 200-year level of flood protection to the Sacramento area. The potential effects of the Folsom JFP on environmental resources were evaluated by USBR in the 2007 FEIS/EIR. The Corps was a cooperating agency in the development of the 2007 FEIS/EIR, and a joint Record of Decision was signed on May 3, 2007. A Notice of Determination (NOD) and Statement of Findings were issued by the CVFPB on July 20, 2007.

The evaluation in the 2007 FEIS/EIR was based on technical studies and the level of project design available at the time. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River where the flows from the main dam and auxiliary spillway converge. After the auxiliary spillway becomes operational, changes in river hydraulics downstream of the stilling basin will occur that have not been experienced to date. Due to the orientation of the auxiliary spillway, an approximately 400 foot reach of the American River right bank slope may be more vulnerable to erosion and scour, depending on how the facilities are operated. As a result, concerns have been raised about what the impacts might be if erosion and scour are increased due to the new auxiliary spillway. Turbulent flow conditions along the right bank side of the American River could result in the displacement and/or release of large blocks of rock. This could result in a partial blockage/obstruction of flow; a rise in tailwater elevation, affecting power generation; and the potential for progressive failure of the upper bank slope.

Before a decision can be made to proceed with the bank stabilization action, the effects of the slope protection measures must be evaluated to determine whether they would have any significant environmental effects that could not be avoided or mitigated to less than significant. Without these slope protection measures, turbulent forces could cause erosion or cause displacement of rock blocks in the lower, steeper portion of the bank slope.

1.3 Project Area

Folsom Dam is located at the confluence of the North and South Forks of the American River, approximately 29 miles upstream from the city of Sacramento, near the city of Folsom (Plate 1). The new auxiliary spillway is being constructed on the left abutment of the main dam, immediately downstream of the existing left wing dam.

Construction activities associated with the stabilization of the existing right bank slope will be confined to the lower right bank slope of the American River starting approximately 700 feet downstream from the powerhouse. The project area for this Supplemental EA/EIR includes the right bank of the American River from the main dam to Folsom Lake Crossing Bridge, and USBR's maintenance road to the powerhouse (Plate 2).

1.4 Folsom JFP Authority

Construction of the auxiliary spillway was authorized by Section 101(a)(6)(A) of the Water Resources Development Act (WRDA) of 1999 (1113 Stat. 274) and modified by Section 128 of the Energy and Water Development and Appropriations Act of 2006 (119 Stat. 2259). Specifically, Section 128 of the 2006 Act authorizes the Secretary of the Army and the Secretary of the Interior to collaborate on developing alternatives to provide flood damage reduction improvements and dam safety measures at Folsom Dam, including an auxiliary spillway. Formal authorization for the Folsom JFP was included in Section 3029(b) of WRDA 2007, authorizing the Corps and USBR to construct the auxiliary spillway generally in accordance with Corps' Post Authorization Change Report, American River Watershed Project (Folsom Dam Modifications and Folsom Dam Raise) (Corps 2007).

1.5 Purpose of the Supplemental EA/EIR

This Supplemental EA/EIR (1) describes the existing environmental and cultural resources in the project area; (2) evaluates the effects and significance of the proposed bank stabilization measures on these resources; and (3) proposes measures to avoid, minimize, or mitigate any adverse effects to less than significance. This EA/EIR has been prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This EA/EIR is intended to supplement the 2007 FEIS/EIR.

Based on the results of the EA/EIR, the District Engineer, Commander of the Sacramento District, will decide whether or not the proposed action qualifies for a Finding of No Significant Impact (FONSI) under NEPA or whether a supplemental EIS must be prepared. An EA and a FONSI will be sufficient if the proposed refinements are determined to not result in new significant effects on the environment beyond the significant effects identified in the 2007 FEIS/EIR and the scope and magnitude of impacts are within the range of impacts identified in the 2007 FEIS/EIR. In addition, CVFPB will consider certifying the EIR and adopting its findings, adopting the mitigation and monitoring plan, and approving the design refinements to the project.

1.6 Related Documents

The following documents are relevant to the modifications and are incorporated by reference in this Supplemental EA/EIR.

- <u>2007 Folsom Dam Safety and Flood Damage Reduction FEIS/EIR.</u> The 2007 FEIS/EIR was prepared by USBR and contains the initial analysis of environmental effects and potential mitigation associated with the overall Folsom JFP.

- <u>2010 Folsom Dam Safety and Flood Damage Reduction EA/EIR, Control Structure, Chute, and Stilling Basin</u>. The 2010 EA/EIR was supplemental to the 2007 FEIS/EIR and analyzed design refinements for the auxiliary spillway's chute, stilling basin, and construction of the control structure.

- <u>2012 Folsom Dam Safety and Flood Damage Reduction Project EA/EIR, Prison Staging Area and Stilling Basin Drain</u>. The 2012 EA/EIR was supplemental to the 2007 FEIS/EIR and analyzed design refinements to use Folsom State Prison land as a staging area and to construct a drain at the stilling basin.

- <u>2012 Folsom Dam Modification Project Approach Channel SEIS/EIR</u>. The 2012 SEIS/EIR was supplemental to the 2007 FEIS/EIR and analyzed the construction of the approach channel to the auxiliary spillway.

2.0 ALTERNATIVES

2.1 Alternatives Not Considered Further

The project area is situated in a narrow corridor adjacent to the American River where flows from the main Folsom dam and the auxiliary spillway converge. The purpose of this project is to protect and reinforce the right bank of the American River.

Structures designed to protect the areas around a slope from falling rocks include mesh or cable nets, barriers and fences, and catchment areas. These devices allow rocks to fall but prevent them from causing any damage. These types of protection can stop a rock, control its trajectory, reduce its energy, and/or provide a catchment.

Mesh or cable nets provided rockfall protection by holding rocks behind the mesh/net or direct them to a catchment area at the bottom of the slope. Nets were determined not to be feasible because they are limited to catch smaller sized rocks than what is located in the project area and would require a debris-collection catchment area. Barriers and fences are installed at the bottom of the slope and provide rockfall protection by catching and stopping falling rocks. These were determined not to be feasible due to the limited space of the project area, require too much maintenance and they not as aesthetically pleasing. Catchment areas are ditches or trenches dug along the foot of a slope used to dissipate falling rocks and collect rocks or debris that become detached from the slope. Catchment areas were determined not to be feasible due to the limited space of the project area and require maintenance.

2.2 Alternative 1 - No Action

Under the no action alternative, the Corps and the CVFPB would not implement the slope protection measures proposed in this Supplemental EA/EIR. During releases in high flow events, the tailwater could reach an elevation of 186.0 feet. Turbulent flow conditions along the right bank side of the American River could result in the displacement and/or release of large blocks of rock. This could result in a partial blockage/obstruction of flow; a rise in tailwater elevation, affecting power generation; and the potential for progressive failure of the upper bank slope.

2.3 Alternative 2 – Implement Slope Protection Measures (Preferred Action)

This section describes the proposed slope protection measures to the right bank of the American River. Other construction features described in the 2007 FEIS/EIR and supplemental documents would remain the same. Photographs of existing site conditions are provided in Plate 3.

2.3.1 Construction Details

Permits and Utilities. Prior to initiation of the project, the construction contractor would be required to obtain all Federal, State, and local permits and approvals necessary to perform the work, including those related to storm water discharge, air quality, and traffic safety. There are no known utilities located in the project area. The contractor would be required to verify if any utilities exist in or near the project area and ensure that any found would not be damaged or disrupted. If utilities are found, potentially affected utility companies would be contacted by the contractor concerning the timing and scope of the proposed work.

Mobilization and Staging. Access to the site would be from the west of the project area by way of Folsom-Auburn Road. Approximately one-quarter mile to the north of the signaled intersection of Folsom-Auburn Road and Folsom Lake Crossing Road, vehicles would turn right at the entrance to USBR's Central California Area Office (CCAO) facility (Figure 1). Access to the project area would be through USBR's property controlled by CCAO.

The project area is approximately 2 acres although the actual area of work to install the rock bolts would be confined to a much smaller area (approximately one-half acre). Staging area space is limited at the project area. There is an existing unpaved turnout area near the powerhouse in close proximity to the project area which would be used for staging and vehicle parking (Figure 2). A second staging area located along approximately 0.5 acres of an existing dirt road located may be used if additional space is required (Plate 2). Access to the powerhouse is controlled by USBR and the use of this area would be coordinated with CCAO. Due to the scope and nature of work involved, the need for vehicular parking, staging and laydown areas would be small. Minimal grading would be required to enlarge the existing unpaved turnout area to develop sufficient space for staging and vehicles. Prior to initiation of the work, the staging area would be fenced.

Lower Slope Protection. To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts would be installed below elevation 155 (Figure 3). A rock bolt is a long anchor bolt which is used to stabilize rock. Rock bolts generally consist of steel elements (bars or strands) grouted in a drilled hole. Rock bolts actively transfer loading between the unstable exterior, to the stable, stronger interior of the rock, thereby lowering the structure's center of gravity. Rock bolts work by 'knitting' the rock mass together sufficiently before it can move enough to loosen and fail Approximately 40 rock bolts between 25 and 30 feet in length would be placed to pin the rock mass. Holes would be drilled into the rock slope and then filled with cement grout or resin grout to hold the rock bolts in place. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill in joint cavities directed inward to prevent the potential dislodging of several large rock blocks in the vicinity.

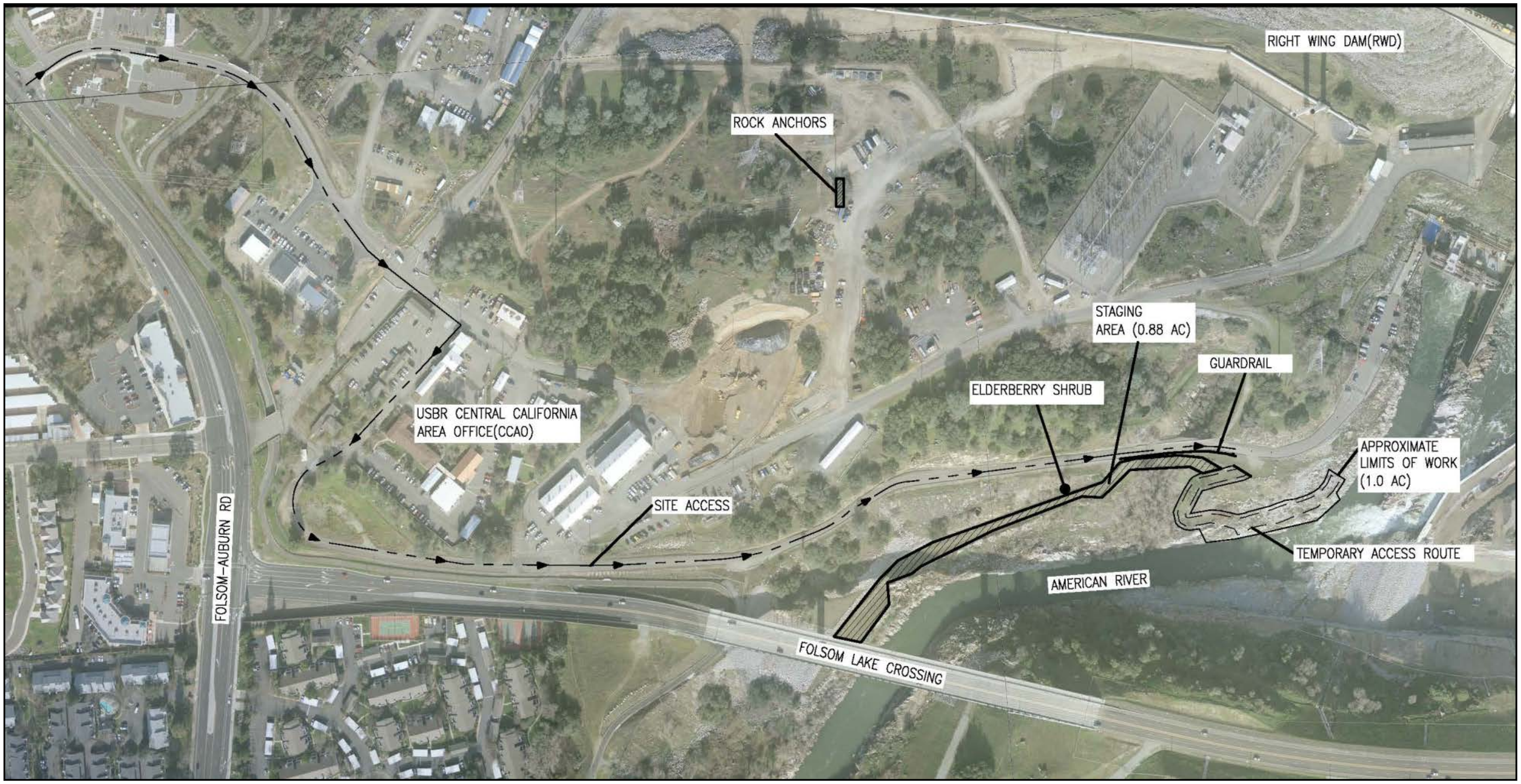

Figure 1. Access to the Project Area

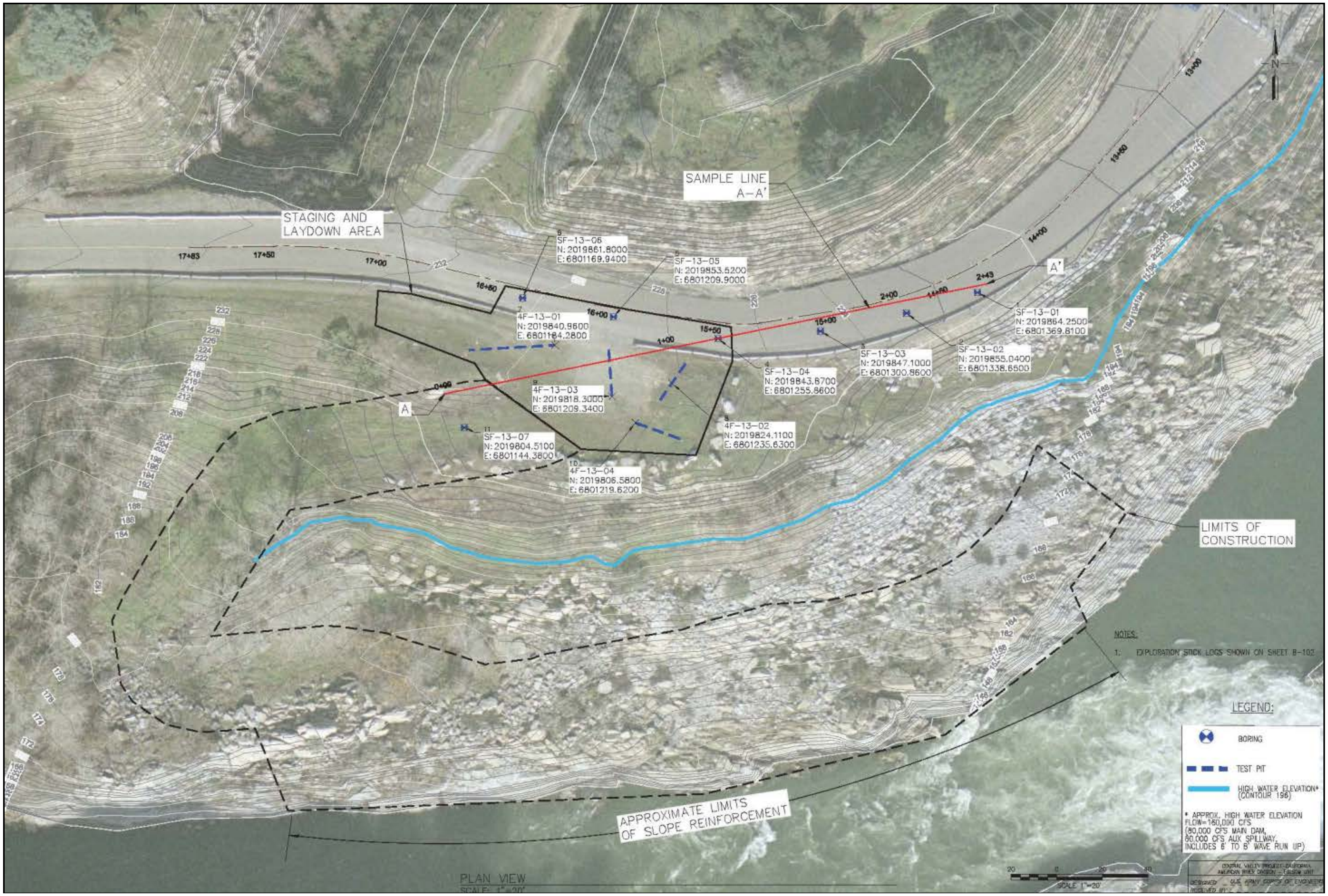

Figure 2. Staging Area and Access Road Alignment

Figure 3. Approximate Rock Bolt Locations

Site Preparation. The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation would involve clearing an area for a work platform to place a crane and other equipment needed for installing rock bolts. A crane platform could be setup on either the upper-slope staging area or on a mid-slope area. The crane would lower the crew and drilling equipment over the edge to install the rock bolts. Alternatively, to access hard-to-reach rock bolt locations, the contractor could use a barge to conduct drilling operations. The barge would allow a track-mounted drill rig to be transported to the shoreline to access the rock bolt locations.

Access Road. A 20-foot wide access road and a platform would be constructed to allow for mobilization of the crane. The access road alignment is shown on Figure 2. Site preparation for the access road would include minor clearing, grubbing, and tree removal of approximately 0.04 acres. Approximately 3,000 cy of material would be need to develop the access road. Small earth-moving equipment would cut approximately 1,000 cubic yards (cy) of material. All suitable material from excavation would be reused to construct the access road to the extent feasible. Approximately 2,000 cy of fill material would need to be imported for the access road. It is anticipated that the fill material needed would come from existing local commercial off-site source and delivered to the site. For the construction of the access road, soil would be graded, scarified, and compacted. Aggregate base material would be spread over the access road and compacted to 100 percent density. Completion of the access road is estimated to take approximately 2 weeks.

Demobilization and Clean Up. Once the slope protection measures are completed, the contractor would remove all construction equipment, temporary fencing, and unused materials from the project area. In addition, all work areas would be cleaned of work-related debris and rubbish, and work areas would be left in a neat and presentable condition. Any roadway pavement or parking area gravel damages due to construction equipment or haul trucks would be repaired to pre-project conditions.

Restoration. The contractor would restore all disturbed areas to pre-project conditions via seeding with a plant mix typical of the area to prevent erosion and encourage revegetation. Any trees removed would be mitigated in accordance with the recommendations provided in the Coordination Act Report. If mitigation cannot be completed on-site, it is assumed to be completed at Rossmoor Bar mitigation site along the American River.

Operation and Maintenance. No maintenance is required after the rocks bolts are installed.

2.3.2 Construction Schedule

The proposed slope protection measures would be conducted over a six month period starting the middle to late summer of 2015. Work hours would be limited to 7 a.m. to 6 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays. No work would be conducted on Sundays or during late evening or night hours.

3.0 AFFECTED RESOURCES AND ENVIRONMENTAL EFFECTS

3.1 Introduction

This section evaluates the following environmental resource areas, in which the proposed Folsom Dam JFP refinements could have new or substantially more severe significant direct, indirect, and/or cumulative environmental effects:

- Air quality
- Climate Change
- Cultural resources
- Vegetation and Wildlife
- Special Status Species
- Water Quality
- Growth inducing and cumulative effects

In this document, “affected resources” refers to the present-day, existing environmental conditions of the project area. Both beneficial and adverse effects are considered, including direct effects during construction and indirect effects resulting from the project implementation. Where necessary, each section contains a discussion of the methods used to analyze effects. The basis of significance is based on NEPA and CEQA requirements. The Corps has integrated NEPA requirements into its regulations, policies, and guidance. Engineering Regulation 1105-2-100, “Planning Guidance Notebook,” April 2000, establishes the following significance criteria:

- Significance based on institutional recognition means that the importance of the effect is acknowledged in the laws, adopted plans, and other policy statements of public agencies and private groups. Institutional recognition is often in the form of specific criteria.
- Significance based on public recognition means that some segment of the general public recognized the importance of the effect. Public recognition may take the form of controversy, support, conflict, or opposition expressed formally or informally.
- Significance based on technical recognition means that the importance of an effect is based on the technical or scientific criteria related to critical resource characteristics.

For this Supplemental EA/EIR, these three NEPA criteria apply to all resources and are not repeated under each resource. The CEQA requirements are more specific to the resource and are listed in Appendix G of the CEQA Guidelines. The CEQA criteria relevant to an urban setting, as well as other agency criteria and thresholds of significance that apply to each resource, are identified under the appropriate resource. When necessary, measures are proposed to avoid, minimize, or reduce any adverse effects on that resource to less than significant.

3.2 Resources Not Considered in Detail

The following environmental resource areas are not addressed in this Supplemental EA/EIR because the proposed refinements are expected to have little or no effect on these resources: topography, geology, and soils, land use, prime farmland, socioeconomics, environmental justice, recreation, hazardous, toxic, and radiological waste, aesthetics, noise, and fisheries. The following discussion summarizes why each of these areas are not evaluated further.

3.2.1 Aesthetics

The project area is located in a remote open area on the west side of Folsom Dam <u>that is not accessible to the public</u>. Regional views include Folsom Lake, as well as the surrounding foothills, which include open space preserves and/or recreational areas. Prominent features in the local viewshed are Folsom Dam, the out flow channel, and the auxiliary spillway. The primary viewers <u>of the project site</u> would consist of commuters and other motorists driving across Folsom Lake Crossing (bridge) <u>or recreationist using the bike path</u>.

Construction activities would temporary affect the local viewshed. However, this area has ongoing construction from dam improvements; thus, the construction of the proposed action would not be a change from the current, existing conditions. Length of construction would be limited to six months. Once construction is completed, all equipment and barriers and fencing would be removed, and the local viewshed would return to pre-project conditions. As a result, the project would have no effect on aesthetics.

3.2.2 Fisheries

The upstream portion of Lake Natoma includes the highly bedrock-confined outflow channel below Folsom Dam. Lake Natoma, was formed by the construction of Nimbus Dam in 1955, and serves as a regulating afterbay for Folsom Reservoir. There are approximately 28 fish species that have the potential to occur downstream of Folsom Dam within either the outflow channel or Lake Natoma. Of these species, 24 are non-native and four are native. The four native species known to occur include Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento sucker (*Catostomus occidentalis*), rainbow trout (*Oncorhynchus mykiss*), and chinook salmon (*Oncorhynchus tshawytsha*). The latter two species from the salmonid family are important cold-water game species that are managed and maintained by California Department of Fish and Wildlife (CDFW) active hatchery-based stocking program. The most abundant non-native species originate from the centrarchid family, and include various bass and sunfish.

Rock bolts would be installed above the water line and no in-water excavation or drilling would occur. The contractor would be required to develop and submit a Storm Water Pollution Prevention Plan (SWPPP) to minimize the potential for soil, grout, or contaminants to enter the river. Erosion/sediment controls such as hay bales, straw wattles and silt fencing would be utilized as necessary to prevent soil from entering the river. The contractor will not be allowed to store fuels, lubricants or other potential hazardous substances on site. If equipment is to be refueled on site, the contractor will take measures to avoid and contain any spills. The contractor will be required to develop and submit a Spill Prevention and Countermeasure Plan (SPCP) prior to initiating construction activities. The SWPPP and SPCP must be approved by the Corps.

Construction-related effects on fish could include effects related to noise, and vibrations caused by drilling equipment operation. These types of physical disturbances can disrupt or delay normal activities, or cause injury or mortality. The potential magnitude of effects depends on a number of factors, including the type and intensity of the disturbance, proximity of the action to the water body, timing of actions relative to the occurrence of sensitive life stages, and frequency and duration of activities. Sound is measured in frequency (Hz) and intensity (decibels, dB), and the decibel scale is logarithmic (that is, 110 dB is 10 times greater than 100 dB, 120 dB is 100 times greater) (White 2003). NOAA Fisheries' interim criterion for physical injury to fish is a 206-dB peak, regardless of fish size.

Rock drilling activities could temporarily increase underwater noise but it is unlikely noise levels would be above thresholds for fish. For most activities, if present, noise-related effects on fish would be limited to avoidance behavior in response to movements, noises, and shadows caused by construction personnel and equipment operating. Resident fish would likely move downstream to an unaffected portion of the river in response to noise or disturbance and would therefore be unaffected. No listed fish species or essential fish habitat are present is the project area. The proposed project would have no effect on fisheries or fish habitat.

3.2.3 Hazardous, Toxic, and Radiological Waste

In January 2012, the Corps prepared an updated Phase I Environmental Site Assessment (ESA) to identify and evaluate potential hazardous, toxic, and radiological waste (HTRW) in and near the approach channel feature of the Folsom JFP. The purpose of the ESA was to review available documentation regarding past and current land use activities to assess the possible presence of hazardous substances and waste. The records investigation identified 78 HTRW sites, many of which were duplicated in multiple databases. The actual physical sites consisted of 16 aboveground storage tanks, underground storage tanks, treatment, generator, storage, or disposal facilities, as well as 23 mitigating sites or sites that had reported spills in the past. No sites were identified within or near the proposed project area.

Sites that were reported by Environmental Data Resources, Inc. would not affect the proposed construction because they are under control, exhibit no signs of continuing release and are generally more than 0.25 mile away from the project area. Based on the ESA and field reconnaissance, the project would have no effects on HTRW sites, and there is no apparent HTRW contamination that would interfere with construction of the project.

While the installation of the rock bolts would not require long-term storage or use of hazardous materials, there are potential health and safety hazards that include possible accidental spills or leaks involving fuels, <u>or</u> lubricants~~, or explosives~~. Prior to initiation of construction, the contractor would prepare a hazardous materials control and response plan if minimum reportable quantities are met. The plan would include best management practices (BMPs) and other measures to avoid or minimize any potential hazard. As result, the design refinements would not be expected to have any effects from use of hazardous materials.

3.2.4 Land Use and Socioeconomics

A detailed discussion of socioeconomics (population, housing, and the economy) and land use are presented in the 2012 SEIS/EIR. The land surrounding Folsom Dam and Reservoir is primarily Federally-owned and designated for recreation and flood control use. The major land use in the project area is USBR's Central California Area Office, the Folsom Dam industrial complex, Folsom State Prison, and a utility corridor. Implementation of the slope protection measures would not result in any changes in the designated zonings or existing land uses in or near the project area. As a result, the slope protection measures would have no effect on the overall land use.

As directed in Executive Order 12898, all Federal agencies must identify and address adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There are no minority, low-income populations or homeless encampments that would be disproportionately affected by the proposed action. All nearby residents would benefit equally from the project.

3.2.5 Noise

The primary sources of ambient (background) noise are construction equipment around Folsom Dam and vehicular traffic on area roadways is the dominant source of noise affecting noise-sensitive land uses in the project area. Acceptable levels of environmental noise are regulated at the local level through the general plan process and city and county noise ordinances. The proposed action is located in the City of Folsom and Sacramento County. The City of Folsom uses L_{50} as the baseline criterion level (City of Folsom 2010). The baseline criterion level (L_{50}) is 50 dBA during daytime and 45 dBA during nighttime.

The noise levels from construction activities would vary during the different activity periods, depending on the types of equipment being used. Typical types of construction equipment expected for this project included a compactor, crane, generators, grader, compressor, trucks, and a drill rig. Table 1 presents the noise levels from common construction equipment at 50 feet from the source.

Table 1. Typical Noise Emission Levels for Construction Equipment.

Equipment	Typical Noise Level (dBA) 50 feet from Source
Compactor	82
Crane	83
Generator	81
Grader	85
Truck	74-88
Horizontal drill	81

[1]Extracted from table in U.S. Army Garrison-Hawaii, 2004.
Source: Federal Transit Administration 2006, Federal Highway Administration 2006.

Under worst case scenario, the average noise levels of the construction equipment would be 83 dBA, Leq at 50 feet. Noise from construction activities generally attenuates at a rate of 6 to 7.5

dBA per doubling of the distance of the noise source. The closest sensitive receptor to the project area is an apartment complex approximately 0.4 miles away. At a distance of over 2000 feet, noise levels would be reduced to below 50 dBA.

The length of construction would be limited to six months and few, if any, people would be expected in or near the project area. Construction hours would occur within the City of Folsom noise exemptions times (7:00 a.m. to 6:00 p.m. during weekdays and 8:00 a.m. to 5:00 p.m. on weekends) (City of Folsom 2010). Noise exemption times allows for noise generated by construction to not be subject to the exterior noise standard limits. Once construction is completed, all equipment would be removed and the local noise would return to pre-project conditions. As a result, the project would have no adverse effect on noise.

3.2.6 Recreation

A detailed discussion of recreation is presented in the 2012 SEIS/EIR. The major tributaries in the American River system include the North Fork American River, Middle Fork American River and South Fork American River. These tributaries drain the upper watershed into Folsom Reservoir. Nineteen miles of the South Fork of the American River has been designated as having outstanding values under the Federal Wild and Scenic Rivers Act. Starting at Chili Bar Reservoir and ending at the Folsom Lake State Recreation Area boundary, this stretch of the river was designated for its recreational whitewater boating and historical values.

Lake Natoma is approximately 6.5 miles downstream of Folsom Dam and serves as the afterbay to Folsom Reservoir. The Lower American River from Nimbus Dam to the confluence with the Sacramento River has been designated as a recreational river under the Federal Wild and Scenic Rivers Act.

The project area is located within the Folsom Lake State Recreation Area, below Folsom Dam. Folsom Lake State Recreation Area includes Folsom Reservoir and the surrounding landscapes which provide a variety of land- and water-based activities such as camping, hiking, marinas, bicycling, and boating (State of California 1984). Additionally, on the north and south side of Folsom Lake Crossing, there is a Class II Bike Trail along the edges of pavement. On the north side of Folsom Lake Crossing, there is also a Class I Bike Trail approximately 4 feet north of the Class II trail. The bike trail and recreational areas surrounding the reservoir are located a significant distance away from the project area and would not be affected by the proposed project.

3.2.7 Topography, Geology, and Soils

A detailed discussion of the area's topography, geology, and soils is presented in the 2012 SEIS/EIR. The project area is located in the American River watershed, which ranges in elevation from 10 feet above mean sea level at the confluence with the Sacramento River to 10,000 feet in the Sierra Nevada Mountains. Folsom Reservoir is in the foothills of the Sierra Nevada Mountains, set within the valley created by the confluence of the North and South Forks of the American River.

Localized areas of the project area would be disturbed during construction due to preparation of the staging area, excavation associated with the preparation of the access road and the construction of a crane pad. Soil types have a moderate to high erosion potential; because of the steep slopes within the project area, and the active excavation and grading of soil during construction activities, which could result in erosion. The construction contractors shall be required to prepare and implement a SWPPP and comply with the conditions of the NPDES general stormwater permit construction activity. Potential erosion during construction would be addressed through the implementation of BMPs. All suitable material from excavation of the access road would be reused in the project area to the extent feasible. Implementation of the slope protection measures would not change the topography of the area or the soils.

Fill and other materials needed would come from existing local commercial off-site source and delivered to the site. Two primary sources were identified as Cool Cave quarry near Auburn and Perkins Plants south of Hwy 50 east of Sacramento. The ultimate source of fill and other materials would be determined by the contractor.

The design and construction of the slope protection measures would comply with the regulatory standards of the Corps, USBR, and CVFPB and meet or exceed applicable design standards for static and dynamic stability, seismic-related ground failure including subsidence and landslides, therefore the project would not be affected by the area's geology. As a result, the slope protection measures would have no effect on the overall geology, soil conditions or topographic features in and near the project area.

3.2.8 Traffic

A detailed discussion of the area's traffic and circulation is presented in the 2012 SEIS/EIR. The main roadway and access route to the project area is Folsom-Auburn Road. This four-lane divided arterial which runs north and south, connecting Sacramento County to Placer County. The north bound direction provides access to Granite Bay while the south bound direction connects to the City of Folsom and Highway 50. Folsom-Auburn Road is used primarily by commuters, residents, and recreationist. Traffic consists mostly of private automobiles, light commercial vehicles, emergency vehicles, public buses, and bicycles.

Traffic volume on Folsom-Auburn Road peaks during the morning and evening rush hour and becomes a steady but lower volume during the day. A traffic study presented in the 2012 SEIS/EIR compiled average daily traffic (ADT) volumes along the roadways around Folsom Dam. According to the traffic study (2012), the ADT of Folsom-Auburn Road between Douglas Road to Folsom Dam Road was 44,918 and was projected to increase 2% each year.

Access to and from the project area for construction-related vehicles would be via local roadways, including Folsom-Auburn Road. These vehicles would include construction equipment, trucks, and worker vehicles. The equipment would be stored in the staging area, while the worker vehicles and trucks would make daily trips to and from the project area. Estimated increases in traffic on Folsom-Auburn Road during construction include 4 to 6 worker vehicle trips each day and 10 haul truck trips each day, for a maximum of 16 trips per day. Construction would be limited to 6 days a week. This daily total would represent a less than one percent increase in traffic volume.

The weight and movement of construction traffic along Folsom-Auburn Road may result in some damage to the physical condition of the roadway surfaces. However, once the work at the placement site is completed, any damaged roadway areas would be returned to pre-project conditions by resurfacing with asphalt. As a result, there would be no long-term effects on the physical condition of area roadways. Additionally, there would be no road or lane closures, so there would be no effect on access for either local residents or emergency services in the Folsom area.

3.3 Resources Considered in Detail

Results of an initial evaluation indicated that the proposed action could affect the following resources. Sections 3.3.1 through 3.3.5 describe the existing conditions, effects, and proposed mitigation for the resources that may be significantly affected by the implementation of the proposed action. Both direct and indirect effects are evaluated.

3.3.1 Air Quality

This section describes the existing conditions for air quality, regulatory background, significance thresholds, effect analysis, and a qualitative analysis of effects.

Regulatory Background

Air quality management responsibilities exist at Federal, State, and local levels of government. The primary statutes that establish ambient air quality standards and the regulatory authorities necessary to enforce the regulations designed to attain those standards are the Federal Clean Air Act (CAA) and California Clean Air Act (CCAA). The enforcement of Federal and State air statutes and regulations is complex and the various agencies have different, but interrelated responsibilities.

The Federal Clean Air Act, which was last amended in 1990, requires the U.S. Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment (40 CFR part 50). Federal ambient air quality standards have been established for six “criteria pollutants”:

- Carbon monoxide (CO),
- Ozone (O3),
- Inhalable particulate matter (PM_{10} and $PM_{2.5}$—particulates 10 microns or less in diameter and 2.5 microns or less in diameter, respectively),
- Nitrogen dioxide (NO2),
- Sulfur dioxide (SO2), and
- Lead.

Primary standards were established to promote human health with an adequate margin of safety to protect those most vulnerable such as asthmatics, infants, and elderly persons. More stringent secondary standards were established to promote human welfare to prevent impaired visibility, and building and crop damage.

The CCAA establishes California Ambient Air Quality Standards (CAAQS). These standards are more stringent than Federal standards and include pollutants not listed under Federal standards. All Federal projects in California must comply with the stricter State air quality standards. In California, the Air Resources Board (CARB) is the responsible agency for air quality regulation. The NAAQS and the CAAQS tables are available in Appendix A.

Areas are classified as either *in attainment or in nonattainment* with respect to State and Federal AAQS. These classifications are made by comparing actual monitored air pollutant concentrations to State and Federal standards. If a pollutant concentration is lower than the State or Federal standard, the area is considered to be *in attainment* of the standard for that pollutant. If pollutant levels exceed a standard, the area is considered a *nonattainment* area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated *unclassified*.

To implement Section 176 of the CAA, the USEPA issued the General Conformity Rule which states that a Federal action must not cause or contribute to any violation of the NAAQS, or delay timely attainment of air-quality standards. A conformity determination is required for each pollutant where the total of direct and indirect emissions caused by a Federal action in a non-attainment (or maintenance) area exceeds *de minimis* rates listed in the rule (40 CFR 93.153). The Federal standard and local thresholds for Sacramento County are shown in Table 2.

Table 2. Air Emission Thresholds for Federal and Local Criteria Pollutants.

Criteria Pollutant	**General Conformity *De Minimis* Thresholds (tons/year)**	**SMAQMD Threshold (lbs/day)**
NO_x	25	85
CO	100	*
SO	100	*
PM_{10}	100	*
$PM_{2.5}$	100	*
ROG	25	*

NO_x = nitrogen oxides CO = carbon monoxide SO = sulfur oxides PM_{10} = particulate matter
ROG = reactive organic gases
SMAQMD = Sacramento Metropolitan Air Quality Management District * = default to State standard
Source: www.airquality.org/ceqa/index.shtml, 2005

Local AQMDs are responsible for implementing Federal and State regulations at the local level. The project area is in the Sacramento Valley Air Basin. The air quality in the area is managed by the Sacramento Metropolitan Air Quality Management District (SMAQMD), which is included in the Sacramento Federal Ozone Nonattainment Area (SFNA) and is also subject to regulations, attainment goals, and standards of the U.S. and California EPA's.

SFNA area is designated “severe” non-attainment for $NO_{X.}$ As a part of the SFNA, Sacramento County is out of compliance with the State and Federal ozone standards (SMAQMD 2010). The designate “severe” nonattainment status sets the NO_X and ROG thresholds to 25 tons/year.

Sacramento was designated as a Federal non-attainment area for PM_{10} and 24-hr $PM_{2.5}$; both standards have been met and the USEPA has recently re-designated the attainment status. SMAQMD was designated as a moderate nonattainment area for PM_{10} under the Federal CAA of 1990. This designation required the Air District to submit the PM_{10} State Implementation Plan and attain the PM_{10} air quality standard by December 31, 2000. The 1998-2000 air monitoring data showed that the Air District achieved the air quality standard for PM_{10}. Effective March 18, 2002, the USEPA officially determined that Sacramento County had attained the PM_{10} NAAQS by the attainment deadline based on PM_{10} air quality monitoring data recorded during 1998 to 2000. The USEPA formally re-designated Sacramento County attainment for the Federal 24-hour PM_{10} NAAQS, effective October 28, 2013.

On October 16, 2006, the USEPA lowered the daily $PM_{2.5}$ standard from 65µg/m3 to 35µg/m3. The USEPA designated Sacramento County non-attainment of the 35 µg /m3 standard in November 2009, effective December 14, 2009 (40 CFR 81.305). Since 2007, measures implemented by SMAQMD and others were effective and led to attainment of the standard. The USEPA issued a proposed rule for Determination of Attainment for the Sacramento Nonattainment Area on October 26, 2012 for the daily $PM_{2.5}$ standard and a final rule for Determination of Attainment on July 15, 2013. The final rule became effective on August 14, 2013 (78 FR 42018). In December 2012, the USEPA lowered the annual $PM_{2.5}$ standard from 15µg/m3 to 12µg/m3. Sacramento’s annual $PM_{2.5}$ concentrations met the 12µg/m3 standard in 2011.

Toxic Air Contaminants

In addition to the Federal and State criteria pollutants, the Federal CAA and CCAA have identified another class of pollutants. Hazardous air pollutants is a term used by the Federal CAA that includes a variety of pollutants that are known or suspected carcinogens and are generated or emitted by a wide variety of industries. Ten toxic air contaminants (TAC) under the CCAA have been identified through ambient air quality data as posing the greatest health risk in California. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system and respiratory disorders. The TAC of interest to this project is diesel particulate matter (PM).

TACs do not have ambient air quality standards because no safe levels of TAC have been determined. Instead, TAC effects are evaluated by calculating the health risks associated with a given exposure. The requirements of the Air Toxic “Hot Spots” Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals. Facilities that are subject to the toxic emission inventory requirements of the Act must prepare and submit toxic emission inventory plans and reports, and periodically update those reports.

Diesel-fueled mobile sources including motor vehicles and off-road equipment emit compound emissions such as diesel PM, which is recognized as a TAC by CARB. Emissions of diesel PM have been related to long-term health effects, including noncancer chronic hazards and increased cancer risk (COEHHA 2010). There are no TAC emitting facilities within a half mile of the project area. Temporary construction activities would include operation of diesel-fueled offroad equipment resulting in emissions of diesel PM. However, construction activities would occur over a finite period of time (approximately 6 months); therefore, diesel PM emissions would result in short-term, temporary impacts, and would not result in long-term cancer risk to residents and workers. No long term operation or maintenance would be require after the rock bolts are installed, therefore the project would not expose new receptors to TAC. Because of the short-term duration of emissions, no TAC facilities nearby, and the project would not exposed new receptors to a TAC facility, a health risk assessment would not be required; thus, prioritization screening was not conducted for this analysis. Additionally, SMAQMD of Basic Construction Emission Control Practices and Enhanced Exhaust Control Practices would be implemented which would reduce PM exhaust emissions.

Existing Conditions

Sacramento County is in attainment for all National and State AAQS except for State and Federal ozone standards and State particulate matter standards. The area is designated a “severe” nonattainment area for the National 8-hour AAQS for ozone and is a “serious” nonattainment area for the State’s 1-hour ozone standard. Sacramento County exceeds the State's annual PM_{10} standard by 40% and the State’s $PM_{2.5}$ standard by 4% on average over the last 5 years. In addition, the State’s 24-hour PM_{10} standard was exceeded up to 14 days per year over the past 5 years.

<u>Sensitive Receptors</u>

Some locations are considered more sensitive to adverse effects from air pollution than others. These locations are termed sensitive receptors. For CEQA purposes, a sensitive receptor is generically defined as a location where human populations are found, and there is reasonable expectation of continuous human exposure according to the averaging period for the ambient air quality standard (e.g., 24-hour, 8-hour, and 1-hour). These typically include residences, hospitals, and schools. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Hospitals, schools, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air quality-related health problems than the general public. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation can place a high demand on the respiratory system. Sensitive receptors near the project area include residents and recreational users.

Environmental Effects

Significance Criteria

Air quality effects would be considered significant if the proposed action would:

- Violate any of the air quality standards,
- Expose sensitive receptors to substantial pollutant concentrations, or
- Not conform to applicable Federal and State standards, and local thresholds on a long term basis.

The CEQA thresholds of significance were obtained from the SMAQMD CEQA Guide to Air Quality Assessment (SMAQMD 2009), which lists only a NO_X threshold of 85 pounds per day for construction emissions. For PM_{10} from construction, in areas where the maximum daily disturbed land (i.e., grading, excavation, cut and fill) would not exceed 15 acres, the SMAQMD CEQA guidelines require implementing emission control practices for impacts to be considered less than significant.

Methodology

Emissions from off-road construction equipment and portable engines, (including off-road vehicles, portable engines and marine engines), on-site trucks, and worker vehicles were calculated based on emission factors derived from EMFAC2011. Assumptions on construction equipment for the slope protection measures are described in Section 2.3. Assumptions for ongoing construction from all JPF project phases included the equipment type, horsepower rating, model year, and actual (or projected) hours of operation. These data were input into a tool similar to SMAQMD's Construction Mitigation Calculator, which has been developed to perform the emission calculations. The tool derives emission factors for ROG, NOx, PM_{10}, $PM_{2.5}$ and CO_2 based on user inputs. ~~The SMAQMD Road Construction Emissions Model (v. 7.1.5.1) was used to estimate project emission rates for ROG, CO,~~ $\cancel{NO_X}$~~,~~ $\cancel{PM_{10}}$~~,~~ $\cancel{PM_{2.5}}$~~, and~~ $\cancel{CO_2}$~~. The estimated equipment to be used, estimated hours of operations, volume of material to be moved, and disturbance acreages were compiled to determine the data to input into the emissions model. Assumptions on construction equipment for the slope protection measures are described in Section 2.3. The emission calculations are based on standard vehicle emission rates built into the model.~~

The project area is approximately 2 acres although the actual area of work to install the rock bolts would be confined to a much smaller area (approximately one-half acre). For the maximum area disturbed, the total project footprint was averaged over the 6- month construction period. It was assumed that minimal clearing and grubbing would be required since there is minimal vegetation and a small staging area. Estimated construction periods for the slope protection measures are described in Section 2.3.

In addition, it was assumed that 2,000 cubic yards of fill material would be required for the construction of an access road. The source of the fill material could come from off-site commercial sources or from cut excavation while pioneering in the road. The transport of materials would take approximately 100 truck trips, over a course of 2 weeks with a 5-day workweek, which translates to 10 round trips per day. Air quality calculations are summarized in Appendix B.

No Action

Under the no action alternative, the Corps and CVFPB would not participate in construction of the proposed alternative. As a result, there would be no increase air quality effects from the construction activities associated with the slope protection measures including equipment emissions and fugitive dust. Air quality would be influenced by emissions due to the ongoing and future construction of other Folsom JFP features, climate and geographic conditions, and local and regional emissions from vehicles, and local commercial and industrial land uses.

Implement Slope Protection Measures

Construction of the proposed action would result in short-term temporary generation of ROG, CO, NO_X, PM_{10}, $PM_{2.5,}$ and CO_2 emissions from excavation, vegetation clearing, motor vehicle exhaust associated with construction equipment, employee commute trips, material transport, material handling and other construction activities. Annual emissions were calculated based on assumptions on the type of construction equipment required for each construction phase.

Table 3 summarizes the total emissions for ROG, CO, NO_X, PM_{10}, $PM_{2.5,}$ and CO_2, for the slope protection measures, and the projected emissions from Phase 3, and Phase 4, and compares them to both the general conformity rule (GCR) *de minimis* thresholds and the SMAQMD CEQA NO_X threshold for determination of significance of impacts.

Based on the estimates presented in Table 3, proposed action would not produce emissions that are greater than the Federal GCR *de minimis* values for criteria pollutants (Table 2). The estimated worst-case annual emissions generated from implementation of the proposed action would not exceed the Federal NOx threshold but would exceed SMAQMD threshold for NOx.

~~Table 3. Estimated Emissions.~~

	~~ROG~~	~~CO~~	~~NO_X~~	~~PM_{10}~~	~~$PM_{2.5}$~~	~~CO_2~~
~~Site Preparation & Construction~~						
~~Emissions (lbs/day) for Right Bank~~	~~4.0~~	~~20.5~~	~~36.1~~	~~4.7~~	~~2.6~~	~~4,016~~
~~Emissions (lbs/day) for Phase 3 and Phase 4, in 2015~~	~~5.0~~	~~45~~	~~60~~	~~128~~	~~19~~	~~-~~
~~Total Emissions (lb/day)~~	~~9.0~~	~~65.5~~	~~96.1~~	~~132.7~~	~~21.6~~	~~-~~
~~SMAQMD thresholds (lbs/day)~~	~~N/A~~	~~N/A~~	~~85~~	~~N/A~~	~~N/A~~	~~N/A~~
~~Exceed SMAQMD Threshold?~~	~~-~~	~~-~~	**~~Yes~~**	~~-~~	~~-~~	~~-~~
~~Total (tons/year) for Right Bank~~	~~0.3~~	~~1.3~~	~~2.0~~	~~0.3~~	~~0.1~~	~~258~~
~~Emissions (tons/year) for Phase 3 and Phase 4, in 2015~~	~~2.0~~	~~14~~	~~20~~	~~13~~	~~3.0~~	~~5,336~~
~~Total Emissions (tons/year)~~	~~2.3~~	~~15.3~~	~~22~~	~~13.3~~	~~3.1~~	~~5,594~~
~~Federal Standards (tons/year)~~	~~25~~	~~100~~	~~25~~	~~100~~	~~N/A~~	~~N/A~~
~~Exceed Federal threshold?~~	**~~No~~**	**~~No~~**	**~~No~~**	**~~No~~**	~~-~~	~~-~~

Table 3. Estimated Emissions After Mitigation.

	ROG/ VOC	CO	NO_X	PM_{10}	$PM_{2.5}$	CO_2e (metric tons/year)
Site Preparation & Construction						
Emissions (lbs/year) for all Project Phases in 2015	3,778.0	28,458.6	26,636.9	63,425.8	11,500.0	-
Total Emissions (lb/day)	20.9	158.1	147.98	352.37	63.89	-
SMAQMD thresholds (lbs/day)	N/A	N/A	85	N/A	N/A	N/A
Exceed SMAQMD Threshold?	**-**	**-**	**Yes**	**-**	**-**	**-**
Emissions (tons/year) of all Project Phases in 2015	1.9	14.2	13.2	31.7	5.7	39,135
Federal Standards (tons/year)	25	100	25	100	N/A	N/A
Exceed Federal threshold?	**No**	**No**	**No**	**No**	**-**	**-**

~~Although~~ The emissions estimate places the total NOx emissions over the local threshold of 85 lbs/day. ~~implementation of the standard construction mitigation measures as recommended by SMAQMD (Appendix B) would reduce the NOx emissions by 20% and the PM_{10} emissions by 45%.~~ The project would implement the standard construction mitigation measures as recommended by SMAQMD and continue to include the mitigation measures as described in the 2012 SEIS/EIR to reduce NOx emissions. These measures are listed in the mitigation section below. ~~As a result, the proposed action does not require an in-depth conformity analysis to evaluate ambient air quality concentrations and instead is presumed to conform to the region's ozone State implementation plan.~~

The proposed action is a short-term construction project which does not require continual maintenance. As a result, there would be no long-term increase in regional emissions of ROG, CO, NO_X, PM_{10}, $PM_{2.5}$, and CO_2 after installation of the rock bolts.

The project would result in short-term generation of criteria pollutants concentrations, including diesel exhaust emissions, from the use of off-road construction equipment required for site preparation and other activities, and on-road haul trucks used for hauling materials. The duration of mobilized equipment would be approximately 6 months and mobile equipment would not operate within 500 feet of sensitive receptors. Because sensitive receptors would not be exposed to substantial pollutants, the impact would be less than significant.

General Conformity

The Federal CAA requires Federal agencies to ensure that their actions conform to applicable implementation plans for the achievement and maintenance of the NAAQS for criteria pollutants. To achieve conformity, a Federal action must not contribute to new violations of NAAQS, increase the frequency or severity of existing violations, or delay timely attainment of standards in the area of concern (for example, a state or a smaller air quality region).

The proposed action is located in an area with a designated Federal status of severe nonattainment for O3 (8-hour standard). In addition the State's has designated the area as nonattainment for PM_{10} and $PM_{2.5}$. As shown in Table 3, the proposed action would not increase emissions to the Folsom JFP project that are greater than the Federal GCR *de minimis* values for criteria pollutants. However, ~~Phase III and Phase IV~~ the Folsom JFP is expected to ~~could~~exceed the NOx Federal GCR *de minimis* threshold by the end of ~~in~~2014. As a result, the Folsom JFP ~~is putting~~ has ~~together~~ completed a general conformity re-evaluation report. The re-evaluation report includes project emission estimates through the completion of the Folsom JFP in 2017. Emission estimates for the slope protection measures have been included in the re-evaluation. The updated General Conformity Determination draft was advertised and provided for public, agency and EPA review for 30 days in September 2014 pursuant to 40 C.F.R. §93.158(a)(5)(i)(b). A final notification was published November 4, 2014.

Mitigation

Due to the nonattainment status of Sacramento County with respect to O_3, PM_{10}, and $PM_{2.5}$, SMAQMD (2009) recommends that projects within the basin implement a set of Basic Construction Emission Control Practices as BMPs regardless of the significance determination. Use of these practices can result in a 55 percent reduction of fugitive PM_{10} dust emissions from soil disturbance areas and a 44 percent reduction of fugitive PM dust emissions from entrained PM_{10} road dust from unpaved roads (SMAQMD 2009). The Basic Construction Emission Control Practices that would be implemented by the contractor during the construction project are the following:

- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

- Any remaining emissions over the NOx threshold would be reduced via a mitigation fee payment. The cost of reducing one ton of NOx starting July 1, 2014 is $17,720 per ton of emissions (SMAQMD 2014). The contractor would be responsible for payment of any required mitigation and administrative fees.

In addition, SMAQMD recommends that the project implement a set of Enhanced Exhaust Control Practices to further reduce NO_X emissions. The Enhanced Exhaust Control Practices that would be implemented by the contractor during construction include the following:

- Provide a plan for approval by the lead agency and SMAQMD demonstrating that the heavy-duty (50 horsepower [hp] or more) off-road vehicles to be used in the construction project, including owned, leased, and subcontractor vehicles, would achieve a project-wide fleet-average 20 percent NO_X reduction and 45 percent particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average. Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The SMAQMD's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
- Submit to the lead agency and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 hp, that would be used an aggregate of 40 or more hours during any portion of the construction project. The inventory would include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. The inventory would be updated and submitted monthly throughout the duration of the project, except that an inventory would not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the contractor would provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. The SMAQMD's Model Equipment List can be used to submit this information.
- Ensure that emissions from all off-road diesel-powered equipment used on the project site do not exceed 40 percent opacity for more than 3 minutes in any 1 hour. Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) would be repaired immediately. Non-compliant equipment would be documented and a summary provided to the lead agency and SMAQMD monthly. A visual survey of all in-operation equipment would be made at least weekly, and a monthly summary of the visual survey results would be submitted throughout the duration of the project, except that the monthly summary would not be required for any 30-day period in which no construction activity occurs. The monthly summary would include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section would supercede other SMAQMD or State rules or regulations.

The Corps would continue to implement the following mitigation measures to reduce the potential air quality effects of the project as described in the 2012 SEIS/EIR:

- Model year 2010 or newer haul trucks will be used for the duration of the project. Use of these trucks will provide the best available emission controls for NOx and PM emissions.

- All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier-4 off road emission standards at a minimum. In addition, if not already supplied with a factory-equippe d diesel particulate filter, all construction equipment shall be out fitted with BACT devices certified by CARB.

- Construction equipment shall incorporate emissions-reducing technology such as specific fuel economy standards. Idling shall be restricted to a maximum of 5 minutes, except as provided in the CARB 13CCR, Section 2485 exceptions.

3.3.2 Climate Change

Ongoing scientific research has identified the general impacts of anthropogenic green house gasses (GHG) emissions and changes in biological carbon sequestration due to land management activities on global climate. The term “greenhouse gas” or “greenhouse gases” includes but is not limited to: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (NO_2).

GHG naturally trap heat by impeding the exit of solar radiation that has hit the Earth and is reflected back into space. Some GHGs occur naturally and are necessary for keeping the Earth’s surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect on the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back into space. Although GHG levels have varied for millennia, historic industrialization and burning of fossil carbon sources have caused carbon dioxide equivalent concentrations to increase dramatically, and clearly contribute to overall global climatic changes. The Intergovernmental Panel on Climate Change (IPCC) concluded that “warming of the climate system is unequivocal” and “most of the observed increase in globally average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations” (IPCC 2007).

Global mean surface temperatures have increased nearly 1.8 degrees Fahrenheit (°F) from 1890 to 2006 (IPCC 2007). Models indicate that average temperature changes are likely to be greater in the Northern Hemisphere. Northern latitudes (above 24° North) have exhibited temperature increases of nearly 2.1 degrees Fahrenheit (°F) since 1900, with nearly a 1.8°F increase since 1970 alone (IPCC 2007). Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Regulatory Background

No Federal regulations regarding climate change apply to the proposed action. The Environmental Protection Agency has started the process of regulating large sources of GHG emissions (e.g., power plants, cement manufacturing), but these proposed regulations are not applicable to the proposed action. California laws and executive orders that address GHGs and climate change are summarized in Table 4.

Table 4. Summary of State Laws and Executive Orders that Address Climate Change.

Legislation Name	Signed into Law/ Ordered	Description	CEQA Relevance
SB 1771	09/2000	Establishment of California Climate Registry to develop protocols for voluntary accounting and tracking of GHG emissions.	In 2007, DWR began tracking GHG emissions for all departmental operations.
AB 1473	07/2002	Directs CARB to establish fuel standards for noncommercial vehicles that would provide the maximum feasible reduction of GHGs.	Reduction of GHG emissions from noncommercial vehicle travel.
SB 1078, 107, EO S-14-08	09/2002, 09/2006, 11/2008	Establishment of renewable energy goals as a percentage of total energy supplied in the State.	Reduction of GHG emissions from purchased electrical power.
EO S-3-05, AB 32 [1]	06/2005, 09/2006	Establishment of statewide GHG reduction targets and biennial science assessment reporting on climate change impacts and adaptation and progress toward meeting GHG reduction goals.	Projects required to be consistent with statewide GHG reduction plan and reports will provide information for climate change adaptation analysis.
SB 1368	9/2006	Establishment of GHG emission performance standards for base load electrical power generation.	Reduction of GHG emissions from purchased electrical power.
EO S-1-07	01/2007	Establishment of Low Carbon Fuel Standard.	Reduction of GHG emissions from transportation activities.
SB 97[1]	08/2007	Directs OPR to develop guideline amendments for the analysis of climate change in CEQA documents.	Requires climate change analysis in all CEQA documents.
SB 375	09/2008	Requires metropolitan planning organizations to include sustainable communities strategies in their regional transportation plans.	Reduction of GHG emissions associated with housing and transportation.

Legislation Name	Signed into Law/ Ordered	Description	CEQA Relevance
EO S-13-08 [1]	11/2008	Directs the Resource Agency to work with the National Academy of Sciences to produce a California Sea Level Rise Assessment Report, and directs the Climate Action Team to develop a California Climate Adaptation Strategy.	Information in the reports will provide information for climate change adaptation analysis.

[1]Significant laws and orders.

Existing Conditions

Local Climatic Conditions

In general, the climates of California formed due to topography and the position of the semi-permanent subtropical cell, a center of high atmospheric pressure in the Pacific Ocean off the California coast. During the summer, the cell moves over northern California and Nevada and effectively blocks the movements of the Pacific storm systems into California, creating drought-like conditions. During the winter, the cell retreats to the southwest, allowing storms and frontal systems to move into northern and central California. As a result, California has a Mediterranean, semi-arid climate that is typically characterized by cool, wet winters and hot, dry summers.

During the summer months the project area (in the vicinity of Folsom Reservoir) normally experiences cloudless, warm-to-hot dry days, and mild, pleasant nights. Summer temperatures average approximately 90 degrees Fahrenheit (ºF) during the day and 60 ºF at night. Summer average rainfall amount in the area is generally around 1.05 inches. The winter "rainy season" is from November through March when periodic storms move in from the Pacific Ocean. The average rainfall during these months is 19.96 inches. Winter daytime temperatures average in the upper 50's, and nighttime temperatures average in the lower 40's. Moist winds are predominately from the southwest, building strength from the Delta region, while occasional dry winds originate from the north.

Greenhouse Gases (GHG)

The six principal GHGs of concern are CO_2, methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFC), and perfluorocarbons (PFC). The EPA does not currently regulate the GHG pollutants that could contribute to global warming. However, on December 7, 2009, the Administrator of the EPA signed two findings regarding the threat to public health and welfare from GHGs under section 202(a) of the Federal CAA. Accordingly, in the future, the EPA can promulgate regulations pertaining to emissions of GHGs under the authority of the Federal CAA.

While the Federal Government has not regulated emissions of GHG, the State of California has been proactive in the study of effects of climate change with a 20-year history of doing so. State actions to address global climate change target automobile emissions, stationary sources and power generation, land-use planning, and the development of sustainable communities.

California is a substantial contributor of global GHG as it is the second largest contributor in the U.S. and the sixteenth largest in the world (CEC 2006). While California has a high amount of GHG emissions, it has low emissions per capita. California produced in 2008 approximately 478 million metric tons of CO_2 equivalent (478 $MMTCO_2e$), equal to about 525 million tons, or about one percent of 49,000 $MMTCO_2e$ emitted globally (IPCC, 2007). The main sources of GHG emissions in California are the transportation and energy sectors.

GHG emissions are now being considered as a relatively new issue in CEQA documents because of their effects to climate change. Historically, there have been no standard, widely used methodologies or significance criteria to address climate change effects from GHG emissions. Air districts have generally provided guidance on analysis methodologies and significance criteria for criteria pollutant and toxic air contaminant effects, but they have not established guidelines for GHG emissions and their effects.

To assist lead agencies with this new impact area, the California Air Pollution Control Officer's Association prepared a "white paper" reviewing policy choices, analytical tools, and mitigation strategies (CAPCOA 2008). This paper considers the application of thresholds (there are currently no widely-accepted significance thresholds or criteria) and offers three alternative programmatic approaches towards determining whether GHG emissions are significant.

CARB prepared proposed interim GHG significance thresholds, which are sector-specific in terms of what types of activities generate the GHG emissions. Until a statewide standard or threshold of significance for GHG emissions is completed, the Office of Planning and Research (OPR) advises that each lead agency should develop its own approach to performing an analysis for projects that generate GHG emissions, consistent with available guidance and current CEQA practice (OPR 2008).

OPR sets out the following process for evaluating GHG emissions:

- Agencies should determine whether GHG emissions would be generated by a proposed project, and if so, quantify or estimate the emissions by type or source. Calculation, modeling, or estimation of GHG emissions should include the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities.
- Agencies should assess whether the GHG emissions are individually or cumulatively significant. When ~~accessing~~ assessing whether a project's effects on climate change are "cumulatively considerable" even though a project's GHG emissions could be individually limited, the lead agency must consider the effect of the project in connection with the effects of past, current, and probable future projects.

If the lead agency determines that the GHG emissions are potentially significant, then it must investigate and implement ways to mitigate the emissions (OPR 2008).

"The lead agency must impose all mitigation measures that are necessary to reduce GHG emissions to a less than significant level. CEQA does not require mitigation measures that are infeasible for specific legal, economic, technological, or other reasons. A lead agency is not responsible for eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is "less than significant" (OPR 2008)."

Environmental Effects

Significance Criteria

No existing threshold levels for GHGs have been developed at the Federal level for NEPA projects. SMAQMD has not established thresholds for GHG emissions; instead, each project is evaluated on a case-by-case basis using the most up-to-date methods of calculation and analysis. The impacts of the proposed project alternatives related to climate change should be evaluated using the criteria listed below. According to Appendix G of the CEQA Guidelines, the proposed project could result in significant impacts if it would do either of the following:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

The following significance criteria will be used to determine the significance of GHG emissions from this project:

- If the relative amounts of GHG emissions resulting from implementation of the proposed project are substantial compared to emissions major facilities are required to report (25,000 metric tons CO_2e per year).

- If the proposed project has the potential to contribute to a lower carbon future.

No existing threshold levels for GHGs have been developed at the Federal level for NEPA projects. USEPA has established a reporting threshold of 25,000 metric tons of CO_2 that applies to ~~most~~ major facilities that emit more than 25,000 metric tons per year.

Methodology

~~In response to the concerns regarding greenhouse gas emissions, the most recent version of the SMAQMD Road Construction Emissions Model (v. 7.1.5.1) generates an output for CO_2e in metric tons. The results from the emissions model in Table 3 include CO_2e. For analysis in this section, the CO_2 output has been multiplied by 0.91 to convert tons into metric tons for comparison to the GHG emission significant criteria. The total CO_2 emission for the project would be 5,090~~

~~metric tons CO_2 (5,594 tons x 0.91). Emissions were estimated based on the type of equipment being used, the level of equipment activity, and the associated construction schedules.~~

In response to the increased construction activities and schedule changes in 2014, a General Conformity reevaluation report update was conducted to address air quality emissions. GHG emissions were updated separately and include the slope protection measures and the overall JFP Project emissions as a whole (Appendix B).

The Air Quality Technical Report from the 2012 SEIS/EIR was used as the basis for the update of CO_2 emissions. CO_2 emissions and CO_2 equivalents including methane CH_4 and nitrous oxide N_2O were estimated from various emission models and spreadsheet calculations, depending on the source of the emission and data availability. Direct emissions from off-road construction equipment, marine engines, haul trucks, on-site pickup trucks and indirect emissions from electricity usage were calculated. Mitigation measures from the 2012 SEIS/EIR were incorporated into the models. The methods and models used are summarized below.

Off-road construction equipment. Emissions were calculated from equipment lists received from the Contractor and the Corps that were then inputted into a tool similar to SMAQMD's Construction Mitigation Calculator. For off-road vehicles and portable engines, the tool calculates emissions based on CARB's OFFROAD2011 model. CO_2 emissions were calculated using brake-specific-fuel-consumption contained in the OFFROAD 2011, and CH_4 and N_20 emissions were calculated based on data contained in The Climate Registry's "Climate Registry Default Emission Factors", release April 11, 2014 (TCR 2014).

Marine Engines. Emissions were calculated using CARB's California Barge and Dredge emissions Inventory Database and incorporated into the SMAQMD's calculator to derive project emissions. Tier 2 or Tier 3 certified marine engines were used as a basis for these calculations.

Haul trucks, On-site Pickup Trucks,and Worker Vehicles. Derived from CARB's EMFAC 2011, emissions were calculated based on the model year, number of trips, and round trip distances of each truck trip. Emission factors were based on the aggregated fleet (i.e. all model years) projected to be operating in the Sacramento Valley Air Basin during each calendar year. GHG emissions were then determined from EMFAC2011 and from emission factors contained in the Climate Registry Default Emissions Factors (TCR 2014).

Indirect emission. Indirect emissions include emissions from power plants producing electricity for use on site. These include rock crushing and producing cement in the use of concrete. Emissions were derived using SMUD emission factors contained in the California Emission Estimation model (CalEEMod), version 2013.2.2.

No Action

Under the no action alternative, the Corps and CVFPB would not participate with slope protection measures. As a result, there would be no additional generation of GHGs from the construction activities, including operation of motorized equipment and vehicles. Climate change would be influenced by emissions due to the ongoing and future construction of other Folsom JFP features, local and regional emissions from vehicles, and local commercial and industrial land uses.

Implement Slope Protection Measures

Implementation of the slope protection measures would result in a net increase of GHG emission over a finite period, approximately six months. Construction activities would contribute small amounts of CO_2 emissions from the use of on-site construction equipment and off-site worker trips. Construction emissions were estimated using various models, equipment lists and spreadsheets. Table 3 in Section 3.3.1 summarizes CO_2e emissions from activities undertaken from construction of ~~and~~ the overall JFP project in 2015. ~~Approximately 235 metric tons CO_2 would be emitted over the construction period of the slope protection measures.~~ In addition, Appendix B shows the estimated emissions for the slope protection measures from off road equipment construction and activities. Approximately 192 metric tons of CO_2e from off-road equipment activities would be emitted during the construction period of the slope protection measures. There would be no long term operation or maintenance emissions associated with the slope protection measures.

In the year 2015, it was estimated the total CO_2 emissions for all Folsom JFP project phases would emit approximately ~~5,090~~ 39,135 metric tons CO_2. ~~This total amount of CO_2 emissions would not violate CARB's interim threshold of 7,000 metric tons of CO_{2e} per year for stationary sources nor would the project produce emissions over the USEPA 25,000 metric tons CO_2e per year reporting rule. The increase in GHG emissions produced by the slope protection measures would be less than significant.~~ This total amount of CO_2e emissions exceeds the USEPA 25,000 metric tons CO_2e per year reporting rule used as significance criteria for CEQA in this document.

While projections for CO_2e have the potential to exceed the annual threshold of 25,000 metric tons CO_2e, these emissions calculations are considered conservative estimates. These estimates reflect the worst case conditions for weather, planning, timing, and avoidance of problems on the site. During 2015, CVFPB staff would monitor Folsom JFP emissions in order to realize any exceedances of thresholds and implement feasible mitigation measures.

If the Folsom JFP CO_2e emissions exceed the threshold, a GHG Mitigation Plan (Plan) would be developed by CVFPB staff and implemented to reduce construction related GHG emissions to less than 25,000 metric tons CO2e /year. The Plan would consist of feasible mitigation measures in which one mitigation measure or a multitude of mitigation measures could be implemented to reduce impacts to less than significant. To be considered less than significant, mitigation measures would need to reduce emissions to less than 25,000 metric tons CO2e/year. A list of potential mitigation measures are listed in the mitigation measure section below. Consequently, if emissions exceed thresholds, then impacts would be reduced to less than significant with mitigation.

The Climate Change Scoping Plan, approved by CARB on December 12, 2008 (CARB, 2008), and updated May 15, 2014, provides an outline of actions to reduce California's GHG emissions. The scoping plan requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs to meet the GHG reduction goals (GHG reduction to 1990 levels by

2020). Furthermore, executive order (E.O.) S-3-05 establishes California's goal to reduce GHG emissions to 1990 levels by 2020 and 80% of 1990 levels by 2050, while Sacramento County's Climate Action Plan suggests about a 13-15% reduction in GHGs by 2020 to meet their reduction goal. ~~The slope protection measures would not affect California's ability to supply renewable energy. Similarly, the slope protection measures would not affect or conflict with Sacramento County's ability to achieve its GHG reduction goals. The slope protection measures would not conflict with any applicable GHG management plan, policy, or regulation. Therefore, this impact would be less than significant. In addition, applicable BMPs would be incorporated into the design of the project, and the contractor would be required to implement them. Therefore, the proposed project could contribute to a lower carbon future.~~

To date, no definitive threshold across California to meet these goals has been established. Instead, State and local agencies have provided countless guidance documents and plans on how to reduce GHG emissions in their delegated area/region and comply with their air attainment plans or general plans. For CEQA purposes, lead agencies should make a good faith effort, based on the best available science and facts to describe, calculate or estimate the amount of greenhouse gases from the project (CEQA Section 15016.4). In the case of the Folsom JFP, the USEPA 25,000 metric ton CO2e annual reporting rule was used as the best available science to establish significance criteria.

The Scoping plan and update aim to develop California's strategy to meet AB 32's goal to reduce GHG emissions to 1990 levels by 2020, and E.O. S-3-5 goal to further reduce 1990 levels by 80% by 2050. The Folsom JFP emissions are short term construction emissions, and the project is expected to have long term benefits from the prevention of extra carbon production from the demolition, repair and reconstruction of flood induced infrastructure losses associated with a catastrophic flood event. The short term construction emissions are expected to be minimal when averaged over the life span of the Folsom JFP and compared to the carbon production prevented from catastrophic flooding. In addition, BMPs would be incorporated in the design of the work (slope protection measures) and implemented by the contractor.

With implementation of mitigation measures, BMPs, and prevention of extra carbon from the operation of the Folsom JFP, the project would contribute to a lower carbon future. By contributing to a lower carbon future, the Folsom JFP is expected to remain consistent with applicable GHG reduction plans, policies, or regulations. Therefore, slope protection measures, inclusive of the overall Folsom JFP project, will be less than significant.

Mitigation

~~Since there would be no significant effects on climate change, no mitigation would be required. However, the following measures would be implemented by the contractor to reduce any GHG emissions from construction of the design refinements (SMAQMD 2009). These measures would be implemented to contribute a lower carbon footprint.~~ CO_2e emissions will be monitored by DWR. If Folsom JFP CO_2e emissions exceed 25,000 metric tons of CO_2e/year, then feasible mitigation measures would be required to reduce GHG emissions to less than significant.

The following measures could be implemented by the Contractor, Corps, and DWR to reduce GHG emissions from construction design refinements (SMAQMD 2009) to less than significant and contribute to a lower carbon footprint.

- Improve fuel efficiency from construction equipment by minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to no more than three minutes (five minute limit is required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Use equipment with new technologies (repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).
- Encourage and provide carpools, shuttle vans, transit passes and/or secure bicycle parking for construction worker commutes.
- Implement a GHG reduction Plan. Feasible mitigation measures within the plan would be implemented if GHG emissions exceed 25,000 metric tons CO_2e/year. These measures could include:
  - Purchase of low carbon fuel
  - Purchase of CO_2 offsets to mitigate GHG emissions to less than 25,000 metric tons CO_2e. Potential offsets could be purchased from the following sources:
    - AB 32 U.S. Forest and Urban Forest Project Resources
    - AB 32 Livestock Projects
    - AB 32 Ozone Depleting Substances Projects
    - AB 32 Urban Forest Projects
    - Other-California Based Offsets
    - United States Based Offsets
    - International Offsets (e.g., clean development mechanisms)
  - Funding incentive programs from SMAQMD or supplementing existing programs such as Sacramento Emergency Clean Air Transportation (SECAT) program to obtain GHG reductions
  - Use of low carbon concrete if economically feasible and engineering feasible.

3.3.3 Cultural Resources

Regulatory Setting

Federal

Prior to implementation of an undertaking with the potential to cause effects to historic properties, the project must be in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR § 800). Section 106 requires Federal agencies, or those they fund or permit, to consider the effects of their actions on the properties that may be eligible for listing or are listed in the National Register of Historic Places (NRHP). To determine whether an undertaking could affect NRHP-eligible or listed properties, cultural resources (including archeological, historical, and traditional cultural properties) must be inventoried and evaluated for listing in the NRHP. The term "historic property" specifically refers to a cultural resource that has been found eligible for listing in, or is listed in, the NRHP.

State

CEQA also requires that for public or private projects financed or approved by public agencies, the effects of the projects on historical resources and unique archeological resources must be assessed. Historical resources are defined as buildings, sites, structures, objects, or districts that have been determined to be eligible for listing in the California Register of Historical Resources. Properties listed in the NRHP are automatically eligible for listing in the California Register.

Existing Conditions

The history of Folsom as a city connects back to several broader themes that have been prevalent in California history: mining, railroads, and early farming and agriculture. The following summary is specific to the historic presence of the Native Americans, the development of Folsom Dam, and the city of Folsom and helps to place it within the history of the region and the State.

Ethnography and Prehistory

The Nisenan were a southern linguistic group of the Maidu people, sometimes referred to as the "Southern Maidu." The name "Nisenan" was a self-designation by the native groups occupying the Yuba and American River drainages (Wilson and Towne 1978). Along with the Maidu and Kinkow, the Nisenan form a subgroup of the California Penutian linguistic family. The Nisenan's range covered a significant portion of the Central Valley and reached into the Sierra Nevada Mountains.

The climate of the area occupied by the Nisenan was of mild weather with wet winters and warm, dry summers. The Nisenan often inhabited areas near rivers, some major areas of significance included sites on the American, Sacramento, Bear, Feather, and Yuba Rivers (Moratto 1984). The basic political unit was a village community or tribelet with one primary village and a few satellite villages under one head authority. Villages within the valley were aware of one another and these varying groups of Nisenan had shared political and cultural connections. Generally, villages consisted of 15 to 20 people and as many as several hundred in one group. House structures were conical, dome shaped, and covered with earth, tule mats, grass thatch, and occasionally bark. These structures, along with the ceremonial lodges or chief's residences, which were large and circular or elliptical, would be situated on low knolls near streams and above marshy floodplains.

The Nisenan mostly settled in permanent or winter settlements and followed a yearly gathering cycle that led them away from the lowlands and into the hill country each summer. During the annual gathering cycle, the Nisenan harvested acorns, nutmeg, pine nuts, buckeyes, and sunflower seeds and often stored these for long periods. Other vegetation, such as greens, tule and cattail roots, brodiaea bulbs, manzanita berries, black berries, and California grapes, was harvested and eaten as it ripened. All valley groups, including the Nisenan, fished trout, perch, chub, sucker, hardhead, eels, Sturgeon, and Chinook salmon. Fishing methods included hook, net, harpoon, trap, weir, and poison (Moratto 1984). The Nisenan crafted tools from stone such as obsidian and basalt to make flaked stone knives and projectile points. They also made ground stone tools such as mortars, pestles, pipes, and charms from locally available rock. Using wood, bone, and plant material, the Nisenan also made weapons, bows, arrow shafts, paddles, canoes, rafts, fishing nets, and baskets (Wilson and Towne 1978).

Early contact occurred at the southern end of Nisenan territory as the Spanish, notably José Canizares in 1776, explored Miwok land. Although there is no record of the Nisenan removal to the Spanish missions, by the late 1820s, white settlement began to encroach on Nisenan land as American and Hudson's Bay Company trappers began to trap beaver in the Nisenan territory under peaceful occupation. In 1833, a disease, believed to be malaria, swept through the Sacramento Valley and decimated the valley Nisenan. An estimated 75 percent of the native population was killed; as a result, there were very few Nisenan left in the valley to face the settlers and gold miners who came soon after the epidemic (Hoover 1990).

History

By January 1850, the discovery of gold in Coloma in 1848 had encouraged development in the Sacramento area. Shortly after the initial discovery of gold, a group of Mormons previously employed by Sutter to work his mill were mining for riches near Folsom. At the juncture of the North and South Forks of the American River, the town of Mormon Island was established around 1848 by Samuel Brannan and a group of about 100 men. By 1855 a small town was flourishing, populated with 2,500 people and complete with two stage lines, a post office, a school, four hotels, seven saloons, and more than a dozen other businesses. The completion of the Sacramento Valley Railroad to Folsom in 1856 marked the firm establishment of Folsom as a destination and began the slow decline of Mormon Island. By 1880 the mining community had disappeared.

The early history of Folsom includes founders such as William Alexander Leidesdorff and Joseph Libby Folsom. Both individuals helped establish the city of Folsom, downstream of the current Folsom Dam. In 1856, Theodore Judah surveyed and laid out the city of Folsom where the 2,048 lots sold in the first day and the city began to flourish.

Mining continued to draw people to Folsom. By 1878, Folsom had a sizeable Chinese population, numbering more than 3,500. With the population continuing to rise, in 1870 Horatio Livermore devised and implemented a project to dam the American River and provide power to Folsom. Completed in 1893 with the use of convict labor from Folsom Prison, the original Folsom

Dam provided local power as well as electricity to Sacramento, located 22 miles downstream. There are remnants the Old Folsom Dam just downstream of the current dam and Folsom Lake Crossing Bridge.

Mining activities took the form of dredging operations in 1900 and the population of Folsom slowly grew in the beginning decades of the new century. Eventually water resource needs for the region increased above what the Old Folsom Dam could provide. Although the town of Mormon Island disappeared decades earlier, there were a number of farmers occupying and utilizing the land at and near the juncture of the North and South Forks of the American River at the time of the construction of Folsom Dam (Folsom History Museum 2006).

Folsom Dam, reservoir, and the surrounding area have had an important role in the history of water and growth in California. During the 1920s, drought, water rights, and lack of sufficient storage facilities endangered the State's agricultural future. As a result, the CVP was designed and constructed. Before the construction of Folsom Dam, there was great concern in the Sacramento region about potential flooding if both the Sacramento and American Rivers should ever crest at the same time.

Construction began on Folsom Dam in 1948 under contracts supervised by the Corps. In 1956, the dam joined the overall CVP, and USBR took possession of the dam for operation and maintenance on May 15, 1956. The addition of the dam to the CVP operations added significant reservoir size to the dams on the Trinity, American, and Stanislaus Rivers. As a component of the CVP, Folsom Dam has been a significant contributor to the water and agricultural history of California. As an individual structure, Folsom Dam has had an important effect on flood control in the Sacramento region (Bailey 2005).

Records and Literature Search and Archeological Field Survey

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the area of potential effects (APE) have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 under Criterion A due to its role in flood control, hydropower, and irrigation in the Sacramento region and it is eligible as a contributing element to the larger Central Valley Project. Corps archeology staff surveyed the project area on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and determined to lack significance under criteria a, b, c, or d due to its disturbed context; lack of integrity with regard to setting, feeling, and association; and lack of an associated site.

Native American Coordination

Letters documenting the APE and describing the project activities were sent to local Tribes including the Shingle Springs Band of Miwok Indians, the United Auburn Indian Community of the Auburn Rancheria, Wilton Rancheria, and the T'si-Akim Maidu on June 2, 2014. Any responses received would be included in the final EA/EIR.

Environmental Effects

Significance Criteria

Any adverse effects on cultural resources that are listed in or eligible for listing in the NRHP are considered to be significant. Effects are considered to be adverse if they alter, directly or indirectly, any of the characteristics of a cultural resource that qualify that resource of the NRHP so that the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association is diminished. The criteria for the NRHP (36 CFR 60.4) are listed below:

a) that are associated with events that have made a significant contribution to the broad patterns of our history; or

b) that are associated with the lives of persons significant in our past; or

c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

d) that have yielded, or may be likely to yield, information important in prehistory or history.

In California, under CEQA, effects to a historic resource or unique archeological resource are considered to be adverse if they materially impair the significance of a historical or archeological resource.

No Action

Under the no action alternative, the Corps and CVFPB would not implement the slope protection measures proposed in the Supplemental EA/EIR. Turbulent flow conditions along the right bank side of the American River could result in the displacement and/or release of large blocks of rock. This could result in a partial blockage/obstruction of flow; a rise in tailwater elevation, affecting power generation; and the potential for progressive failure of the upper bank slope. However, since there are no historic properties within the APE, the No Action alternative would not result in adverse effects to historic properties.

Implement Slope Protection Measures

The proposed action would have no adverse effects on any cultural resources that are listed in or eligible for listing in the NRHP. Access to the site would be from the west of the project area via the existing Folsom-Auburn Road. Access to the project area would be controlled by the

Bureau of Reclamation's Central California Area Office facility. Construction and staging areas would be confined to previously disturbed areas and existing roads surveyed by Corps staff.

Folsom Dam and Dikes, resources eligible for listing in the NRHP, are located outside the APE, and the current proposed project would not alter directly or indirectly any of the characteristics that make the resources eligible for listing in the NRHP. As a result, there would be no adverse effects to Folsom Dam and Dikes caused by the proposed action.

The bedrock mortar identified during the survey of the APE has been determined not eligible for listing in the NRHP under criteria a, b, c, or d. As a result, and in accordance with the implementing regulations of Section 106 of the NHPA, 36 CFR § 800.4(d)(1), *No historic properties affected*, there are no historic properties present within the APE and the project would not have the potential to adversely effects to historic properties. A Memorandum for Record documenting this determination is included in Appendix C. Therefore, effects of construction activities on cultural resources is less than significant.

Mitigation

For the proposed action there would be no adverse effects to cultural resources and no mitigation would be required. Should any potentially significant cultural resources be discovered during construction, all ground-disturbing activities would cease in the area of the discovery, and the Corps would take action as required by 36 CFR 800.13(b), "discoveries without prior planning." Data recovery or other mitigation measures could be necessary to mitigate adverse effects to significant cultural resources. Implementation of mitigations measures, which could include avoidance and recordation or evaluation of a previously unidentified historic property by a qualified archeologist, would reduce these effects to less than significance.

3.3.4 Special Status Species

This section describes the existing conditions of the special species that could be affected and evaluates the effects of the proposed project on special status and their habitats in the project area.

Regulatory Background

Certain special status species and their habitats are protected by Federal, State, or local laws and agency regulations. The Federal Endangered Species Act (ESA) of 1973 (50 CFR 17) provides legal protection for plant and animal species in danger of extinction. This act is administered by USFWS and NMFS. The California Endangered Species Act (CESA) of 1977 parallels the Federal ESA and is administered by CDFW. Other special status species lack legal protection, but have been characterized as "sensitive" based on policies and expertise of agencies or private organizations, or policies adopted by local government. Special-status species are those that meet any of the following criteria:

- Listed or candidate for listing under the Federal ESA (50 CFR 17);
- Listed or candidate for listing under CESA;
- Nesting bird species and active nests of birds listed under the Migratory Bird Treaty Act;

- Species listed in the Bald and Golden Eagle Protection Act;
- Fully protected or protected species under State CDFW code;
- Wildlife species of special concern listed by the CDFW;
- Plant species listed as Rare under the California Native Plant Protection Act;
- Plant species listed by the California Native Plant Society;
- Species protected by local ordinances such as the Sacramento County Tree Preservation and Protection Ordinance, Chapter 19.12, the City of Sacramento Protection of Trees Ordinance, Chapter 12.56, and/or the City of Sacramento Heritage Tree Ordinance, Chapter 12.64;
- Species protected by goals and policies of local plans such as the American River Parkway Plan, which includes anadromous and resident fishes, as well as migratory and resident wildlife.
- Essential Fish Habitat listed under the Magnuson-Stevens Act.

Existing Conditions

A listing of Federally listed endangered, threatened, proposed, and candidate species (listed species) and critical habitat was obtained for the Folsom and Clarksville 7.5-minute USGS quadrangles on January 24th 20014 via the FWS website. In addition, a search of the California Natural Diversity Database (CNDDB) conducted on January 24th 2014 indicated no state or federal listed species were reported within the project boundaries. However, the CNDDB report showed a Swainson's hawk (*Buteo swainsoni*) nest within 1.5 miles of the project boundary. Biological field surveys conducted by USBR identified coopers hawk and a white tailed kite within two miles of the project area (USBR 2009). A compiled list from both the USFWS and CNDDB searches is presented in Appendix D.

Special-status species that were not identified as occurring or having habitat in the project area are not discussed further in this document. The following federal and state listed terrestrial special-status species were identified as having the potential to occur in the vicinity of the project area and be impacted by construction activities:

- Swainson's Hawk (State Threatened);
- Coopers Hawk (State Species of Concern);
- White-tailed Kite (CDFW Fully Protected);
- Valley elderberry longhorn beetle (Federal Threatened) and Critical Habitat.

Elderberry shrubs (*Sambucus sp.*) were also identified within the project area. Although the site is not designated as critical habitat for the valley elderberry longhorn beetle (VELB) (*Desmoceros californicus dimorphus*), the shrubs are the sole host plant for the beetle. An elderberry survey was conducted on July 1st 2013.

<u>Swainson's hawk</u>

Swainson’s hawk (*Buteo swainsoni*) is an uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and the Mojave Desert. Swainson’s hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley and forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Swainson's hawks breed in California and over winter in Mexico and South America. Swainson’s hawks usually arrive in the Central Valley between March 1 and April 1, and migrate south between September and October. Swainson’s hawks nest usually occur in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Valley oak, Fremont cottonwood, walnut, and large willow with an average height of about 58 feet, and ranging from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. Suitable foraging areas for Swainson’s hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Swainson’s hawks primarily feed on voles; however, they will feed on a variety of prey including small mammals, birds, and insects.

Construction of the project is scheduled for Summer 2015. Additional raptor surveys will be conducted in Spring 2015 to determine if the Swainson’s hawk are present and nesting. If nest are discovered within one-half mile of the project area, consultation will be initiated with the California Department of Fish and Wildlife (CDFW).

Cooper’s hawk

Cooper’s hawk (*Accipiter cooperii*) nest in deciduous trees or conifers in crotches or cavities that are usually 20 to 50 feet off the ground. The nest is a stick platform lined with bark. Nests are usually placed in second growth coniferous stands or in the deciduous riparian areas that are closest to streams. Cooper’s hawks are recorded as occurring in several locations along the American River and the riparian habitat in the vicinity of the project area provides suitable nesting habitat for this species.

White-tailed Kite

White-tailed kite (*Elanus leucurus*) is a common to uncommon, yearlong resident in coastal and valley lowlands and is rarely found away from agricultural areas. However, it does inhabit herbaceous and open stages of most habitats, mostly in cismontane California. The main prey of white-tailed kite is voles and other small, diurnal mammals, but it occasionally preys on birds, insects, reptiles, and amphibians. White-tailed kite forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets and placed near the top of a dense oak, willow, or other tree stand; usually 6-20 m (20-100 ft) above ground. Nests are located near open foraging areas in lowland grasslands, agricultural areas, wetlands, oak-woodland and savannah habitats, and riparian areas associated with open areas. White-tailed kite are recorded as occurring at a couple of locations along Empire Ranch Road and the riparian habitat in the vicinity of the project area provides suitable nesting habitat for this species.

Valley Elderberry Longhorn Beetle

The VELB is endemic to the riparian habitats in the Sacramento and San Joaquin Valleys where it resides on elderberry plants. The beetle's current distribution is patchy throughout the remaining riparian forests of the Central Valley from Redding to Bakersfield (USFWS 1984). The beetle is a pith-boring species that depends on elderberry plants during its entire life cycle. The beetle tends to be located in population clusters that are not evenly distributed across the Central Valley (Barr 1991). In October 2012, the USFWS announced their proposed rule to remove the valley elderberry longhorn beetle from the List of Endangered and Threatened Wildlife. In January 2013, the USFWS reopened the public comment period for additional 30-days.

A total of 7 elderberry shrubs were identified with in the project area during biological surveys conducted July 1st 2013, and April 3, 2014. It is assumed more elderberry shrubs exist downstream of the outflow channel, however, only those shrubs located within 100 feet of the affected project area were surveyed in accordance with FWS survey protocols. As a part of their recovery plan, the Service has concluded that two areas in Sacramento County should be designated Critical Habitat for VELB based on the densest know population of the beetle. The project area is not located within critical habitat.

Environmental Effects

Significance Criteria

Adverse effects on special status species were considered significant if an alternative would result in any of the following:

- Direct or indirect reduction in the growth, survival, or reproductive success of species listed or proposed for listing as threatened or endangered under the Federal or State Endangered Species Acts.
- Direct mortality, long-term habitat loss, or lowered reproduction success of Federally or State-listed threatened or endangered animal or plant species or candidates for Federal listing.
- Direct or indirect reduction in the growth, survival, or reproductive success of substantial populations of Federal species of concern, State-listed endangered or threatened species, or species of special concern or regionally important commercial or game species.
- Have an adverse effect on a species' designated critical habitat.

No Action Alternative

Under the no action alternative, the Corps and the CVFPB would not participate in construction of the proposed alternative. There would be no construction related effects to special status species and their associated habitat, and conditions in the project area would remain the same.

Implement Slope Protection Measures

Implement slope protection measures could result in direct and indirect affects to Swainson's hawk, Cooper's hawk and white-tailed kite. The project could also directly and indirectly affect the habitat (elderberry shrubs) of the federally-listed valley elderberry longhorn beetle. These effects could be considered significant to these special status species unless mitigated.

Effects to Swainson's hawk, Cooper's hawk, and White-tailed kite. Construction activities could potentially result in direct and indirect effects to the Swainson's hawk, Cooper's hawk, and white-tailed kite if they begin nesting in the adjacent areas. Construction activities in the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult kites. Preconstruction surveys would be conducted to determine if there are nests present within 1,000 feet of the project area. If the survey determines that there are active nests in the project area, CDFW would be contacted to determine the proper course of action. If necessary, a buffer would be delineated and the nests would be monitored during construction activities. With coordination and mitigation, as discussed below, it is anticipated that effects to Swainson's hawk, Cooper's hawk, and white-tailed kite would be less-than-significant.

Effects to Valley Elderberry Longhorn Beetle. The proposed slope protection could result in indirect effects to seven elderberry shrubs. Indirect effects would include physical vibration and increase in dust during operation of equipment and trucks during construction activities.

The proposed project would require a crane to rappel workers and drilling equipment to the lower slope. A crane pad would be constructed in the project area. Staff from the Corps conducted elderberry surveys on July 1st 2013. The project area has a total of 4 elderberry shrubs. Three shrubs are all located near the powerhouse road and one elderberry shrub is located on the mid-slope near the potential access road. The shrubs will not be directly impacted by the construction work, but to avoid damage to the shrubs, they will be protected in place with concrete barriers. The barriers will protect the shrubs from damage by the equipment. The barriers will be placed as far from the dripline of the shrubs as possible. Due to the limited options for locating the staging area, as well as the limited space within the staging area, it would be difficult to observe the required a 100-foot radius buffer zone for protection of the elderberry shrubs. The Corps is proposing a 20-foot radius buffer zone, using concrete barriers for protection.

Mitigation

The following mitigation measures would be implemented to reduce the potentially significant effects associated with the proposed project to less-than-significant.

Swainson's hawk, Cooper's hawk, and White-tailed kite

The Corps take steps to avoid and minimize impacts to raptors and other protected avian species. If possible, construction would be timed to avoid activities near active bird nests in the area. A qualified biologist would survey the project area and all areas within one-half mile of the project prior to initiation of construction. If the survey determines that a nesting pair is present, the Corps would coordinate with the California Department of Fish and Wildlife, and the proper avoidance and minimization measures would be implemented. To avoid potential effects to nesting

Swainson's hawks, the California Department of Fish and Wildlife typically requires the avoidance of nesting sites during construction activities. These measures include avoiding construction during the breeding season and monitoring of the nest site by a qualified biologist. The project is currently scheduled to begin in Summer of 2015.

Twelve trees (cottonwoods, willow species, and black locust) in the project area have the potential to be removed or may require minor trimming along the proposed access road. During the site survey, no nests were located in those trees; therefore no nests would be destroyed. The proposed mitigation measures would reduce the effects on the Swainson's hawk, white-tailed kite and Cooper's hawk to less than significant.

To ensure that there would be no effect, pre-construction surveys would be conducted by qualified biologists in areas that may contain suitable habitat for special-status plant, invertebrate, or wildlife species. If the biologists identify any of these special status species or suitable habitat, the Corps would contact the USFWS regarding any necessary measures to provide protection.

Valley Elderberry Longhorn Beetle

Formal consultation under Section 7 of the Endangered Species Act was initiated with the USFWS to assess potential impacts and required compensation. To minimize potential take of the valley elderberry longhorn beetle, the following measures taken from the USFWS "Conservation Guidelines for the Valley Elderberry Longhorn Beetle", July 1999 would be incorporated into the project:

- A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. Due to the limited options for locating the staging area and access road, it would be difficult to observe the required 100-foot radius buffer zone for protection of the elderberry shrubs. The Corps is proposing a 20-foot radius buffer zone, using concrete barriers for protection. These areas would be fenced, flagged and maintained during construction.

- Construction personnel would receive USFWS-approved worker environmental awareness training to ensure that workers recognize elderberry shrubs and VELB. The training would include status, the need to avoid adversely affecting the elderberry shrubs, avoidance areas and measures taken by the workers during construction, contact information and possible penalties for not complying with these requirements.

- Exclusion fencing would be placed around the shrubs to keep equipment and workers away. A biological monitor would provide instruction on establishing the buffer zone for the shrubs.

- Signs would be placed every 50 feet along the edge of the elderberry buffer zones. The signs would include: "This area is the habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be readable from a distance of 20 feet and would be maintained during construction.

Formal consultation has been completed with USFWS (Appendix E). An amended Biological Opinion (BO) was issued on March 31, 2014 and June 10, 2014. The protective measures listed above are also those listed in the BO. The implementation of these protective measures will reduce impacts to the VELB and its' habitat to a level less than significant.

3.3.5 Vegetation and Wildlife

This section describes the existing vegetation and wildlife in the project area and evaluates the effects of the proposed project on it.

Regulatory Background

Vegetation and wildlife are protected by numerous federal laws, including the Migratory Bird Treaty Act of 1918, and the Fish and Wildlife Coordination Act of 1934, as Amended. State laws and policies include California Fish and Wildlife Codes.

Existing Conditions

The project area is highly disturbed from previous activities. The upper slope is comprised mostly of a ruderal herbaceous community dominated by annual grasses such as wild oat, and forbs. The steep rocky lower and mid-slope is mostly devoid of vegetation except with the presence of small shrubs (sticky monkey flower, tobacco, and coffeeberry) scattered throughout the mid-slope area. The proposed footprint of the access road is dominated by ruderal vegetation with adjacent trees (cottonwood, willow sp, black locust) and one large elderberry shrub.

Wildlife in the area include occasional small mammals, resident and migratory birds, reptiles, and amphibians. The project area lacks cover and vegetation structure and therefore is not conducive for prolonged periods of wildlife use such as denning, nesting, or rearing. Additionally, there are no wetlands or vernal pool habitats in the project area.

Environmental Effects

<u>Significance Criteria</u>

Effects on vegetation and wildlife would be considered significant if the proposed project would result in any of the following:

- Substantial loss, degradation, or fragmentation of any natural communities or wildlife habitat.
- Substantial effects on a sensitive natural community, including Federally-protected wetlands and other waters of the U.S., as defined by Section 404 of the CWA.

- Substantial reduction in the quality or quantity of important habitat, or access to such habitat, for wildlife species.

No Action Alternative

Under the no action alternative, the Corps and the CVFPB would not participate in construction of the proposed alternative. There would be no construction related effects to vegetation and wildlife, and conditions in the project area would remain the same.

Implement Slope Protection Measures

Installation of the rock bolts would involve drilling into the rock slope and construction of a crane pad. Minimal clearing and grubbing would be required for the removal of herbaceous vegetation in the staging areas. Construction of an access road may require tree trimming and/or the removal of twelve trees. Surveys were conducted by Corps and USFWS on February 11, 2014. The results of the survey are shown in Table 5. Tree data and map is located in Appendix F.

Table 5. Results of the Trees Potentially Affected by the Project

Tree No.	Species	Diameter at Breast Height (inches)
1	Cottonwood	26
2	Cottonwood	6
3	Cottonwood	8
4	Cottonwood	3
5	Cottonwood	10
6	Cottonwood	4
7	Cottonwood	4
8	Willow sp	20
9	Willow sp	4
10	Willow sp	17
11	Black Locust[1]	16
12	Black Locust[1]	3
Total		**121**

Notes: [1] non-native species

Migratory birds such as killdeer, mourning doves, crows, cliff swallows, great blue heron and their habitats are protected under the Migratory Bird Treaty Act, as amended (16 U.S.C 703 et seq.). If the trees discussed above are removed, nesting birds and raptors using this habitat could be adversely affected. To ensure that there would be no effect, preconstruction surveys would be conducted prior to any work scheduled during the nesting season. If any breeding birds or active nests are found, a protective buffer would be delineated, and the USFWS and CDFW would be consulted for further action prior to construction. Recommendations proposed by the USFWS in their Fish and Wildlife Coordination Act Report are listed in the mitigation section below.

Once the project is completed, all disturbed areas would be restored via reseeding with a plant mix including grasses to encourage revegetation. Any trees removed would be mitigated in accordance with the recommendations provided in the Coordination Act Report. A planting plan would be developed prior to the removal of any trees. The plan would include planting design, monitoring methods, specific success criteria, and remedial measures in the event of failure in meeting success criteria. If mitigation cannot be completed on-site due to the limited space and lack of access, plantings are assumed to be completed at Rossmoor Bar mitigation site along the American River or credits would be purchased at a USFWS approved mitigation bank. Although this mitigation is off-site, it would compensate for losses at the Folsom Lake State Recreation Area, and would provide valuable wildlife habitat at an alternate location. The off-site mitigation would provide wildlife habitat within an area that is not as heavily regulated for flood control and water supply, which would provide more benefits to wildlife species than additional mitigation within the Folsom Lake State Recreation Area.

Any displaced wildlife would be expected to return to the area after the project is completed. Wildlife could be significantly impacted by loss of habitat and construction disturbance if mitigation measures are not implemented. With implementation of mitigation measures recommended by the USFWS, the proposed slope protection would have a less-than-significant impact on wildlife.

Mitigation

The following USFWS recommendations and mitigation measures would be implemented to reduce the potentially significant effects associated with the proposed project to less-than-significant:

- Avoid impacts to any oak woodlands and riparian areas outside, but in close proximity to, the construction easement and staging areas by fencing their boundaries with orange construction fencing or cyclone fencing just outside of the dripline of the woody vegetation.

- Avoid impacts to native trees, shrubs, and aquatic vegetation. Any native trees or shrubs removed with a diameter at breast height of 2 inches or greater should be replaced onsite, in-kind with container plantings so that the combined diameter of the container plantings is equal to the combined diameter of the trees removed. These replacement plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The planting site(s) should be protected in perpetuity.

- Minimize the impact of removal and trimming of all trees and shrubs by having these activities supervised and/or completed by a certified arborist.

- Avoid future impacts to the site by ensuring all fill material is free of contaminants.

- Avoid impacts to migratory birds nesting in trees along the access route and adjacent to the proposed bank protection site by conducting pre-construction surveys for active nests along the proposed haul road, staging area, platform, and construction site. This would especially apply if construction begins in the early summer of 2015. Work activity around active nests should be avoided until the young have fledged. The following protocol from the CDFW for Swainson's hawk would suffice for the pre-construction survey for raptors:

A focused survey for Swainson 's hawk nests will be conducted by a qualified biologist during the nesting season (February 1 to August 31) to identify active nests within 0.25 mile of the project area. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. If nesting Swainson 's hawks are found within 0.25 mile of the project area, no construction will occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a qualified biologist), unless otherwise negotiated with the California Department of Fish and Wildlife. If work is begun and completed between September 1 and February 28, a survey is not required.

- Minimize impacts to fish and wildlife resources and their habitat by confining travel to established roads/paths in the project area and confining parking to established areas (parking lots and staging areas).

- Minimize project impacts by reseeding all disturbed areas at the completion of construction with forbs and grasses.

With implementation of these mitigation measure and USFWS recommendations, the project would have a less than significant effect on vegetation or wildlife.

3.3.6 Water Quality

This section describes the existing conditions of the water resources that could be affected and evaluates the effects of the proposed project on water resources and water quality in the project area.

Regulatory Setting

Federal and State law mandates a series of programs for the management of surface water quality. The Clean Water Act (33 U.S.C.§1251 et seq.) (CWA) is the Federal law that establishes the baseline that all state and local water quality laws must meet. The CWA also gives states the authority to adopt more stringent water quality programs to manage waters within the state. California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7), which created the State Water Resources Control Board (SWRCB), regulates the California waterways and establishes pollution prevention plans and policies.

The SWRCB is divided into nine Regional Water Quality Control Boards (RWQCB). Each RWQCB is responsible for enforcing State water quality laws and objectives, establishing beneficial uses for each State waterway, and developing and updating basin plans that protect water quality based on beneficial use. The project area falls within the jurisdiction of the Central Valley Regional Water Quality Control Board (CVRWQCB), which authorizes discharges into State waterways under the National Pollutant Discharge Elimination System (NPDES) permitting process. NPDES permits apply to stormwater, groundwater, and other wastewater discharges in the project area. Construction activities that disturb more than one acre of land would require a NPDES permit for potential storm water discharges and construction dewatering.

Permit types are further divided into categories based on the project activity in question. Pertinent to this project, a storm water permit is required. All permits require a notice of intent to be submitted prior to commencing any soil disturbing activities, groundwater dewatering, or concrete batch plant operation. The storm water permit requires that a Storm Water Pollution Prevention Plan (SWPPP) be developed and implemented along with a monitoring and reporting plan.

Section 401 of the CWA regulates the water quality of bodies of water associated with any in-water work, or discharge of dredged or fill material. Section 401 is administered by CVRWQCB. CVRWQCB either issues or denies water quality certifications based on whether or not the proposed in-water activity, discharge, or fill complies with all State and Federal laws, policies, and regulations governing the protection of the beneficial uses of the State's water resources.

Section 404 of the CWA regulates the discharge of dredged or fill material into wetlands and waters of the United States. Individual, general, and nationwide permits are issued by the Corps and EPA for activities that may these jurisdictional waters. Although the Corps does not issue itself permits for its own Civil Works projects, Corps regulations state that the Corps must apply the guidelines and substantive requirements of Section 404 to its activities. Such guidelines are known as the "Section 404(b)(1) Guidelines."

Existing Conditions

The American River basin covers an area of approximately 2,100 square miles and has an average runoff of 2.7 million acre-feet per year. The American River is part of the Sacramento River watershed along with numerous other streams and rivers that drain the western slopes of the Sierra Nevada and Cascades. The North, Middle, and South Forks of the American River are the major tributaries draining into Folsom Reservoir. In general, these waters entering Folsom Reservoir from the upper American River watershed are of high quality. The mainstem American River channel below Folsom Dam receives water from Folsom Lake after it passes through the dam.

Flood-producing runoff occurs primarily during the months of October through April and is usually most extreme between November and March. From April to July, runoff is primarily generated from snowmelt from the upper portions of the American River watershed. Runoff from snowmelt usually does not result in flood producing flows; however, it is normally adequate to fill Folsom Reservoir's available storage. Approximately 40 percent of the runoff from the watershed results from snowmelt.

Lake Natoma is downstream of Folsom Dam and serves as an afterbay to Folsom Reservoir. Formed and controlled by Nimbus Dam, the lake is operated to reregulate the daily flow fluctuations created by the Folsom Powerplant. Consequently, surface water elevations in Lake Natoma may fluctuate between four and seven feet daily. Lake Natoma has a storage capacity of approximately 9,000 acre-feet and a surface area of 500 acres. Nimbus Dam, combined with Folsom Dam, regulates water releases to the lower American River.

There are no sources of surface water such as streams, ponds, springs or wetlands in the project area. Installation of the rock bolts would occur over the outflow channel below Folsom Dam. No fill material would be placed into the waters of the U.S., therefore the preparation of a 404(b)(1) analysis is not required.

Environmental Effects

Significance Criteria

The proposed action would significantly affect water resources if it would result in any of the following:

- Violate any water quality standards or waste discharge requirements, create or contribute runoff water that would provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality;
- Substantially degrade surface water or groundwater quality such that it would substantially degrade water quality to the detriment of beneficial uses; or
- Substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on or off the site, resulting in flooding on or off the site, or exceed the capacity of stormwater drainage systems.

No Action

Under the no action alternative, the Corps and the CVFPB would not participate in construction of the proposed alternatives. As a result, there would be no additional effects on water resources or quality from construction activities associated with the slope protection measures, including movement of disturbed soil and accidental spills into surface drainage. Water quality would continue to be influenced by urban, and stormwater runoff.

Implement Slope Protection Measures

Site preparation for the project would include ground disturbing activities including minor clearing and grubbing, and excavation. Approximately 2 acres of land could be exposed during construction of the proposed action. Exposed soil could potentially erode during rain events, causing increased turbidity in local waterways. Adjacent waterways that could potentially be affected include the outflow channel below Folsom Dam, and the American River.

Construction activities have the potential to temporarily impair water quality if disturbed and eroded soil, petroleum products, or construction-related wastes (cement and solvents) are discharged into receiving waters or onto the ground where they can be carried into receiving waters. Soil and associated contaminants that enter receiving waters through stormwater runoff and erosion can increase turbidity, stimulate algae growth, increase sedimentation of aquatic habitat, and introduce compounds that are toxic to aquatic organisms. and groundwater.

In order to maintain existing water quality conditions, the contractor would be required to obtain NPDES permits. A NPDES general stormwater construction permit from the CVRWQCB would be required since the project would disturb more than 1 acre of land. The Construction Storm Water Permit pertains to the prevention of increased turbidity of adjacent waterways from site erosion and sedimentation. The contractor would be required to develop and implement a SWPPP prior to initiating construction activities, and to implement standard BMPs. Dust control measures would be implemented to avoid dust and soil from entering the river or other drainages as a result of construction activities. Precautions would be followed to avoid erosion and movement of soils into drainage systems. Implementation of BMPs and NPDES permit requirements would reduce water quality impacts from construction to less than significant.

There is potential for fugitive dust and construction runoff to enter waterways due to excavation, drilling, equipment use, and movement of trucks in the project area and along the access road. Frequent watering of haul routes, proper covering and control of material stock piles (e.g., dirt and aggregate) would help to prevent such pollution impacts, therefore; impacts on water quality due to fugitive dust would be less than significant.

There is also a potential of incidental fallback of materials entering the outflow channel from drilling and installation of the rock bolts. To minimize incidental fallback, the contractor would use a vacuum, covers or platforms to collect debris from entering the outflow channel. To minimize loss of grout, the contractor would conduct grouting in a manner to prevent air voids within the grout zone. If resin grout is used, it shall be in accordance with the resin manufacturer's recommendation. Implementation of BMPs would reduce incidental fallback from construction to less than significant.

Mitigation

Since there would be no significant effects on water resources or quality, no mitigation would be required. However, the following standard BMPs would be implemented to avoid or minimize any effects of construction on surface waters. Additional BMPs could be identified as part of the NPDES permits discussed above. Implementation of these BMPs would ensure that effects on water quality would remain at less-than-significant levels. Standard BMPs include:

- Appropriate erosion control measures would be incorporated into the SWPPP in order to prevent sediment from entering waterways. Examples include, but are not limited to: straw bales/wattles, erosion blankets, silt fencing, mulching, re-vegetation, and temporary covers. An appropriately designed and effective sediment capture and stilling basin must be implemented to capture and control sediments carried by site runoff. Sediment and erosion control measures must be maintained during construction at all times. Inspect control measures before, during, and after a rain event.
- Implement appropriate measures to prevent any debris, soil, rock, or other materials/products associated with construction activities from entering waterways. ~~Examples of sediment control measures include, but are not limited to: silt fence, sediment basins, check dams, fiber rolls, and possibly gravel bag berms~~

- The contractor would use a water truck or other appropriate measures to control fugitive dust on haul roads, construction areas, and stockpiles.
- The construction entrance/exit would be stabilized and controls to prevent off-site tracking of sediment or loose construction related materials would be implemented.
- Covers or platforms would be used to collect debris from entering the outflow channel. Attachments shall be added to construction equipment to catch debris.
- A fuel spill management plan would be developed for the project.
- Provide secondary containment for storage of any fuel, oil or other liquid and properly dispose of such liquid wastes.
- Fuel and maintain vehicles in specified staging areas only, which are designed to capture potential spills. These areas cannot be near any ditch, stream, or other body of water or feature that may convey water to a nearby body of water.
- Fuels and hazardous materials would not be stored on site. Any spills of hazardous material would be cleaned up immediately. Spills would be reported in construction compliance reports.
- Inspect and maintain vehicles and equipment to prevent dripping of oil, lubricants, or any other fluids.
- Schedule construction to avoid as much of the wet season as possible. Ground disturbance activities are expected to begin in the summer of 2015. If rains are forecast during the construction period, erosion control measures would be implemented.
- Train construction personnel in storm water pollution prevention practices.
- Re-vegetate and restore areas cleared by construction in a timely manner to control erosion.
- Implementation of any additional requirements as mandated by the construction storm water permit would further reduce any potential adverse affects to adjacent waterways.

In addition, the measures in the Spill Prevention and Response Plan and the Erosion and Sediment Control Plan would prevent any significant adverse effects to water quality in the project area. The inclusion of the above mitigation measures and complete compliance with all water quality permits, would reduce any water resources and quality impacts to less than significant.

4.0 CUMULATIVE AND GROWTH-INDUCING EFFECTS

4.1 Cumulative Effects

4.1.1 Introduction

NEPA and CEQA require the consideration of cumulative effects of the proposed project combined with the effects of other projects in and around the project vicinity. The discussion identifies resource areas in which the impacts of the proposed action, when viewed together with other projects, could contribute to an impact that is “cumulatively considerable” within the meaning of NEPA and CEQA.

Due to the fact that the Folsom JFP is a multi-phased, accelerated effort, overlapping construction efforts would occur adjacent and in the vicinity of the project area. The 2007 FEIS/EIR and the 2012 SEIS/EIR evaluated cumulative effects from the multiple phases of the Folsom JFP construction activities. No new current or future projects have identified in the vicinity of the project area that would change the 2012 SEIS/EIR analysis. The analysis in this Supplemental EA/EIR is addressing the incremental increase the proposed action would add to the previous cumulative effects analysis. The other phases of the Folsom JFP are listed below.

Mormon Island Auxiliary Dam Modification Project. Summer 2010 to fall 2015. USBR released the Draft EIS/EIR for the MIAD Modification Project in December 2009. The preferred MIAD action alternative of jet grouting selected in the FEIS/EIR was determined to be neither technically nor economically feasible. All alternatives address methods to excavate and replace the MIAD foundation, place an overlay on the downstream side, and construct drains and filters; the alternatives differ only in their method of excavation. In addition, all four action alternatives in the draft supplemental EIS/EIR include habitat mitigation proposed for up to 80 acres at Mississippi Bar on the shore of Lake Natoma to address impacts from the Folsom JFP.

Control Structure, Chute, and Stilling Basin. Spring 2011 to spring 2017. Phase III of the Folsom JFP consists of construction of the auxiliary spillway control structure. This effort is currently under construction by the Corps and will be completed in approximately Summer 2015. Concrete lining of the spillway chute and stilling basin will be conducted by the Corps as the final phase of the Folsom JFP. Construction of the control structure, and the concrete lining of the chute and stilling basin were all covered under the Corps' 2010 EA/EIR (Corps 2010).

Approach Channel. Spring 2013 to fall 2017. The approach channel project is the final construction activity of Phase IV of the Folsom JFP. The supplemental EIS/EIR was released December 2012. The primary and permanent structures consist of the 1,100 foot long excavated approach channel and spur dike. Additional existing sites and facilities that would be used for the length of the project include the Folsom Prison staging area, the existing USBR Overlook, the MIAD area, and Dike 7.

Regulatory Background

The NEPA regulations and CEQA Guidelines require that an EA/EIR discuss project effects that, when combined with the effects of other projects, result in significant cumulative effects. Cumulative effects are defined as "The effect on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor of collectively significant actions taken over a period of time" (CFR 40 Part 1508.7).

Cumulative effects under the CEQA Guidelines are defined as "two or more individual impacts which, when considered together, compound or increase other environmental impacts" (Section 15355). The Guidelines require that an EIR discuss cumulative effects "when they are significant" (Section 15130). The CEQA Guidelines also state: "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to the other closely related past, present, and reasonable foreseeable probable future projects” (Section 15355).

Methodology

Cumulative effects are evaluated by identifying projects in and around the Folsom Dam vicinity that could have significant adverse or beneficial environmental effects. These significant effects are compared with the potential adverse and beneficial effects of the proposed alternative to determine the types and significance of potential cumulative effects. The timeframe for analysis of cumulative impacts is from summer of 2015 when the project is anticipated to begin through the completion of the slope protection measures (approximately six months). Specific site conditions would determine the amount of work that could take place during each construction season.

4.1.2 Past, Present, and Reasonably Foreseeable Future Projects

Related Projects

The identified projects in the vicinity of the project area are briefly described below. Each of the identified projects is required to evaluate the effects of the proposed actions on environmental resources in their respective areas. Accordingly, mitigation or mitigation measures must be developed to avoid or reduce any adverse effects to less than significant based on Federal and local agency criteria. Effects that cannot be avoided or reduced to less than significant are likely to contribute to cumulative effects in the area. Timing and sequencing of construction activities for each of the projects are not yet determined and would affect the findings of the cumulative effects analysis.

Johnny Cash Folsom Prison Blues (Folsom Lake) Trail: Historic Truss Bridge to Green Valley Road Segment

This project is planned to provide approximately 2.5 miles of Class I bike trail from the Historic Truss Bridge to Green Valley Road. Incorporation of a separated grade crossing at the new Folsom Lake Crossing/East Natoma Street re-alignment was included as part of the construction of the Folsom Bridge. Construction is expected to be completed in fall 2014.

Folsom Dam Water Control Manual Update

The Folsom Dam Water Control Manual Update is being completed in conjunction with the Folsom JFP by the Corps, USBR, CVFPB, and SAFCA. The Folsom Dam Water Control Manual Update is developing, evaluating, and recommending changes to the flood control operations at Folsom Dam to further reduce flood risks to the Sacramento area. The study will result in a Corps decision document and will be followed by a water control manual implementing the recommendations of the Study. The initial water control manual will implement the recommendations of the study, but will not include the capabilities to be provided by the Dam

Raise and additional Common Features project improvements until these projects have been completed.

Folsom Dam Raise

The Folsom Dam Raise project will follow the Folsom JFP. This project includes raising the Folsom Dam, Mormon Island Auxiliary Dam and the auxiliary dikes around Folsom Reservoir by 3.5 feet; replacing the three emergency spillway gates; and three ecosystem restoration projects. For the dam raise portion of the project, the design should begin in 2015 and be completed in Fiscal Year 2016, with construction following in phases through 2017 and 2018.

Widening of Green Valley Road

Green Valley Road runs between both the City of Folsom and El Dorado County. Both agencies have proposed projects to widen Green Valley Road from two to four lanes. The El Dorado County Green Valley Road widening project from the county line to Francisco Drive was constructed prior to 2009, with environmental mitigation to be completed from 2009 to 2012 (El Dorado County 2010). The City of Folsom plans to widen Green Valley Road; however, the ongoing construction of the Bureau's MIAD Modification project limits their ability to conduct the road widening project. There is currently no environmental compliance documentation and no construction schedule for the project within the City of Folsom. The project could take four years to construct.

El Dorado 50 – HOV lanes

California Department of Transportation will construct bus-carpool (HOV) lanes in the eastbound and westbound directions by widening U.S. Highway 50 from approximately El Dorado Hills Boulevard to just west of Greenstone Road. The project will ultimately extend the current HOV lane system to provide approximately 23 continuous miles of eastbound and westbound HOV lanes between Sacramento and El Dorado counties. The project also includes bridge modifications, lighting improvements and new asphalt overlay. The project will be constructed in three phases: Phase 1 will extend the current HOV lanes from their existing terminus west of El Dorado Hills Boulevard to west of Bass Lake Road. Construction was completed in 2011. Phase 2 will extend the lanes from west of Bass Lake Road to approximately Ponderosa Road. Phase 3, currently on hold pending determination of funding source, will extend the lanes from Ponderosa Road to Greenstone Road (Caltrans 2012).

Hazel Avenue Improvement Project

Sacramento Department of Transportation completed Phase 1 of the Hazel Avenue Improvement Project. The primary portion of Phase 1 involved the widening of Hazel Avenue from four to six lanes over the American River Bridge from U.S. 50 to Curragh Downs Drive. Construction was completed in 2011. Phase 2 of the Hazel Avenue Projects includes widening

Hazel Avenue from four to six lanes from Curragh Downs Drive to Sunset Avenue. This phase will also include traffic signal modifications at Curragh Downs Drive, Winding Way, La Serena Drive, and Sunset Ave. Construction of Phase 2 is currently targeted to begin in 2015. Phase 3 of the Hazel Avenue Project includes improvements from Sunset Avenue to Madison Avenue and is project to begin in 2016 (SacDOT 2010).

4.1.3 Cumulative Effects

Analysis of Potential Cumulative Effects

Chapter 3 of this Supplemental EA/EIR identifies the affected environment and includes detailed impact analyses and mitigation measures of the proposed action with respect to air quality, cultural resources, special status species, vegetation and wildlife, and water quality. The results are assessed in the following cumulative effects analysis in terms of their potential to combine with environmental effects of the projects listed previously. The analysis focuses on the potential for the impacts identified in Chapter 3 to make a considerable contribution to significant adverse cumulative effects.

The discussion of cumulative impacts focuses on the cumulative impact to which these other projects contribute, rather than the attributes of other projects which do not contribute to the cumulative impact. For example, if another project contributes only to a cumulative effect on natural resources, its effects on public services need not be discussed as part of the cumulative impact analysis.

Air Quality

The geographic scope of potential cumulative air quality impacts encompasses the immediate project vicinity for particulates and the Sacramento Valley Air Basin (SVAB) for ozone precursor pollutants. The proposed action could overlap with ongoing Folsom JFP projects and roadway improvement projects that are in and around the vicinity of the Folsom Facility.

A detailed discussion of air quality cumulative effects is presented in the 2012 SEIS/EIR. No new current or future projects have been identified in the vicinity of the project area that would change the 2012 SEIS/EIR analysis. The additional emissions estimates from the proposed action would not contribute significant emissions to the air basin. The project's emissions would be temporary and not generate any long-term air pollutants, not exceed applicable project level thresholds of significant, and would not substantially contribute to AAQS. Therefore, impacts are less than significant with mitigation.

Climate Change

It is unlikely that any single project by itself could have a significant impact on the environment with respect to GHGs. However, the cumulative effect of human activities has been clearly linked to quantifiable changes in the composition of the atmosphere, which, in turn, have been shown to be the main cause of global climate change (IPCC 2007). Therefore, the analysis of the environmental effects of GHG emissions is inherently a cumulative impact issue. While the emissions of one single project will not cause global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative effect with respect to global climate change.

The primary impacts expected from these concurrent projects would be due to construction activities. On an individual basis, these projects would mitigate emissions below their significance thresholds. If these projects are implemented concurrently, the combined cumulative effects could be above reporting requirements for GHG emissions. If this was the case, concurrent construction projects within and adjacent to Folsom Dam could have adverse cumulative effects on climate change.

However, in order to reduce the significance of GHG emissions associated with this project, the Corps is implementing a number of mitigation and minimization measures. By implementing the LACMTA Green Construction Policy discussed in Sections 4.2.6 and 4.3.6 of the 2012 SEIS/EIR, and in the Air quality section 3.3.1 of this document, the Corps would reduce overall emissions associated with the Folsom JFP, and in doing so reduce the potential cumulative GHG emissions in the area. Additionally, the majority of the related projects in the area consist of flood risk management and dam safety seismic improvement actions. By implementing these actions, the Corps and USBR would be reducing potential future emissions associated with future flood emergency actions. As a result, the related projects could combine to reduce long-term potential GHG emissions in the Sacramento area. The potential reduction in long-term GHG emissions is a major goal of the CARB scoping plan and Sacramento County's Climate Action Plan. As a result, the overall cumulative GHG emissions from these concurrent projects are considered to be less-than-significant.

~~A detailed discussion of climate change cumulative effects is presented in the 2012 SEIS/EIR. No new current or future projects have been identified in the vicinity of the project area that would change the 2012 SEIS/EIR analysis. The additional CO_2 emissions from the proposed action would not exceed applicable project level thresholds of significance, and would not conflict with CARB's and Sacramento County's ability to achieve its GHG reduction goals. Therefore, impacts are less than significant.~~

Cultural Resources

Folsom Dam and Dikes, resources eligible for listing in the NRHP, are located outside the APE, and the current proposed project would not alter directly or indirectly any of the characteristics that make these resources eligible for listing in the NRHP. As a result, there would be no adverse effects to Folsom Dam and Dikes caused by the proposed action. Construction of the proposed slope protection measures would not adversely affect any potential historic properties or cultural resources located within or near the APE. Since the Corps has determined that construction of the proposed action would not adversely affect any potential historic properties or cultural resources located within or near the APE, the proposed action would not contribute to any cumulative effects resulting from past, ongoing, or reasonably foreseeable projects in or near the APE.

Special Status Species

The slope protection measures could result in indirect effects on elderberry plants, which is the host plant for the Federally listed threatened valley elderberry longhorn beetle. However, with implementation of the conservation measures stated previously, effects to the valley elderberry longhorn beetle would be minimized.

Prior to the onset of the MIAD Modification project, USBR transplanted elderberry shrubs from their project footprint. To mitigate for the transplanting of these shrubs, USBR will include elderberry plantings in their Mississippi Bar mitigation site. VELB populations are highly affected by fragmented habitat, so by improving this site, USBR would also be improving the contiguous corridor for the VELB along the American River. Past Corps projects, including the Folsom Bridge Project also included elderberry mitigation that added to this corridor. As a result, the mitigation would benefit the species by adding habitat connectivity. The Folsom JFP approach channel project transplanted four elderberry shrubs to the French Camp Mitigation Bank. Transplanting the elderberry shrubs to the mitigation bank contributed to the long-term net improvement of beetle habitat by increasing habitat extent and connectivity. As a result, the cumulative effect of these projects' effects to elderberry shrubs would be considered less-than-significant, with the implementation of the projects' proposed mitigation.

Vegetation and Wildlife

The Folsom JFP approach channel and the Mormon Island Auxiliary Dam Modification project have identified effects to vegetation and wildlife. To mitigate for their effects, USBR will create a mitigation site with associated riparian habitat at Mississippi Bar on Lake Natoma. The Folsom JFP approach channel will mitigate for their effects by creating a mitigation site with associated riparian habitat at Rossmore Bar along the American River. If tree removal is required to implement the slope protection measures, mitigation would be completed on-site. If on-site mitigation is not possible due to site constraints, plantings are assumed to be completed at the Rossmoor Bar site or credits would be purchased at a USFWS approved mitigation bank. Mitigation associated with riparian plantings on Lake Natoma or within the American River Parkway has the potential to increase the contiguous riparian corridor along the river and would increase habitat continuity. As a result, the cumulative effect of these projects' habitat loss would be considered less-than-significant, with the implementation of the projects' proposed mitigation.

Water Resources and Quality

The geographic scope for the potential cumulative water quality impacts encompasses the outflow channel below Folsom Dam (i.e. the Lower American River channel), and Lake Natoma. The proposed action could overlap with ongoing Folsom JFP projects which have the potential to create storm water runoff that could be discharged to outflow channel.

Projects could adversely affect water quality in these waters through clearing, grading, and foundation excavation work that could increase the potential for soil erosion and subsequent turbidity. During the rainy season, stormwater runoff from areas that have been cleared for these projects may contain high levels of suspended sediments. Together, these projects could potentially result in a cumulative effect on water quality.

The analysis results for potential impacts from the proposed action were less than significant; thus, would not contribution to cumulative effects on water quality. Implementation of the appropriate mitigation measures for each these identified projects and appropriate monitoring and testing, along with the mitigation measures for the proposed action, which include implementation of a SWPPP, BMPs, pertinent permits, would ensure that the potential cumulative effects on water quality to a less than significant level.

4.2 Growth-Inducing Effects

The proposed action would not directly remove obstacles to growth, result in population increases, or encourage and facilitate other activities that could significantly affect the environment. New development must be consistent with existing City and County general plan policies and zoning ordinances regarding land use, open space, conservation, flood protection, and public health and safety. Local population growth and development would be consistent with the most current Land Use Element of the County of Sacramento General Plan.

The project area is zoned specifically for flood control activities. The land uses would not change due to the construction of the proposed project, or any of the related projects in the area. In addition, maintenance of the slope protection measures would not be required so the project would not result in a substantial increase in the number of permanent workers or employees.

5.0 COMPLIANCE WITH ENVIRONMENTAL LAWS AND REGULATIONS

5.1 Federal Requirements

Clean Air Act of 1972, as amended, 42 U.S.C. 7401, et seq. *Full compliance.* Construction of the proposed action concurrently with the other phases of the Folsom JFP is not expected to violate any Federal, exceed the U.S. EPA's general conformity *de minimis* threshold, or hinder the attainment of air quality objectives in the local air basin. Implementation of mitigation measures and BMPs would reduce NOx emissions to below State and local thresholds. Thus, the Corps has determined that the additional emissions from the slope protection measures would have no significant effects on the future air quality in the area.

Clean Water Act of 1972, as amended, 33 U.S.C. 1251, et seq. *Full Compliance.* Compliance with Clean Water Act Section 404(b)(1) was not required, as there will be no placement of fill material into the waters of the U.S. The contractor will obtain the water quality a Storm Water Permit: NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. As part of these permits, the contractor would be required to implement BMPs to avoid and minimize any adverse effects of construction on surface waters.

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531, et seq. *Full Compliance.* In accordance with Section 7(c), the Corps obtained a list of Federally listed and proposed species likely to occur in the project area. The only listed species affected by the project would be the valley elderberry longhorn beetle. The Corps' biological assessment is that the project may affect, but is not likely to adversely affect this species. USFWS amended the Biological Opinion (BO) dated March 31, 2014 and June 10, 2014 (Appendix D).

The Corps as the action agency has made the determination that there would be no effect on any listed species under the jurisdiction of the National Marine Fisheries Service (NMFS). As a result, formal consultation is not required with NMFS under Section 7 of the Endangered Species Act.

Executive Order 11988, Floodplain Management. *Full Compliance*. The objective of this Executive Order is the avoidance, to the extent possible, of long-and short-term adverse effects associated with the occupancy and modification of the base flood plain (1 in 100 annual flood event) and the avoidance of direct and indirect support of development in the base flood plain wherever there is a practicable alternative. The proposed project is a portion of the Folsom JFP and it has been determined, by the project partners and Congress, that constructing the Folsom JFP is the only practicable way to reduce flood risk to the greater Sacramento area. The Folsom JFP in combination with other area flood risk projects, protects the existing urban population while providing residual risk information to the appropriate agencies making land use decisions in the area. Therefore the proposed project does not contribute to increased development in the floodplain and is in compliance with the executive order.

Executive Order 11990, Protection of Wetlands. *Full Compliance*. This executive order directs Federal agencies, in carrying out their responsibilities, to minimize the destruction, loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. The project area is not located in or adjacent to wetlands and therefore would have no adverse effects on wetlands.

Executive Order 12989, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Full Compliance*. This Executive Order states that Federal agencies are responsible to conduct their programs, policies, and activities that substantially affect human health of the environment in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefits of, or subjecting persons to discrimination under such programs, policies, and activities because of their race, color, or national origin. The benefits of the proposed action would extend to all areas of the greater Sacramento Area. The proposed project is on public land and is not located near any minority or low-income areas or communities.

Farmland Protection Policy Act, 7 U.S.C. 4201 et seq. *Full Compliance*. This act requires a Federal agency to consider the effects of its actions and programs on the Nations' farmland. There are no designated prime or unique farmlands within the project area, and therefore there would no adverse effects to farmland.

Fish and Wildlife Coordination Act of 1958, as amended, 16 U.S.C. 661, et seq. *~~Partial~~Full Compliance*. This act requires Federal agencies to consult with the USFWS and State fish and game agencies before undertaking or approving water projects that control of modify surface water. Federal agencies undertaking water projects are required to fully consider recommendations made by the USFWS. Coordination with USFWS is ongoing in order to determine the effects on vegetation and wildlife within the project area. USFWS prepared a draft Coordination Act Report (CAR) dated April 1, 2014 (Appendix G) and a final CAR dated October 2, 2014. Inclusion of the final CAR and consideration of USFWS recommendations ~~would accomplish~~ accomplishes full compliance with this law.

Magnuson-Stevens Fishery Conservation and Management Act. *Full Compliance.* This legislation requires that all Federal agencies consult with National Marine Fisheries Service regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat. Essential fish habitat is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Corps has determined the project would have no effect on Federally listed threatened and endangered species, and essential fish habitat.

Migratory Bird Treaty Act of 1936, as amended, 16 U.S.C. 703 et seq. *Full Compliance*. This Act provides protection for migratory birds as defined in 16 USC 715. To the extent feasible, construction would be timed to avoid disruption of active bird nest or young of birds that breed in the area. No direct physical destruction of active nests will occur unless a permit is obtained from the USFWS. A biologist would conduct preconstruction surveys in areas adjacent to the project site. If breeding birds or active nests are found in the area, a protective buffer would be delineated to minimize disturbance to the nests, and the USFWS and CDFW would be consulted.

National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321, et seq. *Partial Compliance*. This Supplemental EA/EIR is in partial compliance with this act. Comments received during the public review will be incorporated into the EA/EIR, as appropriate and a comments and responses appendix will be prepared The final EA/EIR will be accompanied by a signed FONSI if determined to be appropriate by the District Engineer after consideration of public comments. These actions will provide full compliance with this act.

National Historic Preservation Act of 1966, as amended. *~~Partial~~Full Compliance.* Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of a proposed undertaking on properties that have been determined to be eligible for, or included in, the National Register of Historic Places. The implementing regulations for Section 106 are 36 CFR § 800.

In a letter dated June 2, 2014, the Corps initiated consultation with the SHPO, informing the SHPO of the proposed project, and asking for comments on the determination of the APE and on the proposed efforts to identify historic properties within the APE.

Letters were sent to potentially interested Native American Tribes on June 2, 2014, including the Shingle Springs Band of Miwok Indians, the United Auburn Indian Community of the Auburn Rancheria, Wilton Rancheria, and the T'si-Akim Maidu to inquire if they have knowledge of locations of archaeological sites, or areas of traditional cultural value or concern in or near the APE.

The Corps has made a determination of "No Adverse Effect" for the proposed project. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP for its role in the history of flood control in the Sacramento region. The Corps has determined that the proposed project will not adversely affect historic properties within the APE and ~~will~~ submitted a letter to the SHPO documenting this determination and the Corps' inventory, identification, evaluation, and consultation efforts, and determinations of eligibility and effect. SHPO sent a letter August 26, 2014 concurring with the Corps determination.~~Once these consultations are complete, the proposed project will be in compliance with Section 106 of the NHPA.~~

Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq. *Full Compliance*. This act was enacted to preserve selected rivers or sections of rivers in their free-flowing condition in order to protect the quality of river waters and to fulfill other national conservation purposes. The Lower American River, below Nimbus Dam, has been included in the Federal Wild and Scenic Rivers system since 1981. The proposed project is located above this reach of the river and therefore, does not affect this portion of the Lower American River.

5.2 State of California Requirements

California Environmental Quality Act. *Partial Compliance*. This joint NEPA/CEQA document is in partial compliance with CEQA requirements. Comments received during the public review period will be considered and incorporated into the final EA/EIS, as appropriate. The CVFPB will consider certifying the EIR and adopting its findings. Completion of this action by the CVFPB will provide full compliance for CEQA.

California Endangered Species Act. *Full Compliance*. This act requires the non-Federal agency to consider the potential adverse affects on State-listed species. As a joint NEPA/CEQA document, this Supplemental EA/EIR has considered the potential effects and has determined that due to the lack of suitable habitat for any State-listed species, the project would have no effect on those State special status species associated with the proposed action.

Porter-Cologne Water Quality Control Act. *Full Compliance*. The potential effects of the proposed project on water quality have been evaluated and are discussed in section 3.2.5. This project expects to achieve full compliance with the Water Quality Control Act by obtaining and implementing the requirements from the NPDES permits.

6.0 COORDINATION AND REVIEW OF THE SUPPLEMENTAL EA/EIR

6.1 Public Involvement

The public involvement for the Folsom JFP has included public attendance and participation at meetings where possible design refinements have been discussed. These activities included a community outreach program with public workshops, notices, and media; and distribution of the draft documents for public review and comment. The public and other interested/affected parties have been encouraged to comment on all activities associated with the design and evaluation of the Folsom JFP.

6.2 Review of the Supplemental EA/EIR

The draft Supplemental EA/EIR will be circulated for 45 days to agencies, organizations, and individuals who have an interest in the proposed project. All comments received will be considered and incorporated into the final EA/EIR, as appropriate. This project is being coordinated with all relevant government resource agencies including USBR, CVFPB, and USFWS. Three comments letters were received during the first public comment period from FEMA, SMAQMD, and United Auburn Indian Community. Copies of the letters along with responses can be found in Appendix H. The public review period began July 18, 2014 and ended September 2, 2014.

7.0 FINDINGS

Based on the information in this Supplemental EA/EIR, the Folsom JFP with the proposed slope protection modifications would have no new significant adverse effects on environmental resources beyond the significant effects identified in the 2007 FEIS/EIR. Mitigation consisting of BMPs and other measures proposed in this Supplemental EA/EIR are sufficient to reduce all direct, indirect, and cumulative effects to less than significant. Based on this evaluation, the proposed project meets the definition of a FONSI as described in 40 CFR 1508.13. A FONSI may be prepared when an action would not have a significant effect on the human environment and for which an environmental impact statement would not be prepared. Therefore, a draft FONSI accompanies the draft EA as attachment. The Corps, District Commander, will, following public review of the draft EA, determine whether a FONSI is appropriate or if a supplemental EIS should be prepared. In addition, the CVFPB, as the project's lead agency under CEQA, will consider staff recommendations and public comment in order to decide whether to certify the SEA/EIR, adopt findings, adopt the mitigation and monitoring plan, and approve the slope protection measures.

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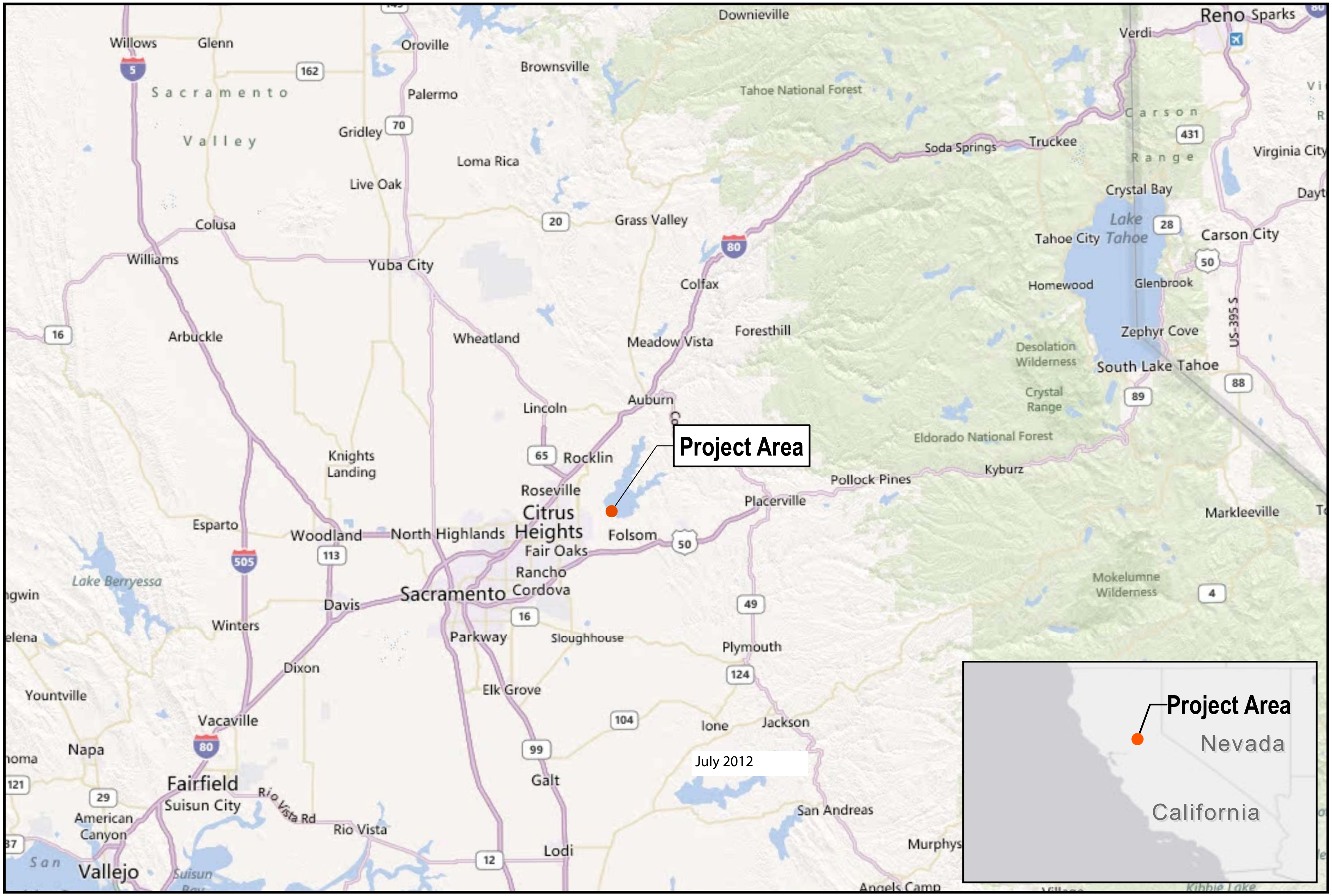
PLATES



Project Vicinity Map **Folsom Dam Safety and Flood Damage Reduction,** **Right Bank Stabilization** US Army Corps of Engineers Sacramento District	0 5 10 20 Miles Plate 1

Project Features

Folsom Dam Safety and Flood Damage Reduction,

Right Bank Stabilization Project

US Army Corps
of Engineers
Sacramento District

Plate 2

Plate 3 – Photographs of the Project Area prior to this Supplemental EA/EIR.

View of the project area looking north from mid-slope.

View of the potential access road location.


Right Bank Profile View


Right Bank Profile View

National and California Ambient Air Quality Standards.

Pollutant	Averaging Time	National Primary Standard[a]	California Standard[b]	Violation Criteria	
				National	California
CO	8 Hour	9 ppm	9 ppm	Not to be exceeded more than once per year	If exceeded
	1 Hour	35 ppm	20 ppm	Not to be exceeded more than once per year	If exceeded
	8 Hour (Lake Tahoe)	NA	6 ppm	NA	If exceeded
NO_2	Annual	0.053 ppm	0.030 ppm	If exceeded	If exceeded
	1 Hour	0.100 ppm	0.18 ppm	The 3-year average of 98th percentile of the daily maximum 1-hour average must not exceed	If exceeded
O_3	8 Hour (2008 standard)	0.075 ppm	0.070 ppm	The 3-year average of 4th-highest daily maximum 8-hour average must not exceed	If exceeded
	1 Hour	NA	0.09 ppm	NA	If exceeded
PM_{10}	Annual	NA	20 µg/m3	NA	If exceeded
	24 Hour	150 µg/m3	50 µg/m3	Not to be exceeded more than once per year on average over 3 years	If exceeded
$PM_{2.5}$	Annual	15.0 µg/m3	12 µg/m3	The 3-year average of the weighted annual mean must not exceed	If exceeded
	24 Hour	35 µg/m3	NA	The 3-year average of 98th percentile of the 24-hour concentration must not exceed	NA
SO_2	Annual	0.03 ppm	NA	If exceeded	NA
	24 Hour	0.14 ppm	0.04 ppm	Not to be exceeded more than once per year	If exceeded
	3 Hour	NA[c]	NA	NA	NA
	1 Hour	NA	0.25 ppm	NA	If exceeded

[a] 40 CFR 50.4 through 50.13
[b] California Code of Regulations, Table of Standards, Section 70200 of Title 17
[c] No National Primary 3 hour Standard for SO2. National Secondary 3hour standard for SO2 is 0.5 ppm
µg/m3 micrograms per cubic meter
ppm parts per million

Update of Emission Calculations of Criteria Pollutants and Greenhouse Gasses for the Folsom Dam Modification Joint Federal Project

Introduction

The following analysis updates the emission projections for the Folsom Dam Modification Project, also known as the Joint Federal Project (JFP), due to construction and schedule changes. The original construction emission estimates were prepared by the U.S. Army Corps of Engineers (USACE) in the report entitled, *Joint Federal Project (JFP) at Folsom Dam, Upstream and Downstream (for Cumulative Conformity Purposes), Air Quality Technical Report* (AQ Technical Report), which was dated October 2012. The 2014-2017 construction emission estimates for Alternative 2 were contained in the Tables 5-1 and 5-2 of the AQ Technical Report are excerpted in in Tables 1 and 2 below.

Table 1. JFP Folsom Dam Upstream and Downstream: Unmitigated Emission Summary (tons per year)

Activity Year	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
Alternative 2							
2014	3	33	17	189	77	<1	27,587
2015	2	29	16	134	72	<1	26,869
2016	4	49	25	192	74	<1	27,213
2017	4	52	26	103	13	<1	7,388

Table 2. JFP Folsom Dam Upstream and Downstream: Unmitigated Emission Summary (tons per year)

Activity Year	VOC	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2
Alternative 2							
2014	2	24	15	24	4	<1	27,145
2015	2	20	14	13	3	<1	26,427
2016	2	28	19	24	4	<1	26,808
2017	2	25	18	29	4	<1	7,388

Calculation Methodology

The overall calculation methodology was the same as that used for the 2012 AQ Technical Report, except as noted below, except as noted below. Additionally, emissions of greenhouse gasses (GHGs) have been updated to include methane (CH_4) and nitrous oxide (N_2O). The methodology was summarized in the AQ Technical Report and implemented in the Excel file: *Folsom Dam Modifications Calculations AQ Comparison Summary 5-3-12.xlsx* ("EIS/EIR Excel file"). Relevant sections of this file form the basis for the emission calculations. The updated worksheets have been renamed for clarity, and unused worksheets (e.g., for Project options not selected) have been deleted.

Source Specific Calculations

Emissions from the following sources were calculated as indicated.

Off-Road Construction Equipment

Emissions from off-road construction equipment (including off-road vehicles, portable engines and marine engines) were calculated from equipment lists provide by Kiewit and the USACE. The equipment lists contained the equipment type, horsepower rating, model year, and actual (or projected) hours of operation. These data were input into a tool similar to SMAQMD's Construction Mitigation Calculator, which has been developed to perform the emission calculations. The tool derives emission factors for ROG, NOx, PM_{10}, and $PM_{2.5}$ based on user inputs. For off-road vehicles and portable engines, the tool calculates emissions based on data contained in the California Air Resources Board's (CARB's) OFFROAD2011 model. For GHGs, CO_2 emissions were calculated based on the brake-specific fuel consumption (BSFC) contained in OFFROAD2011, and CH_4 and N_2O emissions were calculated based on data contained in the California Climate Action Registry, 2014 Climate Registry Default Emission Factors, Released April 11, 2014.[1]

SMAQMD's calculator was modified to allow direct input and calculations for a large list of equipment on the 'Output' tab. The off-road data embedded in the SMAQMD calculator was updated and modified based on the current version of CARB's OFFROAD model in the following ways:

- The annual accrual rates contained in SMAQMD's model (See "Off-Road EFs 1" tab, Column "V") were substituted with update data from OFFROAD2011 (See "ActivityCmHrs" table, "Cumulative Hours Final" column). In general, this increased deterioration and emission factors.

- For portable engines (which are not included in OFFROAD), annual accrual rates were added at an assumed rate of 2,000 hours per year, capped at 12,000 hours.

- For portable engines, the following load factors were added from the California Emissions Estimator Model (CalEEMod): Air Compressors = 0.48, Generator Sets = 0.74, Pumps = 0.74, and Welders = 0.45.

- For all equipment types, a carbon monoxide (CO) emission factor was calculated based on the OFFROAD data contained in the calculator (See the "Off-Road EFs" tab, Columns "K" and "L").

[1] Available at: *http://www.theclimateregistry.org/downloads/2014/02/2014-Climate-Registry-Default-Emissions-Factors.pdf*

- For all equipment types, a sulphur dioxide (SO_2) emission factor was calculated based on the fuel sulfur content of CARB diesel (15 ppmw), a generalized brake-specific fuel consumption of 7,000 hp-hr,[2] and diesel-fuel physical properties of 137,000 Btu/gal and 7.05 lbs/gal.[3]

The equipment lists provided by Kiewit and the USACE were derived in accordance with the 2012 Supplemental EIS/EIR mitigation requirement to use Tier 3 or higher off-road equipment through calendar year 2014, and Tier 4 equipment thereafter. To calculate unmitigated emissions, a theoretical off-road fleet was developed using the "large fleet targets" contained in Table 3 of CARB's Regulation for In-Use Off-Road Diesel-Fueled Fleets.[4] For each vehicle, the engine model year was set to the lowest model year (as shown in Appendix A of the Regulation) that would meet the targets in Table 3. In general, this required Tier 2 or Tier 3 off-road engines (depending on engine power category).

Marine Engines

Kiewit's activities include the usage of outboard marine engines and barges. Because marine engines are not included in SMAQMD's Construction Mitigation Calculator, they must be independently calculated. CARB has developed a separate inventory model for calculating marine engine emissions—The *California Barge and Dredge Emissions Inventory Database*. Data contained in this model were incorporated into the SMAQMD calculator to derive project emissions. The model uses the following generalized equation for calculating emissions.

$$E = EF_0 \times F \times (1 + D\frac{A}{UL}) \times HP \times LF \times HR$$

Where:

E =	is the amount of emissions of a pollutant emitted during one period;
EF_0 =	is the model year, horsepower and engine use (propulsion or auxiliary) specific zero hour emission factor (when engine is new);
F =	is the fuel correction factor which accounts for emission reduction benefits from burning cleaner fuel;
D =	is the horsepower and pollutant specific engine deterioration factor, which is the percentage increase of emission factors at the end of the useful life of the engine;
A =	is the age of the engine when the emissions are estimated;
UL =	is the vessel type and engine use specific engine useful life;
HP =	is rated horsepower of the engine;
LF =	is the vessel type and engine use specific engine load factor;
HR =	is the number of annual operating hours of the engine.

Due to the relatively small number of marine engines, the above equations were manually input onto the appropriate equipment lines on the modified "Output" tab of the SMAQMD calculator (renamed

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[2] From AP-42, Table 3.3-1, footnote "a."
[3] From AP-42, Appendix A, page A-5 data for "Diesel" and page A-7 data for "Distillate Oil"
[4] 13 CCR §2449 et seq.

"Off-Road EFs 1). These emissions were independently calculated based on engine model year and type, based on the mitigation requirement to use Tier 2 or Tier 3 certified marine engines. GHG emissions were calculated in the same manner as for off-road equipment.

Haul Trucks

Emissions from haul trucks were calculated based on the model year, number of trips, and the round trip distance of each truck trip. Haul truck emission factors were derived from CARB's EMFAC2011 emissions model, using the heavy-heavy-duty diesel technology group applicable to construction trucks. Emission factors in units of grams per mile (g/mi) were determined based on the fleet operating in the Sacramento Valley Air Basin (SVAB) in each calendar year. The emission factors are weighted to include all operating speeds, which include both on-site and off-site operation. The model years were selected in accordance with the 2012 Supplemental EIS/EIR mitigation requirements to use 2010 model year (or newer) trucks in calendar year 2014 and beyond. This represents the highest level of control available for heavy-duty diesel trucks.

To calculate unmitigated emissions, EMFAC2011 emission rates were determined based on the aggregated fleet (i.e., all model years) projected to be operating the SVAB during each calendar year. GHG emissions were determined from the data in EMFAC (for CO_2) and emission factors contained in the California Climate Action Registry, 2014 Climate Registry Default Emission Factors.

On-Site Pickup Trucks

Emissions from the onsite usage of pickup and mechanical trucks were calculated based on emission factors derived from EMFAC2011. Emission factors were derived based on the basin-wide fleet average model year of light-duty trucks operating in each calendar year. The number of each trucks operating was provided by Kiewit and USACE. There are no specific mitigation measures applicable to the on-site usage of light-duty trucks, therefore mitigated and unmitigated emissions are equal. GHG emissions were calculated based on the CO_2 emission factors contained in EMFAC2011, with emission factors contained in the California Climate Action Registry, 2014 Climate Registry Default Emission Factors.

Worker Vehicles

Emissions from worker vehicles were calculated based on emission factors derived from EMFAC2011, and fleet composition as contained in the California Emissions Estimation Model (CalEEMod). CalEEMod also contains a default worker commute distance which was incorporated into the analysis. Emissions were calculated from the estimated number of worker vehicles. There are no specific mitigation measures applicable to worker vehicles. GHG emissions were calculated based on the CO_2 emission factors contained in EMFAC2011, with emission factors contained in the California Climate Action Registry, 2014 Climate Registry Default Emission Factors.

Fugitive Dust

Fugitive dust emissions originate from a variety of sources, including blasting, excavation, rock crushing, stockpiling, wind erosion of disturbed areas, vehicle travel on unpaved roadways, vehicle travel on paved roadways, and concrete batching. As shown in Table 1, projected PM_{10} emissions were well below the de minimis threshold. Changes in activity related to fugitive dust have been recalculated based on updated activity data. Updated emissions have been included in the analysis, and are shown in Table 3. The overall effect of the activity updates indicates higher fugitive dust emissions in earlier project years, tapering off to very low emissions in the 2017 calendar year.

For fugitive dust sources, GHG emissions originate from indirect emissions from power plants producing electricity (for rock crushing), and from the indirect emissions from the production of cement used in concrete. For emissions from indirect electricity usage, emissions were derived using the Sacramento Metropolitan Utilities District (SMUD) emission factors contained in the California Emissions Estimation Model (CalEEMod), Version 2013.2.2.

Updated Emissions

Construction emissions from the project for the 2014-2017 calendar years have been updated as described above. The updated emissions are shown in Tables 3 and 4.

Table 3. Updated JFP Folsom Dam Upstream and Downstream: Unmitigated Emission Summary (tons per year)

	tons/year						metric tons/year			
Activity Year	**VOC**	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
2014	7.2	76.1	23.4	266.4	56.9	0.1	22,240	0.8	0.5	22,405
2015	4.6	44.1	16.2	369.4	169.6	0.0	39,016	0.6	0.3	39,135
2016	5.8	58.7	18.0	149.5	49.9	0.1	20,834	0.7	0.4	20,964
2017	0.8	9.4	2.8	2.5	0.8	0.0	2,032	0.1	0.0	2,049

Table 4. Updated JFP Folsom Dam Upstream and Downstream: Mitigated Emission Summary (tons per year)

	tons/year						metric tons/year			
Activity Year	**VOC**	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
2014	3.8	31.2	21.4	49.6	6.9	0.1	22,233	0.8	0.5	22,398
2015	1.9	13.1	14.2	31.7	5.7	0.0	39,016	0.6	0.3	39,135
2016	2.1	17.7	15.3	19.0	2.9	0.1	20,834	0.7	0.4	20,964
2017	0.6	5.9	2.7	0.3	0.2	0.0	2,032	0.1	0.0	2,049

Notes:

1. These emission calculations are based on the Excel workbook "Folsom Dam Modifications Calculations AQ Comparison Summary 5-3-12.xls."

2. The original workbook contained emission calculations underlying the report entitled "Joint Federal Project (JFP) at Folsom Dam, Upstream and Downstream (for Cumulative Conformity Purposes), Air Quality Technical Report," dated October 2012.

3. The emissions calculated in the above report form the basis of SMAQMD's May 15, 2012 General Conformity Evaluation.

4. Unused worksheets from the original workbook were deleted (e.g., those used for unselected project options).

5. The pertinent tab being updated was originally entitled "Alt2-Summary," which has been renamed "Summary."

6. Worksheets have been renamed for clarity.

7. The "Off-Road EFs" tabs are from the SMAQMD Construction Mitigation Calculator and OFFROAD2011 model, and have been updated/modified.

8. To calculate the unmitigated emissions from off-road construction equipment, a second sheet "Off-Road Actv & Emis Unmit" was created. A theoretical fleet of construction equipment was developed based on the fleet average targets contained in CARB's In-Use Off-road Diesel Vehicle Rule (13 CCR 2449 et seq.). The model years of the equipment were changed to the oldest model year that would meet the vehicle-specific targets contained in Appendix A of the rule. In general, these targets require Tier 2 or Tier 3 engines (depending on engine size) for the construction calendar years of 2014-2017.

9. To calculate the unmitigated emissions of haul trucks, EMFAC2011 was run for the aggregated engine model years operating in the SVAB for the construction calendar years of 2014-2017.

Tabs:

Summary:	Summarizes the total unmitigated and mitigated construction emissions in units of TPY (or metric TPY for GHGs) for calendar years 2014-2017.
Off-Road Actv & Emis:	Calculates engine exhaust emissions from mitigated off-road construction equipment using actual and projected vehicle activity.
Off-Road EFs 1:	Calculates emission factors that incorporate mitigation for each off-road vehicle listed on the "Off-Road Actv & Emis" tab.
Off-Road Actv & Emis Unmit:	Calculates engine exhaust emissions from a theoretical fleet of unmitigated off-road construction equipment using actual and projected vehicle activity.
Off-Road EFs 1 Unmit:	Calculates emission factors without the effect of mitigation for each off-road vehicle listed on the "Off-Road Actv & Emis Unmit" tab.
Off-Road EFs 2:	Contains certain data used in off-road vehicle emission calculations (e.g. load factors). Adapted from SMAQMD Construction Mitigation Calculator.
Off-Road EFs 3:	Contains accrual data from OFFROAD2011 used for deterioration calculations. Updates data from SMAQMD Construction Mitigation Calculator.
Off-Road EFs 4:	Contains data from Off-road 2011 used in emission calculations. Adapted from SMAQMD Construction Mitigation Calculator by adding EFs for marine vessels.
Haul Truck Emis:	Calculates emissions from heavy-duty diesel haul trucks accounting for the effect of mitigation.
Haul Truck Emis Unmit:	Calculates emissions from a theoretical heavy-duty diesel haul truck fleet not subject to mitigation.
EMFAC HDD EFs:	Emission rate output for heavy-heavy duty diesel trucks from CARB's EMFAC2011 model.
Worker Commute Emis:	Calculates emissions from construction equipment workers. No mitigation applies to this source category.
Pickup Truck Emis:	Calculate emissions from pickup trucks operating at the project site. No mitigation applies to this source category.
EMFAC2011 LDA-LDT EFs:	Emission rate output for light-duty automobiles and light-duty trucks from CARB's EMFAC2011 model.
Blasting PM:	Calculates unmitigated and mitigated fugitive particulate matter emissions from blasting.

Stockpile PM:	Calculates unmitigated and mitigated fugitive particulate matter emissions from stockpiling activities.
Wind Erosion PM:	Calculates unmitigated and mitigated emissions due to wind erosion of stockpiles.
Trucks Paved Roads PM:	Calculates fugitive particulate matter emissions from dust re-entrained by haul trucks traveling on paved roads.
Worker Paved Roads PM:	Calculates fugitive particulate matter emissions from dust re-entrained worker vehicles traveling on paved roads
Unpaved Roads PM:	Calculates fugitive particulate matter emissions from haul trucks and pickup trucks operating on unpaved roads and surfaces at the site.
Excavation PM:	Calculates fugitive particulate matter emissions from excavation activities.
Rock Crushing PM:	Calculates fugitive particulate matter emissions from onsite rock crushing.
Rock Crushing GHG:	Calculates indirect GHG emissions from electricity used by the onsite electric rock crusher.
Concrete PM:	Calculates fugitive dust emissions from onsite concrete batching.
Concrete GHG:	Calculates indirect GHG emissions from producing the cement used in the concrete.

US Army Corp of Engineers *10/31/2014*
Folsom Dam

UNMITIGATED EMISSIONS

Construction Exhaust Unmitigated Emission Summary

Activity	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Year 2014	6.4	70.9	19.2	2.4	2.5	0.1	15,294	0.8	0.4	15,424
Alternative 2 Year 2015	4.2	43.7	13.4	1.6	1.7	0.0	10,595	0.6	0.3	10,685
Alternative 2 Year 2016	5.5	58.4	16.7	2.1	2.2	0.1	13,609	0.7	0.3	13,725
Alternative 2 Year 2017	0.8	9.4	2.7	0.3	0.3	0.0	2,007	0.1	0.0	2,024

Worker Commute Emission Summary

Activity	VMT	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO2	CH4	N2O	CO2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Worker Fleet 2014	1,022,667	0.5	0.3	2.4	0.1	0.0	0.0	371	0.0	0.0	374
Alternative 2 Worker Fleet 2015	877,067	0.4	0.2	2.1	0.0	0.0	0.0	318	0.0	0.0	321
Alternative 2 Worker Fleet 2016	450,667	0.2	0.1	1.1	0.0	0.0	0.0	163	0.0	0.0	165
Alternative 2 Worker Fleet 2017	69,333	0.0	0.0	0.2	0.0	0.0	0.0	25	0.0	0.0	25

On-Site Pickup Truck Emission Summary

Activity	VMT	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Pickups 2014	129,600	0.1	0.1	0.9	0.0	0.0	0.0	110	0.0	0.1	141
Alternative 2 Pickups 2015	110,400	0.0	0.1	0.7	0.0	0.0	0.0	91	0.0	0.1	117
Alternative 2 Pickups 2016	56,000	0.0	0.0	0.3	0.0	0.0	0.0	44	0.0	0.0	58
Alternative 2 Pickups 2017	-	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0

Haul Truck Unmitigated Emission Summary

Activity	VMT	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 HHD Trucks 2014	389,650	0.2	4.9	0.9	0.2	0.1	0.0	671	0.0	0.0	672
Alternative 2 HHD Trucks 2015	44,850	0.0	0.1	0.0	0.0	0.0	0.0	22	0.0	0.0	22
Alternative 2 HHD Trucks 2016	13,000	0.0	0.1	0.0	0.0	0.0	0.0	22	0.0	0.0	22
Alternative 2 HHD Trucks 2017	-	-	-	-	-	-	-	0	0.0	0.0	0

Fugitive Dust Unmitigated Emission Summary

Activity	Blasting	Stockpile	Wind Erosion	Paved Roads	Unpaved Roads	Excavation	Rock Crushing	Concrete
Alternative 2 2014 PM10	1.3	0.1	1.4	8.3	204.2	0.0	1.6	46.9
Alternative 2 2015 PM10	1.3	0.0	0.9	1.1	135.8	0.0	1.0	227.6
Alternative 2 2016 PM10	1.3	0.0	1.3	0.4	87.4	0.0	0.0	56.9
Alternative 2 2017 PM10	1.3	0.0	0.9	0.0	0.0	0.0	0.0	0.0

Activity	Blasting	Stockpile	Wind Erosion	Paved Roads	Unpaved Road	Excavation	Rock Crushing	Concrete
Alternative 2 2014 PM2.5	0.4	0.0	0.2	1.2	20.4	0.0	0.5	31.6
Alternative 2 2015 PM2.5	0.4	0.0	0.1	0.1	13.6	0.0	0.3	153.4
Alternative 2 2016 PM2.5	0.4	0.0	0.2	0.0	8.7	0.0	0.0	38.4
Alternative 2 2017 PM2.5	0.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0

Activity	PM_{10}	$PM_{2.5}$
	tons/year	tons/year
Alternative 2 Fugitive Dust 2014	263.7	54.3
Alternative 2 Fugitive Dust 2015	367.8	167.9
Alternative 2 Fugitive Dust 2016	147.4	47.7
Alternative 2 Fugitive Dust 2017	2.2	0.5

Rock Crushing Facility GHG Emission Summary

Activity	CO2	CH4	N2O	CO2e
	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Rock Crushing Facility 2014	36	0.0	0.0	36
Alternative 2 Rock Crushing Facility 2015	23	0.0	0.0	23
Alternative 2 Rock Crushing Facility 2016	0	0.0	0.0	0
Alternative 2 Rock Crushing Facility 2017	0	0.0	0.0	0

Concrete Batching GHG Emission Summary

Activity	CO2	CO2e
	metric tons/year	metric tons/year
Alternative 2 Rock Crushing Facility 2014	5,758	5,758
Alternative 2 Rock Crushing Facility 2015	27,967	27,967
Alternative 2 Rock Crushing Facility 2016	6,995	6,995
Alternative 2 Rock Crushing Facility 2017	0	0

Folsom Emissions Summary: Unmitigated Emissions

Activity	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 2014 Total	7.2	76.1	23.4	266.4	56.9	0.1	22,240	0.8	0.5	22,405
Alternative 2 2015 Total	4.6	44.1	16.2	369.4	169.6	0.0	39,016	0.6	0.3	39,135
Alternative 2 2016 Total	5.8	58.7	18.0	149.5	49.9	0.1	20,834	0.7	0.4	20,964
Alternative 2 2017 Total	0.8	9.4	2.8	2.5	0.8	0.0	2,032	0.1	0.0	2,049
General Conformity De Minimis Levels	**25**	**25**	**100**	**100**	**100**	**100**	**N/A**	**N/A**	**N/A**	**N/A**

MITIGATED EMISSIONS

Construction Equipment Exhaust Mitigated Emission Summary

Activity	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Year 2014	3.2	29.4	17.7	1.0	1.1	0.1	15,294	0.8	0.4	15,424
Alternative 2 Year 2015	1.4	12.9	11.5	0.2	0.2	0.0	10,595	0.6	0.3	10,685
Alternative 2 Year 2016	1.9	17.5	13.9	0.3	0.3	0.1	13,609	0.7	0.3	13,725
Alternative 2 Year 2017	0.6	5.9	2.5	0.2	0.2	0.0	2,007	0.1	0.0	2,024

Worker Commute Emission Summary

Activity	VMT	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Worker Fleet 2014	1,022,667	0.5	0.3	2.4	0.1	0.0	0.0	371	0.0	0.0	374
Alternative 2 Worker Fleet 2015	877,067	0.4	0.2	2.1	0.0	0.0	0.0	318	0.0	0.0	321
Alternative 2 Worker Fleet 2016	450,667	0.2	0.1	1.1	0.0	0.0	0.0	163	0.0	0.0	165
Alternative 2 Worker Fleet 2017	69,333	0.0	0.0	0.2	0.0	0.0	0.0	25	0.0	0.0	25

On-Site Pickup Truck Emission Summary

Activity	VMT	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Pickups 2014	129,600	0.1	0.1	0.9	0.0	0.0	0.0	110	0.0	0.1	141
Alternative 2 Pickups 2015	110,400	0.0	0.1	0.7	0.0	0.0	0.0	91	0.0	0.1	117
Alternative 2 Pickups 2016	56,000	0.0	0.0	0.3	0.0	0.0	0.0	44	0.0	0.0	58
Alternative 2 Pickups 2017	-	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0

Haul Truck Mitigated Emission Summary

Activity	VMT	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	miles/year	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 HHD Trucks 2014	389,650	0.1	1.6	0.4	0.1	0.0	0.0	664	0.0	0.0	664
Alternative 2 HHD Trucks 2015	44,850	0.0	0.1	0.0	0.0	0.0	0.0	22	0.0	0.0	22
Alternative 2 HHD Trucks 2016	13,000	0.0	0.1	0.0	0.0	0.0	0.0	22	0.0	0.0	22
Alternative 2 HHD Trucks 2017	-	-	-	-	-	-	-	0	0.0	0.0	0

Fugitive Dust Mitigated Emission Summary

Activity	Blasting	Stockpile	Wind Erosion	Paved Roads	Unpaved Roads	Excavation	Rock Crushing	Concrete
Alternative 2 2014 PM10	0.83	0.0	0.1	7.8	38.8	0.0	0.2	0.8
Alternative 2 2015 PM10	0.63	0.0	0.1	1.0	25.8	0.0	0.1	3.8
Alternative 2 2016 PM10	0.62	0.0	0.1	0.3	16.6	0.0	0.0	0.9
Alternative 2 2017 PM10	0.00	0.0	0.1	0.0	0.0	0.0	0.0	0.0

Activity	Blasting	Stockpile	Wind Erosion	Paved Roads	Unpaved Road	Excavation	Rock Crushing	Concrete
Alternative 2 2014 PM2.5	0.2	0.0	0.0	1.1	3.9	0.0	0.0	0.5
Alternative 2 2015 PM2.5	0.2	0.0	0.0	0.1	2.6	0.0	0.0	2.5
Alternative 2 2016 PM2.5	0.2	0.0	0.0	0.0	1.7	0.0	0.0	0.6
Alternative 2 2017 PM2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Activity	PM_{10}	$PM_{2.5}$
	tons/year	tons/year
Alternative 2 Fugitive Dust 2014	48.5	5.8
Alternative 2 Fugitive Dust 2015	31.4	5.5
Alternative 2 Fugitive Dust 2016	18.6	2.5
Alternative 2 Fugitive Dust 2017	0.1	0.0

Rock Crushing Facility GHG Emission Summary

Activity	CO_2	CH_4	N_2O	CO_2e
	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 Rock Crushing Facility 2014	36	0.0	0.0	36
Alternative 2 Rock Crushing Facility 2015	23	0.0	0.0	23
Alternative 2 Rock Crushing Facility 2016	0	0.0	0.0	0
Alternative 2 Rock Crushing Facility 2017	0	0.0	0.0	0

Concrete Batching GHG Emission Summary

Activity	CO_2	CO_2e
	metric tons/year	metric tons/year
Alternative 2 Rock Crushing Facility 2014	5,758	5,758
Alternative 2 Rock Crushing Facility 2015	27,967	27,967
Alternative 2 Rock Crushing Facility 2016	6,995	6,995
Alternative 2 Rock Crushing Facility 2017	0	0

Folsom Early Emissions Summary: Mitigated Emissions

Activity	ROG	NOx	CO	PM_{10}	$PM_{2.5}$	SO_2	CO_2	CH_4	N_2O	CO_2e
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year	metric tons/year	metric tons/year	metric tons/year
Alternative 2 2014 Total	3.8	31.3	21.5	49.6	6.9	0.1	22,233	0.8	0.5	22,398
Alternative 2 2015 Total	1.9	13.2	14.2	31.7	5.7	0.0	39,016	0.6	0.3	39,135
Alternative 2 2016 Total	2.1	17.7	15.3	19.0	2.9	0.1	20,834	0.7	0.4	20,964
Alternative 2 2017 Total	0.6	5.9	2.7	0.3	0.2	0.0	2,032	0.1	0.0	2,049
General Conformity De Minimis Levels	**25**	**25**	**100**	**100**	**100**	**100**	**N/A**	**N/A**	**N/A**	**N/A**

Notes:
*Shaded Ti
**Actual eq

Engine Tier Requirement

Tier 3+

Interim Tier 4+

Line No.	Equipment	Qty	Off-Road Type	OFFROAD Category	HP	MY*
	Phase IV - Kiewit					
1	D6T	1	Off-Road	Crawler Tractors	205	2012
2	D9T	1	Off-Road	Crawler Tractors	464	2006
3	D10T	1	Off-Road	Crawler Tractors	646	2005
4	D69 LGP	1	Off-Road	Crawler Tractors	145	2008
5	Cat D6K	1	Off-Road	Crawler Tractors	164	2008
6	D6 LGP	1	Off-Road	Crawler Tractors	200	2008
7	Cat 14M	1	Off-Road	Graders	294	2013
8	Cat 349	1	Off-Road	Excavators	425	2011
9	Cat 349E	1	Off-Road	Excavators	425	2012
10	Cat 314	1	Off-Road	Excavators	124	2012
11	225DLC	1	Off-Road	Excavators	147	2010
12	Komatsu PC800LC	1	Off-Road	Excavators	487	2012
13	Cat 390	1	Off-Road	Excavators	523	2012
14	Cat 390	1	Off-Road	Excavators	523	2011
15	Cat 308	1	Off-Road	Excavators	66	2012
16	JD 225DLC	1	Off-Road	Excavators	147	2010
17	316E	1	Off-Road	Excavators	113	2013
18	Hitachi EX1200	1	Off-Road	Excavators	760	2012
19	Hitachi 225	1	Off-Road	Excavators	98	2008
20	Cat CP56	1	Off-Road	Rollers	157	2011
21	Cat 657	1	Off-Road	Scrapers	600	2006
22	Cat 657	1	Off-Road	Scrapers	440	2006
23	Cat 657	1	Off-Road	Scrapers	600	2006
24	Cat 657	1	Off-Road	Scrapers	440	2006
25	75T	1	Off-Road	Cranes	267	2007
26	Tedano GR750XL	1	Off-Road	Cranes	260	2012
27	Mantis 8012	1	Off-Road	Cranes	225	2007

28	Link-Belt 218	1	Off-Road	Cranes	300	2008
29	1300 SC/APP	1	Off-Road	Cranes	603	2011
30	999 SC/APP	1	Off-Road	Cranes	298	2008
31	Cat 730	1	Off-Road	Off-Highway Trucks	451	2007
32	Cat 730	1	Off-Road	Off-Highway Trucks	321	2007
33	Cat 730	1	Off-Road	Off-Highway Trucks	451	2007
34	Cat 730	1	Off-Road	Off-Highway Trucks	451	2007
35	Cat 730	1	Off-Road	Off-Highway Trucks	321	2007
36	Cat 730	1	Off-Road	Off-Highway Trucks	451	2007
37	Cat 773F	1	Off-Road	Off-Highway Trucks	740	2010
38	Cat 740	1	Off-Road	Off-Highway Trucks	484	2013
39	Cat 740	1	Off-Road	Off-Highway Trucks	484	2011
40	Cat 740	1	Off-Road	Off-Highway Trucks	484	2011
41	Cat 740B	1	Off-Road	Off-Highway Trucks	361	2013
42	Cat 740B	1	Off-Road	Off-Highway Trucks	361	2013
43	Cat 740B	1	Off-Road	Off-Highway Trucks	484	2012
44	Cat 740B	1	Off-Road	Off-Highway Trucks	472	2012
45	Cat 773G	1	Off-Road	Off-Highway Trucks	775	2014
46	Cat 773G	1	Off-Road	Off-Highway Trucks	763	2014
47	Sullair 900	1	Portable	Air Compressors	540	2009
48	HRJW 115	1	Portable	Generator Sets	174	2011
49	Multi Quip	1	Portable	Generator Sets	157	2010
50	Hi Power HRJW 115	1	Portable	Generator Sets	174	2011
51	Wacker 96W	1	Portable	Generator Sets	135	2011
52	Multi Quip DCA220	1	Portable	Generator Sets	315	2010
53	Multi Quip DCA220	1	Portable	Generator Sets	315	2010
54	Multi Quip MQ220	1	Portable	Generator Sets	315	2010
55	Multi Quip DCA125	1	Portable	Generator Sets	237	2010
56	IT-62	1	Off-Road	Rubber Tired Loaders	211	2011
57	JD-210	1	Off-Road	Rubber Tired Loaders	84	2011
58	Skidsteer	1	Off-Road	Rubber Tired Loaders	71	2012
59	Cat 966	1	Off-Road	Rubber Tired Loaders	262	2010
60	Takeuchi TL 10 Skidsteer	1	Off-Road	Rubber Tired Loaders	90	2012
61	JD-33D Skidsteer	1	Off-Road	Rubber Tired Loaders	80	2010

62	Cat 950K	1	Off-Road	Rubber Tired Loaders	211	2011
63	Cat 259B Skidsteer	1	Off-Road	Rubber Tired Loaders	73	2014
64	Cat 259D Skidsteer	1	Off-Road	Rubber Tired Loaders	73	2014
65	JD 544K	1	Off-Road	Rubber Tired Loaders	140	2011
66	JD 310	1	Off-Road	Rubber Tired Loaders	70	2013
67	80' Manlift	1	Off-Road	Aerial Lifts	75	2012
68	80' Manlift	1	Off-Road	Aerial Lifts	74	2013
69	80' Manlift	1	Off-Road	Aerial Lifts	74	2014
70	Scissor Lift	1	Off-Road	Aerial Lifts	75	2008
71	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
72	Genie Z135	1	Off-Road	Aerial Lifts	74	2012
73	Extendable 6k	1	Off-Road	Forklifts	109	2013
74	Extendable 12K	1	Off-Road	Forklifts	122	2013
75	Extendable 20K	1	Off-Road	Forklifts	130	2012
76	Extendable 20K	1	Off-Road	Forklifts	130	2013
77	Bobcat V638	1	Off-Road	Forklifts	100	2010
78	JLG 6042	1	Off-Road	Forklifts	85	2013
79	JCB IIIB	1	Off-Road	Forklifts	75	2013
80	Genie GTH-844	1	Off-Road	Forklifts	99	2013
81	JLG G10-SSA	1	Off-Road	Forklifts	130	2011
82	Sky-track 10054	1	Off-Road	Forklifts	125	2008
83	Hyster 360	1	Off-Road	Forklifts	155	2007
84	Forklift	1	Off-Road	Forklifts	75	2013
85	Drill	1	Off-Road	Bore/Drill Rigs	300	2006
86	Cat 320	1	Off-Road	Excavators	164	2014
87	Air Compressor	1	Portable	Air Compressors	540	2009
88	Water Pump Deutz D910L03	1	Portable	Pumps	58	2011
89	Liebherr LB44 Drill Rig	1	Off-Road	Bore/Drill Rigs	677	2013
90	Liebherr LR1300SX Crane	1	Off-Road	Cranes	523	2014
91	Liebherr LR1300	1	Off-Road	Cranes	603	2011
92	Water Pump	1	Portable	Pumps	65	2012
93	Premier Pump 614-64-004	1	Portable	Pumps	262	2013
94	Peterbilt T330	1	Off-Road	Off-Highway Trucks	140	2009
95	Yamaha Outboard Engine F115LA	1	Marine	Crew and Supply, propulsion engine	115	2013

96	Yamaha Engine	1	Marine	Crew and Supply, propulsion engine	115	2010
97	Yamaha Engine	1	Marine	Crew and Supply, propulsion engine	115	2010
98	Forklift	1	Off-Road	Forklifts	111	2013
99	Power Pack	1	Portable	Generator Sets	415	2013
100	Power Pack	1	Portable	Generator Sets	450	2010
101	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2008
102	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2008
103	Crane	1	Off-Road	Cranes	300	2008
104	CAT 349 Excavator	1	Off-Road	Excavators	425	2013
105	CAT 349 Excavator	1	Off-Road	Excavators	283	2011
106	CAT CS74 Single/ Smooth/ Vibro	1	Off-Road	Rollers	156	2008
	Dozer					
107	D9T	1	Off-Road	Crawler Tractors	464	2006
107R	D9T	1	Off-Road	Crawler Tractors	464	2011
108	D10T	1	Off-Road	Crawler Tractors	646	2005
108R	D10T	1	Off-Road	Crawler Tractors	646	2011
	Graders					
109	Cat 14M	1	Off-Road	Graders	294	2013
	Excavators					
110	Cat 349	1	Off-Road	Excavators	425	2011
111	Cat 349	1	Off-Road	Excavators	425	2013
112	Cat 390/PC800	1	Off-Road	Excavators	496	2010
112R	Cat 390/PC801	2	Off-Road	Excavators	497	2011
113	Cat 314	1	Off-Road	Excavators	90	2012
	Rollers					
114	84" Vib Pad	1	Off-Road	Rollers	156	2012
	Scrapers					
115	Cat 657	1	Off-Road	Scrapers	600	2006
116	Cat 657	1	Off-Road	Scrapers	440	2006
117	Cat 657	1	Off-Road	Scrapers	600	2006
118	Cat 657	1	Off-Road	Scrapers	440	2006
	RT Cranes					
119	75T	1	Off-Road	Cranes	267	2007
120	75T	1	Off-Road	Cranes	267	2007

	Crawler Cranes					
121	1300 SC/APP	1	Off-Road	Cranes	603	2011
122	999 SC/APP	1	Off-Road	Cranes	298	2008
123	999 SC/APP	1	Off-Road	Cranes	300	2011
124	1300 SB	1	Off-Road	Cranes	523	2014
125	1220 SC/APP	1	Off-Road	Cranes	322	2013
	Haul Trucks					
126	Cat 773	1	Off-Road	Off-Highway Trucks	763	2014
127	Cat 773	1	Off-Road	Off-Highway Trucks	763	2014
128	Cat 773F	1	Off-Road	Off-Highway Trucks	740	2010
129	Cat 740	1	Off-Road	Off-Highway Trucks	484	2013
130	Cat 740	1	Off-Road	Off-Highway Trucks	484	2013
131	Cat 740	1	Off-Road	Off-Highway Trucks	484	2013
132	Cat 740	1	Off-Road	Off-Highway Trucks	484	2011
133	Cat 740	1	Off-Road	Off-Highway Trucks	484	2011
134	Cat 740	1	Off-Road	Off-Highway Trucks	484	2011
	Maint Office					
135	Maint Office	1	Portable	Generator Sets	174	2011
136	IT-62	1	Off-Road	Rubber Tired Loaders	211	2011
137	JD-210	1	Off-Road	Rubber Tired Loaders	84	2011
138	Skidsteer	1	Off-Road	Rubber Tired Loaders	71	2012
139	Cat 966	1	Off-Road	Rubber Tired Loaders	262	2010
139R	Cat 967	1	Off-Road	Rubber Tired Loaders	262	2011
	Manlifts					
140	80' Manlift	1	Off-Road	Aerial Lifts	75	2012
141	80' Manlift	1	Off-Road	Aerial Lifts	74	2013
142	80' Manlift	1	Off-Road	Aerial Lifts	74	2014
143	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
144	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
145	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
146	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
147	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
148	Scissor Lift	1	Off-Road	Aerial Lifts	75	2013
	Forklifts					

149	Extendable 6k	1	Off-Road	Forklifts	109	2013
150	Extendable 12K	1	Off-Road	Forklifts	122	2013
151	Extendable 20K	1	Off-Road	Forklifts	130	2013
	NCB (sub)					
152	Forklift	1	Off-Road	Forklifts	75	2013
153	Drill	1	Off-Road	Bore/Drill Rigs	300	2006
153R	Drill	2	Off-Road	Bore/Drill Rigs	300	2011
154	Drill	1	Off-Road	Bore/Drill Rigs	260	2011
155	Drill	1	Off-Road	Bore/Drill Rigs	220	2006
155R	Drill	2	Off-Road	Bore/Drill Rigs	220	2011
156	Drill	1	Off-Road	Bore/Drill Rigs	230	2006
156R	Drill	2	Off-Road	Bore/Drill Rigs	230	2011
157	Cat 320	1	Off-Road	Excavators	164	2014
158	Air Compressor	1	Portable	Air Compressors	540	2009
158R	Air Compressor	2	Portable	Air Compressors	540	2011
	Misc					
159	Rip Rap Screen Generator	1	Portable	Generator Sets	134	2012
160	Tug Boat	1	Marine	Tug Boats, propulsion engine	400	2012
	Dredge Barge					
161	Liebherr 895	1	Marine	Barge, auxiliary engine (Crane)	900	2012
162	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2012
163	4 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	200	2012
	Material (Scow) Barge					
164	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2012
	Anchor Barge					
165	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2012
	Work Boats					
166	Work Boat Outboard Engine	1	Marine	Work Boats, propulsion engine	115	2013
167	Work Boat Outboard Engine	1	Marine	Work Boats, propulsion engine	140	2013
168	Workboat Outboard Engine	1	Marine	Work Boats, propulsion engine	150	2013
	Malcolm (sub)					
169	Water Pump	1	Portable	Pumps	65	2012
170	Forklift	1	Off-Road	Forklifts	85	2013
171	Drill Rig	1	Off-Road	Bore/Drill Rigs	677	2013

172	Skidsteer	1	Off-Road	Rubber Tired Loaders	80	2010
173	Manlift	1	Off-Road	Aerial Lifts	75	2013
174	Manlift	1	Off-Road	Aerial Lifts	75	2008
175	Forklift	1	Off-Road	Forklifts	111	2013
176	Power Pack	1	Portable	Generator Sets	415	2013
177	Power Pack	1	Portable	Generator Sets	450	2011
178	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2008
179	Crane	1	Off-Road	Cranes	300	2008
180	Crane	1	Off-Road	Cranes	300	2008
	Lower Pipeline Staging Area (2014) - Kiewit					
181	CAT 349 Excavator	1	Off-Road	Excavators	425	2013
182	CAT 349 Excavator	1	Off-Road	Excavators	283	2011
183	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2011
184	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2011
185	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2011
186	CAT CS74 Single Drum Roller	1	Off-Road	Rollers	174	2012
187	CAT 14M Blade	1	Off-Road	Scrapers	294	2013
	Cheeseman Slope Removal (2016) - Kiewit					
188	CAT D6 Dozer	1	Off-Road	Crawler Tractors	205	2012
189	CAT D9 Dozer	1	Off-Road	Crawler Tractors	600	2012
190	CAT 426/580 Backhoe	1	Off-Road	Tractors/Loaders/Backhoes	75	2012
191	CAT 14M Blade	1	Off-Road	Graders	294	2013
192	CAT 349 Excavator	1	Off-Road	Excavators	425	2013
193	84" Vib Pad Roller	1	Off-Road	Rollers	175	2012
194	CAT 657 Scrapper	1	Off-Road	Scrapers	440	2012
195	CAT 657 Scrapper	1	Off-Road	Scrapers	600	2012
196	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2013
197	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2011
	Phase IV Safety Bench (2016) - Kiewit					
198	CAT D6 Dozer	1	Off-Road	Crawler Tractors	205	2012
199	CAT D9 Dozer	1	Off-Road	Crawler Tractors	600	2012
200	CAT 14M Blade	1	Off-Road	Graders	294	2013
201	CAT 349 Excavator	1	Off-Road	Excavators	425	2013
202	84" Vib Pad Roller	1	Off-Road	Rollers	175	2012

203	CAT 815 Compactor	1	Off-Road	Rollers	250	2012
204	Manitowoc 999 Crane	1	Off-Road	Cranes	300	2011
205	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2013
206	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2011
	Erosion Control Project (2014) - Kiewit					
207	CAT 349 Excavator	1	Off-Road	Excavators	425	2013
208	CAT 349 Excavator	1	Off-Road	Excavators	283	2011
209	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2011
210	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2011
211	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2010
212	CAT CS74 Single Drum Roller	1	Off-Road	Rollers	174	2012
213	CAT 14M Blade	1	Off-Road	Graders	294	2013
	Phase V Miscellaneous Activities (2016/2017) - Kiewit					
214	CATERPILLAR 14 M Blade	1	Off-Road	Scrapers	294	2012
215	CATERPILLAR 657 Scraper	1	Off-Road	Scrapers	600	2011
216	CATERPILLAR 657 Scraper	1	Off-Road	Scrapers	440	2011
217	CATERPILLAR CAT 740B	1	Off-Road	Off-Highway Trucks	361	2013
218	CATERPILLAR D6T Dozer	1	Off-Road	Crawler Tractors	140	2012
219	CATERPILLAR D9T Dozer	1	Off-Road	Crawler Tractors	464	2012
220	CATERPILLAR CB-534D Tandem Vibratory Rollers	1	Off-Road	Rollers	130	2012
221	CATERPILLAR CS563 Vibratory Smooth Drum Roller	1	Off-Road	Rollers	145	2012
222	CATERPILLAR 328 Excavator	1	Off-Road	Excavators	170	2012
223	Case SR130 Skid Steer Loader	1	Off-Road	Rubber Tired Loaders	54	2012
224	Kenworth Water Trucks	1	Off-Road	Off-Highway Trucks	200	2012
	Annual Reserve Troop Training (2017) - US Army					
225	CAT 621B Wheel Tractor-Scraper	1	Off-Road	Scrapers	330	2013
226	130G Motor Grader	1	Off-Road	Scrapers	209	2014
227	TRK DUMP 20T F5070	1	Off-Road	Scrapers	380	2004
228	D7G Medium Bulldozer	1	Off-Road	Off-Highway Trucks	140	1989
229	CB534D Asphalt Compactor	1	Off-Road	Crawler Tractors	130	2001
230	CS563D Vibe Roller	1	Off-Road	Crawler Tractors	145	2001
231	EXC HYEX JD230LCR MUL	1	Off-Road	Rollers	170	2000
232	Case Skid Steer Loader	1	Off-Road	Rollers	54	2012
233	DISTRIBUTOR WATER TANK TYPE: 6000 GL SEMITRAILER MTD (CCE)	1	Off-Road	Excavators	300	2002

	Rossmoor Bar Tree Planting - TBD					
234	Bobcat Auger	1	Off-Road	Bore/Drill Rigs	75	2013
235	Water Truck	1	Off-Road	Off-Highway Trucks	325	2004
	Phase III - Granite Actual Equipment Usage Jan - Jun 2014					
236	CAT TL943	1	Off-Road	Forklifts	100	2006
237	John Deere 210LE	1	Off-Road	Rubber Tired Loaders	78	2001
238	ROTEC CC-200	1	Off-Road	Cranes	250	1980
239	Grove RT650E	1	Off-Road	Cranes	173	2004
240	Manitowoc 555	1	Off-Road	Cranes	350	2004
241	JLG 10054 Skytrack	1	Off-Road	Forklifts	100	2013
242	Whisperwatt DF-44001	1	Off-Road	Generator Sets	532	2010
243	JLG G10-55A Skytrak	1	Off-Road	Forklifts	110	2013
244	John Deere 644 H Loader	1	Off-Road	Rubber Tired Loaders	180	2000
245	John Deere 710G	1	Off-Road	Tractors/Loaders/Backhoes	129	2005
246	JLG 860SJ	1	Off-Road	Aerial Lifts	62	2006
247	Caterpillar 328D	1	Off-Road	Excavators	300	2007
248	Thompson W-Pump 6JC.28	1	Portable	Pumps	80	2006
249	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2013
250	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2007
251	Bauer BG24H	1	Off-Road	Bore/Drill Rigs	350	2006
252	Gradall 534D10-45	1	Off-Road	Forklifts	115	2006
253	Doosan G150	1	Portable	Generator Sets	274	2012
254	Sullivan D1800Q6CA	1	Portable	Air Compressors	343	1997
255	CAT TL943	1	Off-Road	Forklifts	100	2006
256	Ingersoll Rand IR-825	1	Portable	Air Compressors	280	2010
257	Skyjack SJ66T	1	Off-Road	Aerial Lifts	56	2011
258	Doosan G150	1	Portable	Generator Sets	274	2012
259	Ingersoll Rand G290	1	Portable	Generator Sets	363	2011
260	Maxim Manitowoc 888	1	Off-Road	Cranes	330	1997
261	Skytrak 10054	1	Off-Road	Forklifts	100	2013
262	Maxim Manitowoc 18000	1	Off-Road	Cranes	600	2013
263	Skyjack SJ9250	1	Off-Road	Aerial Lifts	65	2012
264	CAT 163H	1	Off-Road	Graders	241	1999
265	CAT CS-563C	1	Off-Road	Rollers	187	1996

266	Atlas-Copco XAHS236	1	Portable	Air Compressors	274	2007
267	JLG 1350 SJP	1	Off-Road	Aerial Lifts	74	2014
268	Genie Z80/60	1	Off-Road	Aerial Lifts	78	2011
269	Grove RT890E	1	Off-Road	Cranes	275	2013
270	Genie GTH 1056	1	Off-Road	Forklifts	124	2013
271	Caterpillar CP563E	1	Off-Road	Rollers	152	2011
272	Caterpillar 328D	1	Off-Road	Excavators	300	2010
273	CAT TL943	1	Off-Road	Forklifts	100	2006
274	Grove RT890E	1	Off-Road	Cranes	275	2010
275	Grove RT890E	1	Off-Road	Cranes	275	2013
276	Teupen TL69A	1	Off-Road	Aerial Lifts	15	2013
277	Caterpillar 328D	1	Off-Road	Excavators	204	2013
278	Caterpillar 321D LCR	1	Off-Road	Excavators	157	2013
279	JLG 860 SJ	1	Off-Road	Aerial Lifts	62	2009
280	Genie S-65	1	Off-Road	Aerial Lifts	82	2005
281	Caterpillar XQ350N	1	Portable	Generator Sets	527	2013
	Granite Construction (2014-2015)					
282	Skyjack SJ9250	1	Off-Road	Aerial Lifts	65	2012
283	Genie S-65	1	Off-Road	Aerial Lifts	56	2011
284	JLG 800S JLG	1	Off-Road	Aerial Lifts	65	2011
285	JLG 860SJ	1	Off-Road	Aerial Lifts	62	2006
286	JLG 1350 SJP	1	Off-Road	Aerial Lifts	74	2014
287	Genie Z80/60	1	Off-Road	Aerial Lifts	78	2011
288	Ingersoll Rand IR-825	1	Portable	Air Compressors	280	2010
289	Sullivan D1800Q6CA	1	Portable	Air Compressors	343	1997
290	Atlas-Copco XAHS236	1	Portable	Air Compressors	274	2007
291	John Deere 710G	1	Off-Road	Tractors/Loaders/Backhoes	129	2005
292	ROTEC CC-200	1	Off-Road	Other Construction Equipment	250	1980
293	Ingersoll Rand LMEAC-500C	1	Off-Road	Bore/Drill Rigs	170	1989
294	Manitowoc 555	1	Off-Road	Cranes	350	2004
295	Maxim Manitowoc 888	1	Off-Road	Cranes	330	1997
296	Maxim Manitowoc 18000	1	Off-Road	Cranes	600	2013
297	Caterpillar D6R XL	1	Off-Road	Crawler Tractors	185	2006
298	CAT 330CL	1	Off-Road	Excavators	345	2005

299	Caterpillar 328D	1	Off-Road	Excavators	300	2010
300	CAT TL943	1	Off-Road	Forklifts	100	2006
301	JLG 10054 Skytrack	1	Off-Road	Forklifts	100	2013
302	Genie GTH 1056	1	Off-Road	Forklifts	124	2013
303	JLG G10-55A Skytrak	1	Off-Road	Forklifts	110	2013
304	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2007
305	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2013
306	Gradall 534D10-45	1	Off-Road	Forklifts	115	2006
307	Whisperwatt DF-44001	1	Portable	Generator Sets	532	2010
308	Whisperwatt DF-44001	1	Portable	Generator Sets	540	2014
309	CAT 966G	1	Off-Road	Rubber Tired Loaders	235	1999
310	John Deere 644 H Loader	1	Off-Road	Rubber Tired Loaders	180	2000
311	CAT 14H	1	Off-Road	Graders	220	2003
312	Caterpillar CP563E	1	Off-Road	Rollers	152	2011
313	Grove RT650E	1	Off-Road	Cranes	173	2004
314	Grove RT890E	1	Off-Road	Cranes	275	2013
315	John deere 210LE	1	Off-Road	Rubber Tired Loaders	78	2001
	Right Bank Stabilization (2015)					
316	12H Caterpillar Grader	1	Off-Road	Graders	145	2012
317	12G Caterpillar Grader	1	Off-Road	Graders	135	2012
318	CP54B Caterpillar Compactor	1	Off-Road	Rollers	131	2013
319	CB44B Caterpillar Compactor	1	Off-Road	Rollers	102	2013
320	Caterpillar D7E Dozer	1	Off-Road	Crawler Tractors	235	2012
321	Kenworth T300 Water Truck	1	Off-Road	Off-Highway Trucks	300	2010
322	Caterpillar 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2012
323	Tadano GR-1000XL-2 Crane	1	Off-Road	Cranes	267	2012
324	Terex T560 Crane	1	Off-Road	Cranes	455	2013

er 3 vehicles are subject to Tier 4 requirement beginning 1/1/2015. Tier 4 E.F.s reflected in calendar years 2015-2017.

uipment usage data for Kiewit, Kiewit subcontractors, and Granite Construction were used .

2014												
Jan**	Feb**	Mar**	Apr**	May**	Jun**	July	Aug	Sept	Oct	Nov	Dec	Total
224	196	141	126	122	22							831
198	143	74	56	14	11							496
	16	120	2		2							140
			10	40	40							90
139	116	79										334
46												46
104	68	42	60	11	28							313
201	185	180	163	80	65							874
24	186	151	105	33								499
			334	132	64							530
			210	240	262							712
				23	9							32
255	188	243	137									823
59												59
157	84	132	60									433
		128										128
	58											58
68												68
114												114
32	22	11										65
		2										2
		2										2
	3	3										6
	3	3										6
10												10
51	70	30	73	41	46							311
			200	194	312							706

			215	220	79							514
				23								23
138	61	27	53	54	65							398
207	156	146	86									595
206	182	130	75	85	13							691
189	142	102	16									449
153	188	135	6									482
209	180	117	23									529
223	171	156	92									642
					1							1
95												95
46												46
19												19
			30	126	56							212
			31	129	36							196
					9							9
118												118
					10							10
					9							9
		106		96								202
				331	297							628
	136	143	661									940
		24	310									334
135	320	372										827
147	121	7										275
62												62
	80											80
120												120
			50	51	60							161
20	49	54	21	27	31							202
			47	23	27							97
176	165	133	103	131	66							774
			210	240	42							492
				160								160

148	193	79	83									503
					94							94
					83							83
		20										20
61												61
38	24	49	68	43	28							250
					9							9
			50	20	8							78
			200	140	160							500
42												42
75	56	148	105	63	109							556
103	47	146	88	72	111							567
			25	100	8							133
				80	23							103
			8		5							13
		121			23							144
		29										29
		31										31
	12											12
				8								8
38			24									62
		135		253	86							474
					76							76
		16	92	145								253
				50	222							272
				9								9
		17	16		59							92
				35	5							40
	26	47	9									82
11												11
	30	24	10	30								94

	16											16
	16											16
			120	120	80							320
			230	170	61							461
		64	230	220	51							565
		128	230	240	187							785
		147	230	240								617
		179										179
					44							44
					98							98
24	99											123
						200	220	240	220	160	160	1200
						200	220	240	220	160	160	1200
						200	220	220	120	100	100	960
						200	220	240	220	160	160	1200
							220	240	220	160	160	1000
						200	220	240	220	160	160	1200
						200	200	200				600
							200	120				320
							200	120				320
							200	120				320
							200	120				320
						120	120	120	120	120	120	720
							60	60	60	60	60	300

						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
							200	200				400
							200	200				400
							200	200				400
						200	200	200				600
						200	200	200	240	160		1000
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						475	475	475	475	475	475	2850
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
						160	160	160	160	160	160	960
						160						160
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
							160	160	160	160	160	800
							160	160	160	160	160	800
								160	160	160	160	640
								160	160	160	160	640

						160	160	160	160	160	160	960
						160	160	160	160	160	160	960
						160	160	160	160	160	160	960
						120	120	120	120	120	120	720
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
								200	200	200		600
						160						160
						160						160
						240						240

						160						160
						160						160
						160						160
						160						160
						240						240
						120						120
						240						240
						160						160
						160						160
												40
												40
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												160
												160
												160

103	36											139
198	239	284	80	36	20							857
36	34	13	19	30	48							180
10	4	20	12	24	34							104
219	114	159	125	86	61							764
165	108	93	111	111	62							650
153	56	12	19	30	48							318
145	58	33	79	79	81							475
103	54	68	69	76	77							447
18	21	5	16	9	8							77
80	42	37	75	78	66							378
3												3
508	532											1040
22	25	53	95	128	90							413
41	62	72	82	107	54							418
136												136
120	48	79	125	125	6							503
216	318	200	156									890
50												50
76												76
	24	66	38	54	70							252
	2				149							151
	52	39	44	52	45							232
	15	317	158									490
	59	144	156									359
	32	43	12	23	29							139
	30	26	23									79
		9	36	77	90							212
		20		31								51
		8										8

		7	8									15
				120	116							236
				69	55							124
				53	8							61
				21								21
				5								5
				3								3
				15								15
					3							3
					53							53
					30							30
					22							22
					20							20
					4							4
					50							50
					30							30
					676							
			56	31	80	80	50	50	50	50	30	477
			44	52	40	50	50	50	50	40	20	396
					60	60	60	60	60	60	30	390
			75	78	60	50	60	60	60	40	20	503
				69	90	80	80	50	50	50	50	519
				53	90	90	80	80	50	50	50	543
			2		150	100	50	50	50	50	50	502
					150							150
				120	130	100	80	60				490
			16	9						30	50	105
			19	30	50	25						124
					50	50	40					140
			125	86	100	120	120	60	50	50		711
			12	23	120	140	140	140	100	80	60	815
			23	77	110	120	120	120	120	120	120	930
										80	100	180
										140	140	280

				15	65	10						90
			38	54	100	110	100	80	80	40	40	642
			111	111	120	120	120	80	60	60	50	832
				5	45							50
			79	79	80	10						248
			82	107	120	120	100	100	80			709
			95	128	130	130	100	100	80	80	30	873
			125	125	130	100	100	50				630
			19	30	50	25						124
					672	40						712
										140	140	280
			69	76	150	80	50	50	40			515
								10	10		30	50
				3	45	10					20	78
			12	24	30	10						76
				21	60	110	110	80	80	80	80	621
			80	36	50	40	30	30	30	10	10	316

2015												
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total

160	160				160	160	160	160	160	160	160	1440
160	160				160	160	160	160	160	160	160	1440
80	80	160			160	160	160	160	160	160	160	1440
160	160	160				160	160	160	160	160	160	1440
160	160					160	160	160	160	160	160	1280
				160	160	160	160	160	160	160	160	1280
		80	80	80	80	80	80	80				560
						160	160	160	160	160	160	960
120	120	120	120	120	120	120	120	120	120	120	120	1440
60	60		120	120	120	120	120	120	120	120	120	1200

120	120	120	120	120	120	120	120	120	120	120	120	1440
120	120	120	120	120								600
120	120	120	120	120	120	120	120	120	120	120	120	1440
120	120	120	120	120	120	120	120					960
				160	160	160	160	160	160	160	160	1280
				160	160	160	160	160	160	160	160	1280
160	160			160	160	160	160	160	160	160	160	1600
160	160	160		160	160	160	160	160	160	160	160	1760
160	160	160		160	160	160	160	160	160	160	160	1760
160	160	160		160	160	160	160	160	160	160	160	1760
80	80	80	80	80	80	80	80	80	80	80	80	960
80	80	80	80	80	80	80	80	80	80	80	80	960
80	80	80	80	80	80	80	80	80	80	80	80	960
160	160	160	160					160	160	160	160	1280
80	80	80	80	80	80							480
80	80	80	80	80	80							480
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
	160	160	160	160	160	160	160	160	160	160	160	1760
	160	160	160	160	160	160	160	160	160	160	160	1760

160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
200	160							160	160	160	160	1000
200	160							160	160	160	160	1000
200	160							160	160	160	160	1000
200	160							160	160	160	160	1000
200	160							160	160	160	160	1000
160	120											280
160	120											280
							160	160	160	160	160	800
							120	120	120	120	120	600
							160	160	160	160	160	800
							160	160	160	160	160	800
							160	160	160	160	160	800
							160	160	160	160	160	800
						120	160	160	160	160	160	920
						120	160	160	160	160	160	920
						120	160	160	160	160	160	920

10												10
20	10											30
10												10
30	10											40
30												30
40	10											50
10												10
50												50
30												30
50												50
50												50

40	40	30										110
50	50	50	30									180
50	20											70
30	40											70
20												20
80	80	80	80	40								360
10	10	40	40	10								110
												33
												98
												33
												98
												98
												160
												130
												240
												230

2016												
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total

160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160	160		1760
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160	160		1760
120	120	120	120									480
120	120	120	120	120	120	120	120	120	120			1200

120	120	120										360
120	120	120	120	120	120							720
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160	160	160	160	160	160	160	160	160	160	1920
80	80	80	80	80	80	80	80	80	80			800
80	80	80	80	80	80	80	80	80	80			800
80	80	80	80	80	80	80	80	80	80			800
160	160	160	160	160	160	160	160	160	160			1600
						160	160	160	160			640
160	160											320
160	160											320
160	160											320
160	160											320
160	160	160	160	160	160	160						1120
160	160	160	160	160	160	160						1120

160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160											320
160	160											320
160	160											320
160	160											320
160	160											320
160	160	160	160	160	160	160	160	160	160			1600
120	120	120	120	120	120	120	120	120	120			1200
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160			1600

												138
												175
												60
												334
												710
												347
												123
												123
												692
												531
												300
												1075
												1700
												1700
												990

												790
												250
												4200
												220
												240
												192
												192
												225
												282
												210
												204
												120
												143
												360
												384

												75
												200

2017												
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total

												560
												448
												448
												525
												658
												490
												476
												280
												333
												840
												896
												960
												640
												2560
												1280
												960
												480
												320
												800
												380

Total Hours	E.F. (g/hp-hr, L.F. inclusive)									
	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
831	0.053	0.567	0.415	0.004	0.004	0.002	568	0.030	0.014	573
496	0.112	1.065	0.436	0.045	0.048	0.002	568	0.030	0.014	573
140	0.124	1.882	0.440	0.046	0.049	0.002	568	0.030	0.014	573
90	0.100	1.052	1.289	0.059	0.063	0.002	568	0.030	0.014	573
334	0.100	1.052	1.289	0.059	0.063	0.002	568	0.030	0.014	573
46	0.100	1.051	0.439	0.043	0.046	0.002	568	0.030	0.014	573
313	0.051	0.540	0.409	0.003	0.004	0.002	568	0.030	0.014	573
874	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
499	0.050	0.507	0.412	0.003	0.004	0.002	568	0.030	0.014	573
530	0.062	0.845	1.227	0.003	0.004	0.002	568	0.030	0.014	573
712	0.083	0.929	1.269	0.050	0.054	0.002	568	0.030	0.014	573
32	0.050	0.507	0.412	0.003	0.004	0.002	568	0.030	0.014	573
823	0.050	0.507	0.412	0.003	0.004	0.002	568	0.030	0.014	573
59	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
433	0.064	0.944	1.387	0.024	0.026	0.002	568	0.030	0.014	573
128	0.083	0.929	1.269	0.050	0.054	0.002	568	0.030	0.014	573
58	0.057	0.935	1.361	0.023	0.025	0.002	568	0.030	0.014	573
68	0.050	0.879	0.412	0.020	0.021	0.002	568	0.030	0.014	573
114	0.095	1.113	1.477	0.069	0.074	0.002	568	0.030	0.014	573
65	0.061	0.888	1.202	0.046	0.049	0.002	568	0.030	0.014	573
2	0.125	1.198	0.436	0.050	0.054	0.002	568	0.030	0.014	573
2	0.125	1.198	0.436	0.050	0.054	0.002	568	0.030	0.014	573
6	0.125	1.198	0.436	0.050	0.054	0.002	568	0.030	0.014	573
6	0.125	1.198	0.436	0.050	0.054	0.002	568	0.030	0.014	573
10	0.065	0.703	0.425	0.028	0.030	0.001	568	0.030	0.014	573
311	0.034	0.379	0.406	0.002	0.003	0.001	568	0.030	0.014	573
706	0.065	0.703	0.435	0.028	0.030	0.001	568	0.030	0.014	573

514	0.061	0.699	0.421	0.028	0.030	0.001	568	0.030	0.014	573
23	0.036	0.381	0.410	0.002	0.003	0.001	568	0.030	0.014	573
398	0.061	0.699	0.421	0.028	0.030	0.001	568	0.030	0.014	573
595	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
691	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
449	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
482	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
529	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
642	0.163	1.025	0.488	0.051	0.054	0.002	568	0.030	0.014	573
1	0.127	0.982	0.459	0.045	0.048	0.002	568	0.030	0.014	573
95	0.058	0.514	0.422	0.003	0.004	0.002	568	0.030	0.014	573
46	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
19	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
212	0.058	0.514	0.422	0.003	0.004	0.002	568	0.030	0.014	573
196	0.058	0.514	0.422	0.003	0.004	0.002	568	0.030	0.014	573
9	0.070	0.525	0.435	0.004	0.004	0.002	568	0.030	0.014	573
118	0.070	0.525	0.435	0.004	0.004	0.002	568	0.030	0.014	573
10	0.046	0.874	0.408	0.019	0.021	0.002	568	0.030	0.014	573
9	0.046	0.874	0.408	0.019	0.021	0.002	568	0.030	0.014	573
202	0.181	1.260	0.473	0.060	0.064	0.002	568	0.030	0.014	573
628	0.205	1.853	1.341	0.119	0.126	0.004	568	0.030	0.014	573
940	0.242	1.898	1.403	0.124	0.130	0.004	568	0.030	0.014	573
334	0.205	1.853	1.341	0.119	0.126	0.004	568	0.030	0.014	573
827	0.205	1.853	1.341	0.119	0.126	0.004	568	0.030	0.014	573
275	0.242	1.897	0.457	0.086	0.091	0.004	568	0.030	0.014	573
62	0.242	1.897	0.457	0.086	0.091	0.004	568	0.030	0.014	573
80	0.242	1.897	0.457	0.086	0.091	0.004	568	0.030	0.014	573
120	0.242	1.897	0.478	0.086	0.092	0.004	568	0.030	0.014	573
161	0.066	0.497	0.447	0.003	0.004	0.002	568	0.030	0.014	573
202	0.091	1.057	1.483	0.070	0.075	0.002	568	0.030	0.014	573
97	0.073	0.912	1.442	0.025	0.027	0.002	568	0.030	0.014	573
774	0.102	0.908	0.443	0.039	0.042	0.002	568	0.030	0.014	573
492	0.073	0.912	1.442	0.025	0.027	0.002	568	0.030	0.014	573
160	0.102	1.072	1.523	0.069	0.073	0.002	568	0.030	0.014	573

503	0.066	0.497	0.447	0.003	0.004	0.002	568	0.030	0.014	573
94	0.052	0.883	1.354	0.003	0.004	0.002	568	0.030	0.014	573
83	0.052	0.883	1.354	0.003	0.004	0.002	568	0.030	0.014	573
20	0.091	0.896	1.312	0.055	0.059	0.002	568	0.030	0.014	573
61	0.063	0.898	1.399	0.023	0.025	0.002	568	0.030	0.014	573
	0.041	0.747	1.336	0.018	0.019	0.002	568	0.030	0.014	573
250	0.039	0.744	1.326	0.018	0.019	0.002	568	0.030	0.014	573
9	0.037	0.742	1.317	0.002	0.003	0.002	568	0.030	0.014	573
78	0.053	0.865	1.372	0.049	0.053	0.002	568	0.030	0.014	573
500	0.039	0.744	1.326	0.018	0.019	0.002	568	0.030	0.014	573
42	0.041	0.747	1.336	0.018	0.019	0.002	568	0.030	0.014	573
	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
556	0.029	0.440	1.200	0.002	0.002	0.001	568	0.030	0.014	573
	0.032	0.444	1.221	0.002	0.002	0.001	568	0.030	0.014	573
567	0.029	0.440	1.200	0.002	0.002	0.001	568	0.030	0.014	573
133	0.043	0.576	1.428	0.034	0.037	0.001	568	0.030	0.014	573
103	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
13	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
144	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
29	0.039	0.484	1.242	0.027	0.029	0.001	568	0.030	0.014	573
31	0.050	0.496	1.306	0.028	0.030	0.001	568	0.030	0.014	573
12	0.053	0.500	1.327	0.030	0.031	0.001	568	0.030	0.014	573
8	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
62	0.115	1.229	0.426	0.050	0.053	0.003	568	0.030	0.014	573
474	0.050	0.830	1.182	0.003	0.003	0.002	568	0.030	0.014	573
76	0.181	1.260	0.473	0.060	0.064	0.002	568	0.030	0.014	573
253	0.205	2.187	1.516	0.148	0.159	0.004	568	0.030	0.014	573
272	0.057	0.659	0.405	0.004	0.004	0.003	568	0.030	0.014	573
9	0.020	0.074	0.399	0.002	0.003	0.001	568	0.030	0.014	573
92	0.036	0.381	0.410	0.002	0.003	0.001	568	0.030	0.014	573
40	0.153	1.870	1.447	0.051	0.055	0.004	568	0.030	0.014	573
82	0.093	0.979	0.410	0.006	0.007	0.004	568	0.030	0.014	573
11	0.141	1.000	1.455	0.069	0.072	0.002	568	0.030	0.014	573
94	0.054	0.969	1.170	0.027	0.027	0.002	568	0.030	0.014	573

16	0.118	1.967	1.218	0.101	0.101	0.002	568	0.030	0.014	573
16	0.118	1.967	1.218	0.101	0.101	0.002	568	0.030	0.014	573
320	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
461	0.093	0.979	0.410	0.006	0.007	0.004	568	0.030	0.014	573
565	0.242	1.897	0.457	0.086	0.091	0.004	568	0.030	0.014	573
785	0.108	1.221	0.422	0.049	0.052	0.003	568	0.030	0.014	573
617	0.108	1.221	0.422	0.049	0.052	0.003	568	0.030	0.014	573
179	0.061	0.699	0.421	0.028	0.030	0.001	568	0.030	0.014	573
44	0.045	0.502	0.407	0.003	0.003	0.002	568	0.030	0.014	573
98	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
123	0.071	0.900	1.233	0.046	0.049	0.002	568	0.030	0.014	573
1200	0.122	1.078	0.444	0.047	0.050	0.002	568	0.030	0.014	573
3040	0.067	0.579	0.424	0.004	0.004	0.002	568	0.030	0.014	573
1200	0.134	1.904	0.447	0.048	0.051	0.002	568	0.030	0.014	573
3040	0.067	0.579	0.424	0.004	0.004	0.002	568	0.030	0.014	573
4160	0.064	0.552	0.423	0.004	0.004	0.002	568	0.030	0.014	573
4240	0.064	0.519	0.428	0.004	0.004	0.002	568	0.030	0.014	573
3880	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
1200	0.095	0.943	0.433	0.039	0.042	0.002	568	0.030	0.014	573
2880	0.064	0.519	0.428	0.004	0.004	0.002	568	0.030	0.014	573
560	0.076	0.960	1.434	0.026	0.028	0.002	568	0.030	0.014	573
3320	0.057	0.826	1.213	0.003	0.003	0.002	568	0.030	0.014	573
320	0.138	1.213	0.444	0.053	0.056	0.002	568	0.030	0.014	573
320	0.138	1.213	0.444	0.053	0.056	0.002	568	0.030	0.014	573
320	0.138	1.213	0.444	0.053	0.056	0.002	568	0.030	0.014	573
320	0.138	1.213	0.444	0.053	0.056	0.002	568	0.030	0.014	573
2640	0.071	0.711	0.432	0.029	0.032	0.001	568	0.030	0.014	573
2700	0.071	0.711	0.432	0.029	0.032	0.001	568	0.030	0.014	573

2520	0.041	0.386	0.418	0.003	0.003	0.001	568	0.030	0.014	573
720	0.068	0.707	0.429	0.029	0.031	0.001	568	0.030	0.014	573
600	0.041	0.386	0.418	0.003	0.003	0.001	568	0.030	0.014	573
2880	0.023	0.075	0.406	0.002	0.003	0.001	568	0.030	0.014	573
1680	0.036	0.381	0.410	0.002	0.003	0.001	568	0.030	0.014	573
400	0.070	0.910	0.435	0.022	0.024	0.002	568	0.030	0.014	573
400	0.070	0.910	0.435	0.022	0.024	0.002	568	0.030	0.014	573
400	0.155	1.015	0.481	0.050	0.052	0.002	568	0.030	0.014	573
3800	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
4200	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
4720	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
4880	0.102	0.554	0.470	0.004	0.004	0.002	568	0.030	0.014	573
4880	0.102	0.554	0.470	0.004	0.004	0.002	568	0.030	0.014	573
4880	0.102	0.554	0.470	0.004	0.004	0.002	568	0.030	0.014	573
2850	0.279	1.943	1.464	0.144	0.151	0.004	568	0.030	0.014	573
2240	0.080	0.510	0.471	0.004	0.004	0.002	568	0.030	0.014	573
2240	0.112	1.087	1.562	0.076	0.081	0.002	568	0.030	0.014	573
2240	0.093	0.940	1.523	0.028	0.030	0.002	568	0.030	0.014	573
960	0.122	0.932	0.460	0.043	0.045	0.002	568	0.030	0.014	573
2880	0.080	0.510	0.452	0.004	0.004	0.002	568	0.030	0.014	573
800	0.045	0.752	1.354	0.018	0.020	0.002	568	0.030	0.014	573
960	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
960	0.041	0.747	1.336	0.003	0.003	0.002	568	0.030	0.014	573
3040	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
3040	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
2880	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
2880	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
2880	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
2880	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573

960	0.036	0.500	1.404	0.013	0.014	0.001	568	0.030	0.014	573
4480	0.035	0.448	1.242	0.002	0.002	0.001	568	0.030	0.014	573
4480	0.035	0.448	1.242	0.002	0.002	0.001	568	0.030	0.014	573
2040	0.036	0.500	1.404	0.013	0.014	0.001	568	0.030	0.014	573
1120	0.118	1.232	0.428	0.050	0.054	0.003	568	0.030	0.014	573
1320	0.074	0.675	0.420	0.004	0.005	0.003	568	0.030	0.014	573
2440	0.074	0.675	0.420	0.004	0.005	0.003	568	0.030	0.014	573
1120	0.128	2.216	0.439	0.051	0.054	0.003	568	0.030	0.014	573
1320	0.074	0.675	0.428	0.004	0.005	0.003	568	0.030	0.014	573
1120	0.128	2.216	0.439	0.051	0.054	0.003	568	0.030	0.014	573
1320	0.074	0.675	0.428	0.004	0.005	0.003	568	0.030	0.014	573
1400	0.062	0.845	1.227	0.003	0.004	0.002	568	0.030	0.014	573
1120	0.205	1.288	0.488	0.064	0.068	0.002	568	0.030	0.014	573
280	0.130	0.698	0.473	0.005	0.006	0.002	568	0.030	0.014	573
600	0.213	1.754	1.403	0.008	0.009	0.004	568	0.030	0.014	573
2400	0.084	1.286	0.487	0.064	0.064	0.002	568	0.030	0.014	573
1800	0.077	1.874	0.429	0.060	0.060	0.002	568	0.030	0.014	573
2400	0.049	0.775	0.857	0.046	0.046	0.002	568	0.030	0.014	573
2400	0.049	0.775	0.292	0.036	0.036	0.002	568	0.030	0.014	573
2400	0.049	0.775	0.857	0.046	0.046	0.002	568	0.030	0.014	573
2400	0.049	0.775	0.857	0.046	0.046	0.002	568	0.030	0.014	573
2520	0.066	1.167	1.411	0.034	0.034	0.002	568	0.030	0.014	573
2520	0.072	1.130	1.249	0.068	0.068	0.002	568	0.030	0.014	573
2520	0.072	1.130	1.249	0.068	0.068	0.002	568	0.030	0.014	573
160	0.153	1.870	1.447	0.051	0.055	0.004	568	0.030	0.014	573
160	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
240	0.057	0.659	0.405	0.004	0.004	0.003	568	0.030	0.014	573

160	0.102	1.072	1.523	0.069	0.073	0.002	568	0.030	0.014	573
160	0.039	0.744	1.326	0.018	0.019	0.002	568	0.030	0.014	573
160	0.053	0.865	1.372	0.049	0.053	0.002	568	0.030	0.014	573
160	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
240	0.093	0.979	0.410	0.006	0.007	0.004	568	0.030	0.014	573
120	0.147	1.028	0.441	0.007	0.008	0.004	568	0.030	0.014	573
240	0.108	1.221	0.422	0.049	0.052	0.003	568	0.030	0.014	573
160	0.061	0.699	0.421	0.028	0.030	0.001	568	0.030	0.014	573
160	0.061	0.699	0.421	0.028	0.030	0.001	568	0.030	0.014	573
40	0.045	0.502	0.407	0.003	0.003	0.002	568	0.030	0.014	573
40	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
40	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
40	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
40	0.102	0.908	0.443	0.039	0.042	0.002	568	0.030	0.014	573
40	0.052	0.819	1.192	0.003	0.003	0.002	568	0.030	0.014	573
40	0.054	0.632	0.405	0.004	0.004	0.002	568	0.030	0.014	573
138	0.063	0.575	0.427	0.004	0.004	0.002	568	0.030	0.014	573
175	0.063	0.575	0.419	0.004	0.004	0.002	568	0.030	0.014	573
60	0.075	0.930	1.443	0.025	0.027	0.002	568	0.030	0.014	573
334	0.064	0.552	0.423	0.004	0.004	0.002	568	0.030	0.014	573
710	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
347	0.057	0.826	1.213	0.003	0.003	0.002	568	0.030	0.014	573
123	0.070	0.647	0.419	0.004	0.005	0.002	568	0.030	0.014	573
123	0.070	0.647	0.419	0.004	0.005	0.002	568	0.030	0.014	573
692	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
531	0.122	0.932	0.460	0.043	0.045	0.002	568	0.030	0.014	573
300	0.063	0.575	0.427	0.004	0.004	0.002	568	0.030	0.014	573
1075	0.063	0.575	0.419	0.004	0.004	0.002	568	0.030	0.014	573
1700	0.064	0.552	0.423	0.004	0.004	0.002	568	0.030	0.014	573
1700	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
990	0.057	0.826	1.213	0.003	0.003	0.002	568	0.030	0.014	573

790	0.046	0.495	0.413	0.003	0.003	0.002	568	0.030	0.014	573
250	0.041	0.386	0.418	0.003	0.003	0.001	568	0.030	0.014	573
4200	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
220	0.122	0.932	0.460	0.043	0.045	0.002	568	0.030	0.014	573
160	0.045	0.502	0.407	0.003	0.003	0.002	568	0.030	0.014	573
160	0.055	0.511	0.418	0.003	0.004	0.002	568	0.030	0.014	573
160	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
160	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
160	0.102	0.908	0.443	0.039	0.042	0.002	568	0.030	0.014	573
160	0.052	0.819	1.192	0.003	0.003	0.002	568	0.030	0.014	573
160	0.051	0.540	0.409	0.003	0.004	0.002	568	0.030	0.014	573
800	0.075	0.651	0.423	0.004	0.005	0.002	568	0.030	0.014	573
640	0.119	1.190	0.432	0.049	0.053	0.002	568	0.030	0.014	573
640	0.119	1.190	0.432	0.049	0.053	0.002	568	0.030	0.014	573
750	0.092	0.545	0.459	0.004	0.004	0.002	568	0.030	0.014	573
940	0.084	0.966	1.272	0.004	0.004	0.002	568	0.030	0.014	573
700	0.067	0.579	0.424	0.004	0.004	0.002	568	0.030	0.014	573
680	0.060	0.829	1.223	0.003	0.004	0.002	568	0.030	0.014	573
400	0.060	0.829	1.223	0.003	0.004	0.002	568	0.030	0.014	573
475	0.079	0.866	1.288	0.004	0.004	0.002	568	0.030	0.014	573
1200	0.102	0.953	1.562	0.030	0.031	0.002	568	0.030	0.014	573
1280	0.102	0.554	0.496	0.004	0.004	0.002	568	0.030	0.014	573
960	0.070	0.647	0.419	0.004	0.005	0.002	568	0.030	0.014	573
640	0.045	0.128	0.421	0.004	0.004	0.002	568	0.030	0.014	573
2560	0.161	2.168	0.455	0.056	0.060	0.002	568	0.030	0.014	573
1280	0.473	3.707	1.525	0.187	0.196	0.002	568	0.030	0.014	573
960	0.489	3.380	1.428	0.204	0.214	0.002	568	0.030	0.014	573
480	0.489	3.380	1.428	0.204	0.214	0.002	568	0.030	0.014	573
320	0.389	2.772	1.329	0.151	0.160	0.002	568	0.030	0.014	573
800	0.061	0.926	1.382	0.024	0.025	0.002	568	0.030	0.014	573
380	0.144	1.838	0.465	0.047	0.050	0.002	568	0.030	0.014	573

75	0.085	1.244	1.391	0.032	0.034	0.003	568	0.030	0.014	573
200	0.166	1.806	0.488	0.052	0.055	0.002	568	0.030	0.014	573
139	0.082	1.043	1.543	0.053	0.056	0.001	568	0.030	0.014	573
857	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573
180	0.493	3.764	2.430	0.205	0.214	0.001	568	0.030	0.014	573
104	0.120	1.397	1.318	0.057	0.060	0.001	568	0.030	0.014	573
764	0.079	1.255	0.435	0.030	0.032	0.001	568	0.030	0.014	573
650	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
318	0.242	1.897	0.457	0.086	0.091	0.004	568	0.030	0.014	573
475	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
447	0.211	2.740	0.520	0.068	0.071	0.002	568	0.030	0.014	573
77	0.139	1.705	1.367	0.067	0.071	0.002	568	0.030	0.014	573
378	0.094	1.516	1.409	0.065	0.070	0.002	568	0.030	0.014	573
3	0.100	0.950	0.437	0.040	0.043	0.002	568	0.030	0.014	573
1040	0.419	4.142	1.747	0.256	0.267	0.004	568	0.030	0.014	573
413	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
418	0.078	1.033	1.519	0.051	0.054	0.001	568	0.030	0.014	573
136	0.115	1.229	0.426	0.050	0.053	0.003	568	0.030	0.014	573
503	0.082	1.043	1.543	0.053	0.056	0.001	568	0.030	0.014	573
890	0.120	1.003	0.426	0.007	0.007	0.004	568	0.030	0.014	573
50	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573
76	0.082	1.043	1.543	0.053	0.056	0.001	568	0.030	0.014	573
252	0.157	1.231	0.457	0.056	0.059	0.002	568	0.030	0.014	573
151	0.047	0.856	1.345	0.051	0.055	0.002	568	0.030	0.014	573
232	0.120	1.003	0.426	0.007	0.007	0.004	568	0.030	0.014	573
490	0.147	1.028	0.441	0.007	0.008	0.004	568	0.030	0.014	573
359	0.143	1.937	0.458	0.047	0.049	0.001	568	0.030	0.014	573
139	0.029	0.491	1.356	0.012	0.013	0.001	568	0.030	0.014	573
79	0.031	0.376	0.403	0.002	0.003	0.001	568	0.030	0.014	573
212	0.041	0.747	1.336	0.018	0.019	0.002	568	0.030	0.014	573
51	0.236	3.075	0.516	0.075	0.079	0.002	568	0.030	0.014	573
8	0.184	2.523	0.455	0.055	0.059	0.002	568	0.030	0.014	573

15	0.205	1.288	0.488	0.064	0.068	0.002	568	0.030	0.014	573
236	0.037	0.742	1.317	0.002	0.003	0.002	568	0.030	0.014	573
124	0.047	0.856	1.345	0.051	0.055	0.002	568	0.030	0.014	573
61	0.031	0.376	0.403	0.002	0.003	0.001	568	0.030	0.014	573
21	0.029	0.440	1.200	0.002	0.002	0.001	568	0.030	0.014	573
5	0.061	0.888	1.202	0.046	0.049	0.002	568	0.030	0.014	573
3	0.083	0.929	0.423	0.037	0.040	0.002	568	0.030	0.014	573
15	0.082	1.043	1.543	0.053	0.056	0.001	568	0.030	0.014	573
3	0.055	0.691	0.414	0.027	0.029	0.001	568	0.030	0.014	573
53	0.031	0.376	0.403	0.002	0.003	0.001	568	0.030	0.014	573
30	0.191	1.277	1.488	0.046	0.050	0.002	568	0.030	0.014	573
22	0.045	0.502	0.411	0.003	0.003	0.002	568	0.030	0.014	573
20	0.056	0.838	1.205	0.003	0.004	0.002	568	0.030	0.014	573
4	0.051	0.862	1.363	0.049	0.053	0.002	568	0.030	0.014	573
50	0.133	1.590	1.441	0.080	0.085	0.002	568	0.030	0.014	573
30	0.093	0.979	0.410	0.006	0.007	0.004	568	0.030	0.014	573
487	0.043	0.750	1.345	0.018	0.020	0.002	568	0.030	0.014	573
396	0.049	0.859	1.354	0.051	0.056	0.002	568	0.030	0.014	573
420	0.049	0.859	1.354	0.051	0.056	0.002	568	0.030	0.014	573
513	0.096	1.522	1.419	0.066	0.071	0.002	568	0.030	0.014	573
559	0.039	0.744	1.326	0.003	0.003	0.002	568	0.030	0.014	573
573	0.049	0.859	1.354	0.051	0.056	0.002	568	0.030	0.014	573
552	0.181	1.260	0.473	0.060	0.064	0.002	568	0.030	0.014	573
150	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573
490	0.205	1.288	0.488	0.064	0.068	0.002	568	0.030	0.014	573
115	0.144	1.716	1.382	0.069	0.073	0.002	568	0.030	0.014	573
124	0.711	5.427	2.430	0.295	0.308	0.002	568	0.030	0.014	573
140	0.525	4.334	1.336	0.185	0.196	0.003	568	0.030	0.014	573
711	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573
865	0.144	1.949	0.461	0.047	0.050	0.001	568	0.030	0.014	573
960	0.034	0.379	0.406	0.002	0.003	0.001	568	0.030	0.014	573
230	0.125	1.931	0.455	0.046	0.049	0.002	568	0.030	0.014	573
330	0.115	1.582	0.449	0.043	0.045	0.002	568	0.030	0.014	573

90	0.089	0.936	0.428	0.038	0.041	0.002	568	0.030	0.014	573
752	0.086	1.053	1.568	0.055	0.058	0.001	568	0.030	0.014	573
1012	0.033	0.495	1.380	0.013	0.014	0.001	568	0.030	0.014	573
50	0.032	0.444	1.221	0.002	0.002	0.001	568	0.030	0.014	573
248	0.033	0.495	1.380	0.013	0.014	0.001	568	0.030	0.014	573
709	0.082	1.043	1.543	0.053	0.056	0.001	568	0.030	0.014	573
873	0.033	0.495	1.380	0.013	0.014	0.001	568	0.030	0.014	573
630	0.086	1.053	1.568	0.055	0.058	0.001	568	0.030	0.014	573
124	0.279	1.942	0.473	0.093	0.098	0.004	568	0.030	0.014	573
712	0.064	0.195	0.410	0.006	0.007	0.004	568	0.030	0.014	573
350	0.211	2.740	0.520	0.068	0.071	0.002	568	0.030	0.014	573
515	0.211	2.740	0.520	0.068	0.071	0.002	568	0.030	0.014	573
120	0.185	2.291	0.500	0.058	0.061	0.002	568	0.030	0.014	573
98	0.064	0.892	1.213	0.047	0.051	0.002	568	0.030	0.014	573
76	0.123	1.406	1.331	0.058	0.061	0.001	568	0.030	0.014	573
981	0.034	0.379	0.406	0.002	0.003	0.001	568	0.030	0.014	573
426	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573
33	0.079	0.921	1.271	0.004	0.004	0.002	568	0.030	0.014	573
98	0.079	0.921	1.271	0.004	0.004	0.002	568	0.030	0.014	573
33	0.052	0.819	1.192	0.003	0.003	0.002	568	0.030	0.014	573
98	0.052	0.913	1.346	0.022	0.024	0.002	568	0.030	0.014	573
98	0.058	0.571	0.421	0.004	0.004	0.002	568	0.030	0.014	573
160	0.141	0.999	0.470	0.047	0.050	0.002	568	0.030	0.014	573
130	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573
240	0.036	0.381	0.410	0.002	0.003	0.001	568	0.030	0.014	573
230	0.089	1.360	0.920	0.010	0.009	0.000	568	0.030	0.014	573
			Total (Tons or Metric Tons for GHGs)							

2014 Emissions (lbs)									
ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
20.0	212.8	155.8	1.4	1.5	0.8	213,432	11.3	5.1	215,246
56.6	540.3	221.3	22.8	24.3	1.1	288,340	15.3	6.9	290,790
24.8	375.2	87.7	9.2	9.8	0.4	113,309	6.0	2.7	114,272
2.9	30.3	37.1	1.7	1.8	0.1	16,350	0.9	0.4	16,489
12.1	127.0	155.6	7.1	7.6	0.3	68,627	3.6	1.6	69,210
2.0	21.3	8.9	0.9	0.9	0.0	11,526	0.6	0.3	11,624
10.3	109.5	83.1	0.7	0.8	0.4	115,291	6.1	2.7	116,271
44.7	418.6	342.0	2.7	3.0	1.6	465,377	24.7	11.1	469,332
23.2	236.9	192.7	1.5	1.7	0.9	265,702	14.1	6.3	267,960
9.0	122.5	177.8	0.5	0.5	0.3	82,338	4.4	2.0	83,038
19.2	214.4	292.8	11.6	12.4	0.4	131,130	7.0	3.1	132,244
1.7	17.4	14.2	0.1	0.1	0.1	19,525	1.0	0.5	19,691
47.2	480.9	391.1	3.1	3.4	1.8	539,270	28.7	12.8	543,853
3.7	34.8	28.4	0.2	0.2	0.1	38,660	2.1	0.9	38,988
4.0	59.5	87.4	1.5	1.6	0.1	35,804	1.9	0.9	36,109
3.4	38.5	52.6	2.1	2.2	0.1	23,574	1.3	0.6	23,774
0.8	13.5	19.7	0.3	0.4	0.0	8,211	0.4	0.2	8,281
5.7	100.2	47.0	2.3	2.4	0.2	64,748	3.4	1.5	65,298
2.3	27.4	36.4	1.7	1.8	0.0	13,997	0.7	0.3	14,116
1.4	20.0	27.1	1.0	1.1	0.0	12,785	0.7	0.3	12,894
0.3	3.2	1.2	0.1	0.1	0.0	1,503	0.1	0.0	1,516
0.2	2.3	0.8	0.1	0.1	0.0	1,103	0.1	0.0	1,112
1.0	9.5	3.5	0.4	0.4	0.0	4,510	0.2	0.1	4,549
0.7	7.0	2.5	0.3	0.3	0.0	3,308	0.2	0.1	3,336
0.4	4.1	2.5	0.2	0.2	0.0	3,345	0.2	0.1	3,374
6.0	67.5	72.5	0.4	0.5	0.3	101,307	5.4	2.4	102,168
22.6	246.2	152.4	9.9	10.6	0.5	199,018	10.6	4.7	200,709

20.9	237.7	143.3	9.4	10.1	0.5	193,192	10.3	4.6	194,834
1.1	11.7	12.5	0.1	0.1	0.0	17,376	0.9	0.4	17,524
16.0	182.8	110.2	7.3	7.8	0.4	148,595	7.9	3.5	149,858
96.4	606.5	288.8	30.3	31.9	1.1	336,200	17.9	8.0	339,058
79.7	501.3	238.7	25.1	26.4	0.9	277,899	14.8	6.6	280,261
72.7	457.7	217.9	22.9	24.1	0.9	253,704	13.5	6.0	255,860
78.1	491.3	233.9	24.6	25.9	0.9	272,351	14.5	6.5	274,665
61.0	383.8	182.7	19.2	20.2	0.7	212,748	11.3	5.1	214,556
104.0	654.4	311.6	32.7	34.4	1.2	362,757	19.3	8.6	365,840
0.2	1.6	0.7	0.1	0.1	0.0	927	0.0	0.0	935
5.9	52.1	42.7	0.3	0.4	0.2	57,607	3.1	1.4	58,096
4.0	26.3	21.9	0.2	0.2	0.1	27,894	1.5	0.7	28,131
1.6	10.8	9.1	0.1	0.1	0.0	11,521	0.6	0.3	11,619
9.8	86.8	71.1	0.6	0.6	0.3	95,884	5.1	2.3	96,699
9.1	80.2	65.8	0.5	0.6	0.3	88,648	4.7	2.1	89,401
0.7	5.0	4.2	0.0	0.0	0.0	5,457	0.3	0.1	5,504
8.6	64.4	53.4	0.4	0.5	0.2	69,780	3.7	1.7	70,373
0.8	14.9	7.0	0.3	0.4	0.0	9,710	0.5	0.2	9,792
0.7	13.2	6.2	0.3	0.3	0.0	8,603	0.5	0.2	8,677
43.5	302.9	113.6	14.5	15.3	0.6	136,663	7.3	3.3	137,824
49.3	446.5	323.2	28.7	30.4	0.9	136,903	7.3	3.3	138,067
78.6	617.6	456.4	40.2	42.4	1.2	184,898	9.8	4.4	186,469
26.2	237.5	171.9	15.3	16.2	0.5	72,812	3.9	1.7	73,430
50.4	456.2	330.2	29.3	31.0	0.9	139,876	7.4	3.3	141,065
46.2	362.3	87.3	16.5	17.5	0.7	108,530	5.8	2.6	109,452
10.4	81.7	19.7	3.7	3.9	0.2	24,468	1.3	0.6	24,676
13.4	105.4	25.4	4.8	5.1	0.2	31,572	1.7	0.8	31,841
15.2	119.0	30.0	5.4	5.7	0.2	35,632	1.9	0.8	35,934
4.9	37.2	33.5	0.3	0.3	0.1	42,561	2.3	1.0	42,923
3.4	39.5	55.5	2.6	2.8	0.1	21,259	1.1	0.5	21,439
1.1	13.9	21.9	0.4	0.4	0.0	8,628	0.5	0.2	8,702
45.6	405.9	198.0	17.6	18.7	0.8	254,066	13.5	6.1	256,225
7.2	89.1	140.7	2.4	2.6	0.2	55,477	2.9	1.3	55,948
2.9	30.3	43.0	1.9	2.1	0.1	16,037	0.9	0.4	16,173

15.3	116.2	104.6	0.8	0.9	0.4	132,970	7.1	3.2	134,101
0.8	13.4	20.5	0.0	0.1	0.0	8,597	0.5	0.2	8,670
0.7	11.8	18.1	0.0	0.0	0.0	7,591	0.4	0.2	7,656
0.6	5.5	8.1	0.3	0.4	0.0	3,508	0.2	0.1	3,538
0.6	8.5	13.2	0.2	0.2	0.0	5,350	0.3	0.1	5,395
1.6	30.4	54.1	0.7	0.8	0.1	23,178	1.2	0.6	23,375
0.1	1.1	1.9	0.0	0.0	0.0	834	0.0	0.0	842
0.7	11.2	17.7	0.6	0.7	0.0	7,329	0.4	0.2	7,392
3.2	61.5	109.6	1.4	1.6	0.1	46,982	2.5	1.1	47,382
0.3	5.1	9.2	0.1	0.1	0.0	3,894	0.2	0.1	3,927
4.3	65.8	179.4	0.3	0.3	0.1	84,984	4.5	2.0	85,707
4.7	71.5	195.0	0.3	0.3	0.2	92,349	4.9	2.2	93,134
1.3	16.9	41.9	1.0	1.1	0.0	16,663	0.9	0.4	16,805
0.6	9.5	26.2	0.2	0.3	0.0	10,969	0.6	0.3	11,062
0.1	1.1	2.9	0.0	0.0	0.0	1,222	0.1	0.0	1,232
0.9	15.4	42.6	0.4	0.4	0.0	17,861	0.9	0.4	18,013
0.3	4.0	10.3	0.2	0.2	0.0	4,723	0.3	0.1	4,763
0.4	4.2	11.2	0.2	0.3	0.0	4,855	0.3	0.1	4,896
0.2	2.1	5.4	0.1	0.1	0.0	2,330	0.1	0.1	2,350
0.0	0.6	1.8	0.0	0.0	0.0	752	0.0	0.0	758
4.7	50.4	17.5	2.0	2.2	0.1	23,303	1.2	0.6	23,501
8.6	142.2	202.5	0.5	0.6	0.3	97,393	5.2	2.3	98,221
16.4	114.0	42.8	5.4	5.7	0.2	51,418	2.7	1.2	51,855
6.6	70.8	49.1	4.8	5.1	0.1	18,385	1.0	0.4	18,541
23.0	267.5	164.3	1.7	1.8	1.0	230,708	12.3	5.5	232,668
0.2	0.8	4.1	0.0	0.0	0.0	5,897	0.3	0.1	5,947
4.4	46.6	50.2	0.3	0.3	0.2	69,504	3.7	1.7	70,095
0.9	10.7	8.3	0.3	0.3	0.0	3,257	0.2	0.1	3,285
4.4	46.4	19.4	0.3	0.3	0.2	26,917	1.4	0.6	27,145
0.5	3.4	4.9	0.2	0.2	0.0	1,929	0.1	0.0	1,946
1.3	23.1	27.9	0.7	0.7	0.0	13,543	0.7	0.3	13,659

0.5	8.0	4.9	0.4	0.4	0.0	2,305	0.1	0.1	2,325
0.5	8.0	4.9	0.4	0.4	0.0	2,305	0.1	0.1	2,325
2.3	38.4	106.2	0.9	1.0	0.1	44,502	2.4	1.1	44,880
39.1	412.8	173.0	2.6	2.9	1.6	239,692	12.7	5.7	241,729
135.5	1063.4	256.1	48.3	51.2	2.1	318,541	16.9	7.6	321,248
134.6	1515.3	524.1	60.4	64.8	3.1	705,169	37.5	16.8	711,162
105.8	1191.0	411.9	47.4	50.9	2.4	554,254	29.4	13.2	558,965
7.3	82.8	49.9	3.3	3.5	0.2	67,279	3.6	1.6	67,851
1.8	20.7	16.8	0.1	0.1	0.1	23,429	1.2	0.6	23,628
3.3	31.3	25.5	0.2	0.2	0.1	34,747	1.8	0.8	35,042
3.0	38.1	52.2	1.9	2.1	0.1	24,040	1.3	0.6	24,244
149.9	1322.9	544.8	57.4	61.1	2.6	697,596	37.1	16.6	703,524
228.8	3254.4	764.8	82.4	87.5	3.7	971,222	51.6	23.1	979,476
39.8	343.5	263.5	2.3	2.5	1.3	353,609	18.8	8.4	356,614
71.6	584.0	481.0	4.0	4.2	2.1	638,962	33.9	15.2	644,392
51.1	478.9	391.3	3.1	3.4	1.8	532,468	28.3	12.7	536,993
124.5	1237.5	567.6	51.4	54.9	2.5	745,706	39.6	17.8	752,043
11.9	170.4	250.3	0.7	0.7	0.4	117,268	6.2	2.8	118,265
58.2	513.3	187.9	22.3	23.7	1.0	240,550	12.8	5.7	242,595
42.7	376.4	137.8	16.3	17.4	0.7	176,404	9.4	4.2	177,903
58.2	513.3	187.9	22.3	23.7	1.0	240,550	12.8	5.7	242,595
42.7	376.4	137.8	16.3	17.4	0.7	176,404	9.4	4.2	177,903
30.1	301.3	183.1	12.5	13.4	0.6	240,851	12.8	5.7	242,898
12.6	125.5	76.3	5.2	5.6	0.3	100,355	5.3	2.4	101,207

39.5	369.2	399.9	2.4	2.6	1.4	543,944	28.9	13.0	548,567
32.1	334.4	202.7	13.7	14.6	0.7	268,815	14.3	6.4	271,100
19.4	62.5	337.4	2.0	2.2	1.2	471,779	25.1	11.2	475,789
18.5	194.8	209.7	1.2	1.3	0.7	290,464	15.4	6.9	292,933
46.9	612.4	292.4	14.9	15.9	1.3	382,375	20.3	9.1	385,624
46.9	612.4	292.4	14.9	15.9	1.3	382,375	20.3	9.1	385,624
100.9	662.5	314.1	32.5	34.3	1.2	370,848	19.7	8.8	374,000
51.7	342.5	286.1	2.4	2.6	1.2	363,832	19.3	8.7	366,924
86.2	570.8	476.9	4.1	4.3	2.0	606,387	32.2	14.4	611,541
103.5	685.0	572.3	4.9	5.2	2.4	727,665	38.7	17.3	733,849
130.4	709.3	602.3	5.4	5.7	2.4	727,665	38.7	17.3	733,849
130.4	709.3	602.3	5.4	5.7	2.4	727,665	38.7	17.3	733,849
130.4	709.3	602.3	5.4	5.7	2.4	727,665	38.7	17.3	733,849
304.7	2124.4	1600.4	157.7	165.4	4.0	621,296	33.0	14.8	626,576
18.0	114.0	105.1	0.8	0.9	0.4	126,890	6.7	3.0	127,969
10.0	96.6	138.8	6.8	7.2	0.2	50,516	2.7	1.2	50,945
7.0	70.6	114.4	2.1	2.2	0.1	42,698	2.3	1.0	43,061
67.4	516.6	255.0	23.7	25.1	1.0	315,121	16.7	7.5	317,799
1.2	19.9	35.8	0.5	0.5	0.0	15,034	0.8	0.4	15,162
3.3	58.7	105.3	1.4	1.5	0.1	44,502	2.4	1.1	44,880
3.2	58.5	104.6	0.2	0.2	0.1	44,502	2.4	1.1	44,880
5.6	99.2	177.9	2.4	2.6	0.2	75,172	4.0	1.8	75,811
5.6	99.2	177.9	2.4	2.6	0.2	75,172	4.0	1.8	75,811
4.5	79.3	142.3	1.9	2.1	0.2	60,138	3.2	1.4	60,649
4.5	79.3	142.3	1.9	2.1	0.2	60,138	3.2	1.4	60,649

8.2	115.3	323.8	3.0	3.2	0.2	131,100	7.0	3.1	132,214
9.0	115.6	320.7	0.5	0.5	0.3	146,736	7.8	3.5	147,983
9.6	123.2	341.8	0.5	0.5	0.3	156,358	8.3	3.7	157,687
4.3	59.5	167.1	1.6	1.7	0.1	67,655	3.6	1.6	68,230
87.2	912.9	317.1	37.3	39.9	1.9	420,963	22.4	10.0	424,541
47.7	433.2	269.5	2.9	3.1	1.6	364,835	19.4	8.7	367,935
69.7	1204.0	238.7	27.5	29.5	1.4	308,706	16.4	7.4	311,330
72.9	1258.7	249.5	28.8	30.8	1.4	322,738	17.1	7.7	325,481
25.2	342.4	497.0	1.4	1.5	0.8	230,126	12.2	5.5	232,082
273.0	1718.0	650.9	85.9	90.4	3.2	757,733	40.3	18.0	764,173
37.7	310.9	248.6	1.5	1.6	0.7	100,730	5.4	2.4	101,587
3.5	42.9	33.2	1.2	1.3	0.1	13,030	0.7	0.3	13,141
0.9	14.7	40.6	0.4	0.4	0.0	17,039	0.9	0.4	17,184
20.3	236.0	145.0	1.5	1.6	0.9	203,566	10.8	4.8	205,296

2.9	30.3	43.0	1.9	2.1	0.1	16,037	0.9	0.4	16,173
1.0	19.7	35.1	0.5	0.5	0.0	15,034	0.8	0.4	15,162
1.4	22.9	36.3	1.3	1.4	0.0	15,034	0.8	0.4	15,162
1.1	19.2	53.1	0.5	0.5	0.0	22,251	1.2	0.5	22,440
20.4	214.9	90.0	1.4	1.5	0.8	124,785	6.6	3.0	125,846
17.5	122.3	52.5	0.9	0.9	0.4	67,655	3.6	1.6	68,230
41.2	463.3	160.2	18.5	19.8	1.0	215,593	11.5	5.1	217,425
6.5	74.0	44.6	2.9	3.2	0.2	60,138	3.2	1.4	60,649
6.5	74.0	44.6	2.9	3.2	0.2	60,138	3.2	1.4	60,649
1.7	18.8	15.2	0.1	0.1	0.1	21,299	1.1	0.5	21,480
1.4	12.8	10.4	0.1	0.1	0.0	14,182	0.8	0.3	14,303
3.4	22.8	19.1	0.2	0.2	0.1	24,255	1.3	0.6	24,462
3.4	22.8	19.1	0.2	0.2	0.1	24,255	1.3	0.6	24,462
2.4	21.0	10.2	0.9	1.0	0.0	13,130	0.7	0.3	13,242
0.8	12.6	18.3	0.0	0.1	0.0	8,720	0.5	0.2	8,794
1.4	16.4	10.5	0.1	0.1	0.1	14,734	0.8	0.4	14,859

6.7	75.3	60.9	0.5	0.5	0.3	85,195	4.5	2.0	85,919
5.4	51.0	41.7	0.3	0.4	0.2	56,730	3.0	1.4	57,212
13.8	91.3	76.3	0.7	0.7	0.3	97,022	5.2	2.3	97,847
13.8	91.3	76.3	0.7	0.7	0.3	97,022	5.2	2.3	97,847
9.4	83.9	40.9	3.6	3.9	0.2	52,520	2.8	1.3	52,966
3.2	50.3	73.1	0.2	0.2	0.1	34,880	1.9	0.8	35,176
5.2	56.0	42.5	0.4	0.4	0.2	58,935	3.1	1.4	59,436

2.5	32.0	47.3	1.6	1.7	0.0	17,415	0.9	0.4	17,563
96.1	445.8	290.5	52.8	55.1	0.3	83,749	4.4	2.0	84,461
48.9	373.4	241.1	20.3	21.2	0.1	56,379	3.0	1.3	56,858
4.8	55.4	52.3	2.2	2.4	0.1	22,542	1.2	0.5	22,733
46.8	739.8	256.7	17.9	19.1	0.8	335,016	17.8	8.0	337,864
4.2	70.4	194.3	1.7	1.9	0.1	81,436	4.3	1.9	82,128
90.1	707.6	170.4	32.1	34.1	1.4	211,955	11.3	5.0	213,756
3.4	56.6	156.2	1.4	1.5	0.1	65,462	3.5	1.6	66,019
37.4	486.1	92.2	12.0	12.6	0.3	100,806	5.4	2.4	101,662
3.1	37.3	29.9	1.5	1.6	0.0	12,445	0.7	0.3	12,550
4.9	78.3	72.8	3.3	3.6	0.1	29,362	1.6	0.7	29,612
0.2	1.9	0.9	0.1	0.1	0.0	1,128	0.1	0.0	1,137
76.8	759.7	320.5	46.9	49.0	0.7	104,238	5.5	2.5	105,124
2.7	44.7	123.4	1.1	1.2	0.1	51,743	2.7	1.2	52,183
7.2	95.2	140.0	4.7	5.0	0.1	52,370	2.8	1.2	52,815
12.0	128.9	44.7	5.2	5.6	0.3	59,636	3.2	1.4	60,143
10.5	133.0	196.8	6.8	7.2	0.1	72,472	3.9	1.7	73,088
64.4	539.3	228.9	3.6	3.9	2.0	305,524	16.2	7.3	308,120
9.8	129.0	18.5	3.4	3.6	0.1	21,487	1.1	0.5	21,669
1.4	17.5	25.9	0.9	0.9	0.0	9,522	0.5	0.2	9,603
24.4	191.4	71.1	8.7	9.2	0.4	88,402	4.7	2.1	89,154
0.9	16.0	25.1	0.9	1.0	0.0	10,594	0.6	0.3	10,684
16.8	140.6	59.7	0.9	1.0	0.5	79,642	4.2	1.9	80,319
57.5	402.6	172.9	2.8	3.0	1.4	222,620	11.8	5.3	224,512
37.3	505.3	119.4	12.2	12.9	0.4	148,220	7.9	3.5	149,480
0.9	15.0	41.5	0.4	0.4	0.0	17,415	0.9	0.4	17,563
3.2	39.3	42.1	0.2	0.3	0.2	59,386	3.2	1.4	59,891
1.2	22.7	40.6	0.5	0.6	0.0	17,264	0.9	0.4	17,411
6.4	83.3	14.0	2.0	2.1	0.1	15,399	0.8	0.4	15,530
0.6	8.3	1.5	0.2	0.2	0.0	1,874	0.1	0.0	1,890

1.9	11.7	4.4	0.6	0.6	0.0	5,149	0.3	0.1	5,193
1.4	28.6	50.7	0.1	0.1	0.1	21,880	1.2	0.5	22,066
1.0	18.3	28.7	1.1	1.2	0.0	12,118	0.6	0.3	12,221
1.1	13.9	14.9	0.1	0.1	0.1	21,017	1.1	0.5	21,195
0.2	2.5	6.9	0.0	0.0	0.0	3,262	0.2	0.1	3,290
0.1	1.5	2.0	0.1	0.1	0.0	952	0.1	0.0	960
0.2	1.8	0.8	0.1	0.1	0.0	1,128	0.1	0.0	1,137
0.3	3.4	5.1	0.2	0.2	0.0	1,879	0.1	0.0	1,895
0.1	1.3	0.8	0.0	0.1	0.0	1,034	0.1	0.0	1,042
1.0	12.1	12.9	0.1	0.1	0.0	18,261	1.0	0.4	18,416
0.2	1.2	1.4	0.0	0.0	0.0	545	0.0	0.0	550
0.4	5.0	4.1	0.0	0.0	0.0	5,623	0.3	0.1	5,671
0.4	5.9	8.5	0.0	0.0	0.0	3,993	0.2	0.1	4,027
0.0	0.5	0.7	0.0	0.0	0.0	311	0.0	0.0	313
1.2	14.4	13.0	0.7	0.8	0.0	5,137	0.3	0.1	5,180
3.2	34.1	14.3	0.2	0.2	0.1	19,808	1.1	0.5	19,976
2.9	51.2	91.9	1.2	1.3	0.1	38,845	2.1	0.9	39,175
2.4	42.0	66.2	2.5	2.7	0.1	27,784	1.5	0.7	28,020
2.8	48.0	75.7	2.9	3.1	0.1	31,760	1.7	0.8	32,030
6.6	104.6	97.5	4.5	4.9	0.1	39,072	2.1	0.9	39,404
3.3	63.0	112.3	0.2	0.2	0.1	48,118	2.6	1.1	48,527
4.6	80.2	126.4	4.8	5.2	0.1	53,064	2.8	1.3	53,515
56.0	390.3	146.4	18.6	19.7	0.7	176,103	9.4	4.2	177,599
29.4	387.0	55.4	10.2	10.7	0.3	64,460	3.4	1.5	65,008
60.6	381.4	144.5	19.1	20.1	0.7	168,210	8.9	4.0	169,639
4.3	51.2	41.3	2.1	2.2	0.1	16,970	0.9	0.4	17,114
48.6	370.9	166.1	20.2	21.1	0.1	38,839	2.1	0.9	39,169
27.6	227.4	70.1	9.7	10.3	0.1	29,818	1.6	0.7	30,072
45.2	692.2	240.7	16.9	18.1	0.8	311,776	16.6	7.4	314,425
85.5	1155.6	273.3	28.1	29.8	0.9	336,958	17.9	8.0	339,822
41.3	465.9	500.0	3.0	3.2	1.8	699,099	37.1	16.6	705,041
9.2	141.7	33.4	3.4	3.6	0.2	41,720	2.2	1.0	42,075
24.5	337.0	95.6	9.1	9.7	0.4	121,027	6.4	2.9	122,055

5.3	55.7	25.5	2.3	2.4	0.1	33,827	1.8	0.8	34,115
12.2	149.0	221.9	7.8	8.2	0.1	80,434	4.3	1.9	81,118
6.0	90.9	253.1	2.3	2.5	0.2	104,238	5.5	2.5	105,124
0.4	6.1	16.7	0.0	0.0	0.0	7,768	0.4	0.2	7,834
2.0	29.8	83.0	0.8	0.8	0.1	34,178	1.8	0.8	34,469
12.8	163.0	241.3	8.3	8.8	0.2	88,828	4.7	2.1	89,583
6.3	95.3	265.5	2.4	2.6	0.2	109,375	5.8	2.6	110,305
13.7	168.1	250.4	8.8	9.3	0.2	90,770	4.8	2.2	91,542
40.5	282.4	68.7	13.5	14.2	0.5	82,649	4.4	2.0	83,351
54.4	165.0	347.6	5.3	5.7	3.1	481,702	25.6	11.5	485,796
30.6	397.5	75.4	9.8	10.3	0.3	82,439	4.4	2.0	83,139
43.1	560.1	106.2	13.8	14.5	0.4	116,141	6.2	2.8	117,128
4.5	55.6	12.1	1.4	1.5	0.0	13,782	0.7	0.3	13,899
1.7	23.3	31.7	1.2	1.3	0.0	14,854	0.8	0.4	14,980
3.6	40.7	38.6	1.7	1.8	0.0	16,473	0.9	0.4	16,613
12.6	142.6	153.0	0.9	1.0	0.5	213,958	11.4	5.1	215,777
35.5	164.4	107.1	19.5	20.3	0.1	30,881	1.6	0.7	31,143
3.2	**29.3**	**17.7**	**1.0**	**1.0**	**0.1**	**15,294**	**0.8**	**0.4**	**15,424**

2015 Emissions (lbs)

ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e

99.1	853.4	623.9	5.7	6.1	3.2	837,115	44.5	19.9	844,229
137.9	1188.1	868.7	7.9	8.5	4.4	1,165,466	61.9	27.8	1,175,371
59.7	515.3	395.2	3.4	3.7	1.9	530,413	28.2	12.6	534,921
85.9	700.8	577.2	4.7	5.1	2.6	766,754	40.7	18.3	773,270
65.5	613.0	500.9	4.0	4.3	2.3	681,559	36.2	16.2	687,351
178.6	1456.9	1200.0	9.9	10.6	5.3	1,594,046	84.7	38.0	1,607,594
8.4	106.7	159.3	2.9	3.1	0.2	63,144	3.4	1.5	63,681
19.0	272.7	400.5	1.1	1.2	0.6	187,629	10.0	4.5	189,224
60.3	602.6	366.2	25.0	26.7	1.2	481,702	25.6	11.5	485,796
50.2	502.1	305.2	20.8	22.3	1.0	401,418	21.3	9.6	404,830

79.0	738.3	799.7	4.8	5.2	2.8	1,087,889	57.8	25.9	1,097,134
16.4	153.1	165.8	1.0	1.1	0.6	225,516	12.0	5.4	227,432
38.8	125.0	674.8	4.0	4.3	2.4	943,558	50.1	22.5	951,577
24.7	259.7	279.6	1.7	1.8	1.0	387,286	20.6	9.2	390,577
110.4	730.6	610.4	5.2	5.6	2.6	776,176	41.2	18.5	782,772
110.4	730.6	610.4	5.2	5.6	2.6	776,176	41.2	18.5	782,772
138.0	913.3	763.1	6.5	7.0	3.3	970,219	51.5	23.1	978,465
191.2	1040.4	883.4	7.8	8.3	3.6	1,067,241	56.7	25.4	1,076,312
191.2	1040.4	883.4	7.8	8.3	3.6	1,067,241	56.7	25.4	1,076,312
191.2	1040.4	883.4	7.8	8.3	3.6	1,067,241	56.7	25.4	1,076,312
35.9	227.9	210.2	1.6	1.8	0.8	253,781	13.5	6.0	255,937
19.9	193.2	277.7	13.5	14.4	0.3	101,031	5.4	2.4	101,890
14.0	141.2	228.9	4.2	4.5	0.3	85,395	4.5	2.0	86,121
59.5	377.3	333.9	2.7	2.9	1.3	420,161	22.3	10.0	423,732
3.3	58.7	105.3	1.4	1.5	0.1	44,502	2.4	1.1	44,880
3.2	58.5	104.6	0.2	0.2	0.1	44,502	2.4	1.1	44,880
13.6	238.0	426.9	5.7	6.2	0.5	180,413	9.6	4.3	181,946
13.6	238.0	426.9	5.7	6.2	0.5	180,413	9.6	4.3	181,946
13.6	238.0	426.9	5.7	6.2	0.5	180,413	9.6	4.3	181,946
13.6	238.0	426.9	5.7	6.2	0.5	180,413	9.6	4.3	181,946
12.4	218.2	391.3	5.3	5.7	0.4	165,378	8.8	3.9	166,784
12.4	218.2	391.3	5.3	5.7	0.4	165,378	8.8	3.9	166,784

18.0	231.2	641.5	0.9	1.0	0.5	293,471	15.6	7.0	295,965
19.2	246.3	683.5	1.0	1.1	0.6	312,715	16.6	7.4	315,373
5.9	82.6	232.1	2.2	2.3	0.2	93,965	5.0	2.2	94,764
98.3	892.7	555.2	5.9	6.4	3.3	751,720	39.9	17.9	758,108
42.6	386.8	240.6	2.6	2.8	1.4	325,745	17.3	7.8	328,514
72.1	654.6	415.4	4.3	4.7	2.4	551,261	29.3	13.1	555,946
75.4	684.4	434.3	4.5	4.9	2.5	576,318	30.6	13.7	581,216
6.3	85.6	124.2	0.3	0.4	0.2	57,532	3.1	1.4	58,021
86.9	465.7	315.0	3.5	3.7	1.6	378,867	20.1	9.0	382,087
59.2	906.9	343.6	44.9	44.9	1.8	400,917	21.3	9.5	404,324
91.6	2230.4	511.1	71.4	71.4	2.5	676,548	35.9	16.1	682,297
13.1	205.1	226.7	12.2	12.2	0.4	150,344	8.0	3.6	151,622
17.5	273.5	103.0	12.8	12.8	0.5	200,459	10.7	4.8	202,162
13.1	205.1	226.7	12.2	12.2	0.4	150,344	8.0	3.6	151,622
13.1	205.1	226.7	12.2	12.2	0.4	150,344	8.0	3.6	151,622
15.3	272.1	329.2	7.9	7.9	0.5	132,553	7.0	3.2	133,680
20.4	320.8	354.7	19.3	19.3	0.6	161,369	8.6	3.8	162,741
21.8	343.7	380.1	20.7	20.7	0.7	172,896	9.2	4.1	174,365

0.1	1.1	1.9	0.0	0.0	0.0	814	0.0	0.0	821
0.2	3.7	5.8	0.2	0.2	0.0	2,443	0.1	0.1	2,464
0.1	2.1	1.9	0.1	0.1	0.0	777	0.0	0.0	783
0.3	4.9	8.7	0.0	0.0	0.0	3,708	0.2	0.1	3,740
0.3	4.4	7.0	0.3	0.3	0.0	2,932	0.2	0.1	2,957
5.6	38.9	14.6	1.9	2.0	0.1	17,540	0.9	0.4	17,689
0.4	4.9	3.9	0.2	0.2	0.0	1,616	0.1	0.0	1,630
5.2	70.9	16.8	1.7	1.8	0.1	20,672	1.1	0.5	20,848
1.3	15.0	16.1	0.1	0.1	0.1	22,552	1.2	0.5	22,743
2.6	39.4	9.3	0.9	1.0	0.0	11,589	0.6	0.3	11,688
4.4	60.2	17.1	1.6	1.7	0.1	21,612	1.1	0.5	21,796

2.1	25.5	38.0	1.3	1.4	0.0	13,782	0.7	0.3	13,899
1.3	19.7	54.7	0.5	0.5	0.0	22,552	1.2	0.5	22,743
7.6	99.4	18.8	2.5	2.6	0.1	20,610	1.1	0.5	20,785
6.3	77.8	17.0	2.0	2.1	0.1	19,294	1.0	0.5	19,458
0.4	6.0	8.1	0.3	0.3	0.0	3,809	0.2	0.1	3,841
7.3	82.7	88.7	0.5	0.6	0.3	124,034	6.6	3.0	125,088
12.3	57.2	37.3	6.8	7.1	0.0	10,750	0.6	0.3	10,841
0.8	9.7	13.4	0.0	0.0	0.0	5,995	0.3	0.1	6,046
2.3	26.9	37.1	0.1	0.1	0.1	16,575	0.9	0.4	16,716
0.5	7.8	11.4	0.0	0.0	0.0	5,416	0.3	0.1	5,462
1.2	20.1	29.7	0.5	0.5	0.0	12,524	0.7	0.3	12,630
2.9	29.0	21.4	0.2	0.2	0.1	28,854	1.5	0.7	29,099
14.9	105.7	49.8	5.0	5.3	0.2	60,138	3.2	1.4	60,649
11.2	74.2	62.0	0.5	0.6	0.3	78,830	4.2	1.9	79,500
5.1	53.8	58.0	0.3	0.4	0.2	80,284	4.3	1.9	80,966
20.5	313.8	212.3	2.3	2.1	0.0	131,112	7.0	3.1	132,227
1.4	**13.0**	**11.5**	**0.2**	**0.2**	**0.0**	**10,595**	**0.6**	**0.3**	**10,685**

2016 Emissions (lbs)									
ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e

110.1	948.2	693.3	6.3	6.8	3.5	930,128	49.4	22.2	938,033
153.2	1320.1	965.2	8.8	9.5	4.9	1,294,962	68.8	30.8	1,305,968
73.0	629.8	483.0	4.2	4.5	2.3	648,283	34.4	15.4	653,793
95.5	778.7	641.3	5.3	5.7	2.9	851,949	45.3	20.3	859,189
81.8	766.3	626.1	5.0	5.4	2.9	851,949	45.3	20.3	859,189
223.3	1821.2	1500.0	12.3	13.2	6.7	1,992,558	105.9	47.5	2,009,492
34.8	499.9	734.2	2.0	2.1	1.1	343,987	18.3	8.2	346,910
20.1	200.9	122.1	8.3	8.9	0.4	160,567	8.5	3.8	161,932
50.2	502.1	305.2	20.8	22.3	1.0	401,418	21.3	9.6	404,830

19.7	184.6	199.9	1.2	1.3	0.7	271,972	14.4	6.5	274,284
19.4	62.5	337.4	2.0	2.2	1.2	471,779	25.1	11.2	475,789
165.6	1096.0	915.7	7.8	8.3	3.9	1,164,263	61.9	27.7	1,174,158
165.6	1096.0	915.7	7.8	8.3	3.9	1,164,263	61.9	27.7	1,174,158
165.6	1096.0	915.7	7.8	8.3	3.9	1,164,263	61.9	27.7	1,174,158
208.6	1134.9	963.7	8.6	9.1	3.9	1,164,263	61.9	27.7	1,174,158
208.6	1134.9	963.7	8.6	9.1	3.9	1,164,263	61.9	27.7	1,174,158
208.6	1134.9	963.7	8.6	9.1	3.9	1,164,263	61.9	27.7	1,174,158
30.0	189.9	175.2	1.4	1.5	0.7	211,484	11.2	5.0	213,281
16.6	161.0	231.4	11.3	12.0	0.3	84,193	4.5	2.0	84,908
11.7	117.7	190.7	3.5	3.7	0.2	71,163	3.8	1.7	71,768
74.4	471.7	417.3	3.4	3.6	1.7	525,201	27.9	12.5	529,665
4.7	79.6	143.3	1.9	2.1	0.2	60,138	3.2	1.4	60,649
2.3	39.7	71.2	1.0	1.0	0.1	30,069	1.6	0.7	30,324
2.3	39.7	71.2	1.0	1.0	0.1	30,069	1.6	0.7	30,324
2.3	39.7	71.2	1.0	1.0	0.1	30,069	1.6	0.7	30,324
2.3	39.7	71.2	1.0	1.0	0.1	30,069	1.6	0.7	30,324
7.9	138.8	249.0	3.4	3.6	0.3	105,241	5.6	2.5	106,135
7.9	138.8	249.0	3.4	3.6	0.3	105,241	5.6	2.5	106,135

15.0	192.7	534.6	0.8	0.8	0.4	244,559	13.0	5.8	246,638
16.0	205.3	569.6	0.8	0.9	0.5	260,596	13.8	6.2	262,811
1.9	26.4	74.3	0.7	0.7	0.1	30,069	1.6	0.7	30,324
31.5	285.7	177.7	1.9	2.0	1.1	240,550	12.8	5.7	242,595
13.6	123.8	77.0	0.8	0.9	0.5	104,238	5.5	2.5	105,124
23.1	209.5	132.9	1.4	1.5	0.8	176,404	9.4	4.2	177,903
24.1	219.0	139.0	1.4	1.6	0.8	184,422	9.8	4.4	185,989
118.3	1813.8	687.2	89.8	89.8	3.5	801,834	42.6	19.1	808,649
183.2	4460.8	1022.2	142.8	142.8	5.0	1,353,095	71.9	32.2	1,364,595
26.2	410.2	453.4	24.5	24.5	0.8	300,688	16.0	7.2	303,243
34.9	546.9	206.0	25.6	25.6	1.1	400,917	21.3	9.5	404,324
26.2	410.2	453.4	24.5	24.5	0.8	300,688	16.0	7.2	303,243
26.2	410.2	453.4	24.5	24.5	0.8	300,688	16.0	7.2	303,243
26.7	473.2	572.5	13.8	13.8	0.9	230,527	12.2	5.5	232,487
35.4	557.9	616.9	33.5	33.5	1.1	280,642	14.9	6.7	283,027
38.0	597.7	661.0	35.9	35.9	1.2	300,688	16.0	7.2	303,243

3.9	35.9	26.7	0.2	0.3	0.1	35,444	1.9	0.8	35,745
14.5	133.2	97.0	0.9	0.9	0.5	131,551	7.0	3.1	132,669
0.7	9.2	14.3	0.3	0.3	0.0	5,638	0.3	0.1	5,686
13.8	119.5	91.7	0.8	0.9	0.4	123,026	6.5	2.9	124,072
36.3	340.0	277.8	2.2	2.4	1.3	378,052	20.1	9.0	381,265
7.7	110.6	162.4	0.4	0.5	0.3	76,080	4.0	1.8	76,727
8.4	77.2	50.0	0.5	0.5	0.3	67,805	3.6	1.6	68,381
11.4	105.2	68.1	0.7	0.7	0.4	92,462	4.9	2.2	93,247
59.7	395.0	330.0	2.8	3.0	1.4	419,620	22.3	10.0	423,186
37.3	285.8	141.1	13.1	13.9	0.6	174,301	9.3	4.2	175,783
8.5	78.0	57.9	0.5	0.6	0.3	77,051	4.1	1.8	77,706
89.2	818.0	595.9	5.4	5.8	3.0	808,099	42.9	19.2	814,966
70.5	608.3	466.6	4.1	4.4	2.2	626,182	33.3	14.9	631,504
86.9	814.2	665.2	5.3	5.8	3.0	905,196	48.1	21.6	912,889
21.9	315.4	463.3	1.2	1.3	0.7	217,059	11.5	5.2	218,904

19.9	215.5	179.9	1.4	1.5	0.8	247,441	13.1	5.9	249,544
6.8	63.8	69.1	0.4	0.5	0.2	93,965	5.0	2.2	94,764
362.2	2397.4	2003.0	17.1	18.3	8.5	2,546,826	135.3	60.7	2,568,471
15.5	118.4	58.4	5.4	5.8	0.2	72,215	3.8	1.7	72,829
11.7	101.3	65.8	0.7	0.7	0.4	88,402	4.7	2.1	89,154
30.2	302.3	109.7	12.5	13.4	0.6	144,330	7.7	3.4	145,557
22.1	221.7	80.4	9.2	9.8	0.4	105,842	5.6	2.5	106,742
16.4	97.5	82.2	0.7	0.8	0.3	101,764	5.4	2.4	102,629
7.3	84.1	110.7	0.4	0.4	0.2	49,463	2.6	1.2	49,884
14.4	124.5	91.0	0.8	0.9	0.5	122,079	6.5	2.9	123,117
3.5	48.5	71.5	0.2	0.2	0.1	33,226	1.8	0.8	33,508
2.3	31.8	46.9	0.1	0.1	0.1	21,800	1.2	0.5	21,985
4.2	46.3	68.8	0.2	0.2	0.1	30,351	1.6	0.7	30,609
4.4	40.8	66.9	1.3	1.3	0.1	24,356	1.3	0.6	24,563
17.2	93.8	83.9	0.7	0.8	0.3	96,220	5.1	2.3	97,038

1.1	15.4	17.3	0.4	0.4	0.0	7,047	0.4	0.2	7,107
23.8	258.7	70.0	7.5	7.9	0.3	81,436	4.3	1.9	82,128

1.9	17.7	13.9	0.3	0.3	0.1	13,609	0.7	0.3	13,725

2017 Emissions (lbs)									
ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e

27.3	236.5	153.6	1.6	1.7	0.9	206,272	11.0	4.9	208,025
70.5	705.3	256.0	29.2	31.2	1.4	336,770	17.9	8.0	339,632
51.7	517.2	187.7	21.4	22.9	1.0	246,965	13.1	5.9	249,064
38.2	227.6	191.7	1.7	1.8	0.8	237,449	12.6	5.7	239,467
17.0	196.3	258.3	0.8	0.9	0.4	115,414	6.1	2.7	116,395
33.7	290.4	212.3	1.9	2.1	1.1	284,852	15.1	6.8	287,272
8.2	113.1	166.9	0.4	0.5	0.3	77,527	4.1	1.8	78,186
5.4	74.2	109.5	0.3	0.3	0.2	50,866	2.7	1.2	51,299
9.8	108.0	160.6	0.5	0.5	0.2	70,818	3.8	1.7	71,420
10.2	95.3	156.2	3.0	3.1	0.2	56,830	3.0	1.4	57,313
40.2	218.9	195.9	1.7	1.8	0.8	224,514	11.9	5.3	226,422
49.1	451.8	292.5	3.0	3.2	1.7	396,908	21.1	9.5	400,281
13.2	37.7	124.1	1.2	1.3	0.7	167,583	8.9	4.0	169,008
346.3	4648.7	975.6	120.9	128.1	5.2	1,218,788	64.8	29.0	1,229,146
187.0	1464.6	602.5	74.0	77.3	0.8	224,514	11.9	5.3	226,422
134.4	929.9	393.0	56.0	58.9	0.6	156,358	8.3	3.7	157,687
75.0	518.6	219.2	31.2	32.8	0.3	87,199	4.6	2.1	87,941
46.7	332.4	159.3	18.1	19.2	0.2	68,156	3.6	1.6	68,735
5.8	88.2	131.6	2.2	2.4	0.2	54,124	2.9	1.3	54,584
36.2	462.0	116.8	11.9	12.6	0.5	142,827	7.6	3.4	144,041

0.6	5.9	2.5	0.2	0.2	0.0	2,007	0.1	0.0	2,024

Output Data Sheet (don't modify any cells above Row 4)	Input Characteristics										Criteria Range			Emission factor lookups						
	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
1	Equipment Crawler Tractors	Age 2	1	2012	2014		205	831	1946	Fuel ULSD	Min HP <=205	Max HP >=205	Model Year 2012	0.4288	0.92	0.000024	0.41	1.36	0.000018	0.57
2	Equipment Crawler Tractors	Age 8	1	2006	2014		464	496	5341	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2006	0.4288	0.92	0.000018	0.44	2.45	0.000032	1.06
3	Equipment Crawler Tractors	Age 9	1	2005	2014		646	140	5843	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2005	0.4288	0.92	0.000018	0.44	4.29	0.000058	1.88
4	Equipment Crawler Tractors	Age 6	1	2008	2014		145	90	4283	Fuel ULSD	Min HP <=145	Max HP >=145	Model Year 2008	0.4288	2.7	0.000071	1.29	2.45	0.000032	1.05
5	Equipment Crawler Tractors	Age 6	1	2008	2014		164	334	4283	Fuel ULSD	Min HP <=164	Max HP >=164	Model Year 2008	0.4288	2.7	0.000071	1.29	2.45	0.000032	1.05
6	Equipment Crawler Tractors	Age 6	1	2008	2014		200	46	4283	Fuel ULSD	Min HP <=200	Max HP >=200	Model Year 2008	0.4288	0.92	0.000024	0.44	2.45	0.000032	1.05
7	Equipment Graders	Age 1	1	2013	2014		294	313	1922	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2013	0.4087	0.92	0.000018	0.41	1.36	0.000018	0.54
8	Equipment Excavators	Age 3	1	2011	2014		425	874	2965	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2011	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
9	Equipment Excavators	Age 2	1	2012	2014		425	499	2269	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2012	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.51
10	Equipment Excavators	Age 2	1	2012	2014		124	530	2269	Fuel ULSD	Min HP <=124	Max HP >=124	Model Year 2012	0.3819	2.7	0.000071	1.23	2.27	0.000029	0.85
11	Equipment Excavators	Age 4	1	2010	2014		147	712	3632	Fuel ULSD	Min HP <=147	Max HP >=147	Model Year 2010	0.3819	2.7	0.000071	1.27	2.45	0.000032	0.93
12	Equipment Excavators	Age 2	1	2012	2014		487	32	2269	Fuel ULSD	Min HP <=487	Max HP >=487	Model Year 2012	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.51
13	Equipment Excavators	Age 2	1	2012	2014		523	823	2269	Fuel ULSD	Min HP <=523	Max HP >=523	Model Year 2012	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.51
14	Equipment Excavators	Age 3	1	2011	2014		523	59	2965	Fuel ULSD	Min HP <=523	Max HP >=523	Model Year 2011	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
15	Equipment Excavators	Age 2	1	2012	2014		66	433	2269	Fuel ULSD	Min HP <=66	Max HP >=66	Model Year 2012	0.3819	3.05	0.000081	1.39	2.53	0.000034	0.94
16	Equipment Excavators	Age 4	1	2010	2014		147	128	3632	Fuel ULSD	Min HP <=147	Max HP >=147	Model Year 2010	0.3819	2.7	0.000071	1.27	2.45	0.000032	0.93
17	Equipment Excavators	Age 1	1	2013	2014		113	58	1543	Fuel ULSD	Min HP <=113	Max HP >=113	Model Year 2013	0.3819	3.05	0.000081	1.36	2.53	0.000034	0.93
18	Equipment Excavators	Age 2	1	2012	2014		760	68	2269	Fuel ULSD	Min HP <=760	Max HP >=760	Model Year 2012	0.3819	0.92	0.000018	0.41	2.36	0.000030	0.88
19	Equipment Excavators	Age 6	1	2008	2014		98	114	4874	Fuel ULSD	Min HP <=98	Max HP >=98	Model Year 2008	0.3819	3.05	0.000081	1.48	2.89	0.000038	1.11

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
20	Equipment Rollers	Age 3	1	2011	2014		157	65	1457	Fuel ULSD	Min HP <=157	Max HP >=157	Model Year 2011	0.3752	2.7	0.000071	1.20	2.45	0.000032	0.89
21	Equipment Scrapers	Age 8	1	2006	2014		600	2	5325	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.20
22	Equipment Scrapers	Age 8	1	2006	2014		440	2	5325	Fuel ULSD	Min HP <=440	Max HP >=440	Model Year 2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.20
23	Equipment Scrapers	Age 8	1	2006	2014		600	6	5325	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.20
24	Equipment Scrapers	Age 8	1	2006	2014		440	6	5325	Fuel ULSD	Min HP <=440	Max HP >=440	Model Year 2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.20
25	Equipment Cranes	Age 7	1	2007	2014		267	10	3912	Fuel ULSD	Min HP <=267	Max HP >=267	Model Year 2007	0.2881	0.92	0.000018	0.43	2.45	0.000032	0.70
26	Equipment Cranes	Age 2	1	2012	2014		260	311	1528	Fuel ULSD	Min HP <=260	Max HP >=260	Model Year 2012	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
27	Equipment Cranes	Age 7	1	2007	2014		225	706	3912	Fuel ULSD	Min HP <=225	Max HP >=225	Model Year 2007	0.2881	0.92	0.000024	0.44	2.45	0.000032	0.70
28	Equipment Cranes	Age 6	1	2008	2014		300	514	3452	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2008	0.2881	0.92	0.000018	0.42	2.45	0.000032	0.70
29	Equipment Cranes	Age 3	1	2011	2014		603	23	2022	Fuel ULSD	Min HP <=603	Max HP >=603	Model Year 2011	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
30	Equipment Cranes	Age 6	1	2008	2014		298	398	3452	Fuel ULSD	Min HP <=298	Max HP >=298	Model Year 2008	0.2881	0.92	0.000018	0.42	2.45	0.000032	0.70
31	Equipment Off-Highway Trucks	Age 7	1	2007	2014		451	595	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
32	Equipment Off-Highway Trucks	Age 7	1	2007	2014		321	691	12000	Fuel ULSD	Min HP <=321	Max HP >=321	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
33	Equipment Off-Highway Trucks	Age 7	1	2007	2014		451	449	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
34	Equipment Off-Highway Trucks	Age 7	1	2007	2014		451	482	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
35	Equipment Off-Highway Trucks	Age 7	1	2007	2014		321	529	12000	Fuel ULSD	Min HP <=321	Max HP >=321	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
36	Equipment Off-Highway Trucks	Age 7	1	2007	2014		451	642	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2007	0.3819	0.92	0.000018	0.49	2.45	0.000032	1.03
37	Equipment Off-Highway Trucks	Age 4	1	2010	2014		740	1	8253	Fuel ULSD	Min HP <=740	Max HP >=740	Model Year 2010	0.3819	0.92	0.000018	0.46	2.45	0.000032	0.98
38	Equipment Off-Highway Trucks	Age 1	1	2013	2014		484	95	3480	Fuel ULSD	Min HP <=484	Max HP >=484	Model Year 2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
39	Off-Highway Trucks	3	1	2011	2014		484	46	6722	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
40	Off-Highway Trucks	3	1	2011	2014		484	19	6722	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
41	Off-Highway Trucks	1	1	2013	2014		361	212	3480	ULSD	<=361	>=361	2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
42	Off-Highway Trucks	1	1	2013	2014		361	196	3480	ULSD	<=361	>=361	2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
43	Off-Highway Trucks	2	1	2012	2014		484	9	5131	ULSD	<=484	>=484	2012	0.3819	0.92	0.000018	0.43	1.36	0.000018	0.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
44	Off-Highway Trucks	2	1	2012	2014		472	118	5131	ULSD	<=472	>=472	2012	0.3819	0.92	0.000018	0.43	1.36	0.000018	0.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
45	Off-Highway Trucks	0	1	2014	2014		775	10	1770	ULSD	<=775	>=775	2014	0.3819	0.92	0.000018	0.41	2.36	0.000030	0.87
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
46	Off-Highway Trucks	0	1	2014	2014		763	9	1770	ULSD	<=763	>=763	2014	0.3819	0.92	0.000018	0.41	2.36	0.000030	0.87
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
47	Air Compressors	5	1	2009	2014		540	202	10000	ULSD	<=540	>=540	2009	0.48	0.92	0.000018	0.47	2.45	0.000032	1.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
48	Generator Sets	3	1	2011	2014		174	628	6000	ULSD	<=174	>=174	2011	0.74	2.7	0.000071	1.34	2.45	0.000032	1.85
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
49	Generator Sets	4	1	2010	2014		157	940	8000	ULSD	<=157	>=157	2010	0.74	2.7	0.000071	1.40	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
50	Generator Sets	3	1	2011	2014		174	334	6000	ULSD	<=174	>=174	2011	0.74	2.7	0.000071	1.34	2.45	0.000032	1.85
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
51	Generator Sets	3	1	2011	2014		135	827	6000	ULSD	<=135	>=135	2011	0.74	2.7	0.000071	1.34	2.45	0.000032	1.85
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
52	Generator Sets	4	1	2010	2014		315	275	8000	ULSD	<=315	>=315	2010	0.74	0.92	0.000018	0.46	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
53	Generator Sets	4	1	2010	2014		315	62	8000	ULSD	<=315	>=315	2010	0.74	0.92	0.000018	0.46	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
54	Generator Sets	4	1	2010	2014		315	80	8000	ULSD	<=315	>=315	2010	0.74	0.92	0.000018	0.46	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
55	Generator Sets	4	1	2010	2014		237	120	8000	ULSD	<=237	>=237	2010	0.74	0.92	0.000024	0.48	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
56	Rubber Tired Loaders	3	1	2011	2014		211	161	5050	ULSD	<=211	>=211	2011	0.3618	0.92	0.000024	0.45	1.36	0.000018	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
57	Rubber Tired Loaders	3	1	2011	2014		84	202	5050	ULSD	<=84	>=84	2011	0.3618	3.05	0.000081	1.48	2.89	0.000038	1.06
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
58	Rubber Tired Loaders	2	1	2012	2014		71	97	3852	ULSD	<=71	>=71	2012	0.3618	3.05	0.000081	1.44	2.53	0.000034	0.91

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
59	Equipment Rubber Tired Loaders	Age 4	1	2010	2014		262	774	6203	Fuel ULSD	Min HP <=262	Max HP >=262	Model Year 2010	0.3618	0.92	0.000018	0.44	2.45	0.000032	0.91
60	Equipment Rubber Tired Loaders	Age 2	1	2012	2014		90	492	3852	Fuel ULSD	Min HP <=90	Max HP >=90	Model Year 2012	0.3618	3.05	0.000081	1.44	2.53	0.000034	0.91
61	Equipment Rubber Tired Loaders	Age 4	1	2010	2014		80	160	6203	Fuel ULSD	Min HP <=80	Max HP >=80	Model Year 2010	0.3618	3.05	0.000081	1.52	2.89	0.000038	1.07
62	Equipment Rubber Tired Loaders	Age 3	1	2011	2014		211	503	5050	Fuel ULSD	Min HP <=211	Max HP >=211	Model Year 2011	0.3618	0.92	0.000024	0.45	1.36	0.000018	0.50
63	Equipment Rubber Tired Loaders	Age 0	1	2014	2014		73	94	1328	Fuel ULSD	Min HP <=73	Max HP >=73	Model Year 2014	0.3618	3.05	0.000081	1.35	2.53	0.000034	0.88
64	Equipment Rubber Tired Loaders	Age 0	1	2014	2014		73	83	1328	Fuel ULSD	Min HP <=73	Max HP >=73	Model Year 2014	0.3618	3.05	0.000081	1.35	2.53	0.000034	0.88
65	Equipment Rubber Tired Loaders	Age 3	1	2011	2014		140	20	5050	Fuel ULSD	Min HP <=140	Max HP >=140	Model Year 2011	0.3618	2.7	0.000071	1.31	2.45	0.000032	0.90
66	Equipment Rubber Tired Loaders	Age 1	1	2013	2014		70	61	2612	Fuel ULSD	Min HP <=70	Max HP >=70	Model Year 2013	0.3618	3.05	0.000081	1.40	2.53	0.000034	0.90
67	Equipment Aerial Lifts	Age 2	1	2012	2014		75	0	798	Fuel ULSD	Min HP <=75	Max HP >=75	Model Year 2012	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
68	Equipment Aerial Lifts	Age 1	1	2013	2014		74	250	532	Fuel ULSD	Min HP <=74	Max HP >=74	Model Year 2013	0.3082	3.05	0.000081	1.33	2.53	0.000034	0.74
69	Equipment Aerial Lifts	Age 0	1	2014	2014		74	9	266	Fuel ULSD	Min HP <=74	Max HP >=74	Model Year 2014	0.3082	3.05	0.000081	1.32	2.53	0.000034	0.74
70	Equipment Aerial Lifts	Age 6	1	2008	2014		75	78	1861	Fuel ULSD	Min HP <=75	Max HP >=75	Model Year 2008	0.3082	3.05	0.000081	1.37	2.89	0.000038	0.87
71	Equipment Aerial Lifts	Age 1	1	2013	2014		75	500	532	Fuel ULSD	Min HP <=75	Max HP >=75	Model Year 2013	0.3082	3.05	0.000081	1.33	2.53	0.000034	0.74
72	Equipment Aerial Lifts	Age 2	1	2012	2014		74	42	798	Fuel ULSD	Min HP <=74	Max HP >=74	Model Year 2012	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
73	Equipment Forklifts	Age 1	1	2013	2014		109	0	1379	Fuel ULSD	Min HP <=109	Max HP >=109	Model Year 2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
74	Equipment Forklifts	Age 1	1	2013	2014		122	556	1379	Fuel ULSD	Min HP <=122	Max HP >=122	Model Year 2013	0.201	2.7	0.000071	1.20	2.27	0.000029	0.44
75	Equipment Forklifts	Age 2	1	2012	2014		130	0	2069	Fuel ULSD	Min HP <=130	Max HP >=130	Model Year 2012	0.201	2.7	0.000071	1.22	2.27	0.000029	0.44
76	Equipment Forklifts	Age 1	1	2013	2014		130	567	1379	Fuel ULSD	Min HP <=130	Max HP >=130	Model Year 2013	0.201	2.7	0.000071	1.20	2.27	0.000029	0.44
77	Equipment Forklifts	Age 4	1	2010	2014		100	133	3448	Fuel ULSD	Min HP <=100	Max HP >=100	Model Year 2010	0.201	3.05	0.000081	1.43	2.89	0.000038	0.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
78	Forklifts	1	1	2013	2014		85	103	1379	ULSD	<=85	>=85	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
79	Forklifts	1	1	2013	2014		75	13	1379	ULSD	<=75	>=75	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
80	Forklifts	1	1	2013	2014		99	144	1379	ULSD	<=99	>=99	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
81	Forklifts	3	1	2011	2014		130	29	2758	ULSD	<=130	>=130	2011	0.201	2.7	0.000071	1.24	2.45	0.000032	0.48
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
82	Forklifts	6	1	2008	2014		125	31	4827	ULSD	<=125	>=125	2008	0.201	2.7	0.000071	1.31	2.45	0.000032	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
83	Forklifts	7	1	2007	2014		155	12	5517	ULSD	<=155	>=155	2007	0.201	2.7	0.000071	1.33	2.45	0.000032	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
84	Forklifts	1	1	2013	2014		75	8	1379	ULSD	<=75	>=75	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
85	Bore/Drill Rigs	8	1	2006	2014		300	62	4058	ULSD	<=300	>=300	2006	0.5025	0.92	0.000018	0.43	2.45	0.000032	1.23
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
86	Excavators	0	1	2014	2014		164	474	786	ULSD	<=164	>=164	2014	0.3819	2.7	0.000071	1.18	2.27	0.000029	0.83
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
87	Air Compressors	5	1	2009	2014		540	76	10000	ULSD	<=540	>=540	2009	0.48	0.92	0.000018	0.47	2.45	0.000032	1.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
88	Pumps	3	1	2011	2014		58	253	6000	ULSD	<=58	>=58	2011	0.74	3.05	0.000081	1.52	2.89	0.000038	2.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
89	Bore/Drill Rigs	1	1	2013	2014		677	272	1316	ULSD	<=677	>=677	2013	0.5025	0.92	0.000018	0.40	1.36	0.000018	0.66
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
90	Cranes	0	1	2014	2014		523	9	518	ULSD	<=523	>=523	2014	0.2881	0.92	0.000018	0.40	0.27	0.000004	0.07
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
91	Cranes	3	1	2011	2014		603	92	2022	ULSD	<=603	>=603	2011	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
92	Pumps	2	1	2012	2014		65	40	4000	ULSD	<=65	>=65	2012	0.74	3.05	0.000081	1.45	2.53	0.000034	1.87
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
93	Pumps	1	1	2013	2014		262	82	2000	ULSD	<=262	>=262	2013	0.74	0.92	0.000018	0.41	1.36	0.000018	0.98
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
94	Off-Highway Trucks	5	1	2009	2014		140	11	9724	ULSD	<=140	>=140	2009	0.3819	2.7	0.000071	1.46	2.45	0.000032	1.00
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
95	Crew and Supply, propulsion engine	1	1	2013	2014		115	94	N/A	ULSD	<=115	>=115	2013	0.38	3.05	0.160000	1.17	2.53	0.140000	0.97
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
96	Crew and Supply, propulsion engine	4	1	2010	2014		115	16	N/A	ULSD	<=115	>=115	2010	0.38	3.09	0.160000	1.22	5.01	0.140000	1.97
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
97	Crew and Supply, propulsion engine	4	1	2010	2014		115	16	N/A	ULSD	<=115	>=115	2010	0.38	3.09	0.160000	1.22	5.01	0.140000	1.97

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
98	Equipment Forklifts	Age 1	1	2013	2014		111	320	1379	Fuel ULSD	Min HP <=111	Max HP >=111	Model Year 2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
99	Equipment Generator Sets	Age 1	1	2013	2014		415	461	2000	Fuel ULSD	Min HP <=415	Max HP >=415	Model Year 2013	0.74	0.92	0.000018	0.41	1.36	0.000018	0.98
100	Equipment Generator Sets	Age 4	1	2010	2014		450	565	8000	Fuel ULSD	Min HP <=450	Max HP >=450	Model Year 2010	0.74	0.92	0.000018	0.46	2.45	0.000032	1.90
101	Equipment Bore/Drill Rigs	Age 6	1	2008	2014		717	785	3571	Fuel ULSD	Min HP <=717	Max HP >=717	Model Year 2008	0.5025	0.92	0.000018	0.42	2.45	0.000032	1.22
102	Equipment Bore/Drill Rigs	Age 6	1	2008	2014		717	617	3571	Fuel ULSD	Min HP <=717	Max HP >=717	Model Year 2008	0.5025	0.92	0.000018	0.42	2.45	0.000032	1.22
103	Equipment Cranes	Age 6	1	2008	2014		300	179	3452	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2008	0.2881	0.92	0.000018	0.42	2.45	0.000032	0.70
104	Equipment Excavators	Age 1	1	2013	2014		425	44	1543	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2013	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.50
105	Equipment Excavators	Age 3	1	2011	2014		283	98	2965	Fuel ULSD	Min HP <=283	Max HP >=283	Model Year 2011	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
106	Equipment Rollers	Age 6	1	2008	2014		156	123	2469	Fuel ULSD	Min HP <=156	Max HP >=156	Model Year 2008	0.3752	2.7	0.000071	1.23	2.45	0.000032	0.90
107	Equipment Crawler Tractors	Age 10	1	2006	2016		464	4240	6326	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2006	0.4288	0.92	0.000018	0.44	2.45	0.000032	1.08
107R	Equipment Crawler Tractors	Age 5	1	2011	2016		464	4240	3726	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2011	0.4288	0.92	0.000018	0.42	1.36	0.000018	0.58
108	Equipment Crawler Tractors	Age 11	1	2005	2016		646	4240	6790	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2005	0.4288	0.92	0.000018	0.45	4.29	0.000058	1.90
108R	Equipment Crawler Tractors	Age 5	1	2011	2016		646	4240	3726	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2011	0.4288	0.92	0.000018	0.42	1.36	0.000018	0.58
109	Equipment Graders	Age 3	1	2013	2016		294	4160	3710	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2013	0.4087	0.92	0.000018	0.42	1.36	0.000018	0.55
110	Equipment Excavators	Age 5	1	2011	2016		425	4240	4268	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2011	0.3819	0.92	0.000018	0.43	1.36	0.000018	0.52
111	Equipment Excavators	Age 3	1	2013	2016		425	3880	2965	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
112	Equipment Excavators	Age 6	1	2010	2016		496	4080	4874	Fuel ULSD	Min HP <=496	Max HP >=496	Model Year 2010	0.3819	0.92	0.000018	0.43	2.45	0.000032	0.94
112R	Equipment Excavators	Age 5	1	2011	2016		496	4080	4268	Fuel ULSD	Min HP <=496	Max HP >=496	Model Year 2011	0.3819	0.92	0.000018	0.43	1.36	0.000018	0.52
113	Equipment Excavators	Age 4	1	2012	2016		90	560	3632	Fuel ULSD	Min HP <=90	Max HP >=90	Model Year 2012	0.3819	3.05	0.000081	1.43	2.53	0.000034	0.96
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
114	Rollers	4	1	2012	2016		156	3320	1802	ULSD	<=156	>=156	2012	0.3752	2.7	0.000071	1.21	2.27	0.000029	0.83
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
115	Scrapers	10	1	2006	2016		600	320	6339	ULSD	<=600	>=600	2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.21
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
116	Scrapers	10	1	2006	2016		440	320	6339	ULSD	<=440	>=440	2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.21
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
117	Scrapers	10	1	2006	2016		600	320	6339	ULSD	<=600	>=600	2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.21
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
118	Scrapers	10	1	2006	2016		440	320	6339	ULSD	<=440	>=440	2006	0.4824	0.92	0.000018	0.44	2.45	0.000032	1.21
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
119	Cranes	9	1	2007	2016		267	2640	4808	ULSD	<=267	>=267	2007	0.2881	0.92	0.000018	0.43	2.45	0.000032	0.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
120	Cranes	9	1	2007	2016		267	2700	4808	ULSD	<=267	>=267	2007	0.2881	0.92	0.000018	0.43	2.45	0.000032	0.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
121	Cranes	5	1	2011	2016		603	2520	2983	ULSD	<=603	>=603	2011	0.2881	0.92	0.000018	0.42	1.36	0.000018	0.39
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
122	Cranes	8	1	2008	2016		298	720	4364	ULSD	<=298	>=298	2008	0.2881	0.92	0.000018	0.43	2.45	0.000032	0.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
123	Cranes	5	1	2011	2016		300	600	2983	ULSD	<=300	>=300	2011	0.2881	0.92	0.000018	0.42	1.36	0.000018	0.39
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
124	Cranes	2	1	2014	2016		523	2880	1528	ULSD	<=523	>=523	2014	0.2881	0.92	0.000018	0.41	0.27	0.000004	0.08
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
125	Cranes	3	1	2013	2016		322	1680	2022	ULSD	<=322	>=322	2013	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
126	Off-Highway Trucks	2	1	2014	2016		763	400	5131	ULSD	<=763	>=763	2014	0.3819	0.92	0.000018	0.43	2.36	0.000030	0.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
127	Off-Highway Trucks	2	1	2014	2016		763	400	5131	ULSD	<=763	>=763	2014	0.3819	0.92	0.000018	0.43	2.36	0.000030	0.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
128	Off-Highway Trucks	6	1	2010	2016		740	400	11136	ULSD	<=740	>=740	2010	0.3819	0.92	0.000018	0.48	2.45	0.000032	1.02
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
129	Off-Highway Trucks	3	1	2013	2016		484	3800	6722	ULSD	<=484	>=484	2013	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
130	Off-Highway Trucks	3	1	2013	2016		484	4200	6722	ULSD	<=484	>=484	2013	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
131	Off-Highway Trucks	3	1	2013	2016		484	4720	6722	ULSD	<=484	>=484	2013	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
132	Off-Highway Trucks	5	1	2011	2016		484	4880	9724	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.47	1.36	0.000018	0.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
133	Off-Highway Trucks	5	1	2011	2016		484	4880	9724	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.47	1.36	0.000018	0.55

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
134	Off-Highway Trucks	5	1	2011	2016		484	4880	9724	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.47	1.36	0.000018	0.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
135	Generator Sets	5	1	2011	2016		174	2850	10000	ULSD	<=174	>=174	2011	0.74	2.7	0.000071	1.46	2.45	0.000032	1.94
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
136	Rubber Tired Loaders	5	1	2011	2016		211	2240	7314	ULSD	<=211	>=211	2011	0.3618	0.92	0.000024	0.47	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
137	Rubber Tired Loaders	5	1	2011	2016		84	2240	7314	ULSD	<=84	>=84	2011	0.3618	3.05	0.000081	1.56	2.89	0.000038	1.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
138	Rubber Tired Loaders	4	1	2012	2016		71	2240	6203	ULSD	<=71	>=71	2012	0.3618	3.05	0.000081	1.52	2.53	0.000034	0.94
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
139	Rubber Tired Loaders	6	1	2010	2016		262	3840	8381	ULSD	<=262	>=262	2010	0.3618	0.92	0.000018	0.46	2.45	0.000032	0.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
139R	Rubber Tired Loaders	5	1	2011	2016		262	3840	7314	ULSD	<=262	>=262	2011	0.3618	0.92	0.000018	0.45	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
140	Aerial Lifts	4	1	2012	2016		75	800	1329	ULSD	<=75	>=75	2012	0.3082	3.05	0.000081	1.35	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
141	Aerial Lifts	3	1	2013	2016		74	960	1063	ULSD	<=74	>=74	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
142	Aerial Lifts	2	1	2014	2016		74	960	798	ULSD	<=74	>=74	2014	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
143	Aerial Lifts	3	1	2013	2016		75	3040	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
144	Aerial Lifts	3	1	2013	2016		75	3040	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
145	Aerial Lifts	3	1	2013	2016		75	2880	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
146	Aerial Lifts	3	1	2013	2016		75	2880	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
147	Aerial Lifts	3	1	2013	2016		75	2880	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
148	Aerial Lifts	3	1	2013	2016		75	2880	1063	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
149	Forklifts	3	1	2013	2016		109	960	2758	ULSD	<=109	>=109	2013	0.201	3.05	0.000081	1.40	2.53	0.000034	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
150	Forklifts	3	1	2013	2016		122	4480	2758	ULSD	<=122	>=122	2013	0.201	2.7	0.000071	1.24	2.27	0.000029	0.45
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
151	Forklifts	3	1	2013	2016		130	4480	2758	ULSD	<=130	>=130	2013	0.201	2.7	0.000071	1.24	2.27	0.000029	0.45
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
152	Forklifts	3	1	2013	2016		75	2040	2758	ULSD	<=75	>=75	2013	0.201	3.05	0.000081	1.40	2.53	0.000034	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
153	Bore/Drill Rigs	10	1	2006	2016		300	2440	4308	ULSD	<=300	>=300	2006	0.5025	0.92	0.000018	0.43	2.45	0.000032	1.23
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
153R	Bore/Drill Rigs	5	1	2011	2016		300	2440	3238	ULSD	<=300	>=300	2011	0.5025	0.92	0.000018	0.42	1.36	0.000018	0.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
154	Bore/Drill Rigs	5	1	2011	2016		260	2440	3238	ULSD	<=260	>=260	2011	0.5025	0.92	0.000018	0.42	1.36	0.000018	0.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
155	Bore/Drill Rigs	10	1	2006	2016		220	2440	4308	ULSD	<=220	>=220	2006	0.5025	0.92	0.000024	0.44	4.38	0.000063	2.22
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
155R	Bore/Drill Rigs	5	1	2011	2016		220	2440	3238	ULSD	<=220	>=220	2011	0.5025	0.92	0.000024	0.43	1.36	0.000018	0.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
156	Bore/Drill Rigs	10	1	2006	2016		230	2440	4308	ULSD	<=230	>=230	2006	0.5025	0.92	0.000024	0.44	4.38	0.000063	2.22
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
156R	Bore/Drill Rigs	5	1	2011	2016		230	2440	3238	ULSD	<=230	>=230	2011	0.5025	0.92	0.000024	0.43	1.36	0.000018	0.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
157	Excavators	2	1	2014	2016		164	1400	2269	ULSD	<=164	>=164	2014	0.3819	2.7	0.000071	1.23	2.27	0.000029	0.85
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
158	Air Compressors	7	1	2009	2016		540	1400	12000	ULSD	<=540	>=540	2009	0.48	0.92	0.000018	0.49	2.45	0.000032	1.29
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
158R	Air Compressors	5	1	2011	2016		540	1400	10000	ULSD	<=540	>=540	2011	0.48	0.92	0.000018	0.47	1.36	0.000018	0.70
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
159	Generator Sets	4	1	2012	2016		134	600	8000	ULSD	<=134	>=134	2012	0.74	2.7	0.000071	1.40	2.27	0.000029	1.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
160	Tug Boats, propulsion engine	4	1	2012	2016		400	2400	N/A	ULSD	<=400	>=400	2012	0.5	0.92	0.250000	0.49	2.45	0.210000	1.29
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
161	Barge, auxiliary engine (Crane)	4	1	2012	2016		900	1800	N/A	ULSD	<=900	>=900	2012	0.42	0.92	0.250000	0.43	4.08	0.210000	1.87
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
162	Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	2016		150	2400	N/A	ULSD	<=150	>=150	2012	0.31	2.7	0.160000	0.86	2.45	0.140000	0.78
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
163	Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	2016		200	2400	N/A	ULSD	<=200	>=200	2012	0.31	0.92	0.160000	0.29	2.45	0.140000	0.78
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
164	Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	2016		150	2400	N/A	ULSD	<=150	>=150	2012	0.31	2.7	0.160000	0.86	2.45	0.140000	0.78
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
165	Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	2016		150	2400	N/A	ULSD	<=150	>=150	2012	0.31	2.7	0.160000	0.86	2.45	0.140000	0.78
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
166	Work Boats, propulsion engine	3	1	2013	2016		115	2520	N/A	ULSD	<=115	>=115	2013	0.45	3.05	0.160000	1.41	2.53	0.140000	1.17
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
167	Work Boats, propulsion engine	3	1	2013	2016		140	2520	N/A	ULSD	<=140	>=140	2013	0.45	2.7	0.160000	1.25	2.45	0.140000	1.13

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel	Min HP	Max HP	Model Year	Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
168	Work Boats, propulsion engine	3	1	2013	2016		150	2520	N/A	ULSD	<=150	>=150	2013	0.45	2.7	0.160000	1.25	2.45	0.140000	1.13
169	Pumps	2	1	2012	2014		65	160	4000	ULSD	<=65	>=65	2012	0.74	3.05	0.000081	1.45	2.53	0.000034	1.87
170	Forklifts	1	1	2013	2014		85	160	1379	ULSD	<=85	>=85	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
171	Bore/Drill Rigs	1	1	2013	2014		677	240	1316	ULSD	<=677	>=677	2013	0.5025	0.92	0.000018	0.40	1.36	0.000018	0.66
172	Rubber Tired Loaders	4	1	2010	2014		80	160	6203	ULSD	<=80	>=80	2010	0.3618	3.05	0.000081	1.52	2.89	0.000038	1.07
173	Aerial Lifts	1	1	2013	2014		75	160	532	ULSD	<=75	>=75	2013	0.3082	3.05	0.000081	1.33	2.53	0.000034	0.74
174	Aerial Lifts	6	1	2008	2014		75	160	1861	ULSD	<=75	>=75	2008	0.3082	3.05	0.000081	1.37	2.89	0.000038	0.87
175	Forklifts	1	1	2013	2014		111	160	1379	ULSD	<=111	>=111	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
176	Generator Sets	1	1	2013	2014		415	240	2000	ULSD	<=415	>=415	2013	0.74	0.92	0.000018	0.41	1.36	0.000018	0.98
177	Generator Sets	3	1	2011	2014		450	120	6000	ULSD	<=450	>=450	2011	0.74	0.92	0.000018	0.44	1.36	0.000018	1.03
178	Bore/Drill Rigs	6	1	2008	2014		717	240	3571	ULSD	<=717	>=717	2008	0.5025	0.92	0.000018	0.42	2.45	0.000032	1.22
179	Cranes	6	1	2008	2014		300	160	3452	ULSD	<=300	>=300	2008	0.2881	0.92	0.000018	0.42	2.45	0.000032	0.70
180	Cranes	6	1	2008	2014		300	160	3452	ULSD	<=300	>=300	2008	0.2881	0.92	0.000018	0.42	2.45	0.000032	0.70
181	Excavators	1	1	2013	2014		425	40	1543	ULSD	<=425	>=425	2013	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.50
182	Excavators	3	1	2011	2014		283	40	2965	ULSD	<=283	>=283	2011	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
183	Off-Highway Trucks	3	1	2011	2014		484	40	6722	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
184	Off-Highway Trucks	3	1	2011	2014		484	40	6722	ULSD	<=484	>=484	2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
185	Rubber Tired Loaders	4	1	2010	2014		262	40	6203	ULSD	<=262	>=262	2010	0.3618	0.92	0.000018	0.44	2.45	0.000032	0.91
186	Rollers	2	1	2012	2014		174	40	1105	ULSD	<=174	>=174	2012	0.3752	2.7	0.000071	1.19	2.27	0.000029	0.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
187	Scrapers	1	1	2013	2014		294	40	1292	ULSD	<=294	>=294	2013	0.4824	0.92	0.000018	0.40	1.36	0.000018	0.63
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
188	Crawler Tractors	4	1	2012	2016		205	138	3151	ULSD	<=205	>=205	2012	0.4288	0.92	0.000024	0.43	1.36	0.000018	0.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
189	Crawler Tractors	4	1	2012	2016		600	175	3151	ULSD	<=600	>=600	2012	0.4288	0.92	0.000018	0.42	1.36	0.000018	0.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
190	Tractors/Loaders/Backhoes	4	1	2012	2016		75	60	3900	ULSD	<=75	>=75	2012	0.3685	3.05	0.000081	1.44	2.53	0.000034	0.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
191	Graders	3	1	2013	2016		294	334	3710	ULSD	<=294	>=294	2013	0.4087	0.92	0.000018	0.42	1.36	0.000018	0.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
192	Excavators	3	1	2013	2016		425	710	2965	ULSD	<=425	>=425	2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
193	Rollers	4	1	2012	2016		175	347	1802	ULSD	<=175	>=175	2012	0.3752	2.7	0.000071	1.21	2.27	0.000029	0.83
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
194	Scrapers	4	1	2012	2016		440	123	3113	ULSD	<=440	>=440	2012	0.4824	0.92	0.000018	0.42	1.36	0.000018	0.65
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
195	Scrapers	4	1	2012	2016		600	123	3113	ULSD	<=600	>=600	2012	0.4824	0.92	0.000018	0.42	1.36	0.000018	0.65
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
196	Off-Highway Trucks	3	1	2013	2016		484	692	6722	ULSD	<=484	>=484	2013	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
197	Rubber Tired Loaders	6	1	2010	2016		262	531	8381	ULSD	<=262	>=262	2010	0.3618	0.92	0.000018	0.46	2.45	0.000032	0.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
198	Crawler Tractors	4	1	2012	2016		205	300	3151	ULSD	<=205	>=205	2012	0.4288	0.92	0.000024	0.43	1.36	0.000018	0.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
199	Crawler Tractors	4	1	2012	2016		600	1075	3151	ULSD	<=600	>=600	2012	0.4288	0.92	0.000018	0.42	1.36	0.000018	0.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
200	Graders	3	1	2013	2016		294	1700	3710	ULSD	<=294	>=294	2013	0.4087	0.92	0.000018	0.42	1.36	0.000018	0.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
201	Excavators	3	1	2013	2016		425	1700	2965	ULSD	<=425	>=425	2013	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
202	Rollers	4	1	2012	2016		175	990	1802	ULSD	<=175	>=175	2012	0.3752	2.7	0.000071	1.21	2.27	0.000029	0.83
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
203	Rollers	4	1	2012	2016		250	790	1802	ULSD	<=250	>=250	2012	0.3752	0.92	0.000024	0.41	1.36	0.000018	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
204	Cranes	5	1	2011	2016		300	250	2983	ULSD	<=300	>=300	2011	0.2881	0.92	0.000018	0.42	1.36	0.000018	0.39
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
205	Off-Highway Trucks	3	1	2013	2016		484	4200	6722	ULSD	<=484	>=484	2013	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
206	Rubber Tired Loaders	6	1	2010	2016		262	220	8381	ULSD	<=262	>=262	2010	0.3618	0.92	0.000018	0.46	2.45	0.000032	0.93

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
207	Equipment Excavators	Age 1	1	2013	2014		425	160	1543	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2013	0.3819	0.92	0.000018	0.41	1.36	0.000018	0.50
208	Equipment Excavators	Age 3	1	2011	2014		283	160	2965	Fuel ULSD	Min HP <=283	Max HP >=283	Model Year 2011	0.3819	0.92	0.000018	0.42	1.36	0.000018	0.51
209	Equipment Off-Highway Trucks	Age 3	1	2011	2014		484	160	6722	Fuel ULSD	Min HP <=484	Max HP >=484	Model Year 2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
210	Equipment Off-Highway Trucks	Age 3	1	2011	2014		484	160	6722	Fuel ULSD	Min HP <=484	Max HP >=484	Model Year 2011	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
211	Equipment Rubber Tired Loaders	Age 4	1	2010	2014		262	160	6203	Fuel ULSD	Min HP <=262	Max HP >=262	Model Year 2010	0.3618	0.92	0.000018	0.44	2.45	0.000032	0.91
212	Equipment Rollers	Age 2	1	2012	2014		174	160	1105	Fuel ULSD	Min HP <=174	Max HP >=174	Model Year 2012	0.3752	2.7	0.000071	1.19	2.27	0.000029	0.82
213	Equipment Graders	Age 1	1	2013	2014		294	160	1922	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2013	0.4087	0.92	0.000018	0.41	1.36	0.000018	0.54
214	Equipment Scrapers	Age 5	1	2012	2017		294	800	3689	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2012	0.4824	0.92	0.000018	0.42	1.36	0.000018	0.65
215	Equipment Scrapers	Age 7	1	2010	2017		600	640	4795	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2010	0.4824	0.92	0.000018	0.43	2.45	0.000032	1.19
216	Equipment Scrapers	Age 7	1	2010	2017		440	640	4795	Fuel ULSD	Min HP <=440	Max HP >=440	Model Year 2010	0.4824	0.92	0.000018	0.43	2.45	0.000032	1.19
217	Equipment Off-Highway Trucks	Age 4	1	2013	2017		361	750	8253	Fuel ULSD	Min HP <=361	Max HP >=361	Model Year 2013	0.3819	0.92	0.000018	0.46	1.36	0.000018	0.54
218	Equipment Crawler Tractors	Age 5	1	2012	2017		140	940	3726	Fuel ULSD	Min HP <=140	Max HP >=140	Model Year 2012	0.4288	2.7	0.000071	1.27	2.27	0.000029	0.97
219	Equipment Crawler Tractors	Age 5	1	2012	2017		464	700	3726	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2012	0.4288	0.92	0.000018	0.42	1.36	0.000018	0.58
220	Equipment Rollers	Age 5	1	2012	2017		130	680	2139	Fuel ULSD	Min HP <=130	Max HP >=130	Model Year 2012	0.3752	2.7	0.000071	1.22	2.27	0.000029	0.83
221	Equipment Rollers	Age 5	1	2012	2017		145	400	2139	Fuel ULSD	Min HP <=145	Max HP >=145	Model Year 2012	0.3752	2.7	0.000071	1.22	2.27	0.000029	0.83
222	Equipment Excavators	Age 5	1	2012	2017		170	475	4268	Fuel ULSD	Min HP <=170	Max HP >=170	Model Year 2012	0.3819	2.7	0.000071	1.29	2.27	0.000029	0.87
223	Equipment Rubber Tired Loaders	Age 5	1	2012	2017		54	1200	7314	Fuel ULSD	Min HP <=54	Max HP >=54	Model Year 2012	0.3618	3.05	0.000081	1.56	2.53	0.000034	0.95
224	Equipment Off-Highway Trucks	Age 5	1	2012	2017		200	1280	9724	Fuel ULSD	Min HP <=200	Max HP >=200	Model Year 2012	0.3819	0.92	0.000024	0.50	1.36	0.000018	0.55
225	Equipment Scrapers	Age 4	1	2013	2017		330	960	3113	Fuel ULSD	Min HP <=330	Max HP >=330	Model Year 2013	0.4824	0.92	0.000018	0.42	1.36	0.000018	0.65
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
226	Scrapers	3	1	2014	2017		209	640	2521	ULSD	<=209	>=209	2014	0.4824	0.92	0.000024	0.42	0.27	0.000004	0.13
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
227	Scrapers	13	1	2004	2017		380	2560	7744	ULSD	<=380	>=380	2004	0.4824	0.92	0.000018	0.45	4.29	0.000058	2.17
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
228	Off-Highway Trucks	28	1	1989	2017		140	1280	12000	ULSD	<=140	>=140	1989	0.3819	2.7	0.000071	1.53	8.17	0.000189	3.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
229	Crawler Tractors	16	1	2001	2017		130	960	8837	ULSD	<=130	>=130	2001	0.4288	2.7	0.000071	1.43	6.9	0.000160	3.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
230	Crawler Tractors	16	1	2001	2017		145	480	8837	ULSD	<=145	>=145	2001	0.4288	2.7	0.000071	1.43	6.9	0.000160	3.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
231	Rollers	17	1	2000	2017		170	320	5582	ULSD	<=170	>=170	2000	0.3752	2.7	0.000071	1.33	6.9	0.000160	2.77
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
232	Rollers	5	1	2012	2017		54	800	2139	ULSD	<=54	>=54	2012	0.3752	3.05	0.000081	1.38	2.53	0.000034	0.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
233	Excavators	15	1	2002	2017		300	380	8982	ULSD	<=300	>=300	2002	0.3819	0.92	0.000018	0.46	4.51	0.000063	1.84
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
234	Bore/Drill Rigs	3	1	2013	2016		75	75	2396	ULSD	<=75	>=75	2013	0.5025	3.05	0.000081	1.39	2.53	0.000034	1.24
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
235	Off-Highway Trucks	12	1	2004	2016		325	200	12000	ULSD	<=325	>=325	2004	0.3819	0.92	0.000018	0.49	4.29	0.000058	1.81
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
236	Forklifts	8	1	2006	2014		100	139	6207	ULSD	<=100	>=100	2006	0.201	3.09	0.000082	1.54	5.01	0.000075	1.04
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
237	Rubber Tired Loaders	13	1	2001	2014		78	857	12000	ULSD	<=78	>=78	2001	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
238	Cranes	34	1	1980	2014		250	180	12000	ULSD	<=250	>=250	1980	0.2881	4.3	0.000114	2.43	11	0.000254	3.76
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
239	Cranes	10	1	2004	2014		173	104	5244	ULSD	<=173	>=173	2004	0.2881	2.7	0.000071	1.32	4.72	0.000075	1.40
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
240	Cranes	10	1	2004	2014		350	764	5244	ULSD	<=350	>=350	2004	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
241	Forklifts	1	1	2013	2014		100	650	1379	ULSD	<=100	>=100	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
242	Generator Sets	4	1	2010	2014		532	318	8000	ULSD	<=532	>=532	2010	0.74	0.92	0.000018	0.46	2.45	0.000032	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
243	Forklifts	1	1	2013	2014		110	475	1379	ULSD	<=110	>=110	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
244	Rubber Tired Loaders	14	1	2000	2014		180	447	12000	ULSD	<=180	>=180	2000	0.3618	0.92	0.000024	0.52	6.25	0.000145	2.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
245	Tractors/Loaders/Backhoes	9	1	2005	2014		129	77	6841	ULSD	<=129	>=129	2005	0.3685	2.7	0.000071	1.37	4.44	0.000065	1.71

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel	Min HP	Max HP	Model Year	Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
246	Aerial Lifts	8	1	2006	2014		62	378	2393	ULSD	<=62	>=62	2006	0.3082	3.09	0.000082	1.41	5.01	0.000075	1.52
247	Excavators	7	1	2007	2014		300	3	5451	ULSD	<=300	>=300	2007	0.3819	0.92	0.000018	0.44	2.45	0.000032	0.95
248	Pumps	8	1	2006	2014		80	1040	12000	ULSD	<=80	>=80	2006	0.74	3.09	0.000082	1.75	5.01	0.000075	4.14
249	Forklifts	1	1	2013	2014		100	413	1379	ULSD	<=100	>=100	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
250	Forklifts	7	1	2007	2014		100	418	5517	ULSD	<=100	>=100	2007	0.201	3.09	0.000082	1.52	5.01	0.000075	1.03
251	Bore/Drill Rigs	8	1	2006	2014		350	136	4058	ULSD	<=350	>=350	2006	0.5025	0.92	0.000018	0.43	2.45	0.000032	1.23
252	Forklifts	8	1	2006	2014		115	503	6207	ULSD	<=115	>=115	2006	0.201	3.09	0.000082	1.54	5.01	0.000075	1.04
253	Generator Sets	2	1	2012	2014		274	890	4000	ULSD	<=274	>=274	2012	0.74	0.92	0.000018	0.43	1.36	0.000018	1.00
254	Air Compressors	17	1	1997	2014		343	50	12000	ULSD	<=343	>=343	1997	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
255	Forklifts	8	1	2006	2014		100	76	6207	ULSD	<=100	>=100	2006	0.201	3.09	0.000082	1.54	5.01	0.000075	1.04
256	Air Compressors	4	1	2010	2014		280	252	8000	ULSD	<=280	>=280	2010	0.48	0.92	0.000018	0.46	2.45	0.000032	1.23
257	Aerial Lifts	3	1	2011	2014		56	151	1063	ULSD	<=56	>=56	2011	0.3082	3.05	0.000081	1.34	2.89	0.000038	0.86
258	Generator Sets	2	1	2012	2014		274	232	4000	ULSD	<=274	>=274	2012	0.74	0.92	0.000018	0.43	1.36	0.000018	1.00
259	Generator Sets	3	1	2011	2014		363	490	6000	ULSD	<=363	>=363	2011	0.74	0.92	0.000018	0.44	1.36	0.000018	1.03
260	Cranes	17	1	1997	2014		330	359	8114	ULSD	<=330	>=330	1997	0.2881	0.92	0.000018	0.46	6.25	0.000104	1.94
261	Forklifts	1	1	2013	2014		100	139	1379	ULSD	<=100	>=100	2013	0.201	3.05	0.000081	1.36	2.53	0.000034	0.49
262	Cranes	1	1	2013	2014		600	79	1027	ULSD	<=600	>=600	2013	0.2881	0.92	0.000018	0.40	1.36	0.000018	0.38
263	Aerial Lifts	2	1	2012	2014		65	212	798	ULSD	<=65	>=65	2012	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
264	Graders	15	1	1999	2014		241	51	11632	ULSD	<=241	>=241	1999	0.4087	0.92	0.000024	0.52	6.25	0.000145	3.08

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
265	Rollers	18	1	1996	2014		187	8	5819	ULSD	<=187	>=187	1996	0.3752	0.92	0.000024	0.46	6.25	0.000145	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
266	Air Compressors	7	1	2007	2014		274	15	12000	ULSD	<=274	>=274	2007	0.48	0.92	0.000018	0.49	2.45	0.000032	1.29
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
267	Aerial Lifts	0	1	2014	2014		74	236	266	ULSD	<=74	>=74	2014	0.3082	3.05	0.000081	1.32	2.53	0.000034	0.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
268	Aerial Lifts	3	1	2011	2014		78	124	1063	ULSD	<=78	>=78	2011	0.3082	3.05	0.000081	1.34	2.89	0.000038	0.86
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
269	Cranes	1	1	2013	2014		275	61	1027	ULSD	<=275	>=275	2013	0.2881	0.92	0.000018	0.40	1.36	0.000018	0.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
270	Forklifts	1	1	2013	2014		124	21	1379	ULSD	<=124	>=124	2013	0.201	2.7	0.000071	1.20	2.27	0.000029	0.44
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
271	Rollers	3	1	2011	2014		152	5	1457	ULSD	<=152	>=152	2011	0.3752	2.7	0.000071	1.20	2.45	0.000032	0.89
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
272	Excavators	4	1	2010	2014		300	3	3632	ULSD	<=300	>=300	2010	0.3819	0.92	0.000018	0.42	2.45	0.000032	0.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
273	Forklifts	8	1	2006	2014		100	15	6207	ULSD	<=100	>=100	2006	0.201	3.09	0.000082	1.54	5.01	0.000075	1.04
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
274	Cranes	4	1	2010	2014		275	3	2506	ULSD	<=275	>=275	2010	0.2881	0.92	0.000018	0.41	2.45	0.000032	0.69
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
275	Cranes	1	1	2013	2014		275	53	1027	ULSD	<=275	>=275	2013	0.2881	0.92	0.000018	0.40	1.36	0.000018	0.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
276	Aerial Lifts	1	1	2013	2014		15	30	532	ULSD	<=15	>=15	2013	0.3082	3.47	0.000000	1.49	4.37	0.000000	1.28
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
277	Excavators	1	1	2013	2014		204	22	1543	ULSD	<=204	>=204	2013	0.3819	0.92	0.000024	0.41	1.36	0.000018	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
278	Excavators	1	1	2013	2014		157	20	1543	ULSD	<=157	>=157	2013	0.3819	2.7	0.000071	1.20	2.27	0.000029	0.84
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
279	Aerial Lifts	5	1	2009	2014		62	4	1595	ULSD	<=62	>=62	2009	0.3082	3.05	0.000081	1.36	2.89	0.000038	0.86
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
280	Aerial Lifts	9	1	2005	2014		82	50	2658	ULSD	<=82	>=82	2005	0.3082	3.14	0.000083	1.44	5.22	0.000084	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
281	Generator Sets	1	1	2013	2014		527	30	2000	ULSD	<=527	>=527	2013	0.74	0.92	0.000018	0.41	1.36	0.000018	0.98
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
282	Aerial Lifts	3	1	2012	2015		65	487	1063	ULSD	<=65	>=65	2012	0.3082	3.05	0.000081	1.34	2.53	0.000034	0.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
283	Aerial Lifts	4	1	2011	2015		56	396	1329	ULSD	<=56	>=56	2011	0.3082	3.05	0.000081	1.35	2.89	0.000038	0.86
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
284	Aerial Lifts	4	1	2011	2015		65	420	1329	ULSD	<=65	>=65	2011	0.3082	3.05	0.000081	1.35	2.89	0.000038	0.86

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
285	Equipment Aerial Lifts	Age 9	1	2006	2015		62	513	2658	Fuel ULSD	Min HP <=62	Max HP >=62	Model Year 2006	0.3082	3.09	0.000082	1.42	5.01	0.000075	1.52
286	Equipment Aerial Lifts	Age 1	1	2014	2015		74	559	532	Fuel ULSD	Min HP <=74	Max HP >=74	Model Year 2014	0.3082	3.05	0.000081	1.33	2.53	0.000034	0.74
287	Equipment Aerial Lifts	Age 4	1	2011	2015		78	573	1329	Fuel ULSD	Min HP <=78	Max HP >=78	Model Year 2011	0.3082	3.05	0.000081	1.35	2.89	0.000038	0.86
288	Equipment Air Compressors	Age 5	1	2010	2015		280	552	10000	Fuel ULSD	Min HP <=280	Max HP >=280	Model Year 2010	0.48	0.92	0.000018	0.47	2.45	0.000032	1.26
289	Equipment Air Compressors	Age 18	1	1997	2015		343	150	12000	Fuel ULSD	Min HP <=343	Max HP >=343	Model Year 1997	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
290	Equipment Air Compressors	Age 8	1	2007	2015		274	490	12000	Fuel ULSD	Min HP <=274	Max HP >=274	Model Year 2007	0.48	0.92	0.000018	0.49	2.45	0.000032	1.29
291	Equipment Tractors/Loaders/Backhoes	Age 10	1	2005	2015		129	115	7314	Fuel ULSD	Min HP <=129	Max HP >=129	Model Year 2005	0.3685	2.7	0.000071	1.38	4.44	0.000065	1.72
292	Equipment Other Construction Equipment	Age 35	1	1980	2015		250	124	12000	Fuel ULSD	Min HP <=250	Max HP >=250	Model Year 1980	0.4154	4.3	0.000114	2.43	11	0.000254	5.43
293	Equipment Bore/Drill Rigs	Age 26	1	1989	2015		170	140	5837	Fuel ULSD	Min HP <=170	Max HP >=170	Model Year 1989	0.5025	2.7	0.000071	1.34	8.17	0.000189	4.33
294	Equipment Cranes	Age 11	1	2004	2015		350	711	5671	Fuel ULSD	Min HP <=350	Max HP >=350	Model Year 2004	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
295	Equipment Cranes	Age 18	1	1997	2015		330	865	8517	Fuel ULSD	Min HP <=330	Max HP >=330	Model Year 1997	0.2881	0.92	0.000018	0.46	6.25	0.000104	1.95
296	Equipment Cranes	Age 2	1	2013	2015		600	960	1528	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2013	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
297	Equipment Crawler Tractors	Age 9	1	2006	2015		185	230	5843	Fuel ULSD	Min HP <=185	Max HP >=185	Model Year 2006	0.4288	0.92	0.000024	0.46	4.38	0.000063	1.93
298	Equipment Excavators	Age 10	1	2005	2015		345	330	7000	Fuel ULSD	Min HP <=345	Max HP >=345	Model Year 2005	0.3819	0.92	0.000018	0.45	4	0.000053	1.58
299	Equipment Excavators	Age 5	1	2010	2015		300	90	4268	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2010	0.3819	0.92	0.000018	0.43	2.45	0.000032	0.94
300	Equipment Forklifts	Age 9	1	2006	2015		100	752	6896	Fuel ULSD	Min HP <=100	Max HP >=100	Model Year 2006	0.201	3.09	0.000082	1.57	5.01	0.000075	1.05
301	Equipment Forklifts	Age 2	1	2013	2015		100	1012	2069	Fuel ULSD	Min HP <=100	Max HP >=100	Model Year 2013	0.201	3.05	0.000081	1.38	2.53	0.000034	0.50
302	Equipment Forklifts	Age 2	1	2013	2015		124	50	2069	Fuel ULSD	Min HP <=124	Max HP >=124	Model Year 2013	0.201	2.7	0.000071	1.22	2.27	0.000029	0.44
303	Equipment Forklifts	Age 2	1	2013	2015		110	248	2069	Fuel ULSD	Min HP <=110	Max HP >=110	Model Year 2013	0.201	3.05	0.000081	1.38	2.53	0.000034	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
304	Forklifts	8	1	2007	2015		100	709	6207	ULSD	<=100	>=100	2007	0.201	3.09	0.000082	1.54	5.01	0.000075	1.04
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
305	Forklifts	2	1	2013	2015		100	873	2069	ULSD	<=100	>=100	2013	0.201	3.05	0.000081	1.38	2.53	0.000034	0.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
306	Forklifts	9	1	2006	2015		115	630	6896	ULSD	<=115	>=115	2006	0.201	3.09	0.000082	1.57	5.01	0.000075	1.05
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
307	Generator Sets	5	1	2010	2015		532	124	10000	ULSD	<=532	>=532	2010	0.74	0.92	0.000018	0.47	2.45	0.000032	1.94
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
308	Generator Sets	1	1	2014	2015		540	712	2000	ULSD	<=540	>=540	2014	0.74	0.92	0.000018	0.41	0.27	0.000004	0.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
309	Rubber Tired Loaders	16	1	1999	2015		235	350	12000	ULSD	<=235	>=235	1999	0.3618	0.92	0.000024	0.52	6.25	0.000145	2.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
310	Rubber Tired Loaders	15	1	2000	2015		180	515	12000	ULSD	<=180	>=180	2000	0.3618	0.92	0.000024	0.52	6.25	0.000145	2.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
311	Graders	12	1	2003	2015		220	120	10102	ULSD	<=220	>=220	2003	0.4087	0.92	0.000024	0.50	5	0.000091	2.29
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
312	Rollers	4	1	2011	2015		152	98	1802	ULSD	<=152	>=152	2011	0.3752	2.7	0.000071	1.21	2.45	0.000032	0.89
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
313	Cranes	11	1	2004	2015		173	76	5671	ULSD	<=173	>=173	2004	0.2881	2.7	0.000071	1.33	4.72	0.000075	1.41
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
314	Cranes	2	1	2013	2015		275	981	1528	ULSD	<=275	>=275	2013	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
315	Rubber Tired Loaders	14	1	2001	2015		78	426	12000	ULSD	<=78	>=78	2001	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
316	Graders	3	1	2012	2015		145	33	3710	ULSD	<=145	>=145	2012	0.4087	2.7	0.000071	1.27	2.27	0.000029	0.92
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
317	Graders	3	1	2012	2015		135	98	3710	ULSD	<=135	>=135	2012	0.4087	2.7	0.000071	1.27	2.27	0.000029	0.92
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
318	Rollers	2	1	2013	2015		131	33	1105	ULSD	<=131	>=131	2013	0.3752	2.7	0.000071	1.19	2.27	0.000029	0.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
319	Rollers	2	1	2013	2015		102	98	1105	ULSD	<=102	>=102	2013	0.3752	3.05	0.000081	1.35	2.53	0.000034	0.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
320	Crawler Tractors	3	1	2012	2015		235	98	2558	ULSD	<=235	>=235	2012	0.4288	0.92	0.000024	0.42	1.36	0.000018	0.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
321	Off-Highway Trucks	5	1	2010	2015		300	160	9724	ULSD	<=300	>=300	2010	0.3819	0.92	0.000018	0.47	2.45	0.000032	1.00
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
322	Off-Highway Trucks	3	1	2012	2015		484	130	6722	ULSD	<=484	>=484	2012	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
323	Cranes	3	1	2012	2015		267	240	2022	ULSD	<=267	>=267	2012	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
324	Cranes	2	1	2013	2015		455	230	1528	ULSD	<=455	>=455	2013	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38

Input Chas and effective daily emissions before DECS

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Crawler Tractors	2	1	2012	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	8	1	2006	0.126639	0.00	0.11	0.1012	0.00	0.04	0.11	0.00	0.048	0.002	568.3
Equipment	Age													
Crawler Tractors	9	1	2005	0.151967	0.00	0.12	0.1012	0.00	0.05	0.11	0.00	0.049	0.002	568.3
Equipment	Age													
Crawler Tractors	6	1	2008	0.126639	0.00	0.10	0.1288	0.00	0.06	0.14	0.00	0.063	0.002	568.3
Equipment	Age													
Crawler Tractors	6	1	2008	0.126639	0.00	0.10	0.1288	0.00	0.06	0.14	0.00	0.063	0.002	568.3
Equipment	Age													
Crawler Tractors	6	1	2008	0.126639	0.00	0.10	0.1012	0.00	0.04	0.11	0.00	0.046	0.002	568.3
Equipment	Age													
Graders	1	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	3	1	2011	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	4	1	2010	0.126639	0.00	0.08	0.1288	0.00	0.05	0.14	0.00	0.054	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	3	1	2011	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.113975	0.00	0.06	0.0644	0.00	0.02	0.07	0.00	0.026	0.002	568.3
Equipment	Age													
Excavators	4	1	2010	0.126639	0.00	0.08	0.1288	0.00	0.05	0.14	0.00	0.054	0.002	568.3
Equipment	Age													
Excavators	1	1	2013	0.113975	0.00	0.06	0.0644	0.00	0.02	0.07	0.00	0.025	0.002	568.3
Equipment	Age													
Excavators	2	1	2012	0.088647	0.00	0.05	0.0552	0.00	0.02	0.06	0.00	0.021	0.002	568.3
Equipment	Age													
Excavators	6	1	2008	0.126639	0.00	0.09	0.184	0.00	0.07	0.2	0.00	0.074	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Rollers	Age 3	1	2011	0.126639	0.00	0.06	0.1288	0.00	0.05	0.14	0.00	0.049	0.002	568.3
Equipment Scrapers	Age 8	1	2006	0.126639	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Scrapers	Age 8	1	2006	0.126639	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Scrapers	Age 8	1	2006	0.126639	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Scrapers	Age 8	1	2006	0.126639	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Cranes	Age 7	1	2007	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment Cranes	Age 2	1	2012	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment Cranes	Age 7	1	2007	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment Cranes	Age 6	1	2008	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment Cranes	Age 3	1	2011	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment Cranes	Age 6	1	2008	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 7	1	2007	0.126639	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Off-Highway Trucks	Age 4	1	2010	0.126639	0.00	0.13	0.1012	0.00	0.04	0.11	0.00	0.048	0.002	568.3
Equipment Off-Highway Trucks	Age 1	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	1	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	1	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	2	1	2012	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	2	1	2012	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	0	1	2014	0.088647	0.00	0.05	0.0552	0.00	0.02	0.06	0.00	0.021	0.002	568.3
Equipment	Age													
Off-Highway Trucks	0	1	2014	0.088647	0.00	0.05	0.0552	0.00	0.02	0.06	0.00	0.021	0.002	568.3
Equipment	Age													
Air Compressors	5	1	2009	0.126639	0.00	0.18	0.1012	0.00	0.06	0.11	0.00	0.064	0.002	568.3
Equipment	Age													
Generator Sets	3	1	2011	0.126639	0.00	0.20	0.1288	0.00	0.12	0.14	0.00	0.126	0.004	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1288	0.00	0.12	0.14	0.00	0.130	0.004	568.3
Equipment	Age													
Generator Sets	3	1	2011	0.126639	0.00	0.20	0.1288	0.00	0.12	0.14	0.00	0.126	0.004	568.3
Equipment	Age													
Generator Sets	3	1	2011	0.126639	0.00	0.20	0.1288	0.00	0.12	0.14	0.00	0.126	0.004	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.091	0.004	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.091	0.004	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.091	0.004	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.092	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	3	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	3	1	2011	0.126639	0.00	0.09	0.184	0.00	0.07	0.2	0.00	0.075	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	2	1	2012	0.113975	0.00	0.07	0.0644	0.00	0.02	0.07	0.00	0.027	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Rubber Tired Loaders	4	1	2010	0.126639	0.00	0.10	0.1012	0.00	0.04	0.11	0.00	0.042	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	2	1	2012	0.113975	0.00	0.07	0.0644	0.00	0.02	0.07	0.00	0.027	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	4	1	2010	0.126639	0.00	0.10	0.184	0.00	0.07	0.2	0.00	0.073	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	3	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	0	1	2014	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	0	1	2014	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	3	1	2011	0.126639	0.00	0.09	0.1288	0.00	0.06	0.14	0.00	0.059	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	1	1	2013	0.113975	0.00	0.06	0.0644	0.00	0.02	0.07	0.00	0.025	0.002	568.3
Equipment	Age													
Aerial Lifts	2	1	2012	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Aerial Lifts	1	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Aerial Lifts	0	1	2014	0.113975	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Aerial Lifts	6	1	2008	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.053	0.002	568.3
Equipment	Age													
Aerial Lifts	1	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Aerial Lifts	2	1	2012	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													
Forklifts	2	1	2012	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													
Forklifts	4	1	2010	0.126639	0.00	0.04	0.184	0.00	0.03	0.2	0.00	0.037	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Forklifts	3	1	2011	0.126639	0.00	0.04	0.1288	0.00	0.03	0.14	0.00	0.029	0.001	568.3
Equipment	Age													
Forklifts	6	1	2008	0.126639	0.00	0.05	0.1288	0.00	0.03	0.14	0.00	0.030	0.001	568.3
Equipment	Age													
Forklifts	7	1	2007	0.126639	0.00	0.05	0.1288	0.00	0.03	0.14	0.00	0.031	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	8	1	2006	0.126639	0.00	0.11	0.1012	0.00	0.05	0.11	0.00	0.053	0.003	568.3
Equipment	Age													
Excavators	0	1	2014	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Air Compressors	5	1	2009	0.126639	0.00	0.18	0.1012	0.00	0.06	0.11	0.00	0.064	0.002	568.3
Equipment	Age													
Pumps	3	1	2011	0.126639	0.00	0.20	0.184	0.00	0.15	0.2	0.00	0.159	0.004	568.3
Equipment	Age													
Bore/Drill Rigs	1	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.003	568.3
Equipment	Age													
Cranes	0	1	2014	0.06332	0.00	0.02	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Cranes	3	1	2011	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Pumps	2	1	2012	0.113975	0.00	0.15	0.0644	0.00	0.05	0.07	0.00	0.055	0.004	568.3
Equipment	Age													
Pumps	1	1	2013	0.088647	0.00	0.09	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2009	0.126639	0.00	0.14	0.1288	0.00	0.07	0.14	0.00	0.072	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	1	1	2013	0.139303	0.28	0.05	0.07	0.44	0.03	0.07	0.44	0.03	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	4	1	2010	0.29127	0.28	0.12	0.24	0.44	0.10	0.24	0.44	0.10	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	4	1	2010	0.29127	0.28	0.12	0.24	0.44	0.10	0.24	0.44	0.10	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Forklifts	Age 1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment Generator Sets	Age 1	1	2013	0.088647	0.00	0.09	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment Generator Sets	Age 4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.091	0.004	568.3
Equipment Bore/Drill Rigs	Age 6	1	2008	0.126639	0.00	0.11	0.1012	0.00	0.05	0.11	0.00	0.052	0.003	568.3
Equipment Bore/Drill Rigs	Age 6	1	2008	0.126639	0.00	0.11	0.1012	0.00	0.05	0.11	0.00	0.052	0.003	568.3
Equipment Cranes	Age 6	1	2008	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment Excavators	Age 1	1	2013	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment Excavators	Age 3	1	2011	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Rollers	Age 6	1	2008	0.126639	0.00	0.07	0.1288	0.00	0.05	0.14	0.00	0.049	0.002	568.3
Equipment Crawler Tractors	Age 10	1	2006	0.126639	0.00	0.12	0.1012	0.00	0.05	0.11	0.00	0.050	0.002	568.3
Equipment Crawler Tractors	Age 5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Crawler Tractors	Age 11	1	2005	0.151967	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.051	0.002	568.3
Equipment Crawler Tractors	Age 5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Graders	Age 3	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Excavators	Age 5	1	2011	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Excavators	Age 3	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Excavators	Age 6	1	2010	0.126639	0.00	0.09	0.1012	0.00	0.04	0.11	0.00	0.042	0.002	568.3
Equipment Excavators	Age 5	1	2011	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Excavators	Age 4	1	2012	0.113975	0.00	0.08	0.0644	0.00	0.03	0.07	0.00	0.028	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Rollers	4	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Scrapers	10	1	2006	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Scrapers	10	1	2006	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Scrapers	10	1	2006	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Scrapers	10	1	2006	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Cranes	9	1	2007	0.126639	0.00	0.07	0.1012	0.00	0.03	0.11	0.00	0.032	0.001	568.3
Equipment	Age													
Cranes	9	1	2007	0.126639	0.00	0.07	0.1012	0.00	0.03	0.11	0.00	0.032	0.001	568.3
Equipment	Age													
Cranes	5	1	2011	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Cranes	8	1	2008	0.126639	0.00	0.07	0.1012	0.00	0.03	0.11	0.00	0.031	0.001	568.3
Equipment	Age													
Cranes	5	1	2011	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Cranes	2	1	2014	0.06332	0.00	0.02	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Cranes	3	1	2013	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Off-Highway Trucks	2	1	2014	0.088647	0.00	0.07	0.0552	0.00	0.02	0.06	0.00	0.024	0.002	568.3
Equipment	Age													
Off-Highway Trucks	2	1	2014	0.088647	0.00	0.07	0.0552	0.00	0.02	0.06	0.00	0.024	0.002	568.3
Equipment	Age													
Off-Highway Trucks	6	1	2010	0.126639	0.00	0.15	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2013	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2013	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2013	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2011	0.088647	0.00	0.10	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2011	0.088647	0.00	0.10	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Off-Highway Trucks	5	1	2011	0.088647	0.00	0.10	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Generator Sets	5	1	2011	0.126639	0.00	0.28	0.1288	0.00	0.14	0.14	0.00	0.151	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	5	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	5	1	2011	0.126639	0.00	0.11	0.184	0.00	0.08	0.2	0.00	0.081	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	4	1	2012	0.113975	0.00	0.09	0.0644	0.00	0.03	0.07	0.00	0.030	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	6	1	2010	0.126639	0.00	0.12	0.1012	0.00	0.04	0.11	0.00	0.045	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	5	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Aerial Lifts	4	1	2012	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	2	1	2014	0.113975	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Forklifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.01	0.07	0.00	0.014	0.001	568.3
Equipment	Age													
Forklifts	3	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													
Forklifts	3	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	3	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.01	0.07	0.00	0.014	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	10	1	2006	0.126639	0.00	0.12	0.1012	0.00	0.05	0.11	0.00	0.054	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	10	1	2006	0.151967	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	10	1	2006	0.151967	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.054	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	5	1	2011	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.003	568.3
Equipment	Age													
Excavators	2	1	2014	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Air Compressors	7	1	2009	0.126639	0.00	0.20	0.1012	0.00	0.06	0.11	0.00	0.068	0.002	568.3
Equipment	Age													
Air Compressors	5	1	2011	0.088647	0.00	0.13	0.0092	0.00	0.01	0.01	0.00	0.006	0.002	568.3
Equipment	Age													
Generator Sets	4	1	2012	0.113975	0.00	0.21	0.0092	0.00	0.01	0.01	0.00	0.009	0.004	568.3
Equipment	Age													
Tug Boats, propulsion engine	4	1	2012	0.151967	0.44	0.08	0.11	0.67	0.06	0.11	0.67	0.06	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Crane)	4	1	2012	0.153233	0.44	0.08	0.11	0.67	0.06	0.11	0.67	0.06	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	0.153233	0.28	0.05	0.14	0.44	0.05	0.14	0.44	0.05	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	0.153233	0.28	0.05	0.11	0.44	0.04	0.11	0.44	0.04	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	0.153233	0.28	0.05	0.14	0.44	0.05	0.14	0.44	0.05	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	4	1	2012	0.153233	0.28	0.05	0.14	0.44	0.05	0.14	0.44	0.05	0.002	568.3
Equipment	Age													
Work Boats, propulsion engine	3	1	2013	0.139303	0.28	0.07	0.07	0.44	0.03	0.07	0.44	0.03	0.002	568.3
Equipment	Age													
Work Boats, propulsion engine	3	1	2013	0.151967	0.28	0.07	0.14	0.44	0.07	0.14	0.44	0.07	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Work Boats, propulsion engine	3	1	2013	0.151967	0.28	0.07	0.14	0.44	0.07	0.14	0.44	0.07	0.002	568.3
Equipment	Age													
Pumps	2	1	2012	0.113975	0.00	0.15	0.0644	0.00	0.05	0.07	0.00	0.055	0.004	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	1	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.003	568.3
Equipment	Age													
Rubber Tired Loaders	4	1	2010	0.126639	0.00	0.10	0.184	0.00	0.07	0.2	0.00	0.073	0.002	568.3
Equipment	Age													
Aerial Lifts	1	1	2013	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Aerial Lifts	6	1	2008	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.053	0.002	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Generator Sets	1	1	2013	0.088647	0.00	0.09	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Generator Sets	3	1	2011	0.088647	0.00	0.15	0.0092	0.00	0.01	0.01	0.00	0.008	0.004	568.3
Equipment	Age													
Bore/Drill Rigs	6	1	2008	0.126639	0.00	0.11	0.1012	0.00	0.05	0.11	0.00	0.052	0.003	568.3
Equipment	Age													
Cranes	6	1	2008	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment	Age													
Cranes	6	1	2008	0.126639	0.00	0.06	0.1012	0.00	0.03	0.11	0.00	0.030	0.001	568.3
Equipment	Age													
Excavators	1	1	2013	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Excavators	3	1	2011	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	4	1	2010	0.126639	0.00	0.10	0.1012	0.00	0.04	0.11	0.00	0.042	0.002	568.3
Equipment	Age													
Rollers	2	1	2012	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Scrapers	1	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	4	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	4	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Tractors/Loaders/Backhoes	4	1	2012	0.113975	0.00	0.08	0.0644	0.00	0.03	0.07	0.00	0.027	0.002	568.3
Equipment	Age													
Graders	3	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	3	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	4	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Scrapers	4	1	2012	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.002	568.3
Equipment	Age													
Scrapers	4	1	2012	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2013	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	6	1	2010	0.126639	0.00	0.12	0.1012	0.00	0.04	0.11	0.00	0.045	0.002	568.3
Equipment	Age													
Crawler Tractors	4	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	4	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Graders	3	1	2013	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	3	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	4	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Rollers	4	1	2012	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Cranes	5	1	2011	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2013	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	6	1	2010	0.126639	0.00	0.12	0.1012	0.00	0.04	0.11	0.00	0.045	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Excavators	1	1	2013	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Excavators	3	1	2011	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2011	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	4	1	2010	0.126639	0.00	0.10	0.1012	0.00	0.04	0.11	0.00	0.042	0.002	568.3
Equipment	Age													
Rollers	2	1	2012	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Graders	1	1	2013	0.088647	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Scrapers	5	1	2012	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.005	0.002	568.3
Equipment	Age													
Scrapers	7	1	2010	0.126639	0.00	0.12	0.1012	0.00	0.05	0.11	0.00	0.053	0.002	568.3
Equipment	Age													
Scrapers	7	1	2010	0.126639	0.00	0.12	0.1012	0.00	0.05	0.11	0.00	0.053	0.002	568.3
Equipment	Age													
Off-Highway Trucks	4	1	2013	0.088647	0.00	0.09	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	5	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Crawler Tractors	5	1	2012	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	5	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	5	1	2012	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Excavators	5	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	5	1	2012	0.113975	0.00	0.10	0.0644	0.00	0.03	0.07	0.00	0.031	0.002	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2012	0.088647	0.00	0.10	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Scrapers	4	1	2013	0.088647	0.00	0.07	0.0092	0.00	0.00	0.01	0.00	0.005	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Scrapers	3	1	2014	0.06332	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Scrapers	13	1	2004	0.151967	0.00	0.16	0.1012	0.00	0.06	0.11	0.00	0.060	0.002	568.3
Equipment	Age													
Off-Highway Trucks	28	1	1989	0.861145	0.00	0.47	0.3496	0.00	0.19	0.38	0.00	0.196	0.002	568.3
Equipment	Age													
Crawler Tractors	16	1	2001	0.861145	0.00	0.49	0.3496	0.00	0.20	0.38	0.00	0.214	0.002	568.3
Equipment	Age													
Crawler Tractors	16	1	2001	0.861145	0.00	0.49	0.3496	0.00	0.20	0.38	0.00	0.214	0.002	568.3
Equipment	Age													
Rollers	17	1	2000	0.861145	0.00	0.39	0.3496	0.00	0.15	0.38	0.00	0.160	0.002	568.3
Equipment	Age													
Rollers	5	1	2012	0.113975	0.00	0.06	0.0644	0.00	0.02	0.07	0.00	0.025	0.002	568.3
Equipment	Age													
Excavators	15	1	2002	0.177295	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.050	0.002	568.3
Equipment	Age													
Bore/Drill Rigs	3	1	2013	0.113975	0.00	0.09	0.0644	0.00	0.03	0.07	0.00	0.034	0.003	568.3
Equipment	Age													
Off-Highway Trucks	12	1	2004	0.151967	0.00	0.17	0.1012	0.00	0.05	0.11	0.00	0.055	0.002	568.3
Equipment	Age													
Forklifts	8	1	2006	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.056	0.001	568.3
Equipment	Age													
Rubber Tired Loaders	13	1	2001	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Cranes	34	1	1980	1.190407	0.00	0.49	0.506	0.00	0.20	0.55	0.00	0.214	0.001	568.3
Equipment	Age													
Cranes	10	1	2004	0.278606	0.00	0.12	0.1748	0.00	0.06	0.19	0.00	0.060	0.001	568.3
Equipment	Age													
Cranes	10	1	2004	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.032	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Generator Sets	4	1	2010	0.126639	0.00	0.24	0.1012	0.00	0.09	0.11	0.00	0.091	0.004	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Rubber Tired Loaders	14	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.071	0.002	568.3
Equipment	Age													
Tractors/Loaders/Backhoes	9	1	2005	0.202622	0.00	0.14	0.1472	0.00	0.07	0.16	0.00	0.071	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Aerial Lifts	8	1	2006	0.240614	0.00	0.09	0.2208	0.00	0.06	0.24	0.00	0.070	0.002	568.3
Equipment	Age													
Excavators	7	1	2007	0.126639	0.00	0.10	0.1012	0.00	0.04	0.11	0.00	0.043	0.002	568.3
Equipment	Age													
Pumps	8	1	2006	0.240614	0.00	0.42	0.2208	0.00	0.26	0.24	0.00	0.267	0.004	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Forklifts	7	1	2007	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.054	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	8	1	2006	0.126639	0.00	0.11	0.1012	0.00	0.05	0.11	0.00	0.053	0.003	568.3
Equipment	Age													
Forklifts	8	1	2006	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.056	0.001	568.3
Equipment	Age													
Generator Sets	2	1	2012	0.088647	0.00	0.12	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Air Compressors	17	1	1997	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment	Age													
Forklifts	8	1	2006	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.056	0.001	568.3
Equipment	Age													
Air Compressors	4	1	2010	0.126639	0.00	0.16	0.1012	0.00	0.06	0.11	0.00	0.059	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2011	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.055	0.002	568.3
Equipment	Age													
Generator Sets	2	1	2012	0.088647	0.00	0.12	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Generator Sets	3	1	2011	0.088647	0.00	0.15	0.0092	0.00	0.01	0.01	0.00	0.008	0.004	568.3
Equipment	Age													
Cranes	17	1	1997	0.405245	0.00	0.14	0.138	0.00	0.05	0.15	0.00	0.049	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.013	0.001	568.3
Equipment	Age													
Cranes	1	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Aerial Lifts	2	1	2012	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.019	0.002	568.3
Equipment	Age													
Graders	15	1	1999	0.405245	0.00	0.24	0.138	0.00	0.08	0.15	0.00	0.079	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Rollers	18	1	1996	0.405245	0.00	0.18	0.138	0.00	0.06	0.15	0.00	0.059	0.002	568.3
Equipment	Age													
Air Compressors	7	1	2007	0.126639	0.00	0.20	0.1012	0.00	0.06	0.11	0.00	0.068	0.002	568.3
Equipment	Age													
Aerial Lifts	0	1	2014	0.113975	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Aerial Lifts	3	1	2011	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.055	0.002	568.3
Equipment	Age													
Cranes	1	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Forklifts	1	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment	Age													
Rollers	3	1	2011	0.126639	0.00	0.06	0.1288	0.00	0.05	0.14	0.00	0.049	0.002	568.3
Equipment	Age													
Excavators	4	1	2010	0.126639	0.00	0.08	0.1012	0.00	0.04	0.11	0.00	0.040	0.002	568.3
Equipment	Age													
Forklifts	8	1	2006	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.056	0.001	568.3
Equipment	Age													
Cranes	4	1	2010	0.126639	0.00	0.05	0.1012	0.00	0.03	0.11	0.00	0.029	0.001	568.3
Equipment	Age													
Cranes	1	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Aerial Lifts	1	1	2013	0.620531	0.00	0.19	0.1748	0.00	0.05	0.19	0.00	0.050	0.002	568.3
Equipment	Age													
Excavators	1	1	2013	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Excavators	1	1	2013	0.113975	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Aerial Lifts	5	1	2009	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.053	0.002	568.3
Equipment	Age													
Aerial Lifts	9	1	2005	0.354589	0.00	0.13	0.2668	0.00	0.08	0.29	0.00	0.085	0.002	568.3
Equipment	Age													
Generator Sets	1	1	2013	0.088647	0.00	0.09	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Aerial Lifts	3	1	2012	0.113975	0.00	0.04	0.0644	0.00	0.02	0.07	0.00	0.020	0.002	568.3
Equipment	Age													
Aerial Lifts	4	1	2011	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.056	0.002	568.3
Equipment	Age													
Aerial Lifts	4	1	2011	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.056	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Aerial Lifts	Age 9	1	2006	0.240614	0.00	0.10	0.2208	0.00	0.07	0.24	0.00	0.071	0.002	568.3
Equipment Aerial Lifts	Age 1	1	2014	0.113975	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment Aerial Lifts	Age 4	1	2011	0.126639	0.00	0.05	0.184	0.00	0.05	0.2	0.00	0.056	0.002	568.3
Equipment Air Compressors	Age 5	1	2010	0.126639	0.00	0.18	0.1012	0.00	0.06	0.11	0.00	0.064	0.002	568.3
Equipment Air Compressors	Age 18	1	1997	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment Air Compressors	Age 8	1	2007	0.126639	0.00	0.20	0.1012	0.00	0.06	0.11	0.00	0.068	0.002	568.3
Equipment Tractors/Loaders/Backhoes	Age 10	1	2005	0.202622	0.00	0.14	0.1472	0.00	0.07	0.16	0.00	0.073	0.002	568.3
Equipment Other Construction Equipment	Age 35	1	1980	1.190407	0.00	0.71	0.506	0.00	0.29	0.55	0.00	0.308	0.002	568.3
Equipment Bore/Drill Rigs	Age 26	1	1989	0.861145	0.00	0.53	0.3496	0.00	0.18	0.38	0.00	0.196	0.003	568.3
Equipment Cranes	Age 11	1	2004	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment Cranes	Age 18	1	1997	0.405245	0.00	0.14	0.138	0.00	0.05	0.15	0.00	0.050	0.001	568.3
Equipment Cranes	Age 2	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment Crawler Tractors	Age 9	1	2006	0.151967	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.049	0.002	568.3
Equipment Excavators	Age 10	1	2005	0.126639	0.00	0.12	0.1012	0.00	0.04	0.11	0.00	0.045	0.002	568.3
Equipment Excavators	Age 5	1	2010	0.126639	0.00	0.09	0.1012	0.00	0.04	0.11	0.00	0.041	0.002	568.3
Equipment Forklifts	Age 9	1	2006	0.240614	0.00	0.09	0.2208	0.00	0.06	0.24	0.00	0.058	0.001	568.3
Equipment Forklifts	Age 2	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.014	0.001	568.3
Equipment Forklifts	Age 2	1	2013	0.113975	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.002	0.001	568.3
Equipment Forklifts	Age 2	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.014	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	8	1	2007	0.240614	0.00	0.08	0.2208	0.00	0.05	0.24	0.00	0.056	0.001	568.3
Equipment	Age													
Forklifts	2	1	2013	0.113975	0.00	0.03	0.0644	0.00	0.01	0.07	0.00	0.014	0.001	568.3
Equipment	Age													
Forklifts	9	1	2006	0.240614	0.00	0.09	0.2208	0.00	0.06	0.24	0.00	0.058	0.001	568.3
Equipment	Age													
Generator Sets	5	1	2010	0.126639	0.00	0.28	0.1012	0.00	0.09	0.11	0.00	0.098	0.004	568.3
Equipment	Age													
Generator Sets	1	1	2014	0.06332	0.00	0.06	0.0092	0.00	0.01	0.01	0.00	0.007	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	16	1	1999	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.071	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	15	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.071	0.002	568.3
Equipment	Age													
Graders	12	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Rollers	4	1	2011	0.126639	0.00	0.06	0.1288	0.00	0.05	0.14	0.00	0.051	0.002	568.3
Equipment	Age													
Cranes	11	1	2004	0.278606	0.00	0.12	0.1748	0.00	0.06	0.19	0.00	0.061	0.001	568.3
Equipment	Age													
Cranes	2	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment	Age													
Rubber Tired Loaders	14	1	2001	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Graders	3	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Graders	3	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	2	1	2013	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Rollers	2	1	2013	0.113975	0.00	0.05	0.0644	0.00	0.02	0.07	0.00	0.024	0.002	568.3
Equipment	Age													
Crawler Tractors	3	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2010	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.050	0.002	568.3
Equipment	Age													
Off-Highway Trucks	3	1	2012	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Cranes	3	1	2012	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Cranes	2	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3

Emission targets from CARB's		
Calendar Year	**25-49**	**50-74**
2014	5.8	6.5
2015	5.6	6.2
2016	5.3	5.8
2017	5.0	5.4

Emission Factors from Appendix A of		
Model Year	**25-49**	**50-74**
1900 – 1969	7.2	14.8
1970 – 1971	7.2	14.8
1972 – 1979	7.2	14.8
1980 – 1987	7.2	14.8
1988	7.1	9.9
1989 – 1995	7.1	9.9
1996	7.1	9.9
1997	7.1	9.9
1998	7.1	6.9
1999	6.2	6.9
2000	6.2	6.9
2001	6.2	6.9
2002	6.2	6.9
2003	6.2	6.9
2004	4.9	4.9
2005	4.9	4.9
2006	4.9	4.9
2007	4.9	4.9
2008	4.9	3.0
2009	4.9	3.0
2010	4.9	3.0
2011	4.9	3.0
2012	4.9	3.0
2013	3.0	3.0
2014	3.0	3.0
2015 and later	3.0	3.0

*Model year selected based on the earliest model year complying with CARB's In-Use Off-R

Line No.	Equipment	Qty	Off-Road Type	OFFROAD Category	HP	MY*
	Phase IV - Kiewit					
1	D6T	1	Off-Road	Crawler Tractors	205	2003
2	D9T	1	Off-Road	Crawler Tractors	464	2001
3	D10T	1	Off-Road	Crawler Tractors	646	2002
4	D69 LGP	1	Off-Road	Crawler Tractors	145	2003
5	Cat D6K	1	Off-Road	Crawler Tractors	164	2003
6	D6 LGP	1	Off-Road	Crawler Tractors	200	2003
7	Cat 14M	1	Off-Road	Graders	294	2003
8	Cat 349	1	Off-Road	Excavators	425	2001
9	Cat 349E	1	Off-Road	Excavators	425	2001
10	Cat 314	1	Off-Road	Excavators	124	2003
11	225DLC	1	Off-Road	Excavators	147	2003
12	Komatsu PC800LC	1	Off-Road	Excavators	487	2001
13	Cat 390	1	Off-Road	Excavators	523	2001
14	Cat 390	1	Off-Road	Excavators	523	2001
15	Cat 308	1	Off-Road	Excavators	66	2004
16	JD 225DLC	1	Off-Road	Excavators	147	2003
17	316E	1	Off-Road	Excavators	113	2003
18	Hitachi EX1200	1	Off-Road	Excavators	760	2000
19	Hitachi 225	1	Off-Road	Excavators	98	1998
20	Cat CP56	1	Off-Road	Rollers	157	2003
21	Cat 657	1	Off-Road	Scrapers	600	2002
22	Cat 657	1	Off-Road	Scrapers	440	2001
23	Cat 657	1	Off-Road	Scrapers	600	2002
24	Cat 657	1	Off-Road	Scrapers	440	2001
25	75T	1	Off-Road	Cranes	267	2003
26	Tedano GR750XL	1	Off-Road	Cranes	260	2003
27	Mantis 8012	1	Off-Road	Cranes	225	2003
28	Link-Belt 218	1	Off-Road	Cranes	300	2001
29	1300 SC/APP	1	Off-Road	Cranes	603	2002
30	999 SC/APP	1	Off-Road	Cranes	298	2003
31	Cat 730	1	Off-Road	Off-Highway Trucks	451	2001
32	Cat 730	1	Off-Road	Off-Highway Trucks	321	2001
33	Cat 730	1	Off-Road	Off-Highway Trucks	451	2001
34	Cat 730	1	Off-Road	Off-Highway Trucks	451	2001
35	Cat 730	1	Off-Road	Off-Highway Trucks	321	2001
36	Cat 730	1	Off-Road	Off-Highway Trucks	451	2001
37	Cat 773F	1	Off-Road	Off-Highway Trucks	740	2002
38	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
39	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
40	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
41	Cat 740B	1	Off-Road	Off-Highway Trucks	361	2001

42	Cat 740B	1	Off-Road	Off-Highway Trucks	361	2001
43	Cat 740B	1	Off-Road	Off-Highway Trucks	484	2001
44	Cat 740B	1	Off-Road	Off-Highway Trucks	472	2001
45	Cat 773G	1	Off-Road	Off-Highway Trucks	775	2000
46	Cat 773G	1	Off-Road	Off-Highway Trucks	763	2000
47	Sullair 900	1	Portable	Air Compressors	540	2000
48	HRJW 115	1	Portable	Generator Sets	174	2000
49	Multi Quip	1	Portable	Generator Sets	157	2000
50	Hi Power HRJW 115	1	Portable	Generator Sets	174	2000
51	Wacker 96W	1	Portable	Generator Sets	135	2000
52	Multi Quip DCA220	1	Portable	Generator Sets	315	2000
53	Multi Quip DCA220	1	Portable	Generator Sets	315	2000
54	Multi Quip MQ220	1	Portable	Generator Sets	315	2000
55	Multi Quip DCA125	1	Portable	Generator Sets	237	2000
56	IT-62	1	Off-Road	Rubber Tired Loaders	211	2003
57	JD-210	1	Off-Road	Rubber Tired Loaders	84	1998
58	Skidsteer	1	Off-Road	Rubber Tired Loaders	71	2004
59	Cat 966	1	Off-Road	Rubber Tired Loaders	262	2003
60	Takeuchi TL 10 Skidsteer	1	Off-Road	Rubber Tired Loaders	90	1998
61	JD-33D Skidsteer	1	Off-Road	Rubber Tired Loaders	80	1998
62	Cat 950K	1	Off-Road	Rubber Tired Loaders	211	2003
63	Cat 259B Skidsteer	1	Off-Road	Rubber Tired Loaders	73	2004
64	Cat 259D Skidsteer	1	Off-Road	Rubber Tired Loaders	73	2004
65	JD 544K	1	Off-Road	Rubber Tired Loaders	140	2003
66	JD 310	1	Off-Road	Rubber Tired Loaders	70	2004
67	80' Manlift	1	Off-Road	Aerial Lifts	75	1998
68	80' Manlift	1	Off-Road	Aerial Lifts	74	2004
69	80' Manlift	1	Off-Road	Aerial Lifts	74	2004
70	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
71	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
72	Genie Z135	1	Off-Road	Aerial Lifts	74	2004
73	Extendable 6k	1	Off-Road	Forklifts	109	2003
74	Extendable 12K	1	Off-Road	Forklifts	122	2003
75	Extendable 20K	1	Off-Road	Forklifts	130	2003
76	Extendable 20K	1	Off-Road	Forklifts	130	2003
77	Bobcat V638	1	Off-Road	Forklifts	100	2003
78	JLG 6042	1	Off-Road	Forklifts	85	1998
79	JCB IIIB	1	Off-Road	Forklifts	75	1998
80	Genie GTH-844	1	Off-Road	Forklifts	99	1998
81	JLG G10-SSA	1	Off-Road	Forklifts	130	2003
82	Sky-track 10054	1	Off-Road	Forklifts	125	2003
83	Hyster 360	1	Off-Road	Forklifts	155	2003
84	Forklift	1	Off-Road	Forklifts	75	1998
85	Drill	1	Off-Road	Bore/Drill Rigs	300	2001
86	Cat 320	1	Off-Road	Excavators	164	2003
87	Air Compressor	1	Portable	Air Compressors	540	2001

88	Water Pump Deutz D910L03	1	Portable	Pumps	58	2004
89	Liebherr LB44 Drill Rig	1	Off-Road	Bore/Drill Rigs	677	2002
90	Liebherr LR1300SX Crane	1	Off-Road	Cranes	523	2001
91	Liebherr LR1300	1	Off-Road	Cranes	603	2002
92	Water Pump	1	Portable	Pumps	65	2004
93	Premier Pump 614-64-004	1	Portable	Pumps	262	2003
94	Peterbilt T330	1	Off-Road	Off-Highway Trucks	140	2003
95	Yamaha Outboard Engine F115LA	1	Marine	Crew and Supply, propulsion engine	115	2003
96	Yamaha Engine	1	Marine	Crew and Supply, propulsion engine	115	2003
97	Yamaha Engine	1	Marine	Crew and Supply, propulsion engine	115	2003
98	Forklift	1	Off-Road	Forklifts	111	2003
99	Power Pack	1	Portable	Generator Sets	415	2001
100	Power Pack	1	Portable	Generator Sets	450	2001
101	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2002
102	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2002
103	Crane	1	Off-Road	Cranes	300	2001
104	CAT 349 Excavator	1	Off-Road	Excavators	425	2000
105	CAT 349 Excavator	1	Off-Road	Excavators	283	2000
106	CAT CS74 Single/ Smooth/ Vibro	1	Off-Road	Rollers	156	2000
	Dozer					
107	D9T	1	Off-Road	Crawler Tractors	464	2001
107R	D9T	1	Off-Road	Crawler Tractors	464	2001
108	D10T	1	Off-Road	Crawler Tractors	646	2002
108R	D10T	1	Off-Road	Crawler Tractors	646	2002
	Graders					
109	Cat 14M	1	Off-Road	Graders	294	2003
	Excavators					
110	Cat 349	1	Off-Road	Excavators	425	2001
111	Cat 349	1	Off-Road	Excavators	425	2001
112	Cat 390/PC800	1	Off-Road	Excavators	496	2001
112R	Cat 390/PC801	2	Off-Road	Excavators	497	2001
113	Cat 314	1	Off-Road	Excavators	90	1998
	Rollers					
114	84" Vib Pad	1	Off-Road	Rollers	156	2003
	Scrapers					
115	Cat 657	1	Off-Road	Scrapers	600	2002
116	Cat 657	1	Off-Road	Scrapers	440	2001
117	Cat 657	1	Off-Road	Scrapers	600	2002
118	Cat 657	1	Off-Road	Scrapers	440	2001
	RT Cranes					
119	75T	1	Off-Road	Cranes	267	2003
119R	75T	1	Off-Road	Cranes	267	2003
120	75T	1	Off-Road	Cranes	267	2003
120R	75T	1	Off-Road	Cranes	267	2003

	Crawler Cranes					
121	1300 SC/APP	1	Off-Road	Cranes	603	2002
122	999 SC/APP	1	Off-Road	Cranes	298	2003
123	999 SC/APP	1	Off-Road	Cranes	300	2001
124	1300 SB	1	Off-Road	Cranes	523	2001
125	1220 SC/APP	1	Off-Road	Cranes	322	2001
	Haul Trucks					
126	Cat 773	1	Off-Road	Off-Highway Trucks	763	2000
127	Cat 773	1	Off-Road	Off-Highway Trucks	763	2000
128	Cat 773F	1	Off-Road	Off-Highway Trucks	740	2002
129	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
130	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
131	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
132	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
133	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
134	Cat 740	1	Off-Road	Off-Highway Trucks	484	2001
	Maint Office					
135	Maint Office	1	Portable	Generator Sets	174	2003
136	IT-62	1	Off-Road	Rubber Tired Loaders	211	2003
137	JD-210	1	Off-Road	Rubber Tired Loaders	84	1998
138	Skidsteer	1	Off-Road	Rubber Tired Loaders	71	2004
139	Cat 966	1	Off-Road	Rubber Tired Loaders	262	2003
139R	Cat 967	1	Off-Road	Rubber Tired Loaders	262	2003
	Manlifts					
140	80' Manlift	1	Off-Road	Aerial Lifts	75	1998
141	80' Manlift	1	Off-Road	Aerial Lifts	74	2004
142	80' Manlift	1	Off-Road	Aerial Lifts	74	2004
143	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
144	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
145	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
146	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
147	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
148	Scissor Lift	1	Off-Road	Aerial Lifts	75	1998
	Forklifts					
149	Extendable 6k	1	Off-Road	Forklifts	109	2003
150	Extendable 12K	1	Off-Road	Forklifts	122	2003
151	Extendable 20K	1	Off-Road	Forklifts	130	2003
	NCB (sub)					
152	Forklift	1	Off-Road	Forklifts	75	1998
153	Drill	1	Off-Road	Bore/Drill Rigs	300	2001
153R	Drill	2	Off-Road	Bore/Drill Rigs	300	2001
154	Drill	1	Off-Road	Bore/Drill Rigs	260	2003
155	Drill	1	Off-Road	Bore/Drill Rigs	220	2003
155R	Drill	2	Off-Road	Bore/Drill Rigs	220	2003
156	Drill	1	Off-Road	Bore/Drill Rigs	230	2003
156R	Drill	2	Off-Road	Bore/Drill Rigs	230	2003

157	Cat 320	1	Off-Road	Excavators	164	2003
158	Air Compressor	1	Portable	Air Compressors	540	2001
158R	Air Compressor	2	Portable	Air Compressors	540	2001
	Misc					
159	Rip Rap Screen Generator	1	Portable	Generator Sets	134	2003
160	Tug Boat	1	Marine	Tug Boats, propulsion engine	400	2001
	Dredge Barge					
161	Liebherr 895	1	Marine	Barge, auxiliary engine (Crane)	900	2000
162	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2003
163	4 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	200	2003
	Material (Scow) Barge					
164	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2003
	Anchor Barge					
165	2 Drum Winch	1	Marine	Barge, auxiliary engine (Hoist_swing_winch)	150	2003
	Work Boats					
166	Work Boat Outboard Engine	1	Marine	Work Boats, propulsion engine	115	2003
167	Work Boat Outboard Engine	1	Marine	Work Boats, propulsion engine	140	2003
168	Workboat Outboard Engine	1	Marine	Work Boats, propulsion engine	150	2003
	Malcolm (sub)					
169	Water Pump	1	Portable	Pumps	65	2004
170	Forklift	1	Off-Road	Forklifts	85	1998
171	Drill Rig	1	Off-Road	Bore/Drill Rigs	677	2002
172	Skidsteer	1	Off-Road	Rubber Tired Loaders	80	1998
173	Manlift	1	Off-Road	Aerial Lifts	75	1998
174	Manlift	1	Off-Road	Aerial Lifts	75	1998
175	Forklift	1	Off-Road	Forklifts	111	2003
176	Power Pack	1	Portable	Generator Sets	415	2001
177	Power Pack	1	Portable	Generator Sets	450	2001
178	Drill Rig	1	Off-Road	Bore/Drill Rigs	717	2002
179	Crane	1	Off-Road	Cranes	300	2001
180	Crane	1	Off-Road	Cranes	300	2001
	Lower Pipeline Staging Area (2014) - Kiewit					
181	CAT 349 Excavator	1	Off-Road	Excavators	425	2000
182	CAT 349 Excavator	1	Off-Road	Excavators	283	2000
183	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2000
184	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2000
185	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2000
186	CAT CS74 Single Drum Roller	1	Off-Road	Rollers	174	2000
187	CAT 14M Blade	1	Off-Road	Scrapers	294	2000
	Cheeseman Slope Removal (2016) - Kiewit					
188	CAT D6 Dozer	1	Off-Road	Crawler Tractors	205	2003
189	CAT D9 Dozer	1	Off-Road	Crawler Tractors	600	2002
190	CAT 426/580 Backhoe	1	Off-Road	Tractors/Loaders/Backhoes	75	2004
191	CAT 14M Blade	1	Off-Road	Graders	294	2003
192	CAT 349 Excavator	1	Off-Road	Excavators	425	2001
193	84" Vib Pad Roller	1	Off-Road	Rollers	175	2003

194	CAT 657 Scrapper	1	Off-Road	Scrapers	440	2001
195	CAT 657 Scrapper	1	Off-Road	Scrapers	600	2002
196	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2001
197	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2003
	Phase IV Safety Bench (2016) - Kiewit					
198	CAT D6 Dozer	1	Off-Road	Crawler Tractors	205	2003
199	CAT D9 Dozer	1	Off-Road	Crawler Tractors	600	2002
200	CAT 14M Blade	1	Off-Road	Graders	294	2003
201	CAT 349 Excavator	1	Off-Road	Excavators	425	2001
202	84" Vib Pad Roller	1	Off-Road	Rollers	175	2003
203	CAT 815 Compactor	1	Off-Road	Rollers	250	2003
204	Manitowoc 999 Crane	1	Off-Road	Cranes	300	2001
205	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2001
206	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2003
	Erosion Control Project (2014) - Kiewit					
207	CAT 349 Excavator	1	Off-Road	Excavators	425	2001
208	CAT 349 Excavator	1	Off-Road	Excavators	283	2003
209	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2001
210	CAT 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2001
211	CAT 966 Loader	1	Off-Road	Rubber Tired Loaders	262	2003
212	CAT CS74 Single Drum Roller	1	Off-Road	Rollers	174	2003
213	CAT 14M Blade	1	Off-Road	Graders	294	2003
	Phase V Miscellaneous Activities (2016/2017) - Kiewit					
214	CATERPILLAR 14 M Blade	1	Off-Road	Scrapers	294	2003
215	CATERPILLAR 657 Scraper	1	Off-Road	Scrapers	600	2002
216	CATERPILLAR 657 Scraper	1	Off-Road	Scrapers	440	2001
217	CATERPILLAR CAT 740B	1	Off-Road	Off-Highway Trucks	361	2001
218	CATERPILLAR D6T Dozer	1	Off-Road	Crawler Tractors	140	2003
219	CATERPILLAR D9T Dozer	1	Off-Road	Crawler Tractors	464	2001
220	CATERPILLAR CB-534D Tandem Vibratory Rollers	1	Off-Road	Rollers	130	2003
221	CATERPILLAR CS563 Vibratory Smooth Drum Roller	1	Off-Road	Rollers	145	2003
222	CATERPILLAR 328 Excavator	1	Off-Road	Excavators	170	2003
223	Case SR130 Skid Steer Loader	1	Off-Road	Rubber Tired Loaders	54	2004
224	Kenworth Water Trucks	1	Off-Road	Off-Highway Trucks	200	2003
	Annual Reserve Troop Training (2017) - US Army					
225	CAT 621B Wheel Tractor-Scraper	1	Off-Road	Scrapers	330	2001
226	130G Motor Grader	1	Off-Road	Scrapers	209	2003
227	TRK DUMP 20T F5070	1	Off-Road	Scrapers	380	2001
228	D7G Medium Bulldozer	1	Off-Road	Off-Highway Trucks	140	2003
229	CB534D Asphalt Compactor	1	Off-Road	Crawler Tractors	130	2003
230	CS563D Vibe Roller	1	Off-Road	Crawler Tractors	145	2003
231	EXC HYEX JD230LCR MUL	1	Off-Road	Rollers	170	2003
232	Case Skid Steer Loader	1	Off-Road	Rollers	54	2004
233	DISTRIBUTOR WATER TANK TYPE: 6000 GL SEMITRAILER MTD (CCE)	1	Off-Road	Excavators	300	2001

	Rossmoor Bar Tree Planting - TBD					
234	Bobcat Auger	1	Off-Road	Bore/Drill Rigs	75	2004
235	Water Truck	1	Off-Road	Off-Highway Trucks	325	2001
	Phase III - Granite Actual Equipment Usage Jan - Jun 2014					
236	CAT TL943	1	Off-Road	Forklifts	100	2003
237	John Deere 210LE	1	Off-Road	Rubber Tired Loaders	78	2004
238	ROTEC CC-200	1	Off-Road	Cranes	250	2003
239	Grove RT650E	1	Off-Road	Cranes	173	2003
240	Manitowoc 555	1	Off-Road	Cranes	350	2001
241	JLG 10054 Skytrack	1	Off-Road	Forklifts	100	2003
242	Whisperwatt DF-44001	1	Off-Road	Generator Sets	532	2001
243	JLG G10-55A Skytrak	1	Off-Road	Forklifts	110	2003
244	John Deere 644 H Loader	1	Off-Road	Rubber Tired Loaders	180	2003
245	John Deere 710G	1	Off-Road	Tractors/Loaders/Backhoes	129	2003
246	JLG 860SJ	1	Off-Road	Aerial Lifts	62	2004
247	Caterpillar 328D	1	Off-Road	Excavators	300	2001
248	Thompson W-Pump 6JC.28	1	Portable	Pumps	80	2004
249	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2003
250	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2003
251	Bauer BG24H	1	Off-Road	Bore/Drill Rigs	350	2001
252	Gradall 534D10-45	1	Off-Road	Forklifts	115	2003
253	Doosan G150	1	Portable	Generator Sets	274	2003
254	Sullivan D1800Q6CA	1	Portable	Air Compressors	343	2001
255	CAT TL943	1	Off-Road	Forklifts	100	2003
256	Ingersoll Rand IR-825	1	Portable	Air Compressors	280	2003
257	Skyjack SJ66T	1	Off-Road	Aerial Lifts	56	2004
258	Doosan G150	1	Portable	Generator Sets	274	2003
259	Ingersoll Rand G290	1	Portable	Generator Sets	363	2001
260	Maxim Manitowoc 888	1	Off-Road	Cranes	330	2001
261	Skytrak 10054	1	Off-Road	Forklifts	100	2003
262	Maxim Manitowoc 18000	1	Off-Road	Cranes	600	2002
263	Skyjack SJ9250	1	Off-Road	Aerial Lifts	65	2004
264	CAT 163H	1	Off-Road	Graders	241	2003
265	CAT CS-563C	1	Off-Road	Rollers	187	2003
266	Atlas-Copco XAHS236	1	Portable	Air Compressors	274	2003
267	JLG 1350 SJP	1	Off-Road	Aerial Lifts	74	2004
268	Genie Z80/60	1	Off-Road	Aerial Lifts	78	2004
269	Grove RT890E	1	Off-Road	Cranes	275	2003
270	Genie GTH 1056	1	Off-Road	Forklifts	124	2003
271	Caterpillar CP563E	1	Off-Road	Rollers	152	2003
272	Caterpillar 328D	1	Off-Road	Excavators	300	2001
273	CAT TL943	1	Off-Road	Forklifts	100	2003
274	Grove RT890E	1	Off-Road	Cranes	275	2003
275	Grove RT890E	1	Off-Road	Cranes	275	2003
276	Teupen TL69A	1	Off-Road	Aerial Lifts	15	2004
277	Caterpillar 328D	1	Off-Road	Excavators	204	2003

278	Caterpillar 321D LCR	1	Off-Road	Excavators	157	2003
279	JLG 860 SJ	1	Off-Road	Aerial Lifts	62	2004
280	Genie S-65	1	Off-Road	Aerial Lifts	82	2004
281	Caterpillar XQ350N	1	Portable	Generator Sets	527	2001
	Granite Construction (2014-2015)					
282	Skyjack SJ9250	1	Off-Road	Aerial Lifts	65	2004
283	Genie S-65	1	Off-Road	Aerial Lifts	56	2004
284	JLG 800S JLG	1	Off-Road	Aerial Lifts	65	2004
285	JLG 860SJ	1	Off-Road	Aerial Lifts	62	2004
286	JLG 1350 SJP	1	Off-Road	Aerial Lifts	74	2004
287	Genie Z80/60	1	Off-Road	Aerial Lifts	78	2004
288	Ingersoll Rand IR-825	1	Portable	Air Compressors	280	2003
289	Sullivan D1800Q6CA	1	Portable	Air Compressors	343	2001
290	Atlas-Copco XAHS236	1	Portable	Air Compressors	274	2003
291	John Deere 710G	1	Off-Road	Tractors/Loaders/Backhoes	129	2003
292	ROTEC CC-200	1	Off-Road	Other Construction Equipment	250	2003
293	Ingersoll Rand LMEAC-500C	1	Off-Road	Bore/Drill Rigs	170	2003
294	Manitowoc 555	1	Off-Road	Cranes	350	2001
295	Maxim Manitowoc 888	1	Off-Road	Cranes	330	2001
296	Maxim Manitowoc 18000	1	Off-Road	Cranes	600	2002
297	Caterpillar D6R XL	1	Off-Road	Crawler Tractors	185	2003
298	CAT 330CL	1	Off-Road	Excavators	345	2001
299	Caterpillar 328D	1	Off-Road	Excavators	300	2001
300	CAT TL943	1	Off-Road	Forklifts	100	2003
301	JLG 10054 Skytrack	1	Off-Road	Forklifts	100	2003
302	Genie GTH 1056	1	Off-Road	Forklifts	124	2003
303	JLG G10-55A Skytrak	1	Off-Road	Forklifts	110	2003
304	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2003
305	JLG 10054 Skytrak	1	Off-Road	Forklifts	100	2003
306	Gradall 534D10-45	1	Off-Road	Forklifts	115	2003
307	Whisperwatt DF-44001	1	Portable	Generator Sets	532	2001
308	Whisperwatt DF-44001	1	Portable	Generator Sets	540	2001
309	CAT 966G	1	Off-Road	Rubber Tired Loaders	235	2003
310	John Deere 644 H Loader	1	Off-Road	Rubber Tired Loaders	180	2003
311	CAT 14H	1	Off-Road	Graders	220	2003
312	Caterpillar CP563E	1	Off-Road	Rollers	152	2003
313	Grove RT650E	1	Off-Road	Cranes	173	2003
314	Grove RT890E	1	Off-Road	Cranes	275	2003
315	John deere 210LE	1	Off-Road	Rubber Tired Loaders	78	2004

	Right Bank Stabilization (2015)					
316	12H Caterpillar Grader	1	Off-Road	Graders	145	2012
317	12G Caterpillar Grader	1	Off-Road	Graders	135	2012
318	CP54B Caterpillar Compactor	1	Off-Road	Rollers	131	2013
319	CB44B Caterpillar Compactor	1	Off-Road	Rollers	102	2013
320	Caterpillar D7E Dozer	1	Off-Road	Crawler Tractors	235	2012
321	Kenworth T300 Water Truck	1	Off-Road	Off-Highway Trucks	300	2010
322	Caterpillar 740 Haul Truck	1	Off-Road	Off-Highway Trucks	484	2012
323	Tadano GR-1000XL-2 Crane	1	Off-Road	Cranes	267	2012
324	Terex T560 Crane	1	Off-Road	Cranes	455	2013

In-Use Off-Road Diesel Vehicle Rule					
75-99	**100-174**	**175-299**	**300-599**	**600-750**	**>750**
7.1	6.4	6.2	5.9	6.1	7.2
6.7	6.0	5.8	5.5	5.6	6.8
6.2	5.5	5.3	5.1	5.2	6.5
5.5	4.9	4.7	4.5	4.6	6.0

CARB's In-Use Off-Road Diesel Vehicle Rule					
75-99	**100-174**	**175-299**	**300-599**	**600-750**	**Over 750**
14.8	15.9	15.9	15.2	15.2	15.2
14.8	14.8	14.8	14.1	14.1	14.1
14.8	13.6	13.6	13.0	13.0	13.0
14.8	12.5	12.5	11.9	11.9	11.9
9.9	9.3	9.3	8.9	8.9	8.9
9.9	9.3	9.3	8.9	8.9	8.9
9.9	9.3	6.9	6.9	6.9	8.9
9.9	6.9	6.9	6.9	6.9	8.9
6.9	6.9	6.9	6.9	6.9	8.9
6.9	6.9	6.9	6.9	6.9	8.9
6.9	6.9	6.9	6.9	6.9	6.9
6.9	6.9	6.9	4.2	6.9	6.9
6.9	6.9	6.9	4.2	4.2	6.9
6.9	4.3	4.3	4.2	4.2	6.9
4.9	4.3	4.3	4.2	4.2	6.9
4.9	4.3	4.3	4.2	4.2	6.9
4.9	4.3	2.6	2.6	2.6	4.2
4.9	2.6	2.6	2.6	2.6	4.2
3.0	2.6	2.6	2.6	2.6	4.2
3.0	2.6	2.6	2.6	2.6	4.2
3.0	2.6	2.6	2.6	2.6	4.2
3.0	2.6	1.5	1.5	1.5	2.6
2.5	2.5	1.5	1.5	1.5	2.6
2.5	2.5	1.5	1.5	1.5	2.6
2.5	2.5	0.3	0.3	0.3	2.6
0.3	0.3	0.3	0.3	0.3	2.6

Road Rule targets.

2014

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total
224	196	141	126	122	22							831
198	143	74	56	14	11							496
	16	120	2		2							140
			10	40	40							90
139	116	79										334
46												46
104	68	42	60	11	28							313
201	185	180	163	80	65							874
24	186	151	105	33								499
			334	132	64							530
			210	240	262							712
				23	9							32
255	188	243	137									823
59												59
157	84	132	60									433
		128										128
	58											58
68												68
114												114
32	22	11										65
		2										2
		2										2
	3	3										6
	3	3										6
10												10
51	70	30	73	41	46							311
			200	194	312							706
			215	220	79							514
				23								23
138	61	27	53	54	65							398
207	156	146	86									595
206	182	130	75	85	13							691
189	142	102	16									449
153	188	135	6									482
209	180	117	23									529
223	171	156	92									642
					1							1
95												95
46												46
19												19
			30	126	56							212

			31	129	36							196
					9							9
118												118
					10							10
					9							9
		106		96								202
				331	297							628
	136	143	661									940
		24	310									334
135	320	372										827
147	121	7										275
62												62
	80											80
120												120
			50	51	60							161
20	49	54	21	27	31							202
			47	23	27							97
176	165	133	103	131	66							774
			210	240	42							492
				160								160
148	193	79	83									503
					94							94
					83							83
		20										20
61												61
38	24	49	68	43	28							250
					9							9
			50	20	8							78
			200	140	160							500
42												42
75	56	148	105	63	109							556
103	47	146	88	72	111							567
			25	100	8							133
				80	23							103
			8		5							13
		121			23							144
		29										29
		31										31
	12											12
				8								8
38			24									62
		135		253	86							474
					76							76

		16	92	145								253
				50	222							272
				9								9
		17	16		59							92
				35	5							40
	26	47	9									82
11												11
	30	24	10	30								94
	16											16
	16											16
			120	120	80							320
			230	170	61							461
		64	230	220	51							565
		128	230	240	187							785
		147	230	240								617
		179										179
					44							44
					98							98
24	99											123
						200	220	240	220	160	160	1200
						200	220	240	220	160	160	1200
						200	220	220	120	100	100	960
						200	220	240	220	160	160	1200
							220	240	220	160	160	1000
						200	220	240	220	160	160	1200
						200	200	200				600
							200	120				320
							200	120				320
							200	120				320
							200	120				320
						120	120	120	120	120	120	720
							60	60	60	60	60	300

						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
						120	120	120	120	120	120	720
							200	200				400
							200	200				400
							200	200				400
						200	200	200				600
						200	200	200	240	160		1000
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						200	220	220	240	160	160	1200
						475	475	475	475	475	475	2850
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
						160	160	160	160	160	160	960
						160						160
						80	80	80	80	80	80	480
						80	80	80	80	80	80	480
							160	160	160	160	160	800
							160	160	160	160	160	800
								160	160	160	160	640
								160	160	160	160	640
						160	160	160	160	160	160	960
						160	160	160	160	160	160	960
						160	160	160	160	160	160	960
						120	120	120	120	120	120	720
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120

						120	200	200	200	200	200	1120
						120	200	200	200	200	200	1120
								200	200	200		600
						160						160
						160						160
						240						240
						160						160
						160						160
						160						160
						160						160
						240						240
						120						120
						240						240
						160						160
						160						160
												40
												40
												40
												40
												40
												40
												40

											160
											160
											160
											160
											160
											160
											160

103	36											139
198	239	284	80	36	20							857
36	34	13	19	30	48							180
10	4	20	12	24	34							104
219	114	159	125	86	61							764
165	108	93	111	111	62							650
153	56	12	19	30	48							318
145	58	33	79	79	81							475
103	54	68	69	76	77							447
18	21	5	16	9	8							77
80	42	37	75	78	66							378
3												3
508	532											1040
22	25	53	95	128	90							413
41	62	72	82	107	54							418
136												136
120	48	79	125	125	6							503
216	318	200	156									890
50												50
76												76
	24	66	38	54	70							252
	2				149							151
	52	39	44	52	45							232
	15	317	158									490
	59	144	156									359
	32	43	12	23	29							139
	30	26	23									79
		9	36	77	90							212
		20		31								51
		8										8
		7	8									15
				120	116							236
				69	55							124
				53	8							61
				21								21
				5								5
				3								3
				15								15
					3							3
					53							53
					30							30
					22							22

					20							20
					4							4
					50							50
					30							30
					676							
			56	31	80	80	50	50	50	50	30	477
			44	52	40	50	50	50	50	40	20	396
					60	60	60	60	60	60	30	390
			75	78	60	50	60	60	60	40	20	503
				69	90	80	80	50	50	50	50	519
				53	90	90	80	80	50	50	50	543
			2		150	100	50	50	50	50	50	502
					150							150
				120	130	100	80	60				490
			16	9						30	50	105
			19	30	50	25						124
					50	50	40					140
			125	86	100	120	120	60	50	50		711
			12	23	120	140	140	140	100	80	60	815
			23	77	110	120	120	120	120	120	120	930
										80	100	180
										140	140	280
				15	65	10						90
			38	54	100	110	100	80	80	40	40	642
			111	111	120	120	120	80	60	60	50	832
				5	45							50
			79	79	80	10						248
			82	107	120	120	100	100	80			709
			95	128	130	130	100	100	80	80	30	873
			125	125	130	100	100	50				630
			19	30	50	25						124
					672	40						712
										140	140	280
			69	76	150	80	50	50	40			515
								10	10		30	50
				3	45	10					20	78
			12	24	30	10						76
				21	60	110	110	80	80	80	80	621
			80	36	50	40	30	30	30	10	10	316

2015													2016												
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total

160	160				160	160	160	160	160	160	160	1440	160	160	160	160	160	160	160	160	160	160			1600
160	160				160	160	160	160	160	160	160	1440	160	160	160	160	160	160	160	160	160	160			1600
80	80	160			160	160	160	160	160	160	160	1440	160	160	160	160	160	160	160	160	160	160	160		1760
160	160	160				160	160	160	160	160	160	1440	160	160	160	160	160	160	160	160	160	160			1600
160	160					160	160	160	160	160	160	1280	160	160	160	160	160	160	160	160	160	160			1600
				160	160	160	160	160	160	160	160	1280	160	160	160	160	160	160	160	160	160	160			1600
		80	80	80	80	80	80	80				560													
						160	160	160	160	160	160	960	160	160	160	160	160	160	160	160	160	160	160		1760
120	120	120	120	120	120	120	120	120	120	120	120	1440	120	120	120	120									480
60	60		120	120	120	120	120	120	120	120	120	1200	120	120	120	120	120	120	120	120	120	120			1200

120	120	120	120	120	120	120	120	120	120	120	120	1440	120	120	120										360
120	120	120	120	120								600													
120	120	120	120	120	120	120	120	120	120	120	120	1440	120	120	120	120	120	120							720
120	120	120	120	120	120	120	120					960													
				160	160	160	160	160	160	160	160	1280	160	160	160	160	160	160	160	160	160	160	160	160	1920
				160	160	160	160	160	160	160	160	1280	160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160			160	160	160	160	160	160	160	160	1600	160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160		160	160	160	160	160	160	160	160	1760	160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160		160	160	160	160	160	160	160	160	1760	160	160	160	160	160	160	160	160	160	160	160	160	1920
160	160	160		160	160	160	160	160	160	160	160	1760	160	160	160	160	160	160	160	160	160	160	160	160	1920
80	80	80	80	80	80	80	80	80	80	80	80	960	80	80	80	80	80	80	80	80	80	80			800
80	80	80	80	80	80	80	80	80	80	80	80	960	80	80	80	80	80	80	80	80	80	80			800
80	80	80	80	80	80	80	80	80	80	80	80	960	80	80	80	80	80	80	80	80	80	80			800
160	160	160	160					160	160	160	160	1280	160	160	160	160	160	160	160	160	160	160			1600
																			160	160	160	160			640
80	80	80	80	80	80							480													
80	80	80	80	80	80							480													
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160											320
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160											320
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160											320
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160											320
	160	160	160	160	160	160	160	160	160	160	160	1760	160	160	160	160	160	160	160						1120
	160	160	160	160	160	160	160	160	160	160	160	1760	160	160	160	160	160	160	160						1120
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160	160	160	160	160	160	160	160	160			1600
160	160	160	160	160	160	160	160	160	160	160	160	1920	160	160	160	160	160	160	160	160	160	160			1600
200	160							160	160	160	160	1000	160	160											320
200	160							160	160	160	160	1000	160	160											320
200	160							160	160	160	160	1000	160	160											320
200	160							160	160	160	160	1000	160	160											320
200	160							160	160	160	160	1000	160	160											320

160	120											280													
160	120											280													
							160	160	160	160	160	800	160	160	160	160	160	160	160	160	160	160			1600
							120	120	120	120	120	600	120	120	120	120	120	120	120	120	120	120			1200
							160	160	160	160	160	800	160	160	160	160	160	160	160	160	160	160			1600
							160	160	160	160	160	800	160	160	160	160	160	160	160	160	160	160			1600
							160	160	160	160	160	800	160	160	160	160	160	160	160	160	160	160			1600
							160	160	160	160	160	800	160	160	160	160	160	160	160	160	160	160			1600
						120	160	160	160	160	160	920	160	160	160	160	160	160	160	160	160	160			1600
						120	160	160	160	160	160	920	160	160	160	160	160	160	160	160	160	160			1600
						120	160	160	160	160	160	920	160	160	160	160	160	160	160	160	160	160			1600
																									138
																									175
																									60
																									334
																									710
																									347

																									123
																									123
																									692
																									531
																									300
																									1075
																									1700
																									1700
																									990
																									790
																									250
																									4200
																									220
																									240
																									192
																									192
																									225
																									282
																									210
																									204
																									120
																									143
																									360
																									384

																									75
																									200

10												10													
20	10											30													
10												10													
30	10											40													
30												30													
40	10											50													
10												10													
50												50													
30												30													
50												50													
50												50													
40	40	30										110													
50	50	50	30									180													
50	20											70													
30	40											70													
20												20													
80	80	80	80	40								360													
10	10	40	40	10								110													

												33													
												98													
												33													
												98													
												98													
												160													
												130													
												240													
												230													

2017												
Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total

												560
												448
												448
												525
												658
												490
												476
												280
												333
												840
												896
												960
												640
												2560
												1280
												960
												480
												320
												800
												380

Total Hours	E.F.. (g/hp-hr, L.F. inclusive)										2014 Emissions (lbs)									
	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e
831	0.164	2.282	0.465	0.053	0.056	0.002	568	0.030	0.014	573	61.6	857.2	174.7	19.9	21.2	0.8	213,432	11.3	5.1	215,246
496	0.167	2.241	0.454	0.055	0.058	0.002	568	0.030	0.014	573	84.9	1137.0	230.5	27.9	29.6	1.1	288,340	15.3	6.9	290,790
140	0.164	2.228	0.451	0.054	0.057	0.002	568	0.030	0.014	573	32.6	444.2	89.9	10.8	11.4	0.4	113,309	6.0	2.7	114,272
90	0.260	2.404	1.366	0.115	0.122	0.002	568	0.030	0.014	573	7.5	69.2	39.3	3.3	3.5	0.1	16,350	0.9	0.4	16,489
334	0.260	2.404	1.366	0.115	0.122	0.002	568	0.030	0.014	573	31.4	290.3	164.9	13.9	14.7	0.3	68,627	3.6	1.6	69,210
46	0.164	2.282	0.465	0.053	0.056	0.002	568	0.030	0.014	573	3.3	46.3	9.4	1.1	1.1	0.0	11,526	0.6	0.3	11,624
313	0.154	1.877	0.469	0.051	0.054	0.002	568	0.030	0.014	573	31.2	380.7	95.1	10.4	11.0	0.4	115,291	6.1	2.7	116,271
874	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	125.7	1647.7	376.0	41.1	43.5	1.6	465,377	24.7	11.1	469,332
499	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	71.8	940.7	214.7	23.5	24.8	0.9	265,702	14.1	6.3	267,960
530	0.239	2.165	1.386	0.106	0.112	0.002	568	0.030	0.014	573	34.6	313.6	200.8	15.4	16.2	0.3	82,338	4.4	2.0	83,038
712	0.239	2.165	1.386	0.106	0.112	0.002	568	0.030	0.014	573	55.2	499.5	319.8	24.5	25.9	0.4	131,130	7.0	3.1	132,244
32	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	5.3	69.1	15.8	1.7	1.8	0.1	19,525	1.0	0.5	19,691
823	0.190	2.574	0.459	0.062	0.066	0.002	568	0.030	0.014	573	180.5	2443.0	435.7	59.1	62.6	1.8	539,270	28.7	12.8	543,853
59	0.190	2.574	0.459	0.062	0.066	0.002	568	0.030	0.014	573	12.9	175.1	31.2	4.2	4.5	0.1	38,660	2.1	0.9	38,988
433	0.311	2.303	1.642	0.171	0.180	0.002	568	0.030	0.014	573	19.6	145.1	103.4	10.7	11.3	0.1	35,804	1.9	0.9	36,109
128	0.239	2.165	1.386	0.106	0.112	0.002	568	0.030	0.014	573	9.9	89.8	57.5	4.4	4.6	0.1	23,574	1.3	0.6	23,774
58	0.609	2.930	1.792	0.308	0.325	0.002	568	0.030	0.014	573	8.8	42.3	25.9	4.5	4.7	0.0	8,211	0.4	0.2	8,281
68	0.192	2.588	0.462	0.063	0.067	0.002	568	0.030	0.014	573	21.8	294.9	52.6	7.2	7.6	0.2	64,748	3.4	1.5	65,298
114	0.641	3.036	1.864	0.336	0.353	0.002	568	0.030	0.014	573	15.8	74.8	45.9	8.3	8.7	0.0	13,997	0.7	0.3	14,116
65	0.199	2.008	1.280	0.087	0.092	0.002	568	0.030	0.014	573	4.5	45.2	28.8	2.0	2.1	0.0	12,785	0.7	0.3	12,894
2	0.185	2.508	0.451	0.061	0.065	0.002	568	0.030	0.014	573	0.5	6.6	1.2	0.2	0.2	0.0	1,503	0.1	0.0	1,516
2	0.189	2.524	0.455	0.062	0.066	0.002	568	0.030	0.014	573	0.4	4.9	0.9	0.1	0.1	0.0	1,103	0.1	0.0	1,112
6	0.185	2.508	0.451	0.061	0.065	0.002	568	0.030	0.014	573	1.5	19.9	3.6	0.5	0.5	0.0	4,510	0.2	0.1	4,549
6	0.189	2.524	0.455	0.062	0.066	0.002	568	0.030	0.014	573	1.1	14.7	2.6	0.4	0.4	0.0	3,308	0.2	0.1	3,336
10	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	0.5	7.4	2.6	0.2	0.2	0.0	3,345	0.2	0.1	3,374
311	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	14.7	224.9	78.2	5.5	5.9	0.3	101,307	5.4	2.4	102,168
706	0.103	1.506	0.454	0.034	0.036	0.001	568	0.030	0.014	573	36.2	527.3	158.8	11.9	12.7	0.5	199,018	10.6	4.7	200,709
514	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	36.0	503.9	151.4	12.0	12.7	0.5	193,192	10.3	4.6	194,834
23	0.104	1.474	0.442	0.035	0.037	0.001	568	0.030	0.014	573	3.2	45.1	13.5	1.1	1.1	0.0	17,376	0.9	0.4	17,524
398	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	21.5	329.9	114.7	8.1	8.6	0.4	148,595	7.9	3.5	149,858
595	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	107.2	1248.8	288.8	34.1	35.8	1.1	336,200	17.9	8.0	339,058
691	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	88.6	1032.3	238.7	28.2	29.6	0.9	277,899	14.8	6.6	280,261
449	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	80.9	942.4	217.9	25.7	27.0	0.9	253,704	13.5	6.0	255,860
482	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	86.9	1011.7	233.9	27.6	29.0	0.9	272,351	14.5	6.5	274,665
529	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	67.9	790.3	182.7	21.6	22.7	0.7	212,748	11.3	5.1	214,556
642	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	115.7	1347.5	311.6	36.8	38.6	1.2	362,757	19.3	8.6	365,840
1	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	0.3	3.4	0.8	0.1	0.1	0.0	927	0.0	0.0	935
95	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	18.4	214.0	49.5	5.8	6.1	0.2	57,607	3.1	1.4	58,096
46	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	8.9	103.6	24.0	2.8	3.0	0.1	27,894	1.5	0.7	28,131
19	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	3.7	42.8	9.9	1.2	1.2	0.0	11,521	0.6	0.3	11,619
212	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	30.6	356.2	82.4	9.7	10.2	0.3	95,884	5.1	2.3	96,699

196	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	28.3	329.3	76.1	9.0	9.4	0.3	88,648	4.7	2.1	89,401
9	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	1.7	20.3	4.7	0.6	0.6	0.0	5,457	0.3	0.1	5,504
118	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	22.3	259.2	59.9	7.1	7.4	0.2	69,780	3.7	1.7	70,373
10	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	3.5	46.4	8.3	1.2	1.3	0.0	9,710	0.5	0.2	9,792
9	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	3.1	41.1	7.4	1.1	1.1	0.0	8,603	0.5	0.2	8,677
202	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573	62.3	820.5	117.4	21.6	22.7	0.6	136,663	7.3	3.3	137,824
628	0.917	6.187	1.525	0.403	0.421	0.004	568	0.030	0.014	573	220.9	1490.5	367.4	97.1	101.4	0.9	136,903	7.3	3.3	138,067
940	0.917	6.187	1.525	0.403	0.421	0.004	568	0.030	0.014	573	298.3	2013.1	496.2	131.1	137.0	1.2	184,898	9.8	4.4	186,469
334	0.917	6.187	1.525	0.403	0.421	0.004	568	0.030	0.014	573	117.5	792.7	195.4	51.6	53.9	0.5	72,812	3.9	1.7	73,430
827	0.917	6.187	1.525	0.403	0.421	0.004	568	0.030	0.014	573	225.7	1522.9	375.4	99.2	103.6	0.9	139,876	7.4	3.3	141,065
275	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	76.3	1004.5	93.2	26.4	27.8	0.7	108,530	5.8	2.6	109,452
62	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	17.2	226.5	21.0	6.0	6.3	0.2	24,468	1.3	0.6	24,676
80	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	22.2	292.2	27.1	7.7	8.1	0.2	31,572	1.7	0.8	31,841
120	0.431	5.605	0.520	0.138	0.145	0.004	568	0.030	0.014	573	27.0	351.4	32.6	8.7	9.1	0.2	35,632	1.9	0.8	35,934
161	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	13.3	156.3	38.9	4.1	4.3	0.1	42,561	2.3	1.0	42,923
202	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573	24.4	113.2	73.7	13.4	14.0	0.1	21,259	1.1	0.5	21,439
97	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	5.4	35.8	27.7	3.1	3.2	0.0	8,628	0.5	0.2	8,702
774	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573	70.4	764.7	218.2	22.1	23.2	0.8	254,066	13.5	6.1	256,225
492	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573	63.7	295.3	192.5	35.0	36.5	0.2	55,477	2.9	1.3	55,948
160	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573	18.4	85.4	55.6	10.1	10.6	0.1	16,037	0.9	0.4	16,173
503	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	41.6	488.4	121.6	12.8	13.4	0.4	132,970	7.1	3.2	134,101
94	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	5.4	35.7	27.6	3.1	3.2	0.0	8,597	0.5	0.2	8,670
83	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	4.7	31.5	24.4	2.7	2.8	0.0	7,591	0.4	0.2	7,656
20	0.272	2.201	1.525	0.123	0.129	0.002	568	0.030	0.014	573	1.7	13.6	9.4	0.8	0.8	0.0	3,508	0.2	0.1	3,538
61	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	3.3	22.2	17.2	1.9	2.0	0.0	5,350	0.3	0.1	5,395
	0.450	2.227	1.675	0.212	0.226	0.002	568	0.030	0.014	573										
250	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	8.5	70.8	60.9	4.4	4.8	0.1	23,178	1.2	0.6	23,375
9	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	0.3	2.5	2.2	0.2	0.2	0.0	834	0.0	0.0	842
78	0.450	2.227	1.675	0.212	0.226	0.002	568	0.030	0.014	573	5.8	28.7	21.6	2.7	2.9	0.0	7,329	0.4	0.2	7,392
500	0.450	2.227	1.675	0.212	0.226	0.002	568	0.030	0.014	573	37.2	184.1	138.5	17.6	18.7	0.1	46,982	2.5	1.1	47,382
42	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	1.4	11.9	10.2	0.7	0.8	0.0	3,894	0.2	0.1	3,927
	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573										
556	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	19.5	172.6	211.0	8.7	9.2	0.1	84,984	4.5	2.0	85,707
	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573										
567	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	21.2	187.6	229.3	9.4	9.9	0.2	92,349	4.9	2.2	93,134
133	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	9.6	45.9	53.5	5.0	5.2	0.0	16,663	0.9	0.4	16,805
103	0.360	1.672	1.961	0.197	0.206	0.001	568	0.030	0.014	573	6.9	32.3	37.8	3.8	4.0	0.0	10,969	0.6	0.3	11,062
13	0.360	1.672	1.961	0.197	0.206	0.001	568	0.030	0.014	573	0.8	3.6	4.2	0.4	0.4	0.0	1,222	0.1	0.0	1,232
144	0.360	1.672	1.961	0.197	0.206	0.001	568	0.030	0.014	573	11.3	52.6	61.6	6.2	6.5	0.0	17,861	0.9	0.4	18,013
29	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	1.1	9.6	11.7	0.5	0.5	0.0	4,723	0.3	0.1	4,763
31	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	1.1	9.9	12.1	0.5	0.5	0.0	4,855	0.3	0.1	4,896
12	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	0.5	4.7	5.8	0.2	0.3	0.0	2,330	0.1	0.1	2,350
8	0.360	1.672	1.961	0.197	0.206	0.001	568	0.030	0.014	573	0.5	2.2	2.6	0.3	0.3	0.0	752	0.0	0.0	758
62	0.166	2.519	0.430	0.056	0.060	0.003	568	0.030	0.014	573	6.8	103.3	17.6	2.3	2.5	0.1	23,303	1.2	0.6	23,501
474	0.239	2.165	1.386	0.106	0.112	0.002	568	0.030	0.014	573	41.0	371.0	237.5	18.2	19.2	0.3	97,393	5.2	2.3	98,221
76	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573	23.4	308.7	44.2	8.1	8.5	0.2	51,418	2.7	1.2	51,855

253	0.727	4.824	1.825	0.415	0.433	0.004	568	0.030	0.014	573	23.5	156.0	59.0	13.4	14.0	0.1	18,385	1.0	0.4	18,541
272	0.165	2.515	0.430	0.056	0.060	0.003	568	0.030	0.014	573	67.0	1021.1	174.4	22.8	24.4	1.0	230,708	12.3	5.5	232,668
9	0.138	1.892	0.445	0.044	0.047	0.001	568	0.030	0.014	573	1.4	19.6	4.6	0.5	0.5	0.0	5,897	0.3	0.1	5,947
92	0.104	1.474	0.442	0.035	0.037	0.001	568	0.030	0.014	573	12.7	180.3	54.1	4.2	4.5	0.2	69,504	3.7	1.7	70,095
40	0.727	4.824	1.825	0.415	0.433	0.004	568	0.030	0.014	573	4.2	27.6	10.5	2.4	2.5	0.0	3,257	0.2	0.1	3,285
82	0.322	3.499	0.488	0.101	0.106	0.004	568	0.030	0.014	573	15.3	165.7	23.1	4.8	5.0	0.2	26,917	1.4	0.6	27,145
11	0.287	2.323	1.525	0.130	0.136	0.002	568	0.030	0.014	573	1.0	7.9	5.2	0.4	0.5	0.0	1,929	0.1	0.0	1,946
94	0.682	2.860	1.464	0.337	0.337	0.002	568	0.030	0.014	573	16.3	68.1	34.9	8.0	8.0	0.0	13,543	0.7	0.3	13,659
16	0.682	2.860	1.464	0.337	0.337	0.002	568	0.030	0.014	573	2.8	11.6	5.9	1.4	1.4	0.0	2,305	0.1	0.1	2,325
16	0.682	2.860	1.464	0.337	0.337	0.002	568	0.030	0.014	573	2.8	11.6	5.9	1.4	1.4	0.0	2,305	0.1	0.1	2,325
320	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	25.7	122.7	142.8	13.2	13.9	0.1	44,502	2.4	1.1	44,880
461	0.351	4.090	0.488	0.112	0.117	0.004	568	0.030	0.014	573	148.1	1725.2	205.9	47.1	49.5	1.6	239,692	12.7	5.7	241,729
565	0.351	4.090	0.488	0.112	0.117	0.004	568	0.030	0.014	573	196.9	2292.7	273.6	62.6	65.7	2.1	318,541	16.9	7.6	321,248
785	0.165	2.515	0.430	0.056	0.060	0.003	568	0.030	0.014	573	204.7	3121.1	533.1	69.7	74.5	3.1	705,169	37.5	16.8	711,162
617	0.165	2.515	0.430	0.056	0.060	0.003	568	0.030	0.014	573	160.9	2453.2	419.0	54.8	58.5	2.4	554,254	29.4	13.2	558,965
179	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	12.5	175.5	52.7	4.2	4.4	0.2	67,279	3.6	1.6	67,851
44	0.192	2.588	0.462	0.063	0.067	0.002	568	0.030	0.014	573	7.9	106.7	19.0	2.6	2.8	0.1	23,429	1.2	0.6	23,628
98	0.192	2.588	0.462	0.063	0.067	0.002	568	0.030	0.014	573	11.7	158.3	28.2	3.9	4.1	0.1	34,747	1.8	0.8	35,042
123	0.380	2.729	1.306	0.145	0.154	0.002	568	0.030	0.014	573	16.1	115.4	55.2	6.1	6.5	0.1	24,040	1.3	0.6	24,244
1200	0.174	2.265	0.461	0.057	0.060	0.002	568	0.030	0.014	573	213.5	2780.0	565.3	69.7	73.7	2.6	697,596	37.1	16.6	703,524
3040	0.174	2.265	0.461	0.057	0.060	0.002	568	0.030	0.014	573										
1200	0.171	2.253	0.458	0.056	0.059	0.002	568	0.030	0.014	573	291.7	3850.5	781.9	95.5	101.2	3.7	971,222	51.6	23.1	979,476
3040	0.171	2.253	0.458	0.056	0.059	0.002	568	0.030	0.014	573										
4160	0.165	1.902	0.478	0.053	0.056	0.002	568	0.030	0.014	573	102.5	1183.3	297.2	33.1	34.9	1.3	353,609	18.8	8.4	356,614
4240	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573	178.5	2283.3	522.4	58.0	61.3	2.1	638,962	33.9	15.2	644,392
3880	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573	148.8	1902.8	435.3	48.3	51.1	1.8	532,468	28.3	12.7	536,993
1200	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573	208.4	2664.8	609.6	67.7	71.5	2.5	745,706	39.6	17.8	752,043
2880	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573										
560	0.651	3.068	1.886	0.345	0.362	0.002	568	0.030	0.014	573										
3320	0.205	2.027	1.297	0.090	0.095	0.002	568	0.030	0.014	573	42.2	418.3	267.7	18.5	19.7	0.4	117,268	6.2	2.8	118,265
320	0.193	2.538	0.458	0.063	0.067	0.002	568	0.030	0.014	573	81.7	1074.4	194.0	26.7	28.3	1.0	240,550	12.8	5.7	242,595
320	0.197	2.552	0.462	0.064	0.068	0.002	568	0.030	0.014	573	61.1	792.3	143.3	19.9	21.1	0.7	176,404	9.4	4.2	177,903
320	0.193	2.538	0.458	0.063	0.067	0.002	568	0.030	0.014	573	81.7	1074.4	194.0	26.7	28.3	1.0	240,550	12.8	5.7	242,595
320	0.197	2.552	0.462	0.064	0.068	0.002	568	0.030	0.014	573	61.1	792.3	143.3	19.9	21.1	0.7	176,404	9.4	4.2	177,903
720	0.088	1.275	0.445	0.032	0.034	0.001	568	0.030	0.014	573	37.3	540.3	188.7	13.6	14.4	0.6	240,851	12.8	5.7	242,898
1920	0.088	1.275	0.445	0.032	0.034	0.001	568	0.030	0.014	573										
300	0.088	1.275	0.445	0.032	0.034	0.001	568	0.030	0.014	573	15.5	225.1	78.6	5.7	6.0	0.3	100,355	5.3	2.4	101,207
2400	0.088	1.275	0.445	0.032	0.034	0.001	568	0.030	0.014	573										

2520	0.108	1.490	0.448	0.036	0.038	0.001	568	0.030	0.014	573	103.5	1426.5	429.2	34.3	36.4	1.4	543,944	28.9	13.0	548,567
720	0.088	1.275	0.445	0.032	0.034	0.001	568	0.030	0.014	573	41.6	603.0	210.6	15.1	16.1	0.7	268,815	14.3	6.4	271,100
600	0.110	1.498	0.452	0.036	0.039	0.001	568	0.030	0.014	573										
2880	0.140	1.915	0.452	0.045	0.048	0.001	568	0.030	0.014	573	116.5	1589.4	374.8	37.5	39.8	1.2	471,779	25.1	11.2	475,789
1680	0.110	1.498	0.452	0.036	0.039	0.001	568	0.030	0.014	573	56.4	765.9	230.8	18.6	19.7	0.7	290,464	15.4	6.9	292,933
400	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	138.7	1826.5	328.4	48.0	50.5	1.3	382,375	20.3	9.1	385,624
400	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	138.7	1826.5	328.4	48.0	50.5	1.3	382,375	20.3	9.1	385,624
400	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	118.3	1377.5	318.5	37.6	39.5	1.2	370,848	19.7	8.8	374,000
3800	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	116.0	1351.5	312.5	36.9	38.8	1.2	363,832	19.3	8.7	366,924
4200	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	193.4	2252.5	520.9	61.5	64.6	2.0	606,387	32.2	14.4	611,541
4720	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	232.1	2703.0	625.0	73.7	77.5	2.4	727,665	38.7	17.3	733,849
4880	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	232.1	2703.0	625.0	73.7	77.5	2.4	727,665	38.7	17.3	733,849
4880	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	232.1	2703.0	625.0	73.7	77.5	2.4	727,665	38.7	17.3	733,849
4880	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	232.1	2703.0	625.0	73.7	77.5	2.4	727,665	38.7	17.3	733,849
2850	0.557	4.502	1.525	0.251	0.263	0.004	568	0.030	0.014	573	608.9	4921.3	1667.4	274.9	287.4	4.0	621,296	33.0	14.8	626,576
2240	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	39.7	466.1	116.0	12.2	12.8	0.4	126,890	6.7	3.0	127,969
2240	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573	58.0	268.9	175.2	31.8	33.3	0.2	50,516	2.7	1.2	50,945
2240	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	26.7	177.2	137.1	15.2	15.9	0.1	42,698	2.3	1.0	43,061
960	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573	87.3	948.5	270.7	27.4	28.8	1.0	315,121	16.7	7.5	317,799
2880	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573										
800	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573	12.1	59.6	44.9	5.8	6.2	0.0	15,034	0.8	0.4	15,162
960	0.215	1.752	1.512	0.113	0.120	0.002	568	0.030	0.014	573	16.8	137.2	118.4	8.8	9.4	0.1	44,502	2.4	1.1	44,880
960	0.215	1.752	1.512	0.113	0.120	0.002	568	0.030	0.014	573	16.8	137.2	118.4	8.8	9.4	0.1	44,502	2.4	1.1	44,880
3040	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573	60.5	297.9	224.4	29.0	30.8	0.2	75,172	4.0	1.8	75,811
3040	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573	60.5	297.9	224.4	29.0	30.8	0.2	75,172	4.0	1.8	75,811
2880	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573	48.4	238.3	179.5	23.2	24.6	0.2	60,138	3.2	1.4	60,649
2880	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573	48.4	238.3	179.5	23.2	24.6	0.2	60,138	3.2	1.4	60,649
2880	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573										
2880	0.458	2.252	1.696	0.219	0.233	0.002	568	0.030	0.014	573										
960	0.341	1.609	1.879	0.180	0.189	0.001	568	0.030	0.014	573	78.6	371.2	433.4	41.5	43.6	0.2	131,100	7.0	3.1	132,214
4480	0.138	1.180	1.453	0.062	0.065	0.001	568	0.030	0.014	573	35.7	304.6	375.3	16.0	16.8	0.3	146,736	7.8	3.5	147,983
4480	0.138	1.180	1.453	0.062	0.065	0.001	568	0.030	0.014	573	38.0	324.6	399.9	17.0	17.9	0.3	156,358	8.3	3.7	157,687
2040	0.362	1.681	1.971	0.199	0.208	0.001	568	0.030	0.014	573	43.2	200.1	234.7	23.7	24.7	0.1	67,655	3.6	1.6	68,230
1120	0.168	2.525	0.432	0.057	0.061	0.003	568	0.030	0.014	573	124.3	1870.6	319.9	42.2	45.0	1.9	420,963	22.4	10.0	424,541
1320	0.168	2.525	0.432	0.057	0.061	0.003	568	0.030	0.014	573										
2440	0.131	2.171	0.430	0.051	0.055	0.003	568	0.030	0.014	573	84.0	1393.6	276.3	33.0	35.3	1.6	364,835	19.4	8.7	367,935
1120	0.169	2.580	0.442	0.056	0.060	0.003	568	0.030	0.014	573	91.9	1401.4	240.3	30.6	32.7	1.4	308,706	16.4	7.4	311,330
1320	0.169	2.580	0.442	0.056	0.060	0.003	568	0.030	0.014	573										
1120	0.169	2.580	0.442	0.056	0.060	0.003	568	0.030	0.014	573	96.1	1465.2	251.2	32.0	34.2	1.4	322,738	17.1	7.7	325,481
1320	0.169	2.580	0.442	0.056	0.060	0.003	568	0.030	0.014	573										

1400	0.248	2.193	1.411	0.110	0.116	0.002	568	0.030	0.014	573	100.4	888.1	571.5	44.7	47.1	0.8	230,126	12.2	5.5	232,082
1120	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573	345.4	4549.2	650.9	119.6	125.7	3.2	757,733	40.3	18.0	764,173
280	0.259	3.412	0.488	0.090	0.094	0.002	568	0.030	0.014	573										
600	0.557	4.502	1.525	0.251	0.263	0.004	568	0.030	0.014	573	98.7	797.9	270.3	44.6	46.6	0.7	100,730	5.4	2.4	101,587
2400	0.202	2.934	0.561	0.095	0.095	0.002	568	0.030	0.014	573										
1800	0.780	4.712	1.638	0.350	0.350	0.002	568	0.030	0.014	573										
2400	0.178	1.741	0.901	0.090	0.090	0.002	568	0.030	0.014	573										
2400	0.102	1.654	0.307	0.045	0.045	0.002	568	0.030	0.014	573										
2400	0.178	1.741	0.901	0.090	0.090	0.002	568	0.030	0.014	573										
2400	0.178	1.741	0.901	0.090	0.090	0.002	568	0.030	0.014	573										
2520	0.830	3.437	1.763	0.415	0.415	0.002	568	0.030	0.014	573										
2520	0.277	2.620	1.364	0.144	0.144	0.002	568	0.030	0.014	573										
2520	0.277	2.620	1.364	0.144	0.144	0.002	568	0.030	0.014	573										
160	0.727	4.824	1.825	0.415	0.433	0.004	568	0.030	0.014	573	16.7	110.6	41.8	9.5	9.9	0.1	13,030	0.7	0.3	13,141
160	0.360	1.672	1.961	0.197	0.206	0.001	568	0.030	0.014	573	10.8	50.1	58.8	5.9	6.2	0.0	17,039	0.9	0.4	17,184
240	0.165	2.515	0.430	0.056	0.060	0.003	568	0.030	0.014	573	59.1	901.0	153.9	20.1	21.5	0.9	203,566	10.8	4.8	205,296
160	0.652	3.025	1.971	0.358	0.374	0.002	568	0.030	0.014	573	18.4	85.4	55.6	10.1	10.6	0.1	16,037	0.9	0.4	16,173
160	0.450	2.227	1.675	0.212	0.226	0.002	568	0.030	0.014	573	11.9	58.9	44.3	5.6	6.0	0.0	15,034	0.8	0.4	15,162
160	0.450	2.227	1.675	0.212	0.226	0.002	568	0.030	0.014	573	11.9	58.9	44.3	5.6	6.0	0.0	15,034	0.8	0.4	15,162
160	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	12.8	61.4	71.4	6.6	7.0	0.0	22,251	1.2	0.5	22,440
240	0.351	4.090	0.488	0.112	0.117	0.004	568	0.030	0.014	573	77.1	898.2	107.2	24.5	25.8	0.8	124,785	6.6	3.0	125,846
120	0.351	4.090	0.488	0.112	0.117	0.004	568	0.030	0.014	573	41.8	487.0	58.1	13.3	14.0	0.4	67,655	3.6	1.6	68,230
240	0.165	2.515	0.430	0.056	0.060	0.003	568	0.030	0.014	573	62.6	954.2	163.0	21.3	22.8	1.0	215,593	11.5	5.1	217,425
160	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	11.2	156.9	47.1	3.7	4.0	0.2	60,138	3.2	1.4	60,649
160	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	11.2	156.9	47.1	3.7	4.0	0.2	60,138	3.2	1.4	60,649
40	0.192	2.588	0.462	0.063	0.067	0.002	568	0.030	0.014	573	7.2	97.0	17.3	2.4	2.5	0.1	21,299	1.1	0.5	21,480
40	0.192	2.588	0.462	0.063	0.067	0.002	568	0.030	0.014	573	4.8	64.6	11.5	1.6	1.7	0.0	14,182	0.8	0.3	14,303
40	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	8.8	115.9	20.8	3.0	3.2	0.1	24,255	1.3	0.6	24,462
40	0.206	2.715	0.488	0.071	0.075	0.002	568	0.030	0.014	573	8.8	115.9	20.8	3.0	3.2	0.1	24,255	1.3	0.6	24,462
40	0.195	2.572	0.488	0.068	0.071	0.002	568	0.030	0.014	573	4.5	59.4	11.3	1.6	1.6	0.0	13,130	0.7	0.3	13,242
40	0.380	2.729	1.306	0.145	0.154	0.002	568	0.030	0.014	573	5.8	41.9	20.0	2.2	2.4	0.0	8,720	0.5	0.2	8,794
40	0.240	3.247	0.458	0.078	0.083	0.002	568	0.030	0.014	573	6.2	84.2	11.9	2.0	2.2	0.1	14,734	0.8	0.4	14,859
138	0.172	2.314	0.474	0.055	0.058	0.002	568	0.030	0.014	573										
175	0.171	2.253	0.458	0.056	0.059	0.002	568	0.030	0.014	573										
60	0.315	2.263	1.684	0.174	0.183	0.002	568	0.030	0.014	573										
334	0.165	1.902	0.478	0.053	0.056	0.002	568	0.030	0.014	573										
710	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573										
347	0.205	2.027	1.297	0.090	0.095	0.002	568	0.030	0.014	573										

123	0.197	2.552	0.462	0.064	0.068	0.002	568	0.030	0.014	573										
123	0.193	2.538	0.458	0.063	0.067	0.002	568	0.030	0.014	573										
692	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573										
531	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573										
300	0.172	2.314	0.474	0.055	0.058	0.002	568	0.030	0.014	573										
1075	0.171	2.253	0.458	0.056	0.059	0.002	568	0.030	0.014	573										
1700	0.165	1.902	0.478	0.053	0.056	0.002	568	0.030	0.014	573										
1700	0.159	2.031	0.465	0.052	0.055	0.002	568	0.030	0.014	573										
990	0.205	2.027	1.297	0.090	0.095	0.002	568	0.030	0.014	573										
790	0.126	1.925	0.442	0.042	0.045	0.002	568	0.030	0.014	573										
250	0.110	1.498	0.452	0.036	0.039	0.001	568	0.030	0.014	573										
4200	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573										
220	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573										
160	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	23.0	301.6	68.8	7.5	8.0	0.3	85,195	4.5	2.0	85,919
160	0.125	1.710	0.453	0.044	0.047	0.002	568	0.030	0.014	573	12.5	170.7	45.2	4.4	4.7	0.2	56,730	3.0	1.4	57,212
160	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	30.9	360.4	83.3	9.8	10.3	0.3	97,022	5.2	2.3	97,847
160	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573	30.9	360.4	83.3	9.8	10.3	0.3	97,022	5.2	2.3	97,847
160	0.157	1.711	0.488	0.049	0.052	0.002	568	0.030	0.014	573	14.6	158.1	45.1	4.6	4.8	0.2	52,520	2.8	1.3	52,966
160	0.199	2.008	1.280	0.087	0.092	0.002	568	0.030	0.014	573	12.2	123.2	78.6	5.3	5.7	0.1	34,880	1.9	0.8	35,176
160	0.154	1.877	0.469	0.051	0.054	0.002	568	0.030	0.014	573	16.0	194.6	48.6	5.3	5.6	0.2	58,935	3.1	1.4	59,436
800	0.166	2.179	0.458	0.057	0.061	0.002	568	0.030	0.014	573										
640	0.197	2.552	0.462	0.064	0.068	0.002	568	0.030	0.014	573										
640	0.201	2.566	0.465	0.065	0.069	0.002	568	0.030	0.014	573										
750	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573										
940	0.276	2.455	1.405	0.123	0.129	0.002	568	0.030	0.014	573										
700	0.177	2.276	0.463	0.058	0.061	0.002	568	0.030	0.014	573										
680	0.207	2.036	1.306	0.091	0.097	0.002	568	0.030	0.014	573										
400	0.207	2.036	1.306	0.091	0.097	0.002	568	0.030	0.014	573										
475	0.252	2.206	1.422	0.112	0.118	0.002	568	0.030	0.014	573										
1200	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573										
1280	0.188	2.203	0.520	0.058	0.061	0.002	568	0.030	0.014	573										
960	0.201	2.566	0.465	0.065	0.069	0.002	568	0.030	0.014	573										
640	0.199	2.625	0.480	0.063	0.067	0.002	568	0.030	0.014	573										
2560	0.201	2.566	0.465	0.065	0.069	0.002	568	0.030	0.014	573										
1280	0.287	2.323	1.525	0.130	0.136	0.002	568	0.030	0.014	573										
960	0.276	2.455	1.405	0.123	0.129	0.002	568	0.030	0.014	573										
480	0.276	2.455	1.405	0.123	0.129	0.002	568	0.030	0.014	573										
320	0.207	2.036	1.306	0.091	0.097	0.002	568	0.030	0.014	573										
800	0.276	2.173	1.552	0.147	0.156	0.002	568	0.030	0.014	573										
380	0.161	2.039	0.467	0.052	0.055	0.002	568	0.030	0.014	573										

75	0.368	2.907	1.550	0.196	0.208	0.003	568	0.030	0.014	573										
200	0.181	2.111	0.488	0.058	0.061	0.002	568	0.030	0.014	573										
139	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	10.1	48.0	55.9	5.2	5.4	0.0	17,415	0.9	0.4	17,563
857	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	52.4	347.5	268.9	29.9	31.2	0.3	83,749	4.4	2.0	84,461
180	0.103	1.506	0.454	0.034	0.036	0.001	568	0.030	0.014	573	10.3	149.4	45.0	3.4	3.6	0.1	56,379	3.0	1.3	56,858
104	0.166	1.586	1.331	0.073	0.078	0.001	568	0.030	0.014	573	6.6	62.9	52.8	2.9	3.1	0.1	22,542	1.2	0.5	22,733
764	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	62.4	873.8	262.5	20.8	22.1	0.8	335,016	17.8	8.0	337,864
650	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	47.0	224.6	261.4	24.2	25.5	0.1	81,436	4.3	1.9	82,128
318	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	148.9	1961.8	182.1	51.6	54.2	1.4	211,955	11.3	5.0	213,756
475	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	37.8	180.5	210.1	19.5	20.5	0.1	65,462	3.5	1.6	66,019
447	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	31.5	370.3	92.2	9.7	10.2	0.3	100,806	5.4	2.4	101,662
77	0.234	2.098	1.395	0.104	0.110	0.002	568	0.030	0.014	573	5.1	46.0	30.5	2.3	2.4	0.0	12,445	0.7	0.3	12,550
378	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	10.8	89.7	77.1	5.6	6.0	0.1	29,362	1.6	0.7	29,612
3	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	0.3	4.0	0.9	0.1	0.1	0.0	1,128	0.1	0.0	1,137
1040	0.727	4.824	1.825	0.415	0.433	0.004	568	0.030	0.014	573	133.3	884.8	334.7	76.1	79.5	0.7	104,238	5.5	2.5	105,124
413	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	29.9	142.7	166.1	15.4	16.2	0.1	51,743	2.7	1.2	52,183
418	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	30.2	144.4	168.1	15.6	16.4	0.1	52,370	2.8	1.2	52,815
136	0.166	2.519	0.430	0.056	0.060	0.003	568	0.030	0.014	573	17.4	264.3	45.2	5.9	6.3	0.3	59,636	3.2	1.4	60,143
503	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	41.9	199.8	232.6	21.5	22.7	0.1	72,472	3.9	1.7	73,088
890	0.322	3.499	0.488	0.101	0.106	0.004	568	0.030	0.014	573	173.1	1880.9	262.4	54.3	57.1	2.0	305,524	16.2	7.3	308,120
50	0.228	2.653	0.488	0.072	0.076	0.002	568	0.030	0.014	573	8.6	100.3	18.5	2.7	2.9	0.1	21,487	1.1	0.5	21,669
76	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	5.5	26.3	30.6	2.8	3.0	0.0	9,522	0.5	0.2	9,603
252	0.209	2.269	0.488	0.066	0.069	0.002	568	0.030	0.014	573	32.5	353.0	75.9	10.2	10.7	0.4	88,402	4.7	2.1	89,154
151	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	3.9	32.4	27.8	2.0	2.2	0.0	10,594	0.6	0.3	10,684
232	0.322	3.499	0.488	0.101	0.106	0.004	568	0.030	0.014	573	45.1	490.3	68.4	14.2	14.9	0.5	79,642	4.2	1.9	80,319
490	0.351	4.090	0.488	0.112	0.117	0.004	568	0.030	0.014	573	137.6	1602.3	191.2	43.7	45.9	1.4	222,620	11.8	5.3	224,512
359	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	27.6	386.6	116.1	9.2	9.8	0.4	148,220	7.9	3.5	149,480
139	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	10.1	48.0	55.9	5.2	5.4	0.0	17,415	0.9	0.4	17,563
79	0.104	1.474	0.442	0.035	0.037	0.001	568	0.030	0.014	573	10.8	154.0	46.2	3.6	3.8	0.2	59,386	3.2	1.4	59,891
212	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	6.4	52.7	45.3	3.3	3.5	0.0	17,264	0.9	0.4	17,411
51	0.180	2.271	0.494	0.056	0.060	0.002	568	0.030	0.014	573	4.9	61.5	13.4	1.5	1.6	0.1	15,399	0.8	0.4	15,530
8	0.122	1.907	0.436	0.041	0.044	0.002	568	0.030	0.014	573	0.4	6.3	1.4	0.1	0.1	0.0	1,874	0.1	0.0	1,890
15	0.209	2.269	0.488	0.066	0.069	0.002	568	0.030	0.014	573	1.9	20.6	4.4	0.6	0.6	0.0	5,149	0.3	0.1	5,193
236	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	8.1	66.8	57.5	4.2	4.5	0.1	21,880	1.2	0.5	22,066
124	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	4.5	37.0	31.8	2.3	2.5	0.0	12,118	0.6	0.3	12,221
61	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	3.0	46.7	16.2	1.1	1.2	0.1	21,017	1.1	0.5	21,195
21	0.130	1.154	1.411	0.058	0.061	0.001	568	0.030	0.014	573	0.7	6.6	8.1	0.3	0.4	0.0	3,262	0.2	0.1	3,290
5	0.199	2.008	1.280	0.087	0.092	0.002	568	0.030	0.014	573	0.3	3.4	2.1	0.1	0.2	0.0	952	0.1	0.0	960
3	0.154	2.012	0.459	0.050	0.053	0.002	568	0.030	0.014	573	0.3	4.0	0.9	0.1	0.1	0.0	1,128	0.1	0.0	1,137
15	0.328	1.567	1.824	0.169	0.178	0.001	568	0.030	0.014	573	1.1	5.2	6.0	0.6	0.6	0.0	1,879	0.1	0.0	1,895
3	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	0.1	2.3	0.8	0.1	0.1	0.0	1,034	0.1	0.0	1,042
53	0.082	1.262	0.439	0.031	0.033	0.001	568	0.030	0.014	573	2.6	40.5	14.1	1.0	1.1	0.0	18,261	1.0	0.4	18,416
30	0.265	1.776	1.488	0.107	0.116	0.002	568	0.030	0.014	573	0.3	1.7	1.4	0.1	0.1	0.0	545	0.0	0.0	550
22	0.151	2.055	0.472	0.049	0.051	0.002	568	0.030	0.014	573	1.5	20.3	4.7	0.5	0.5	0.0	5,623	0.3	0.1	5,671

20	0.239	2.165	1.386	0.106	0.112	0.002	568	0.030	0.014	573	1.7	15.2	9.7	0.7	0.8	0.0	3,993	0.2	0.1	4,027
4	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	0.1	0.9	0.8	0.1	0.1	0.0	311	0.0	0.0	313
50	0.210	1.736	1.492	0.109	0.117	0.002	568	0.030	0.014	573	1.9	15.7	13.5	1.0	1.1	0.0	5,137	0.3	0.1	5,180
30	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	13.9	183.3	17.0	4.8	5.1	0.1	19,808	1.1	0.5	19,976
487	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	14.5	119.2	102.7	7.6	8.1	0.1	38,845	2.1	0.9	39,175
396	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	10.4	85.3	73.4	5.4	5.8	0.1	27,784	1.5	0.7	28,020
420	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	11.9	97.5	83.9	6.2	6.6	0.1	31,760	1.7	0.8	32,030
513	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	14.6	119.9	103.3	7.6	8.2	0.1	39,072	2.1	0.9	39,404
559	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	18.0	147.7	127.2	9.4	10.0	0.1	48,118	2.6	1.1	48,527
573	0.212	1.744	1.502	0.111	0.119	0.002	568	0.030	0.014	573	19.8	162.8	140.2	10.4	11.1	0.1	53,064	2.8	1.3	53,515
552	0.209	2.269	0.488	0.066	0.069	0.002	568	0.030	0.014	573	64.7	703.2	151.3	20.3	21.4	0.7	176,103	9.4	4.2	177,599
150	0.228	2.653	0.488	0.072	0.076	0.002	568	0.030	0.014	573	25.8	300.9	55.4	8.2	8.6	0.3	64,460	3.4	1.5	65,008
490	0.209	2.269	0.488	0.066	0.069	0.002	568	0.030	0.014	573	61.8	671.7	144.5	19.4	20.4	0.7	168,210	8.9	4.0	169,639
115	0.238	2.112	1.407	0.106	0.112	0.002	568	0.030	0.014	573	7.1	63.1	42.0	3.2	3.3	0.1	16,970	0.9	0.4	17,114
124	0.153	2.188	0.459	0.050	0.053	0.002	568	0.030	0.014	573	10.5	149.6	31.3	3.4	3.6	0.1	38,839	2.1	0.9	39,169
140	0.273	2.712	1.296	0.120	0.127	0.003	568	0.030	0.014	573	14.3	142.3	68.0	6.3	6.7	0.1	29,818	1.6	0.7	30,072
711	0.108	1.490	0.448	0.036	0.038	0.001	568	0.030	0.014	573	59.3	817.6	246.0	19.6	20.9	0.8	311,776	16.6	7.4	314,425
865	0.108	1.490	0.448	0.036	0.038	0.001	568	0.030	0.014	573	64.1	883.7	265.9	21.2	22.5	0.9	336,958	17.9	8.0	339,822
960	0.106	1.482	0.445	0.035	0.037	0.001	568	0.030	0.014	573	130.2	1823.4	547.7	43.3	46.0	1.8	699,099	37.1	16.6	705,041
230	0.168	2.299	0.470	0.054	0.057	0.002	568	0.030	0.014	573	12.3	168.8	34.5	4.0	4.2	0.2	41,720	2.2	1.0	42,075
330	0.156	2.022	0.462	0.051	0.054	0.002	568	0.030	0.014	573	33.3	430.6	98.4	10.8	11.5	0.4	121,027	6.4	2.9	122,055
90	0.156	2.022	0.462	0.051	0.054	0.002	568	0.030	0.014	573	9.3	120.3	27.5	3.0	3.2	0.1	33,827	1.8	0.8	34,115
752	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	47.3	224.8	262.0	24.7	25.9	0.1	80,434	4.3	1.9	81,118
1012	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	61.4	291.3	339.6	32.0	33.6	0.2	104,238	5.5	2.5	105,124
50	0.134	1.167	1.432	0.060	0.063	0.001	568	0.030	0.014	573	1.8	16.0	19.6	0.8	0.9	0.0	7,768	0.4	0.2	7,834
248	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	20.1	95.5	111.3	10.5	11.0	0.1	34,178	1.8	0.8	34,469
709	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	52.3	248.2	289.4	27.3	28.7	0.2	88,828	4.7	2.1	89,583
873	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	64.4	305.6	356.3	33.6	35.3	0.2	109,375	5.8	2.6	110,305
630	0.335	1.588	1.851	0.174	0.183	0.001	568	0.030	0.014	573	53.4	253.7	295.7	27.9	29.3	0.2	90,770	4.8	2.2	91,542
124	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	58.1	765.0	71.0	20.1	21.1	0.5	82,649	4.4	2.0	83,351
712	0.399	5.260	0.488	0.138	0.145	0.004	568	0.030	0.014	573	338.5	4458.5	413.8	117.2	123.2	3.1	481,702	25.6	11.5	485,796
350	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	25.8	302.8	75.4	7.9	8.3	0.3	82,439	4.4	2.0	83,139
515	0.178	2.087	0.520	0.055	0.057	0.002	568	0.030	0.014	573	36.3	426.6	106.2	11.2	11.7	0.4	116,141	6.2	2.8	117,128
120	0.185	2.291	0.500	0.058	0.061	0.002	568	0.030	0.014	573	4.5	55.6	12.1	1.4	1.5	0.0	13,782	0.7	0.3	13,899
98	0.202	2.018	1.289	0.088	0.094	0.002	568	0.030	0.014	573	5.3	52.7	33.7	2.3	2.5	0.0	14,854	0.8	0.4	14,980
76	0.169	1.597	1.344	0.075	0.079	0.001	568	0.030	0.014	573	4.9	46.3	39.0	2.2	2.3	0.0	16,473	0.9	0.4	16,613
981	0.085	1.268	0.442	0.031	0.033	0.001	568	0.030	0.014	573	32.1	477.5	166.4	11.8	12.6	0.5	213,958	11.4	5.1	215,777
426	0.355	2.358	1.825	0.203	0.212	0.002	568	0.030	0.014	573	19.3	128.2	99.2	11.0	11.5	0.1	30,881	1.6	0.7	31,143

33	0.079	0.921	1.271	0.004	0.004	0.002	568	0.030	0.014	573										
98	0.079	0.921	1.271	0.004	0.004	0.002	568	0.030	0.014	573										
33	0.052	0.819	1.192	0.003	0.003	0.002	568	0.030	0.014	573										
98	0.052	0.913	1.346	0.022	0.024	0.002	568	0.030	0.014	573										
98	0.058	0.571	0.421	0.004	0.004	0.002	568	0.030	0.014	573										
160	0.141	0.999	0.470	0.047	0.050	0.002	568	0.030	0.014	573										
130	0.081	0.535	0.447	0.004	0.004	0.002	568	0.030	0.014	573										
240	0.036	0.381	0.410	0.002	0.003	0.001	568	0.030	0.014	573										
230	0.089	1.360	0.920	0.010	0.009	0.000	568	0.030	0.014	573										
			Total (Tons or Metric Tons for GHGs)								**6.4**	**70.9**	**19.2**	**2.4**	**2.5**	**0.1**	**15,294**	**0.8**	**0.4**	**15,424**

2015 Emissions (lbs)										2016 Emissions (lbs)									
ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e	ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e

256.2	3336.0	678.4	83.6	88.5	3.2	837,115	44.5	19.9	844,229	284.7	3706.7	753.8	92.9	98.3	3.5	930,128	49.4	22.2	938,033
350.0	4620.6	938.2	114.6	121.4	4.4	1,165,466	61.9	27.8	1,175,371	388.9	5134.0	1042.5	127.4	134.9	4.9	1,294,962	68.8	30.8	1,305,968
153.8	1775.0	445.7	49.7	52.4	1.9	530,413	28.2	12.6	534,921	188.0	2169.4	544.8	60.7	64.0	2.3	648,283	34.4	15.4	653,793
214.2	2740.0	626.8	69.6	73.6	2.6	766,754	40.7	18.3	773,270	238.0	3044.4	696.5	77.3	81.7	2.9	851,949	45.3	20.3	859,189
190.4	2435.5	557.2	61.9	65.4	2.3	681,559	36.2	16.2	687,351	238.0	3044.4	696.5	77.3	81.7	2.9	851,949	45.3	20.3	859,189
445.4	5696.3	1303.2	144.7	152.9	5.3	1,594,046	84.7	38.0	1,607,594	556.7	7120.3	1629.0	180.9	191.2	6.7	1,992,558	105.9	47.5	2,009,492
72.3	340.9	209.6	38.3	40.2	0.2	63,144	3.4	1.5	63,681										
67.5	669.3	428.3	29.6	31.5	0.6	187,629	10.0	4.5	189,224	123.8	1227.1	785.3	54.2	57.7	1.1	343,987	18.3	8.2	346,910
74.6	1080.6	377.4	27.1	28.8	1.2	481,702	25.6	11.5	485,796	24.9	360.2	125.8	9.0	9.6	0.4	160,567	8.5	3.8	161,932
62.2	900.5	314.5	22.6	24.0	1.0	401,418	21.3	9.6	404,830	62.2	900.5	314.5	22.6	24.0	1.0	401,418	21.3	9.6	404,830

207.0	2853.0	858.3	68.5	72.8	2.8	1,087,889	57.8	25.9	1,097,134	51.7	713.2	214.6	17.1	18.2	0.7	271,972	14.4	6.5	274,284
43.8	594.6	179.2	14.4	15.3	0.6	225,516	12.0	5.4	227,432										
233.0	3178.8	749.7	75.1	79.7	2.4	943,558	50.1	22.5	951,577	116.5	1589.4	374.8	37.5	39.8	1.2	471,779	25.1	11.2	475,789
75.2	1021.2	307.7	24.8	26.3	1.0	387,286	20.6	9.2	390,577										
247.6	2883.2	666.7	78.7	82.7	2.6	776,176	41.2	18.5	782,772	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
247.6	2883.2	666.7	78.7	82.7	2.6	776,176	41.2	18.5	782,772	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
309.4	3603.9	833.4	98.3	103.3	3.3	970,219	51.5	23.1	978,465	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
340.4	3964.3	916.7	108.2	113.7	3.6	1,067,241	56.7	25.4	1,076,312	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
340.4	3964.3	916.7	108.2	113.7	3.6	1,067,241	56.7	25.4	1,076,312	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
340.4	3964.3	916.7	108.2	113.7	3.6	1,067,241	56.7	25.4	1,076,312	371.3	4324.7	1000.1	118.0	124.0	3.9	1,164,263	61.9	27.7	1,174,158
79.4	932.2	232.0	24.4	25.6	0.8	253,781	13.5	6.0	255,937	66.2	776.8	193.3	20.3	21.3	0.7	211,484	11.2	5.0	213,281
116.0	537.8	350.5	63.7	66.5	0.3	101,031	5.4	2.4	101,890	96.7	448.2	292.1	53.1	55.4	0.3	84,193	4.5	2.0	84,908
53.4	354.4	274.2	30.5	31.8	0.3	85,395	4.5	2.0	86,121	44.5	295.3	228.5	25.4	26.5	0.2	71,163	3.8	1.7	71,768
116.4	1264.7	360.9	36.5	38.4	1.3	420,161	22.3	10.0	423,732	145.5	1580.8	451.1	45.7	48.0	1.7	525,201	27.9	12.5	529,665
										48.4	238.3	179.5	23.2	24.6	0.2	60,138	3.2	1.4	60,649
16.8	137.2	118.4	8.8	9.4	0.1	44,502	2.4	1.1	44,880										
16.8	137.2	118.4	8.8	9.4	0.1	44,502	2.4	1.1	44,880										
145.3	715.0	538.5	69.5	73.9	0.5	180,413	9.6	4.3	181,946	24.2	119.2	89.8	11.6	12.3	0.1	30,069	1.6	0.7	30,324
145.3	715.0	538.5	69.5	73.9	0.5	180,413	9.6	4.3	181,946	24.2	119.2	89.8	11.6	12.3	0.1	30,069	1.6	0.7	30,324
145.3	715.0	538.5	69.5	73.9	0.5	180,413	9.6	4.3	181,946	24.2	119.2	89.8	11.6	12.3	0.1	30,069	1.6	0.7	30,324
145.3	715.0	538.5	69.5	73.9	0.5	180,413	9.6	4.3	181,946	24.2	119.2	89.8	11.6	12.3	0.1	30,069	1.6	0.7	30,324
133.2	655.4	493.7	63.7	67.7	0.4	165,378	8.8	3.9	166,784	84.8	417.1	314.2	40.6	43.1	0.3	105,241	5.6	2.5	106,135
133.2	655.4	493.7	63.7	67.7	0.4	165,378	8.8	3.9	166,784	84.8	417.1	314.2	40.6	43.1	0.3	105,241	5.6	2.5	106,135
71.3	609.2	750.5	32.0	33.6	0.5	293,471	15.6	7.0	295,965	59.4	507.6	625.4	26.6	28.0	0.4	244,559	13.0	5.8	246,638
76.0	649.1	799.7	34.1	35.8	0.6	312,715	16.6	7.4	315,373	63.3	540.9	666.4	28.4	29.8	0.5	260,596	13.8	6.2	262,811
59.9	277.9	326.0	32.9	34.4	0.2	93,965	5.0	2.2	94,764	19.2	88.9	104.3	10.5	11.0	0.1	30,069	1.6	0.7	30,324
222.0	3340.4	571.2	75.3	80.4	3.3	751,720	39.9	17.9	758,108	71.0	1068.9	182.8	24.1	25.7	1.1	240,550	12.8	5.7	242,595
75.0	1244.3	246.7	29.4	31.5	1.4	325,745	17.3	7.8	328,514	24.0	398.2	78.9	9.4	10.1	0.5	104,238	5.5	2.5	105,124
164.1	2502.6	429.1	54.7	58.5	2.4	551,261	29.3	13.1	555,946	52.5	800.8	137.3	17.5	18.7	0.8	176,404	9.4	4.2	177,903
171.6	2616.3	448.6	57.2	61.1	2.5	576,318	30.6	13.7	581,216	54.9	837.2	143.6	18.3	19.6	0.8	184,422	9.8	4.4	185,989

25.1	222.0	142.9	11.2	11.8	0.2	57,532	3.1	1.4	58,021										
172.7	2274.6	325.4	59.8	62.9	1.6	378,867	20.1	9.0	382,087										
142.6	2069.6	396.1	67.4	67.4	1.8	400,917	21.3	9.5	404,324	285.3	4139.1	792.2	134.7	134.7	3.5	801,834	42.6	19.1	808,649
928.5	5610.1	1950.0	416.3	416.3	2.5	676,548	35.9	16.1	682,297	1857.1	11220.1	3900.0	832.6	832.6	5.0	1,353,095	71.9	32.2	1,364,595
47.1	460.5	238.5	23.9	23.9	0.4	150,344	8.0	3.6	151,622	94.1	920.9	477.0	47.7	47.7	0.8	300,688	16.0	7.2	303,243
36.1	583.6	108.3	15.9	15.9	0.5	200,459	10.7	4.8	202,162	72.3	1167.2	216.7	31.8	31.8	1.1	400,917	21.3	9.5	404,324
47.1	460.5	238.5	23.9	23.9	0.4	150,344	8.0	3.6	151,622	94.1	920.9	477.0	47.7	47.7	0.8	300,688	16.0	7.2	303,243
47.1	460.5	238.5	23.9	23.9	0.4	150,344	8.0	3.6	151,622	94.1	920.9	477.0	47.7	47.7	0.8	300,688	16.0	7.2	303,243
193.7	801.8	411.1	96.8	96.8	0.5	132,553	7.0	3.2	133,680	336.8	1394.4	715.0	168.3	168.3	0.9	230,527	12.2	5.5	232,487
78.6	744.1	387.2	41.0	41.0	0.6	161,369	8.6	3.8	162,741	136.7	1294.0	673.4	71.3	71.3	1.1	280,642	14.9	6.7	283,027
84.2	797.2	414.9	43.9	43.9	0.7	172,896	9.2	4.1	174,365	146.4	1386.5	721.5	76.4	76.4	1.2	300,688	16.0	7.2	303,243
									10.7	144.3	29.6	3.4	3.6	0.1	35,444	1.9	0.8	35,745
										39.5	521.5	105.9	12.9	13.7	0.5	131,551	7.0	3.1	132,669
										3.1	22.5	16.7	1.7	1.8	0.0	5,638	0.3	0.1	5,686
										35.7	411.7	103.4	11.5	12.1	0.4	123,026	6.5	2.9	124,072
										105.6	1351.0	309.1	34.3	36.3	1.3	378,052	20.1	9.0	381,265
										27.4	271.4	173.7	12.0	12.8	0.3	76,080	4.0	1.8	76,727

										23.5	304.5	55.1	7.7	8.1	0.3	67,805	3.6	1.6	68,381
										31.4	413.0	74.6	10.3	10.9	0.4	92,462	4.9	2.2	93,247
										133.8	1558.7	360.4	42.5	44.7	1.4	419,620	22.3	10.0	423,186
										48.3	524.6	149.7	15.2	15.9	0.6	174,301	9.3	4.2	175,783
										23.3	313.8	64.3	7.5	7.9	0.3	77,051	4.1	1.8	77,706
										242.7	3203.8	650.6	79.5	84.2	3.0	808,099	42.9	19.2	814,966
										181.6	2095.5	526.2	58.7	61.8	2.2	626,182	33.3	14.9	631,504
										252.9	3234.7	740.0	82.2	86.9	3.0	905,196	48.1	21.6	912,889
										78.1	774.3	495.5	34.2	36.4	0.7	217,059	11.5	5.2	218,904
										54.9	838.2	192.4	18.3	19.6	0.8	247,441	13.1	5.9	249,544
										18.3	247.8	74.7	6.0	6.4	0.2	93,965	5.0	2.2	94,764
										812.3	9460.4	2187.6	258.1	271.3	8.5	2,546,826	135.3	60.7	2,568,471
										20.0	217.4	62.0	6.3	6.6	0.2	72,215	3.8	1.7	72,829
										25.9	339.0	71.3	8.9	9.4	0.4	88,402	4.7	2.1	89,154
										50.0	648.2	117.2	16.3	17.3	0.6	144,330	7.7	3.4	145,557
										37.4	477.9	86.6	12.2	12.8	0.4	105,842	5.6	2.5	106,742
										32.5	378.0	87.4	10.3	10.8	0.3	101,764	5.4	2.4	102,629
										24.0	213.6	122.3	10.7	11.3	0.2	49,463	2.6	1.2	49,884
										38.0	488.9	99.6	12.4	13.1	0.5	122,079	6.5	2.9	123,117
										12.1	119.1	76.3	5.3	5.7	0.1	33,226	1.8	0.8	33,508
										8.0	78.1	50.1	3.5	3.7	0.1	21,800	1.2	0.5	21,985
										13.4	117.8	76.0	6.0	6.3	0.1	30,351	1.6	0.7	30,609
										15.2	101.1	78.2	8.7	9.1	0.1	24,356	1.3	0.6	24,563
										31.8	373.1	88.0	9.8	10.2	0.3	96,220	5.1	2.3	97,038

										4.6	36.1	19.2	2.4	2.6	0.0	7,047	0.4	0.2	7,107
										26.0	302.5	70.0	8.3	8.7	0.3	81,436	4.3	1.9	82,128

0.3	2.5	2.2	0.2	0.2	0.0	814	0.0	0.0	821
0.9	7.5	6.5	0.5	0.5	0.0	2,443	0.1	0.1	2,464
0.3	2.4	2.1	0.2	0.2	0.0	777	0.0	0.0	783
1.4	11.4	9.8	0.7	0.8	0.0	3,708	0.2	0.1	3,740
1.1	9.0	7.7	0.6	0.6	0.0	2,932	0.2	0.1	2,957
6.4	70.0	15.1	2.0	2.1	0.1	17,540	0.9	0.4	17,689
0.7	6.0	4.0	0.3	0.3	0.0	1,616	0.1	0.0	1,630
3.9	54.2	16.3	1.3	1.4	0.1	20,672	1.1	0.5	20,848
4.2	58.8	17.7	1.4	1.5	0.1	22,552	1.2	0.5	22,743
3.4	46.9	9.6	1.1	1.2	0.0	11,589	0.6	0.3	11,688
5.9	76.9	17.6	1.9	2.0	0.1	21,612	1.1	0.5	21,796
8.1	38.5	44.9	4.2	4.4	0.0	13,782	0.7	0.3	13,899
13.3	63.0	73.5	6.9	7.3	0.0	22,552	1.2	0.5	22,743
6.4	75.7	18.8	2.0	2.1	0.1	20,610	1.1	0.5	20,785
6.3	77.8	17.0	2.0	2.1	0.1	19,294	1.0	0.5	19,458
1.4	13.5	8.6	0.6	0.6	0.0	3,809	0.2	0.1	3,841
18.6	276.8	96.5	6.9	7.3	0.3	124,034	6.6	3.0	125,088
6.7	44.6	34.5	3.8	4.0	0.0	10,750	0.6	0.3	10,841

0.8	9.7	13.4	0.0	0.0	0.0	5,995	0.3	0.1	6,046										
2.3	26.9	37.1	0.1	0.1	0.1	16,575	0.9	0.4	16,716										
0.5	7.8	11.4	0.0	0.0	0.0	5,416	0.3	0.1	5,462										
1.2	20.1	29.7	0.5	0.5	0.0	12,524	0.7	0.3	12,630										
2.9	29.0	21.4	0.2	0.2	0.1	28,854	1.5	0.7	29,099										
14.9	105.7	49.8	5.0	5.3	0.2	60,138	3.2	1.4	60,649										
11.2	74.2	62.0	0.5	0.6	0.3	78,830	4.2	1.9	79,500										
5.1	53.8	58.0	0.3	0.4	0.2	80,284	4.3	1.9	80,966										
20.5	313.8	212.3	2.3	2.1	0.0	131,112	7.0	3.1	132,227										
4.2	**43.7**	**13.4**	**1.6**	**1.7**	**0.0**	**10,595**	**0.6**	**0.3**	**10,685**	**5.5**	**58.4**	**16.7**	**2.1**	**2.2**	**0.1**	**13,609**	**0.7**	**0.3**	**13,725**

2017 Emissions (lbs)									
ROG	NOx	CO	PM10	PM2.5	SO2	CO2	CH4	N2O	CO2e

60.4	791.0	166.4	20.8	22.0	0.9	206,272	11.0	4.9	208,025
116.7	1512.6	273.6	38.1	40.3	1.4	336,770	17.9	8.0	339,632
87.3	1115.2	202.0	28.4	30.0	1.0	246,965	13.1	5.9	249,064
75.7	882.0	204.0	24.1	25.3	0.8	237,449	12.6	5.7	239,467
56.0	498.5	285.3	24.9	26.3	0.4	115,414	6.1	2.7	116,395
88.8	1140.7	232.3	28.9	30.5	1.1	284,852	15.1	6.8	287,272
28.3	277.8	178.1	12.4	13.2	0.3	77,527	4.1	1.8	78,186
18.6	182.3	116.9	8.1	8.7	0.2	50,866	2.7	1.2	51,299
31.4	274.9	177.3	14.0	14.7	0.2	70,818	3.8	1.7	71,420
35.5	235.8	182.5	20.3	21.2	0.2	56,830	3.0	1.4	57,313
74.1	870.5	205.2	22.8	23.9	0.8	224,514	11.9	5.3	226,422
140.3	1792.2	324.6	45.6	48.2	1.7	396,908	21.1	9.5	400,281
58.6	774.1	141.5	18.6	19.7	0.7	167,583	8.9	4.0	169,008
430.7	5503.4	996.8	139.9	147.9	5.2	1,218,788	64.8	29.0	1,229,146
113.6	917.8	602.5	51.3	53.6	0.8	224,514	11.9	5.3	226,422
75.9	675.3	386.5	33.8	35.6	0.6	156,358	8.3	3.7	157,687
42.3	376.6	215.6	18.8	19.9	0.3	87,199	4.6	2.1	87,941
24.9	244.2	156.6	10.9	11.6	0.2	68,156	3.6	1.6	68,735
26.2	207.0	147.8	14.0	14.9	0.2	54,124	2.9	1.3	54,584
40.5	512.4	117.4	13.1	13.9	0.5	142,827	7.6	3.4	144,041

0.8	9.4	2.7	0.3	0.3	0.0	2,007	0.1	0.0	2,024

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel	Min HP	Max HP	Model Year	Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Input Characteristics										Criteria Range			Emission factor lookups						
1	Equipment Crawler Tractors	Age 11	1	2003	2014		205	831	6790	Fuel ULSD	Min HP <=205	Max HP >=205	Model Year 2003	0.4288	0.92	0.000024	0.47	5	0.000091	2.28
2	Equipment Crawler Tractors	Age 13	1	2001	2014		464	496	7664	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2001	0.4288	0.92	0.000018	0.45	4.95	0.000073	2.24
3	Equipment Crawler Tractors	Age 12	1	2002	2014		646	140	7236	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2002	0.4288	0.92	0.000018	0.45	4.95	0.000073	2.23
4	Equipment Crawler Tractors	Age 11	1	2003	2014		145	90	6790	Fuel ULSD	Min HP <=145	Max HP >=145	Model Year 2003	0.4288	2.7	0.000071	1.37	5.26	0.000096	2.40
5	Equipment Crawler Tractors	Age 11	1	2003	2014		164	334	6790	Fuel ULSD	Min HP <=164	Max HP >=164	Model Year 2003	0.4288	2.7	0.000071	1.37	5.26	0.000096	2.40
6	Equipment Crawler Tractors	Age 11	1	2003	2014		200	46	6790	Fuel ULSD	Min HP <=200	Max HP >=200	Model Year 2003	0.4288	0.92	0.000024	0.47	5	0.000091	2.28
7	Equipment Graders	Age 11	1	2003	2014		294	313	9525	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2003	0.4087	0.92	0.000018	0.47	4.29	0.000058	1.88
8	Equipment Excavators	Age 13	1	2001	2014		425	874	8279	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
9	Equipment Excavators	Age 13	1	2001	2014		425	499	8279	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
10	Equipment Excavators	Age 11	1	2003	2014		124	530	7456	Fuel ULSD	Min HP <=124	Max HP >=124	Model Year 2003	0.3819	2.7	0.000071	1.39	5.26	0.000096	2.16
11	Equipment Excavators	Age 11	1	2003	2014		147	712	7456	Fuel ULSD	Min HP <=147	Max HP >=147	Model Year 2003	0.3819	2.7	0.000071	1.39	5.26	0.000096	2.16
12	Equipment Excavators	Age 13	1	2001	2014		487	32	8279	Fuel ULSD	Min HP <=487	Max HP >=487	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
13	Equipment Excavators	Age 13	1	2001	2014		523	823	8279	Fuel ULSD	Min HP <=523	Max HP >=523	Model Year 2001	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.57
14	Equipment Excavators	Age 13	1	2001	2014		523	59	8279	Fuel ULSD	Min HP <=523	Max HP >=523	Model Year 2001	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.57
15	Equipment Excavators	Age 10	1	2004	2014		66	433	7000	Fuel ULSD	Min HP <=66	Max HP >=66	Model Year 2004	0.3819	3.23	0.000086	1.64	5.64	0.000103	2.30
16	Equipment Excavators	Age 11	1	2003	2014		147	128	7456	Fuel ULSD	Min HP <=147	Max HP >=147	Model Year 2003	0.3819	2.7	0.000071	1.39	5.26	0.000096	2.16
17	Equipment Excavators	Age 11	1	2003	2014		113	58	7456	Fuel ULSD	Min HP <=113	Max HP >=113	Model Year 2003	0.3819	3.49	0.000092	1.79	6.9	0.000160	2.93
18	Equipment Excavators	Age 14	1	2000	2014		760	68	8646	Fuel ULSD	Min HP <=760	Max HP >=760	Model Year 2000	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.59
19	Equipment Excavators	Age 16	1	1998	2014		98	114	9289	Fuel ULSD	Min HP <=98	Max HP >=98	Model Year 1998	0.3819	3.49	0.000092	1.86	6.9	0.000160	3.04

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
20	Equipment Rollers	Age 11	1	2003	2014		157	65	4000	Fuel ULSD	Min HP <=157	Max HP >=157	Model Year 2003	0.3752	2.7	0.000071	1.28	5.26	0.000096	2.01
21	Equipment Scrapers	Age 12	1	2002	2014		600	2	7291	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2002	0.4824	0.92	0.000018	0.45	4.95	0.000073	2.51
22	Equipment Scrapers	Age 13	1	2001	2014		440	2	7744	Fuel ULSD	Min HP <=440	Max HP >=440	Model Year 2001	0.4824	0.92	0.000018	0.45	4.95	0.000073	2.52
23	Equipment Scrapers	Age 12	1	2002	2014		600	6	7291	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2002	0.4824	0.92	0.000018	0.45	4.95	0.000073	2.51
24	Equipment Scrapers	Age 13	1	2001	2014		440	6	7744	Fuel ULSD	Min HP <=440	Max HP >=440	Model Year 2001	0.4824	0.92	0.000018	0.45	4.95	0.000073	2.52
25	Equipment Cranes	Age 11	1	2003	2014		267	10	5671	Fuel ULSD	Min HP <=267	Max HP >=267	Model Year 2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
26	Equipment Cranes	Age 11	1	2003	2014		260	311	5671	Fuel ULSD	Min HP <=260	Max HP >=260	Model Year 2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
27	Equipment Cranes	Age 11	1	2003	2014		225	706	5671	Fuel ULSD	Min HP <=225	Max HP >=225	Model Year 2003	0.2881	0.92	0.000024	0.45	5	0.000091	1.51
28	Equipment Cranes	Age 13	1	2001	2014		300	514	6502	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
29	Equipment Cranes	Age 12	1	2002	2014		603	23	6091	Fuel ULSD	Min HP <=603	Max HP >=603	Model Year 2002	0.2881	0.92	0.000018	0.44	4.95	0.000073	1.47
30	Equipment Cranes	Age 11	1	2003	2014		298	398	5671	Fuel ULSD	Min HP <=298	Max HP >=298	Model Year 2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
31	Equipment Off-Highway Trucks	Age 13	1	2001	2014		451	595	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
32	Equipment Off-Highway Trucks	Age 13	1	2001	2014		321	691	12000	Fuel ULSD	Min HP <=321	Max HP >=321	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
33	Equipment Off-Highway Trucks	Age 13	1	2001	2014		451	449	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
34	Equipment Off-Highway Trucks	Age 13	1	2001	2014		451	482	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
35	Equipment Off-Highway Trucks	Age 13	1	2001	2014		321	529	12000	Fuel ULSD	Min HP <=321	Max HP >=321	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
36	Equipment Off-Highway Trucks	Age 13	1	2001	2014		451	642	12000	Fuel ULSD	Min HP <=451	Max HP >=451	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
37	Equipment Off-Highway Trucks	Age 12	1	2002	2014		740	1	12000	Fuel ULSD	Min HP <=740	Max HP >=740	Model Year 2002	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
38	Equipment Off-Highway Trucks	Age 13	1	2001	2014		484	95	12000	Fuel ULSD	Min HP <=484	Max HP >=484	Model Year 2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
39	Off-Highway Trucks	13	1	2001	2014		484	46	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
40	Off-Highway Trucks	13	1	2001	2014		484	19	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
41	Off-Highway Trucks	13	1	2001	2014		361	212	12000	ULSD	<=361	>=361	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
42	Off-Highway Trucks	13	1	2001	2014		361	196	12000	ULSD	<=361	>=361	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
43	Off-Highway Trucks	13	1	2001	2014		484	9	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
44	Off-Highway Trucks	13	1	2001	2014		472	118	12000	ULSD	<=472	>=472	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
45	Off-Highway Trucks	14	1	2000	2014		775	10	12000	ULSD	<=775	>=775	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
46	Off-Highway Trucks	14	1	2000	2014		763	9	12000	ULSD	<=763	>=763	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
47	Air Compressors	14	1	2000	2014		540	202	12000	ULSD	<=540	>=540	2000	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
48	Generator Sets	14	1	2000	2014		174	628	12000	ULSD	<=174	>=174	2000	0.74	2.7	0.000071	1.53	6.9	0.000160	6.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
49	Generator Sets	14	1	2000	2014		157	940	12000	ULSD	<=157	>=157	2000	0.74	2.7	0.000071	1.53	6.9	0.000160	6.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
50	Generator Sets	14	1	2000	2014		174	334	12000	ULSD	<=174	>=174	2000	0.74	2.7	0.000071	1.53	6.9	0.000160	6.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
51	Generator Sets	14	1	2000	2014		135	827	12000	ULSD	<=135	>=135	2000	0.74	2.7	0.000071	1.53	6.9	0.000160	6.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
52	Generator Sets	14	1	2000	2014		315	275	12000	ULSD	<=315	>=315	2000	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
53	Generator Sets	14	1	2000	2014		315	62	12000	ULSD	<=315	>=315	2000	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
54	Generator Sets	14	1	2000	2014		315	80	12000	ULSD	<=315	>=315	2000	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
55	Generator Sets	14	1	2000	2014		237	120	12000	ULSD	<=237	>=237	2000	0.74	0.92	0.000024	0.52	6.25	0.000145	5.61
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
56	Rubber Tired Loaders	11	1	2003	2014		211	161	12000	ULSD	<=211	>=211	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
57	Rubber Tired Loaders	16	1	1998	2014		84	202	12000	ULSD	<=84	>=84	1998	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
58	Rubber Tired Loaders	10	1	2004	2014		71	97	12000	ULSD	<=71	>=71	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel	Min HP	Max HP	Model Year	Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
59	Rubber Tired Loaders	11	1	2003	2014		262	774	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
60	Rubber Tired Loaders	16	1	1998	2014		90	492	12000	ULSD	<=90	>=90	1998	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
61	Rubber Tired Loaders	16	1	1998	2014		80	160	12000	ULSD	<=80	>=80	1998	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
62	Rubber Tired Loaders	11	1	2003	2014		211	503	12000	ULSD	<=211	>=211	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
63	Rubber Tired Loaders	10	1	2004	2014		73	94	12000	ULSD	<=73	>=73	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
64	Rubber Tired Loaders	10	1	2004	2014		73	83	12000	ULSD	<=73	>=73	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
65	Rubber Tired Loaders	11	1	2003	2014		140	20	12000	ULSD	<=140	>=140	2003	0.3618	2.7	0.000071	1.53	5.26	0.000096	2.20
66	Rubber Tired Loaders	10	1	2004	2014		70	61	12000	ULSD	<=70	>=70	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
67	Aerial Lifts	16	1	1998	2014		75	0	4519	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.68	6.9	0.000160	2.23
68	Aerial Lifts	10	1	2004	2014		74	250	2924	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
69	Aerial Lifts	10	1	2004	2014		74	9	2924	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
70	Aerial Lifts	16	1	1998	2014		75	78	4519	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.68	6.9	0.000160	2.23
71	Aerial Lifts	16	1	1998	2014		75	500	4519	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.68	6.9	0.000160	2.23
72	Aerial Lifts	10	1	2004	2014		74	42	2924	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
73	Forklifts	11	1	2003	2014		109	0	8275	ULSD	<=109	>=109	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
74	Forklifts	11	1	2003	2014		122	556	8275	ULSD	<=122	>=122	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
75	Forklifts	11	1	2003	2014		130	0	8275	ULSD	<=130	>=130	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
76	Forklifts	11	1	2003	2014		130	567	8275	ULSD	<=130	>=130	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
77	Forklifts	11	1	2003	2014		100	133	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
78	Forklifts	16	1	1998	2014		85	103	11724	ULSD	<=85	>=85	1998	0.201	3.49	0.000092	1.96	6.9	0.000160	1.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
79	Forklifts	16	1	1998	2014		75	13	11724	ULSD	<=75	>=75	1998	0.201	3.49	0.000092	1.96	6.9	0.000160	1.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
80	Forklifts	16	1	1998	2014		99	144	11724	ULSD	<=99	>=99	1998	0.201	3.49	0.000092	1.96	6.9	0.000160	1.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
81	Forklifts	11	1	2003	2014		130	29	8275	ULSD	<=130	>=130	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
82	Forklifts	11	1	2003	2014		125	31	8275	ULSD	<=125	>=125	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
83	Forklifts	11	1	2003	2014		155	12	8275	ULSD	<=155	>=155	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
84	Forklifts	16	1	1998	2014		75	8	11724	ULSD	<=75	>=75	1998	0.201	3.49	0.000092	1.96	6.9	0.000160	1.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
85	Bore/Drill Rigs	13	1	2001	2014		300	62	4595	ULSD	<=300	>=300	2001	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
86	Excavators	11	1	2003	2014		164	474	7456	ULSD	<=164	>=164	2003	0.3819	2.7	0.000071	1.39	5.26	0.000096	2.16
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
87	Air Compressors	13	1	2001	2014		540	76	12000	ULSD	<=540	>=540	2001	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
88	Pumps	10	1	2004	2014		58	253	12000	ULSD	<=58	>=58	2004	0.74	3.23	0.000086	1.82	5.64	0.000103	4.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
89	Bore/Drill Rigs	12	1	2002	2014		677	272	4499	ULSD	<=677	>=677	2002	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
90	Cranes	13	1	2001	2014		523	9	6502	ULSD	<=523	>=523	2001	0.2881	0.92	0.000018	0.45	6.25	0.000104	1.89
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
91	Cranes	12	1	2002	2014		603	92	6091	ULSD	<=603	>=603	2002	0.2881	0.92	0.000018	0.44	4.95	0.000073	1.47
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
92	Pumps	10	1	2004	2014		65	40	12000	ULSD	<=65	>=65	2004	0.74	3.23	0.000086	1.82	5.64	0.000103	4.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
93	Pumps	11	1	2003	2014		262	82	12000	ULSD	<=262	>=262	2003	0.74	0.92	0.000018	0.49	4.29	0.000058	3.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
94	Off-Highway Trucks	11	1	2003	2014		140	11	12000	ULSD	<=140	>=140	2003	0.3819	2.7	0.000071	1.53	5.26	0.000096	2.32
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
95	Crew and Supply, propulsion engine	11	1	2003	2014		115	94	N/A	ULSD	<=115	>=115	2003	0.38	3.49	0.160000	1.46	6.9	0.140000	2.86
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
96	Crew and Supply, propulsion engine	11	1	2003	2014		115	16	N/A	ULSD	<=115	>=115	2003	0.38	3.49	0.160000	1.46	6.9	0.140000	2.86
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
97	Crew and Supply, propulsion engine	11	1	2003	2014		115	16	N/A	ULSD	<=115	>=115	2003	0.38	3.49	0.160000	1.46	6.9	0.140000	2.86

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
98	Equipment Forklifts	Age 11	1	2003	2014		111	320	8275	Fuel ULSD	Min HP <=111	Max HP >=111	Model Year 2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
99	Equipment Generator Sets	Age 13	1	2001	2014		415	461	12000	Fuel ULSD	Min HP <=415	Max HP >=415	Model Year 2001	0.74	0.92	0.000018	0.49	4.95	0.000073	4.09
100	Equipment Generator Sets	Age 13	1	2001	2014		450	565	12000	Fuel ULSD	Min HP <=450	Max HP >=450	Model Year 2001	0.74	0.92	0.000018	0.49	4.95	0.000073	4.09
101	Equipment Bore/Drill Rigs	Age 12	1	2002	2014		717	785	4499	Fuel ULSD	Min HP <=717	Max HP >=717	Model Year 2002	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
102	Equipment Bore/Drill Rigs	Age 12	1	2002	2014		717	617	4499	Fuel ULSD	Min HP <=717	Max HP >=717	Model Year 2002	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
103	Equipment Cranes	Age 13	1	2001	2014		300	179	6502	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
104	Equipment Excavators	Age 14	1	2000	2014		425	44	8646	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2000	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.59
105	Equipment Excavators	Age 14	1	2000	2014		283	98	8646	Fuel ULSD	Min HP <=283	Max HP >=283	Model Year 2000	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.59
106	Equipment Rollers	Age 14	1	2000	2014		156	123	4826	Fuel ULSD	Min HP <=156	Max HP >=156	Model Year 2000	0.3752	2.7	0.000071	1.31	6.9	0.000160	2.73
107	Equipment Crawler Tractors	Age 15	1	2001	2016		464	4240	8465	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2001	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.26
107R	Equipment Crawler Tractors	Age 15	1	2001	2016		464	4240	8465	Fuel ULSD	Min HP <=464	Max HP >=464	Model Year 2001	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.26
108	Equipment Crawler Tractors	Age 14	1	2002	2016		646	4240	8074	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2002	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.25
108R	Equipment Crawler Tractors	Age 14	1	2002	2016		646	4240	8074	Fuel ULSD	Min HP <=646	Max HP >=646	Model Year 2002	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.25
109	Equipment Graders	Age 13	1	2003	2016		294	4160	10645	Fuel ULSD	Min HP <=294	Max HP >=294	Model Year 2003	0.4087	0.92	0.000018	0.48	4.29	0.000058	1.90
110	Equipment Excavators	Age 15	1	2001	2016		425	4240	8982	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
111	Equipment Excavators	Age 15	1	2001	2016		425	3880	8982	Fuel ULSD	Min HP <=425	Max HP >=425	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
112	Equipment Excavators	Age 15	1	2001	2016		496	4080	8982	Fuel ULSD	Min HP <=496	Max HP >=496	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
112R	Equipment Excavators	Age 15	1	2001	2016		496	4080	8982	Fuel ULSD	Min HP <=496	Max HP >=496	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
113	Equipment Excavators	Age 18	1	1998	2016		90	560	9842	Fuel ULSD	Min HP <=90	Max HP >=90	Model Year 1998	0.3819	3.49	0.000092	1.89	6.9	0.000160	3.07
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
114	Rollers	13	1	2003	2016		156	3320	4559	ULSD	<=156	>=156	2003	0.3752	2.7	0.000071	1.30	5.26	0.000096	2.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
115	Scrapers	14	1	2002	2016		600	320	8181	ULSD	<=600	>=600	2002	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.54
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
116	Scrapers	15	1	2001	2016		440	320	8603	ULSD	<=440	>=440	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
117	Scrapers	14	1	2002	2016		600	320	8181	ULSD	<=600	>=600	2002	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.54
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
118	Scrapers	15	1	2001	2016		440	320	8603	ULSD	<=440	>=440	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
119	Cranes	13	1	2003	2016		267	2640	6502	ULSD	<=267	>=267	2003	0.2881	0.92	0.000018	0.45	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
119R	Cranes	13	1	2003	2016		267	2640	6502	ULSD	<=267	>=267	2003	0.2881	0.92	0.000018	0.45	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
120	Cranes	13	1	2003	2016		267	2700	6502	ULSD	<=267	>=267	2003	0.2881	0.92	0.000018	0.45	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
120R	Cranes	13	1	2003	2016		267	2700	6502	ULSD	<=267	>=267	2003	0.2881	0.92	0.000018	0.45	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
121	Cranes	14	1	2002	2016		603	2520	6905	ULSD	<=603	>=603	2002	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.49
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
122	Cranes	13	1	2003	2016		298	720	6502	ULSD	<=298	>=298	2003	0.2881	0.92	0.000018	0.45	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
123	Cranes	15	1	2001	2016		300	600	7308	ULSD	<=300	>=300	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
124	Cranes	15	1	2001	2016		523	2880	7308	ULSD	<=523	>=523	2001	0.2881	0.92	0.000018	0.45	6.25	0.000104	1.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
125	Cranes	15	1	2001	2016		322	1680	7308	ULSD	<=322	>=322	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
126	Off-Highway Trucks	16	1	2000	2016		763	400	12000	ULSD	<=763	>=763	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
127	Off-Highway Trucks	16	1	2000	2016		763	400	12000	ULSD	<=763	>=763	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
128	Off-Highway Trucks	14	1	2002	2016		740	400	12000	ULSD	<=740	>=740	2002	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
129	Off-Highway Trucks	15	1	2001	2016		484	3800	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
130	Off-Highway Trucks	15	1	2001	2016		484	4200	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
131	Off-Highway Trucks	15	1	2001	2016		484	4720	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
132	Off-Highway Trucks	15	1	2001	2016		484	4880	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
133	Off-Highway Trucks	15	1	2001	2016		484	4880	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
134	Off-Highway Trucks	15	1	2001	2016		484	4880	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
135	Generator Sets	13	1	2003	2016		174	2850	12000	ULSD	<=174	>=174	2003	0.74	2.7	0.000071	1.53	5.26	0.000096	4.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
136	Rubber Tired Loaders	13	1	2003	2016		211	2240	12000	ULSD	<=211	>=211	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
137	Rubber Tired Loaders	18	1	1998	2016		84	2240	12000	ULSD	<=84	>=84	1998	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
138	Rubber Tired Loaders	12	1	2004	2016		71	2240	12000	ULSD	<=71	>=71	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
139	Rubber Tired Loaders	13	1	2003	2016		262	3840	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
139R	Rubber Tired Loaders	13	1	2003	2016		262	3840	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
140	Aerial Lifts	18	1	1998	2016		75	800	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
141	Aerial Lifts	12	1	2004	2016		74	960	3456	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.51	5.64	0.000103	1.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
142	Aerial Lifts	12	1	2004	2016		74	960	3456	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.51	5.64	0.000103	1.75
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
143	Aerial Lifts	18	1	1998	2016		75	3040	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
144	Aerial Lifts	18	1	1998	2016		75	3040	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
145	Aerial Lifts	18	1	1998	2016		75	2880	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
146	Aerial Lifts	18	1	1998	2016		75	2880	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
147	Aerial Lifts	18	1	1998	2016		75	2880	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
148	Aerial Lifts	18	1	1998	2016		75	2880	5051	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.70	6.9	0.000160	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
149	Forklifts	13	1	2003	2016		109	960	9655	ULSD	<=109	>=109	2003	0.201	3.49	0.000092	1.88	6.9	0.000160	1.61
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
150	Forklifts	13	1	2003	2016		122	4480	9655	ULSD	<=122	>=122	2003	0.201	2.7	0.000071	1.45	5.26	0.000096	1.18
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
151	Forklifts	13	1	2003	2016		130	4480	9655	ULSD	<=130	>=130	2003	0.201	2.7	0.000071	1.45	5.26	0.000096	1.18
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
152	Forklifts	18	1	1998	2016		75	2040	12000	ULSD	<=75	>=75	1998	0.201	3.49	0.000092	1.97	6.9	0.000160	1.68
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
153	Bore/Drill Rigs	15	1	2001	2016		300	2440	4786	ULSD	<=300	>=300	2001	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
153R	Bore/Drill Rigs	15	1	2001	2016		300	2440	4786	ULSD	<=300	>=300	2001	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.53
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
154	Bore/Drill Rigs	13	1	2003	2016		260	2440	4595	ULSD	<=260	>=260	2003	0.5025	0.92	0.000018	0.43	4.29	0.000058	2.17
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
155	Bore/Drill Rigs	13	1	2003	2016		220	2440	4595	ULSD	<=220	>=220	2003	0.5025	0.92	0.000024	0.44	5	0.000091	2.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
155R	Bore/Drill Rigs	13	1	2003	2016		220	2440	4595	ULSD	<=220	>=220	2003	0.5025	0.92	0.000024	0.44	5	0.000091	2.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
156	Bore/Drill Rigs	13	1	2003	2016		230	2440	4595	ULSD	<=230	>=230	2003	0.5025	0.92	0.000024	0.44	5	0.000091	2.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
156R	Bore/Drill Rigs	13	1	2003	2016		230	2440	4595	ULSD	<=230	>=230	2003	0.5025	0.92	0.000024	0.44	5	0.000091	2.58
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
157	Excavators	13	1	2003	2016		164	1400	8279	ULSD	<=164	>=164	2003	0.3819	2.7	0.000071	1.41	5.26	0.000096	2.19
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
158	Air Compressors	15	1	2001	2016		540	1400	12000	ULSD	<=540	>=540	2001	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
158R	Air Compressors	15	1	2001	2016		540	1400	12000	ULSD	<=540	>=540	2001	0.48	0.92	0.000018	0.49	6.25	0.000104	3.41
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
159	Generator Sets	13	1	2003	2016		134	600	12000	ULSD	<=134	>=134	2003	0.74	2.7	0.000071	1.53	5.26	0.000096	4.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
160	Tug Boats, propulsion engine	15	1	2001	2016		400	2400	N/A	ULSD	<=400	>=400	2001	0.5	0.92	0.250000	0.56	4.95	0.210000	2.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
161	Barge, auxiliary engine (Crane)	16	1	2000	2016		900	1800	N/A	ULSD	<=900	>=900	2000	0.42	2.7	0.250000	1.64	8.17	0.210000	4.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
162	Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	2016		150	2400	N/A	ULSD	<=150	>=150	2003	0.31	2.7	0.160000	0.90	5.26	0.140000	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
163	Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	2016		200	2400	N/A	ULSD	<=200	>=200	2003	0.31	0.92	0.160000	0.31	5	0.140000	1.65
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
164	Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	2016		150	2400	N/A	ULSD	<=150	>=150	2003	0.31	2.7	0.160000	0.90	5.26	0.140000	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
165	Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	2016		150	2400	N/A	ULSD	<=150	>=150	2003	0.31	2.7	0.160000	0.90	5.26	0.140000	1.74

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
166	Work Boats, propulsion engine	13	1	2003	2016		115	2520	N/A	ULSD	<=115	>=115	2003	0.45	3.49	0.160000	1.76	6.9	0.140000	3.44
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
167	Work Boats, propulsion engine	13	1	2003	2016		140	2520	N/A	ULSD	<=140	>=140	2003	0.45	2.7	0.160000	1.36	5.26	0.140000	2.62
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
168	Work Boats, propulsion engine	13	1	2003	2016		150	2520	N/A	ULSD	<=150	>=150	2003	0.45	2.7	0.160000	1.36	5.26	0.140000	2.62
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
169	Pumps	10	1	2004	2014		65	160	12000	ULSD	<=65	>=65	2004	0.74	3.23	0.000086	1.82	5.64	0.000103	4.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
170	Forklifts	16	1	1998	2014		85	160	11724	ULSD	<=85	>=85	1998	0.201	3.49	0.000092	1.96	6.9	0.000160	1.67
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
171	Bore/Drill Rigs	12	1	2002	2014		677	240	4499	ULSD	<=677	>=677	2002	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
172	Rubber Tired Loaders	16	1	1998	2014		80	160	12000	ULSD	<=80	>=80	1998	0.3618	3.49	0.000092	1.97	6.9	0.000160	3.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
173	Aerial Lifts	16	1	1998	2014		75	160	4519	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.68	6.9	0.000160	2.23
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
174	Aerial Lifts	16	1	1998	2014		75	160	4519	ULSD	<=75	>=75	1998	0.3082	3.49	0.000092	1.68	6.9	0.000160	2.23
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
175	Forklifts	11	1	2003	2014		111	160	8275	ULSD	<=111	>=111	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
176	Generator Sets	13	1	2001	2014		415	240	12000	ULSD	<=415	>=415	2001	0.74	0.92	0.000018	0.49	4.95	0.000073	4.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
177	Generator Sets	13	1	2001	2014		450	120	12000	ULSD	<=450	>=450	2001	0.74	0.92	0.000018	0.49	4.95	0.000073	4.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
178	Bore/Drill Rigs	12	1	2002	2014		717	240	4499	ULSD	<=717	>=717	2002	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
179	Cranes	13	1	2001	2014		300	160	6502	ULSD	<=300	>=300	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
180	Cranes	13	1	2001	2014		300	160	6502	ULSD	<=300	>=300	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
181	Excavators	14	1	2000	2014		425	40	8646	ULSD	<=425	>=425	2000	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
182	Excavators	14	1	2000	2014		283	40	8646	ULSD	<=283	>=283	2000	0.3819	0.92	0.000018	0.46	6.25	0.000104	2.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
183	Off-Highway Trucks	14	1	2000	2014		484	40	12000	ULSD	<=484	>=484	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
184	Off-Highway Trucks	14	1	2000	2014		484	40	12000	ULSD	<=484	>=484	2000	0.3819	0.92	0.000018	0.49	6.25	0.000104	2.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
185	Rubber Tired Loaders	14	1	2000	2014		262	40	12000	ULSD	<=262	>=262	2000	0.3618	0.92	0.000018	0.49	6.25	0.000104	2.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
186	Rollers	14	1	2000	2014		174	40	4826	ULSD	<=174	>=174	2000	0.3752	2.7	0.000071	1.31	6.9	0.000160	2.73
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
187	Scrapers	14	1	2000	2014		294	40	8181	ULSD	<=294	>=294	2000	0.4824	0.92	0.000018	0.46	6.25	0.000104	3.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
188	Crawler Tractors	13	1	2003	2016		205	138	7664	ULSD	<=205	>=205	2003	0.4288	0.92	0.000024	0.47	5	0.000091	2.31
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
189	Crawler Tractors	14	1	2002	2016		600	175	8074	ULSD	<=600	>=600	2002	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
190	Tractors/Loaders/Backhoes	12	1	2004	2016		75	60	8145	ULSD	<=75	>=75	2004	0.3685	3.23	0.000086	1.68	5.64	0.000103	2.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
191	Graders	13	1	2003	2016		294	334	10645	ULSD	<=294	>=294	2003	0.4087	0.92	0.000018	0.48	4.29	0.000058	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
192	Excavators	15	1	2001	2016		425	710	8982	ULSD	<=425	>=425	2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
193	Rollers	13	1	2003	2016		175	347	4559	ULSD	<=175	>=175	2003	0.3752	2.7	0.000071	1.30	5.26	0.000096	2.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
194	Scrapers	15	1	2001	2016		440	123	8603	ULSD	<=440	>=440	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.55
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
195	Scrapers	14	1	2002	2016		600	123	8181	ULSD	<=600	>=600	2002	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.54
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
196	Off-Highway Trucks	15	1	2001	2016		484	692	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
197	Rubber Tired Loaders	13	1	2003	2016		262	531	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
198	Crawler Tractors	13	1	2003	2016		205	300	7664	ULSD	<=205	>=205	2003	0.4288	0.92	0.000024	0.47	5	0.000091	2.31
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
199	Crawler Tractors	14	1	2002	2016		600	1075	8074	ULSD	<=600	>=600	2002	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.25
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
200	Graders	13	1	2003	2016		294	1700	10645	ULSD	<=294	>=294	2003	0.4087	0.92	0.000018	0.48	4.29	0.000058	1.90
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
201	Excavators	15	1	2001	2016		425	1700	8982	ULSD	<=425	>=425	2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
202	Rollers	13	1	2003	2016		175	990	4559	ULSD	<=175	>=175	2003	0.3752	2.7	0.000071	1.30	5.26	0.000096	2.03
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
203	Rollers	13	1	2003	2016		250	790	4559	ULSD	<=250	>=250	2003	0.3752	0.92	0.000024	0.44	5	0.000091	1.93
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
204	Cranes	15	1	2001	2016		300	250	7308	ULSD	<=300	>=300	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.50

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
205	Off-Highway Trucks	15	1	2001	2016		484	4200	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
206	Rubber Tired Loaders	13	1	2003	2016		262	220	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
207	Excavators	13	1	2001	2014		425	160	8279	ULSD	<=425	>=425	2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
208	Excavators	11	1	2003	2014		283	160	7456	ULSD	<=283	>=283	2003	0.3819	0.92	0.000018	0.45	4.29	0.000058	1.71
209	Off-Highway Trucks	13	1	2001	2014		484	160	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
210	Off-Highway Trucks	13	1	2001	2014		484	160	12000	ULSD	<=484	>=484	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
211	Rubber Tired Loaders	11	1	2003	2014		262	160	12000	ULSD	<=262	>=262	2003	0.3618	0.92	0.000018	0.49	4.29	0.000058	1.71
212	Rollers	11	1	2003	2014		174	160	4000	ULSD	<=174	>=174	2003	0.3752	2.7	0.000071	1.28	5.26	0.000096	2.01
213	Graders	11	1	2003	2014		294	160	9525	ULSD	<=294	>=294	2003	0.4087	0.92	0.000018	0.47	4.29	0.000058	1.88
214	Scrapers	14	1	2003	2017		294	800	8181	ULSD	<=294	>=294	2003	0.4824	0.92	0.000018	0.46	4.29	0.000058	2.18
215	Scrapers	15	1	2002	2017		600	640	8603	ULSD	<=600	>=600	2002	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.55
216	Scrapers	16	1	2001	2017		440	640	9009	ULSD	<=440	>=440	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.57
217	Off-Highway Trucks	16	1	2001	2017		361	750	12000	ULSD	<=361	>=361	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
218	Crawler Tractors	14	1	2003	2017		140	940	8074	ULSD	<=140	>=140	2003	0.4288	2.7	0.000071	1.40	5.26	0.000096	2.45
219	Crawler Tractors	16	1	2001	2017		464	700	8837	ULSD	<=464	>=464	2001	0.4288	0.92	0.000018	0.46	4.95	0.000073	2.28
220	Rollers	14	1	2003	2017		130	680	4826	ULSD	<=130	>=130	2003	0.3752	2.7	0.000071	1.31	5.26	0.000096	2.04
221	Rollers	14	1	2003	2017		145	400	4826	ULSD	<=145	>=145	2003	0.3752	2.7	0.000071	1.31	5.26	0.000096	2.04
222	Excavators	14	1	2003	2017		170	475	8646	ULSD	<=170	>=170	2003	0.3819	2.7	0.000071	1.42	5.26	0.000096	2.21
223	Rubber Tired Loaders	13	1	2004	2017		54	1200	12000	ULSD	<=54	>=54	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
224	Off-Highway Trucks	14	1	2003	2017		200	1280	12000	ULSD	<=200	>=200	2003	0.3819	0.92	0.000024	0.52	5	0.000091	2.20
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
225	Scrapers	16	1	2001	2017		330	960	9009	ULSD	<=330	>=330	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
226	Scrapers	14	1	2003	2017		209	640	8181	ULSD	<=209	>=209	2003	0.4824	0.92	0.000024	0.48	5	0.000091	2.63
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
227	Scrapers	16	1	2001	2017		380	2560	9009	ULSD	<=380	>=380	2001	0.4824	0.92	0.000018	0.46	4.95	0.000073	2.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
228	Off-Highway Trucks	14	1	2003	2017		140	1280	12000	ULSD	<=140	>=140	2003	0.3819	2.7	0.000071	1.53	5.26	0.000096	2.32
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
229	Crawler Tractors	14	1	2003	2017		130	960	8074	ULSD	<=130	>=130	2003	0.4288	2.7	0.000071	1.40	5.26	0.000096	2.45
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
230	Crawler Tractors	14	1	2003	2017		145	480	8074	ULSD	<=145	>=145	2003	0.4288	2.7	0.000071	1.40	5.26	0.000096	2.45
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
231	Rollers	14	1	2003	2017		170	320	4826	ULSD	<=170	>=170	2003	0.3752	2.7	0.000071	1.31	5.26	0.000096	2.04
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
232	Rollers	13	1	2004	2017		54	800	4559	ULSD	<=54	>=54	2004	0.3752	3.23	0.000086	1.55	5.64	0.000103	2.17
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
233	Excavators	16	1	2001	2017		300	380	9289	ULSD	<=300	>=300	2001	0.3819	0.92	0.000018	0.47	4.95	0.000073	2.04
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
234	Bore/Drill Rigs	12	1	2004	2016		75	75	4499	ULSD	<=75	>=75	2004	0.5025	3.23	0.000086	1.55	5.64	0.000103	2.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
235	Off-Highway Trucks	15	1	2001	2016		325	200	12000	ULSD	<=325	>=325	2001	0.3819	0.92	0.000018	0.49	4.95	0.000073	2.11
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
236	Forklifts	11	1	2003	2014		100	139	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
237	Rubber Tired Loaders	10	1	2004	2014		78	857	12000	ULSD	<=78	>=78	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
238	Cranes	11	1	2003	2014		250	180	5671	ULSD	<=250	>=250	2003	0.2881	0.92	0.000024	0.45	5	0.000091	1.51
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
239	Cranes	11	1	2003	2014		173	104	5671	ULSD	<=173	>=173	2003	0.2881	2.7	0.000071	1.33	5.26	0.000096	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
240	Cranes	13	1	2001	2014		350	764	6502	ULSD	<=350	>=350	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
241	Forklifts	11	1	2003	2014		100	650	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
242	Generator Sets	13	1	2001	2014		532	318	12000	ULSD	<=532	>=532	2001	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
243	Forklifts	11	1	2003	2014		110	475	8275	ULSD	<=110	>=110	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
244	Rubber Tired Loaders	11	1	2003	2014		180	447	12000	ULSD	<=180	>=180	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
245	Tractors/Loaders/Backhoes	11	1	2003	2014		129	77	7749	ULSD	<=129	>=129	2003	0.3685	2.7	0.000071	1.40	5.26	0.000096	2.10
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
246	Aerial Lifts	10	1	2004	2014		62	378	2924	ULSD	<=62	>=62	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
247	Excavators	13	1	2001	2014		300	3	8279	ULSD	<=300	>=300	2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
248	Pumps	10	1	2004	2014		80	1040	12000	ULSD	<=80	>=80	2004	0.74	3.23	0.000086	1.82	5.64	0.000103	4.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
249	Forklifts	11	1	2003	2014		100	413	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
250	Forklifts	11	1	2003	2014		100	418	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
251	Bore/Drill Rigs	13	1	2001	2014		350	136	4595	ULSD	<=350	>=350	2001	0.5025	0.92	0.000018	0.43	4.95	0.000073	2.52
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
252	Forklifts	11	1	2003	2014		115	503	8275	ULSD	<=115	>=115	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
253	Generator Sets	11	1	2003	2014		274	890	12000	ULSD	<=274	>=274	2003	0.74	0.92	0.000018	0.49	4.29	0.000058	3.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
254	Air Compressors	13	1	2001	2014		343	50	12000	ULSD	<=343	>=343	2001	0.48	0.92	0.000018	0.49	4.95	0.000073	2.65
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
255	Forklifts	11	1	2003	2014		100	76	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
256	Air Compressors	11	1	2003	2014		280	252	12000	ULSD	<=280	>=280	2003	0.48	0.92	0.000018	0.49	4.29	0.000058	2.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
257	Aerial Lifts	10	1	2004	2014		56	151	2924	ULSD	<=56	>=56	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
258	Generator Sets	11	1	2003	2014		274	232	12000	ULSD	<=274	>=274	2003	0.74	0.92	0.000018	0.49	4.29	0.000058	3.50
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
259	Generator Sets	13	1	2001	2014		363	490	12000	ULSD	<=363	>=363	2001	0.74	0.92	0.000018	0.49	4.95	0.000073	4.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
260	Cranes	13	1	2001	2014		330	359	6502	ULSD	<=330	>=330	2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
261	Forklifts	11	1	2003	2014		100	139	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
262	Cranes	12	1	2002	2014		600	79	6091	ULSD	<=600	>=600	2002	0.2881	0.92	0.000018	0.44	4.95	0.000073	1.47
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
263	Aerial Lifts	10	1	2004	2014		65	212	2924	ULSD	<=65	>=65	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
264	Graders	11	1	2003	2014		241	51	9525	ULSD	<=241	>=241	2003	0.4087	0.92	0.000024	0.49	5	0.000091	2.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
265	Rollers	11	1	2003	2014		187	8	4000	ULSD	<=187	>=187	2003	0.3752	0.92	0.000024	0.44	5	0.000091	1.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
266	Air Compressors	11	1	2003	2014		274	15	12000	ULSD	<=274	>=274	2003	0.48	0.92	0.000018	0.49	4.29	0.000058	2.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
267	Aerial Lifts	10	1	2004	2014		74	236	2924	ULSD	<=74	>=74	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
268	Aerial Lifts	10	1	2004	2014		78	124	2924	ULSD	<=78	>=78	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
269	Cranes	11	1	2003	2014		275	61	5671	ULSD	<=275	>=275	2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
270	Forklifts	11	1	2003	2014		124	21	8275	ULSD	<=124	>=124	2003	0.201	2.7	0.000071	1.41	5.26	0.000096	1.15
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
271	Rollers	11	1	2003	2014		152	5	4000	ULSD	<=152	>=152	2003	0.3752	2.7	0.000071	1.28	5.26	0.000096	2.01
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
272	Excavators	13	1	2001	2014		300	3	8279	ULSD	<=300	>=300	2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.01
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
273	Forklifts	11	1	2003	2014		100	15	8275	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.82	6.9	0.000160	1.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
274	Cranes	11	1	2003	2014		275	3	5671	ULSD	<=275	>=275	2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
275	Cranes	11	1	2003	2014		275	53	5671	ULSD	<=275	>=275	2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
276	Aerial Lifts	10	1	2004	2014		15	30	2924	ULSD	<=15	>=15	2004	0.3082	3.47	0.000000	1.49	6.08	0.000000	1.78
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
277	Excavators	11	1	2003	2014		204	22	7456	ULSD	<=204	>=204	2003	0.3819	0.92	0.000024	0.47	5	0.000091	2.05
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
278	Excavators	11	1	2003	2014		157	20	7456	ULSD	<=157	>=157	2003	0.3819	2.7	0.000071	1.39	5.26	0.000096	2.16
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
279	Aerial Lifts	10	1	2004	2014		62	4	2924	ULSD	<=62	>=62	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
280	Aerial Lifts	10	1	2004	2014		82	50	2924	ULSD	<=82	>=82	2004	0.3082	3.23	0.000086	1.49	5.64	0.000103	1.74
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
281	Generator Sets	13	1	2001	2014		527	30	12000	ULSD	<=527	>=527	2001	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
282	Aerial Lifts	11	1	2004	2015		65	487	3190	ULSD	<=65	>=65	2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
283	Equipment Aerial Lifts	Age 11	1	2004	2015		56	396	3190	Fuel ULSD	Min HP <=56	Max HP >=56	Model Year 2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74
284	Equipment Aerial Lifts	Age 11	1	2004	2015		65	420	3190	Fuel ULSD	Min HP <=65	Max HP >=65	Model Year 2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74
285	Equipment Aerial Lifts	Age 11	1	2004	2015		62	513	3190	Fuel ULSD	Min HP <=62	Max HP >=62	Model Year 2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74
286	Equipment Aerial Lifts	Age 11	1	2004	2015		74	559	3190	Fuel ULSD	Min HP <=74	Max HP >=74	Model Year 2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74
287	Equipment Aerial Lifts	Age 11	1	2004	2015		78	573	3190	Fuel ULSD	Min HP <=78	Max HP >=78	Model Year 2004	0.3082	3.23	0.000086	1.50	5.64	0.000103	1.74
288	Equipment Air Compressors	Age 12	1	2003	2015		280	552	12000	Fuel ULSD	Min HP <=280	Max HP >=280	Model Year 2003	0.48	0.92	0.000018	0.49	4.29	0.000058	2.27
289	Equipment Air Compressors	Age 14	1	2001	2015		343	150	12000	Fuel ULSD	Min HP <=343	Max HP >=343	Model Year 2001	0.48	0.92	0.000018	0.49	4.95	0.000073	2.65
290	Equipment Air Compressors	Age 12	1	2003	2015		274	490	12000	Fuel ULSD	Min HP <=274	Max HP >=274	Model Year 2003	0.48	0.92	0.000018	0.49	4.29	0.000058	2.27
291	Equipment Tractors/Loaders/Backhoes	Age 12	1	2003	2015		129	115	8145	Fuel ULSD	Min HP <=129	Max HP >=129	Model Year 2003	0.3685	2.7	0.000071	1.41	5.26	0.000096	2.11
292	Equipment Other Construction Equipment	Age 12	1	2003	2015		250	124	6156	Fuel ULSD	Min HP <=250	Max HP >=250	Model Year 2003	0.4154	0.92	0.000024	0.46	5	0.000091	2.19
293	Equipment Bore/Drill Rigs	Age 12	1	2003	2015		170	140	4499	Fuel ULSD	Min HP <=170	Max HP >=170	Model Year 2003	0.5025	2.7	0.000071	1.30	5.26	0.000096	2.71
294	Equipment Cranes	Age 14	1	2001	2015		350	711	6905	Fuel ULSD	Min HP <=350	Max HP >=350	Model Year 2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.49
295	Equipment Cranes	Age 14	1	2001	2015		330	865	6905	Fuel ULSD	Min HP <=330	Max HP >=330	Model Year 2001	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.49
296	Equipment Cranes	Age 13	1	2002	2015		600	960	6502	Fuel ULSD	Min HP <=600	Max HP >=600	Model Year 2002	0.2881	0.92	0.000018	0.45	4.95	0.000073	1.48
297	Equipment Crawler Tractors	Age 12	1	2003	2015		185	230	7236	Fuel ULSD	Min HP <=185	Max HP >=185	Model Year 2003	0.4288	0.92	0.000024	0.47	5	0.000091	2.30
298	Equipment Excavators	Age 14	1	2001	2015		345	330	8646	Fuel ULSD	Min HP <=345	Max HP >=345	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.02
299	Equipment Excavators	Age 14	1	2001	2015		300	90	8646	Fuel ULSD	Min HP <=300	Max HP >=300	Model Year 2001	0.3819	0.92	0.000018	0.46	4.95	0.000073	2.02
300	Equipment Forklifts	Age 12	1	2003	2015		100	752	8965	Fuel ULSD	Min HP <=100	Max HP >=100	Model Year 2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
301	Equipment Forklifts	Age 12	1	2003	2015		100	1012	8965	Fuel ULSD	Min HP <=100	Max HP >=100	Model Year 2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
302	Forklifts	12	1	2003	2015		124	50	8965	ULSD	<=124	>=124	2003	0.201	2.7	0.000071	1.43	5.26	0.000096	1.17
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
303	Forklifts	12	1	2003	2015		110	248	8965	ULSD	<=110	>=110	2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
304	Forklifts	12	1	2003	2015		100	709	8965	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
305	Forklifts	12	1	2003	2015		100	873	8965	ULSD	<=100	>=100	2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
306	Forklifts	12	1	2003	2015		115	630	8965	ULSD	<=115	>=115	2003	0.201	3.49	0.000092	1.85	6.9	0.000160	1.59
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
307	Generator Sets	14	1	2001	2015		532	124	12000	ULSD	<=532	>=532	2001	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
308	Generator Sets	14	1	2001	2015		540	712	12000	ULSD	<=540	>=540	2001	0.74	0.92	0.000018	0.49	6.25	0.000104	5.26
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
309	Rubber Tired Loaders	12	1	2003	2015		235	350	12000	ULSD	<=235	>=235	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
310	Rubber Tired Loaders	12	1	2003	2015		180	515	12000	ULSD	<=180	>=180	2003	0.3618	0.92	0.000024	0.52	5	0.000091	2.09
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
311	Graders	12	1	2003	2015		220	120	10102	ULSD	<=220	>=220	2003	0.4087	0.92	0.000024	0.50	5	0.000091	2.29
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
312	Rollers	12	1	2003	2015		152	98	4283	ULSD	<=152	>=152	2003	0.3752	2.7	0.000071	1.29	5.26	0.000096	2.02
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
313	Cranes	12	1	2003	2015		173	76	6091	ULSD	<=173	>=173	2003	0.2881	2.7	0.000071	1.34	5.26	0.000096	1.60
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
314	Cranes	12	1	2003	2015		275	981	6091	ULSD	<=275	>=275	2003	0.2881	0.92	0.000018	0.44	4.29	0.000058	1.27
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
315	Rubber Tired Loaders	11	1	2004	2015		78	426	12000	ULSD	<=78	>=78	2004	0.3618	3.23	0.000086	1.82	5.64	0.000103	2.36
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
316	Graders	3	1	2012	2015		145	33	3710	ULSD	<=145	>=145	2012	0.4087	2.7	0.000071	1.27	2.27	0.000029	0.92
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
317	Graders	3	1	2012	2015		135	98	3710	ULSD	<=135	>=135	2012	0.4087	2.7	0.000071	1.27	2.27	0.000029	0.92
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
318	Rollers	2	1	2013	2015		131	33	1105	ULSD	<=131	>=131	2013	0.3752	2.7	0.000071	1.19	2.27	0.000029	0.82
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
319	Rollers	2	1	2013	2015		102	98	1105	ULSD	<=102	>=102	2013	0.3752	3.05	0.000081	1.35	2.53	0.000034	0.91
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
320	Crawler Tractors	3	1	2012	2015		235	98	2558	ULSD	<=235	>=235	2012	0.4288	0.92	0.000024	0.42	1.36	0.000018	0.57
	Equipment	Age								Fuel	Min HP	Max HP	Model Year							
321	Off-Highway Trucks	5	1	2010	2015		300	160	9724	ULSD	<=300	>=300	2010	0.3819	0.92	0.000018	0.47	2.45	0.000032	1.00

Output Data Sheet (don't modify any cells above Row 4)	Equipment Type	Age	Qty. equipment	Equipment Model Year	Current Year	Years Since Last Rebuild	Equipment Horsepower	Hours Operated during project per vehicle	Total EngineHours Operated (for this piece of equipment)	Fuel				Load Factor	Zero Hour Emission Factor CO w/out DECS	Deterioration Factor CO	Effective Emission Factor CO (g/bhp-hr) w/out DECS	Zero Hour Emission Factor NOx w/out DECS	Deterioration Factor NOx	Effective Emission Factor NOx (g/bhp-hr) w/out DECS
322	Equipment Off-Highway Trucks	Age 3	1	2012	2015		484	130	6722	Fuel ULSD	Min HP <=484	Max HP >=484	Model Year 2012	0.3819	0.92	0.000018	0.45	1.36	0.000018	0.53
323	Equipment Cranes	Age 3	1	2012	2015		267	240	2022	Fuel ULSD	Min HP <=267	Max HP >=267	Model Year 2012	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38
324	Equipment Cranes	Age 2	1	2013	2015		455	230	1528	Fuel ULSD	Min HP <=455	Max HP >=455	Model Year 2013	0.2881	0.92	0.000018	0.41	1.36	0.000018	0.38

Input Chas and effective daily emissions before DECS

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Crawler Tractors	Age 11	1	2003	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.056	0.002	568.3
Equipment Crawler Tractors	Age 13	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.05	0.12	0.00	0.058	0.002	568.3
Equipment Crawler Tractors	Age 12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment Crawler Tractors	Age 11	1	2003	0.417909	0.00	0.26	0.2208	0.00	0.12	0.24	0.00	0.122	0.002	568.3
Equipment Crawler Tractors	Age 11	1	2003	0.417909	0.00	0.26	0.2208	0.00	0.12	0.24	0.00	0.122	0.002	568.3
Equipment Crawler Tractors	Age 11	1	2003	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.056	0.002	568.3
Equipment Graders	Age 11	1	2003	0.151967	0.00	0.15	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Equipment Excavators	Age 13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment Excavators	Age 13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment Excavators	Age 11	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment Excavators	Age 11	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment Excavators	Age 13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment Excavators	Age 13	1	2001	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.066	0.002	568.3
Equipment Excavators	Age 13	1	2001	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.066	0.002	568.3
Equipment Excavators	Age 10	1	2004	0.582539	0.00	0.31	0.3588	0.00	0.17	0.39	0.00	0.180	0.002	568.3
Equipment Excavators	Age 11	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment Excavators	Age 11	1	2003	1.253726	0.00	0.61	0.6348	0.00	0.31	0.69	0.00	0.325	0.002	568.3
Equipment Excavators	Age 14	1	2000	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.067	0.002	568.3
Equipment Excavators	Age 16	1	1998	1.253726	0.00	0.64	0.6348	0.00	0.34	0.69	0.00	0.353	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Rollers	Age 11	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.092	0.002	568.3
Equipment Scrapers	Age 12	1	2002	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.065	0.002	568.3
Equipment Scrapers	Age 13	1	2001	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.066	0.002	568.3
Equipment Scrapers	Age 12	1	2002	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.065	0.002	568.3
Equipment Scrapers	Age 13	1	2001	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.066	0.002	568.3
Equipment Cranes	Age 11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment Cranes	Age 11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment Cranes	Age 11	1	2003	0.240614	0.00	0.10	0.1104	0.00	0.03	0.12	0.00	0.036	0.001	568.3
Equipment Cranes	Age 13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment Cranes	Age 12	1	2002	0.240614	0.00	0.10	0.1104	0.00	0.03	0.12	0.00	0.037	0.001	568.3
Equipment Cranes	Age 11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 12	1	2002	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment Off-Highway Trucks	Age 13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													
Air Compressors	14	1	2000	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.861145	0.00	0.92	0.3496	0.00	0.40	0.38	0.00	0.421	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.861145	0.00	0.92	0.3496	0.00	0.40	0.38	0.00	0.421	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.861145	0.00	0.92	0.3496	0.00	0.40	0.38	0.00	0.421	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.861145	0.00	0.92	0.3496	0.00	0.40	0.38	0.00	0.421	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2000	0.405245	0.00	0.43	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	11	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	16	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	10	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Rubber Tired Loaders	11	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	16	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	16	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	11	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	10	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	10	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	11	1	2003	0.417909	0.00	0.27	0.2208	0.00	0.12	0.24	0.00	0.129	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	10	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Aerial Lifts	16	1	1998	1.253726	0.00	0.45	0.6348	0.00	0.21	0.69	0.00	0.226	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Aerial Lifts	16	1	1998	1.253726	0.00	0.45	0.6348	0.00	0.21	0.69	0.00	0.226	0.002	568.3
Equipment	Age													
Aerial Lifts	16	1	1998	1.253726	0.00	0.45	0.6348	0.00	0.21	0.69	0.00	0.226	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	16	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.206	0.001	568.3
Equipment	Age													
Forklifts	16	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.206	0.001	568.3
Equipment	Age													
Forklifts	16	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.206	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Forklifts	16	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.206	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Excavators	11	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment	Age													
Air Compressors	13	1	2001	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment	Age													
Pumps	10	1	2004	0.582539	0.00	0.73	0.3588	0.00	0.41	0.39	0.00	0.433	0.004	568.3
Equipment	Age													
Bore/Drill Rigs	12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Cranes	13	1	2001	0.405245	0.00	0.14	0.138	0.00	0.04	0.15	0.00	0.047	0.001	568.3
Equipment	Age													
Cranes	12	1	2002	0.240614	0.00	0.10	0.1104	0.00	0.03	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Pumps	10	1	2004	0.582539	0.00	0.73	0.3588	0.00	0.41	0.39	0.00	0.433	0.004	568.3
Equipment	Age													
Pumps	11	1	2003	0.151967	0.00	0.32	0.1012	0.00	0.10	0.11	0.00	0.106	0.004	568.3
Equipment	Age													
Off-Highway Trucks	11	1	2003	0.417909	0.00	0.29	0.2208	0.00	0.13	0.24	0.00	0.136	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	11	1	2003	1.519668	0.28	0.68	0.69	0.44	0.34	0.69	0.44	0.34	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	11	1	2003	1.519668	0.28	0.68	0.69	0.44	0.34	0.69	0.44	0.34	0.002	568.3
Equipment	Age													
Crew and Supply, propulsion engine	11	1	2003	1.519668	0.28	0.68	0.69	0.44	0.34	0.69	0.44	0.34	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Forklifts	Age 11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment Generator Sets	Age 13	1	2001	0.240614	0.00	0.35	0.1104	0.00	0.11	0.12	0.00	0.117	0.004	568.3
Equipment Generator Sets	Age 13	1	2001	0.240614	0.00	0.35	0.1104	0.00	0.11	0.12	0.00	0.117	0.004	568.3
Equipment Bore/Drill Rigs	Age 12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment Bore/Drill Rigs	Age 12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment Cranes	Age 13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment Excavators	Age 14	1	2000	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.067	0.002	568.3
Equipment Excavators	Age 14	1	2000	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.067	0.002	568.3
Equipment Rollers	Age 14	1	2000	0.861145	0.00	0.38	0.3496	0.00	0.14	0.38	0.00	0.154	0.002	568.3
Equipment Crawler Tractors	Age 15	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.002	568.3
Equipment Crawler Tractors	Age 15	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.002	568.3
Equipment Crawler Tractors	Age 14	1	2002	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.059	0.002	568.3
Equipment Crawler Tractors	Age 14	1	2002	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.059	0.002	568.3
Equipment Graders	Age 13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment Excavators	Age 15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment Excavators	Age 15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment Excavators	Age 15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment Excavators	Age 15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment Excavators	Age 18	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.34	0.69	0.00	0.362	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Rollers	13	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.095	0.002	568.3
Equipment	Age													
Scrapers	14	1	2002	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.067	0.002	568.3
Equipment	Age													
Scrapers	15	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.06	0.12	0.00	0.068	0.002	568.3
Equipment	Age													
Scrapers	14	1	2002	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.067	0.002	568.3
Equipment	Age													
Scrapers	15	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.06	0.12	0.00	0.068	0.002	568.3
Equipment	Age													
Cranes	13	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.034	0.001	568.3
Equipment	Age													
Cranes	13	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.034	0.001	568.3
Equipment	Age													
Cranes	13	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.034	0.001	568.3
Equipment	Age													
Cranes	13	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.034	0.001	568.3
Equipment	Age													
Cranes	14	1	2002	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.038	0.001	568.3
Equipment	Age													
Cranes	13	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.034	0.001	568.3
Equipment	Age													
Cranes	15	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.039	0.001	568.3
Equipment	Age													
Cranes	15	1	2001	0.405245	0.00	0.14	0.138	0.00	0.05	0.15	0.00	0.048	0.001	568.3
Equipment	Age													
Cranes	15	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.039	0.001	568.3
Equipment	Age													
Off-Highway Trucks	16	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													
Off-Highway Trucks	16	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2002	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Generator Sets	13	1	2003	0.417909	0.00	0.56	0.2208	0.00	0.25	0.24	0.00	0.263	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	13	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	18	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	12	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	12	1	2004	0.582539	0.00	0.22	0.3588	0.00	0.11	0.39	0.00	0.120	0.002	568.3
Equipment	Age													
Aerial Lifts	12	1	2004	0.582539	0.00	0.22	0.3588	0.00	0.11	0.39	0.00	0.120	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Aerial Lifts	18	1	1998	1.253726	0.00	0.46	0.6348	0.00	0.22	0.69	0.00	0.233	0.002	568.3
Equipment	Age													
Forklifts	13	1	2003	1.253726	0.00	0.34	0.6348	0.00	0.18	0.69	0.00	0.189	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	13	1	2003	0.417909	0.00	0.14	0.2208	0.00	0.06	0.24	0.00	0.065	0.001	568.3
Equipment	Age													
Forklifts	13	1	2003	0.417909	0.00	0.14	0.2208	0.00	0.06	0.24	0.00	0.065	0.001	568.3
Equipment	Age													
Forklifts	18	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.208	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	15	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.061	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	15	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.061	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2003	0.151967	0.00	0.13	0.1012	0.00	0.05	0.11	0.00	0.055	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Excavators	13	1	2003	0.417909	0.00	0.25	0.2208	0.00	0.11	0.24	0.00	0.116	0.002	568.3
Equipment	Age													
Air Compressors	15	1	2001	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment	Age													
Air Compressors	15	1	2001	0.405245	0.00	0.26	0.138	0.00	0.09	0.15	0.00	0.094	0.002	568.3
Equipment	Age													
Generator Sets	13	1	2003	0.417909	0.00	0.56	0.2208	0.00	0.25	0.24	0.00	0.263	0.004	568.3
Equipment	Age													
Tug Boats, propulsion engine	15	1	2001	0.29127	0.44	0.20	0.12	0.67	0.10	0.12	0.67	0.10	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Crane)	16	1	2000	1.041986	0.44	0.78	0.38	0.67	0.35	0.38	0.67	0.35	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	0.50567	0.28	0.18	0.24	0.44	0.09	0.24	0.44	0.09	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	0.291143	0.28	0.10	0.12	0.44	0.05	0.12	0.44	0.05	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	0.50567	0.28	0.18	0.24	0.44	0.09	0.24	0.44	0.09	0.002	568.3
Equipment	Age													
Barge, auxiliary engine (Hoist_swing_winch)	13	1	2003	0.50567	0.28	0.18	0.24	0.44	0.09	0.24	0.44	0.09	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Work Boats, propulsion engine	13	1	2003	1.519668	0.28	0.83	0.69	0.44	0.41	0.69	0.44	0.41	0.002	568.3
Equipment	Age													
Work Boats, propulsion engine	13	1	2003	0.506556	0.28	0.28	0.24	0.44	0.14	0.24	0.44	0.14	0.002	568.3
Equipment	Age													
Work Boats, propulsion engine	13	1	2003	0.506556	0.28	0.28	0.24	0.44	0.14	0.24	0.44	0.14	0.002	568.3
Equipment	Age													
Pumps	10	1	2004	0.582539	0.00	0.73	0.3588	0.00	0.41	0.39	0.00	0.433	0.004	568.3
Equipment	Age													
Forklifts	16	1	1998	1.253726	0.00	0.36	0.6348	0.00	0.20	0.69	0.00	0.206	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Rubber Tired Loaders	16	1	1998	1.253726	0.00	0.65	0.6348	0.00	0.36	0.69	0.00	0.374	0.002	568.3
Equipment	Age													
Aerial Lifts	16	1	1998	1.253726	0.00	0.45	0.6348	0.00	0.21	0.69	0.00	0.226	0.002	568.3
Equipment	Age													
Aerial Lifts	16	1	1998	1.253726	0.00	0.45	0.6348	0.00	0.21	0.69	0.00	0.226	0.002	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Generator Sets	13	1	2001	0.240614	0.00	0.35	0.1104	0.00	0.11	0.12	0.00	0.117	0.004	568.3
Equipment	Age													
Generator Sets	13	1	2001	0.240614	0.00	0.35	0.1104	0.00	0.11	0.12	0.00	0.117	0.004	568.3
Equipment	Age													
Bore/Drill Rigs	12	1	2002	0.240614	0.00	0.16	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Cranes	13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Cranes	13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Excavators	14	1	2000	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.067	0.002	568.3
Equipment	Age													
Excavators	14	1	2000	0.405245	0.00	0.19	0.138	0.00	0.06	0.15	0.00	0.067	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2000	0.405245	0.00	0.21	0.138	0.00	0.07	0.15	0.00	0.075	0.002	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Rubber Tired Loaders	14	1	2000	0.405245	0.00	0.20	0.138	0.00	0.07	0.15	0.00	0.071	0.002	568.3
Equipment	Age													
Rollers	14	1	2000	0.861145	0.00	0.38	0.3496	0.00	0.14	0.38	0.00	0.154	0.002	568.3
Equipment	Age													
Scrapers	14	1	2000	0.405245	0.00	0.24	0.138	0.00	0.08	0.15	0.00	0.083	0.002	568.3
Equipment	Age													
Crawler Tractors	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.05	0.12	0.00	0.058	0.002	568.3
Equipment	Age													
Crawler Tractors	14	1	2002	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.059	0.002	568.3
Equipment	Age													
Tractors/Loaders/Backhoes	12	1	2004	0.582539	0.00	0.31	0.3588	0.00	0.17	0.39	0.00	0.183	0.002	568.3
Equipment	Age													
Graders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Excavators	15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment	Age													
Rollers	13	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.095	0.002	568.3
Equipment	Age													
Scrapers	15	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.06	0.12	0.00	0.068	0.002	568.3
Equipment	Age													
Scrapers	14	1	2002	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.067	0.002	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Equipment	Age													
Crawler Tractors	13	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.05	0.12	0.00	0.058	0.002	568.3
Equipment	Age													
Crawler Tractors	14	1	2002	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.059	0.002	568.3
Equipment	Age													
Graders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.056	0.002	568.3
Equipment	Age													
Excavators	15	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment	Age													
Rollers	13	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.095	0.002	568.3
Equipment	Age													
Rollers	13	1	2003	0.240614	0.00	0.13	0.1104	0.00	0.04	0.12	0.00	0.045	0.002	568.3
Equipment	Age													
Cranes	15	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.039	0.001	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Rubber Tired Loaders	13	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Excavators	13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Excavators	11	1	2003	0.151967	0.00	0.13	0.1012	0.00	0.04	0.11	0.00	0.047	0.002	568.3
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Off-Highway Trucks	13	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Rubber Tired Loaders	11	1	2003	0.151967	0.00	0.16	0.1012	0.00	0.05	0.11	0.00	0.052	0.002	568.3
Rollers	11	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.092	0.002	568.3
Graders	11	1	2003	0.151967	0.00	0.15	0.1012	0.00	0.05	0.11	0.00	0.054	0.002	568.3
Scrapers	14	1	2003	0.151967	0.00	0.17	0.1012	0.00	0.06	0.11	0.00	0.061	0.002	568.3
Scrapers	15	1	2002	0.240614	0.00	0.20	0.1104	0.00	0.06	0.12	0.00	0.068	0.002	568.3
Scrapers	16	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.07	0.12	0.00	0.069	0.002	568.3
Off-Highway Trucks	16	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Crawler Tractors	14	1	2003	0.417909	0.00	0.28	0.2208	0.00	0.12	0.24	0.00	0.129	0.002	568.3
Crawler Tractors	16	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Rollers	14	1	2003	0.417909	0.00	0.21	0.2208	0.00	0.09	0.24	0.00	0.097	0.002	568.3
Rollers	14	1	2003	0.417909	0.00	0.21	0.2208	0.00	0.09	0.24	0.00	0.097	0.002	568.3
Excavators	14	1	2003	0.417909	0.00	0.25	0.2208	0.00	0.11	0.24	0.00	0.118	0.002	568.3
Rubber Tired Loaders	13	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Off-Highway Trucks	14	1	2003	0.240614	0.00	0.19	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Scrapers	16	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.07	0.12	0.00	0.069	0.002	568.3
Equipment	Age													
Scrapers	14	1	2003	0.240614	0.00	0.20	0.1104	0.00	0.06	0.12	0.00	0.067	0.002	568.3
Equipment	Age													
Scrapers	16	1	2001	0.240614	0.00	0.20	0.1104	0.00	0.07	0.12	0.00	0.069	0.002	568.3
Equipment	Age													
Off-Highway Trucks	14	1	2003	0.417909	0.00	0.29	0.2208	0.00	0.13	0.24	0.00	0.136	0.002	568.3
Equipment	Age													
Crawler Tractors	14	1	2003	0.417909	0.00	0.28	0.2208	0.00	0.12	0.24	0.00	0.129	0.002	568.3
Equipment	Age													
Crawler Tractors	14	1	2003	0.417909	0.00	0.28	0.2208	0.00	0.12	0.24	0.00	0.129	0.002	568.3
Equipment	Age													
Rollers	14	1	2003	0.417909	0.00	0.21	0.2208	0.00	0.09	0.24	0.00	0.097	0.002	568.3
Equipment	Age													
Rollers	13	1	2004	0.582539	0.00	0.28	0.3588	0.00	0.15	0.39	0.00	0.156	0.002	568.3
Equipment	Age													
Excavators	16	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.055	0.002	568.3
Equipment	Age													
Bore/Drill Rigs	12	1	2004	0.582539	0.00	0.37	0.3588	0.00	0.20	0.39	0.00	0.208	0.003	568.3
Equipment	Age													
Off-Highway Trucks	15	1	2001	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Rubber Tired Loaders	10	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Cranes	11	1	2003	0.240614	0.00	0.10	0.1104	0.00	0.03	0.12	0.00	0.036	0.001	568.3
Equipment	Age													
Cranes	11	1	2003	0.417909	0.00	0.17	0.2208	0.00	0.07	0.24	0.00	0.078	0.001	568.3
Equipment	Age													
Cranes	13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Generator Sets	13	1	2001	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Rubber Tired Loaders	11	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Tractors/Loaders/Backhoes	11	1	2003	0.417909	0.00	0.23	0.2208	0.00	0.10	0.24	0.00	0.110	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Excavators	13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment	Age													
Pumps	10	1	2004	0.582539	0.00	0.73	0.3588	0.00	0.41	0.39	0.00	0.433	0.004	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Bore/Drill Rigs	13	1	2001	0.240614	0.00	0.17	0.1104	0.00	0.06	0.12	0.00	0.060	0.003	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Generator Sets	11	1	2003	0.151967	0.00	0.32	0.1012	0.00	0.10	0.11	0.00	0.106	0.004	568.3
Equipment	Age													
Air Compressors	13	1	2001	0.240614	0.00	0.23	0.1104	0.00	0.07	0.12	0.00	0.076	0.002	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Air Compressors	11	1	2003	0.151967	0.00	0.21	0.1012	0.00	0.07	0.11	0.00	0.069	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Generator Sets	11	1	2003	0.151967	0.00	0.32	0.1012	0.00	0.10	0.11	0.00	0.106	0.004	568.3
Equipment	Age													
Generator Sets	13	1	2001	0.240614	0.00	0.35	0.1104	0.00	0.11	0.12	0.00	0.117	0.004	568.3
Equipment	Age													
Cranes	13	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Cranes	12	1	2002	0.240614	0.00	0.10	0.1104	0.00	0.03	0.12	0.00	0.037	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Graders	11	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.060	0.002	568.3
Equipment	Age													
Rollers	11	1	2003	0.240614	0.00	0.12	0.1104	0.00	0.04	0.12	0.00	0.044	0.002	568.3
Equipment	Age													
Air Compressors	11	1	2003	0.151967	0.00	0.21	0.1012	0.00	0.07	0.11	0.00	0.069	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Cranes	11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment	Age													
Forklifts	11	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.061	0.001	568.3
Equipment	Age													
Rollers	11	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.092	0.002	568.3
Equipment	Age													
Excavators	13	1	2001	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment	Age													
Forklifts	11	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.178	0.001	568.3
Equipment	Age													
Cranes	11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment	Age													
Cranes	11	1	2003	0.151967	0.00	0.08	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.861145	0.00	0.27	0.4324	0.00	0.11	0.47	0.00	0.116	0.002	568.3
Equipment	Age													
Excavators	11	1	2003	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.051	0.002	568.3
Equipment	Age													
Excavators	11	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Aerial Lifts	10	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.117	0.002	568.3
Equipment	Age													
Generator Sets	13	1	2001	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3
Equipment	Age													
Aerial Lifts	11	1	2004	0.582539	0.00	0.21	0.3588	0.00	0.11	0.39	0.00	0.119	0.002	568.3
Equipment	Age													
Air Compressors	12	1	2003	0.151967	0.00	0.21	0.1012	0.00	0.07	0.11	0.00	0.069	0.002	568.3
Equipment	Age													
Air Compressors	14	1	2001	0.240614	0.00	0.23	0.1104	0.00	0.07	0.12	0.00	0.076	0.002	568.3
Equipment	Age													
Air Compressors	12	1	2003	0.151967	0.00	0.21	0.1012	0.00	0.07	0.11	0.00	0.069	0.002	568.3
Equipment	Age													
Tractors/Loaders/Backhoes	12	1	2003	0.417909	0.00	0.24	0.2208	0.00	0.11	0.24	0.00	0.112	0.002	568.3
Equipment	Age													
Other Construction Equipment	12	1	2003	0.240614	0.00	0.15	0.1104	0.00	0.05	0.12	0.00	0.053	0.002	568.3
Equipment	Age													
Bore/Drill Rigs	12	1	2003	0.417909	0.00	0.27	0.2208	0.00	0.12	0.24	0.00	0.127	0.003	568.3
Equipment	Age													
Cranes	14	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.038	0.001	568.3
Equipment	Age													
Cranes	14	1	2001	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.038	0.001	568.3
Equipment	Age													
Cranes	13	1	2002	0.240614	0.00	0.11	0.1104	0.00	0.04	0.12	0.00	0.037	0.001	568.3
Equipment	Age													
Crawler Tractors	12	1	2003	0.240614	0.00	0.17	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Excavators	14	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.054	0.002	568.3
Equipment	Age													
Excavators	14	1	2001	0.240614	0.00	0.16	0.1104	0.00	0.05	0.12	0.00	0.054	0.002	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Forklifts	12	1	2003	0.417909	0.00	0.13	0.2208	0.00	0.06	0.24	0.00	0.063	0.001	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													
Forklifts	12	1	2003	1.253726	0.00	0.33	0.6348	0.00	0.17	0.69	0.00	0.183	0.001	568.3
Equipment	Age													
Generator Sets	14	1	2001	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Generator Sets	14	1	2001	0.405245	0.00	0.40	0.138	0.00	0.14	0.15	0.00	0.145	0.004	568.3
Equipment	Age													
Rubber Tired Loaders	12	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Rubber Tired Loaders	12	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.05	0.12	0.00	0.057	0.002	568.3
Equipment	Age													
Graders	12	1	2003	0.240614	0.00	0.18	0.1104	0.00	0.06	0.12	0.00	0.061	0.002	568.3
Equipment	Age													
Rollers	12	1	2003	0.417909	0.00	0.20	0.2208	0.00	0.09	0.24	0.00	0.094	0.002	568.3
Equipment	Age													
Cranes	12	1	2003	0.417909	0.00	0.17	0.2208	0.00	0.07	0.24	0.00	0.079	0.001	568.3
Equipment	Age													
Cranes	12	1	2003	0.151967	0.00	0.09	0.1012	0.00	0.03	0.11	0.00	0.033	0.001	568.3
Equipment	Age													
Rubber Tired Loaders	11	1	2004	0.582539	0.00	0.36	0.3588	0.00	0.20	0.39	0.00	0.212	0.002	568.3
Equipment	Age													
Graders	3	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Graders	3	1	2012	0.113975	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Rollers	2	1	2013	0.113975	0.00	0.05	0.0092	0.00	0.00	0.01	0.00	0.003	0.002	568.3
Equipment	Age													
Rollers	2	1	2013	0.113975	0.00	0.05	0.0644	0.00	0.02	0.07	0.00	0.024	0.002	568.3
Equipment	Age													
Crawler Tractors	3	1	2012	0.088647	0.00	0.06	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment	Age													
Off-Highway Trucks	5	1	2010	0.126639	0.00	0.14	0.1012	0.00	0.05	0.11	0.00	0.050	0.002	568.3

Equipment Type	Age	Qty. equipment	Equipment Model Year	Zero Hour Emission Factor ROG w/out DECS	Deterioration Factor ROG	Effective Emission Factor ROG w/out DECS	Zero Hour Emission Factor PM2.5 w/out DECS	Deterioration Factor PM2.5	Effective Emission Factor PM2.5 w/out DECS	Zero Hour Emission Factor PM10 w/out DECS	Deterioration Factor PM10	Effective Emission Factor PM10 w/out DECS	Effective SO2 Emission Factor (g/bhp-hr)	Effective CO2 Emission Factor (g/bhp-hr)
Equipment Off-Highway Trucks	Age 3	1	2012	0.088647	0.00	0.08	0.0092	0.00	0.00	0.01	0.00	0.004	0.002	568.3
Equipment Cranes	Age 3	1	2012	0.088647	0.00	0.04	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3
Equipment Cranes	Age 2	1	2013	0.088647	0.00	0.03	0.0092	0.00	0.00	0.01	0.00	0.003	0.001	568.3

Do not add columns on this sheet	Lists for the Section 1 and 2 on Input page						
Categories	Equipment Type (all subcategories)	Current Calendar Year	Equipment Model Year	Fuel	Fuel #	Number of pieces of equipment with the above characteristics	Any change?	Retrofit?
Agricultural	2-Wheel Tractors	1999	<1969	Gasoline (2-stroke)	3		Yes	Yes
Commercial	A/C Tug Narrow Body	2000	1969	Gasoline (4-stroke)	6		No Change	No
Construction	A/C Tug Wide Body	2001	1970	NatGas/Propane	4			
Dredging	A/C unit	2002	1971	ULSD	5			
Drilling	Aerial Lifts	2003	1972					
Ground Support Equipment	Agricultural Mowers	2004	1973					
Industrial	Agricultural Tractors	2005	1974					
Lawn and Garden	Air Compressors	2006	1975					
Logging	Air Conditioner	2007	1976					
Military Tactical Support	Air Start Unit	2008	1977					
Misc. Portable Equipment	Aircraft Support	2009	1978					
Transport Refrigeration	All Terrain Vehicles (ATVs) Active	2010	1979					
	All Terrain Vehicles (ATVs) Inacti	2011	1980					
	Asphalt Pavers	2012	1981					
	Baggage Tug	2013	1982					
	Balers	2014	1983					
	Belt Loader	2015	1984					
	Bobtail	2016	1985					
	Bore/Drill Rigs	2017	1986					
	Cargo Loader	2018	1987					
	Cargo Tractor	2019	1988					
	Cart	2020	1989					
	Catering Truck		1990					
	Cement and Mortar Mixers		1991					
	Chainsaws		1992					
	Chainsaws Preempt		1993					
	Chippers/Stump Grinders		1994					
	Combines		1995					
	Commercial Turf Equipment		1996					
	Communications		1997					
	Compressor (Dredging)		1998					
	Compressor (Entertainment)		1999					
	Compressor (GSE)		2000					
	Compressor (Military)		2001					
	Compressor (Railyard)		2002					
	Compressors (Workover)		2003					
	Concrete/Industrial Saws		2004					
	Crane		2005					
	Crane (Dredging)		2006					
	Crane (Rail-CHE)		2007					
	Cranes		2008					
	Crawler Tractors		2009					
	Crushing/Proc. Equipment		2010					

Deck/door engine	2011
Deicer	2012
Dredger	2013
Drill Rig	2014
Drill Rig (Mobile)	2015
Dumpers/Tenders	2016
Excavators	2017
Fellers/Bunchers	2018
Forklift	2019
Forklifts	2020
Front Mowers	**Selected values**
Fuel Truck	2004
Gas Compressors	2004
Generator	
Generator (Dredging)	
Generator (Drilling)	
Generator (Entertainment)	
Generator (Military)	
Generator (Railyard)	
Generator (Workover)	
Generator Sets	
Golf Carts	
Graders	
Ground Power Unit	
Hoist/swing/winch	
Hydrant truck	
Hydraulic unit	
Hydro Power Units	
Lav Cart	
Lav Truck	
Lawn & Garden Tractors	
Lawn Mowers	
Leaf Blowers/Vacuums	
Lift	
Lift (Drilling)	
Lift (Military)	
Light	
Maint. Truck	
Materials Handling (Rail-CHE)	
Minibikes	
Misc Portable Equipment	
Off-Highway Tractors	
Off-Highway Trucks	
Off-Road Motorcycles Active	
Off-Road Motorcycles Inactive	
Other	
Other (Dredging)	
Other Agricultural Equipment	
Other Construction Equipment	
Other Drilling Equipment	
Other General Industrial Equipmen	

Other GSE
Other Lawn & Garden Equipment
Other Material Handling Equipment
Other tactical support equipment
Other Workover Equipment
Passenger Stand
Pavers
Paving Equipment
Personal Water Craft
Plate Compactors
Pressure Washers
Pump (Dredging)
Pump (Drilling)
Pump (Military)
Pump (Workover)
Pumps
Rear Engine Riding Mowers
Rollers
Rough Terrain Forklifts
Rubber Tired Dozers
Rubber Tired Loaders
Sailboat Auxiliary Inboard Engine
Sailboat Auxiliary Outboard Engin
Scrapers
Service Truck
Shredders
Signal Boards
Skid Steer Loaders
Skidders
Snowblowers
Snowmobiles Active
Snowmobiles Inactive
Snubbing
Specialty Vehicles Carts
Sprayers
Start Cart
Surfacing Equipment
Swathers
Sweeper
Sweepers/Scrubbers
Swivel
Tampers/Rammers
Test Stand
Tillers
Tractors/Loaders/Backhoes
Transport Refrigeration Units
Trenchers
Trimmers/Edgers/Brush Cutters
Vessels w/Inboard Engines
Vessels w/Inboard Jet Engines
Vessels w/Outboard Engines
Vessels w/Sterndrive Engines

Water Truck
Welder
Welders
Wood Splitters
Workover Rig (Mobile)

Retrofit List					If no input	
(You may add to the list but these must be in ascending alpha or numerical order)					Average hours before repower	Data source
Retrofit Devices	NOx red	ROG red	PM red	Description	5.00E+13	
1. Caterpillar	0%	0%	85%	Available for specific 1996-2005 Caterpillar off-road engines		
2. Cleaire Allmetal	0%	0%	85%	Available for 1996-2010 model year tracked and rubber-tired off-road vehicles		
3. Cleaire Horizon	0%	0%	85%	Conditionally verified for off-road engines through 2007 MY up to 15 L certified to PM level <=0.4 g/		
4. Cleaire Lonestar	40%	0%	85%	Conditionally verified for 1996-2009 model year rubber-tired off-road vehicles		
5. Cleaire Phoenix	0%	0%	85%	Available for 1996-2009 model year rubber-tired off-road vehicles		
6. DCL International Inc.	0%	0%	85%	Available for 1996-2009 model year off-road engines		
7. Donaldson 6000 DOC+Spiracle	0%	0%	85%	No model year restrictions		
8. Donaldson 6000 DOC+Spiracle (port)	0%	0%	25%	Certified for 25% PM reduction for off-road port equipment		
9. Other	0%	0%	0%			
10. ECS AZ Purimuffler/Purifier	0%	0%	25%	No longer verified, but could be on older engines		
11. ECS AZ Purimuffler/Purifier w/PuriN	20%	0%	50%	Available for 1996-2002 off-road engines		
12. ECS Combifilter	0%	0%	85%	Available for 2007 or older off-road engines		
13. ECS Purifilter	0%	0%	85%	Available for specific 1996-2008 off-road engines		
14. ESW Canada	0%	0%	85%	Available for 1996-2009 off-road engines		Diesel
15. Extengine DOC+SCR	80%	0%	25%	Available for 1991-1995 Cummins off-road engines		
16. HUSS Umwelttechnik FS-MK	0%	0%	85%	Most off-road engines through 2009 MY		
17. Vycon REGEN System	30%	0%	25%	Pre-1996 model year engines, or Tiers 1-3 off-road engines on rubber tired gantry cranes		
18	0%	0%	0%			
19	0%	0%	0%			
20	0%	0%	0%			

LSI

Off-road equipment data from offroad model inputs											
Category	sub	Load Factor	Activity (hours/yr)	Average NOx EF for equip. type (g/bhp-hr)	Average ROG EF for equip. type (g/bhp-hr)	Average PM2.5 EF for equip. type (g/bhp-hr)	Average PM10 EF for equip. type (g/bhp-hr)	Weighted ARB NOx EF average (g/hr)	Weighted ARB ROG EF average (g/hr)	Weighted ARB PM2.5 EF average (g/hr)	Weighted ARB PM10 EF average (g/hr)
bhp-hr, except those w/ diesel ox. catalysts or EGR											
Construction	Asphalt Pavers	0.66									
Construction	Bore/Drill Rigs	0.5025									
Construction	Cement and Mortar Mixers	0.56									
Construction	Concrete/Industrial Saws	0.73									
Construction	Cranes	0.2881									
	Air Compressors	0.48									
	Generator Sets	0.74									
	Aerial Lifts	0.3082									
	Pumps	0.74									
	Forklifts	0.201									
	Welders	0.45									
	Barge, auxiliary engine (Compressor)	0.54									
	Barge, auxiliary engine (Crane)	0.42									
	Barge, auxiliary engine (Deck_door_engine)	0.89									
	Barge, auxiliary engine (Dredger)	0.51									
	Barge, auxiliary engine (Generator)	0.75									
	Barge, auxiliary engine (Hoist_swing_winch)	0.31									
	Barge, auxiliary engine (Other)	0.8									
	Barge, auxiliary engine (Pump)	0.71									
	Barge, propulsion engine	0.45									
	Crew and Supply, auxiliary engine (generic)	0.32									
	Crew and Supply, propulsion engine	0.38									
	Tow Boats, auxiliary engine (generic)	0.43									
	Tow Boats, propulsion engine	0.68									
	Tug Boats, auxiliary engine (generic)	0.31									
	Tug Boats, propulsion engine	0.5									
	Work Boats, auxiliary engine (generic)	0.43									
	Work Boats, propulsion engine	0.45									

Reference cells for Fuel Choices			
FUEL	min HP	EmissionFactor Table range	
ULSD	50	Data2!D3:X44	
ULSD	51	Data2!D45:X86	
ULSD	101	Data2!D87:X128	
ULSD	121	Data2!D129:X170	
ULSD	176	Data2!D171:X212	
ULSD	251	Data2!D213:X254	
ULSD	501	Data2!D255:X296	
ULSD	751	Data2!D297:X338	
LowNOxDi	50	Data2!D339:X350	
LowNOxDi	51	Data2!D351:X362	
LowNOxDi	101	Data2!D363:X374	
LowNOxDi	176	Data2!D375:X386	
LowNOxDi	251	Data2!D387:X398	
LowNOxDi	501	Data2!D399:X410	
LowNOxDi	751	Data2!D411:X422	
Gasoline	50	Data2!D423:X464	
Gasoline	51	Data2!D465:X506	
Gasoline	121	Data2!D507:X548	
Gasoline	176	Data2!D549:X590	
Gasoline	251	Data2!D591:X632	
Gasoline	501	Data2!D633:X674	
NatGas/Pr	50	Data2!D675:X716	
NatGas/Pr	51	Data2!D717:X758	
NatGas/Pr	121	Data2!D759:X800	
NatGas/Pr	176	Data2!D801:X842	
NatGas/Pr	251	Data2!D843:X884	
NatGas/Pr	501	Data2!D885:X926	
Existing Engine Lookup Criteria			
Fuel	Min HP	Max HP	Model Year
ULSD	<=205	>=205	2012
Retrofit Engine Lookup Criteria			
Fuel	Min HP	Max HP	Model Year
ULSD	#REF!	#REF!	#REF!

	Crawler Tractors	0.4288	
	Crushing/Proc. Equipment	0.78	
	Dumpers/Tenders	0.38	
	Excavators	0.3819	
	Graders	0.4087	
	Off-Highway Tractors	0.4355	
	Off-Highway Trucks	0.3819	
	Other Construction Equipment	0.4154	
	Pavers	0.4154	
	Paving Equipment	0.3551	
	Plate Compactors	0.43	
	Rollers	0.3752	
	Rough Terrain Forklifts	0.402	
	Rubber Tired Dozers	0.3953	
	Rubber Tired Loaders	0.3618	
	Scrapers	0.4824	
	Signal Boards	0.82	
Construction	Skid Steer Loaders	0.3685	
Construction	Sweepers/Scrubbers	0.3082	
Construction	Surfacing Equipment	0.3015	
Construction	Tampers/Rammers	0.55	
Construction	Tractors/Loaders/Backhoes	0.3685	
Construction	Trenchers	0.5025	
Construction			
Construction			New 2011 Inventory Load Factors
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			
Construction			

Asphalt Pavers	0.66	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Bore/Drill Rigs	0.79	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Cement and Mortar Mixers	0.59	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Concrete/Industrial Saws	0.78	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Cranes	0.47	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Crawler Tractors	0.64	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Crushing/Proc. Equipment	0.85	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Dumpers/Tenders	0.41	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Excavators	0.57	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Graders	0.61	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Off-Highway Tractors	0.65	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Off-Highway Trucks	0.57	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Other Construction Equipment	0.48	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Pavers	0.62	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!

	Paving Equipment	0.59	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
	Plate Compactors	0.55	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Rollers	0.62	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Rough Terrain Forklifts	0.63	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Rubber Tired Dozers	0.59	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Rubber Tired Loaders	0.54	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Scrapers	0.72	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Signal Boards	0.76	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Skid Steer Loaders	0.58	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Surfacing Equipment	0.49	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Tampers/Rammers	0.55	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Tractors/Loaders/Backhoes	0.48	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction	Trenchers	0.66	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!
Construction											
Construction											
Construction		= unique to large Diesel									
Construction		= unique to LSI									
Construction											
Construction											
Construction											
Construction											
Construction											
Construction											
Construction											
Construction											
Construction											

Reference cells for ARB Avg by Equip Choice		
	original equipment selection	new equipment selection
fuel	ULSD	ULSD
fuel #	5	5
hp	205	#REF!
EF Table range	**Data2!D171:**	**#REF!**
Reference for arb equip by type		
avg EF lookup range	**Data!U18:AA44**	
g/hp EF lookup range	**Data!U18:AE44**	

Project days	#REF!

ARB average references			
method of ARB calculation	method selected	ARB Calc to bring forward (g/bhp-hr)	
Original	Original	#REF!	ARB NOx
ARB Hours		#REF!	ARB ROG
ARB Equipment Type		#REF!	ARB PM2.5
ARB g/hr		#REF!	ARB PM10
ARB g/hr by Equip Type			

Internal checks
blank data check
Output!BE4

Project averages for ARB comparison		
Avg Project HP	Total Equipment Hrs	Avg Equipment Hrs/Day
#REF!	#REF!	#REF!
#REF!		#REF!
(% are compared to ARB Avg)		

Compliance Test	
Pass/Fail Threshold	
20%	NOx
20%	ROG
45%	PM10
45%	PM2.5

Original Calculator Average EF

Statewide average EF, using methodology provided in original SMAQMD calculator

Current Selection	Average	
#REF!	#REF!	Previous ARB Calculator NOx (g/bhp-hr):
#REF!	#REF!	ROG
#REF!	#REF!	PM2.5
#REF!	#REF!	Previous ARB Calculator PM10 (g/bhp-hr):
	#REF!	Hours/year
	#REF!	HP

ARB Hours Emission Factor

Statewide average EF using EF calc for each equipment's MY and HP and the ARB statewide avg hours/yr for that type of equipment

Current Selection	Average	
#REF!	#REF!	ARB NOx
#REF!	#REF!	ARB ROG
#REF!	#REF!	ARB PM2.5
#REF!	#REF!	ARB PM10

ARB Equipment Type Emission Factor

Statewide average EF based on statewide average EF for equipment type averaged over hp and ARB hrs

Current Selection	Average	
#REF!	#REF!	Average NOx EF for equip. type (g/bhp-hr)
#REF!	#REF!	Average ROG EF for equip. type (g/bhp-hr)
#REF!	#REF!	Average PM2.5 EF for equip. type (g/bhp-hr)
#REF!	#REF!	Average PM10 EF for equip. type (g/bhp-hr)

ARB g/hr Emission Factor

Statewide g/hr average for that equipment type

Current Selection	Average	
#REF!	#REF!	Average NOx EF for equipment type (g/hr)
#REF!	#REF!	Average ROG EF for equip. type (g/hr)
#REF!	#REF!	Average PM2.5 EF for equip. type (g/hr)
#REF!	#REF!	Average PM10 EF for equip. type (g/hr)

ARB g/hr by Equip Type

Statewide g/hr average using avg equipment type EF and selected hp

Current Selection (g/hr)	Average (g/hr)	
#REF!	#REF!	Average NOx EF for equipment type (g/hr)
#REF!	#REF!	Average ROG EF for equip. type (g/hr)
#REF!	#REF!	Average PM2.5 EF for equip. type (g/hr)
#REF!	#REF!	Average PM10 EF for equip. type (g/hr)

Equipment Class	Equipment	Age	DOORS Adjusted Final	Cumulative Hours Final
Construction and Mining	Bore/Drill Rigs	-1	687.7861435	687.7861435
Construction and Mining	Bore/Drill Rigs	0	687.7861435	687.7861435
Construction and Mining	Bore/Drill Rigs	1	628.5601146	1316.346258
Construction and Mining	Bore/Drill Rigs	2	569.3340856	1885.680344
Construction and Mining	Bore/Drill Rigs	3	510.1080563	2395.7884
Construction and Mining	Bore/Drill Rigs	4	450.8820273	2846.670427
Construction and Mining	Bore/Drill Rigs	5	391.6559984	3238.326426
Construction and Mining	Bore/Drill Rigs	6	332.4299694	3570.756395
Construction and Mining	Bore/Drill Rigs	7	273.2039405	3843.960336
Construction and Mining	Bore/Drill Rigs	8	213.9779112	4057.938247
Construction and Mining	Bore/Drill Rigs	9	154.7518822	4212.690129
Construction and Mining	Bore/Drill Rigs	10	95.52585326	4308.215982
Construction and Mining	Bore/Drill Rigs	11	95.52585326	4403.741835
Construction and Mining	Bore/Drill Rigs	12	95.52585326	4499.267689
Construction and Mining	Bore/Drill Rigs	13	95.52585326	4594.793542
Construction and Mining	Bore/Drill Rigs	14	95.52585326	4690.319395
Construction and Mining	Bore/Drill Rigs	15	95.52585326	4785.845249
Construction and Mining	Bore/Drill Rigs	16	95.52585326	4881.371102
Construction and Mining	Bore/Drill Rigs	17	95.52585326	4976.896955
Construction and Mining	Bore/Drill Rigs	18	95.52585326	5072.422808
Construction and Mining	Bore/Drill Rigs	19	95.52585326	5167.948662
Construction and Mining	Bore/Drill Rigs	20	95.52585326	5263.474515
Construction and Mining	Bore/Drill Rigs	21	95.52585326	5359.000368
Construction and Mining	Bore/Drill Rigs	22	95.52585326	5454.526221
Construction and Mining	Bore/Drill Rigs	23	95.52585326	5550.052075
Construction and Mining	Bore/Drill Rigs	24	95.52585326	5645.577928
Construction and Mining	Bore/Drill Rigs	25	95.52585326	5741.103781
Construction and Mining	Bore/Drill Rigs	26	95.52585326	5836.629634
Construction and Mining	Bore/Drill Rigs	27	95.52585326	5932.155488
Construction and Mining	Bore/Drill Rigs	28	95.52585326	6027.681341
Construction and Mining	Bore/Drill Rigs	29	95.52585326	6123.207194
Construction and Mining	Bore/Drill Rigs	30	95.52585326	6218.733047
Construction and Mining	Bore/Drill Rigs	31	95.52585326	6314.258901

Construction and Mining	Bore/Drill Rigs	32	95.52585326	6409.784754
Construction and Mining	Bore/Drill Rigs	33	95.52585326	6505.310607
Construction and Mining	Bore/Drill Rigs	34	95.52585326	6600.83646
Construction and Mining	Bore/Drill Rigs	35	95.52585326	6696.362314
Construction and Mining	Bore/Drill Rigs	36	95.52585326	6791.888167
Construction and Mining	Bore/Drill Rigs	37	95.52585326	6887.41402
Construction and Mining	Bore/Drill Rigs	38	95.52585326	6982.939873
Construction and Mining	Bore/Drill Rigs	39	95.52585326	7078.465727
Construction and Mining	Bore/Drill Rigs	40	95.52585326	7173.99158
Construction and Mining	Bore/Drill Rigs	41	95.52585326	7269.517433
Construction and Mining	Bore/Drill Rigs	42	95.52585326	7365.043286
Construction and Mining	Bore/Drill Rigs	43	95.52585326	7460.56914
Construction and Mining	Bore/Drill Rigs	44	95.52585326	7556.094993
Construction and Mining	Bore/Drill Rigs	45	95.52585326	7651.620846
Construction and Mining	Bore/Drill Rigs	46	95.52585326	7747.146699
Construction and Mining	Bore/Drill Rigs	47	95.52585326	7842.672553
Construction and Mining	Bore/Drill Rigs	48	95.52585326	7938.198406
Construction and Mining	Bore/Drill Rigs	49	95.52585326	8033.724259
Construction and Mining	Bore/Drill Rigs	50	95.52585326	8129.250112
Construction and Mining	Bore/Drill Rigs	51	95.52585326	8224.775966
Construction and Mining	Bore/Drill Rigs	52	95.52585326	8320.301819
Construction and Mining	Bore/Drill Rigs	53	95.52585326	8415.827672
Construction and Mining	Bore/Drill Rigs	54	95.52585326	8511.353525
Construction and Mining	Bore/Drill Rigs	55	95.52585326	8606.879379
Construction and Mining	Bore/Drill Rigs	56	95.52585326	8702.405232
Construction and Mining	Bore/Drill Rigs	57	95.52585326	8797.931085
Construction and Mining	Bore/Drill Rigs	58	95.52585326	8893.456938
Construction and Mining	Bore/Drill Rigs	59	95.52585326	8988.982792
Construction and Mining	Bore/Drill Rigs	60	95.52585326	9084.508645
Construction and Mining	Bore/Drill Rigs	61	95.52585326	9180.034498
Construction and Mining	Bore/Drill Rigs	62	95.52585326	9275.560351
Construction and Mining	Bore/Drill Rigs	63	95.52585326	9371.086205
Construction and Mining	Bore/Drill Rigs	64	95.52585326	9466.612058
Construction and Mining	Bore/Drill Rigs	65	95.52585326	9562.137911

Construction and Mining	Bore/Drill Rigs	66	95.52585326	9657.663765
Construction and Mining	Bore/Drill Rigs	67	95.52585326	9753.189618
Construction and Mining	Bore/Drill Rigs	68	95.52585326	9848.715471
Construction and Mining	Bore/Drill Rigs	69	95.52585326	9944.241324
Construction and Mining	Bore/Drill Rigs	70	95.52585326	10039.76718
Construction and Mining	Bore/Drill Rigs	71	95.52585326	10135.29303
Construction and Mining	Bore/Drill Rigs	72	95.52585326	10230.81888
Construction and Mining	Bore/Drill Rigs	73	95.52585326	10326.34474
Construction and Mining	Bore/Drill Rigs	74	95.52585326	10421.87059
Construction and Mining	Bore/Drill Rigs	75	95.52585326	10517.39644
Construction and Mining	Bore/Drill Rigs	76	95.52585326	10612.9223
Construction and Mining	Bore/Drill Rigs	77	95.52585326	10708.44815
Construction and Mining	Bore/Drill Rigs	78	95.52585326	10803.974
Construction and Mining	Bore/Drill Rigs	79	95.52585326	10899.49986
Construction and Mining	Bore/Drill Rigs	80	95.52585326	10995.02571
Construction and Mining	Bore/Drill Rigs	81	95.52585326	11090.55156
Construction and Mining	Bore/Drill Rigs	82	95.52585326	11186.07742
Construction and Mining	Bore/Drill Rigs	83	95.52585326	11281.60327
Construction and Mining	Bore/Drill Rigs	84	95.52585326	11377.12912
Construction and Mining	Bore/Drill Rigs	85	95.52585326	11472.65498
Construction and Mining	Bore/Drill Rigs	86	95.52585326	11568.18083
Construction and Mining	Bore/Drill Rigs	87	95.52585326	11663.70668
Construction and Mining	Bore/Drill Rigs	88	95.52585326	11759.23254
Construction and Mining	Bore/Drill Rigs	89	95.52585326	11854.75839
Construction and Mining	Cranes	-1	517.6667487	517.6667487
Construction and Mining	Cranes	0	517.6667487	517.6667487
Construction and Mining	Cranes	1	509.4750795	1027.141828
Construction and Mining	Cranes	2	501.2834103	1528.425239
Construction and Mining	Cranes	3	493.0917411	2021.51698
Construction and Mining	Cranes	4	484.9000719	2506.417052
Construction and Mining	Cranes	5	476.7084027	2983.125454
Construction and Mining	Cranes	6	468.5167335	3451.642188
Construction and Mining	Cranes	7	460.3250643	3911.967252
Construction and Mining	Cranes	8	452.1333951	4364.100647

Construction and Mining	Cranes	9	443.9417258	4808.042373
Construction and Mining	Cranes	10	435.7500571	5243.79243
Construction and Mining	Cranes	11	427.5583879	5671.350818
Construction and Mining	Cranes	12	419.3667187	6090.717536
Construction and Mining	Cranes	13	411.1750494	6501.892586
Construction and Mining	Cranes	14	402.9833802	6904.875966
Construction and Mining	Cranes	15	402.9833802	7307.859346
Construction and Mining	Cranes	16	402.9833802	7710.842727
Construction and Mining	Cranes	17	402.9833802	8113.826107
Construction and Mining	Cranes	18	402.9833802	8516.809487
Construction and Mining	Cranes	19	402.9833802	8919.792867
Construction and Mining	Cranes	20	402.9833802	9322.776248
Construction and Mining	Cranes	21	402.9833802	9725.759628
Construction and Mining	Cranes	22	402.9833802	10128.74301
Construction and Mining	Cranes	23	402.9833802	10531.72639
Construction and Mining	Cranes	24	402.9833802	10934.70977
Construction and Mining	Cranes	25	402.9833802	11337.69315
Construction and Mining	Cranes	26	402.9833802	11740.67653
Construction and Mining	Cranes	27	402.9833802	12000
Construction and Mining	Cranes	28	402.9833802	12000
Construction and Mining	Cranes	29	402.9833802	12000
Construction and Mining	Cranes	30	402.9833802	12000
Construction and Mining	Cranes	31	402.9833802	12000
Construction and Mining	Cranes	32	402.9833802	12000
Construction and Mining	Cranes	33	402.9833802	12000
Construction and Mining	Cranes	34	402.9833802	12000
Construction and Mining	Cranes	35	402.9833802	12000
Construction and Mining	Cranes	36	402.9833802	12000
Construction and Mining	Cranes	37	402.9833802	12000
Construction and Mining	Cranes	38	402.9833802	12000
Construction and Mining	Cranes	39	402.9833802	12000
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Construction and Mining	Cranes	41	402.9833802	12000
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Construction and Mining	Cranes	43	402.9833802	12000
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Construction and Mining	Cranes	45	402.9833802	12000
Construction and Mining	Cranes	46	402.9833802	12000
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Construction and Mining	Cranes	75	402.9833802	12000
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Construction and Mining	Cranes	86	402.9833802	12000
Construction and Mining	Cranes	87	402.9833802	12000
Construction and Mining	Cranes	88	402.9833802	12000
Construction and Mining	Cranes	89	402.9833802	12000
Construction and Mining	Crawler Tractors	-1	667.0577073	667.0577073
Construction and Mining	Crawler Tractors	0	667.0577073	667.0577073
Construction and Mining	Crawler Tractors	1	648.6561152	1315.713823
Construction and Mining	Crawler Tractors	2	630.2545235	1945.968346
Construction and Mining	Crawler Tractors	3	611.8529314	2557.821277
Construction and Mining	Crawler Tractors	4	593.4513396	3151.272617
Construction and Mining	Crawler Tractors	5	575.0497475	3726.322365
Construction and Mining	Crawler Tractors	6	556.6481558	4282.97052
Construction and Mining	Crawler Tractors	7	538.2465637	4821.217084
Construction and Mining	Crawler Tractors	8	519.8449719	5341.062056
Construction and Mining	Crawler Tractors	9	501.4433798	5842.505436
Construction and Mining	Crawler Tractors	10	483.0417881	6325.547224
Construction and Mining	Crawler Tractors	11	464.640196	6790.18742
Construction and Mining	Crawler Tractors	12	446.2386042	7236.426024
Construction and Mining	Crawler Tractors	13	427.8370121	7664.263036
Construction and Mining	Crawler Tractors	14	409.4354204	8073.698457
Construction and Mining	Crawler Tractors	15	391.0338283	8464.732285
Construction and Mining	Crawler Tractors	16	372.6322365	8837.364521
Construction and Mining	Crawler Tractors	17	354.2306444	9191.595166
Construction and Mining	Crawler Tractors	18	335.8290527	9527.424219
Construction and Mining	Crawler Tractors	19	317.4274606	9844.851679

Construction and Mining	Crawler Tractors	20	299.0258688	10143.87755
Construction and Mining	Crawler Tractors	21	280.6242767	10424.50182
Construction and Mining	Crawler Tractors	22	262.222685	10686.72451
Construction and Mining	Crawler Tractors	23	243.8210929	10930.5456
Construction and Mining	Crawler Tractors	24	225.4195011	11155.9651
Construction and Mining	Crawler Tractors	25	207.017909	11362.98301
Construction and Mining	Crawler Tractors	26	188.6163173	11551.59933
Construction and Mining	Crawler Tractors	27	170.2147252	11721.81406
Construction and Mining	Crawler Tractors	28	151.8131334	11873.62719
Construction and Mining	Crawler Tractors	29	133.4115413	12000
Construction and Mining	Crawler Tractors	30	133.4115413	12000
Construction and Mining	Crawler Tractors	31	133.4115413	12000
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Construction and Mining	Crawler Tractors	85	133.4115413	12000
Construction and Mining	Crawler Tractors	86	133.4115413	12000
Construction and Mining	Crawler Tractors	87	133.4115413	12000

Construction and Mining	Crawler Tractors	88	133.4115413	12000
Construction and Mining	Crawler Tractors	89	133.4115413	12000
Construction and Mining	Excavators	-1	786.2751212	786.2751212
Construction and Mining	Excavators	0	786.2751212	786.2751212
Construction and Mining	Excavators	1	756.2917254	1542.566847
Construction and Mining	Excavators	2	726.3083291	2268.875176
Construction and Mining	Excavators	3	696.3249332	2965.200109
Construction and Mining	Excavators	4	666.3415374	3631.541646
Construction and Mining	Excavators	5	636.3581416	4267.899788
Construction and Mining	Excavators	6	606.3747458	4874.274534
Construction and Mining	Excavators	7	576.3913499	5450.665884
Construction and Mining	Excavators	8	546.4079541	5997.073838
Construction and Mining	Excavators	9	516.4245583	6513.498396
Construction and Mining	Excavators	10	486.4411624	6999.939558
Construction and Mining	Excavators	11	456.4577666	7456.397325
Construction and Mining	Excavators	12	426.4743708	7882.871696
Construction and Mining	Excavators	13	396.490975	8279.362671
Construction and Mining	Excavators	14	366.5075791	8645.87025
Construction and Mining	Excavators	15	336.5241833	8982.394433
Construction and Mining	Excavators	16	306.5407869	9288.93522
Construction and Mining	Excavators	17	276.5573911	9565.492611
Construction and Mining	Excavators	18	276.5573911	9842.050002
Construction and Mining	Excavators	19	276.5573911	10118.60739
Construction and Mining	Excavators	20	276.5573911	10395.16478
Construction and Mining	Excavators	21	276.5573911	10671.72218
Construction and Mining	Excavators	22	276.5573911	10948.27957
Construction and Mining	Excavators	23	276.5573911	11224.83696
Construction and Mining	Excavators	24	276.5573911	11501.39435
Construction and Mining	Excavators	25	276.5573911	11777.95174
Construction and Mining	Excavators	26	276.5573911	12000
Construction and Mining	Excavators	27	276.5573911	12000
Construction and Mining	Excavators	28	276.5573911	12000
Construction and Mining	Excavators	29	276.5573911	12000
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Construction and Mining	Excavators	88	276.5573911	12000
Construction and Mining	Excavators	89	276.5573911	12000
Construction and Mining	Graders	-1	977.5052576	977.5052576
Construction and Mining	Graders	0	977.5052576	977.5052576
Construction and Mining	Graders	1	944.1020224	1921.60728
Construction and Mining	Graders	2	910.6987872	2832.306067
Construction and Mining	Graders	3	877.2955526	3709.60162
Construction and Mining	Graders	4	843.8923175	4553.493937
Construction and Mining	Graders	5	810.4890829	5363.98302
Construction and Mining	Graders	6	777.0858477	6141.068868
Construction and Mining	Graders	7	743.6826131	6884.751481

Construction and Mining	Graders	8	710.2793779	7595.030859
Construction and Mining	Graders	9	676.8761427	8271.907002
Construction and Mining	Graders	10	643.4729081	8915.37991
Construction and Mining	Graders	11	610.069673	9525.449583
Construction and Mining	Graders	12	576.6664384	10102.11602
Construction and Mining	Graders	13	543.2632032	10645.37922
Construction and Mining	Graders	14	509.8599686	11155.23919
Construction and Mining	Graders	15	476.4567334	11631.69593
Construction and Mining	Graders	16	443.0534982	12000
Construction and Mining	Graders	17	409.6502636	12000
Construction and Mining	Graders	18	376.2470285	12000
Construction and Mining	Graders	19	342.8437939	12000
Construction and Mining	Graders	20	309.4405587	12000
Construction and Mining	Graders	21	276.0373241	12000
Construction and Mining	Graders	22	242.6340889	12000
Construction and Mining	Graders	23	209.2308537	12000
Construction and Mining	Graders	24	209.2308537	12000
Construction and Mining	Graders	25	209.2308537	12000
Construction and Mining	Graders	26	209.2308537	12000
Construction and Mining	Graders	27	209.2308537	12000
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Construction and Mining	Graders	39	209.2308537	12000
Construction and Mining	Graders	40	209.2308537	12000
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Construction and Mining	Graders	43	209.2308537	12000
Construction and Mining	Graders	44	209.2308537	12000
Construction and Mining	Graders	45	209.2308537	12000
Construction and Mining	Graders	46	209.2308537	12000
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Construction and Mining	Graders	74	209.2308537	12000
Construction and Mining	Graders	75	209.2308537	12000

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Construction and Mining	Graders	87	209.2308537	12000
Construction and Mining	Graders	88	209.2308537	12000
Construction and Mining	Graders	89	209.2308537	12000
Construction and Mining	Off-Highway	-1	747.3422955	747.3422955
Construction and Mining	Off-Highway	0	747.3422955	747.3422955
Construction and Mining	Off-Highway	1	733.1186844	1480.46098
Construction and Mining	Off-Highway	2	718.8950728	2199.356053
Construction and Mining	Off-Highway	3	704.6714613	2904.027514
Construction and Mining	Off-Highway	4	690.4478497	3594.475364
Construction and Mining	Off-Highway	5	676.2242386	4270.699602
Construction and Mining	Off-Highway	6	662.0006271	4932.700229
Construction and Mining	Off-Highway	7	647.7770155	5580.477245
Construction and Mining	Off-Highway	8	633.5534039	6214.030649
Construction and Mining	Off-Highway	9	619.3297929	6833.360442
Construction and Mining	Off-Highway	10	605.1061813	7438.466623
Construction and Mining	Off-Highway	11	590.8825697	8029.349193
Construction and Mining	Off-Highway	12	576.6589587	8606.008151
Construction and Mining	Off-Highway	13	562.4353471	9168.443498
Construction and Mining	Off-Highway	14	548.2117355	9716.655234
Construction and Mining	Off-Highway	15	533.9881239	10250.64336
Construction and Mining	Off-Highway	16	519.7645129	10770.40787
Construction and Mining	Off-Highway	17	505.5409013	11275.94877
Construction and Mining	Off-Highway	18	491.3172897	11767.26606

Construction and Mining	Off-Highway	19	477.0936782	12000
Construction and Mining	Off-Highway	20	462.8700671	12000
Construction and Mining	Off-Highway	21	448.6464555	12000
Construction and Mining	Off-Highway	22	434.422844	12000
Construction and Mining	Off-Highway	23	420.1992329	12000
Construction and Mining	Off-Highway	24	405.9756213	12000
Construction and Mining	Off-Highway	25	391.7520098	12000
Construction and Mining	Off-Highway	26	377.5283982	12000
Construction and Mining	Off-Highway	27	363.3047871	12000
Construction and Mining	Off-Highway	28	349.0811756	12000
Construction and Mining	Off-Highway	29	334.857564	12000
Construction and Mining	Off-Highway	30	320.6339524	12000
Construction and Mining	Off-Highway	31	306.4103414	12000
Construction and Mining	Off-Highway	32	306.4103414	12000
Construction and Mining	Off-Highway	33	306.4103414	12000
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Construction and Mining	Off-Highway	50	306.4103414	12000
Construction and Mining	Off-Highway	51	306.4103414	12000
Construction and Mining	Off-Highway	52	306.4103414	12000

Construction and Mining	Off-Highway	53	306.4103414	12000
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Construction and Mining	Off-Highway	86	306.4103414	12000

Construction and Mining	Off-Highway	87	306.4103414	12000
Construction and Mining	Off-Highway	88	306.4103414	12000
Construction and Mining	Off-Highway	89	306.4103414	12000
Construction and Mining	Off-Highway Trucks	-1	1769.909192	1769.909192
Construction and Mining	Off-Highway Trucks	0	1769.909192	1769.909192
Construction and Mining	Off-Highway Trucks	1	1710.236508	3480.1457
Construction and Mining	Off-Highway Trucks	2	1650.563824	5130.709524
Construction and Mining	Off-Highway Trucks	3	1590.89114	6721.600664
Construction and Mining	Off-Highway Trucks	4	1531.218455	8252.819119
Construction and Mining	Off-Highway Trucks	5	1471.545772	9724.364891
Construction and Mining	Off-Highway Trucks	6	1411.873088	11136.23798
Construction and Mining	Off-Highway Trucks	7	1352.200403	12000
Construction and Mining	Off-Highway Trucks	8	1292.527718	12000
Construction and Mining	Off-Highway Trucks	9	1232.855035	12000
Construction and Mining	Off-Highway Trucks	10	1173.182351	12000
Construction and Mining	Off-Highway Trucks	11	1113.509666	12000
Construction and Mining	Off-Highway Trucks	12	1053.836982	12000
Construction and Mining	Off-Highway Trucks	13	994.1642984	12000
Construction and Mining	Off-Highway Trucks	14	934.4916139	12000
Construction and Mining	Off-Highway Trucks	15	874.8189294	12000
Construction and Mining	Off-Highway Trucks	16	815.1462462	12000
Construction and Mining	Off-Highway Trucks	17	755.4735617	12000
Construction and Mining	Off-Highway Trucks	18	755.4735617	12000
Construction and Mining	Off-Highway Trucks	19	755.4735617	12000
Construction and Mining	Off-Highway Trucks	20	755.4735617	12000
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Construction and Mining	Off-Highway Trucks	88	755.4735617	12000
Construction and Mining	Off-Highway Trucks	89	755.4735617	12000
Construction and Mining	Other Construction	-1	608.1091679	608.1091679
Construction and Mining	Other Construction	0	608.1091679	608.1091679
Construction and Mining	Other Construction	1	585.6851426	1193.794311
Construction and Mining	Other Construction	2	563.2611168	1757.055427
Construction and Mining	Other Construction	3	540.8370915	2297.892519
Construction and Mining	Other Construction	4	518.4130657	2816.305584
Construction and Mining	Other Construction	5	495.9890404	3312.294625
Construction and Mining	Other Construction	6	473.5650146	3785.859639

Construction and Mining	Other Construction	7	451.1409892	4237.000629
Construction and Mining	Other Construction	8	428.7169635	4665.717592
Construction and Mining	Other Construction	9	406.2929377	5072.01053
Construction and Mining	Other Construction	10	383.8689124	5455.879442
Construction and Mining	Other Construction	11	361.4448866	5817.324329
Construction and Mining	Other Construction	12	339.0208613	6156.34519
Construction and Mining	Other Construction	13	316.5968355	6472.942026
Construction and Mining	Other Construction	14	294.1728101	6767.114836
Construction and Mining	Other Construction	15	271.7487844	7038.86362
Construction and Mining	Other Construction	16	249.324759	7288.188379
Construction and Mining	Other Construction	17	249.324759	7537.513138
Construction and Mining	Other Construction	18	249.324759	7786.837897
Construction and Mining	Other Construction	19	249.324759	8036.162656
Construction and Mining	Other Construction	20	249.324759	8285.487415
Construction and Mining	Other Construction	21	249.324759	8534.812174
Construction and Mining	Other Construction	22	249.324759	8784.136933
Construction and Mining	Other Construction	23	249.324759	9033.461692
Construction and Mining	Other Construction	24	249.324759	9282.786451
Construction and Mining	Other Construction	25	249.324759	9532.11121
Construction and Mining	Other Construction	26	249.324759	9781.43597
Construction and Mining	Other Construction	27	249.324759	10030.76073
Construction and Mining	Other Construction	28	249.324759	10280.08549
Construction and Mining	Other Construction	29	249.324759	10529.41025
Construction and Mining	Other Construction	30	249.324759	10778.73501
Construction and Mining	Other Construction	31	249.324759	11028.05976
Construction and Mining	Other Construction	32	249.324759	11277.38452
Construction and Mining	Other Construction	33	249.324759	11526.70928
Construction and Mining	Other Construction	34	249.324759	11776.03404
Construction and Mining	Other Construction	35	249.324759	12000
Construction and Mining	Other Construction	36	249.324759	12000
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Construction and Mining	Other Construction	87	249.324759	12000
Construction and Mining	Other Construction	88	249.324759	12000
Construction and Mining	Other Construction	89	249.324759	12000
Construction and Mining	Pavers	-1	441.5698458	441.5698458
Construction and Mining	Pavers	0	441.5698458	441.5698458
Construction and Mining	Pavers	1	432.4974455	874.0672913
Construction and Mining	Pavers	2	423.4250456	1297.492337
Construction and Mining	Pavers	3	414.3526453	1711.844982
Construction and Mining	Pavers	4	405.2802454	2117.125228
Construction and Mining	Pavers	5	396.2078455	2513.333073
Construction and Mining	Pavers	6	387.1354452	2900.468518
Construction and Mining	Pavers	7	378.0630453	3278.531564
Construction and Mining	Pavers	8	368.9906451	3647.522209
Construction and Mining	Pavers	9	359.9182451	4007.440454
Construction and Mining	Pavers	10	350.8458449	4358.286299
Construction and Mining	Pavers	11	341.773445	4700.059744
Construction and Mining	Pavers	12	332.7010447	5032.760788
Construction and Mining	Pavers	13	323.6286448	5356.389433
Construction and Mining	Pavers	14	314.5562449	5670.945678
Construction and Mining	Pavers	15	305.4838446	5976.429523
Construction and Mining	Pavers	16	296.4114447	6272.840967
Construction and Mining	Pavers	17	287.3390445	6560.180012

Construction and Mining	Pavers	18	278.2666445	6838.446656
Construction and Mining	Pavers	19	269.1942443	7107.640901
Construction and Mining	Pavers	20	260.1218444	7367.762745
Construction and Mining	Pavers	21	251.0494441	7618.812189
Construction and Mining	Pavers	22	241.9770442	7860.789233
Construction and Mining	Pavers	23	232.9046443	8093.693878
Construction and Mining	Pavers	24	223.832244	8317.526122
Construction and Mining	Pavers	25	214.7598441	8532.285966
Construction and Mining	Pavers	26	205.6874438	8737.97341
Construction and Mining	Pavers	27	205.6874438	8943.660853
Construction and Mining	Pavers	28	205.6874438	9149.348297
Construction and Mining	Pavers	29	205.6874438	9355.035741
Construction and Mining	Pavers	30	205.6874438	9560.723185
Construction and Mining	Pavers	31	205.6874438	9766.410629
Construction and Mining	Pavers	32	205.6874438	9972.098073
Construction and Mining	Pavers	33	205.6874438	10177.78552
Construction and Mining	Pavers	34	205.6874438	10383.47296
Construction and Mining	Pavers	35	205.6874438	10589.1604
Construction and Mining	Pavers	36	205.6874438	10794.84785
Construction and Mining	Pavers	37	205.6874438	11000.53529
Construction and Mining	Pavers	38	205.6874438	11206.22274
Construction and Mining	Pavers	39	205.6874438	11411.91018
Construction and Mining	Pavers	40	205.6874438	11617.59762
Construction and Mining	Pavers	41	205.6874438	11823.28507
Construction and Mining	Pavers	42	205.6874438	12000
Construction and Mining	Pavers	43	205.6874438	12000
Construction and Mining	Pavers	44	205.6874438	12000
Construction and Mining	Pavers	45	205.6874438	12000
Construction and Mining	Pavers	46	205.6874438	12000
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Construction and Mining	Pavers	87	205.6874438	12000
Construction and Mining	Pavers	88	205.6874438	12000
Construction and Mining	Pavers	89	205.6874438	12000
Construction and Mining	Paving Equipment	-1	492.7972551	492.7972551
Construction and Mining	Paving Equipment	0	492.7972551	492.7972551
Construction and Mining	Paving Equipment	1	485.0932115	977.8904666
Construction and Mining	Paving Equipment	2	477.3891683	1455.279635
Construction and Mining	Paving Equipment	3	469.6851247	1924.96476
Construction and Mining	Paving Equipment	4	461.9810812	2386.945841
Construction and Mining	Paving Equipment	5	454.2770376	2841.222878
Construction and Mining	Paving Equipment	6	446.5729944	3287.795873
Construction and Mining	Paving Equipment	7	438.8689508	3726.664824
Construction and Mining	Paving Equipment	8	431.1649072	4157.829731
Construction and Mining	Paving Equipment	9	423.4608636	4581.290594
Construction and Mining	Paving Equipment	10	415.7568204	4997.047415
Construction and Mining	Paving Equipment	11	408.0527768	5405.100192
Construction and Mining	Paving Equipment	12	400.3487332	5805.448925
Construction and Mining	Paving Equipment	13	392.6446897	6198.093615
Construction and Mining	Paving Equipment	14	384.9406461	6583.034261
Construction and Mining	Paving Equipment	15	377.2366029	6960.270864
Construction and Mining	Paving Equipment	16	369.5325593	7329.803423
Construction and Mining	Paving Equipment	17	361.8285157	7691.631939
Construction and Mining	Paving Equipment	18	354.1244721	8045.756411
Construction and Mining	Paving Equipment	19	346.4204289	8392.17684
Construction and Mining	Paving Equipment	20	338.7163853	8730.893225
Construction and Mining	Paving Equipment	21	331.0123417	9061.905567
Construction and Mining	Paving Equipment	22	323.3082981	9385.213865
Construction and Mining	Paving Equipment	23	315.604255	9700.81812
Construction and Mining	Paving Equipment	24	307.9002114	10008.71833
Construction and Mining	Paving Equipment	25	307.9002114	10316.61854
Construction and Mining	Paving Equipment	26	307.9002114	10624.51875
Construction and Mining	Paving Equipment	27	307.9002114	10932.41897
Construction and Mining	Paving Equipment	28	307.9002114	11240.31918

Construction and Mining	Paving Equipment	29	307.9002114	11548.21939
Construction and Mining	Paving Equipment	30	307.9002114	11856.1196
Construction and Mining	Paving Equipment	31	307.9002114	12000
Construction and Mining	Paving Equipment	32	307.9002114	12000
Construction and Mining	Paving Equipment	33	307.9002114	12000
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Construction and Mining	Paving Equipment	71	307.9002114	12000
Construction and Mining	Paving Equipment	72	307.9002114	12000
Construction and Mining	Paving Equipment	73	307.9002114	12000
Construction and Mining	Paving Equipment	74	307.9002114	12000
Construction and Mining	Paving Equipment	75	307.9002114	12000
Construction and Mining	Paving Equipment	76	307.9002114	12000
Construction and Mining	Paving Equipment	77	307.9002114	12000
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Construction and Mining	Paving Equipment	86	307.9002114	12000
Construction and Mining	Paving Equipment	87	307.9002114	12000
Construction and Mining	Paving Equipment	88	307.9002114	12000
Construction and Mining	Paving Equipment	89	307.9002114	12000
Construction and Mining	Rollers	-1	375.9188663	375.9188663
Construction and Mining	Rollers	0	375.9188663	375.9188663
Construction and Mining	Rollers	1	368.1793602	744.0982264
Construction and Mining	Rollers	2	360.4398541	1104.538081
Construction and Mining	Rollers	3	352.700348	1457.238429
Construction and Mining	Rollers	4	344.9608422	1802.199271
Construction and Mining	Rollers	5	337.2213361	2139.420607

Construction and Mining	Rollers	6	329.48183	2468.902437
Construction and Mining	Rollers	7	321.7423239	2790.644761
Construction and Mining	Rollers	8	314.0028178	3104.647579
Construction and Mining	Rollers	9	306.2633117	3410.91089
Construction and Mining	Rollers	10	298.5238056	3709.434696
Construction and Mining	Rollers	11	290.7842995	4000.218995
Construction and Mining	Rollers	12	283.0447934	4283.263789
Construction and Mining	Rollers	13	275.3052873	4558.569076
Construction and Mining	Rollers	14	267.5657813	4826.134857
Construction and Mining	Rollers	15	259.8262752	5085.961133
Construction and Mining	Rollers	16	252.0867691	5338.047902
Construction and Mining	Rollers	17	244.3472633	5582.395165
Construction and Mining	Rollers	18	236.6077572	5819.002922
Construction and Mining	Rollers	19	228.8682511	6047.871173
Construction and Mining	Rollers	20	221.128745	6268.999918
Construction and Mining	Rollers	21	221.128745	6490.128663
Construction and Mining	Rollers	22	221.128745	6711.257408
Construction and Mining	Rollers	23	221.128745	6932.386153
Construction and Mining	Rollers	24	221.128745	7153.514898
Construction and Mining	Rollers	25	221.128745	7374.643643
Construction and Mining	Rollers	26	221.128745	7595.772388
Construction and Mining	Rollers	27	221.128745	7816.901133
Construction and Mining	Rollers	28	221.128745	8038.029878
Construction and Mining	Rollers	29	221.128745	8259.158623
Construction and Mining	Rollers	30	221.128745	8480.287368
Construction and Mining	Rollers	31	221.128745	8701.416113
Construction and Mining	Rollers	32	221.128745	8922.544858
Construction and Mining	Rollers	33	221.128745	9143.673603
Construction and Mining	Rollers	34	221.128745	9364.802348
Construction and Mining	Rollers	35	221.128745	9585.931093
Construction and Mining	Rollers	36	221.128745	9807.059838
Construction and Mining	Rollers	37	221.128745	10028.18858
Construction and Mining	Rollers	38	221.128745	10249.31733
Construction and Mining	Rollers	39	221.128745	10470.44607

Construction and Mining	Rollers	40	221.128745	10691.57482
Construction and Mining	Rollers	41	221.128745	10912.70356
Construction and Mining	Rollers	42	221.128745	11133.83231
Construction and Mining	Rollers	43	221.128745	11354.96105
Construction and Mining	Rollers	44	221.128745	11576.0898
Construction and Mining	Rollers	45	221.128745	11797.21854
Construction and Mining	Rollers	46	221.128745	12000
Construction and Mining	Rollers	47	221.128745	12000
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Construction and Mining	Rollers	88	221.128745	12000
Construction and Mining	Rollers	89	221.128745	12000
Construction and Mining	Rough Terrain	-1	285.1628859	285.1628859
Construction and Mining	Rough Terrain	0	285.1628859	285.1628859
Construction and Mining	Rough Terrain	1	279.1388292	564.3017151
Construction and Mining	Rough Terrain	2	273.1147726	837.4164876
Construction and Mining	Rough Terrain	3	267.0907159	1104.507204
Construction and Mining	Rough Terrain	4	261.0666593	1365.573863
Construction and Mining	Rough Terrain	5	255.0426024	1620.616465
Construction and Mining	Rough Terrain	6	249.0185458	1869.635011
Construction and Mining	Rough Terrain	7	242.9944891	2112.6295
Construction and Mining	Rough Terrain	8	236.9704325	2349.599933
Construction and Mining	Rough Terrain	9	230.9463758	2580.546308
Construction and Mining	Rough Terrain	10	224.9223192	2805.468628
Construction and Mining	Rough Terrain	11	218.8982625	3024.36689
Construction and Mining	Rough Terrain	12	212.8742057	3237.241096
Construction and Mining	Rough Terrain	13	206.850149	3444.091245
Construction and Mining	Rough Terrain	14	200.8260924	3644.917337
Construction and Mining	Rough Terrain	15	194.8020357	3839.719373
Construction and Mining	Rough Terrain	16	188.7779791	4028.497352

Construction and Mining	Rough Terrain	17	188.7779791	4217.275331
Construction and Mining	Rough Terrain	18	188.7779791	4406.05331
Construction and Mining	Rough Terrain	19	188.7779791	4594.831289
Construction and Mining	Rough Terrain	20	188.7779791	4783.609268
Construction and Mining	Rough Terrain	21	188.7779791	4972.387247
Construction and Mining	Rough Terrain	22	188.7779791	5161.165226
Construction and Mining	Rough Terrain	23	188.7779791	5349.943206
Construction and Mining	Rough Terrain	24	188.7779791	5538.721185
Construction and Mining	Rough Terrain	25	188.7779791	5727.499164
Construction and Mining	Rough Terrain	26	188.7779791	5916.277143
Construction and Mining	Rough Terrain	27	188.7779791	6105.055122
Construction and Mining	Rough Terrain	28	188.7779791	6293.833101
Construction and Mining	Rough Terrain	29	188.7779791	6482.61108
Construction and Mining	Rough Terrain	30	188.7779791	6671.389059
Construction and Mining	Rough Terrain	31	188.7779791	6860.167038
Construction and Mining	Rough Terrain	32	188.7779791	7048.945017
Construction and Mining	Rough Terrain	33	188.7779791	7237.722996
Construction and Mining	Rough Terrain	34	188.7779791	7426.500975
Construction and Mining	Rough Terrain	35	188.7779791	7615.278955
Construction and Mining	Rough Terrain	36	188.7779791	7804.056934
Construction and Mining	Rough Terrain	37	188.7779791	7992.834913
Construction and Mining	Rough Terrain	38	188.7779791	8181.612892
Construction and Mining	Rough Terrain	39	188.7779791	8370.390871
Construction and Mining	Rough Terrain	40	188.7779791	8559.16885
Construction and Mining	Rough Terrain	41	188.7779791	8747.946829
Construction and Mining	Rough Terrain	42	188.7779791	8936.724808
Construction and Mining	Rough Terrain	43	188.7779791	9125.502787
Construction and Mining	Rough Terrain	44	188.7779791	9314.280766
Construction and Mining	Rough Terrain	45	188.7779791	9503.058745
Construction and Mining	Rough Terrain	46	188.7779791	9691.836724
Construction and Mining	Rough Terrain	47	188.7779791	9880.614704
Construction and Mining	Rough Terrain	48	188.7779791	10069.39268
Construction and Mining	Rough Terrain	49	188.7779791	10258.17066
Construction and Mining	Rough Terrain	50	188.7779791	10446.94864

Construction and Mining	Rough Terrain	51	188.7779791	10635.72662
Construction and Mining	Rough Terrain	52	188.7779791	10824.5046
Construction and Mining	Rough Terrain	53	188.7779791	11013.28258
Construction and Mining	Rough Terrain	54	188.7779791	11202.06056
Construction and Mining	Rough Terrain	55	188.7779791	11390.83854
Construction and Mining	Rough Terrain	56	188.7779791	11579.61652
Construction and Mining	Rough Terrain	57	188.7779791	11768.39449
Construction and Mining	Rough Terrain	58	188.7779791	11957.17247
Construction and Mining	Rough Terrain	59	188.7779791	12000
Construction and Mining	Rough Terrain	60	188.7779791	12000
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Construction and Mining	Rough Terrain	88	188.7779791	12000
Construction and Mining	Rough Terrain	89	188.7779791	12000
Construction and Mining	Rubber Tired	-1	1088.475626	1088.475626
Construction and Mining	Rubber Tired	0	1088.475626	1088.475626
Construction and Mining	Rubber Tired	1	1068.406856	2156.882482
Construction and Mining	Rubber Tired	2	1048.338087	3205.220569
Construction and Mining	Rubber Tired	3	1028.269318	4233.489887
Construction and Mining	Rubber Tired	4	1008.200548	5241.690436
Construction and Mining	Rubber Tired	5	988.1317791	6229.822215
Construction and Mining	Rubber Tired	6	968.0630099	7197.885225
Construction and Mining	Rubber Tired	7	947.99424	8145.879465
Construction and Mining	Rubber Tired	8	927.9254709	9073.804936
Construction and Mining	Rubber Tired	9	907.8567017	9981.661637
Construction and Mining	Rubber Tired	10	887.7879326	10869.44957
Construction and Mining	Rubber Tired	11	867.7191627	11737.16873
Construction and Mining	Rubber Tired	12	847.6503935	12000
Construction and Mining	Rubber Tired	13	827.5816244	12000
Construction and Mining	Rubber Tired	14	807.5128552	12000
Construction and Mining	Rubber Tired	15	787.4440853	12000
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Construction and Mining	Rubber Tired	17	747.306547	12000
Construction and Mining	Rubber Tired	18	727.2377771	12000
Construction and Mining	Rubber Tired	19	707.169008	12000
Construction and Mining	Rubber Tired	20	687.1002389	12000
Construction and Mining	Rubber Tired	21	667.0314697	12000
Construction and Mining	Rubber Tired	22	646.9626998	12000
Construction and Mining	Rubber Tired	23	626.8939307	12000
Construction and Mining	Rubber Tired	24	606.8251615	12000
Construction and Mining	Rubber Tired	25	586.7563924	12000
Construction and Mining	Rubber Tired	26	566.6876225	12000
Construction and Mining	Rubber Tired	27	546.6188533	12000

Construction and Mining	Rubber Tired	28	526.5500842	12000
Construction and Mining	Rubber Tired	29	506.4813143	12000
Construction and Mining	Rubber Tired	30	486.4125451	12000
Construction and Mining	Rubber Tired	31	466.343776	12000
Construction and Mining	Rubber Tired	32	446.2750068	12000
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Construction and Mining	Rubber Tired	89	446.2750068	12000
Construction and Mining	Rubber Tired	-1	1327.624557	1327.624557
Construction and Mining	Rubber Tired	0	1327.624557	1327.624557
Construction and Mining	Rubber Tired	1	1284.160657	2611.785213
Construction and Mining	Rubber Tired	2	1240.696758	3852.481971
Construction and Mining	Rubber Tired	3	1197.232859	5049.71483
Construction and Mining	Rubber Tired	4	1153.76896	6203.48379

Construction and Mining	Rubber Tired	5	1110.30506	7313.788851
Construction and Mining	Rubber Tired	6	1066.841161	8380.630012
Construction and Mining	Rubber Tired	7	1023.377263	9404.007275
Construction and Mining	Rubber Tired	8	979.9133628	10383.92064
Construction and Mining	Rubber Tired	9	936.4494639	11320.3701
Construction and Mining	Rubber Tired	10	892.985565	12000
Construction and Mining	Rubber Tired	11	849.5216653	12000
Construction and Mining	Rubber Tired	12	806.0577664	12000
Construction and Mining	Rubber Tired	13	762.5938675	12000
Construction and Mining	Rubber Tired	14	719.1299677	12000
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Construction and Mining	Rubber Tired	16	632.2021699	12000
Construction and Mining	Rubber Tired	17	588.7382702	12000
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Construction and Mining	Rubber Tired	69	414.8826737	12000
Construction and Mining	Rubber Tired	70	414.8826737	12000
Construction and Mining	Rubber Tired	71	414.8826737	12000
Construction and Mining	Rubber Tired	72	414.8826737	12000

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Construction and Mining	Rubber Tired	74	414.8826737	12000
Construction and Mining	Rubber Tired	75	414.8826737	12000
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Construction and Mining	Rubber Tired	80	414.8826737	12000
Construction and Mining	Rubber Tired	81	414.8826737	12000
Construction and Mining	Rubber Tired	82	414.8826737	12000
Construction and Mining	Rubber Tired	83	414.8826737	12000
Construction and Mining	Rubber Tired	84	414.8826737	12000
Construction and Mining	Rubber Tired	85	414.8826737	12000
Construction and Mining	Rubber Tired	86	414.8826737	12000
Construction and Mining	Rubber Tired	87	414.8826737	12000
Construction and Mining	Rubber Tired	88	414.8826737	12000
Construction and Mining	Rubber Tired	89	414.8826737	12000
Construction and Mining	Scrapers	-1	653.4719417	653.4719417
Construction and Mining	Scrapers	0	653.4719417	653.4719417
Construction and Mining	Scrapers	1	638.0320857	1291.504027
Construction and Mining	Scrapers	2	622.5922302	1914.096258
Construction and Mining	Scrapers	3	607.1523743	2521.248632
Construction and Mining	Scrapers	4	591.7125188	3112.961151
Construction and Mining	Scrapers	5	576.2726633	3689.233814
Construction and Mining	Scrapers	6	560.8328073	4250.066621
Construction and Mining	Scrapers	7	545.3929518	4795.459573
Construction and Mining	Scrapers	8	529.9530958	5325.412669
Construction and Mining	Scrapers	9	514.5132403	5839.925909
Construction and Mining	Scrapers	10	499.0733844	6338.999294
Construction and Mining	Scrapers	11	483.6335289	6822.632823
Construction and Mining	Scrapers	12	468.1936729	7290.826495
Construction and Mining	Scrapers	13	452.7538174	7743.580313
Construction and Mining	Scrapers	14	437.3139619	8180.894275
Construction and Mining	Scrapers	15	421.874106	8602.768381

Construction and Mining	Scrapers	16	406.4342505	9009.202631
Construction and Mining	Scrapers	17	390.9943945	9400.197026
Construction and Mining	Scrapers	18	375.554539	9775.751565
Construction and Mining	Scrapers	19	360.114683	10135.86625
Construction and Mining	Scrapers	20	344.6748275	10480.54108
Construction and Mining	Scrapers	21	329.2349716	10809.77605
Construction and Mining	Scrapers	22	313.7951161	11123.57116
Construction and Mining	Scrapers	23	298.3552606	11421.92642
Construction and Mining	Scrapers	24	282.9154046	11704.84183
Construction and Mining	Scrapers	25	267.4755491	11972.31738
Construction and Mining	Scrapers	26	252.0356931	12000
Construction and Mining	Scrapers	27	252.0356931	12000
Construction and Mining	Scrapers	28	252.0356931	12000
Construction and Mining	Scrapers	29	252.0356931	12000
Construction and Mining	Scrapers	30	252.0356931	12000
Construction and Mining	Scrapers	31	252.0356931	12000
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Construction and Mining	Scrapers	46	252.0356931	12000
Construction and Mining	Scrapers	47	252.0356931	12000
Construction and Mining	Scrapers	48	252.0356931	12000
Construction and Mining	Scrapers	49	252.0356931	12000

Construction and Mining	Scrapers	50	252.0356931	12000
Construction and Mining	Scrapers	51	252.0356931	12000
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Construction and Mining	Scrapers	68	252.0356931	12000
Construction and Mining	Scrapers	69	252.0356931	12000
Construction and Mining	Scrapers	70	252.0356931	12000
Construction and Mining	Scrapers	71	252.0356931	12000
Construction and Mining	Scrapers	72	252.0356931	12000
Construction and Mining	Scrapers	73	252.0356931	12000
Construction and Mining	Scrapers	74	252.0356931	12000
Construction and Mining	Scrapers	75	252.0356931	12000
Construction and Mining	Scrapers	76	252.0356931	12000
Construction and Mining	Scrapers	77	252.0356931	12000
Construction and Mining	Scrapers	78	252.0356931	12000
Construction and Mining	Scrapers	79	252.0356931	12000
Construction and Mining	Scrapers	80	252.0356931	12000
Construction and Mining	Scrapers	81	252.0356931	12000
Construction and Mining	Scrapers	82	252.0356931	12000
Construction and Mining	Scrapers	83	252.0356931	12000

Construction and Mining	Scrapers	84	252.0356931	12000
Construction and Mining	Scrapers	85	252.0356931	12000
Construction and Mining	Scrapers	86	252.0356931	12000
Construction and Mining	Scrapers	87	252.0356931	12000
Construction and Mining	Scrapers	88	252.0356931	12000
Construction and Mining	Scrapers	89	252.0356931	12000
Construction and Mining	Skid Steer Loaders	-1	429.4173719	429.4173719
Construction and Mining	Skid Steer Loaders	0	429.4173719	429.4173719
Construction and Mining	Skid Steer Loaders	1	407.3959682	836.81334
Construction and Mining	Skid Steer Loaders	2	385.3745644	1222.187904
Construction and Mining	Skid Steer Loaders	3	363.3531607	1585.541065
Construction and Mining	Skid Steer Loaders	4	341.331757	1926.872822
Construction and Mining	Skid Steer Loaders	5	319.3103533	2246.183176
Construction and Mining	Skid Steer Loaders	6	297.2889496	2543.472125
Construction and Mining	Skid Steer Loaders	7	275.2675462	2818.739671
Construction and Mining	Skid Steer Loaders	8	253.2461425	3071.985814
Construction and Mining	Skid Steer Loaders	9	231.2247388	3303.210553
Construction and Mining	Skid Steer Loaders	10	209.2033351	3512.413888
Construction and Mining	Skid Steer Loaders	11	187.1819314	3699.595819
Construction and Mining	Skid Steer Loaders	12	165.1605277	3864.756347
Construction and Mining	Skid Steer Loaders	13	143.139124	4007.895471
Construction and Mining	Skid Steer Loaders	14	143.139124	4151.034595
Construction and Mining	Skid Steer Loaders	15	143.139124	4294.173719
Construction and Mining	Skid Steer Loaders	16	143.139124	4437.312843
Construction and Mining	Skid Steer Loaders	17	143.139124	4580.451967
Construction and Mining	Skid Steer Loaders	18	143.139124	4723.59109
Construction and Mining	Skid Steer Loaders	19	143.139124	4866.730214
Construction and Mining	Skid Steer Loaders	20	143.139124	5009.869338
Construction and Mining	Skid Steer Loaders	21	143.139124	5153.008462
Construction and Mining	Skid Steer Loaders	22	143.139124	5296.147586
Construction and Mining	Skid Steer Loaders	23	143.139124	5439.28671
Construction and Mining	Skid Steer Loaders	24	143.139124	5582.425834
Construction and Mining	Skid Steer Loaders	25	143.139124	5725.564958
Construction and Mining	Skid Steer Loaders	26	143.139124	5868.704082

Construction and Mining	Skid Steer Loaders	27	143.139124	6011.843206
Construction and Mining	Skid Steer Loaders	28	143.139124	6154.98233
Construction and Mining	Skid Steer Loaders	29	143.139124	6298.121454
Construction and Mining	Skid Steer Loaders	30	143.139124	6441.260578
Construction and Mining	Skid Steer Loaders	31	143.139124	6584.399702
Construction and Mining	Skid Steer Loaders	32	143.139124	6727.538826
Construction and Mining	Skid Steer Loaders	33	143.139124	6870.67795
Construction and Mining	Skid Steer Loaders	34	143.139124	7013.817074
Construction and Mining	Skid Steer Loaders	35	143.139124	7156.956198
Construction and Mining	Skid Steer Loaders	36	143.139124	7300.095322
Construction and Mining	Skid Steer Loaders	37	143.139124	7443.234446
Construction and Mining	Skid Steer Loaders	38	143.139124	7586.37357
Construction and Mining	Skid Steer Loaders	39	143.139124	7729.512693
Construction and Mining	Skid Steer Loaders	40	143.139124	7872.651817
Construction and Mining	Skid Steer Loaders	41	143.139124	8015.790941
Construction and Mining	Skid Steer Loaders	42	143.139124	8158.930065
Construction and Mining	Skid Steer Loaders	43	143.139124	8302.069189
Construction and Mining	Skid Steer Loaders	44	143.139124	8445.208313
Construction and Mining	Skid Steer Loaders	45	143.139124	8588.347437
Construction and Mining	Skid Steer Loaders	46	143.139124	8731.486561
Construction and Mining	Skid Steer Loaders	47	143.139124	8874.625685
Construction and Mining	Skid Steer Loaders	48	143.139124	9017.764809
Construction and Mining	Skid Steer Loaders	49	143.139124	9160.903933
Construction and Mining	Skid Steer Loaders	50	143.139124	9304.043057
Construction and Mining	Skid Steer Loaders	51	143.139124	9447.182181
Construction and Mining	Skid Steer Loaders	52	143.139124	9590.321305
Construction and Mining	Skid Steer Loaders	53	143.139124	9733.460429
Construction and Mining	Skid Steer Loaders	54	143.139124	9876.599553
Construction and Mining	Skid Steer Loaders	55	143.139124	10019.73868
Construction and Mining	Skid Steer Loaders	56	143.139124	10162.8778
Construction and Mining	Skid Steer Loaders	57	143.139124	10306.01692
Construction and Mining	Skid Steer Loaders	58	143.139124	10449.15605
Construction and Mining	Skid Steer Loaders	59	143.139124	10592.29517
Construction and Mining	Skid Steer Loaders	60	143.139124	10735.4343

Construction and Mining	Skid Steer Loaders	61	143.139124	10878.57342
Construction and Mining	Skid Steer Loaders	62	143.139124	11021.71254
Construction and Mining	Skid Steer Loaders	63	143.139124	11164.85167
Construction and Mining	Skid Steer Loaders	64	143.139124	11307.99079
Construction and Mining	Skid Steer Loaders	65	143.139124	11451.12992
Construction and Mining	Skid Steer Loaders	66	143.139124	11594.26904
Construction and Mining	Skid Steer Loaders	67	143.139124	11737.40816
Construction and Mining	Skid Steer Loaders	68	143.139124	11880.54729
Construction and Mining	Skid Steer Loaders	69	143.139124	12000
Construction and Mining	Skid Steer Loaders	70	143.139124	12000
Construction and Mining	Skid Steer Loaders	71	143.139124	12000
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Construction and Mining	Skid Steer Loaders	73	143.139124	12000
Construction and Mining	Skid Steer Loaders	74	143.139124	12000
Construction and Mining	Skid Steer Loaders	75	143.139124	12000
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Construction and Mining	Skid Steer Loaders	82	143.139124	12000
Construction and Mining	Skid Steer Loaders	83	143.139124	12000
Construction and Mining	Skid Steer Loaders	84	143.139124	12000
Construction and Mining	Skid Steer Loaders	85	143.139124	12000
Construction and Mining	Skid Steer Loaders	86	143.139124	12000
Construction and Mining	Skid Steer Loaders	87	143.139124	12000
Construction and Mining	Skid Steer Loaders	88	143.139124	12000
Construction and Mining	Skid Steer Loaders	89	143.139124	12000
Construction and Mining	Surfacing	-1	305.5129824	305.5129824
Construction and Mining	Surfacing	0	305.5129824	305.5129824
Construction and Mining	Surfacing	1	297.3196797	602.8326621
Construction and Mining	Surfacing	2	289.126377	891.9590391
Construction and Mining	Surfacing	3	280.9330744	1172.892114

Construction and Mining	Surfacing	4	272.7397715	1445.631885
Construction and Mining	Surfacing	5	264.5464688	1710.178354
Construction and Mining	Surfacing	6	256.3531662	1966.53152
Construction and Mining	Surfacing	7	248.1598635	2214.691384
Construction and Mining	Surfacing	8	239.9665608	2454.657944
Construction and Mining	Surfacing	9	231.773258	2686.431202
Construction and Mining	Surfacing	10	223.5799553	2910.011158
Construction and Mining	Surfacing	11	215.3866526	3125.39781
Construction and Mining	Surfacing	12	207.19335	3332.59116
Construction and Mining	Surfacing	13	199.0000473	3531.591208
Construction and Mining	Surfacing	14	190.8067444	3722.397952
Construction and Mining	Surfacing	15	182.6134417	3905.011394
Construction and Mining	Surfacing	16	174.4201391	4079.431533
Construction and Mining	Surfacing	17	166.2268364	4245.658369
Construction and Mining	Surfacing	18	158.0335337	4403.691903
Construction and Mining	Surfacing	19	149.8402309	4553.532134
Construction and Mining	Surfacing	20	141.6469282	4695.179062
Construction and Mining	Surfacing	21	133.4536255	4828.632688
Construction and Mining	Surfacing	22	125.2603229	4953.89301
Construction and Mining	Surfacing	23	125.2603229	5079.153333
Construction and Mining	Surfacing	24	125.2603229	5204.413656
Construction and Mining	Surfacing	25	125.2603229	5329.673979
Construction and Mining	Surfacing	26	125.2603229	5454.934302
Construction and Mining	Surfacing	27	125.2603229	5580.194625
Construction and Mining	Surfacing	28	125.2603229	5705.454948
Construction and Mining	Surfacing	29	125.2603229	5830.71527
Construction and Mining	Surfacing	30	125.2603229	5955.975593
Construction and Mining	Surfacing	31	125.2603229	6081.235916
Construction and Mining	Surfacing	32	125.2603229	6206.496239
Construction and Mining	Surfacing	33	125.2603229	6331.756562
Construction and Mining	Surfacing	34	125.2603229	6457.016885
Construction and Mining	Surfacing	35	125.2603229	6582.277208
Construction and Mining	Surfacing	36	125.2603229	6707.537531
Construction and Mining	Surfacing	37	125.2603229	6832.797853

Construction and Mining	Surfacing	38	125.2603229	6958.058176
Construction and Mining	Surfacing	39	125.2603229	7083.318499
Construction and Mining	Surfacing	40	125.2603229	7208.578822
Construction and Mining	Surfacing	41	125.2603229	7333.839145
Construction and Mining	Surfacing	42	125.2603229	7459.099468
Construction and Mining	Surfacing	43	125.2603229	7584.359791
Construction and Mining	Surfacing	44	125.2603229	7709.620114
Construction and Mining	Surfacing	45	125.2603229	7834.880436
Construction and Mining	Surfacing	46	125.2603229	7960.140759
Construction and Mining	Surfacing	47	125.2603229	8085.401082
Construction and Mining	Surfacing	48	125.2603229	8210.661405
Construction and Mining	Surfacing	49	125.2603229	8335.921728
Construction and Mining	Surfacing	50	125.2603229	8461.182051
Construction and Mining	Surfacing	51	125.2603229	8586.442374
Construction and Mining	Surfacing	52	125.2603229	8711.702697
Construction and Mining	Surfacing	53	125.2603229	8836.963019
Construction and Mining	Surfacing	54	125.2603229	8962.223342
Construction and Mining	Surfacing	55	125.2603229	9087.483665
Construction and Mining	Surfacing	56	125.2603229	9212.743988
Construction and Mining	Surfacing	57	125.2603229	9338.004311
Construction and Mining	Surfacing	58	125.2603229	9463.264634
Construction and Mining	Surfacing	59	125.2603229	9588.524957
Construction and Mining	Surfacing	60	125.2603229	9713.785279
Construction and Mining	Surfacing	61	125.2603229	9839.045602
Construction and Mining	Surfacing	62	125.2603229	9964.305925
Construction and Mining	Surfacing	63	125.2603229	10089.56625
Construction and Mining	Surfacing	64	125.2603229	10214.82657
Construction and Mining	Surfacing	65	125.2603229	10340.08689
Construction and Mining	Surfacing	66	125.2603229	10465.34722
Construction and Mining	Surfacing	67	125.2603229	10590.60754
Construction and Mining	Surfacing	68	125.2603229	10715.86786
Construction and Mining	Surfacing	69	125.2603229	10841.12819
Construction and Mining	Surfacing	70	125.2603229	10966.38851
Construction and Mining	Surfacing	71	125.2603229	11091.64883

Construction and Mining	Surfacing	72	125.2603229	11216.90915
Construction and Mining	Surfacing	73	125.2603229	11342.16948
Construction and Mining	Surfacing	74	125.2603229	11467.4298
Construction and Mining	Surfacing	75	125.2603229	11592.69012
Construction and Mining	Surfacing	76	125.2603229	11717.95045
Construction and Mining	Surfacing	77	125.2603229	11843.21077
Construction and Mining	Surfacing	78	125.2603229	11968.47109
Construction and Mining	Surfacing	79	125.2603229	12000
Construction and Mining	Surfacing	80	125.2603229	12000
Construction and Mining	Surfacing	81	125.2603229	12000
Construction and Mining	Surfacing	82	125.2603229	12000
Construction and Mining	Surfacing	83	125.2603229	12000
Construction and Mining	Surfacing	84	125.2603229	12000
Construction and Mining	Surfacing	85	125.2603229	12000
Construction and Mining	Surfacing	86	125.2603229	12000
Construction and Mining	Surfacing	87	125.2603229	12000
Construction and Mining	Surfacing	88	125.2603229	12000
Construction and Mining	Surfacing	89	125.2603229	12000
Construction and Mining	Tractors/Loaders/B	-1	856.5881167	856.5881167
Construction and Mining	Tractors/Loaders/B	0	856.5881167	856.5881167
Construction and Mining	Tractors/Loaders/B	1	818.2523603	1674.840477
Construction and Mining	Tractors/Loaders/B	2	779.9166034	2454.75708
Construction and Mining	Tractors/Loaders/B	3	741.5808469	3196.337927
Construction and Mining	Tractors/Loaders/B	4	703.24509	3899.583017
Construction and Mining	Tractors/Loaders/B	5	664.9093336	4564.492351
Construction and Mining	Tractors/Loaders/B	6	626.5735767	5191.065928
Construction and Mining	Tractors/Loaders/B	7	588.2378202	5779.303748
Construction and Mining	Tractors/Loaders/B	8	549.9020633	6329.205811
Construction and Mining	Tractors/Loaders/B	9	511.5663069	6840.772118
Construction and Mining	Tractors/Loaders/B	10	473.2305505	7314.002668
Construction and Mining	Tractors/Loaders/B	11	434.8947935	7748.897462
Construction and Mining	Tractors/Loaders/B	12	396.5590371	8145.456499
Construction and Mining	Tractors/Loaders/B	13	358.2232802	8503.679779
Construction and Mining	Tractors/Loaders/B	14	319.8875238	8823.567303

Construction and Mining	Tractors/Loaders/B	15	281.5517669	9105.11907
Construction and Mining	Tractors/Loaders/B	16	243.2160104	9348.33508
Construction and Mining	Tractors/Loaders/B	17	204.8802535	9553.215334
Construction and Mining	Tractors/Loaders/B	18	166.5444971	9719.759831
Construction and Mining	Tractors/Loaders/B	19	166.5444971	9886.304328
Construction and Mining	Tractors/Loaders/B	20	166.5444971	10052.84883
Construction and Mining	Tractors/Loaders/B	21	166.5444971	10219.39332
Construction and Mining	Tractors/Loaders/B	22	166.5444971	10385.93782
Construction and Mining	Tractors/Loaders/B	23	166.5444971	10552.48232
Construction and Mining	Tractors/Loaders/B	24	166.5444971	10719.02681
Construction and Mining	Tractors/Loaders/B	25	166.5444971	10885.57131
Construction and Mining	Tractors/Loaders/B	26	166.5444971	11052.11581
Construction and Mining	Tractors/Loaders/B	27	166.5444971	11218.6603
Construction and Mining	Tractors/Loaders/B	28	166.5444971	11385.2048
Construction and Mining	Tractors/Loaders/B	29	166.5444971	11551.7493
Construction and Mining	Tractors/Loaders/B	30	166.5444971	11718.2938
Construction and Mining	Tractors/Loaders/B	31	166.5444971	11884.83829
Construction and Mining	Tractors/Loaders/B	32	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	33	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	34	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	35	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	36	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	37	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	38	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	39	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	40	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	41	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	42	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	43	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	44	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	45	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	46	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	47	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	48	166.5444971	12000

Construction and Mining	Tractors/Loaders/B	49	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	50	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	51	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	52	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	53	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	54	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	55	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	56	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	57	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	58	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	59	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	60	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	61	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	62	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	63	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	64	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	65	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	66	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	67	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	68	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	69	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	70	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	71	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	72	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	73	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	74	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	75	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	76	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	77	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	78	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	79	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	80	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	81	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	82	166.5444971	12000

Construction and Mining	Tractors/Loaders/B	83	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	84	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	85	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	86	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	87	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	88	166.5444971	12000
Construction and Mining	Tractors/Loaders/B	89	166.5444971	12000
Construction and Mining	Trenchers	-1	430.5006564	430.5006564
Construction and Mining	Trenchers	0	430.5006564	430.5006564
Construction and Mining	Trenchers	1	421.0685069	851.5691633
Construction and Mining	Trenchers	2	411.6363573	1263.205521
Construction and Mining	Trenchers	3	402.2042078	1665.409728
Construction and Mining	Trenchers	4	392.7720586	2058.181787
Construction and Mining	Trenchers	5	383.339909	2441.521696
Construction and Mining	Trenchers	6	373.9077595	2815.429455
Construction and Mining	Trenchers	7	364.47561	3179.905065
Construction and Mining	Trenchers	8	355.0434604	3534.948526
Construction and Mining	Trenchers	9	345.6113109	3880.559837
Construction and Mining	Trenchers	10	336.1791613	4216.738998
Construction and Mining	Trenchers	11	326.7470121	4543.48601
Construction and Mining	Trenchers	12	317.3148626	4860.800873
Construction and Mining	Trenchers	13	307.882713	5168.683586
Construction and Mining	Trenchers	14	298.4505635	5467.134149
Construction and Mining	Trenchers	15	289.018414	5756.152563
Construction and Mining	Trenchers	16	279.5862644	6035.738828
Construction and Mining	Trenchers	17	270.1541149	6305.892943
Construction and Mining	Trenchers	18	260.7219657	6566.614908
Construction and Mining	Trenchers	19	251.2898161	6817.904724
Construction and Mining	Trenchers	20	241.8576666	7059.762391
Construction and Mining	Trenchers	21	232.4255171	7292.187908
Construction and Mining	Trenchers	22	222.9933675	7515.181276
Construction and Mining	Trenchers	23	213.561218	7728.742494
Construction and Mining	Trenchers	24	204.1290685	7932.871562
Construction and Mining	Trenchers	25	194.6969192	8127.568481

Construction and Mining	Trenchers	26	185.2647697	8312.833251
Construction and Mining	Trenchers	27	175.8326201	8488.665871
Construction and Mining	Trenchers	28	166.4004706	8655.066342
Construction and Mining	Trenchers	29	166.4004706	8821.466812
Construction and Mining	Trenchers	30	166.4004706	8987.867283
Construction and Mining	Trenchers	31	166.4004706	9154.267753
Construction and Mining	Trenchers	32	166.4004706	9320.668224
Construction and Mining	Trenchers	33	166.4004706	9487.068695
Construction and Mining	Trenchers	34	166.4004706	9653.469165
Construction and Mining	Trenchers	35	166.4004706	9819.869636
Construction and Mining	Trenchers	36	166.4004706	9986.270106
Construction and Mining	Trenchers	37	166.4004706	10152.67058
Construction and Mining	Trenchers	38	166.4004706	10319.07105
Construction and Mining	Trenchers	39	166.4004706	10485.47152
Construction and Mining	Trenchers	40	166.4004706	10651.87199
Construction and Mining	Trenchers	41	166.4004706	10818.27246
Construction and Mining	Trenchers	42	166.4004706	10984.67293
Construction and Mining	Trenchers	43	166.4004706	11151.0734
Construction and Mining	Trenchers	44	166.4004706	11317.47387
Construction and Mining	Trenchers	45	166.4004706	11483.87434
Construction and Mining	Trenchers	46	166.4004706	11650.27481
Construction and Mining	Trenchers	47	166.4004706	11816.67528
Construction and Mining	Trenchers	48	166.4004706	11983.07575
Construction and Mining	Trenchers	49	166.4004706	12000
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Construction and Mining	Trenchers	88	166.4004706	12000
Construction and Mining	Trenchers	89	166.4004706	12000
Industrial	Aerial Lifts	-1	265.8438042	265.8438042
Industrial	Aerial Lifts	0	265.8438042	265.8438042
Industrial	Aerial Lifts	1	265.8438042	531.6876084
Industrial	Aerial Lifts	2	265.8438042	797.5314125

Industrial	Aerial Lifts	3	265.8438042	1063.375217
Industrial	Aerial Lifts	4	265.8438042	1329.219021
Industrial	Aerial Lifts	5	265.8438042	1595.062825
Industrial	Aerial Lifts	6	265.8438042	1860.906629
Industrial	Aerial Lifts	7	265.8438042	2126.750433
Industrial	Aerial Lifts	8	265.8438042	2392.594238
Industrial	Aerial Lifts	9	265.8438042	2658.438042
Industrial	Aerial Lifts	10	265.8438042	2924.281846
Industrial	Aerial Lifts	11	265.8438042	3190.12565
Industrial	Aerial Lifts	12	265.8438042	3455.969454
Industrial	Aerial Lifts	13	265.8438042	3721.813258
Industrial	Aerial Lifts	14	265.8438042	3987.657063
Industrial	Aerial Lifts	15	265.8438042	4253.500867
Industrial	Aerial Lifts	16	265.8438042	4519.344671
Industrial	Aerial Lifts	17	265.8438042	4785.188475
Industrial	Aerial Lifts	18	265.8438042	5051.032279
Industrial	Aerial Lifts	19	265.8438042	5316.876084
Industrial	Aerial Lifts	20	265.8438042	5582.719888
Industrial	Aerial Lifts	21	265.8438042	5848.563692
Industrial	Aerial Lifts	22	265.8438042	6114.407496
Industrial	Aerial Lifts	23	265.8438042	6380.2513
Industrial	Aerial Lifts	24	265.8438042	6646.095104
Industrial	Aerial Lifts	25	265.8438042	6911.938909
Industrial	Aerial Lifts	26	265.8438042	7177.782713
Industrial	Aerial Lifts	27	265.8438042	7443.626517
Industrial	Aerial Lifts	28	265.8438042	7709.470321
Industrial	Aerial Lifts	29	265.8438042	7975.314125
Industrial	Aerial Lifts	30	265.8438042	8241.15793
Industrial	Aerial Lifts	31	265.8438042	8507.001734
Industrial	Aerial Lifts	32	265.8438042	8772.845538
Industrial	Aerial Lifts	33	265.8438042	9038.689342
Industrial	Aerial Lifts	34	265.8438042	9304.533146
Industrial	Aerial Lifts	35	265.8438042	9570.37695
Industrial	Aerial Lifts	36	265.8438042	9836.220755

Industrial	Aerial Lifts	37	265.8438042	10102.06456
Industrial	Aerial Lifts	38	265.8438042	10367.90836
Industrial	Aerial Lifts	39	265.8438042	10633.75217
Industrial	Aerial Lifts	40	265.8438042	10899.59597
Industrial	Aerial Lifts	41	265.8438042	11165.43978
Industrial	Aerial Lifts	42	265.8438042	11431.28358
Industrial	Aerial Lifts	43	265.8438042	11697.12738
Industrial	Aerial Lifts	44	265.8438042	11962.97119
Industrial	Aerial Lifts	45	265.8438042	12000
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Industrial	Aerial Lifts	89	265.8438042	12000
Industrial	Forklifts	-1	689.6244681	689.6244681
Industrial	Forklifts	0	689.6244681	689.6244681
Industrial	Forklifts	1	689.6244681	1379.248936
Industrial	Forklifts	2	689.6244681	2068.873404
Industrial	Forklifts	3	689.6244681	2758.497872
Industrial	Forklifts	4	689.6244681	3448.122341
Industrial	Forklifts	5	689.6244681	4137.746809
Industrial	Forklifts	6	689.6244681	4827.371277
Industrial	Forklifts	7	689.6244681	5516.995745
Industrial	Forklifts	8	689.6244681	6206.620213
Industrial	Forklifts	9	689.6244681	6896.244681
Industrial	Forklifts	10	689.6244681	7585.869149
Industrial	Forklifts	11	689.6244681	8275.493617
Industrial	Forklifts	12	689.6244681	8965.118085
Industrial	Forklifts	13	689.6244681	9654.742554

Industrial	Forklifts	14	689.6244681	10344.36702
Industrial	Forklifts	15	689.6244681	11033.99149
Industrial	Forklifts	16	689.6244681	11723.61596
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Industrial	Forklifts	88	689.6244681	12000
Industrial	Forklifts	89	689.6244681	12000
Industrial	Other General	-1	766.241223	766.241223
Industrial	Other General	0	766.241223	766.241223
Industrial	Other General	1	766.241223	1532.482446
Industrial	Other General	2	766.241223	2298.723669
Industrial	Other General	3	766.241223	3064.964892
Industrial	Other General	4	766.241223	3831.206115
Industrial	Other General	5	766.241223	4597.447338
Industrial	Other General	6	766.241223	5363.688561
Industrial	Other General	7	766.241223	6129.929784
Industrial	Other General	8	766.241223	6896.171007
Industrial	Other General	9	766.241223	7662.41223
Industrial	Other General	10	766.241223	8428.653453
Industrial	Other General	11	766.241223	9194.894676
Industrial	Other General	12	766.241223	9961.135899
Industrial	Other General	13	766.241223	10727.37712
Industrial	Other General	14	766.241223	11493.61834
Industrial	Other General	15	766.241223	12000
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Industrial	Other General	85	766.241223	12000
Industrial	Other General	86	766.241223	12000
Industrial	Other General	87	766.241223	12000
Industrial	Other General	88	766.241223	12000
Industrial	Other General	89	766.241223	12000
Industrial	Other Material	-1	708.7059171	708.7059171
Industrial	Other Material	0	708.7059171	708.7059171
Industrial	Other Material	1	708.7059171	1417.411834

Industrial	Other Material	2	708.7059171	2126.117751
Industrial	Other Material	3	708.7059171	2834.823669
Industrial	Other Material	4	708.7059171	3543.529586
Industrial	Other Material	5	708.7059171	4252.235503
Industrial	Other Material	6	708.7059171	4960.94142
Industrial	Other Material	7	708.7059171	5669.647337
Industrial	Other Material	8	708.7059171	6378.353254
Industrial	Other Material	9	708.7059171	7087.059171
Industrial	Other Material	10	708.7059171	7795.765088
Industrial	Other Material	11	708.7059171	8504.471006
Industrial	Other Material	12	708.7059171	9213.176923
Industrial	Other Material	13	708.7059171	9921.88284
Industrial	Other Material	14	708.7059171	10630.58876
Industrial	Other Material	15	708.7059171	11339.29467
Industrial	Other Material	16	708.7059171	12000
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Industrial	Other Material	19	708.7059171	12000
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Industrial	Other Material	40	708.7059171	12000
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Industrial	Other Material	67	708.7059171	12000
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Industrial	Other Material	69	708.7059171	12000

Industrial	Other Material	70	708.7059171	12000
Industrial	Other Material	71	708.7059171	12000
Industrial	Other Material	72	708.7059171	12000
Industrial	Other Material	73	708.7059171	12000
Industrial	Other Material	74	708.7059171	12000
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Industrial	Other Material	87	708.7059171	12000
Industrial	Other Material	88	708.7059171	12000
Industrial	Other Material	89	708.7059171	12000
Industrial	Sweepers/Scrubber	-1	656.0100295	656.0100295
Industrial	Sweepers/Scrubber	0	656.0100295	656.0100295
Industrial	Sweepers/Scrubber	1	656.0100295	1312.020059
Industrial	Sweepers/Scrubber	2	656.0100295	1968.030089
Industrial	Sweepers/Scrubber	3	656.0100295	2624.040118
Industrial	Sweepers/Scrubber	4	656.0100295	3280.050148
Industrial	Sweepers/Scrubber	5	656.0100295	3936.060177
Industrial	Sweepers/Scrubber	6	656.0100295	4592.070207
Industrial	Sweepers/Scrubber	7	656.0100295	5248.080236
Industrial	Sweepers/Scrubber	8	656.0100295	5904.090266
Industrial	Sweepers/Scrubber	9	656.0100295	6560.100295
Industrial	Sweepers/Scrubber	10	656.0100295	7216.110325
Industrial	Sweepers/Scrubber	11	656.0100295	7872.120354
Industrial	Sweepers/Scrubber	12	656.0100295	8528.130384

Industrial	Sweepers/Scrubber	13	656.0100295	9184.140413
Industrial	Sweepers/Scrubber	14	656.0100295	9840.150443
Industrial	Sweepers/Scrubber	15	656.0100295	10496.16047
Industrial	Sweepers/Scrubber	16	656.0100295	11152.1705
Industrial	Sweepers/Scrubber	17	656.0100295	11808.18053
Industrial	Sweepers/Scrubber	18	656.0100295	12000
Industrial	Sweepers/Scrubber	19	656.0100295	12000
Industrial	Sweepers/Scrubber	20	656.0100295	12000
Industrial	Sweepers/Scrubber	21	656.0100295	12000
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Industrial	Sweepers/Scrubber	23	656.0100295	12000
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Industrial	Sweepers/Scrubber	27	656.0100295	12000
Industrial	Sweepers/Scrubber	28	656.0100295	12000
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Industrial	Sweepers/Scrubber	32	656.0100295	12000
Industrial	Sweepers/Scrubber	33	656.0100295	12000
Industrial	Sweepers/Scrubber	34	656.0100295	12000
Industrial	Sweepers/Scrubber	35	656.0100295	12000
Industrial	Sweepers/Scrubber	36	656.0100295	12000
Industrial	Sweepers/Scrubber	37	656.0100295	12000
Industrial	Sweepers/Scrubber	38	656.0100295	12000
Industrial	Sweepers/Scrubber	39	656.0100295	12000
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Industrial	Sweepers/Scrubber	41	656.0100295	12000
Industrial	Sweepers/Scrubber	42	656.0100295	12000
Industrial	Sweepers/Scrubber	43	656.0100295	12000
Industrial	Sweepers/Scrubber	44	656.0100295	12000
Industrial	Sweepers/Scrubber	45	656.0100295	12000
Industrial	Sweepers/Scrubber	46	656.0100295	12000

Industrial	Sweepers/Scrubber	47	656.0100295	12000
Industrial	Sweepers/Scrubber	48	656.0100295	12000
Industrial	Sweepers/Scrubber	49	656.0100295	12000
Industrial	Sweepers/Scrubber	50	656.0100295	12000
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Industrial	Sweepers/Scrubber	59	656.0100295	12000
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Industrial	Sweepers/Scrubber	71	656.0100295	12000
Industrial	Sweepers/Scrubber	72	656.0100295	12000
Industrial	Sweepers/Scrubber	73	656.0100295	12000
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Industrial	Sweepers/Scrubber	75	656.0100295	12000
Industrial	Sweepers/Scrubber	76	656.0100295	12000
Industrial	Sweepers/Scrubber	77	656.0100295	12000
Industrial	Sweepers/Scrubber	78	656.0100295	12000
Industrial	Sweepers/Scrubber	79	656.0100295	12000
Industrial	Sweepers/Scrubber	80	656.0100295	12000

Industrial	Sweepers/Scrubber	81	656.0100295	12000
Industrial	Sweepers/Scrubber	82	656.0100295	12000
Industrial	Sweepers/Scrubber	83	656.0100295	12000
Industrial	Sweepers/Scrubber	84	656.0100295	12000
Industrial	Sweepers/Scrubber	85	656.0100295	12000
Industrial	Sweepers/Scrubber	86	656.0100295	12000
Industrial	Sweepers/Scrubber	87	656.0100295	12000
Industrial	Sweepers/Scrubber	88	656.0100295	12000
Industrial	Sweepers/Scrubber	89	656.0100295	12000

	Fuel	Min HP	Max HP	Model Year	Pollutant	NOx Zero Hour Emission Factor	NOx Deterioration Rate	NOx Fuel CF	Pollutant	CO Zero Hour Emission Factor	CO Deterioration Rate	CO Fuel CF	Pollutant	THC Zero Hour Emission Factor	THC Deterioration Rate
		hp	hp			g/bhp-hr	g/bhp-hr^2			g/bhp-hr	g/bhp-hr^2			g/bhp-hr	g/bhp-hr^2
ULSD151969	ULSD	15	15	1969	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151970	ULSD	15	15	1970	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151971	ULSD	15	15	1971	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151972	ULSD	15	15	1972	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151973	ULSD	15	15	1973	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151974	ULSD	15	15	1974	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151975	ULSD	15	15	1975	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151976	ULSD	15	15	1976	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151977	ULSD	15	15	1977	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151978	ULSD	15	15	1978	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151979	ULSD	15	15	1979	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151980	ULSD	15	15	1980	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151981	ULSD	15	15	1981	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151982	ULSD	15	15	1982	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151983	ULSD	15	15	1983	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151984	ULSD	15	15	1984	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151985	ULSD	15	15	1985	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151986	ULSD	15	15	1986	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151987	ULSD	15	15	1987	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151988	ULSD	15	15	1988	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151989	ULSD	15	15	1989	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151990	ULSD	15	15	1990	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151991	ULSD	15	15	1991	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151992	ULSD	15	15	1992	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151993	ULSD	15	15	1993	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151994	ULSD	15	15	1994	NOx	10	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.5	0.00E+00
ULSD151995	ULSD	15	15	1995	NOx	9.35	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	1.05	0.00E+00
ULSD151996	ULSD	15	15	1996	NOx	9.35	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	1.05	0.00E+00
ULSD151997	ULSD	15	15	1997	NOx	9.35	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	1.05	0.00E+00
ULSD151998	ULSD	15	15	1998	NOx	9.35	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	1.05	0.00E+00
ULSD151999	ULSD	15	15	1999	NOx	9.35	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	1.05	0.00E+00
ULSD152000	ULSD	15	15	2000	NOx	6.08	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.68	0.00E+00
ULSD152001	ULSD	15	15	2001	NOx	6.08	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.68	0.00E+00
ULSD152002	ULSD	15	15	2002	NOx	6.08	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.68	0.00E+00
ULSD152003	ULSD	15	15	2003	NOx	6.08	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.68	0.00E+00
ULSD152004	ULSD	15	15	2004	NOx	6.08	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.68	0.00E+00
ULSD152005	ULSD	15	15	2005	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152006	ULSD	15	15	2006	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152007	ULSD	15	15	2007	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152008	ULSD	15	15	2008	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152009	ULSD	15	15	2009	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152010	ULSD	15	15	2010	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152011	ULSD	15	15	2011	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152012	ULSD	15	15	2012	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152013	ULSD	15	15	2013	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152014	ULSD	15	15	2014	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152015	ULSD	15	15	2015	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00

ULSD152016	ULSD	15	15	2016	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152017	ULSD	15	15	2017	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152018	ULSD	15	15	2018	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152019	ULSD	15	15	2019	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152020	ULSD	15	15	2020	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152021	ULSD	15	15	2021	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152022	ULSD	15	15	2022	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152023	ULSD	15	15	2023	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152024	ULSD	15	15	2024	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152025	ULSD	15	15	2025	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152026	ULSD	15	15	2026	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152027	ULSD	15	15	2027	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152028	ULSD	15	15	2028	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152029	ULSD	15	15	2029	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152030	ULSD	15	15	2030	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152031	ULSD	15	15	2031	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152032	ULSD	15	15	2032	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152033	ULSD	15	15	2033	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152034	ULSD	15	15	2034	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152035	ULSD	15	15	2035	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152036	ULSD	15	15	2036	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152037	ULSD	15	15	2037	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152038	ULSD	15	15	2038	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152039	ULSD	15	15	2039	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD152040	ULSD	15	15	2040	NOx	4.37	0.00E+00	0.948	CO	3.47	0.00E+00	1	ROG	0.49	0.00E+00
ULSD251969	ULSD	16	25	1969	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251970	ULSD	16	25	1970	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251971	ULSD	16	25	1971	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251972	ULSD	16	25	1972	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251973	ULSD	16	25	1973	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251974	ULSD	16	25	1974	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251975	ULSD	16	25	1975	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251976	ULSD	16	25	1976	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251977	ULSD	16	25	1977	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251978	ULSD	16	25	1978	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251979	ULSD	16	25	1979	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251980	ULSD	16	25	1980	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251981	ULSD	16	25	1981	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251982	ULSD	16	25	1982	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251983	ULSD	16	25	1983	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251984	ULSD	16	25	1984	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251985	ULSD	16	25	1985	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251986	ULSD	16	25	1986	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251987	ULSD	16	25	1987	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251988	ULSD	16	25	1988	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251989	ULSD	16	25	1989	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251990	ULSD	16	25	1990	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251991	ULSD	16	25	1991	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251992	ULSD	16	25	1992	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251993	ULSD	16	25	1993	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251994	ULSD	16	25	1994	NOx	6.92	0.00E+00	0.93	CO	5	0.00E+00	1	ROG	1.84	0.00E+00
ULSD251995	ULSD	16	25	1995	NOx	6.92	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	0.9	0.00E+00

ULSD251996	ULSD	16	25	1996	NOx	6.92	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	0.9	0.00E+00
ULSD251997	ULSD	16	25	1997	NOx	6.92	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	0.9	0.00E+00
ULSD251998	ULSD	16	25	1998	NOx	6.92	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	0.9	0.00E+00
ULSD251999	ULSD	16	25	1999	NOx	6.92	0.00E+00	0.948	CO	5	0.00E+00	1	ROG	0.9	0.00E+00
ULSD252000	ULSD	16	25	2000	NOx	5.79	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.64	0.00E+00
ULSD252001	ULSD	16	25	2001	NOx	5.79	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.64	0.00E+00
ULSD252002	ULSD	16	25	2002	NOx	5.79	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.64	0.00E+00
ULSD252003	ULSD	16	25	2003	NOx	5.79	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.64	0.00E+00
ULSD252004	ULSD	16	25	2004	NOx	5.79	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.64	0.00E+00
ULSD252005	ULSD	16	25	2005	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252006	ULSD	16	25	2006	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252007	ULSD	16	25	2007	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252008	ULSD	16	25	2008	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252009	ULSD	16	25	2009	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252010	ULSD	16	25	2010	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252011	ULSD	16	25	2011	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252012	ULSD	16	25	2012	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252013	ULSD	16	25	2013	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252014	ULSD	16	25	2014	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252015	ULSD	16	25	2015	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252016	ULSD	16	25	2016	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252017	ULSD	16	25	2017	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252018	ULSD	16	25	2018	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252019	ULSD	16	25	2019	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252020	ULSD	16	25	2020	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252021	ULSD	16	25	2021	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252022	ULSD	16	25	2022	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252023	ULSD	16	25	2023	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252024	ULSD	16	25	2024	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252025	ULSD	16	25	2025	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252026	ULSD	16	25	2026	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252027	ULSD	16	25	2027	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252028	ULSD	16	25	2028	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252029	ULSD	16	25	2029	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252030	ULSD	16	25	2030	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252031	ULSD	16	25	2031	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252032	ULSD	16	25	2032	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252033	ULSD	16	25	2033	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252034	ULSD	16	25	2034	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252035	ULSD	16	25	2035	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252036	ULSD	16	25	2036	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252037	ULSD	16	25	2037	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252038	ULSD	16	25	2038	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252039	ULSD	16	25	2039	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD252040	ULSD	16	25	2040	NOx	4.57	0.00E+00	0.948	CO	2.34	0.00E+00	1	ROG	0.57	0.00E+00
ULSD501969	ULSD	26	50	1969	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501970	ULSD	26	50	1970	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501971	ULSD	26	50	1971	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501972	ULSD	26	50	1972	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501973	ULSD	26	50	1973	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501974	ULSD	26	50	1974	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501975	ULSD	26	50	1975	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04

ULSD501976	ULSD	26	50	1976	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501977	ULSD	26	50	1977	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501978	ULSD	26	50	1978	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501979	ULSD	26	50	1979	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501980	ULSD	26	50	1980	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501981	ULSD	26	50	1981	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501982	ULSD	26	50	1982	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501983	ULSD	26	50	1983	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501984	ULSD	26	50	1984	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501985	ULSD	26	50	1985	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501986	ULSD	26	50	1986	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501987	ULSD	26	50	1987	NOx	7	1.05E-04	0.93	CO	5	5.13E-04	1	ROG	1.84	2.35E-04
ULSD501988	ULSD	26	50	1988	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501989	ULSD	26	50	1989	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501990	ULSD	26	50	1990	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501991	ULSD	26	50	1991	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501992	ULSD	26	50	1992	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501993	ULSD	26	50	1993	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501994	ULSD	26	50	1994	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501995	ULSD	26	50	1995	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501996	ULSD	26	50	1996	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501997	ULSD	26	50	1997	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501998	ULSD	26	50	1998	NOx	6.9	1.04E-04	0.93	CO	5	5.13E-04	1	ROG	1.8	2.30E-04
ULSD501999	ULSD	26	50	1999	NOx	5.55	1.03E-04	0.948	CO	4.1	4.20E-04	1	ROG	1.45	1.85E-04
ULSD502000	ULSD	26	50	2000	NOx	5.55	1.03E-04	0.948	CO	4.1	4.20E-04	1	ROG	1.45	1.85E-04
ULSD502001	ULSD	26	50	2001	NOx	5.55	1.03E-04	0.948	CO	4.1	4.20E-04	1	ROG	1.45	1.85E-04
ULSD502002	ULSD	26	50	2002	NOx	5.55	1.03E-04	0.948	CO	4.1	4.20E-04	1	ROG	1.45	1.85E-04
ULSD502003	ULSD	26	50	2003	NOx	5.55	1.03E-04	0.948	CO	4.1	4.20E-04	1	ROG	1.45	1.85E-04
ULSD502004	ULSD	26	50	2004	NOx	5.1	9.33E-05	0.948	CO	3.27	3.34E-04	1	ROG	0.64	9.80E-05
ULSD502005	ULSD	26	50	2005	NOx	4.95	9.67E-05	0.948	CO	3	3.05E-04	1	ROG	0.37	6.90E-05
ULSD502006	ULSD	26	50	2006	NOx	4.88	9.83E-05	0.948	CO	2.86	2.90E-04	1	ROG	0.24	5.45E-05
ULSD502007	ULSD	26	50	2007	NOx	4.88	9.83E-05	0.948	CO	2.86	2.90E-04	1	ROG	0.24	5.45E-05
ULSD502008	ULSD	26	50	2008	NOx	4.8	1.00E-04	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502009	ULSD	26	50	2009	NOx	4.8	1.00E-04	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502010	ULSD	26	50	2010	NOx	4.8	1.00E-04	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502011	ULSD	26	50	2011	NOx	4.8	1.00E-04	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502012	ULSD	26	50	2012	NOx	4.8	1.00E-04	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502013	ULSD	26	50	2013	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502014	ULSD	26	50	2014	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502015	ULSD	26	50	2015	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502016	ULSD	26	50	2016	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502017	ULSD	26	50	2017	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502018	ULSD	26	50	2018	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502019	ULSD	26	50	2019	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502020	ULSD	26	50	2020	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502021	ULSD	26	50	2021	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502022	ULSD	26	50	2022	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502023	ULSD	26	50	2023	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502024	ULSD	26	50	2024	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502025	ULSD	26	50	2025	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502026	ULSD	26	50	2026	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502027	ULSD	26	50	2027	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05

ULSD502028	ULSD	26	50	2028	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502029	ULSD	26	50	2029	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502030	ULSD	26	50	2030	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502031	ULSD	26	50	2031	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502032	ULSD	26	50	2032	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502033	ULSD	26	50	2033	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502034	ULSD	26	50	2034	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502035	ULSD	26	50	2035	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502036	ULSD	26	50	2036	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502037	ULSD	26	50	2037	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502038	ULSD	26	50	2038	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502039	ULSD	26	50	2039	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD502040	ULSD	26	50	2040	NOx	2.9	6.00E-05	0.948	CO	2.72	2.76E-04	1	ROG	0.1	4.00E-05
ULSD1201969	ULSD	51	120	1969	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201970	ULSD	51	120	1970	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201971	ULSD	51	120	1971	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201972	ULSD	51	120	1972	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201973	ULSD	51	120	1973	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201974	ULSD	51	120	1974	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201975	ULSD	51	120	1975	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201976	ULSD	51	120	1976	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201977	ULSD	51	120	1977	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201978	ULSD	51	120	1978	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201979	ULSD	51	120	1979	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201980	ULSD	51	120	1980	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201981	ULSD	51	120	1981	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201982	ULSD	51	120	1982	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201983	ULSD	51	120	1983	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201984	ULSD	51	120	1984	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201985	ULSD	51	120	1985	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201986	ULSD	51	120	1986	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201987	ULSD	51	120	1987	NOx	13	3.01E-04	0.93	CO	4.8	1.27E-04	1	ROG	1.44	6.66E-05
ULSD1201988	ULSD	51	120	1988	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201989	ULSD	51	120	1989	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201990	ULSD	51	120	1990	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201991	ULSD	51	120	1991	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201992	ULSD	51	120	1992	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201993	ULSD	51	120	1993	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201994	ULSD	51	120	1994	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201995	ULSD	51	120	1995	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201996	ULSD	51	120	1996	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201997	ULSD	51	120	1997	NOx	8.75	2.02E-04	0.93	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201998	ULSD	51	120	1998	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1201999	ULSD	51	120	1999	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1202000	ULSD	51	120	2000	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1202001	ULSD	51	120	2001	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1202002	ULSD	51	120	2002	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1202003	ULSD	51	120	2003	NOx	6.9	1.60E-04	0.948	CO	3.49	9.23E-05	1	ROG	0.99	4.58E-05
ULSD1202004	ULSD	51	120	2004	NOx	5.64	1.03E-04	0.948	CO	3.23	8.55E-05	1	ROG	0.46	3.33E-05
ULSD1202005	ULSD	51	120	2005	NOx	5.22	8.40E-05	0.948	CO	3.14	8.33E-05	1	ROG	0.28	2.92E-05
ULSD1202006	ULSD	51	120	2006	NOx	5.01	7.45E-05	0.948	CO	3.09	8.21E-05	1	ROG	0.19	2.71E-05
ULSD1202007	ULSD	51	120	2007	NOx	5.01	7.45E-05	0.948	CO	3.09	8.21E-05	1	ROG	0.19	2.71E-05

ULSD1202008	ULSD	51	120	2008	NOx	2.89	3.80E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.1	2.50E-05
ULSD1202009	ULSD	51	120	2009	NOx	2.89	3.80E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.1	2.50E-05
ULSD1202010	ULSD	51	120	2010	NOx	2.89	3.80E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.1	2.50E-05
ULSD1202011	ULSD	51	120	2011	NOx	2.89	3.80E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.1	2.50E-05
ULSD1202012	ULSD	51	120	2012	NOx	2.53	3.38E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.09	2.31E-05
ULSD1202013	ULSD	51	120	2013	NOx	2.53	3.38E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.09	2.31E-05
ULSD1202014	ULSD	51	120	2014	NOx	2.53	3.38E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.09	2.31E-05
ULSD1202015	ULSD	51	120	2015	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202016	ULSD	51	120	2016	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202017	ULSD	51	120	2017	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202018	ULSD	51	120	2018	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202019	ULSD	51	120	2019	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202020	ULSD	51	120	2020	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202021	ULSD	51	120	2021	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202022	ULSD	51	120	2022	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202023	ULSD	51	120	2023	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202024	ULSD	51	120	2024	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202025	ULSD	51	120	2025	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202026	ULSD	51	120	2026	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202027	ULSD	51	120	2027	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202028	ULSD	51	120	2028	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202029	ULSD	51	120	2029	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202030	ULSD	51	120	2030	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202031	ULSD	51	120	2031	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202032	ULSD	51	120	2032	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202033	ULSD	51	120	2033	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202034	ULSD	51	120	2034	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202035	ULSD	51	120	2035	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202036	ULSD	51	120	2036	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202037	ULSD	51	120	2037	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202038	ULSD	51	120	2038	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202039	ULSD	51	120	2039	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1202040	ULSD	51	120	2040	NOx	1.4	1.88E-05	0.948	CO	3.05	8.10E-05	1	ROG	0.07	1.74E-05
ULSD1751969	ULSD	121	175	1969	NOx	14	3.24E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.32	6.11E-05
ULSD1751970	ULSD	121	175	1970	NOx	13	3.01E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.1	5.09E-05
ULSD1751971	ULSD	121	175	1971	NOx	13	3.01E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.1	5.09E-05
ULSD1751972	ULSD	121	175	1972	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751973	ULSD	121	175	1973	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751974	ULSD	121	175	1974	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751975	ULSD	121	175	1975	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751976	ULSD	121	175	1976	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751977	ULSD	121	175	1977	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751978	ULSD	121	175	1978	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751979	ULSD	121	175	1979	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD1751980	ULSD	121	175	1980	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD1751981	ULSD	121	175	1981	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD1751982	ULSD	121	175	1982	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD1751983	ULSD	121	175	1983	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD1751984	ULSD	121	175	1984	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD1751985	ULSD	121	175	1985	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05
ULSD1751986	ULSD	121	175	1986	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05
ULSD1751987	ULSD	121	175	1987	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05

ULSD1751988	ULSD	121	175	1988	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751989	ULSD	121	175	1989	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751990	ULSD	121	175	1990	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751991	ULSD	121	175	1991	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751992	ULSD	121	175	1992	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751993	ULSD	121	175	1993	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751994	ULSD	121	175	1994	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751995	ULSD	121	175	1995	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751996	ULSD	121	175	1996	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751997	ULSD	121	175	1997	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751998	ULSD	121	175	1998	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1751999	ULSD	121	175	1999	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1752000	ULSD	121	175	2000	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1752001	ULSD	121	175	2001	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1752002	ULSD	121	175	2002	NOx	6.9	1.60E-04	0.948	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD1752003	ULSD	121	175	2003	NOx	5.26	9.64E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.33	2.79E-05
ULSD1752004	ULSD	121	175	2004	NOx	4.72	7.52E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.22	2.63E-05
ULSD1752005	ULSD	121	175	2005	NOx	4.44	6.46E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.16	2.57E-05
ULSD1752006	ULSD	121	175	2006	NOx	4.44	6.46E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.16	2.57E-05
ULSD1752007	ULSD	121	175	2007	NOx	2.45	3.20E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.1	2.50E-05
ULSD1752008	ULSD	121	175	2008	NOx	2.45	3.20E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.1	2.50E-05
ULSD1752009	ULSD	121	175	2009	NOx	2.45	3.20E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.1	2.50E-05
ULSD1752010	ULSD	121	175	2010	NOx	2.45	3.20E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.1	2.50E-05
ULSD1752011	ULSD	121	175	2011	NOx	2.45	3.20E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.1	2.50E-05
ULSD1752012	ULSD	121	175	2012	NOx	2.27	2.88E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.09	2.17E-05
ULSD1752013	ULSD	121	175	2013	NOx	2.27	2.88E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.09	2.17E-05
ULSD1752014	ULSD	121	175	2014	NOx	2.27	2.88E-05	0.948	CO	2.7	7.14E-05	1	ROG	0.09	2.17E-05
ULSD1752015	ULSD	121	175	2015	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752016	ULSD	121	175	2016	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752017	ULSD	121	175	2017	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752018	ULSD	121	175	2018	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752019	ULSD	121	175	2019	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752020	ULSD	121	175	2020	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752021	ULSD	121	175	2021	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752022	ULSD	121	175	2022	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752023	ULSD	121	175	2023	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752024	ULSD	121	175	2024	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752025	ULSD	121	175	2025	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752026	ULSD	121	175	2026	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752027	ULSD	121	175	2027	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752028	ULSD	121	175	2028	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752029	ULSD	121	175	2029	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752030	ULSD	121	175	2030	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752031	ULSD	121	175	2031	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752032	ULSD	121	175	2032	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752033	ULSD	121	175	2033	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752034	ULSD	121	175	2034	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752035	ULSD	121	175	2035	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752036	ULSD	121	175	2036	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752037	ULSD	121	175	2037	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752038	ULSD	121	175	2038	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD1752039	ULSD	121	175	2039	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05

ULSD1752040	ULSD	121	175	2040	NOx	0.27	3.75E-06	0.948	CO	2.7	7.14E-05	1	ROG	0.05	1.17E-05
ULSD2501969	ULSD	176	250	1969	NOx	14	3.24E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.32	6.11E-05
ULSD2501970	ULSD	176	250	1970	NOx	13	3.01E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.1	5.09E-05
ULSD2501971	ULSD	176	250	1971	NOx	13	3.01E-04	0.93	CO	4.4	1.16E-04	1	ROG	1.1	5.09E-05
ULSD2501972	ULSD	176	250	1972	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501973	ULSD	176	250	1973	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501974	ULSD	176	250	1974	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501975	ULSD	176	250	1975	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501976	ULSD	176	250	1976	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501977	ULSD	176	250	1977	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501978	ULSD	176	250	1978	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501979	ULSD	176	250	1979	NOx	12	2.78E-04	0.93	CO	4.4	1.16E-04	1	ROG	1	4.63E-05
ULSD2501980	ULSD	176	250	1980	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD2501981	ULSD	176	250	1981	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD2501982	ULSD	176	250	1982	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD2501983	ULSD	176	250	1983	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD2501984	ULSD	176	250	1984	NOx	11	2.54E-04	0.93	CO	4.3	1.14E-04	1	ROG	0.94	4.35E-05
ULSD2501985	ULSD	176	250	1985	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05
ULSD2501986	ULSD	176	250	1986	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05
ULSD2501987	ULSD	176	250	1987	NOx	11	2.54E-04	0.93	CO	4.2	1.11E-04	1	ROG	0.88	4.07E-05
ULSD2501988	ULSD	176	250	1988	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501989	ULSD	176	250	1989	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501990	ULSD	176	250	1990	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501991	ULSD	176	250	1991	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501992	ULSD	176	250	1992	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501993	ULSD	176	250	1993	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501994	ULSD	176	250	1994	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501995	ULSD	176	250	1995	NOx	8.17	1.89E-04	0.93	CO	2.7	7.14E-05	1	ROG	0.68	3.15E-05
ULSD2501996	ULSD	176	250	1996	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2501997	ULSD	176	250	1997	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2501998	ULSD	176	250	1998	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2501999	ULSD	176	250	1999	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2502000	ULSD	176	250	2000	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2502001	ULSD	176	250	2001	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2502002	ULSD	176	250	2002	NOx	6.25	1.45E-04	0.948	CO	0.92	2.43E-05	1	ROG	0.32	1.48E-05
ULSD2502003	ULSD	176	250	2003	NOx	5	9.05E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.19	2.09E-05
ULSD2502004	ULSD	176	250	2004	NOx	4.58	7.23E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.14	2.30E-05
ULSD2502005	ULSD	176	250	2005	NOx	4.38	6.33E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.12	2.40E-05
ULSD2502006	ULSD	176	250	2006	NOx	4.38	6.33E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.12	2.40E-05
ULSD2502007	ULSD	176	250	2007	NOx	2.45	3.18E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.1	2.50E-05
ULSD2502008	ULSD	176	250	2008	NOx	2.45	3.18E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.1	2.50E-05
ULSD2502009	ULSD	176	250	2009	NOx	2.45	3.18E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.1	2.50E-05
ULSD2502010	ULSD	176	250	2010	NOx	2.45	3.18E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.1	2.50E-05
ULSD2502011	ULSD	176	250	2011	NOx	1.36	1.75E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.07	1.83E-05
ULSD2502012	ULSD	176	250	2012	NOx	1.36	1.75E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.07	1.83E-05
ULSD2502013	ULSD	176	250	2013	NOx	1.36	1.75E-05	0.948	CO	0.92	2.43E-05	1	ROG	0.07	1.83E-05
ULSD2502014	ULSD	176	250	2014	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502015	ULSD	176	250	2015	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502016	ULSD	176	250	2016	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502017	ULSD	176	250	2017	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502018	ULSD	176	250	2018	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502019	ULSD	176	250	2019	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05

ULSD2502020	ULSD	176	250	2020	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502021	ULSD	176	250	2021	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502022	ULSD	176	250	2022	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502023	ULSD	176	250	2023	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502024	ULSD	176	250	2024	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502025	ULSD	176	250	2025	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502026	ULSD	176	250	2026	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502027	ULSD	176	250	2027	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502028	ULSD	176	250	2028	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502029	ULSD	176	250	2029	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502030	ULSD	176	250	2030	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502031	ULSD	176	250	2031	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502032	ULSD	176	250	2032	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502033	ULSD	176	250	2033	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502034	ULSD	176	250	2034	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502035	ULSD	176	250	2035	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502036	ULSD	176	250	2036	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502037	ULSD	176	250	2037	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502038	ULSD	176	250	2038	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502039	ULSD	176	250	2039	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD2502040	ULSD	176	250	2040	NOx	0.27	3.75E-06	0.948	CO	0.92	2.43E-05	1	ROG	0.05	1.17E-05
ULSD5001969	ULSD	251	500	1969	NOx	14	2.33E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.26	4.39E-05
ULSD5001970	ULSD	251	500	1970	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD5001971	ULSD	251	500	1971	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD5001972	ULSD	251	500	1972	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001973	ULSD	251	500	1973	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001974	ULSD	251	500	1974	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001975	ULSD	251	500	1975	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001976	ULSD	251	500	1976	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001977	ULSD	251	500	1977	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001978	ULSD	251	500	1978	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001979	ULSD	251	500	1979	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD5001980	ULSD	251	500	1980	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD5001981	ULSD	251	500	1981	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD5001982	ULSD	251	500	1982	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD5001983	ULSD	251	500	1983	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD5001984	ULSD	251	500	1984	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD5001985	ULSD	251	500	1985	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD5001986	ULSD	251	500	1986	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD5001987	ULSD	251	500	1987	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD5001988	ULSD	251	500	1988	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001989	ULSD	251	500	1989	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001990	ULSD	251	500	1990	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001991	ULSD	251	500	1991	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001992	ULSD	251	500	1992	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001993	ULSD	251	500	1993	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001994	ULSD	251	500	1994	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001995	ULSD	251	500	1995	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD5001996	ULSD	251	500	1996	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD5001997	ULSD	251	500	1997	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD5001998	ULSD	251	500	1998	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD5001999	ULSD	251	500	1999	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05

ULSD5002000	ULSD	251	500	2000	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD5002001	ULSD	251	500	2001	NOx	4.95	7.34E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.19	1.95E-05
ULSD5002002	ULSD	251	500	2002	NOx	4.51	6.32E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.14	2.22E-05
ULSD5002003	ULSD	251	500	2003	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD5002004	ULSD	251	500	2004	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD5002005	ULSD	251	500	2005	NOx	4	5.30E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002006	ULSD	251	500	2006	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002007	ULSD	251	500	2007	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002008	ULSD	251	500	2008	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002009	ULSD	251	500	2009	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002010	ULSD	251	500	2010	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD5002011	ULSD	251	500	2011	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD5002012	ULSD	251	500	2012	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD5002013	ULSD	251	500	2013	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD5002014	ULSD	251	500	2014	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002015	ULSD	251	500	2015	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002016	ULSD	251	500	2016	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002017	ULSD	251	500	2017	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002018	ULSD	251	500	2018	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002019	ULSD	251	500	2019	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002020	ULSD	251	500	2020	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002021	ULSD	251	500	2021	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002022	ULSD	251	500	2022	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002023	ULSD	251	500	2023	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002024	ULSD	251	500	2024	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002025	ULSD	251	500	2025	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002026	ULSD	251	500	2026	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002027	ULSD	251	500	2027	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002028	ULSD	251	500	2028	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002029	ULSD	251	500	2029	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002030	ULSD	251	500	2030	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002031	ULSD	251	500	2031	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002032	ULSD	251	500	2032	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002033	ULSD	251	500	2033	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002034	ULSD	251	500	2034	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002035	ULSD	251	500	2035	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002036	ULSD	251	500	2036	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002037	ULSD	251	500	2037	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002038	ULSD	251	500	2038	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002039	ULSD	251	500	2039	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD5002040	ULSD	251	500	2040	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7501969	ULSD	501	750	1969	NOx	14	2.33E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.26	4.39E-05
ULSD7501970	ULSD	501	750	1970	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD7501971	ULSD	501	750	1971	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD7501972	ULSD	501	750	1972	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501973	ULSD	501	750	1973	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501974	ULSD	501	750	1974	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501975	ULSD	501	750	1975	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501976	ULSD	501	750	1976	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501977	ULSD	501	750	1977	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501978	ULSD	501	750	1978	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD7501979	ULSD	501	750	1979	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05

ULSD7501980	ULSD	501	750	1980	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD7501981	ULSD	501	750	1981	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD7501982	ULSD	501	750	1982	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD7501983	ULSD	501	750	1983	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD7501984	ULSD	501	750	1984	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD7501985	ULSD	501	750	1985	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD7501986	ULSD	501	750	1986	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD7501987	ULSD	501	750	1987	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD7501988	ULSD	501	750	1988	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501989	ULSD	501	750	1989	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501990	ULSD	501	750	1990	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501991	ULSD	501	750	1991	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501992	ULSD	501	750	1992	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501993	ULSD	501	750	1993	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501994	ULSD	501	750	1994	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501995	ULSD	501	750	1995	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	2.37E-05
ULSD7501996	ULSD	501	750	1996	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7501997	ULSD	501	750	1997	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7501998	ULSD	501	750	1998	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7501999	ULSD	501	750	1999	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7502000	ULSD	501	750	2000	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7502001	ULSD	501	750	2001	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD7502002	ULSD	501	750	2002	NOx	4.95	7.34E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.19	1.95E-05
ULSD7502003	ULSD	501	750	2003	NOx	4.51	6.32E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.14	2.22E-05
ULSD7502004	ULSD	501	750	2004	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD7502005	ULSD	501	750	2005	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD7502006	ULSD	501	750	2006	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD7502007	ULSD	501	750	2007	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD7502008	ULSD	501	750	2008	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD7502009	ULSD	501	750	2009	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD7502010	ULSD	501	750	2010	NOx	2.45	3.18E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD7502011	ULSD	501	750	2011	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD7502012	ULSD	501	750	2012	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD7502013	ULSD	501	750	2013	NOx	1.36	1.75E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD7502014	ULSD	501	750	2014	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502015	ULSD	501	750	2015	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502016	ULSD	501	750	2016	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502017	ULSD	501	750	2017	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502018	ULSD	501	750	2018	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502019	ULSD	501	750	2019	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502020	ULSD	501	750	2020	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502021	ULSD	501	750	2021	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502022	ULSD	501	750	2022	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502023	ULSD	501	750	2023	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502024	ULSD	501	750	2024	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502025	ULSD	501	750	2025	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502026	ULSD	501	750	2026	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502027	ULSD	501	750	2027	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502028	ULSD	501	750	2028	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502029	ULSD	501	750	2029	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502030	ULSD	501	750	2030	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502031	ULSD	501	750	2031	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05

ULSD7502032	ULSD	501	750	2032	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502033	ULSD	501	750	2033	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502034	ULSD	501	750	2034	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502035	ULSD	501	750	2035	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502036	ULSD	501	750	2036	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502037	ULSD	501	750	2037	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502038	ULSD	501	750	2038	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502039	ULSD	501	750	2039	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD7502040	ULSD	501	750	2040	NOx	0.27	3.75E-06	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10001969	ULSD	751	1000	1969	NOx	14	2.33E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.26	4.39E-05
ULSD10001970	ULSD	751	1000	1970	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD10001971	ULSD	751	1000	1971	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD10001972	ULSD	751	1000	1972	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001973	ULSD	751	1000	1973	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001974	ULSD	751	1000	1974	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001975	ULSD	751	1000	1975	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001976	ULSD	751	1000	1976	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001977	ULSD	751	1000	1977	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001978	ULSD	751	1000	1978	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001979	ULSD	751	1000	1979	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD10001980	ULSD	751	1000	1980	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD10001981	ULSD	751	1000	1981	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD10001982	ULSD	751	1000	1982	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD10001983	ULSD	751	1000	1983	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD10001984	ULSD	751	1000	1984	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD10001985	ULSD	751	1000	1985	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD10001986	ULSD	751	1000	1986	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD10001987	ULSD	751	1000	1987	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD10001988	ULSD	751	1000	1988	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001989	ULSD	751	1000	1989	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001990	ULSD	751	1000	1990	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001991	ULSD	751	1000	1991	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001992	ULSD	751	1000	1992	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001993	ULSD	751	1000	1993	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001994	ULSD	751	1000	1994	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001995	ULSD	751	1000	1995	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001996	ULSD	751	1000	1996	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001997	ULSD	751	1000	1997	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001998	ULSD	751	1000	1998	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10001999	ULSD	751	1000	1999	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD10002000	ULSD	751	1000	2000	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002001	ULSD	751	1000	2001	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002002	ULSD	751	1000	2002	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002003	ULSD	751	1000	2003	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002004	ULSD	751	1000	2004	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002005	ULSD	751	1000	2005	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD10002006	ULSD	751	1000	2006	NOx	4.95	7.34E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.19	1.95E-05
ULSD10002007	ULSD	751	1000	2007	NOx	4.51	6.32E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.14	2.22E-05
ULSD10002008	ULSD	751	1000	2008	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD10002009	ULSD	751	1000	2009	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD10002010	ULSD	751	1000	2010	NOx	4.08	5.30E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD10002011	ULSD	751	1000	2011	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05

ULSD10002012	ULSD	751	1000	2012	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD10002013	ULSD	751	1000	2013	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD10002014	ULSD	751	1000	2014	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.07	1.83E-05
ULSD10002015	ULSD	751	1000	2015	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002016	ULSD	751	1000	2016	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002017	ULSD	751	1000	2017	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002018	ULSD	751	1000	2018	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002019	ULSD	751	1000	2019	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002020	ULSD	751	1000	2020	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002021	ULSD	751	1000	2021	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002022	ULSD	751	1000	2022	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002023	ULSD	751	1000	2023	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002024	ULSD	751	1000	2024	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002025	ULSD	751	1000	2025	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002026	ULSD	751	1000	2026	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002027	ULSD	751	1000	2027	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002028	ULSD	751	1000	2028	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002029	ULSD	751	1000	2029	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002030	ULSD	751	1000	2030	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002031	ULSD	751	1000	2031	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002032	ULSD	751	1000	2032	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002033	ULSD	751	1000	2033	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002034	ULSD	751	1000	2034	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002035	ULSD	751	1000	2035	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002036	ULSD	751	1000	2036	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002037	ULSD	751	1000	2037	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002038	ULSD	751	1000	2038	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002039	ULSD	751	1000	2039	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD10002040	ULSD	751	1000	2040	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99991969	ULSD	1001	9999	1969	NOx	14	2.33E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.26	4.39E-05
ULSD99991970	ULSD	1001	9999	1970	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD99991971	ULSD	1001	9999	1971	NOx	13	2.16E-04	0.93	CO	4.2	8.32E-04	1	ROG	1.05	3.66E-05
ULSD99991972	ULSD	1001	9999	1972	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991973	ULSD	1001	9999	1973	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991974	ULSD	1001	9999	1974	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991975	ULSD	1001	9999	1975	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991976	ULSD	1001	9999	1976	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991977	ULSD	1001	9999	1977	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991978	ULSD	1001	9999	1978	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991979	ULSD	1001	9999	1979	NOx	12	2.00E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.95	3.31E-05
ULSD99991980	ULSD	1001	9999	1980	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD99991981	ULSD	1001	9999	1981	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD99991982	ULSD	1001	9999	1982	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD99991983	ULSD	1001	9999	1983	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD99991984	ULSD	1001	9999	1984	NOx	11	1.83E-04	0.93	CO	4.2	8.32E-04	1	ROG	0.9	3.14E-05
ULSD99991985	ULSD	1001	9999	1985	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD99991986	ULSD	1001	9999	1986	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD99991987	ULSD	1001	9999	1987	NOx	11	1.83E-04	0.93	CO	4.1	8.12E-04	1	ROG	0.84	2.93E-05
ULSD99991988	ULSD	1001	9999	1988	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991989	ULSD	1001	9999	1989	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991990	ULSD	1001	9999	1990	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991991	ULSD	1001	9999	1991	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05

ULSD99991992	ULSD	1001	9999	1992	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991993	ULSD	1001	9999	1993	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991994	ULSD	1001	9999	1994	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991995	ULSD	1001	9999	1995	NOx	8.17	1.36E-04	0.93	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991996	ULSD	1001	9999	1996	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991997	ULSD	1001	9999	1997	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991998	ULSD	1001	9999	1998	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99991999	ULSD	1001	9999	1999	NOx	8.17	1.36E-04	0.948	CO	2.7	5.35E-05	1	ROG	0.68	1.12E-05
ULSD99992000	ULSD	1001	9999	2000	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992001	ULSD	1001	9999	2001	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992002	ULSD	1001	9999	2002	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992003	ULSD	1001	9999	2003	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992004	ULSD	1001	9999	2004	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992005	ULSD	1001	9999	2005	NOx	6.25	1.04E-04	0.948	CO	0.92	1.82E-05	1	ROG	0.32	1.12E-05
ULSD99992006	ULSD	1001	9999	2006	NOx	4.95	7.34E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.19	1.95E-05
ULSD99992007	ULSD	1001	9999	2007	NOx	4.51	6.32E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.14	2.22E-05
ULSD99992008	ULSD	1001	9999	2008	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD99992009	ULSD	1001	9999	2009	NOx	4.29	5.81E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.12	2.36E-05
ULSD99992010	ULSD	1001	9999	2010	NOx	4.08	5.30E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD99992011	ULSD	1001	9999	2011	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD99992012	ULSD	1001	9999	2012	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD99992013	ULSD	1001	9999	2013	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD99992014	ULSD	1001	9999	2014	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.1	2.50E-05
ULSD99992015	ULSD	1001	9999	2015	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992016	ULSD	1001	9999	2016	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992017	ULSD	1001	9999	2017	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992018	ULSD	1001	9999	2018	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992019	ULSD	1001	9999	2019	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992020	ULSD	1001	9999	2020	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992021	ULSD	1001	9999	2021	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992022	ULSD	1001	9999	2022	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992023	ULSD	1001	9999	2023	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992024	ULSD	1001	9999	2024	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992025	ULSD	1001	9999	2025	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992026	ULSD	1001	9999	2026	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992027	ULSD	1001	9999	2027	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992028	ULSD	1001	9999	2028	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992029	ULSD	1001	9999	2029	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992030	ULSD	1001	9999	2030	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992031	ULSD	1001	9999	2031	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992032	ULSD	1001	9999	2032	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992033	ULSD	1001	9999	2033	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992034	ULSD	1001	9999	2034	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992035	ULSD	1001	9999	2035	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992036	ULSD	1001	9999	2036	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992037	ULSD	1001	9999	2037	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992038	ULSD	1001	9999	2038	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992039	ULSD	1001	9999	2039	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
ULSD99992040	ULSD	1001	9999	2040	NOx	2.36	3.00E-05	0.948	CO	0.92	1.82E-05	1	ROG	0.05	1.17E-05
NatGas/Propane151969	NatGas/Propane	15	15	1969	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151970	NatGas/Propane	15	15	1970	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151971	NatGas/Propane	15	15	1971	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03

NatGas/Propane151972	NatGas/Propane	15	15	1972	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151973	NatGas/Propane	15	15	1973	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151974	NatGas/Propane	15	15	1974	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151975	NatGas/Propane	15	15	1975	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151976	NatGas/Propane	15	15	1976	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151977	NatGas/Propane	15	15	1977	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151978	NatGas/Propane	15	15	1978	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151979	NatGas/Propane	15	15	1979	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151980	NatGas/Propane	15	15	1980	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151981	NatGas/Propane	15	15	1981	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151982	NatGas/Propane	15	15	1982	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151983	NatGas/Propane	15	15	1983	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151984	NatGas/Propane	15	15	1984	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151985	NatGas/Propane	15	15	1985	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151986	NatGas/Propane	15	15	1986	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151987	NatGas/Propane	15	15	1987	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151988	NatGas/Propane	15	15	1988	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151989	NatGas/Propane	15	15	1989	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151990	NatGas/Propane	15	15	1990	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151991	NatGas/Propane	15	15	1991	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151992	NatGas/Propane	15	15	1992	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151993	NatGas/Propane	15	15	1993	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151994	NatGas/Propane	15	15	1994	NOx	1.77	4.48E-04	1	CO	240	1.44E-02	1	ROG	3.96	4.20E-03
NatGas/Propane151995	NatGas/Propane	15	15	1995	NOx	8.44	4.48E-04	1	CO	300	1.44E-02	1	ROG	1.56	4.20E-03
NatGas/Propane151996	NatGas/Propane	15	15	1996	NOx	8.44	4.48E-04	1	CO	300	1.44E-02	1	ROG	1.56	4.20E-03
NatGas/Propane151997	NatGas/Propane	15	15	1997	NOx	8.44	4.48E-04	1	CO	300	1.44E-02	1	ROG	1.56	4.20E-03
NatGas/Propane151998	NatGas/Propane	15	15	1998	NOx	8.44	4.48E-04	1	CO	300	1.44E-02	1	ROG	1.56	4.20E-03
NatGas/Propane151999	NatGas/Propane	15	15	1999	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152000	NatGas/Propane	15	15	2000	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152001	NatGas/Propane	15	15	2001	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152002	NatGas/Propane	15	15	2002	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152003	NatGas/Propane	15	15	2003	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152004	NatGas/Propane	15	15	2004	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152005	NatGas/Propane	15	15	2005	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152006	NatGas/Propane	15	15	2006	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152007	NatGas/Propane	15	15	2007	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152008	NatGas/Propane	15	15	2008	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152009	NatGas/Propane	15	15	2009	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152010	NatGas/Propane	15	15	2010	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152011	NatGas/Propane	15	15	2011	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152012	NatGas/Propane	15	15	2012	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152013	NatGas/Propane	15	15	2013	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152014	NatGas/Propane	15	15	2014	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152015	NatGas/Propane	15	15	2015	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152016	NatGas/Propane	15	15	2016	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152017	NatGas/Propane	15	15	2017	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152018	NatGas/Propane	15	15	2018	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152019	NatGas/Propane	15	15	2019	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152020	NatGas/Propane	15	15	2020	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152021	NatGas/Propane	15	15	2021	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152022	NatGas/Propane	15	15	2022	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152023	NatGas/Propane	15	15	2023	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03

NatGas/Propane152024	NatGas/Propane	15	15	2024	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152025	NatGas/Propane	15	15	2025	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152026	NatGas/Propane	15	15	2026	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152027	NatGas/Propane	15	15	2027	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152028	NatGas/Propane	15	15	2028	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152029	NatGas/Propane	15	15	2029	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152030	NatGas/Propane	15	15	2030	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152031	NatGas/Propane	15	15	2031	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152032	NatGas/Propane	15	15	2032	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152033	NatGas/Propane	15	15	2033	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152034	NatGas/Propane	15	15	2034	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152035	NatGas/Propane	15	15	2035	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152036	NatGas/Propane	15	15	2036	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152037	NatGas/Propane	15	15	2037	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152038	NatGas/Propane	15	15	2038	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152039	NatGas/Propane	15	15	2039	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane152040	NatGas/Propane	15	15	2040	NOx	2.7	4.48E-04	1	CO	100	1.44E-02	1	ROG	0.5	4.20E-03
NatGas/Propane251969	NatGas/Propane	16	25	1969	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251970	NatGas/Propane	16	25	1970	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251971	NatGas/Propane	16	25	1971	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251972	NatGas/Propane	16	25	1972	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251973	NatGas/Propane	16	25	1973	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251974	NatGas/Propane	16	25	1974	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251975	NatGas/Propane	16	25	1975	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251976	NatGas/Propane	16	25	1976	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251977	NatGas/Propane	16	25	1977	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251978	NatGas/Propane	16	25	1978	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251979	NatGas/Propane	16	25	1979	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251980	NatGas/Propane	16	25	1980	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251981	NatGas/Propane	16	25	1981	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251982	NatGas/Propane	16	25	1982	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251983	NatGas/Propane	16	25	1983	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251984	NatGas/Propane	16	25	1984	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251985	NatGas/Propane	16	25	1985	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251986	NatGas/Propane	16	25	1986	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251987	NatGas/Propane	16	25	1987	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251988	NatGas/Propane	16	25	1988	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251989	NatGas/Propane	16	25	1989	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251990	NatGas/Propane	16	25	1990	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251991	NatGas/Propane	16	25	1991	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251992	NatGas/Propane	16	25	1992	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251993	NatGas/Propane	16	25	1993	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251994	NatGas/Propane	16	25	1994	NOx	1.77	4.41E-04	1	CO	240	1.42E-02	1	ROG	3.96	4.12E-03
NatGas/Propane251995	NatGas/Propane	16	25	1995	NOx	8.44	4.41E-04	1	CO	300	1.42E-02	1	ROG	1.56	4.12E-03
NatGas/Propane251996	NatGas/Propane	16	25	1996	NOx	8.44	4.41E-04	1	CO	300	1.42E-02	1	ROG	1.56	4.12E-03
NatGas/Propane251997	NatGas/Propane	16	25	1997	NOx	8.44	4.41E-04	1	CO	300	1.42E-02	1	ROG	1.56	4.12E-03
NatGas/Propane251998	NatGas/Propane	16	25	1998	NOx	8.44	4.41E-04	1	CO	300	1.42E-02	1	ROG	1.56	4.12E-03
NatGas/Propane251999	NatGas/Propane	16	25	1999	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252000	NatGas/Propane	16	25	2000	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252001	NatGas/Propane	16	25	2001	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252002	NatGas/Propane	16	25	2002	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252003	NatGas/Propane	16	25	2003	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03

NatGas/Propane252004	NatGas/Propane	16	25	2004	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252005	NatGas/Propane	16	25	2005	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252006	NatGas/Propane	16	25	2006	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252007	NatGas/Propane	16	25	2007	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252008	NatGas/Propane	16	25	2008	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252009	NatGas/Propane	16	25	2009	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252010	NatGas/Propane	16	25	2010	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252011	NatGas/Propane	16	25	2011	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252012	NatGas/Propane	16	25	2012	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252013	NatGas/Propane	16	25	2013	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252014	NatGas/Propane	16	25	2014	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252015	NatGas/Propane	16	25	2015	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252016	NatGas/Propane	16	25	2016	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252017	NatGas/Propane	16	25	2017	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252018	NatGas/Propane	16	25	2018	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252019	NatGas/Propane	16	25	2019	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252020	NatGas/Propane	16	25	2020	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252021	NatGas/Propane	16	25	2021	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252022	NatGas/Propane	16	25	2022	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252023	NatGas/Propane	16	25	2023	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252024	NatGas/Propane	16	25	2024	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252025	NatGas/Propane	16	25	2025	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252026	NatGas/Propane	16	25	2026	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252027	NatGas/Propane	16	25	2027	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252028	NatGas/Propane	16	25	2028	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252029	NatGas/Propane	16	25	2029	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252030	NatGas/Propane	16	25	2030	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252031	NatGas/Propane	16	25	2031	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252032	NatGas/Propane	16	25	2032	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252033	NatGas/Propane	16	25	2033	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252034	NatGas/Propane	16	25	2034	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252035	NatGas/Propane	16	25	2035	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252036	NatGas/Propane	16	25	2036	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252037	NatGas/Propane	16	25	2037	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252038	NatGas/Propane	16	25	2038	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252039	NatGas/Propane	16	25	2039	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane252040	NatGas/Propane	16	25	2040	NOx	2.7	4.41E-04	1	CO	100	1.42E-02	1	ROG	0.5	4.12E-03
NatGas/Propane501969	NatGas/Propane	26	50	1969	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501970	NatGas/Propane	26	50	1970	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501971	NatGas/Propane	26	50	1971	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501972	NatGas/Propane	26	50	1972	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501973	NatGas/Propane	26	50	1973	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501974	NatGas/Propane	26	50	1974	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501975	NatGas/Propane	26	50	1975	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501976	NatGas/Propane	26	50	1976	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501977	NatGas/Propane	26	50	1977	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501978	NatGas/Propane	26	50	1978	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501979	NatGas/Propane	26	50	1979	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501980	NatGas/Propane	26	50	1980	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501981	NatGas/Propane	26	50	1981	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501982	NatGas/Propane	26	50	1982	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501983	NatGas/Propane	26	50	1983	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04

NatGas/Propane501984	NatGas/Propane	26	50	1984	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501985	NatGas/Propane	26	50	1985	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501986	NatGas/Propane	26	50	1986	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501987	NatGas/Propane	26	50	1987	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501988	NatGas/Propane	26	50	1988	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501989	NatGas/Propane	26	50	1989	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501990	NatGas/Propane	26	50	1990	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501991	NatGas/Propane	26	50	1991	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501992	NatGas/Propane	26	50	1992	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501993	NatGas/Propane	26	50	1993	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501994	NatGas/Propane	26	50	1994	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501995	NatGas/Propane	26	50	1995	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501996	NatGas/Propane	26	50	1996	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501997	NatGas/Propane	26	50	1997	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501998	NatGas/Propane	26	50	1998	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane501999	NatGas/Propane	26	50	1999	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane502000	NatGas/Propane	26	50	2000	NOx	13	6.62E-05	1	CO	7.02	4.75E-04	1	ROG	1.38	1.51E-04
NatGas/Propane502001	NatGas/Propane	26	50	2001	NOx	10.4	1.56E-04	1	CO	7.02	4.75E-04	1	ROG	1.16	1.59E-04
NatGas/Propane502002	NatGas/Propane	26	50	2002	NOx	7.79	2.45E-04	1	CO	7.02	4.75E-04	1	ROG	0.93	1.66E-04
NatGas/Propane502003	NatGas/Propane	26	50	2003	NOx	5.19	3.35E-04	1	CO	7.02	4.75E-04	1	ROG	0.71	1.74E-04
NatGas/Propane502004	NatGas/Propane	26	50	2004	NOx	1.95	2.76E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	1.06E-04
NatGas/Propane502005	NatGas/Propane	26	50	2005	NOx	1.95	2.76E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	1.06E-04
NatGas/Propane502006	NatGas/Propane	26	50	2006	NOx	1.95	2.76E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	1.06E-04
NatGas/Propane502007	NatGas/Propane	26	50	2007	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502008	NatGas/Propane	26	50	2008	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502009	NatGas/Propane	26	50	2009	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502010	NatGas/Propane	26	50	2010	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502011	NatGas/Propane	26	50	2011	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502012	NatGas/Propane	26	50	2012	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502013	NatGas/Propane	26	50	2013	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502014	NatGas/Propane	26	50	2014	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502015	NatGas/Propane	26	50	2015	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502016	NatGas/Propane	26	50	2016	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502017	NatGas/Propane	26	50	2017	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502018	NatGas/Propane	26	50	2018	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502019	NatGas/Propane	26	50	2019	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502020	NatGas/Propane	26	50	2020	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502021	NatGas/Propane	26	50	2021	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502022	NatGas/Propane	26	50	2022	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502023	NatGas/Propane	26	50	2023	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502024	NatGas/Propane	26	50	2024	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502025	NatGas/Propane	26	50	2025	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502026	NatGas/Propane	26	50	2026	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502027	NatGas/Propane	26	50	2027	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502028	NatGas/Propane	26	50	2028	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502029	NatGas/Propane	26	50	2029	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502030	NatGas/Propane	26	50	2030	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502031	NatGas/Propane	26	50	2031	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502032	NatGas/Propane	26	50	2032	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502033	NatGas/Propane	26	50	2033	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502034	NatGas/Propane	26	50	2034	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502035	NatGas/Propane	26	50	2035	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05

NatGas/Propane502036	NatGas/Propane	26	50	2036	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502037	NatGas/Propane	26	50	2037	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502038	NatGas/Propane	26	50	2038	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502039	NatGas/Propane	26	50	2039	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane502040	NatGas/Propane	26	50	2040	NOx	1.95	1.10E-04	1	CO	7.02	4.75E-04	1	ROG	0.14	7.24E-05
NatGas/Propane1201969	NatGas/Propane	51	120	1969	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201970	NatGas/Propane	51	120	1970	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201971	NatGas/Propane	51	120	1971	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201972	NatGas/Propane	51	120	1972	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201973	NatGas/Propane	51	120	1973	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201974	NatGas/Propane	51	120	1974	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201975	NatGas/Propane	51	120	1975	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201976	NatGas/Propane	51	120	1976	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201977	NatGas/Propane	51	120	1977	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201978	NatGas/Propane	51	120	1978	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201979	NatGas/Propane	51	120	1979	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201980	NatGas/Propane	51	120	1980	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201981	NatGas/Propane	51	120	1981	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201982	NatGas/Propane	51	120	1982	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201983	NatGas/Propane	51	120	1983	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201984	NatGas/Propane	51	120	1984	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201985	NatGas/Propane	51	120	1985	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201986	NatGas/Propane	51	120	1986	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201987	NatGas/Propane	51	120	1987	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201988	NatGas/Propane	51	120	1988	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201989	NatGas/Propane	51	120	1989	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201990	NatGas/Propane	51	120	1990	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201991	NatGas/Propane	51	120	1991	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201992	NatGas/Propane	51	120	1992	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201993	NatGas/Propane	51	120	1993	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201994	NatGas/Propane	51	120	1994	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201995	NatGas/Propane	51	120	1995	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201996	NatGas/Propane	51	120	1996	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201997	NatGas/Propane	51	120	1997	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201998	NatGas/Propane	51	120	1998	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1201999	NatGas/Propane	51	120	1999	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1202000	NatGas/Propane	51	120	2000	NOx	10.53	5.33E-05	1	CO	19.72	1.34E-03	1	ROG	1.55	1.69E-04
NatGas/Propane1202001	NatGas/Propane	51	120	2001	NOx	8.54	1.46E-04	1	CO	19.72	1.34E-03	1	ROG	1.28	1.72E-04
NatGas/Propane1202002	NatGas/Propane	51	120	2002	NOx	6.56	2.39E-04	1	CO	19.72	1.34E-03	1	ROG	1.02	1.75E-04
NatGas/Propane1202003	NatGas/Propane	51	120	2003	NOx	4.57	3.31E-04	1	CO	19.72	1.34E-03	1	ROG	0.75	1.78E-04
NatGas/Propane1202004	NatGas/Propane	51	120	2004	NOx	1.58	3.50E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	1.03E-04
NatGas/Propane1202005	NatGas/Propane	51	120	2005	NOx	1.58	3.50E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	1.03E-04
NatGas/Propane1202006	NatGas/Propane	51	120	2006	NOx	1.58	3.50E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	1.03E-04
NatGas/Propane1202007	NatGas/Propane	51	120	2007	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202008	NatGas/Propane	51	120	2008	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202009	NatGas/Propane	51	120	2009	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202010	NatGas/Propane	51	120	2010	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202011	NatGas/Propane	51	120	2011	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202012	NatGas/Propane	51	120	2012	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202013	NatGas/Propane	51	120	2013	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202014	NatGas/Propane	51	120	2014	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202015	NatGas/Propane	51	120	2015	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05

NatGas/Propane1202016	NatGas/Propane	51	120	2016	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202017	NatGas/Propane	51	120	2017	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202018	NatGas/Propane	51	120	2018	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202019	NatGas/Propane	51	120	2019	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202020	NatGas/Propane	51	120	2020	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202021	NatGas/Propane	51	120	2021	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202022	NatGas/Propane	51	120	2022	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202023	NatGas/Propane	51	120	2023	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202024	NatGas/Propane	51	120	2024	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202025	NatGas/Propane	51	120	2025	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202026	NatGas/Propane	51	120	2026	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202027	NatGas/Propane	51	120	2027	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202028	NatGas/Propane	51	120	2028	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202029	NatGas/Propane	51	120	2029	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202030	NatGas/Propane	51	120	2030	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202031	NatGas/Propane	51	120	2031	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202032	NatGas/Propane	51	120	2032	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202033	NatGas/Propane	51	120	2033	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202034	NatGas/Propane	51	120	2034	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202035	NatGas/Propane	51	120	2035	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202036	NatGas/Propane	51	120	2036	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202037	NatGas/Propane	51	120	2037	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202038	NatGas/Propane	51	120	2038	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202039	NatGas/Propane	51	120	2039	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1202040	NatGas/Propane	51	120	2040	NOx	1.58	1.84E-04	1	CO	19.72	1.34E-03	1	ROG	0.16	6.90E-05
NatGas/Propane1751969	NatGas/Propane	121	175	1969	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751970	NatGas/Propane	121	175	1970	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751971	NatGas/Propane	121	175	1971	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751972	NatGas/Propane	121	175	1972	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751973	NatGas/Propane	121	175	1973	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751974	NatGas/Propane	121	175	1974	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751975	NatGas/Propane	121	175	1975	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751976	NatGas/Propane	121	175	1976	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751977	NatGas/Propane	121	175	1977	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751978	NatGas/Propane	121	175	1978	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751979	NatGas/Propane	121	175	1979	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751980	NatGas/Propane	121	175	1980	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751981	NatGas/Propane	121	175	1981	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751982	NatGas/Propane	121	175	1982	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751983	NatGas/Propane	121	175	1983	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751984	NatGas/Propane	121	175	1984	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751985	NatGas/Propane	121	175	1985	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751986	NatGas/Propane	121	175	1986	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751987	NatGas/Propane	121	175	1987	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751988	NatGas/Propane	121	175	1988	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751989	NatGas/Propane	121	175	1989	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751990	NatGas/Propane	121	175	1990	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751991	NatGas/Propane	121	175	1991	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751992	NatGas/Propane	121	175	1992	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751993	NatGas/Propane	121	175	1993	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751994	NatGas/Propane	121	175	1994	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751995	NatGas/Propane	121	175	1995	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05

NatGas/Propane1751996	NatGas/Propane	121	175	1996	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751997	NatGas/Propane	121	175	1997	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751998	NatGas/Propane	121	175	1998	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1751999	NatGas/Propane	121	175	1999	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1752000	NatGas/Propane	121	175	2000	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane1752001	NatGas/Propane	121	175	2001	NOx	8.53	9.08E-05	1	CO	16.47	8.62E-04	1	ROG	1.16	3.55E-05
NatGas/Propane1752002	NatGas/Propane	121	175	2002	NOx	6.54	7.77E-05	1	CO	16.47	8.62E-04	1	ROG	0.94	3.57E-05
NatGas/Propane1752003	NatGas/Propane	121	175	2003	NOx	4.56	6.45E-05	1	CO	16.47	8.62E-04	1	ROG	0.71	3.58E-05
NatGas/Propane1752004	NatGas/Propane	121	175	2004	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane1752005	NatGas/Propane	121	175	2005	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane1752006	NatGas/Propane	121	175	2006	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane1752007	NatGas/Propane	121	175	2007	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752008	NatGas/Propane	121	175	2008	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752009	NatGas/Propane	121	175	2009	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752010	NatGas/Propane	121	175	2010	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752011	NatGas/Propane	121	175	2011	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752012	NatGas/Propane	121	175	2012	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752013	NatGas/Propane	121	175	2013	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752014	NatGas/Propane	121	175	2014	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752015	NatGas/Propane	121	175	2015	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752016	NatGas/Propane	121	175	2016	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752017	NatGas/Propane	121	175	2017	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752018	NatGas/Propane	121	175	2018	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752019	NatGas/Propane	121	175	2019	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752020	NatGas/Propane	121	175	2020	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752021	NatGas/Propane	121	175	2021	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752022	NatGas/Propane	121	175	2022	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752023	NatGas/Propane	121	175	2023	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752024	NatGas/Propane	121	175	2024	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752025	NatGas/Propane	121	175	2025	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752026	NatGas/Propane	121	175	2026	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752027	NatGas/Propane	121	175	2027	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752028	NatGas/Propane	121	175	2028	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752029	NatGas/Propane	121	175	2029	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752030	NatGas/Propane	121	175	2030	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752031	NatGas/Propane	121	175	2031	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752032	NatGas/Propane	121	175	2032	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752033	NatGas/Propane	121	175	2033	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752034	NatGas/Propane	121	175	2034	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752035	NatGas/Propane	121	175	2035	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752036	NatGas/Propane	121	175	2036	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752037	NatGas/Propane	121	175	2037	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752038	NatGas/Propane	121	175	2038	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752039	NatGas/Propane	121	175	2039	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane1752040	NatGas/Propane	121	175	2040	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2501969	NatGas/Propane	176	250	1969	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501970	NatGas/Propane	176	250	1970	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501971	NatGas/Propane	176	250	1971	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501972	NatGas/Propane	176	250	1972	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501973	NatGas/Propane	176	250	1973	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501974	NatGas/Propane	176	250	1974	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501975	NatGas/Propane	176	250	1975	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05

NatGas/Propane2501976	NatGas/Propane	176	250	1976	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501977	NatGas/Propane	176	250	1977	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501978	NatGas/Propane	176	250	1978	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501979	NatGas/Propane	176	250	1979	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501980	NatGas/Propane	176	250	1980	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501981	NatGas/Propane	176	250	1981	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501982	NatGas/Propane	176	250	1982	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501983	NatGas/Propane	176	250	1983	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501984	NatGas/Propane	176	250	1984	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501985	NatGas/Propane	176	250	1985	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501986	NatGas/Propane	176	250	1986	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501987	NatGas/Propane	176	250	1987	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501988	NatGas/Propane	176	250	1988	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501989	NatGas/Propane	176	250	1989	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501990	NatGas/Propane	176	250	1990	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501991	NatGas/Propane	176	250	1991	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501992	NatGas/Propane	176	250	1992	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501993	NatGas/Propane	176	250	1993	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501994	NatGas/Propane	176	250	1994	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501995	NatGas/Propane	176	250	1995	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501996	NatGas/Propane	176	250	1996	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501997	NatGas/Propane	176	250	1997	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501998	NatGas/Propane	176	250	1998	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2501999	NatGas/Propane	176	250	1999	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2502000	NatGas/Propane	176	250	2000	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane2502001	NatGas/Propane	176	250	2001	NOx	8.53	9.08E-05	1	CO	16.47	8.62E-04	1	ROG	1.16	3.55E-05
NatGas/Propane2502002	NatGas/Propane	176	250	2002	NOx	6.54	7.77E-05	1	CO	16.47	8.62E-04	1	ROG	0.94	3.57E-05
NatGas/Propane2502003	NatGas/Propane	176	250	2003	NOx	4.56	6.45E-05	1	CO	16.47	8.62E-04	1	ROG	0.71	3.58E-05
NatGas/Propane2502004	NatGas/Propane	176	250	2004	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane2502005	NatGas/Propane	176	250	2005	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane2502006	NatGas/Propane	176	250	2006	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane2502007	NatGas/Propane	176	250	2007	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502008	NatGas/Propane	176	250	2008	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502009	NatGas/Propane	176	250	2009	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502010	NatGas/Propane	176	250	2010	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502011	NatGas/Propane	176	250	2011	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502012	NatGas/Propane	176	250	2012	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502013	NatGas/Propane	176	250	2013	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502014	NatGas/Propane	176	250	2014	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502015	NatGas/Propane	176	250	2015	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502016	NatGas/Propane	176	250	2016	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502017	NatGas/Propane	176	250	2017	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502018	NatGas/Propane	176	250	2018	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502019	NatGas/Propane	176	250	2019	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502020	NatGas/Propane	176	250	2020	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502021	NatGas/Propane	176	250	2021	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502022	NatGas/Propane	176	250	2022	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502023	NatGas/Propane	176	250	2023	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502024	NatGas/Propane	176	250	2024	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502025	NatGas/Propane	176	250	2025	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502026	NatGas/Propane	176	250	2026	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502027	NatGas/Propane	176	250	2027	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05

NatGas/Propane2502028	NatGas/Propane	176	250	2028	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502029	NatGas/Propane	176	250	2029	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502030	NatGas/Propane	176	250	2030	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502031	NatGas/Propane	176	250	2031	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502032	NatGas/Propane	176	250	2032	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502033	NatGas/Propane	176	250	2033	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502034	NatGas/Propane	176	250	2034	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502035	NatGas/Propane	176	250	2035	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502036	NatGas/Propane	176	250	2036	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502037	NatGas/Propane	176	250	2037	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502038	NatGas/Propane	176	250	2038	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502039	NatGas/Propane	176	250	2039	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane2502040	NatGas/Propane	176	250	2040	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5001969	NatGas/Propane	251	500	1969	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001970	NatGas/Propane	251	500	1970	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001971	NatGas/Propane	251	500	1971	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001972	NatGas/Propane	251	500	1972	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001973	NatGas/Propane	251	500	1973	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001974	NatGas/Propane	251	500	1974	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001975	NatGas/Propane	251	500	1975	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001976	NatGas/Propane	251	500	1976	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001977	NatGas/Propane	251	500	1977	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001978	NatGas/Propane	251	500	1978	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001979	NatGas/Propane	251	500	1979	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001980	NatGas/Propane	251	500	1980	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001981	NatGas/Propane	251	500	1981	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001982	NatGas/Propane	251	500	1982	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001983	NatGas/Propane	251	500	1983	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001984	NatGas/Propane	251	500	1984	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001985	NatGas/Propane	251	500	1985	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001986	NatGas/Propane	251	500	1986	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001987	NatGas/Propane	251	500	1987	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001988	NatGas/Propane	251	500	1988	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001989	NatGas/Propane	251	500	1989	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001990	NatGas/Propane	251	500	1990	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001991	NatGas/Propane	251	500	1991	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001992	NatGas/Propane	251	500	1992	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001993	NatGas/Propane	251	500	1993	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001994	NatGas/Propane	251	500	1994	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001995	NatGas/Propane	251	500	1995	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001996	NatGas/Propane	251	500	1996	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001997	NatGas/Propane	251	500	1997	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001998	NatGas/Propane	251	500	1998	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5001999	NatGas/Propane	251	500	1999	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5002000	NatGas/Propane	251	500	2000	NOx	10.51	1.04E-04	1	CO	16.47	8.62E-04	1	ROG	1.38	3.53E-05
NatGas/Propane5002001	NatGas/Propane	251	500	2001	NOx	8.53	9.08E-05	1	CO	16.47	8.62E-04	1	ROG	1.16	3.55E-05
NatGas/Propane5002002	NatGas/Propane	251	500	2002	NOx	6.54	7.77E-05	1	CO	16.47	8.62E-04	1	ROG	0.94	3.57E-05
NatGas/Propane5002003	NatGas/Propane	251	500	2003	NOx	4.56	6.45E-05	1	CO	16.47	8.62E-04	1	ROG	0.71	3.58E-05
NatGas/Propane5002004	NatGas/Propane	251	500	2004	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane5002005	NatGas/Propane	251	500	2005	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane5002006	NatGas/Propane	251	500	2006	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04
NatGas/Propane5002007	NatGas/Propane	251	500	2007	NOx	1.58	2.64E-04	1	CO	16.47	8.62E-04	1	ROG	0.14	1.06E-04

NatGas/Propane5002008	NatGas/Propane	251	500	2008	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002009	NatGas/Propane	251	500	2009	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002010	NatGas/Propane	251	500	2010	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002011	NatGas/Propane	251	500	2011	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002012	NatGas/Propane	251	500	2012	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002013	NatGas/Propane	251	500	2013	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002014	NatGas/Propane	251	500	2014	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002015	NatGas/Propane	251	500	2015	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002016	NatGas/Propane	251	500	2016	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002017	NatGas/Propane	251	500	2017	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002018	NatGas/Propane	251	500	2018	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002019	NatGas/Propane	251	500	2019	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002020	NatGas/Propane	251	500	2020	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002021	NatGas/Propane	251	500	2021	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002022	NatGas/Propane	251	500	2022	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002023	NatGas/Propane	251	500	2023	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002024	NatGas/Propane	251	500	2024	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002025	NatGas/Propane	251	500	2025	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002026	NatGas/Propane	251	500	2026	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002027	NatGas/Propane	251	500	2027	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002028	NatGas/Propane	251	500	2028	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002029	NatGas/Propane	251	500	2029	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002030	NatGas/Propane	251	500	2030	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002031	NatGas/Propane	251	500	2031	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002032	NatGas/Propane	251	500	2032	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002033	NatGas/Propane	251	500	2033	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002034	NatGas/Propane	251	500	2034	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002035	NatGas/Propane	251	500	2035	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002036	NatGas/Propane	251	500	2036	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002037	NatGas/Propane	251	500	2037	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002038	NatGas/Propane	251	500	2038	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002039	NatGas/Propane	251	500	2039	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
NatGas/Propane5002040	NatGas/Propane	251	500	2040	NOx	1.58	5.13E-05	1	CO	16.47	8.62E-04	1	ROG	0.14	3.60E-05
Gasoline (2-stroke)21969	Gasoline (2-stroke)	2	2	1969	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21970	Gasoline (2-stroke)	2	2	1970	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21971	Gasoline (2-stroke)	2	2	1971	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21972	Gasoline (2-stroke)	2	2	1972	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21973	Gasoline (2-stroke)	2	2	1973	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21974	Gasoline (2-stroke)	2	2	1974	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21975	Gasoline (2-stroke)	2	2	1975	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21976	Gasoline (2-stroke)	2	2	1976	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21977	Gasoline (2-stroke)	2	2	1977	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21978	Gasoline (2-stroke)	2	2	1978	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21979	Gasoline (2-stroke)	2	2	1979	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21980	Gasoline (2-stroke)	2	2	1980	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21981	Gasoline (2-stroke)	2	2	1981	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21982	Gasoline (2-stroke)	2	2	1982	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21983	Gasoline (2-stroke)	2	2	1983	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21984	Gasoline (2-stroke)	2	2	1984	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21985	Gasoline (2-stroke)	2	2	1985	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21986	Gasoline (2-stroke)	2	2	1986	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21987	Gasoline (2-stroke)	2	2	1987	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00

Gasoline (2-stroke)21988	Gasoline (2-stroke)	2	2	1988	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21989	Gasoline (2-stroke)	2	2	1989	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21990	Gasoline (2-stroke)	2	2	1990	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21991	Gasoline (2-stroke)	2	2	1991	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21992	Gasoline (2-stroke)	2	2	1992	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21993	Gasoline (2-stroke)	2	2	1993	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21994	Gasoline (2-stroke)	2	2	1994	NOx	0.96	0.00E+00	0.867	CO	842.73	0.00E+00	0.795	ROG	284.27	0.00E+00
Gasoline (2-stroke)21995	Gasoline (2-stroke)	2	2	1995	NOx	2.32	3.10E-03	0.867	CO	272.56	-6.70E-02	0.795	ROG	7.28	5.65E-02
Gasoline (2-stroke)21996	Gasoline (2-stroke)	2	2	1996	NOx	2.32	3.10E-03	0.977	CO	272.56	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)21997	Gasoline (2-stroke)	2	2	1997	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)21998	Gasoline (2-stroke)	2	2	1998	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)21999	Gasoline (2-stroke)	2	2	1999	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)22000	Gasoline (2-stroke)	2	2	2000	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)22001	Gasoline (2-stroke)	2	2	2001	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (2-stroke)22002	Gasoline (2-stroke)	2	2	2002	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (2-stroke)22003	Gasoline (2-stroke)	2	2	2003	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (2-stroke)22004	Gasoline (2-stroke)	2	2	2004	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (2-stroke)22005	Gasoline (2-stroke)	2	2	2005	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (2-stroke)22006	Gasoline (2-stroke)	2	2	2006	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (2-stroke)22007	Gasoline (2-stroke)	2	2	2007	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22008	Gasoline (2-stroke)	2	2	2008	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22009	Gasoline (2-stroke)	2	2	2009	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22010	Gasoline (2-stroke)	2	2	2010	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22011	Gasoline (2-stroke)	2	2	2011	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22012	Gasoline (2-stroke)	2	2	2012	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22013	Gasoline (2-stroke)	2	2	2013	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22014	Gasoline (2-stroke)	2	2	2014	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22015	Gasoline (2-stroke)	2	2	2015	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22016	Gasoline (2-stroke)	2	2	2016	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22017	Gasoline (2-stroke)	2	2	2017	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22018	Gasoline (2-stroke)	2	2	2018	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22019	Gasoline (2-stroke)	2	2	2019	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22020	Gasoline (2-stroke)	2	2	2020	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22021	Gasoline (2-stroke)	2	2	2021	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22022	Gasoline (2-stroke)	2	2	2022	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22023	Gasoline (2-stroke)	2	2	2023	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22024	Gasoline (2-stroke)	2	2	2024	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22025	Gasoline (2-stroke)	2	2	2025	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22026	Gasoline (2-stroke)	2	2	2026	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22027	Gasoline (2-stroke)	2	2	2027	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22028	Gasoline (2-stroke)	2	2	2028	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22029	Gasoline (2-stroke)	2	2	2029	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22030	Gasoline (2-stroke)	2	2	2030	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22031	Gasoline (2-stroke)	2	2	2031	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22032	Gasoline (2-stroke)	2	2	2032	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22033	Gasoline (2-stroke)	2	2	2033	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22034	Gasoline (2-stroke)	2	2	2034	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22035	Gasoline (2-stroke)	2	2	2035	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22036	Gasoline (2-stroke)	2	2	2036	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22037	Gasoline (2-stroke)	2	2	2037	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22038	Gasoline (2-stroke)	2	2	2038	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)22039	Gasoline (2-stroke)	2	2	2039	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02

Gasoline (2-stroke)22040	Gasoline (2-stroke)	2	2	2040	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (2-stroke)151969	Gasoline (2-stroke)	3	15	1969	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151970	Gasoline (2-stroke)	3	15	1970	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151971	Gasoline (2-stroke)	3	15	1971	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151972	Gasoline (2-stroke)	3	15	1972	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151973	Gasoline (2-stroke)	3	15	1973	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151974	Gasoline (2-stroke)	3	15	1974	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151975	Gasoline (2-stroke)	3	15	1975	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151976	Gasoline (2-stroke)	3	15	1976	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151977	Gasoline (2-stroke)	3	15	1977	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151978	Gasoline (2-stroke)	3	15	1978	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151979	Gasoline (2-stroke)	3	15	1979	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151980	Gasoline (2-stroke)	3	15	1980	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151981	Gasoline (2-stroke)	3	15	1981	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151982	Gasoline (2-stroke)	3	15	1982	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151983	Gasoline (2-stroke)	3	15	1983	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151984	Gasoline (2-stroke)	3	15	1984	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151985	Gasoline (2-stroke)	3	15	1985	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151986	Gasoline (2-stroke)	3	15	1986	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151987	Gasoline (2-stroke)	3	15	1987	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151988	Gasoline (2-stroke)	3	15	1988	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151989	Gasoline (2-stroke)	3	15	1989	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151990	Gasoline (2-stroke)	3	15	1990	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151991	Gasoline (2-stroke)	3	15	1991	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151992	Gasoline (2-stroke)	3	15	1992	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151993	Gasoline (2-stroke)	3	15	1993	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151994	Gasoline (2-stroke)	3	15	1994	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)151995	Gasoline (2-stroke)	3	15	1995	NOx	2.84	0.00E+00	0.867	CO	234.54	8.95E-02	0.795	ROG	4.56	2.07E-02
Gasoline (2-stroke)151996	Gasoline (2-stroke)	3	15	1996	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)151997	Gasoline (2-stroke)	3	15	1997	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)151998	Gasoline (2-stroke)	3	15	1998	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)151999	Gasoline (2-stroke)	3	15	1999	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)152000	Gasoline (2-stroke)	3	15	2000	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)152001	Gasoline (2-stroke)	3	15	2001	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (2-stroke)152002	Gasoline (2-stroke)	3	15	2002	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152003	Gasoline (2-stroke)	3	15	2003	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152004	Gasoline (2-stroke)	3	15	2004	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152005	Gasoline (2-stroke)	3	15	2005	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152006	Gasoline (2-stroke)	3	15	2006	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152007	Gasoline (2-stroke)	3	15	2007	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (2-stroke)152008	Gasoline (2-stroke)	3	15	2008	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152009	Gasoline (2-stroke)	3	15	2009	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152010	Gasoline (2-stroke)	3	15	2010	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152011	Gasoline (2-stroke)	3	15	2011	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152012	Gasoline (2-stroke)	3	15	2012	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152013	Gasoline (2-stroke)	3	15	2013	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152014	Gasoline (2-stroke)	3	15	2014	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152015	Gasoline (2-stroke)	3	15	2015	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152016	Gasoline (2-stroke)	3	15	2016	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152017	Gasoline (2-stroke)	3	15	2017	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152018	Gasoline (2-stroke)	3	15	2018	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152019	Gasoline (2-stroke)	3	15	2019	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03

Gasoline (2-stroke)152020	Gasoline (2-stroke)	3	15	2020	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152021	Gasoline (2-stroke)	3	15	2021	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152022	Gasoline (2-stroke)	3	15	2022	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152023	Gasoline (2-stroke)	3	15	2023	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152024	Gasoline (2-stroke)	3	15	2024	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152025	Gasoline (2-stroke)	3	15	2025	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152026	Gasoline (2-stroke)	3	15	2026	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152027	Gasoline (2-stroke)	3	15	2027	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152028	Gasoline (2-stroke)	3	15	2028	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152029	Gasoline (2-stroke)	3	15	2029	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152030	Gasoline (2-stroke)	3	15	2030	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152031	Gasoline (2-stroke)	3	15	2031	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152032	Gasoline (2-stroke)	3	15	2032	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152033	Gasoline (2-stroke)	3	15	2033	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152034	Gasoline (2-stroke)	3	15	2034	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152035	Gasoline (2-stroke)	3	15	2035	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152036	Gasoline (2-stroke)	3	15	2036	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152037	Gasoline (2-stroke)	3	15	2037	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152038	Gasoline (2-stroke)	3	15	2038	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152039	Gasoline (2-stroke)	3	15	2039	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)152040	Gasoline (2-stroke)	3	15	2040	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (2-stroke)251969	Gasoline (2-stroke)	16	25	1969	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251970	Gasoline (2-stroke)	16	25	1970	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251971	Gasoline (2-stroke)	16	25	1971	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251972	Gasoline (2-stroke)	16	25	1972	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251973	Gasoline (2-stroke)	16	25	1973	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251974	Gasoline (2-stroke)	16	25	1974	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251975	Gasoline (2-stroke)	16	25	1975	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251976	Gasoline (2-stroke)	16	25	1976	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251977	Gasoline (2-stroke)	16	25	1977	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251978	Gasoline (2-stroke)	16	25	1978	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251979	Gasoline (2-stroke)	16	25	1979	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251980	Gasoline (2-stroke)	16	25	1980	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251981	Gasoline (2-stroke)	16	25	1981	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251982	Gasoline (2-stroke)	16	25	1982	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251983	Gasoline (2-stroke)	16	25	1983	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251984	Gasoline (2-stroke)	16	25	1984	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251985	Gasoline (2-stroke)	16	25	1985	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251986	Gasoline (2-stroke)	16	25	1986	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251987	Gasoline (2-stroke)	16	25	1987	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251988	Gasoline (2-stroke)	16	25	1988	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251989	Gasoline (2-stroke)	16	25	1989	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251990	Gasoline (2-stroke)	16	25	1990	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251991	Gasoline (2-stroke)	16	25	1991	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251992	Gasoline (2-stroke)	16	25	1992	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251993	Gasoline (2-stroke)	16	25	1993	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251994	Gasoline (2-stroke)	16	25	1994	NOx	0.29	0.00E+00	0.867	CO	486	0.00E+00	0.795	ROG	208	0.00E+00
Gasoline (2-stroke)251995	Gasoline (2-stroke)	16	25	1995	NOx	2.32	0.00E+00	0.867	CO	243.17	3.45E-02	0.795	ROG	4.42	1.66E-02
Gasoline (2-stroke)251996	Gasoline (2-stroke)	16	25	1996	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (2-stroke)251997	Gasoline (2-stroke)	16	25	1997	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (2-stroke)251998	Gasoline (2-stroke)	16	25	1998	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (2-stroke)251999	Gasoline (2-stroke)	16	25	1999	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02

Gasoline (2-stroke)252000	Gasoline (2-stroke)	16	25	2000	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (2-stroke)252001	Gasoline (2-stroke)	16	25	2001	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (2-stroke)252002	Gasoline (2-stroke)	16	25	2002	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252003	Gasoline (2-stroke)	16	25	2003	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252004	Gasoline (2-stroke)	16	25	2004	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252005	Gasoline (2-stroke)	16	25	2005	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252006	Gasoline (2-stroke)	16	25	2006	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252007	Gasoline (2-stroke)	16	25	2007	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (2-stroke)252008	Gasoline (2-stroke)	16	25	2008	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252009	Gasoline (2-stroke)	16	25	2009	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252010	Gasoline (2-stroke)	16	25	2010	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252011	Gasoline (2-stroke)	16	25	2011	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252012	Gasoline (2-stroke)	16	25	2012	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252013	Gasoline (2-stroke)	16	25	2013	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252014	Gasoline (2-stroke)	16	25	2014	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252015	Gasoline (2-stroke)	16	25	2015	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252016	Gasoline (2-stroke)	16	25	2016	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252017	Gasoline (2-stroke)	16	25	2017	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252018	Gasoline (2-stroke)	16	25	2018	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252019	Gasoline (2-stroke)	16	25	2019	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252020	Gasoline (2-stroke)	16	25	2020	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252021	Gasoline (2-stroke)	16	25	2021	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252022	Gasoline (2-stroke)	16	25	2022	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252023	Gasoline (2-stroke)	16	25	2023	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252024	Gasoline (2-stroke)	16	25	2024	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252025	Gasoline (2-stroke)	16	25	2025	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252026	Gasoline (2-stroke)	16	25	2026	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252027	Gasoline (2-stroke)	16	25	2027	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252028	Gasoline (2-stroke)	16	25	2028	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252029	Gasoline (2-stroke)	16	25	2029	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252030	Gasoline (2-stroke)	16	25	2030	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252031	Gasoline (2-stroke)	16	25	2031	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252032	Gasoline (2-stroke)	16	25	2032	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252033	Gasoline (2-stroke)	16	25	2033	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252034	Gasoline (2-stroke)	16	25	2034	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252035	Gasoline (2-stroke)	16	25	2035	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252036	Gasoline (2-stroke)	16	25	2036	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252037	Gasoline (2-stroke)	16	25	2037	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252038	Gasoline (2-stroke)	16	25	2038	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252039	Gasoline (2-stroke)	16	25	2039	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (2-stroke)252040	Gasoline (2-stroke)	16	25	2040	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)51969	Gasoline (4-stroke)	5	5	1969	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51970	Gasoline (4-stroke)	5	5	1970	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51971	Gasoline (4-stroke)	5	5	1971	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51972	Gasoline (4-stroke)	5	5	1972	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51973	Gasoline (4-stroke)	5	5	1973	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51974	Gasoline (4-stroke)	5	5	1974	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51975	Gasoline (4-stroke)	5	5	1975	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51976	Gasoline (4-stroke)	5	5	1976	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51977	Gasoline (4-stroke)	5	5	1977	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51978	Gasoline (4-stroke)	5	5	1978	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51979	Gasoline (4-stroke)	5	5	1979	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02

Gasoline (4-stroke)51980	Gasoline (4-stroke)	5	5	1980	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51981	Gasoline (4-stroke)	5	5	1981	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51982	Gasoline (4-stroke)	5	5	1982	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51983	Gasoline (4-stroke)	5	5	1983	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51984	Gasoline (4-stroke)	5	5	1984	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51985	Gasoline (4-stroke)	5	5	1985	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51986	Gasoline (4-stroke)	5	5	1986	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51987	Gasoline (4-stroke)	5	5	1987	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51988	Gasoline (4-stroke)	5	5	1988	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51989	Gasoline (4-stroke)	5	5	1989	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51990	Gasoline (4-stroke)	5	5	1990	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51991	Gasoline (4-stroke)	5	5	1991	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51992	Gasoline (4-stroke)	5	5	1992	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51993	Gasoline (4-stroke)	5	5	1993	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51994	Gasoline (4-stroke)	5	5	1994	NOx	2.12	2.39E-04	0.867	CO	504.25	5.20E-01	0.795	ROG	26.44	9.48E-02
Gasoline (4-stroke)51995	Gasoline (4-stroke)	5	5	1995	NOx	2.32	3.10E-03	0.867	CO	272.56	-6.70E-02	0.795	ROG	7.28	5.65E-02
Gasoline (4-stroke)51996	Gasoline (4-stroke)	5	5	1996	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)51997	Gasoline (4-stroke)	5	5	1997	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)51998	Gasoline (4-stroke)	5	5	1998	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)51999	Gasoline (4-stroke)	5	5	1999	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)52000	Gasoline (4-stroke)	5	5	2000	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)52001	Gasoline (4-stroke)	5	5	2001	NOx	2.32	3.10E-03	0.977	CO	317.99	-6.70E-02	1	ROG	7.28	5.65E-02
Gasoline (4-stroke)52002	Gasoline (4-stroke)	5	5	2002	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (4-stroke)52003	Gasoline (4-stroke)	5	5	2003	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (4-stroke)52004	Gasoline (4-stroke)	5	5	2004	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (4-stroke)52005	Gasoline (4-stroke)	5	5	2005	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (4-stroke)52006	Gasoline (4-stroke)	5	5	2006	NOx	2.7	6.49E-03	0.977	CO	235.77	-3.85E-01	1	ROG	6	1.44E-02
Gasoline (4-stroke)52007	Gasoline (4-stroke)	5	5	2007	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52008	Gasoline (4-stroke)	5	5	2008	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52009	Gasoline (4-stroke)	5	5	2009	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52010	Gasoline (4-stroke)	5	5	2010	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52011	Gasoline (4-stroke)	5	5	2011	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52012	Gasoline (4-stroke)	5	5	2012	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52013	Gasoline (4-stroke)	5	5	2013	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52014	Gasoline (4-stroke)	5	5	2014	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52015	Gasoline (4-stroke)	5	5	2015	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52016	Gasoline (4-stroke)	5	5	2016	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52017	Gasoline (4-stroke)	5	5	2017	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52018	Gasoline (4-stroke)	5	5	2018	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52019	Gasoline (4-stroke)	5	5	2019	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52020	Gasoline (4-stroke)	5	5	2020	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52021	Gasoline (4-stroke)	5	5	2021	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52022	Gasoline (4-stroke)	5	5	2022	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52023	Gasoline (4-stroke)	5	5	2023	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52024	Gasoline (4-stroke)	5	5	2024	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52025	Gasoline (4-stroke)	5	5	2025	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52026	Gasoline (4-stroke)	5	5	2026	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52027	Gasoline (4-stroke)	5	5	2027	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52028	Gasoline (4-stroke)	5	5	2028	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52029	Gasoline (4-stroke)	5	5	2029	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52030	Gasoline (4-stroke)	5	5	2030	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52031	Gasoline (4-stroke)	5	5	2031	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02

Gasoline (4-stroke)52032	Gasoline (4-stroke)	5	5	2032	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52033	Gasoline (4-stroke)	5	5	2033	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52034	Gasoline (4-stroke)	5	5	2034	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52035	Gasoline (4-stroke)	5	5	2035	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52036	Gasoline (4-stroke)	5	5	2036	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52037	Gasoline (4-stroke)	5	5	2037	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52038	Gasoline (4-stroke)	5	5	2038	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52039	Gasoline (4-stroke)	5	5	2039	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)52040	Gasoline (4-stroke)	5	5	2040	NOx	0.86	4.96E-03	0.977	CO	235.77	-3.85E-01	1	ROG	3.66	1.82E-02
Gasoline (4-stroke)151969	Gasoline (4-stroke)	6	15	1969	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151970	Gasoline (4-stroke)	6	15	1970	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151971	Gasoline (4-stroke)	6	15	1971	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151972	Gasoline (4-stroke)	6	15	1972	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151973	Gasoline (4-stroke)	6	15	1973	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151974	Gasoline (4-stroke)	6	15	1974	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151975	Gasoline (4-stroke)	6	15	1975	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151976	Gasoline (4-stroke)	6	15	1976	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151977	Gasoline (4-stroke)	6	15	1977	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151978	Gasoline (4-stroke)	6	15	1978	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151979	Gasoline (4-stroke)	6	15	1979	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151980	Gasoline (4-stroke)	6	15	1980	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151981	Gasoline (4-stroke)	6	15	1981	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151982	Gasoline (4-stroke)	6	15	1982	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151983	Gasoline (4-stroke)	6	15	1983	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151984	Gasoline (4-stroke)	6	15	1984	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151985	Gasoline (4-stroke)	6	15	1985	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151986	Gasoline (4-stroke)	6	15	1986	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151987	Gasoline (4-stroke)	6	15	1987	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151988	Gasoline (4-stroke)	6	15	1988	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151989	Gasoline (4-stroke)	6	15	1989	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151990	Gasoline (4-stroke)	6	15	1990	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151991	Gasoline (4-stroke)	6	15	1991	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151992	Gasoline (4-stroke)	6	15	1992	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151993	Gasoline (4-stroke)	6	15	1993	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151994	Gasoline (4-stroke)	6	15	1994	NOx	3.48	1.33E-03	0.867	CO	393.1	3.37E-02	0.795	ROG	7.46	1.78E-02
Gasoline (4-stroke)151995	Gasoline (4-stroke)	6	15	1995	NOx	2.84	0.00E+00	0.867	CO	234.54	8.95E-02	0.795	ROG	4.56	2.07E-02
Gasoline (4-stroke)151996	Gasoline (4-stroke)	6	15	1996	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)151997	Gasoline (4-stroke)	6	15	1997	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)151998	Gasoline (4-stroke)	6	15	1998	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)151999	Gasoline (4-stroke)	6	15	1999	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)152000	Gasoline (4-stroke)	6	15	2000	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)152001	Gasoline (4-stroke)	6	15	2001	NOx	2.84	0.00E+00	0.977	CO	273.63	8.95E-02	1	ROG	4.56	2.07E-02
Gasoline (4-stroke)152002	Gasoline (4-stroke)	6	15	2002	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152003	Gasoline (4-stroke)	6	15	2003	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152004	Gasoline (4-stroke)	6	15	2004	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152005	Gasoline (4-stroke)	6	15	2005	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152006	Gasoline (4-stroke)	6	15	2006	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152007	Gasoline (4-stroke)	6	15	2007	NOx	2.9	3.47E-03	0.977	CO	224.66	0.00E+00	1	ROG	3.9	4.69E-03
Gasoline (4-stroke)152008	Gasoline (4-stroke)	6	15	2008	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152009	Gasoline (4-stroke)	6	15	2009	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152010	Gasoline (4-stroke)	6	15	2010	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152011	Gasoline (4-stroke)	6	15	2011	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03

Gasoline (4-stroke)152012	Gasoline (4-stroke)	6	15	2012	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152013	Gasoline (4-stroke)	6	15	2013	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152014	Gasoline (4-stroke)	6	15	2014	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152015	Gasoline (4-stroke)	6	15	2015	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152016	Gasoline (4-stroke)	6	15	2016	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152017	Gasoline (4-stroke)	6	15	2017	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152018	Gasoline (4-stroke)	6	15	2018	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152019	Gasoline (4-stroke)	6	15	2019	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152020	Gasoline (4-stroke)	6	15	2020	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152021	Gasoline (4-stroke)	6	15	2021	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152022	Gasoline (4-stroke)	6	15	2022	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152023	Gasoline (4-stroke)	6	15	2023	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152024	Gasoline (4-stroke)	6	15	2024	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152025	Gasoline (4-stroke)	6	15	2025	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152026	Gasoline (4-stroke)	6	15	2026	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152027	Gasoline (4-stroke)	6	15	2027	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152028	Gasoline (4-stroke)	6	15	2028	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152029	Gasoline (4-stroke)	6	15	2029	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152030	Gasoline (4-stroke)	6	15	2030	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152031	Gasoline (4-stroke)	6	15	2031	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152032	Gasoline (4-stroke)	6	15	2032	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152033	Gasoline (4-stroke)	6	15	2033	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152034	Gasoline (4-stroke)	6	15	2034	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152035	Gasoline (4-stroke)	6	15	2035	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152036	Gasoline (4-stroke)	6	15	2036	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152037	Gasoline (4-stroke)	6	15	2037	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152038	Gasoline (4-stroke)	6	15	2038	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152039	Gasoline (4-stroke)	6	15	2039	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)152040	Gasoline (4-stroke)	6	15	2040	NOx	1.86	2.64E-03	0.977	CO	224.66	0.00E+00	1	ROG	2.51	3.88E-03
Gasoline (4-stroke)251969	Gasoline (4-stroke)	16	25	1969	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251970	Gasoline (4-stroke)	16	25	1970	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251971	Gasoline (4-stroke)	16	25	1971	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251972	Gasoline (4-stroke)	16	25	1972	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251973	Gasoline (4-stroke)	16	25	1973	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251974	Gasoline (4-stroke)	16	25	1974	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251975	Gasoline (4-stroke)	16	25	1975	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251976	Gasoline (4-stroke)	16	25	1976	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251977	Gasoline (4-stroke)	16	25	1977	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251978	Gasoline (4-stroke)	16	25	1978	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251979	Gasoline (4-stroke)	16	25	1979	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251980	Gasoline (4-stroke)	16	25	1980	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251981	Gasoline (4-stroke)	16	25	1981	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251982	Gasoline (4-stroke)	16	25	1982	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251983	Gasoline (4-stroke)	16	25	1983	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251984	Gasoline (4-stroke)	16	25	1984	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251985	Gasoline (4-stroke)	16	25	1985	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251986	Gasoline (4-stroke)	16	25	1986	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251987	Gasoline (4-stroke)	16	25	1987	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251988	Gasoline (4-stroke)	16	25	1988	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251989	Gasoline (4-stroke)	16	25	1989	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251990	Gasoline (4-stroke)	16	25	1990	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251991	Gasoline (4-stroke)	16	25	1991	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02

Gasoline (4-stroke)251992	Gasoline (4-stroke)	16	25	1992	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251993	Gasoline (4-stroke)	16	25	1993	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251994	Gasoline (4-stroke)	16	25	1994	NOx	3.48	1.09E-03	0.867	CO	393.1	2.76E-02	0.795	ROG	7.46	1.41E-02
Gasoline (4-stroke)251995	Gasoline (4-stroke)	16	25	1995	NOx	2.32	0.00E+00	0.867	CO	243.17	3.45E-02	0.795	ROG	4.42	1.66E-02
Gasoline (4-stroke)251996	Gasoline (4-stroke)	16	25	1996	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)251997	Gasoline (4-stroke)	16	25	1997	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)251998	Gasoline (4-stroke)	16	25	1998	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)251999	Gasoline (4-stroke)	16	25	1999	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)252000	Gasoline (4-stroke)	16	25	2000	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)252001	Gasoline (4-stroke)	16	25	2001	NOx	2.32	0.00E+00	0.977	CO	283.69	3.45E-02	1	ROG	4.42	1.66E-02
Gasoline (4-stroke)252002	Gasoline (4-stroke)	16	25	2002	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252003	Gasoline (4-stroke)	16	25	2003	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252004	Gasoline (4-stroke)	16	25	2004	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252005	Gasoline (4-stroke)	16	25	2005	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252006	Gasoline (4-stroke)	16	25	2006	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252007	Gasoline (4-stroke)	16	25	2007	NOx	2.68	3.21E-03	0.977	CO	238.46	0.00E+00	1	ROG	4.12	4.95E-03
Gasoline (4-stroke)252008	Gasoline (4-stroke)	16	25	2008	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252009	Gasoline (4-stroke)	16	25	2009	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252010	Gasoline (4-stroke)	16	25	2010	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252011	Gasoline (4-stroke)	16	25	2011	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252012	Gasoline (4-stroke)	16	25	2012	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252013	Gasoline (4-stroke)	16	25	2013	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252014	Gasoline (4-stroke)	16	25	2014	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252015	Gasoline (4-stroke)	16	25	2015	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252016	Gasoline (4-stroke)	16	25	2016	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252017	Gasoline (4-stroke)	16	25	2017	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252018	Gasoline (4-stroke)	16	25	2018	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252019	Gasoline (4-stroke)	16	25	2019	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252020	Gasoline (4-stroke)	16	25	2020	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252021	Gasoline (4-stroke)	16	25	2021	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252022	Gasoline (4-stroke)	16	25	2022	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252023	Gasoline (4-stroke)	16	25	2023	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252024	Gasoline (4-stroke)	16	25	2024	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252025	Gasoline (4-stroke)	16	25	2025	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252026	Gasoline (4-stroke)	16	25	2026	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252027	Gasoline (4-stroke)	16	25	2027	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252028	Gasoline (4-stroke)	16	25	2028	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252029	Gasoline (4-stroke)	16	25	2029	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252030	Gasoline (4-stroke)	16	25	2030	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252031	Gasoline (4-stroke)	16	25	2031	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252032	Gasoline (4-stroke)	16	25	2032	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252033	Gasoline (4-stroke)	16	25	2033	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252034	Gasoline (4-stroke)	16	25	2034	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252035	Gasoline (4-stroke)	16	25	2035	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252036	Gasoline (4-stroke)	16	25	2036	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252037	Gasoline (4-stroke)	16	25	2037	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252038	Gasoline (4-stroke)	16	25	2038	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252039	Gasoline (4-stroke)	16	25	2039	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)252040	Gasoline (4-stroke)	16	25	2040	NOx	1.71	3.24E-03	0.977	CO	238.46	0.00E+00	1	ROG	2.64	3.36E-03
Gasoline (4-stroke)501969	Gasoline (4-stroke)	26	50	1969	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501970	Gasoline (4-stroke)	26	50	1970	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501971	Gasoline (4-stroke)	26	50	1971	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04

Gasoline (4-stroke)501972	Gasoline (4-stroke)	26	50	1972	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501973	Gasoline (4-stroke)	26	50	1973	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501974	Gasoline (4-stroke)	26	50	1974	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501975	Gasoline (4-stroke)	26	50	1975	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501976	Gasoline (4-stroke)	26	50	1976	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501977	Gasoline (4-stroke)	26	50	1977	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501978	Gasoline (4-stroke)	26	50	1978	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501979	Gasoline (4-stroke)	26	50	1979	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501980	Gasoline (4-stroke)	26	50	1980	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501981	Gasoline (4-stroke)	26	50	1981	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501982	Gasoline (4-stroke)	26	50	1982	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501983	Gasoline (4-stroke)	26	50	1983	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501984	Gasoline (4-stroke)	26	50	1984	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501985	Gasoline (4-stroke)	26	50	1985	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501986	Gasoline (4-stroke)	26	50	1986	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501987	Gasoline (4-stroke)	26	50	1987	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501988	Gasoline (4-stroke)	26	50	1988	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501989	Gasoline (4-stroke)	26	50	1989	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501990	Gasoline (4-stroke)	26	50	1990	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501991	Gasoline (4-stroke)	26	50	1991	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501992	Gasoline (4-stroke)	26	50	1992	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501993	Gasoline (4-stroke)	26	50	1993	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501994	Gasoline (4-stroke)	26	50	1994	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501995	Gasoline (4-stroke)	26	50	1995	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501996	Gasoline (4-stroke)	26	50	1996	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501997	Gasoline (4-stroke)	26	50	1997	NOx	8.01	4.06E-05	0.867	CO	89.9	5.55E-03	0.795	ROG	3.76	4.12E-04
Gasoline (4-stroke)501998	Gasoline (4-stroke)	26	50	1998	NOx	8.01	4.06E-05	0.977	CO	89.9	5.55E-03	1	ROG	3.76	4.12E-04
Gasoline (4-stroke)501999	Gasoline (4-stroke)	26	50	1999	NOx	8.01	4.06E-05	0.977	CO	89.9	5.55E-03	1	ROG	3.76	4.12E-04
Gasoline (4-stroke)502000	Gasoline (4-stroke)	26	50	2000	NOx	8.01	4.06E-05	0.977	CO	89.9	5.55E-03	1	ROG	3.76	4.12E-04
Gasoline (4-stroke)502001	Gasoline (4-stroke)	26	50	2001	NOx	6.91	1.44E-04	0.977	CO	78.09	2.01E-02	1	ROG	2.96	3.48E-04
Gasoline (4-stroke)502002	Gasoline (4-stroke)	26	50	2002	NOx	5.52	3.08E-04	0.977	CO	81.78	1.97E-02	1	ROG	2.34	3.74E-04
Gasoline (4-stroke)502003	Gasoline (4-stroke)	26	50	2003	NOx	4.52	4.02E-04	0.977	CO	71.03	1.93E-02	1	ROG	1.62	3.16E-04
Gasoline (4-stroke)502004	Gasoline (4-stroke)	26	50	2004	NOx	1.33	4.71E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.69E-04
Gasoline (4-stroke)502005	Gasoline (4-stroke)	26	50	2005	NOx	1.33	4.71E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.69E-04
Gasoline (4-stroke)502006	Gasoline (4-stroke)	26	50	2006	NOx	1.33	4.71E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.69E-04
Gasoline (4-stroke)502007	Gasoline (4-stroke)	26	50	2007	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502008	Gasoline (4-stroke)	26	50	2008	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502009	Gasoline (4-stroke)	26	50	2009	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502010	Gasoline (4-stroke)	26	50	2010	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502011	Gasoline (4-stroke)	26	50	2011	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502012	Gasoline (4-stroke)	26	50	2012	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502013	Gasoline (4-stroke)	26	50	2013	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502014	Gasoline (4-stroke)	26	50	2014	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502015	Gasoline (4-stroke)	26	50	2015	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502016	Gasoline (4-stroke)	26	50	2016	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502017	Gasoline (4-stroke)	26	50	2017	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502018	Gasoline (4-stroke)	26	50	2018	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502019	Gasoline (4-stroke)	26	50	2019	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502020	Gasoline (4-stroke)	26	50	2020	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502021	Gasoline (4-stroke)	26	50	2021	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502022	Gasoline (4-stroke)	26	50	2022	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502023	Gasoline (4-stroke)	26	50	2023	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04

Gasoline (4-stroke)502024	Gasoline (4-stroke)	26	50	2024	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502025	Gasoline (4-stroke)	26	50	2025	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502026	Gasoline (4-stroke)	26	50	2026	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502027	Gasoline (4-stroke)	26	50	2027	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502028	Gasoline (4-stroke)	26	50	2028	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502029	Gasoline (4-stroke)	26	50	2029	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502030	Gasoline (4-stroke)	26	50	2030	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502031	Gasoline (4-stroke)	26	50	2031	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502032	Gasoline (4-stroke)	26	50	2032	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502033	Gasoline (4-stroke)	26	50	2033	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502034	Gasoline (4-stroke)	26	50	2034	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502035	Gasoline (4-stroke)	26	50	2035	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502036	Gasoline (4-stroke)	26	50	2036	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502037	Gasoline (4-stroke)	26	50	2037	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502038	Gasoline (4-stroke)	26	50	2038	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502039	Gasoline (4-stroke)	26	50	2039	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)502040	Gasoline (4-stroke)	26	50	2040	NOx	1.33	3.20E-04	0.977	CO	38.19	1.90E-02	1	ROG	0.71	1.38E-04
Gasoline (4-stroke)1201969	Gasoline (4-stroke)	51	120	1969	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201970	Gasoline (4-stroke)	51	120	1970	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201971	Gasoline (4-stroke)	51	120	1971	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201972	Gasoline (4-stroke)	51	120	1972	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201973	Gasoline (4-stroke)	51	120	1973	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201974	Gasoline (4-stroke)	51	120	1974	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201975	Gasoline (4-stroke)	51	120	1975	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201976	Gasoline (4-stroke)	51	120	1976	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201977	Gasoline (4-stroke)	51	120	1977	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201978	Gasoline (4-stroke)	51	120	1978	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201979	Gasoline (4-stroke)	51	120	1979	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201980	Gasoline (4-stroke)	51	120	1980	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201981	Gasoline (4-stroke)	51	120	1981	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201982	Gasoline (4-stroke)	51	120	1982	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201983	Gasoline (4-stroke)	51	120	1983	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201984	Gasoline (4-stroke)	51	120	1984	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201985	Gasoline (4-stroke)	51	120	1985	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201986	Gasoline (4-stroke)	51	120	1986	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201987	Gasoline (4-stroke)	51	120	1987	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201988	Gasoline (4-stroke)	51	120	1988	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201989	Gasoline (4-stroke)	51	120	1989	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201990	Gasoline (4-stroke)	51	120	1990	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201991	Gasoline (4-stroke)	51	120	1991	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201992	Gasoline (4-stroke)	51	120	1992	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201993	Gasoline (4-stroke)	51	120	1993	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201994	Gasoline (4-stroke)	51	120	1994	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201995	Gasoline (4-stroke)	51	120	1995	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201996	Gasoline (4-stroke)	51	120	1996	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201997	Gasoline (4-stroke)	51	120	1997	NOx	11.84	6.01E-05	0.867	CO	43.8	2.90E-03	0.795	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201998	Gasoline (4-stroke)	51	120	1998	NOx	11.84	6.01E-05	0.977	CO	43.8	2.90E-03	1	ROG	2.63	2.87E-04
Gasoline (4-stroke)1201999	Gasoline (4-stroke)	51	120	1999	NOx	11.84	6.01E-05	0.977	CO	43.8	2.90E-03	1	ROG	2.63	2.87E-04
Gasoline (4-stroke)1202000	Gasoline (4-stroke)	51	120	2000	NOx	11.84	6.01E-05	0.977	CO	43.8	2.90E-03	1	ROG	2.63	2.87E-04
Gasoline (4-stroke)1202001	Gasoline (4-stroke)	51	120	2001	NOx	9.58	1.63E-04	0.977	CO	41.08	4.00E-03	1	ROG	2.08	2.56E-04
Gasoline (4-stroke)1202002	Gasoline (4-stroke)	51	120	2002	NOx	7.32	2.66E-04	0.977	CO	39.72	4.55E-03	1	ROG	1.54	2.25E-04
Gasoline (4-stroke)1202003	Gasoline (4-stroke)	51	120	2003	NOx	5.06	3.68E-04	0.977	CO	38.36	5.10E-03	1	ROG	0.99	1.94E-04

Gasoline (4-stroke)1202004	Gasoline (4-stroke)	51	120	2004	NOx	1.78	2.07E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	8.14E-05
Gasoline (4-stroke)1202005	Gasoline (4-stroke)	51	120	2005	NOx	1.78	2.07E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	8.14E-05
Gasoline (4-stroke)1202006	Gasoline (4-stroke)	51	120	2006	NOx	1.78	2.07E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	8.14E-05
Gasoline (4-stroke)1202007	Gasoline (4-stroke)	51	120	2007	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202008	Gasoline (4-stroke)	51	120	2008	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202009	Gasoline (4-stroke)	51	120	2009	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202010	Gasoline (4-stroke)	51	120	2010	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202011	Gasoline (4-stroke)	51	120	2011	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202012	Gasoline (4-stroke)	51	120	2012	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202013	Gasoline (4-stroke)	51	120	2013	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202014	Gasoline (4-stroke)	51	120	2014	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202015	Gasoline (4-stroke)	51	120	2015	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202016	Gasoline (4-stroke)	51	120	2016	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202017	Gasoline (4-stroke)	51	120	2017	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202018	Gasoline (4-stroke)	51	120	2018	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202019	Gasoline (4-stroke)	51	120	2019	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202020	Gasoline (4-stroke)	51	120	2020	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202021	Gasoline (4-stroke)	51	120	2021	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202022	Gasoline (4-stroke)	51	120	2022	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202023	Gasoline (4-stroke)	51	120	2023	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202024	Gasoline (4-stroke)	51	120	2024	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202025	Gasoline (4-stroke)	51	120	2025	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202026	Gasoline (4-stroke)	51	120	2026	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202027	Gasoline (4-stroke)	51	120	2027	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202028	Gasoline (4-stroke)	51	120	2028	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202029	Gasoline (4-stroke)	51	120	2029	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202030	Gasoline (4-stroke)	51	120	2030	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202031	Gasoline (4-stroke)	51	120	2031	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202032	Gasoline (4-stroke)	51	120	2032	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202033	Gasoline (4-stroke)	51	120	2033	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202034	Gasoline (4-stroke)	51	120	2034	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202035	Gasoline (4-stroke)	51	120	2035	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202036	Gasoline (4-stroke)	51	120	2036	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202037	Gasoline (4-stroke)	51	120	2037	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202038	Gasoline (4-stroke)	51	120	2038	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202039	Gasoline (4-stroke)	51	120	2039	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1202040	Gasoline (4-stroke)	51	120	2040	NOx	1.78	1.45E-04	0.977	CO	8.76	5.65E-03	1	ROG	0.26	4.74E-05
Gasoline (4-stroke)1751969	Gasoline (4-stroke)	121	175	1969	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751970	Gasoline (4-stroke)	121	175	1970	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751971	Gasoline (4-stroke)	121	175	1971	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751972	Gasoline (4-stroke)	121	175	1972	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751973	Gasoline (4-stroke)	121	175	1973	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751974	Gasoline (4-stroke)	121	175	1974	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751975	Gasoline (4-stroke)	121	175	1975	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751976	Gasoline (4-stroke)	121	175	1976	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751977	Gasoline (4-stroke)	121	175	1977	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751978	Gasoline (4-stroke)	121	175	1978	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751979	Gasoline (4-stroke)	121	175	1979	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751980	Gasoline (4-stroke)	121	175	1980	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751981	Gasoline (4-stroke)	121	175	1981	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751982	Gasoline (4-stroke)	121	175	1982	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751983	Gasoline (4-stroke)	121	175	1983	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05

Gasoline (4-stroke)1751984	Gasoline (4-stroke)	121	175	1984	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751985	Gasoline (4-stroke)	121	175	1985	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751986	Gasoline (4-stroke)	121	175	1986	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751987	Gasoline (4-stroke)	121	175	1987	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751988	Gasoline (4-stroke)	121	175	1988	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751989	Gasoline (4-stroke)	121	175	1989	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751990	Gasoline (4-stroke)	121	175	1990	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751991	Gasoline (4-stroke)	121	175	1991	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751992	Gasoline (4-stroke)	121	175	1992	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751993	Gasoline (4-stroke)	121	175	1993	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751994	Gasoline (4-stroke)	121	175	1994	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751995	Gasoline (4-stroke)	121	175	1995	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751996	Gasoline (4-stroke)	121	175	1996	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751997	Gasoline (4-stroke)	121	175	1997	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751998	Gasoline (4-stroke)	121	175	1998	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)1751999	Gasoline (4-stroke)	121	175	1999	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)1752000	Gasoline (4-stroke)	121	175	2000	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)1752001	Gasoline (4-stroke)	121	175	2001	NOx	10.29	1.09E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.33	3.98E-05
Gasoline (4-stroke)1752002	Gasoline (4-stroke)	121	175	2002	NOx	7.64	9.17E-05	0.977	CO	20.8	8.15E-04	1	ROG	1.06	3.81E-05
Gasoline (4-stroke)1752003	Gasoline (4-stroke)	121	175	2003	NOx	4.98	7.40E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.78	3.64E-05
Gasoline (4-stroke)1752004	Gasoline (4-stroke)	121	175	2004	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)1752005	Gasoline (4-stroke)	121	175	2005	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)1752006	Gasoline (4-stroke)	121	175	2006	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)1752007	Gasoline (4-stroke)	121	175	2007	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752008	Gasoline (4-stroke)	121	175	2008	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752009	Gasoline (4-stroke)	121	175	2009	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752010	Gasoline (4-stroke)	121	175	2010	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752011	Gasoline (4-stroke)	121	175	2011	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752012	Gasoline (4-stroke)	121	175	2012	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752013	Gasoline (4-stroke)	121	175	2013	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752014	Gasoline (4-stroke)	121	175	2014	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752015	Gasoline (4-stroke)	121	175	2015	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752016	Gasoline (4-stroke)	121	175	2016	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752017	Gasoline (4-stroke)	121	175	2017	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752018	Gasoline (4-stroke)	121	175	2018	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752019	Gasoline (4-stroke)	121	175	2019	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752020	Gasoline (4-stroke)	121	175	2020	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752021	Gasoline (4-stroke)	121	175	2021	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752022	Gasoline (4-stroke)	121	175	2022	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752023	Gasoline (4-stroke)	121	175	2023	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752024	Gasoline (4-stroke)	121	175	2024	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752025	Gasoline (4-stroke)	121	175	2025	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752026	Gasoline (4-stroke)	121	175	2026	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752027	Gasoline (4-stroke)	121	175	2027	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752028	Gasoline (4-stroke)	121	175	2028	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752029	Gasoline (4-stroke)	121	175	2029	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752030	Gasoline (4-stroke)	121	175	2030	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752031	Gasoline (4-stroke)	121	175	2031	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752032	Gasoline (4-stroke)	121	175	2032	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752033	Gasoline (4-stroke)	121	175	2033	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752034	Gasoline (4-stroke)	121	175	2034	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752035	Gasoline (4-stroke)	121	175	2035	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05

Gasoline (4-stroke)1752036	Gasoline (4-stroke)	121	175	2036	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752037	Gasoline (4-stroke)	121	175	2037	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752038	Gasoline (4-stroke)	121	175	2038	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752039	Gasoline (4-stroke)	121	175	2039	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)1752040	Gasoline (4-stroke)	121	175	2040	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2501969	Gasoline (4-stroke)	176	250	1969	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501970	Gasoline (4-stroke)	176	250	1970	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501971	Gasoline (4-stroke)	176	250	1971	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501972	Gasoline (4-stroke)	176	250	1972	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501973	Gasoline (4-stroke)	176	250	1973	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501974	Gasoline (4-stroke)	176	250	1974	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501975	Gasoline (4-stroke)	176	250	1975	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501976	Gasoline (4-stroke)	176	250	1976	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501977	Gasoline (4-stroke)	176	250	1977	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501978	Gasoline (4-stroke)	176	250	1978	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501979	Gasoline (4-stroke)	176	250	1979	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501980	Gasoline (4-stroke)	176	250	1980	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501981	Gasoline (4-stroke)	176	250	1981	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501982	Gasoline (4-stroke)	176	250	1982	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501983	Gasoline (4-stroke)	176	250	1983	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501984	Gasoline (4-stroke)	176	250	1984	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501985	Gasoline (4-stroke)	176	250	1985	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501986	Gasoline (4-stroke)	176	250	1986	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501987	Gasoline (4-stroke)	176	250	1987	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501988	Gasoline (4-stroke)	176	250	1988	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501989	Gasoline (4-stroke)	176	250	1989	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501990	Gasoline (4-stroke)	176	250	1990	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501991	Gasoline (4-stroke)	176	250	1991	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501992	Gasoline (4-stroke)	176	250	1992	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501993	Gasoline (4-stroke)	176	250	1993	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501994	Gasoline (4-stroke)	176	250	1994	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501995	Gasoline (4-stroke)	176	250	1995	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501996	Gasoline (4-stroke)	176	250	1996	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501997	Gasoline (4-stroke)	176	250	1997	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501998	Gasoline (4-stroke)	176	250	1998	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)2501999	Gasoline (4-stroke)	176	250	1999	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)2502000	Gasoline (4-stroke)	176	250	2000	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)2502001	Gasoline (4-stroke)	176	250	2001	NOx	10.29	1.09E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.33	3.98E-05
Gasoline (4-stroke)2502002	Gasoline (4-stroke)	176	250	2002	NOx	7.64	9.17E-05	0.977	CO	20.8	8.15E-04	1	ROG	1.06	3.81E-05
Gasoline (4-stroke)2502003	Gasoline (4-stroke)	176	250	2003	NOx	4.98	7.40E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.78	3.64E-05
Gasoline (4-stroke)2502004	Gasoline (4-stroke)	176	250	2004	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)2502005	Gasoline (4-stroke)	176	250	2005	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)2502006	Gasoline (4-stroke)	176	250	2006	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)2502007	Gasoline (4-stroke)	176	250	2007	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502008	Gasoline (4-stroke)	176	250	2008	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502009	Gasoline (4-stroke)	176	250	2009	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502010	Gasoline (4-stroke)	176	250	2010	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502011	Gasoline (4-stroke)	176	250	2011	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502012	Gasoline (4-stroke)	176	250	2012	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502013	Gasoline (4-stroke)	176	250	2013	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502014	Gasoline (4-stroke)	176	250	2014	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502015	Gasoline (4-stroke)	176	250	2015	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05

Gasoline (4-stroke)2502016	Gasoline (4-stroke)	176	250	2016	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502017	Gasoline (4-stroke)	176	250	2017	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502018	Gasoline (4-stroke)	176	250	2018	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502019	Gasoline (4-stroke)	176	250	2019	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502020	Gasoline (4-stroke)	176	250	2020	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502021	Gasoline (4-stroke)	176	250	2021	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502022	Gasoline (4-stroke)	176	250	2022	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502023	Gasoline (4-stroke)	176	250	2023	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502024	Gasoline (4-stroke)	176	250	2024	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502025	Gasoline (4-stroke)	176	250	2025	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502026	Gasoline (4-stroke)	176	250	2026	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502027	Gasoline (4-stroke)	176	250	2027	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502028	Gasoline (4-stroke)	176	250	2028	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502029	Gasoline (4-stroke)	176	250	2029	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502030	Gasoline (4-stroke)	176	250	2030	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502031	Gasoline (4-stroke)	176	250	2031	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502032	Gasoline (4-stroke)	176	250	2032	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502033	Gasoline (4-stroke)	176	250	2033	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502034	Gasoline (4-stroke)	176	250	2034	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502035	Gasoline (4-stroke)	176	250	2035	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502036	Gasoline (4-stroke)	176	250	2036	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502037	Gasoline (4-stroke)	176	250	2037	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502038	Gasoline (4-stroke)	176	250	2038	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502039	Gasoline (4-stroke)	176	250	2039	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)2502040	Gasoline (4-stroke)	176	250	2040	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5001969	Gasoline (4-stroke)	251	500	1969	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001970	Gasoline (4-stroke)	251	500	1970	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001971	Gasoline (4-stroke)	251	500	1971	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001972	Gasoline (4-stroke)	251	500	1972	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001973	Gasoline (4-stroke)	251	500	1973	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001974	Gasoline (4-stroke)	251	500	1974	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001975	Gasoline (4-stroke)	251	500	1975	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001976	Gasoline (4-stroke)	251	500	1976	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001977	Gasoline (4-stroke)	251	500	1977	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001978	Gasoline (4-stroke)	251	500	1978	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001979	Gasoline (4-stroke)	251	500	1979	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001980	Gasoline (4-stroke)	251	500	1980	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001981	Gasoline (4-stroke)	251	500	1981	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001982	Gasoline (4-stroke)	251	500	1982	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001983	Gasoline (4-stroke)	251	500	1983	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001984	Gasoline (4-stroke)	251	500	1984	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001985	Gasoline (4-stroke)	251	500	1985	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001986	Gasoline (4-stroke)	251	500	1986	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001987	Gasoline (4-stroke)	251	500	1987	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001988	Gasoline (4-stroke)	251	500	1988	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001989	Gasoline (4-stroke)	251	500	1989	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001990	Gasoline (4-stroke)	251	500	1990	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001991	Gasoline (4-stroke)	251	500	1991	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001992	Gasoline (4-stroke)	251	500	1992	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001993	Gasoline (4-stroke)	251	500	1993	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001994	Gasoline (4-stroke)	251	500	1994	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001995	Gasoline (4-stroke)	251	500	1995	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05

Gasoline (4-stroke)5001996	Gasoline (4-stroke)	251	500	1996	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001997	Gasoline (4-stroke)	251	500	1997	NOx	12.94	1.27E-04	0.867	CO	20.8	8.15E-04	0.795	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001998	Gasoline (4-stroke)	251	500	1998	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)5001999	Gasoline (4-stroke)	251	500	1999	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)5002000	Gasoline (4-stroke)	251	500	2000	NOx	12.94	1.27E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.61	4.15E-05
Gasoline (4-stroke)5002001	Gasoline (4-stroke)	251	500	2001	NOx	10.29	1.09E-04	0.977	CO	20.8	8.15E-04	1	ROG	1.33	3.98E-05
Gasoline (4-stroke)5002002	Gasoline (4-stroke)	251	500	2002	NOx	7.64	9.17E-05	0.977	CO	20.8	8.15E-04	1	ROG	1.06	3.81E-05
Gasoline (4-stroke)5002003	Gasoline (4-stroke)	251	500	2003	NOx	4.98	7.40E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.78	3.64E-05
Gasoline (4-stroke)5002004	Gasoline (4-stroke)	251	500	2004	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)5002005	Gasoline (4-stroke)	251	500	2005	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)5002006	Gasoline (4-stroke)	251	500	2006	NOx	1.94	2.78E-04	0.977	CO	20.8	8.15E-04	1	ROG	0.16	1.02E-04
Gasoline (4-stroke)5002007	Gasoline (4-stroke)	251	500	2007	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002008	Gasoline (4-stroke)	251	500	2008	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002009	Gasoline (4-stroke)	251	500	2009	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002010	Gasoline (4-stroke)	251	500	2010	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002011	Gasoline (4-stroke)	251	500	2011	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002012	Gasoline (4-stroke)	251	500	2012	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002013	Gasoline (4-stroke)	251	500	2013	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002014	Gasoline (4-stroke)	251	500	2014	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002015	Gasoline (4-stroke)	251	500	2015	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002016	Gasoline (4-stroke)	251	500	2016	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002017	Gasoline (4-stroke)	251	500	2017	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002018	Gasoline (4-stroke)	251	500	2018	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002019	Gasoline (4-stroke)	251	500	2019	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002020	Gasoline (4-stroke)	251	500	2020	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002021	Gasoline (4-stroke)	251	500	2021	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002022	Gasoline (4-stroke)	251	500	2022	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002023	Gasoline (4-stroke)	251	500	2023	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002024	Gasoline (4-stroke)	251	500	2024	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002025	Gasoline (4-stroke)	251	500	2025	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002026	Gasoline (4-stroke)	251	500	2026	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002027	Gasoline (4-stroke)	251	500	2027	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002028	Gasoline (4-stroke)	251	500	2028	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002029	Gasoline (4-stroke)	251	500	2029	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002030	Gasoline (4-stroke)	251	500	2030	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002031	Gasoline (4-stroke)	251	500	2031	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002032	Gasoline (4-stroke)	251	500	2032	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002033	Gasoline (4-stroke)	251	500	2033	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002034	Gasoline (4-stroke)	251	500	2034	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002035	Gasoline (4-stroke)	251	500	2035	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002036	Gasoline (4-stroke)	251	500	2036	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002037	Gasoline (4-stroke)	251	500	2037	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002038	Gasoline (4-stroke)	251	500	2038	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002039	Gasoline (4-stroke)	251	500	2039	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05
Gasoline (4-stroke)5002040	Gasoline (4-stroke)	251	500	2040	NOx	1.94	5.63E-05	0.977	CO	20.8	8.15E-04	1	ROG	0.16	3.47E-05

HP Range	Fuel	Min HP	Max HP	Model Year	ME Nox Zh	ME Nox DF	ME NOx FCF	ME CO Zh	ME CO DF	ME CO FCF	ME ROG Zh	ME ROG DF
0<HP<=15	ULSD	0	15	1994	10	0.06	1	5	0.41	1	1.82	0.51
0<HP<=15	ULSD	0	15	1995	10	0.06	1	5	0.41	1	1.82	0.51
0<HP<=15	ULSD	0	15	1996	10	0.06	1	5	0.41	1	1.82	0.51
0<HP<=15	ULSD	0	15	1997	10	0.06	1	5	0.41	1	1.82	0.51
0<HP<=15	ULSD	0	15	1998	10	0.06	1	5	0.41	1	1.82	0.51

0<HP<=15	ULSD	0	15	1999	9.35	0.06	1	5	0.41	1	1.27	0.51
0<HP<=15	ULSD	0	15	2000	9.35	0.06	1	5	0.41	1	1.27	0.51
0<HP<=15	ULSD	0	15	2001	9.35	0.06	1	5	0.41	1	1.27	0.51
0<HP<=15	ULSD	0	15	2002	9.35	0.06	1	5	0.41	1	1.27	0.51
0<HP<=15	ULSD	0	15	2003	9.35	0.06	1	5	0.41	1	1.27	0.51
0<HP<=15	ULSD	0	15	2004	6.08	0.06	1	3.47	0.41	1	0.82	0.51
0<HP<=15	ULSD	0	15	2005	6.08	0.06	1	3.47	0.41	1	0.82	0.51
0<HP<=15	ULSD	0	15	2006	6.08	0.06	1	3.47	0.41	1	0.82	0.51
0<HP<=15	ULSD	0	15	2007	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2008	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2009	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2010	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2011	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2012	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2013	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2014	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2015	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2016	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2017	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2018	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2019	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2020	4.37	0.06	1	3.47	0.41	1	0.59	0.51
0<HP<=15	ULSD	0	15	2040	4.37	0.06	1	3.47	0.41	1	0.59	0.51
15<HP<=25	ULSD	15	25	1994	6.92	0.06	1	5	0.41	1	2.23	0.51
15<HP<=25	ULSD	15	25	1995	6.92	0.06	1	5	0.41	1	2.23	0.51
15<HP<=25	ULSD	15	25	1996	6.92	0.06	1	5	0.41	1	2.23	0.51
15<HP<=25	ULSD	15	25	1997	6.92	0.06	1	5	0.41	1	2.23	0.51
15<HP<=25	ULSD	15	25	1998	6.92	0.06	1	5	0.41	1	2.23	0.51
15<HP<=25	ULSD	15	25	1999	6.92	0.06	1	5	0.41	1	1.09	0.51
15<HP<=25	ULSD	15	25	2000	6.92	0.06	1	5	0.41	1	1.09	0.51
15<HP<=25	ULSD	15	25	2001	6.92	0.06	1	5	0.41	1	1.09	0.51
15<HP<=25	ULSD	15	25	2002	6.92	0.06	1	5	0.41	1	1.09	0.51
15<HP<=25	ULSD	15	25	2003	6.92	0.06	1	5	0.41	1	1.09	0.51
15<HP<=25	ULSD	15	25	2004	5.79	0.06	1	2.34	0.41	1	0.77	0.51
15<HP<=25	ULSD	15	25	2005	5.79	0.06	1	2.34	0.41	1	0.77	0.51
15<HP<=25	ULSD	15	25	2006	5.79	0.06	1	2.34	0.41	1	0.77	0.51
15<HP<=25	ULSD	15	25	2007	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2008	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2009	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2010	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2011	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2012	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2013	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2014	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2015	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2016	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2017	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2018	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2019	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2020	4.57	0.06	1	2.34	0.41	1	0.69	0.51
15<HP<=25	ULSD	15	25	2040	4.57	0.06	1	2.34	0.41	1	0.69	0.51
25<HP<=50	ULSD	25	50	1987	7	0.06	1	5	0.41	1	2.23	0.51

25<HP<=50	ULSD	25	50	1988	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1989	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1990	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1991	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1992	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1993	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1994	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1995	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1996	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1997	7	0.06	1	5	0.41	1	2.23	0.51
25<HP<=50	ULSD	25	50	1998	6.9	0.06	1	5	0.41	1	2.18	0.51
25<HP<=50	ULSD	25	50	1999	6.9	0.06	1	5	0.41	1	2.18	0.51
25<HP<=50	ULSD	25	50	2000	6.9	0.06	1	5	0.41	1	2.18	0.51
25<HP<=50	ULSD	25	50	2001	6.9	0.06	1	5	0.41	1	2.18	0.51
25<HP<=50	ULSD	25	50	2002	6.9	0.06	1	5	0.41	1	2.18	0.51
25<HP<=50	ULSD	25	50	2003	5.55	0.06	1	4.1	0.41	1	1.75	0.51
25<HP<=50	ULSD	25	50	2004	5.1	0.06	1	3.27	0.41	1	0.77	0.51
25<HP<=50	ULSD	25	50	2005	4.95	0.06	1	3	0.41	1	0.45	0.51
25<HP<=50	ULSD	25	50	2006	4.95	0.06	1	3	0.41	1	0.45	0.51
25<HP<=50	ULSD	25	50	2007	4.88	0.06	1	2.86	0.41	1	0.29	0.51
25<HP<=50	ULSD	25	50	2008	4.88	0.06	1	2.86	0.41	1	0.29	0.51
25<HP<=50	ULSD	25	50	2009	4.88	0.06	1	2.86	0.41	1	0.29	0.51
25<HP<=50	ULSD	25	50	2010	4.88	0.06	1	2.86	0.41	1	0.29	0.51
25<HP<=50	ULSD	25	50	2011	4.88	0.06	1	2.86	0.41	1	0.29	0.51
25<HP<=50	ULSD	25	50	2012	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2013	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2014	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2015	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2016	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2017	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2018	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2019	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2020	4.8	0.06	1	2.72	0.41	1	0.12	0.51
25<HP<=50	ULSD	25	50	2040	2.9	0.06	1	2.72	0.41	1	0.12	0.51
50<HP<=120	ULSD	50	120	1987	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1988	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1989	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1990	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1991	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1992	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1993	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1994	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1995	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1996	13	0.14	1	4.8	0.16	1	1.74	0.28
50<HP<=120	ULSD	50	120	1997	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	1998	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	1999	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	2000	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	2001	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	2002	8.75	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	2003	6.9	0.14	1	3.49	0.16	1	1.2	0.28
50<HP<=120	ULSD	50	120	2004	5.64	0.14	1	3.23	0.16	1	0.56	0.28

50<HP<=120	ULSD	50	120	2005	5.22	0.14	1	3.14	0.16	1	0.34	0.28
50<HP<=120	ULSD	50	120	2006	5.22	0.14	1	3.14	0.16	1	0.34	0.28
50<HP<=120	ULSD	50	120	2007	5.01	0.14	1	3.09	0.16	1	0.23	0.28
50<HP<=120	ULSD	50	120	2008	5.01	0.14	1	3.09	0.16	1	0.23	0.28
50<HP<=120	ULSD	50	120	2009	5.01	0.14	1	3.09	0.16	1	0.23	0.28
50<HP<=120	ULSD	50	120	2010	5.01	0.14	1	3.09	0.16	1	0.23	0.28
50<HP<=120	ULSD	50	120	2011	2.89	0.14	1	3.05	0.16	1	0.12	0.28
50<HP<=120	ULSD	50	120	2012	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2013	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2014	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2015	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2016	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2017	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2018	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2019	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2020	2.53	0.14	1	3.05	0.16	1	0.11	0.28
50<HP<=120	ULSD	50	120	2040	1.4	0.14	1	3.05	0.16	1	0.08	0.28
120<HP<=175	ULSD	120	175	1969	14	0.14	1	4.4	0.16	1	1.6	0.28
120<HP<=175	ULSD	120	175	1970	14	0.14	1	4.4	0.16	1	1.6	0.28
120<HP<=175	ULSD	120	175	1971	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1972	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1973	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1974	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1975	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1976	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1977	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1978	13	0.14	1	4.4	0.16	1	1.33	0.28
120<HP<=175	ULSD	120	175	1979	12	0.14	1	4.4	0.16	1	1.21	0.28
120<HP<=175	ULSD	120	175	1980	12	0.14	1	4.4	0.16	1	1.21	0.28
120<HP<=175	ULSD	120	175	1981	12	0.14	1	4.4	0.16	1	1.21	0.28
120<HP<=175	ULSD	120	175	1982	12	0.14	1	4.4	0.16	1	1.21	0.28
120<HP<=175	ULSD	120	175	1983	12	0.14	1	4.4	0.16	1	1.21	0.28
120<HP<=175	ULSD	120	175	1984	11	0.14	1	4.3	0.16	1	1.14	0.28
120<HP<=175	ULSD	120	175	1985	11	0.14	1	4.3	0.16	1	1.14	0.28
120<HP<=175	ULSD	120	175	1986	11	0.14	1	4.3	0.16	1	1.14	0.28
120<HP<=175	ULSD	120	175	1987	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1988	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1989	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1990	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1991	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1992	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1993	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1994	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1995	11	0.14	1	4.2	0.16	1	1.06	0.28
120<HP<=175	ULSD	120	175	1996	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	1997	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	1998	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	1999	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	2000	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	2001	8.17	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	2002	6.9	0.14	1	2.7	0.16	1	0.82	0.28
120<HP<=175	ULSD	120	175	2003	5.26	0.14	1	2.7	0.16	1	0.4	0.28

120<HP<=175	ULSD	120	175	2004	4.72	0.14	1	2.7	0.16	1	0.27	0.28
120<HP<=175	ULSD	120	175	2005	4.72	0.14	1	2.7	0.16	1	0.27	0.28
120<HP<=175	ULSD	120	175	2006	4.44	0.14	1	2.7	0.16	1	0.19	0.28
120<HP<=175	ULSD	120	175	2007	4.44	0.14	1	2.7	0.16	1	0.19	0.28
120<HP<=175	ULSD	120	175	2008	4.44	0.14	1	2.7	0.16	1	0.19	0.28
120<HP<=175	ULSD	120	175	2009	4.44	0.14	1	2.7	0.16	1	0.19	0.28
120<HP<=175	ULSD	120	175	2010	4.44	0.14	1	2.7	0.16	1	0.19	0.28
120<HP<=175	ULSD	120	175	2011	2.45	0.14	1	2.7	0.16	1	0.12	0.28
120<HP<=175	ULSD	120	175	2012	2.45	0.14	1	2.7	0.16	1	0.12	0.28
120<HP<=175	ULSD	120	175	2013	2.45	0.14	1	2.7	0.16	1	0.12	0.28
120<HP<=175	ULSD	120	175	2014	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2015	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2016	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2017	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2018	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2019	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2020	2.27	0.14	1	2.7	0.16	1	0.11	0.28
120<HP<=175	ULSD	120	175	2040	0.27	0.14	1	2.7	0.16	1	0.06	0.28
175<HP<=250	ULSD	175	250	1969	14	0.14	1	4.4	0.16	1	1.6	0.28
175<HP<=250	ULSD	175	250	1970	14	0.14	1	4.4	0.16	1	1.6	0.28
175<HP<=250	ULSD	175	250	1971	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1972	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1973	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1974	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1975	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1976	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1977	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1978	13	0.14	1	4.4	0.16	1	1.33	0.28
175<HP<=250	ULSD	175	250	1979	12	0.14	1	4.4	0.16	1	1.21	0.28
175<HP<=250	ULSD	175	250	1980	12	0.14	1	4.4	0.16	1	1.21	0.28
175<HP<=250	ULSD	175	250	1981	12	0.14	1	4.4	0.16	1	1.21	0.28
175<HP<=250	ULSD	175	250	1982	12	0.14	1	4.4	0.16	1	1.21	0.28
175<HP<=250	ULSD	175	250	1983	12	0.14	1	4.4	0.16	1	1.21	0.28
175<HP<=250	ULSD	175	250	1984	11	0.14	1	4.3	0.16	1	1.14	0.28
175<HP<=250	ULSD	175	250	1985	11	0.14	1	4.3	0.16	1	1.14	0.28
175<HP<=250	ULSD	175	250	1986	11	0.14	1	4.3	0.16	1	1.14	0.28
175<HP<=250	ULSD	175	250	1987	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1988	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1989	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1990	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1991	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1992	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1993	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1994	11	0.14	1	4.2	0.16	1	1.06	0.28
175<HP<=250	ULSD	175	250	1995	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	1996	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	1997	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	1998	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	1999	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	2000	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	2001	8.17	0.14	1	2.7	0.16	1	0.82	0.28
175<HP<=250	ULSD	175	250	2002	6.25	0.14	1	0.92	0.16	1	0.39	0.28

175<HP<=250	ULSD	175	250	2003	5	0.14	1	0.92	0.16	1	0.23	0.28
175<HP<=250	ULSD	175	250	2004	4.58	0.14	1	0.92	0.16	1	0.17	0.28
175<HP<=250	ULSD	175	250	2005	4.58	0.14	1	0.92	0.16	1	0.17	0.28
175<HP<=250	ULSD	175	250	2006	4.38	0.14	1	0.92	0.16	1	0.15	0.28
175<HP<=250	ULSD	175	250	2007	4.38	0.14	1	0.92	0.16	1	0.15	0.28
175<HP<=250	ULSD	175	250	2008	4.38	0.14	1	0.92	0.16	1	0.15	0.28
175<HP<=250	ULSD	175	250	2009	4.38	0.14	1	0.92	0.16	1	0.15	0.28
175<HP<=250	ULSD	175	250	2010	2.45	0.14	1	0.92	0.16	1	0.12	0.28
175<HP<=250	ULSD	175	250	2011	2.45	0.14	1	0.92	0.16	1	0.12	0.28
175<HP<=250	ULSD	175	250	2012	2.45	0.14	1	0.92	0.16	1	0.12	0.28
175<HP<=250	ULSD	175	250	2013	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2014	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2015	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2016	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2017	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2018	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2019	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2020	1.36	0.14	1	0.92	0.16	1	0.08	0.28
175<HP<=250	ULSD	175	250	2040	0.27	0.14	1	0.92	0.16	1	0.06	0.28
250<HP<=500	ULSD	250	500	1969	14	0.21	1	4.2	0.25	1	1.52	0.44
250<HP<=500	ULSD	250	500	1970	14	0.21	1	4.2	0.25	1	1.52	0.44
250<HP<=500	ULSD	250	500	1971	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1972	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1973	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1974	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1975	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1976	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1977	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1978	13	0.21	1	4.2	0.25	1	1.27	0.44
250<HP<=500	ULSD	250	500	1979	12	0.21	1	4.2	0.25	1	1.15	0.44
250<HP<=500	ULSD	250	500	1980	12	0.21	1	4.2	0.25	1	1.15	0.44
250<HP<=500	ULSD	250	500	1981	12	0.21	1	4.2	0.25	1	1.15	0.44
250<HP<=500	ULSD	250	500	1982	12	0.21	1	4.2	0.25	1	1.15	0.44
250<HP<=500	ULSD	250	500	1983	12	0.21	1	4.2	0.25	1	1.15	0.44
250<HP<=500	ULSD	250	500	1984	11	0.21	1	4.2	0.25	1	1.09	0.44
250<HP<=500	ULSD	250	500	1985	11	0.21	1	4.2	0.25	1	1.09	0.44
250<HP<=500	ULSD	250	500	1986	11	0.21	1	4.2	0.25	1	1.09	0.44
250<HP<=500	ULSD	250	500	1987	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1988	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1989	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1990	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1991	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1992	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1993	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1994	11	0.21	1	4.1	0.25	1	1.02	0.44
250<HP<=500	ULSD	250	500	1995	8.17	0.21	1	2.7	0.25	1	0.82	0.44
250<HP<=500	ULSD	250	500	1996	8.17	0.21	1	2.7	0.25	1	0.82	0.44
250<HP<=500	ULSD	250	500	1997	8.17	0.21	1	2.7	0.25	1	0.82	0.44
250<HP<=500	ULSD	250	500	1998	8.17	0.21	1	2.7	0.25	1	0.82	0.44
250<HP<=500	ULSD	250	500	1999	8.17	0.21	1	2.7	0.25	1	0.82	0.44
250<HP<=500	ULSD	250	500	2000	6.25	0.21	1	0.92	0.25	1	0.39	0.44
250<HP<=500	ULSD	250	500	2001	4.95	0.21	1	0.92	0.25	1	0.23	0.44

250<HP<=500	ULSD	250	500	2002	4.51	0.21	1	0.92	0.25	1	0.17	0.44
250<HP<=500	ULSD	250	500	2003	4.51	0.21	1	0.92	0.25	1	0.17	0.44
250<HP<=500	ULSD	250	500	2004	4.29	0.21	1	0.92	0.25	1	0.15	0.44
250<HP<=500	ULSD	250	500	2005	4	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2006	4	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2007	4	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2008	4	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2009	4	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2010	2.45	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2011	2.45	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2012	2.45	0.21	1	0.92	0.25	1	0.12	0.44
250<HP<=500	ULSD	250	500	2013	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2014	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2015	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2016	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2017	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2018	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2019	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2020	1.36	0.21	1	0.92	0.25	1	0.08	0.44
250<HP<=500	ULSD	250	500	2040	0.27	0.21	1	0.92	0.25	1	0.06	0.44
500<HP<=750	ULSD	500	750	1969	14	0.21	1	4.2	0.25	1	1.52	0.44
500<HP<=750	ULSD	500	750	1970	14	0.21	1	4.2	0.25	1	1.52	0.44
500<HP<=750	ULSD	500	750	1971	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1972	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1973	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1974	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1975	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1976	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1977	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1978	13	0.21	1	4.2	0.25	1	1.27	0.44
500<HP<=750	ULSD	500	750	1979	12	0.21	1	4.2	0.25	1	1.15	0.44
500<HP<=750	ULSD	500	750	1980	12	0.21	1	4.2	0.25	1	1.15	0.44
500<HP<=750	ULSD	500	750	1981	12	0.21	1	4.2	0.25	1	1.15	0.44
500<HP<=750	ULSD	500	750	1982	12	0.21	1	4.2	0.25	1	1.15	0.44
500<HP<=750	ULSD	500	750	1983	12	0.21	1	4.2	0.25	1	1.15	0.44
500<HP<=750	ULSD	500	750	1984	11	0.21	1	4.2	0.25	1	1.09	0.44
500<HP<=750	ULSD	500	750	1985	11	0.21	1	4.2	0.25	1	1.09	0.44
500<HP<=750	ULSD	500	750	1986	11	0.21	1	4.2	0.25	1	1.09	0.44
500<HP<=750	ULSD	500	750	1987	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1988	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1989	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1990	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1991	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1992	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1993	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1994	11	0.21	1	4.1	0.25	1	1.02	0.44
500<HP<=750	ULSD	500	750	1995	8.17	0.21	1	2.7	0.25	1	0.82	0.44
500<HP<=750	ULSD	500	750	1996	8.17	0.21	1	2.7	0.25	1	0.82	0.44
500<HP<=750	ULSD	500	750	1997	8.17	0.21	1	2.7	0.25	1	0.82	0.44
500<HP<=750	ULSD	500	750	1998	8.17	0.21	1	2.7	0.25	1	0.82	0.44
500<HP<=750	ULSD	500	750	1999	8.17	0.21	1	2.7	0.25	1	0.82	0.44
500<HP<=750	ULSD	500	750	2000	8.17	0.21	1	2.7	0.25	1	0.82	0.44

500<HP<=750	ULSD	500	750	2001	6.25	0.21	1	0.92	0.25	1	0.39	0.44
500<HP<=750	ULSD	500	750	2002	4.95	0.21	1	0.92	0.25	1	0.23	0.44
500<HP<=750	ULSD	500	750	2003	4.51	0.21	1	0.92	0.25	1	0.17	0.44
500<HP<=750	ULSD	500	750	2004	4.51	0.21	1	0.92	0.25	1	0.17	0.44
500<HP<=750	ULSD	500	750	2005	4.29	0.21	1	0.92	0.25	1	0.15	0.44
500<HP<=750	ULSD	500	750	2006	4.29	0.21	1	0.92	0.25	1	0.15	0.44
500<HP<=750	ULSD	500	750	2007	4.29	0.21	1	0.92	0.25	1	0.15	0.44
500<HP<=750	ULSD	500	750	2008	4.29	0.21	1	0.92	0.25	1	0.15	0.44
500<HP<=750	ULSD	500	750	2009	4.29	0.21	1	0.92	0.25	1	0.15	0.44
500<HP<=750	ULSD	500	750	2010	2.45	0.21	1	0.92	0.25	1	0.12	0.44
500<HP<=750	ULSD	500	750	2011	2.45	0.21	1	0.92	0.25	1	0.12	0.44
500<HP<=750	ULSD	500	750	2012	2.45	0.21	1	0.92	0.25	1	0.12	0.44
500<HP<=750	ULSD	500	750	2013	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2014	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2015	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2016	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2017	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2018	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2019	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2020	1.36	0.21	1	0.92	0.25	1	0.08	0.44
500<HP<=750	ULSD	500	750	2040	0.27	0.21	1	0.92	0.25	1	0.06	0.44
750<HP<=1000	ULSD	750	1000	1969	14	0.21	1	4.2	0.25	1	1.52	0.44
750<HP<=1000	ULSD	750	1000	1970	14	0.21	1	4.2	0.25	1	1.52	0.44
750<HP<=1000	ULSD	750	1000	1971	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1972	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1973	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1974	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1975	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1976	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1977	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1978	13	0.21	1	4.2	0.25	1	1.27	0.44
750<HP<=1000	ULSD	750	1000	1979	12	0.21	1	4.2	0.25	1	1.15	0.44
750<HP<=1000	ULSD	750	1000	1980	12	0.21	1	4.2	0.25	1	1.15	0.44
750<HP<=1000	ULSD	750	1000	1981	12	0.21	1	4.2	0.25	1	1.15	0.44
750<HP<=1000	ULSD	750	1000	1982	12	0.21	1	4.2	0.25	1	1.15	0.44
750<HP<=1000	ULSD	750	1000	1983	12	0.21	1	4.2	0.25	1	1.15	0.44
750<HP<=1000	ULSD	750	1000	1984	11	0.21	1	4.2	0.25	1	1.09	0.44
750<HP<=1000	ULSD	750	1000	1985	11	0.21	1	4.2	0.25	1	1.09	0.44
750<HP<=1000	ULSD	750	1000	1986	11	0.21	1	4.2	0.25	1	1.09	0.44
750<HP<=1000	ULSD	750	1000	1987	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1988	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1989	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1990	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1991	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1992	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1993	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1994	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1995	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1996	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1997	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1998	11	0.21	1	4.1	0.25	1	1.02	0.44
750<HP<=1000	ULSD	750	1000	1999	8.17	0.21	1	2.7	0.25	1	0.82	0.44

750<HP<=1000	ULSD	750	1000	2000	8.17	0.21	1	2.7	0.25	1	0.82	0.44
750<HP<=1000	ULSD	750	1000	2001	8.17	0.21	1	2.7	0.25	1	0.82	0.44
750<HP<=1000	ULSD	750	1000	2002	8.17	0.21	1	2.7	0.25	1	0.82	0.44
750<HP<=1000	ULSD	750	1000	2003	8.17	0.21	1	2.7	0.25	1	0.82	0.44
750<HP<=1000	ULSD	750	1000	2004	8.17	0.21	1	2.7	0.25	1	0.82	0.44
750<HP<=1000	ULSD	750	1000	2005	6.25	0.21	1	0.92	0.25	1	0.39	0.44
750<HP<=1000	ULSD	750	1000	2006	4.95	0.21	1	0.92	0.25	1	0.23	0.44
750<HP<=1000	ULSD	750	1000	2007	4.51	0.21	1	0.92	0.25	1	0.17	0.44
750<HP<=1000	ULSD	750	1000	2008	4.51	0.21	1	0.92	0.25	1	0.17	0.44
750<HP<=1000	ULSD	750	1000	2009	4.29	0.21	1	0.92	0.25	1	0.15	0.44
750<HP<=1000	ULSD	750	1000	2010	4.08	0.21	1	0.92	0.25	1	0.12	0.44
750<HP<=1000	ULSD	750	1000	2011	4.08	0.21	1	0.92	0.25	1	0.12	0.44
750<HP<=1000	ULSD	750	1000	2012	4.08	0.21	1	0.92	0.25	1	0.12	0.44
750<HP<=1000	ULSD	750	1000	2013	4.08	0.21	1	0.92	0.25	1	0.12	0.44
750<HP<=1000	ULSD	750	1000	2014	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2015	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2016	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2017	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2018	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2019	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2020	2.36	0.21	1	0.92	0.25	1	0.08	0.44
750<HP<=1000	ULSD	750	1000	2040	2.36	0.21	1	0.92	0.25	1	0.06	0.44
1000<HP<=9999	ULSD	1000	9999	1969	14	0.21	1	4.2	0.25	1	1.52	0.44
1000<HP<=9999	ULSD	1000	9999	1970	14	0.21	1	4.2	0.25	1	1.52	0.44
1000<HP<=9999	ULSD	1000	9999	1971	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1972	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1973	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1974	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1975	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1976	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1977	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1978	13	0.21	1	4.2	0.25	1	1.27	0.44
1000<HP<=9999	ULSD	1000	9999	1979	12	0.21	1	4.2	0.25	1	1.15	0.44
1000<HP<=9999	ULSD	1000	9999	1980	12	0.21	1	4.2	0.25	1	1.15	0.44
1000<HP<=9999	ULSD	1000	9999	1981	12	0.21	1	4.2	0.25	1	1.15	0.44
1000<HP<=9999	ULSD	1000	9999	1982	12	0.21	1	4.2	0.25	1	1.15	0.44
1000<HP<=9999	ULSD	1000	9999	1983	12	0.21	1	4.2	0.25	1	1.15	0.44
1000<HP<=9999	ULSD	1000	9999	1984	11	0.21	1	4.2	0.25	1	1.09	0.44
1000<HP<=9999	ULSD	1000	9999	1985	11	0.21	1	4.2	0.25	1	1.09	0.44
1000<HP<=9999	ULSD	1000	9999	1986	11	0.21	1	4.2	0.25	1	1.09	0.44
1000<HP<=9999	ULSD	1000	9999	1987	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1988	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1989	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1990	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1991	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1992	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1993	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1994	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1995	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1996	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1997	11	0.21	1	4.1	0.25	1	1.02	0.44
1000<HP<=9999	ULSD	1000	9999	1998	11	0.21	1	4.1	0.25	1	1.02	0.44

1000<HP<=9999	ULSD	1000	9999	1999	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2000	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2001	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2002	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2003	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2004	8.17	0.21	1	2.7	0.25	1	0.82	0.44
1000<HP<=9999	ULSD	1000	9999	2005	6.25	0.21	1	0.92	0.25	1	0.39	0.44
1000<HP<=9999	ULSD	1000	9999	2006	4.95	0.21	1	0.92	0.25	1	0.23	0.44
1000<HP<=9999	ULSD	1000	9999	2007	4.51	0.21	1	0.92	0.25	1	0.17	0.44
1000<HP<=9999	ULSD	1000	9999	2008	4.51	0.21	1	0.92	0.25	1	0.17	0.44
1000<HP<=9999	ULSD	1000	9999	2009	4.29	0.21	1	0.92	0.25	1	0.15	0.44
1000<HP<=9999	ULSD	1000	9999	2010	4.08	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2011	4.08	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2012	4.08	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2013	4.08	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2014	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2015	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2016	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2017	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2018	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2019	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2020	2.36	0.21	1	0.92	0.25	1	0.12	0.44
1000<HP<=9999	ULSD	1000	9999	2040	2.36	0.21	1	0.92	0.25	1	0.06	0.44

HP Range	Fuel	Min HP	Max HP	Model Year	AE NOx			AE CO			AE ROG	
0<HP<=15	ULSD	0	15	1994	10	0.06	1	5	0.41		1.815	0.51
0<HP<=15	ULSD	0	15	1995	10	0.06	1	5	0.41		1.815	0.51
0<HP<=15	ULSD	0	15	1996	10	0.06	1	5	0.41		1.815	0.51
0<HP<=15	ULSD	0	15	1997	10	0.06	1	5	0.41		1.815	0.51
0<HP<=15	ULSD	0	15	1998	10	0.06	1	5	0.41		1.815	0.51
0<HP<=15	ULSD	0	15	1999	9.35	0.06	1	5	0.41		1.2705	0.51
0<HP<=15	ULSD	0	15	2000	9.35	0.06	1	5	0.41		1.2705	0.51
0<HP<=15	ULSD	0	15	2001	9.35	0.06	1	5	0.41		1.2705	0.51
0<HP<=15	ULSD	0	15	2002	9.35	0.06	1	5	0.41		1.2705	0.51
0<HP<=15	ULSD	0	15	2003	9.35	0.06	1	5	0.41		1.2705	0.51
0<HP<=15	ULSD	0	15	2004	6.08	0.06	1	3.47	0.41		0.8228	0.51
0<HP<=15	ULSD	0	15	2005	6.08	0.06	1	3.47	0.41		0.8228	0.51
0<HP<=15	ULSD	0	15	2006	6.08	0.06	1	3.47	0.41		0.8228	0.51
0<HP<=15	ULSD	0	15	2007	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2008	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2009	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2010	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2011	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2012	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2013	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2014	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2015	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2016	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2017	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2018	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2019	4.37	0.06	1	3.47	0.41		0.5929	0.51
0<HP<=15	ULSD	0	15	2020	4.37	0.06	1	3.47	0.41		0.5929	0.51

0<HP<=15	ULSD	0	15	2040	4.37	0.06	1	3.47	0.41	0.5929	0.51
15<HP<=25	ULSD	15	25	1994	6.92	0.06	1	5	0.41	2.2264	0.51
15<HP<=25	ULSD	15	25	1995	6.92	0.06	1	5	0.41	2.2264	0.51
15<HP<=25	ULSD	15	25	1996	6.92	0.06	1	5	0.41	2.2264	0.51
15<HP<=25	ULSD	15	25	1997	6.92	0.06	1	5	0.41	2.2264	0.51
15<HP<=25	ULSD	15	25	1998	6.92	0.06	1	5	0.41	2.2264	0.51
15<HP<=25	ULSD	15	25	1999	6.92	0.06	1	5	0.41	1.089	0.51
15<HP<=25	ULSD	15	25	2000	6.92	0.06	1	5	0.41	1.089	0.51
15<HP<=25	ULSD	15	25	2001	6.92	0.06	1	5	0.41	1.089	0.51
15<HP<=25	ULSD	15	25	2002	6.92	0.06	1	5	0.41	1.089	0.51
15<HP<=25	ULSD	15	25	2003	6.92	0.06	1	5	0.41	1.089	0.51
15<HP<=25	ULSD	15	25	2004	5.79	0.06	1	2.34	0.41	0.7744	0.51
15<HP<=25	ULSD	15	25	2005	5.79	0.06	1	2.34	0.41	0.7744	0.51
15<HP<=25	ULSD	15	25	2006	5.79	0.06	1	2.34	0.41	0.7744	0.51
15<HP<=25	ULSD	15	25	2007	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2008	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2009	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2010	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2011	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2012	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2013	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2014	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2015	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2016	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2017	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2018	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2019	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2020	4.57	0.06	1	2.34	0.41	0.6897	0.51
15<HP<=25	ULSD	15	25	2040	4.57	0.06	1	2.34	0.41	0.6897	0.51
25<HP<=50	ULSD	25	50	1987	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1988	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1989	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1990	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1991	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1992	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1993	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1994	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1995	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1996	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1997	7	0.06	1	5	0.41	2.2264	0.51
25<HP<=50	ULSD	25	50	1998	6.9	0.06	1	5	0.41	2.178	0.51
25<HP<=50	ULSD	25	50	1999	6.9	0.06	1	5	0.41	2.178	0.51
25<HP<=50	ULSD	25	50	2000	6.9	0.06	1	5	0.41	2.178	0.51
25<HP<=50	ULSD	25	50	2001	6.9	0.06	1	5	0.41	2.178	0.51
25<HP<=50	ULSD	25	50	2002	6.9	0.06	1	5	0.41	2.178	0.51
25<HP<=50	ULSD	25	50	2003	5.55	0.06	1	4.1	0.41	1.7545	0.51
25<HP<=50	ULSD	25	50	2004	5.1	0.06	1	3.27	0.41	0.7744	0.51
25<HP<=50	ULSD	25	50	2005	4.95	0.06	1	3	0.41	0.4477	0.51
25<HP<=50	ULSD	25	50	2006	4.95	0.06	1	3	0.41	0.4477	0.51
25<HP<=50	ULSD	25	50	2007	4.88	0.06	1	2.86	0.41	0.2904	0.51
25<HP<=50	ULSD	25	50	2008	4.88	0.06	1	2.86	0.41	0.2904	0.51
25<HP<=50	ULSD	25	50	2009	4.88	0.06	1	2.86	0.41	0.2904	0.51

25<HP<=50	ULSD	25	50	2010	4.88	0.06	1	2.86	0.41	0.2904	0.51
25<HP<=50	ULSD	25	50	2011	4.88	0.06	1	2.86	0.41	0.2904	0.51
25<HP<=50	ULSD	25	50	2012	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2013	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2014	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2015	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2016	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2017	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2018	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2019	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2020	4.8	0.06	1	2.72	0.41	0.121	0.51
25<HP<=50	ULSD	25	50	2040	2.9	0.06	1	2.72	0.41	0.121	0.51
50<HP<=120	ULSD	50	120	1987	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1988	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1989	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1990	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1991	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1992	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1993	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1994	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1995	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1996	13	0.14	1	4.8	0.16	1.7424	0.28
50<HP<=120	ULSD	50	120	1997	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	1998	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	1999	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	2000	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	2001	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	2002	8.75	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	2003	6.9	0.14	1	3.49	0.16	1.1979	0.28
50<HP<=120	ULSD	50	120	2004	5.64	0.14	1	3.23	0.16	0.5566	0.28
50<HP<=120	ULSD	50	120	2005	5.22	0.14	1	3.14	0.16	0.3388	0.28
50<HP<=120	ULSD	50	120	2006	5.22	0.14	1	3.14	0.16	0.3388	0.28
50<HP<=120	ULSD	50	120	2007	5.01	0.14	1	3.09	0.16	0.2299	0.28
50<HP<=120	ULSD	50	120	2008	5.01	0.14	1	3.09	0.16	0.2299	0.28
50<HP<=120	ULSD	50	120	2009	5.01	0.14	1	3.09	0.16	0.2299	0.28
50<HP<=120	ULSD	50	120	2010	5.01	0.14	1	3.09	0.16	0.2299	0.28
50<HP<=120	ULSD	50	120	2011	2.89	0.14	1	3.05	0.16	0.121	0.28
50<HP<=120	ULSD	50	120	2012	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2013	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2014	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2015	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2016	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2017	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2018	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2019	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2020	2.53	0.14	1	3.05	0.16	0.1089	0.28
50<HP<=120	ULSD	50	120	2040	1.4	0.14	1	3.05	0.16	0.0847	0.28
120<HP<=175	ULSD	120	175	1969	14	0.14	1	4.4	0.16	1.5972	0.28
120<HP<=175	ULSD	120	175	1970	14	0.14	1	4.4	0.16	1.5972	0.28
120<HP<=175	ULSD	120	175	1971	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1972	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1973	13	0.14	1	4.4	0.16	1.331	0.28

120<HP<=175	ULSD	120	175	1974	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1975	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1976	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1977	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1978	13	0.14	1	4.4	0.16	1.331	0.28
120<HP<=175	ULSD	120	175	1979	12	0.14	1	4.4	0.16	1.21	0.28
120<HP<=175	ULSD	120	175	1980	12	0.14	1	4.4	0.16	1.21	0.28
120<HP<=175	ULSD	120	175	1981	12	0.14	1	4.4	0.16	1.21	0.28
120<HP<=175	ULSD	120	175	1982	12	0.14	1	4.4	0.16	1.21	0.28
120<HP<=175	ULSD	120	175	1983	12	0.14	1	4.4	0.16	1.21	0.28
120<HP<=175	ULSD	120	175	1984	11	0.14	1	4.3	0.16	1.1374	0.28
120<HP<=175	ULSD	120	175	1985	11	0.14	1	4.3	0.16	1.1374	0.28
120<HP<=175	ULSD	120	175	1986	11	0.14	1	4.3	0.16	1.1374	0.28
120<HP<=175	ULSD	120	175	1987	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1988	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1989	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1990	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1991	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1992	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1993	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1994	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1995	11	0.14	1	4.2	0.16	1.0648	0.28
120<HP<=175	ULSD	120	175	1996	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	1997	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	1998	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	1999	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	2000	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	2001	8.17	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	2002	6.9	0.14	1	2.7	0.16	0.8228	0.28
120<HP<=175	ULSD	120	175	2003	5.26	0.14	1	2.7	0.16	0.3993	0.28
120<HP<=175	ULSD	120	175	2004	4.72	0.14	1	2.7	0.16	0.2662	0.28
120<HP<=175	ULSD	120	175	2005	4.72	0.14	1	2.7	0.16	0.2662	0.28
120<HP<=175	ULSD	120	175	2006	4.44	0.14	1	2.7	0.16	0.1936	0.28
120<HP<=175	ULSD	120	175	2007	4.44	0.14	1	2.7	0.16	0.1936	0.28
120<HP<=175	ULSD	120	175	2008	4.44	0.14	1	2.7	0.16	0.1936	0.28
120<HP<=175	ULSD	120	175	2009	4.44	0.14	1	2.7	0.16	0.1936	0.28
120<HP<=175	ULSD	120	175	2010	4.44	0.14	1	2.7	0.16	0.1936	0.28
120<HP<=175	ULSD	120	175	2011	2.45	0.14	1	2.7	0.16	0.121	0.28
120<HP<=175	ULSD	120	175	2012	2.45	0.14	1	2.7	0.16	0.121	0.28
120<HP<=175	ULSD	120	175	2013	2.45	0.14	1	2.7	0.16	0.121	0.28
120<HP<=175	ULSD	120	175	2014	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2015	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2016	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2017	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2018	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2019	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2020	2.27	0.14	1	2.7	0.16	0.1089	0.28
120<HP<=175	ULSD	120	175	2040	0.27	0.14	1	2.7	0.16	0.0605	0.28
175<HP<=250	ULSD	175	250	1969	14	0.14	1	4.4	0.16	1.5972	0.28
175<HP<=250	ULSD	175	250	1970	14	0.14	1	4.4	0.16	1.5972	0.28
175<HP<=250	ULSD	175	250	1971	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1972	13	0.14	1	4.4	0.16	1.331	0.28

175<HP<=250	ULSD	175	250	1973	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1974	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1975	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1976	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1977	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1978	13	0.14	1	4.4	0.16	1.331	0.28
175<HP<=250	ULSD	175	250	1979	12	0.14	1	4.4	0.16	1.21	0.28
175<HP<=250	ULSD	175	250	1980	12	0.14	1	4.4	0.16	1.21	0.28
175<HP<=250	ULSD	175	250	1981	12	0.14	1	4.4	0.16	1.21	0.28
175<HP<=250	ULSD	175	250	1982	12	0.14	1	4.4	0.16	1.21	0.28
175<HP<=250	ULSD	175	250	1983	12	0.14	1	4.4	0.16	1.21	0.28
175<HP<=250	ULSD	175	250	1984	11	0.14	1	4.3	0.16	1.1374	0.28
175<HP<=250	ULSD	175	250	1985	11	0.14	1	4.3	0.16	1.1374	0.28
175<HP<=250	ULSD	175	250	1986	11	0.14	1	4.3	0.16	1.1374	0.28
175<HP<=250	ULSD	175	250	1987	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1988	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1989	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1990	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1991	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1992	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1993	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1994	11	0.14	1	4.2	0.16	1.0648	0.28
175<HP<=250	ULSD	175	250	1995	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	1996	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	1997	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	1998	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	1999	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	2000	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	2001	8.17	0.14	1	2.7	0.16	0.8228	0.28
175<HP<=250	ULSD	175	250	2002	6.25	0.14	1	0.92	0.16	0.3872	0.28
175<HP<=250	ULSD	175	250	2003	5	0.14	1	0.92	0.16	0.2299	0.28
175<HP<=250	ULSD	175	250	2004	4.58	0.14	1	0.92	0.16	0.1694	0.28
175<HP<=250	ULSD	175	250	2005	4.58	0.14	1	0.92	0.16	0.1694	0.28
175<HP<=250	ULSD	175	250	2006	4.38	0.14	1	0.92	0.16	0.1452	0.28
175<HP<=250	ULSD	175	250	2007	4.38	0.14	1	0.92	0.16	0.1452	0.28
175<HP<=250	ULSD	175	250	2008	4.38	0.14	1	0.92	0.16	0.1452	0.28
175<HP<=250	ULSD	175	250	2009	4.38	0.14	1	0.92	0.16	0.1452	0.28
175<HP<=250	ULSD	175	250	2010	2.45	0.14	1	0.92	0.16	0.121	0.28
175<HP<=250	ULSD	175	250	2011	2.45	0.14	1	0.92	0.16	0.121	0.28
175<HP<=250	ULSD	175	250	2012	2.45	0.14	1	0.92	0.16	0.121	0.28
175<HP<=250	ULSD	175	250	2013	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2014	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2015	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2016	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2017	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2018	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2019	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2020	1.36	0.14	1	0.92	0.16	0.0847	0.28
175<HP<=250	ULSD	175	250	2040	0.27	0.14	1	0.92	0.16	0.0605	0.28
250<HP<=500	ULSD	250	500	1969	14	0.21	1	4.2	0.25	1.5246	0.44
250<HP<=500	ULSD	250	500	1970	14	0.21	1	4.2	0.25	1.5246	0.44
250<HP<=500	ULSD	250	500	1971	13	0.21	1	4.2	0.25	1.2705	0.44

250<HP<=500	ULSD	250	500	1972	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1973	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1974	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1975	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1976	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1977	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1978	13	0.21	1	4.2	0.25	1.2705	0.44
250<HP<=500	ULSD	250	500	1979	12	0.21	1	4.2	0.25	1.1495	0.44
250<HP<=500	ULSD	250	500	1980	12	0.21	1	4.2	0.25	1.1495	0.44
250<HP<=500	ULSD	250	500	1981	12	0.21	1	4.2	0.25	1.1495	0.44
250<HP<=500	ULSD	250	500	1982	12	0.21	1	4.2	0.25	1.1495	0.44
250<HP<=500	ULSD	250	500	1983	12	0.21	1	4.2	0.25	1.1495	0.44
250<HP<=500	ULSD	250	500	1984	11	0.21	1	4.2	0.25	1.089	0.44
250<HP<=500	ULSD	250	500	1985	11	0.21	1	4.2	0.25	1.089	0.44
250<HP<=500	ULSD	250	500	1986	11	0.21	1	4.2	0.25	1.089	0.44
250<HP<=500	ULSD	250	500	1987	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1988	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1989	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1990	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1991	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1992	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1993	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1994	11	0.21	1	4.1	0.25	1.0164	0.44
250<HP<=500	ULSD	250	500	1995	8.17	0.21	1	2.7	0.25	0.8228	0.44
250<HP<=500	ULSD	250	500	1996	8.17	0.21	1	2.7	0.25	0.8228	0.44
250<HP<=500	ULSD	250	500	1997	8.17	0.21	1	2.7	0.25	0.8228	0.44
250<HP<=500	ULSD	250	500	1998	8.17	0.21	1	2.7	0.25	0.8228	0.44
250<HP<=500	ULSD	250	500	1999	8.17	0.21	1	2.7	0.25	0.8228	0.44
250<HP<=500	ULSD	250	500	2000	6.25	0.21	1	0.92	0.25	0.3872	0.44
250<HP<=500	ULSD	250	500	2001	4.95	0.21	1	0.92	0.25	0.2299	0.44
250<HP<=500	ULSD	250	500	2002	4.51	0.21	1	0.92	0.25	0.1694	0.44
250<HP<=500	ULSD	250	500	2003	4.51	0.21	1	0.92	0.25	0.1694	0.44
250<HP<=500	ULSD	250	500	2004	4.29	0.21	1	0.92	0.25	0.1452	0.44
250<HP<=500	ULSD	250	500	2005	4	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2006	4	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2007	4	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2008	4	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2009	4	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2010	2.45	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2011	2.45	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2012	2.45	0.21	1	0.92	0.25	0.121	0.44
250<HP<=500	ULSD	250	500	2013	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2014	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2015	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2016	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2017	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2018	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2019	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2020	1.36	0.21	1	0.92	0.25	0.0847	0.44
250<HP<=500	ULSD	250	500	2040	0.27	0.21	1	0.92	0.25	0.0605	0.44
500<HP<=750	ULSD	500	750	1969	14	0.21	1	4.2	0.25	1.5246	0.44
500<HP<=750	ULSD	500	750	1970	14	0.21	1	4.2	0.25	1.5246	0.44

500<HP<=750	ULSD	500	750	1971	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1972	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1973	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1974	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1975	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1976	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1977	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1978	13	0.21	1	4.2	0.25	1.2705	0.44
500<HP<=750	ULSD	500	750	1979	12	0.21	1	4.2	0.25	1.1495	0.44
500<HP<=750	ULSD	500	750	1980	12	0.21	1	4.2	0.25	1.1495	0.44
500<HP<=750	ULSD	500	750	1981	12	0.21	1	4.2	0.25	1.1495	0.44
500<HP<=750	ULSD	500	750	1982	12	0.21	1	4.2	0.25	1.1495	0.44
500<HP<=750	ULSD	500	750	1983	12	0.21	1	4.2	0.25	1.1495	0.44
500<HP<=750	ULSD	500	750	1984	11	0.21	1	4.2	0.25	1.089	0.44
500<HP<=750	ULSD	500	750	1985	11	0.21	1	4.2	0.25	1.089	0.44
500<HP<=750	ULSD	500	750	1986	11	0.21	1	4.2	0.25	1.089	0.44
500<HP<=750	ULSD	500	750	1987	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1988	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1989	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1990	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1991	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1992	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1993	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1994	11	0.21	1	4.1	0.25	1.0164	0.44
500<HP<=750	ULSD	500	750	1995	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	1996	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	1997	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	1998	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	1999	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	2000	8.17	0.21	1	2.7	0.25	0.8228	0.44
500<HP<=750	ULSD	500	750	2001	6.25	0.21	1	0.92	0.25	0.3872	0.44
500<HP<=750	ULSD	500	750	2002	4.95	0.21	1	0.92	0.25	0.2299	0.44
500<HP<=750	ULSD	500	750	2003	4.51	0.21	1	0.92	0.25	0.1694	0.44
500<HP<=750	ULSD	500	750	2004	4.51	0.21	1	0.92	0.25	0.1694	0.44
500<HP<=750	ULSD	500	750	2005	4.29	0.21	1	0.92	0.25	0.1452	0.44
500<HP<=750	ULSD	500	750	2006	4.29	0.21	1	0.92	0.25	0.1452	0.44
500<HP<=750	ULSD	500	750	2007	4.29	0.21	1	0.92	0.25	0.1452	0.44
500<HP<=750	ULSD	500	750	2008	4.29	0.21	1	0.92	0.25	0.1452	0.44
500<HP<=750	ULSD	500	750	2009	4.29	0.21	1	0.92	0.25	0.1452	0.44
500<HP<=750	ULSD	500	750	2010	2.45	0.21	1	0.92	0.25	0.121	0.44
500<HP<=750	ULSD	500	750	2011	2.45	0.21	1	0.92	0.25	0.121	0.44
500<HP<=750	ULSD	500	750	2012	2.45	0.21	1	0.92	0.25	0.121	0.44
500<HP<=750	ULSD	500	750	2013	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2014	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2015	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2016	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2017	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2018	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2019	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2020	1.36	0.21	1	0.92	0.25	0.0847	0.44
500<HP<=750	ULSD	500	750	2040	0.27	0.21	1	0.92	0.25	0.0605	0.44
750<HP<=1000	ULSD	750	1000	1969	14	0.21	1	4.2	0.25	1.5246	0.44

750<HP<=1000	ULSD	750	1000	1970	14	0.21	1	4.2	0.25	1.5246	0.44
750<HP<=1000	ULSD	750	1000	1971	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1972	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1973	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1974	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1975	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1976	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1977	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1978	13	0.21	1	4.2	0.25	1.2705	0.44
750<HP<=1000	ULSD	750	1000	1979	12	0.21	1	4.2	0.25	1.1495	0.44
750<HP<=1000	ULSD	750	1000	1980	12	0.21	1	4.2	0.25	1.1495	0.44
750<HP<=1000	ULSD	750	1000	1981	12	0.21	1	4.2	0.25	1.1495	0.44
750<HP<=1000	ULSD	750	1000	1982	12	0.21	1	4.2	0.25	1.1495	0.44
750<HP<=1000	ULSD	750	1000	1983	12	0.21	1	4.2	0.25	1.1495	0.44
750<HP<=1000	ULSD	750	1000	1984	11	0.21	1	4.2	0.25	1.089	0.44
750<HP<=1000	ULSD	750	1000	1985	11	0.21	1	4.2	0.25	1.089	0.44
750<HP<=1000	ULSD	750	1000	1986	11	0.21	1	4.2	0.25	1.089	0.44
750<HP<=1000	ULSD	750	1000	1987	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1988	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1989	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1990	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1991	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1992	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1993	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1994	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1995	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1996	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1997	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1998	11	0.21	1	4.1	0.25	1.0164	0.44
750<HP<=1000	ULSD	750	1000	1999	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2000	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2001	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2002	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2003	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2004	8.17	0.21	1	2.7	0.25	0.8228	0.44
750<HP<=1000	ULSD	750	1000	2005	6.25	0.21	1	0.92	0.25	0.3872	0.44
750<HP<=1000	ULSD	750	1000	2006	4.95	0.21	1	0.92	0.25	0.2299	0.44
750<HP<=1000	ULSD	750	1000	2007	4.51	0.21	1	0.92	0.25	0.1694	0.44
750<HP<=1000	ULSD	750	1000	2008	4.51	0.21	1	0.92	0.25	0.1694	0.44
750<HP<=1000	ULSD	750	1000	2009	4.29	0.21	1	0.92	0.25	0.1452	0.44
750<HP<=1000	ULSD	750	1000	2010	4.08	0.21	1	0.92	0.25	0.121	0.44
750<HP<=1000	ULSD	750	1000	2011	4.08	0.21	1	0.92	0.25	0.121	0.44
750<HP<=1000	ULSD	750	1000	2012	4.08	0.21	1	0.92	0.25	0.121	0.44
750<HP<=1000	ULSD	750	1000	2013	4.08	0.21	1	0.92	0.25	0.121	0.44
750<HP<=1000	ULSD	750	1000	2014	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2015	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2016	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2017	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2018	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2019	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2020	2.36	0.21	1	0.92	0.25	0.0847	0.44
750<HP<=1000	ULSD	750	1000	2040	2.36	0.21	1	0.92	0.25	0.0605	0.44

1000<HP<=9999	ULSD	1000	9999	1969	14	0.21	1	4.2	0.25	1.5246	0.44
1000<HP<=9999	ULSD	1000	9999	1970	14	0.21	1	4.2	0.25	1.5246	0.44
1000<HP<=9999	ULSD	1000	9999	1971	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1972	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1973	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1974	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1975	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1976	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1977	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1978	13	0.21	1	4.2	0.25	1.2705	0.44
1000<HP<=9999	ULSD	1000	9999	1979	12	0.21	1	4.2	0.25	1.1495	0.44
1000<HP<=9999	ULSD	1000	9999	1980	12	0.21	1	4.2	0.25	1.1495	0.44
1000<HP<=9999	ULSD	1000	9999	1981	12	0.21	1	4.2	0.25	1.1495	0.44
1000<HP<=9999	ULSD	1000	9999	1982	12	0.21	1	4.2	0.25	1.1495	0.44
1000<HP<=9999	ULSD	1000	9999	1983	12	0.21	1	4.2	0.25	1.1495	0.44
1000<HP<=9999	ULSD	1000	9999	1984	11	0.21	1	4.2	0.25	1.089	0.44
1000<HP<=9999	ULSD	1000	9999	1985	11	0.21	1	4.2	0.25	1.089	0.44
1000<HP<=9999	ULSD	1000	9999	1986	11	0.21	1	4.2	0.25	1.089	0.44
1000<HP<=9999	ULSD	1000	9999	1987	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1988	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1989	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1990	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1991	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1992	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1993	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1994	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1995	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1996	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1997	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1998	11	0.21	1	4.1	0.25	1.0164	0.44
1000<HP<=9999	ULSD	1000	9999	1999	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2000	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2001	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2002	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2003	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2004	8.17	0.21	1	2.7	0.25	0.8228	0.44
1000<HP<=9999	ULSD	1000	9999	2005	6.25	0.21	1	0.92	0.25	0.3872	0.44
1000<HP<=9999	ULSD	1000	9999	2006	4.95	0.21	1	0.92	0.25	0.2299	0.44
1000<HP<=9999	ULSD	1000	9999	2007	4.51	0.21	1	0.92	0.25	0.1694	0.44
1000<HP<=9999	ULSD	1000	9999	2008	4.51	0.21	1	0.92	0.25	0.1694	0.44
1000<HP<=9999	ULSD	1000	9999	2009	4.29	0.21	1	0.92	0.25	0.1452	0.44
1000<HP<=9999	ULSD	1000	9999	2010	4.08	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2011	4.08	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2012	4.08	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2013	4.08	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2014	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2015	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2016	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2017	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2018	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2019	2.36	0.21	1	0.92	0.25	0.121	0.44
1000<HP<=9999	ULSD	1000	9999	2020	2.36	0.21	1	0.92	0.25	0.121	0.44

1000<HP<=9999	ULSD	1000	9999	2040	2.36	0.21	1	0.92	0.25	0.0605	0.44

THC Fuel CF	Pollutant	PM2.5 Zero Hour Emission Factor	PM2.5 Deterioration Rate	PM2.5 Fuel CF	Pollutant	PM10 Zero Hour Emission Factor	PM10 Deterioration Rate	PM10 Fuel CF	Pollutant	CO2 Zero Hour Emission Factor	CO2 Deterioration Rate	CO2 Fuel CF	
		g/bhp-hr	g/bhp-hr^2			g/bhp-hr	g/bhp-hr^2			g/bhp-hr	g/bhp-hr^2		
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	current CY
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	2014
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.92	0.00E+00	0.72	PM10	1	0.00E+00	0.72	CO2	568.3	0.00E+00	1	
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.43	0.00E+00	0.8	PM10	0.47	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.43	0.00E+00	0.8	PM10	0.47	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.43	0.00E+00	0.8	PM10	0.47	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.43	0.00E+00	0.8	PM10	0.47	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.43	0.00E+00	0.8	PM10	0.47	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1	
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1	

1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	0.00E+00	0.72	PM10	0.76	0.00E+00	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1

1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.52	0.00E+00	0.8	PM10	0.57	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	0.00E+00	0.8	PM10	0.38	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.8	PM10	0.19	0.00E+00	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	0.00E+00	0.852	PM10	0.19	0.00E+00	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1

1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.70	5.89E-05	0.72	PM10	0.76	5.89E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.55	4.65E-05	0.8	PM10	0.6	4.65E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.55	4.65E-05	0.8	PM10	0.6	4.65E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.55	4.65E-05	0.8	PM10	0.6	4.65E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.55	4.65E-05	0.8	PM10	0.6	4.65E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.55	4.65E-05	0.8	PM10	0.6	4.65E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.40	3.36E-05	0.8	PM10	0.43	3.36E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.93E-05	0.8	PM10	0.38	2.93E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.32	2.72E-05	0.8	PM10	0.35	2.72E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.32	2.72E-05	0.8	PM10	0.35	2.72E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.20E-05	0.8	PM10	0.16	1.20E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.20E-05	0.8	PM10	0.16	1.20E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.20E-05	0.8	PM10	0.16	1.20E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.20E-05	0.852	PM10	0.16	1.20E-05	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.20E-05	0.852	PM10	0.16	1.20E-05	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1

1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.20E-06	0.852	PM10	0.01	1.20E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.77	6.11E-05	0.72	PM10	0.84	6.11E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.72	PM10	0.69	5.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.63	5.02E-05	0.8	PM10	0.69	5.02E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.36	2.85E-05	0.8	PM10	0.39	2.85E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.27	2.12E-05	0.8	PM10	0.29	2.12E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.22	1.76E-05	0.8	PM10	0.24	1.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.22	1.76E-05	0.8	PM10	0.24	1.76E-05	0.8	CO2	568.3	0.00E+00	1

1	PM2.5	0.18	8.58E-06	0.8	PM10	0.2	8.58E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.18	8.58E-06	0.8	PM10	0.2	8.58E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.18	8.58E-06	0.8	PM10	0.2	8.58E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.18	8.58E-06	0.852	PM10	0.2	8.58E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	4.30E-06	0.852	PM10	0.07	4.30E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	4.30E-06	0.852	PM10	0.07	4.30E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	1.04E-06	0.852	PM10	0.01	1.04E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.71	5.60E-05	0.72	PM10	0.77	5.60E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.61	4.80E-05	0.72	PM10	0.66	4.80E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.61	4.80E-05	0.72	PM10	0.66	4.80E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1

1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.8	PM10	0.38	2.76E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.22	1.70E-05	0.8	PM10	0.24	1.70E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.17	1.35E-05	0.8	PM10	0.19	1.35E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.18E-05	0.8	PM10	0.16	1.18E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.15	1.18E-05	0.8	PM10	0.16	1.18E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.13	1.00E-05	0.8	PM10	0.14	1.00E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.13	1.00E-05	0.8	PM10	0.14	1.00E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.13	1.00E-05	0.8	PM10	0.14	1.00E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.13	1.00E-05	0.8	PM10	0.14	1.00E-05	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.13	1.00E-05	0.852	PM10	0.14	1.00E-05	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1

1	PM2.5	0.01	5.00E-07	0.852	PM10	0.01	5.00E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.71	5.60E-05	0.72	PM10	0.77	5.60E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.61	4.80E-05	0.72	PM10	0.66	4.80E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.61	4.80E-05	0.72	PM10	0.66	4.80E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.51	4.00E-05	0.72	PM10	0.55	4.00E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.76E-05	0.72	PM10	0.38	2.76E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.11	6.51E-06	0.8	PM10	0.12	6.51E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	6.03E-06	0.8	PM10	0.11	6.03E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.59E-06	0.8	PM10	0.11	5.59E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.59E-06	0.8	PM10	0.11	5.59E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.59E-06	0.8	PM10	0.11	5.59E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.59E-06	0.8	PM10	0.11	5.59E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1

1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.68	3.93E-05	0.72	PM10	0.74	3.93E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1

1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.11	6.51E-06	0.8	PM10	0.12	6.51E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	6.03E-06	0.8	PM10	0.11	6.03E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.68	3.93E-05	0.72	PM10	0.74	3.93E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1

1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-05	0.72	PM10	0.38	2.02E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.11	6.51E-06	0.8	PM10	0.12	6.51E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	6.03E-06	0.8	PM10	0.11	6.03E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1

1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.01	3.75E-07	0.852	PM10	0.01	3.75E-07	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.68	3.93E-05	0.72	PM10	0.74	3.93E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.11	6.51E-06	0.8	PM10	0.12	6.51E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	6.03E-06	0.8	PM10	0.11	6.03E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1

1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.68	3.93E-05	0.72	PM10	0.74	3.93E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.58	3.34E-05	0.72	PM10	0.63	3.34E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.49	2.81E-05	0.72	PM10	0.53	2.81E-05	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1

1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.72	PM10	0.38	2.02E-06	0.72	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.35	2.02E-06	0.8	PM10	0.38	2.02E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.14	7.96E-06	0.8	PM10	0.15	7.96E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.11	6.51E-06	0.8	PM10	0.12	6.51E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	6.03E-06	0.8	PM10	0.11	6.03E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.79E-06	0.8	PM10	0.11	5.79E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.10	5.55E-06	0.8	PM10	0.11	5.55E-06	0.8	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.06	2.50E-06	0.852	PM10	0.06	2.50E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.02	1.00E-06	0.852	PM10	0.02	1.00E-06	0.852	CO2	568.3	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.54E-05	1	PM10	0.09	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.54E-05	1	PM10	0.9	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.54E-05	1	PM10	0.9	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.54E-05	1	PM10	0.9	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.54E-05	1	PM10	0.9	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.54E-05	1	PM10	0.25	9.54E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.08	9.37E-05	1	PM10	0.09	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.37E-05	1	PM10	0.9	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.37E-05	1	PM10	0.9	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.37E-05	1	PM10	0.9	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.83	9.37E-05	1	PM10	0.9	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.23	9.37E-05	1	PM10	0.25	9.37E-05	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	674.66	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1

0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1

1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1

1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	7.08	0.00E+00	1	PM10	7.7	0.00E+00	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1

1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1

0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1

1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.68	2.60E-03	1	PM10	0.74	2.60E-03	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1

1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1

0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
1	PM2.5	0.13	2.00E-04	1	PM10	0.14	2.00E-04	1	CO2	429.44	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1

0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	783.3	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	774.5	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1

0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	753.25	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1

1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1

0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
0.85	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1
1	PM2.5	0.06	0.00E+00	1	PM10	0.06	0.00E+00	1	CO2	732	0.00E+00	1

ME ROG FCF	ME PM Zh	ME PM DF	ME PM FCF	ME PM Zh	ME PM DF	ME PM FCF
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1

1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
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1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.19	0.31	1	0.19	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.76	0.31	1	0.76	0.31	1
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1	0.76	0.31	1	0.76	0.31	1

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1	0.39	0.44	1	0.39	0.44	1

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1	0.66	0.44	1	0.66	0.44	1
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1	0.01	0.44	1	0.01	0.44	1
1	0.01	0.44	1	0.01	0.44	1
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1	0.15	0.44	1	0.15	0.44	1

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1	0.38	0.67	1	0.38	0.67	1

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1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.15	0.67	1	0.15	0.67	1
1	0.12	0.67	1	0.12	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
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1	0.06	0.67	1	0.06	0.67	1
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1	0.06	0.67	1	0.06	0.67	1
1	0.02	0.67	1	0.02	0.67	1
1	0.74	0.67	1	0.74	0.67	1
1	0.74	0.67	1	0.74	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
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1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
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1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1

1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.15	0.67	1	0.15	0.67	1
1	0.12	0.67	1	0.12	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.02	0.67	1	0.02	0.67	1
	AE PM			AE PM		
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	1	0.31	1	1	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.47	0.31	1	0.47	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
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1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1
1	0.38	0.31	1	0.38	0.31	1

1	0.19	0.31	1	0.19	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.76	0.31	1	0.76	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.57	0.31	1	0.57	0.31	1
1	0.38	0.31	1	0.38	0.31	1
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1	0.76	0.31	1	0.76	0.31	1
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1	0.43	0.31	1	0.43	0.31	1
1	0.38	0.31	1	0.38	0.31	1
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1	0.35	0.31	1	0.35	0.31	1

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1	0.01	0.31	1	0.01	0.31	1
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1	0.69	0.44	1	0.69	0.44	1
1	0.69	0.44	1	0.69	0.44	1
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1	0.69	0.44	1	0.69	0.44	1
1	0.39	0.44	1	0.39	0.44	1
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1	0.77	0.44	1	0.77	0.44	1
1	0.77	0.44	1	0.77	0.44	1
1	0.66	0.44	1	0.66	0.44	1
1	0.66	0.44	1	0.66	0.44	1
1	0.66	0.44	1	0.66	0.44	1

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1	0.38	0.44	1	0.38	0.44	1
1	0.38	0.44	1	0.38	0.44	1
1	0.24	0.44	1	0.24	0.44	1
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1	0.19	0.44	1	0.19	0.44	1
1	0.16	0.44	1	0.16	0.44	1
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1	0.01	0.44	1	0.01	0.44	1
1	0.77	0.44	1	0.77	0.44	1
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1	0.66	0.44	1	0.66	0.44	1

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1	0.66	0.44	1	0.66	0.44	1
1	0.66	0.44	1	0.66	0.44	1
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1	0.55	0.44	1	0.55	0.44	1
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1	0.38	0.44	1	0.38	0.44	1
1	0.38	0.44	1	0.38	0.44	1
1	0.15	0.44	1	0.15	0.44	1
1	0.12	0.44	1	0.12	0.44	1
1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
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1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
1	0.11	0.44	1	0.11	0.44	1
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1	0.01	0.44	1	0.01	0.44	1
1	0.01	0.44	1	0.01	0.44	1
1	0.01	0.44	1	0.01	0.44	1
1	0.01	0.44	1	0.01	0.44	1
1	0.74	0.67	1	0.74	0.67	1
1	0.74	0.67	1	0.74	0.67	1
1	0.63	0.67	1	0.63	0.67	1

1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
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1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
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1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
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1	0.38	0.67	1	0.38	0.67	1
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1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.74	0.67	1	0.74	0.67	1
1	0.74	0.67	1	0.74	0.67	1

1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.15	0.67	1	0.15	0.67	1
1	0.12	0.67	1	0.12	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.01	0.67	1	0.01	0.67	1
1	0.74	0.67	1	0.74	0.67	1

1	0.74	0.67	1	0.74	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.15	0.67	1	0.15	0.67	1
1	0.12	0.67	1	0.12	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.02	0.67	1	0.02	0.67	1

1	0.74	0.67	1	0.74	0.67	1
1	0.74	0.67	1	0.74	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.63	0.67	1	0.63	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.53	0.67	1	0.53	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.38	0.67	1	0.38	0.67	1
1	0.15	0.67	1	0.15	0.67	1
1	0.12	0.67	1	0.12	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.11	0.67	1	0.11	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1
1	0.06	0.67	1	0.06	0.67	1

1	0.02	0.67	1	0.02	0.67	1

From ARB Offroad Exhaust Emissions Inventory Fuel Correction Factors 7/25/05
Using 51-100 HP FCF for 51-120 HP range (emfac.csv) per Tess Sicat 2/22/07

ULSD Fuel Correction Factors

			2007+	Pre-2007
MY	Min HP	NOx	PM	PM
Pre-1995	0	0.93	0.72	0.75
	26	0.93	0.72	0.75
	51	0.93	0.72	0.75
	121	0.93	0.72	0.75
	176	0.93	0.72	0.75
1995	0	0.948	0.8	0.822
	26	0.93	0.72	0.75
	51	0.93	0.72	0.75
	121	0.93	0.72	0.75
	176	0.93	0.72	0.75
1996	0	0.948	0.8	0.822
	26	0.93	0.72	0.75
	51	0.93	0.72	0.75
	121	0.93	0.72	0.75
	176	0.948	0.8	0.822
1997	0	0.948	0.8	0.822
	26	0.93	0.72	0.75
	51	0.93	0.72	0.75
	121	0.948	0.8	0.822
	176	0.948	0.8	0.822
1998	0	0.948	0.8	0.822
	26	0.93	0.72	0.75
	51	0.948	0.8	0.822
	121	0.948	0.8	0.822
	176	0.948	0.8	0.822
1999-2010	0	0.948	0.8	0.822
	26	0.948	0.8	0.822
	51	0.948	0.8	0.822
	121	0.948	0.8	0.822
	176	0.948	0.8	0.822

Gasoline Fuel Correction Factors

					Pre-2004
MY	Min HP	NOx	CO	HC	NOx
Pre-1996	0	0.867	0.795	0.85	0.887
	26	0.867	0.795	0.85	0.887
1996	0	0.977	1	1	1
	26	0.867	0.795	0.85	0.887
1997	0	0.977	1	1	1
	26	0.867	0.795	0.85	0.887
1998+	0	0.977	1	1	1
	26	0.977	1	1	1

January 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Zone 1 Embankment	2014	757	80	60,560	19.14	135.6	87.94	15.85	9.81	2.18
Zone 1 Embankment	2013	459	80	36,720	12.61	96.6	58.00	10.50	6.36	1.32
Zone 1 Embankment	2012	402	80	32,160	13.38	108.1	61.40	10.95	6.38	1.16
Zone 1 Embankment	2011	15	80	1,200	0.55	5.3	2.54	0.45	0.26	0.04
Total				**130,640**	**45.69**	**345.7**	**209.89**	**37.75**	**22.81**	**4.71**

February 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Zone 1 Embankment	2014	562	80	44,960	14.21	100.7	65.29	11.77	7.29	1.62
Zone 1 Embankment	2013	280	80	22,400	7.69	58.9	35.38	6.40	3.88	0.81
Zone 1 Embankment	2012	386	80	30,880	12.85	103.8	58.96	10.52	6.12	1.12
Total				**98,240**	**34.75**	**263.4**	**159.63**	**28.69**	**17.29**	**3.54**

March 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Concrete Aggregates	2013	32	38	1,216	0.42	3.2	1.92	0.35	0.21	0.04
Concrete Aggregates	2014	49	38	1,862	0.59	4.2	2.70	0.49	0.30	0.07
3/4 AB Aggregate - Triangle	2013	12	38	456	0.16	1.2	0.72	0.13	0.08	0.02
3/4 AB Aggregate - Triangle	2014	4	38	152	0.05	0.3	0.22	0.04	0.02	0.01
3/4 AB Aggregate - Teichert	2004	7	36	252	0.16	6.7	0.72	0.33	0.16	0.01
3/4 AB Aggregate - Teichert	2007	4	36	144	0.14	2.5	0.65	0.07	0.04	0.01
3/4 AB Aggregate - Teichert	2010	8	36	288	0.15	1.6	0.67	0.12	0.07	0.01
3/4 AB Aggregate - Teichert	2011	10	36	360	0.17	1.6	0.76	0.14	0.08	0.01
3/4 AB Aggregate - Teichert	2012	11	36	396	0.16	1.3	0.76	0.13	0.08	0.01
Recycling Concrete	2005	11	24	264	0.15	7.0	0.70	0.33	0.16	0.01
Recycling Concrete	2006	8	24	192	0.10	5.0	0.47	0.22	0.11	0.01
Recycling Concrete	2007	6	24	144	0.14	2.5	0.65	0.07	0.04	0.01
Total				**5,726**	**2.38**	**37.0**	**10.93**	**2.42**	**1.35**	**0.21**

April 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Concrete Aggregates	2013	48	38	1,824	0.63	4.8	2.88	0.52	0.32	0.07
3/4 AB Aggregate - Triangle	2012	46	38	1,748	0.73	5.9	3.34	0.60	0.35	0.06
3/4 AB Aggregate - Triangle	2013	29	38	1,102	0.38	2.9	1.74	0.31	0.19	0.04
3/4 AB Aggregate - Triangle	2014	25	38	950	0.30	2.1	1.38	0.25	0.15	0.03
Recycling Concrete	2008	7	24	168	0.15	2.7	0.71	0.08	0.04	0.01
Agitator Truck	2014	-	604	604	0.19	1.4	0.88	0.16	0.10	0.02
Granite Agitator Truck (Mack)	2003	-	-	1,820	1.21	49.3	5.57	2.54	1.24	0.07
Granite Agitator Truck (Peterbilt)	2013	-	-	1,820	0.63	4.8	2.87	0.52	0.32	0.07

Granite T800	2006	-	-	6,615	3.51	171.1	16.09	7.68	3.81	0.24
Granite Kenworth T800	2005	-	-	2,205	1.27	58.2	5.81	2.72	1.34	0.08
Total				**18,856**	**8.99**	**303.2**	**41.27**	**15.38**	**7.86**	**0.69**

May 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT		ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
			(per Trip) [2]	(per month)						
Concrete Aggregates	2014	75	38	2,850	0.90	6.4	4.14	0.75	0.46	0.10
Concrete Aggregates	2013	75	38	2,850	0.98	7.5	4.50	0.81	0.49	0.10
Concrete Aggregates	2012	49	38	1,862	0.77	6.3	3.56	0.63	0.37	0.07
Agitator Truck	2014	-	-	556	0.18	1.2	0.81	0.15	0.09	0.02
Agitator Truck	2014	-	-	604	0.19	1.4	0.88	0.16	0.10	0.02
Granite Agitator Truck (Mack)	2003	-	-	2,800	1.87	75.8	8.57	3.90	1.91	0.10
Granite Agitator Truck (Peterbilt)	2013	-	-	3,150	1.08	8.3	4.98	0.90	0.55	0.11
Granite Kenworth T800	2006	-	-	6,615	3.51	171.1	16.09	7.68	3.81	0.24
Granite Kenworth T800	2005	-	-	2,205	1.27	58.2	5.81	2.72	1.34	0.08
Total				**23,492**	**10.74**	**336.2**	**49.32**	**17.70**	**9.12**	**0.86**

June 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT		ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
			(per Trip) [2]	(per month)						
Concrete Aggregates	2014	196	38	7,448	2.35	16.7	10.82	1.95	1.21	0.27
Concrete Aggregates	2013	15	38	570	0.20	1.5	0.90	0.16	0.10	0.02
Agitator Truck	2014	1	885	885	0.28	2.0	1.29	0.23	0.14	0.03
3/4 AB Aggregate - Teichert	2013	3	36	108	0.04	0.3	0.17	0.03	0.02	0.00
3/4 AB Aggregate - Teichert	2014	21	36	756	0.24	1.7	1.10	0.20	0.12	0.03
Recycling Concrete	1994	4	24	96	0.26	4.2	1.22	0.27	0.13	0.00
Recycling Concrete	1995	6	24	144	0.38	6.3	1.83	0.40	0.19	0.01
Recycling Concrete	1998	9	24	216	0.28	9.5	1.34	0.30	0.15	0.01
Recycling Concrete	2002	13	24	312	0.40	16.8	1.54	0.36	0.18	0.01
Recycling Concrete	2008	11	24	264	0.24	4.2	1.12	0.13	0.07	0.01
Recycling Concrete	2011	23	24	552	0.25	2.5	1.17	0.21	0.12	0.02
Recycling Concrete	2013	5	24	120	0.04	0.3	0.19	0.03	0.02	0.00
Granite Agitator Truck (Mack)	2003	-	-	4,200	2.80	113.7	12.85	5.85	2.87	0.15
Granite Agitator Truck (Peterbilt)	2013	-	-	4,200	1.44	11.1	6.63	1.20	0.73	0.15
Granite Peterbilt PB367	2008	-	-	3,500	3.23	55.9	14.80	1.71	0.93	0.13
Granite Peterbilt PB367	2007	-	-	2,800	2.75	48.0	12.60	1.44	0.78	0.10
Granite Kenworth T800	2006	-	-	7,350	3.89	190.2	17.87	8.53	4.23	0.27
Granite Kenworth T800	2005	-	-	2,450	1.41	64.7	6.46	3.03	1.49	0.09
Total				**35,971**	**20.48**	**549.4**	**93.89**	**26.03**	**13.47**	**1.32**

July - Dec 2014 Material Hauled [3]	Truck Model Year	No of Trips per Period	VMT		ROG Emissions (lb/period)	NOx Emissions (lb/period)	CO Emissions (lb/period)	PM10 Emissions (lb/period)	PM2.5 Emissions (lb/period)	SO2 Emissions (lb/period)
			(per Trip) [2]	(per period)						
All	2007	38	80	3,000	2.94	51.4	13.50	1.54	0.83	0.11
All	2010	38	80	3,000	1.52	16.30	6.99	1.24	0.70	0.11

Agitator Truck	2014	-	-	1,000	0.32	2.24	1.45	0.26	0.16	0.04
Granite Peterbilt PB367	2008	642	24	15,400	14.19	246.0	65.14	7.51	4.10	0.58
Granite Peterbilt PB367	2007	1043	24	25,025	24.55	428.7	112.64	12.85	6.95	0.93
Granite Peterbilt PB367	2005	581	24	13,950	8.01	368.2	36.77	17.23	8.51	0.51
Granite Peterbilt PB367	2008	581	24	13,950	12.86	222.9	59.01	6.80	3.71	0.52
Granite Kenworth T800	2006	29	24	700	0.37	18.1	1.70	0.81	0.40	0.03
Granite Kenworth T800	2005	29	24	700	0.40	18.5	1.85	0.86	0.43	0.03
Total				**76,725**	**65.16**	**1,372.26**	**299.05**	**49.12**	**25.79**	**2.85**

2015 Material Hauled [3]	**Truck Model Year**	**No of Trips per Year**	**VMT**		**ROG Emissions (lb/year)**	**NOx Emissions (lb/year)**	**CO Emissions (lb/year)**	**PM10 Emissions (lb/year)**	**PM2.5 Emissions (lb/year)**	**SO2 Emissions (lb/year)**
			(per Trip) [2]	**(per year)**						
All	2007	75	80	6,000	6.21	105.2	28.52	3.23	1.73	0.22
All	2014	75	80	6,000	2.06	15.79	9.48	1.71	1.04	0.22
Agitator Truck	2014	-	-	1,000	0.34	2.63	1.58	0.29	0.17	0.04
Granite Peterbilt PB367	2008	-	-	13,300	13.05	218.31	59.87	6.83	3.70	0.50
Granite Peterbilt PB367	2007	-	-	13,300	13.78	233.29	63.22	7.15	3.84	0.50
Granite Peterbilt PB367	2005	-	-	5,250	2.81	140.62	12.90	6.00	2.98	0.19
Total				**44,850**	**8.62**	**123.66**	**39.58**	**5.23**	**2.95**	**0.48**

2016 All	**Truck Model Year**	**No of Trips per Month**	**VMT**		**ROG Emissions (lb/year)**	**NOx Emissions (lb/year)**	**CO Emissions (lb/year)**	**PM10 Emissions (lb/year)**	**PM2.5 Emissions (lb/year)**	**SO2 Emissions (lb/year)**
			(per Trip) [2]	**(per month)**						
All	2007	75	80	6,000	6.52	107.5	29.92	3.36	1.80	0.22
All	2014	75	80	6,000	2.22	18.12	10.23	1.86	1.10	0.22
Agitator Truck	2014	-	-	1,000	0.37	3.02	1.71	0.31	0.18	0.04
Total				**13,000**	**9.11**	**128.67**	**41.86**	**5.53**	**3.08**	**0.48**

2. Round Trip Mileage:	VMT	Product
Aggs (Teichert Perkins)	36	Zone 1 Emb, Filter, Wall Backfill, Base Rock, Asphalt Concrete
Recycling Concrete (Crete Crush)	24	Concrete Recycling
Aggs (Teichart Cool Cave)	40	Drain Rock
Western Aggregates	80	Zone 1 Embankment

Calendar Year	**VMT (miles)**	**Onsite VMT (miles)**	**ROG Emissions (tons)**	**NOx Emissions (tons)**	**CO Emissions (tons)**	**PM10 Emissions (tons)**	**PM2.5 Emissions (tons)**	**SO2 Emissions (tons)**
2014	389,650	81,151	0.09	1.60	0.43	0.09	0.05	0.01
2015	44,850	33,450	0.00	0.06	0.02	0.00	0.00	0.00
2016	13,000	1,600	0.00	0.06	0.02	0.00	0.00	0.00
2017	-	-	-	-	-	-	-	-

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
225,258	0.68	0.64	225,471
136,583	0.41	0.39	136,712
119,898	0.36	0.34	120,011
4,474	0.01	0.01	4,478
486,213	**1.47**	**1.38**	**486,672**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
167,233	0.51	0.48	167,391
83,319	0.25	0.24	83,397
115,126	0.35	0.33	115,234
365,677	**1.10**	**1.04**	**366,022**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
4,523	0.01	0.01	4,527
6,926	0.02	0.02	6,932
1,696	0.01	0.00	1,698
565	0.00	0.00	566
959	0.00	0.00	960
555	0.00	0.00	556
1,074	0.00	0.00	1,075
1,342	0.00	0.00	1,343
1,476	0.00	0.00	1,478
1,005	0.00	0.00	1,006
731	0.00	0.00	732
555	0.00	0.00	556
21,408	**0.06**	**0.06**	**21,428**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
6,785	0.02	0.02	6,791
6,517	0.02	0.02	6,523
4,099	0.01	0.01	4,103
3,534	0.01	0.01	3,537
648	0.00	0.00	649
2,247	0.01	0.01	2,249
6,923	0.02	0.02	6,929
6,770	0.02	0.02	6,776

Model Year	ROC (g/mi) in CY				NOx (g/mi) in CY				CO (g/mi) in CY			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
1994	1.21	1.21	1.20	0.18	19.92	19.82	19.75	19.50	5.75	5.76	5.77	0.87
1995	1.21	1.21	1.20	0.18	19.92	19.82	19.75	19.50	5.75	5.76	5.77	0.87
1996	0.59	0.53	0.23	0.18	19.68	19.58	19.50	19.50	2.83	2.56	1.09	0.87
1997	0.59	0.53	0.23	0.18	19.68	19.58	19.50	19.50	2.85	2.55	1.11	0.87
1998	0.59	0.52	0.23	0.18	19.86	19.75	19.67	19.67	2.82	2.52	1.13	0.87
1999	0.66	0.60	0.26	0.20	24.37	24.37	24.37	24.37	2.51	2.27	0.98	0.78
2000	0.63	0.59	0.27	0.20	24.37	24.37	24.37	24.37	2.42	2.26	1.02	0.78
2001	0.60	0.56	0.27	0.20	24.37	24.37	24.37	24.37	2.31	2.14	1.02	0.78
2002	0.59	0.53	0.26	0.20	24.37	24.37	24.37	24.37	2.23	2.03	1.00	0.78
2003	0.30	0.27	0.14	0.11	12.28	12.28	12.28	12.28	1.39	1.26	0.64	0.50
2004	0.28	0.26	0.14	0.11	12.15	12.28	12.28	12.28	1.29	1.20	0.65	0.50
2005	0.26	0.24	0.14	0.11	11.97	12.15	12.28	12.28	1.20	1.11	0.66	0.50
2006	0.24	0.23	0.14	0.11	11.74	11.93	12.10	12.24	1.10	1.04	0.63	0.50
2007	0.44	0.47	0.49	0.51	7.77	7.96	8.13	8.29	2.04	2.16	2.26	2.36
2008	0.42	0.44	0.47	0.49	7.25	7.45	7.63	7.80	1.92	2.04	2.16	2.26
2009	0.39	0.42	0.44	0.47	6.40	6.64	6.83	7.02	1.77	1.92	2.04	2.16
2010	0.23	0.25	0.27	0.29	2.46	2.75	2.96	3.13	1.06	1.17	1.24	1.31
2011	0.21	0.23	0.25	0.27	2.02	2.28	2.56	2.77	0.96	1.06	1.17	1.24
2012	0.19	0.21	0.23	0.25	1.53	1.77	2.02	2.30	0.87	0.96	1.06	1.17
2013	0.16	0.17	0.18	0.19	1.19	1.37	1.56	1.75	0.72	0.77	0.83	0.90
2014	0.14	0.16	0.17	0.18	1.02	1.19	1.37	1.56	0.66	0.72	0.77	0.83

1. Emission factors from EMFAC2011, SVAB, T7 tractor construction, diesel fueled, aggregate speed.

25,184	0.07	0.07	25,207
8,392	0.02	0.02	8,400
71,097	**0.21**	**0.20**	**71,163**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
10,601	0.03	0.03	10,611
10,601	0.03	0.03	10,611
6,942	0.02	0.02	6,948
2,068	0.01	0.01	2,070
2,247	0.01	0.01	2,249
10,650	0.03	0.03	10,660
11,717	0.04	0.03	11,728
25,184	0.07	0.07	25,207
8,392	0.02	0.02	8,400
88,401	**0.26**	**0.25**	**88,484**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
27,703	0.08	0.08	27,730
2,120	0.01	0.01	2,122
3,292	0.01	0.01	3,295
402	0.00	0.00	402
2,812	0.01	0.01	2,815
350	0.00	0.00	351
525	0.00	0.00	526
816	0.00	0.00	817
1,200	0.00	0.00	1,202
1,018	0.00	0.00	1,019
2,058	0.01	0.01	2,060
446	0.00	0.00	447
15,975	0.05	0.04	15,990
15,622	0.05	0.04	15,637
13,500	0.04	0.04	13,512
10,800	0.03	0.03	10,810
27,982	0.08	0.08	28,008
9,325	0.03	0.03	9,334
135,948	**0.40**	**0.38**	**136,074**

CO2 Emissions (lb/period)	CH4 Emissions (lb/period)	N2O Emissions (lb/period)	CO2e Emissions (lb/period)
11,571	0.03	0.03	11,582
11,184	0.03	0.03	11,195

3,720	0.01	0.01	3,723
59,398	0.17	0.16	59,453
96,522	0.28	0.26	96,610
53,095	0.16	0.15	53,144
53,806	0.16	0.15	53,855
2,665	0.01	0.01	2,667
2,664	0.01	0.01	2,667
294,626	**0.86**	**0.81**	**294,896**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
22,907	0.07	0.06	22,928
22,091	0.07	0.06	22,112
3,682	0.01	0.01	3,685
50,778	0.15	0.14	50,825
50,778	0.15	0.14	50,825
19,798	0.06	0.06	19,817
48,680	**0.15**	**0.14**	**48,726**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
22,672	0.07	0.06	22,693
21,864	0.07	0.06	21,885
3,644	0.01	0.01	3,648
48,181	**0.15**	**0.14**	**48,226**

CO2 Emissions (metric tons)	CH4 Emissions (metric tons)	N2O Emissions (metric tons)	CO2e Emissions (metric tons)
663.78	0.00	0.00	664.40
22.08	0.00	0.00	22.10
21.85	0.00	0.00	21.88
-	-	-	-

Emission Factors[1]

PM10 (g/mi) in CY				PM2.5 (g/mi) in CY				SO2 (g/mi) in CY				CO2 (g/mi) in CY			
2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
1.27	1.27	1.27	0.22	0.60	0.60	0.60	0.12	0.02	0.02	0.02	0.02	1654.90	1637.50	1620.27	1625.51
1.27	1.27	1.27	0.22	0.60	0.60	0.60	0.12	0.02	0.02	0.02	0.02	1654.90	1637.50	1620.27	1625.51
0.64	0.58	0.27	0.22	0.31	0.29	0.14	0.12	0.02	0.02	0.02	0.02	1673.33	1657.53	1649.71	1625.51
0.65	0.58	0.27	0.22	0.32	0.29	0.14	0.12	0.02	0.02	0.02	0.02	1673.16	1657.57	1649.61	1625.51
0.63	0.56	0.27	0.22	0.31	0.28	0.14	0.12	0.02	0.02	0.02	0.02	1714.54	1698.57	1690.11	1665.56
0.59	0.54	0.25	0.21	0.29	0.27	0.14	0.11	0.02	0.02	0.02	0.02	1743.16	1727.26	1719.44	1694.28
0.57	0.53	0.26	0.21	0.28	0.26	0.14	0.11	0.02	0.02	0.02	0.02	1743.83	1727.40	1719.19	1694.28
0.55	0.51	0.26	0.21	0.27	0.25	0.14	0.11	0.02	0.02	0.02	0.02	1744.70	1728.32	1719.19	1694.28
0.53	0.48	0.26	0.21	0.26	0.24	0.14	0.11	0.02	0.02	0.02	0.02	1745.29	1729.15	1719.29	1694.28
0.63	0.58	0.31	0.25	0.31	0.28	0.16	0.13	0.02	0.02	0.02	0.02	1725.31	1709.32	1699.01	1674.23
0.60	0.55	0.32	0.25	0.29	0.27	0.16	0.13	0.02	0.02	0.02	0.02	1725.95	1709.97	1698.92	1674.23
0.56	0.52	0.32	0.25	0.28	0.26	0.17	0.13	0.02	0.02	0.02	0.02	1726.44	1710.59	1698.85	1674.23
0.53	0.49	0.31	0.25	0.26	0.24	0.16	0.13	0.02	0.02	0.02	0.02	1726.89	1710.95	1698.96	1674.23
0.23	0.24	0.25	0.26	0.13	0.13	0.14	0.14	0.02	0.02	0.02	0.02	1749.55	1731.79	1714.03	1687.39
0.22	0.23	0.24	0.25	0.12	0.13	0.13	0.14	0.02	0.02	0.02	0.02	1749.55	1731.79	1714.03	1687.39
0.21	0.22	0.23	0.24	0.11	0.12	0.13	0.13	0.02	0.02	0.02	0.02	1749.55	1731.79	1714.03	1687.39
0.19	0.21	0.22	0.23	0.11	0.11	0.12	0.13	0.02	0.02	0.02	0.02	1691.10	1673.93	1656.76	1631.01
0.17	0.19	0.21	0.22	0.10	0.11	0.11	0.12	0.02	0.02	0.02	0.02	1691.10	1673.93	1656.76	1631.01
0.15	0.17	0.19	0.21	0.09	0.10	0.11	0.11	0.02	0.02	0.02	0.02	1691.10	1673.93	1656.76	1631.01
0.13	0.14	0.15	0.16	0.08	0.08	0.09	0.09	0.02	0.02	0.02	0.02	1687.20	1670.07	1652.95	1627.25
0.12	0.13	0.14	0.15	0.07	0.08	0.08	0.09	0.02	0.02	0.02	0.02	1687.20	1670.07	1652.95	1627.25

January 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Zone 1 Embankment	All	757	80	60,560	60.52	1,526.7	276.63	74.15	36.63	2.23
Zone 1 Embankment	All	459	80	36,720	36.69	925.7	167.73	44.96	22.21	1.35
Zone 1 Embankment	All	402	80	32,160	32.14	810.8	146.90	39.37	19.45	1.18
Zone 1 Embankment	All	15	80	1,200	1.20	30.3	5.48	1.47	0.73	0.04
Total				**130,640**	**130.55**	**3,293.5**	**596.74**	**159.95**	**79.02**	**4.81**

February 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Zone 1 Embankment	All	562	80	44,960	44.93	1,133.5	205.37	55.05	27.19	1.65
Zone 1 Embankment	All	280	80	22,400	22.38	564.7	102.32	27.43	13.55	0.82
Zone 1 Embankment	All	386	80	30,880	30.86	778.5	141.05	37.81	18.68	1.14
Total				**98,240**	**98.17**	**2,476.7**	**448.74**	**120.28**	**59.42**	**3.61**

March 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Concrete Aggregates	All	32	38	1,216	1.22	30.7	5.55	1.49	0.74	0.04
Concrete Aggregates	All	49	38	1,862	1.86	46.9	8.51	2.28	1.13	0.07
3/4 AB Aggregate - Triangle	All	12	38	456	0.46	11.5	2.08	0.56	0.28	0.02
3/4 AB Aggregate - Triangle	All	4	38	152	0.15	3.8	0.69	0.19	0.09	0.01
3/4 AB Aggregate - Teichert	All	7	36	252	0.25	6.4	1.15	0.31	0.15	0.01
3/4 AB Aggregate - Teichert	All	4	36	144	0.14	3.6	0.66	0.18	0.09	0.01
3/4 AB Aggregate - Teichert	All	8	36	288	0.29	7.3	1.32	0.35	0.17	0.01
3/4 AB Aggregate - Teichert	All	10	36	360	0.36	9.1	1.64	0.44	0.22	0.01
3/4 AB Aggregate - Teichert	All	11	36	396	0.40	10.0	1.81	0.48	0.24	0.01
Recycling Concrete	All	11	24	264	0.26	6.7	1.21	0.32	0.16	0.01
Recycling Concrete	All	8	24	192	0.19	4.8	0.88	0.24	0.12	0.01
Recycling Concrete	All	6	24	144	0.14	3.6	0.66	0.18	0.09	0.01
Total				**5,726**	**5.72**	**144.4**	**26.16**	**7.01**	**3.46**	**0.21**

April 2014 Material Hauled [3]	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/month)	NOx Emissions (lb/month)	CO Emissions (lb/month)	PM10 Emissions (lb/month)	PM2.5 Emissions (lb/month)	SO2 Emissions (lb/month)
Concrete Aggregates	All	48	38	1,824	1.82	46.0	8.33	2.23	1.10	0.07
3/4 AB Aggregate - Triangle	All	46	38	1,748	1.75	44.1	7.98	2.14	1.06	0.06
3/4 AB Aggregate - Triangle	All	29	38	1,102	1.10	27.8	5.03	1.35	0.67	0.04
3/4 AB Aggregate - Triangle	All	25	38	950	0.95	23.9	4.34	1.16	0.57	0.03
Recycling Concrete	All	7	24	168	0.17	4.2	0.77	0.21	0.10	0.01
Agitator Truck	All	-	604	604	0.60	15.2	2.76	0.74	0.37	0.02
Granite Agitator Truck (Mack)	All	-	-	1,820	1.82	45.9	8.31	2.23	1.10	0.07
Granite Agitator Truck (Peterbilt)	All	-	-	1,820	1.82	45.9	8.31	2.23	1.10	0.07

Granite T800	All	-	-	6,615	6.61	166.8	30.22	8.10	4.00	0.24
Granite Kenworth T800	All	-	-	2,205	2.20	55.6	10.07	2.70	1.33	0.08
Total				**18,856**	**18.84**	**475.4**	**86.13**	**23.09**	**11.41**	**0.69**

May 2014 **Material Hauled** [3]	**Truck Model Year**	**No of Trips per Month**	**VMT**		**ROG Emissions (lb/month)**	**NOx Emissions (lb/month)**	**CO Emissions (lb/month)**	**PM10 Emissions (lb/month)**	**PM2.5 Emissions (lb/month)**	**SO2 Emissions (lb/month)**
			(per Trip) [2]	**(per month)**						
Concrete Aggregates	All	75	38	2,850	2.85	71.8	13.02	3.49	1.72	0.10
Concrete Aggregates	All	75	38	2,850	2.85	71.8	13.02	3.49	1.72	0.10
Concrete Aggregates	All	49	38	1,862	1.86	46.9	8.51	2.28	1.13	0.07
Agitator Truck	All	-	-	556	0.56	14.0	2.54	0.68	0.34	0.02
Agitator Truck	All	-	-	604	0.60	15.2	2.76	0.74	0.37	0.02
Granite Agitator Truck (Mack)	All	-	-	2,800	2.80	70.6	12.79	3.43	1.69	0.10
Granite Agitator Truck (Peterbilt)	All	-	-	3,150	3.15	79.4	14.39	3.86	1.91	0.12
Granite Kenworth T800	All	-	-	6,615	6.61	166.8	30.22	8.10	4.00	0.24
Granite Kenworth T800	All	-	-	2,205	2.20	55.6	10.07	2.70	1.33	0.08
Total				**23,492**	**23.48**	**592.2**	**107.31**	**28.76**	**14.21**	**0.86**

June 2014 **Material Hauled** [3]	**Truck Model Year**	**No of Trips per Month**	**VMT**		**ROG Emissions (lb/month)**	**NOx Emissions (lb/month)**	**CO Emissions (lb/month)**	**PM10 Emissions (lb/month)**	**PM2.5 Emissions (lb/month)**	**SO2 Emissions (lb/month)**
			(per Trip) [2]	**(per month)**						
Concrete Aggregates	All	196	38	7,448	7.44	187.8	34.02	9.12	4.51	0.27
Concrete Aggregates	All	15	38	570	0.57	14.4	2.60	0.70	0.34	0.02
Agitator Truck	All	1	885	885	0.88	22.3	4.04	1.08	0.54	0.03
3/4 AB Aggregate - Teichert	All	3	36	108	0.11	2.7	0.49	0.13	0.07	0.00
3/4 AB Aggregate - Teichert	All	21	36	756	0.76	19.1	3.45	0.93	0.46	0.03
Recycling Concrete	All	4	24	96	0.10	2.4	0.44	0.12	0.06	0.00
Recycling Concrete	All	6	24	144	0.14	3.6	0.66	0.18	0.09	0.01
Recycling Concrete	All	9	24	216	0.22	5.4	0.99	0.26	0.13	0.01
Recycling Concrete	All	13	24	312	0.31	7.9	1.43	0.38	0.19	0.01
Recycling Concrete	All	11	24	264	0.26	6.7	1.21	0.32	0.16	0.01
Recycling Concrete	All	23	24	552	0.55	13.9	2.52	0.68	0.33	0.02
Recycling Concrete	All	5	24	120	0.12	3.0	0.55	0.15	0.07	0.00
Granite Agitator Truck (Mack)	All	-	-	4,200	4.20	105.9	19.18	5.14	2.54	0.15
Granite Agitator Truck (Peterbilt)	All	-	-	4,200	4.20	105.9	19.18	5.14	2.54	0.15
Granite Peterbilt PB367	All	-	-	3,500	3.50	88.2	15.99	4.29	2.12	0.13
Granite Peterbilt PB367	All	-	-	2,800	2.80	70.6	12.79	3.43	1.69	0.10
Granite Kenworth T800	All	-	-	7,350	7.34	185.3	33.57	9.00	4.45	0.27
Granite Kenworth T800	All	-	-	2,450	2.45	61.8	11.19	3.00	1.48	0.09
Total				**35,971**	**35.95**	**906.8**	**164.31**	**44.04**	**21.76**	**1.32**

July - Dec 2014 **Material Hauled** [3]	**Truck Model Year**	**No of Trips per Period**	**VMT**		**ROG Emissions (lb/period)**	**NOx Emissions (lb/period)**	**CO Emissions (lb/period)**	**PM10 Emissions (lb/period)**	**PM2.5 Emissions (lb/period)**	**SO2 Emissions (lb/period)**
			(per Trip) [2]	**(per period)**						
All	All	38	80	3,000	3.00	75.6	13.70	3.67	1.81	0.11
All	All	38	80	3,000	3.00	75.63	13.70	3.67	1.81	0.11

Agitator Truck	All	-	-	1,000	1.00	25.21	4.57	1.22	0.60	0.04
Granite Peterbilt PB367	All	642	24	15,400	15.39	388.2	70.34	18.85	9.31	0.57
Granite Peterbilt PB367	All	1043	24	25,025	25.01	630.9	114.31	30.64	15.14	0.92
Granite Peterbilt PB367	All	581	24	13,950	13.94	351.7	63.72	17.08	8.44	0.51
Granite Peterbilt PB367	All	581	24	13,950	13.94	351.7	63.72	17.08	8.44	0.51
Granite Kenworth T800	All	29	24	700	0.70	17.6	3.20	0.86	0.42	0.03
Granite Kenworth T800	All	29	24	700	0.70	17.6	3.20	0.86	0.42	0.03
Total				**76,725**	**76.67**	**1,934.26**	**350.47**	**93.94**	**46.41**	**2.82**

2015 Material Hauled [3]	Truck Model Year	No of Trips per Year	VMT (per Trip) [2]	VMT (per year)	ROG Emissions (lb/year)	NOx Emissions (lb/year)	CO Emissions (lb/year)	PM10 Emissions (lb/year)	PM2.5 Emissions (lb/year)	SO2 Emissions (lb/year)
All	All	75	80	6,000	4.86	131.6	21.89	5.38	2.72	0.22
All	All	75	80	6,000	4.86	131.57	21.89	5.38	2.72	0.22
Agitator Truck	All	-	-	1,000	0.81	21.93	3.65	0.90	0.45	0.04
Granite Peterbilt PB367	All	-	-	13,300	10.78	291.64	48.52	11.92	6.04	0.49
Granite Peterbilt PB367	All	-	-	13,300	10.78	291.64	48.52	11.92	6.04	0.49
Granite Peterbilt PB367	All	-	-	5,250	4.25	115.12	19.15	4.71	2.38	0.19
Total				**44,850**	**10.54**	**285.06**	**47.43**	**11.65**	**5.90**	**0.48**

2016 All	Truck Model Year	No of Trips per Month	VMT (per Trip) [2]	VMT (per month)	ROG Emissions (lb/year)	NOx Emissions (lb/year)	CO Emissions (lb/year)	PM10 Emissions (lb/year)	PM2.5 Emissions (lb/year)	SO2 Emissions (lb/year)
All	All	75	80	6,000	3.14	110.8	14.17	3.05	1.65	0.22
All	All	75	80	6,000	3.14	110.77	14.17	3.05	1.65	0.22
Agitator Truck	All	-	-	1,000	0.52	18.46	2.36	0.51	0.28	0.04
Total				**13,000**	**6.81**	**239.99**	**30.70**	**6.61**	**3.58**	**0.48**

2. Round Trip Mileage:	VMT	Product
Aggs (Teichert Perkins)	36	Zone 1 Emb, Filter, Wall Backfill, Base Rock, Asphalt Concrete
Recycling Concrete (Crete Crush)	24	Concrete Recycling
Aggs (Teichart Cool Cave)	40	Drain Rock
Western Aggregates	80	Zone 1 Embankment

Calendar Year	VMT (miles)	Onsite VMT (miles)	ROG Emissions (tons)	NOx Emissions (tons)	CO Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SO2 Emissions (tons)
2014	389,650	81,151	0.19	4.91	0.89	0.24	0.12	0.01
2015	44,850	33,450	0.01	0.14	0.02	0.01	0.00	0.00
2016	13,000	1,600	0.00	0.12	0.02	0.00	0.00	0.00
2017	-	-	-	-	-	-	-	-

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
230,033	0.68	0.64	230,246
139,478	0.41	0.39	139,607
122,157	0.36	0.34	122,270
4,558	0.01	0.01	4,562
496,226	**1.47**	**1.38**	**496,686**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
170,777	0.51	0.48	170,935
85,085	0.25	0.24	85,164
117,295	0.35	0.33	117,404
373,157	**1.10**	**1.04**	**373,503**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
4,619	0.01	0.01	4,623
7,073	0.02	0.02	7,079
1,732	0.01	0.00	1,734
577	0.00	0.00	578
957	0.00	0.00	958
547	0.00	0.00	547
1,094	0.00	0.00	1,095
1,367	0.00	0.00	1,369
1,504	0.00	0.00	1,506
1,003	0.00	0.00	1,004
729	0.00	0.00	730
547	0.00	0.00	547
21,750	**0.06**	**0.06**	**21,770**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
6,928	0.02	0.02	6,935
6,640	0.02	0.02	6,646
4,186	0.01	0.01	4,190
3,609	0.01	0.01	3,612
638	0.00	0.00	639
2,294	0.01	0.01	2,296
6,913	0.02	0.02	6,920
6,913	0.02	0.02	6,920

Model Year	ROC (g/mi) in CY				NOx (g/mi) in CY				CO (g/mi) in CY			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
All	0.45	0.37	0.24	0.22	11.44	9.95	8.37	7.45	2.07	1.65	1.07	1.01

1. Emission factors from EMFAC2011, SVAB, T7 tractor construction, diesel fueled, aggregate speed.

25,127	0.07	0.07	25,150
8,376	0.02	0.02	8,383
71,623	**0.21**	**0.20**	**71,689**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
10,826	0.03	0.03	10,836
10,826	0.03	0.03	10,836
7,073	0.02	0.02	7,079
2,112	0.01	0.01	2,114
2,294	0.01	0.01	2,296
10,636	0.03	0.03	10,645
11,965	0.04	0.03	11,976
25,127	0.07	0.07	25,150
8,376	0.02	0.02	8,383
89,233	**0.26**	**0.25**	**89,315**

CO2 Emissions (lb/month)	CH4 Emissions (lb/month)	N2O Emissions (lb/month)	CO2e Emissions (lb/month)
28,291	0.08	0.08	28,317
2,165	0.01	0.01	2,167
3,362	0.01	0.01	3,365
410	0.00	0.00	411
2,872	0.01	0.01	2,874
365	0.00	0.00	365
547	0.00	0.00	547
820	0.00	0.00	821
1,185	0.00	0.00	1,186
1,003	0.00	0.00	1,004
2,097	0.01	0.01	2,099
456	0.00	0.00	456
15,953	0.05	0.04	15,968
15,953	0.05	0.04	15,968
13,294	0.04	0.04	13,307
10,636	0.03	0.03	10,645
27,918	0.08	0.08	27,944
9,306	0.03	0.03	9,315
136,633	**0.40**	**0.38**	**136,760**

CO2 Emissions (lb/period)	CH4 Emissions (lb/period)	N2O Emissions (lb/period)	CO2e Emissions (lb/period)
11,395	0.03	0.03	11,406
11,395	0.03	0.03	11,406

3,798	0.01	0.01	3,802
58,496	0.17	0.16	58,550
95,056	0.28	0.26	95,144
52,988	0.16	0.15	53,037
52,988	0.16	0.15	53,037
2,659	0.01	0.01	2,661
2,659	0.01	0.01	2,661
291,434	**0.86**	**0.81**	**291,704**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
22,476	0.07	0.06	22,497
22,476	0.07	0.06	22,497
3,746	0.01	0.01	3,749
49,821	0.15	0.14	49,868
49,821	0.15	0.14	49,868
19,666	0.06	0.06	19,685
48,697	**0.15**	**0.14**	**48,743**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
22,229	0.07	0.06	22,250
22,229	0.07	0.06	22,250
3,705	0.01	0.01	3,708
48,163	**0.15**	**0.14**	**48,208**

CO2 Emissions (metric tons)	CH4 Emissions (metric tons)	N2O Emissions (metric tons)	CO2e Emissions (metric tons)
671.35	0.00	0.00	671.97
22.09	0.00	0.00	22.11
21.85	0.00	0.00	21.87
-	-	-	-

Emission Factors[1]															
PM10 (g/mi) in CY				PM2.5 (g/mi) in CY				SO2 (g/mi) in CY				CO2 (g/mi) in CY			
2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
0.56	0.41	0.23	0.20	0.27	0.21	0.12	0.11	0.02	0.02	0.02	0.02	1722.97	1699.17	1680.50	1651.10

EMFAC2011 Emission Rates
Region Type: Air Basin
Region: Sacramento Valley
Calendar Year: 2014, 2015, 2016, 2017
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	ROG_RUNEX (gms/mile)	ROG_IDLEX (gms/vehicle/day)	ROG_STREX (gms/vehicle/day)	ROG_DIURN (gms/vehicle/day)	ROG_HTSK (gms/vehicle/day)	ROG_RUNLS (gms/mile)
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1994	Aggregated	14.87032079	789.380253	0	1.209001663	3.471114449	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1995	Aggregated	17.099042	922.0034849	0	1.209001663	3.471114449	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1996	Aggregated	15.90047753	869.2142093	0	0.58717549	2.805346814	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1997	Aggregated	23.15898626	1280.965793	0	0.592374191	2.803546414	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1998	Aggregated	36.34109808	2029.756543	0	0.58654757	2.190158793	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	1999	Aggregated	49.22244829	2770.390132	0	0.656097488	2.178359571	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2000	Aggregated	35.79003348	2225.207621	0	0.633738074	2.065993815	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2001	Aggregated	22.37235705	1476.403294	0	0.604740711	1.954705296	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2002	Aggregated	25.22196483	1729.585701	0	0.585032887	1.858958198	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2003	Aggregated	30.41536223	2148.149961	0	0.302351489	1.505592346	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2004	Aggregated	49.01968009	3565.014704	0	0.281365351	1.430710906	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2005	Aggregated	61.6063502	4640.058539	0	0.260529123	1.364940102	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2006	Aggregated	73.64597257	5797.273941	0	0.240346134	1.304510992	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2007	Aggregated	44.8979759	3731.601357	0	0.444903784	2.322593949	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2008	Aggregated	44.7881608	3966.346961	0	0.41806859	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2009	Aggregated	29.34130003	2786.803353	0	0.386010634	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2010	Aggregated	23.35641152	2386.353412	0	0.230269355	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2011	Aggregated	23.60437065	2591.770856	0	0.209045082	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2012	Aggregated	20.92870477	2457.068755	0	0.188711482	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2013	Aggregated	25.13505597	3126.313174	0	0.155810911	5.87040395	0	0	0	0
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	2014	Aggregated	30.30896166	3940.5212	0	0.143357977	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1994	Aggregated	17.28940995	902.3269134	0	1.20553804	3.471114449	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1995	Aggregated	17.66128502	938.0430592	0	1.20553804	3.471114449	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1996	Aggregated	15.82518905	853.8077626	0	0.528736921	2.752068285	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1997	Aggregated	18.30434454	1001.256934	0	0.527594553	2.742579338	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1998	Aggregated	29.78893485	1648.613379	0	0.521496011	2.141322872	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	1999	Aggregated	49.90171865	2788.986173	0	0.595436322	2.137561621	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2000	Aggregated	43.52955784	2451.588426	0	0.590714279	2.127506441	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2001	Aggregated	25.91336106	1612.16334	0	0.559551148	1.99851815	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2002	Aggregated	25.68047264	1695.779673	0	0.531447406	1.879753238	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2003	Aggregated	26.90904692	1846.52517	0	0.274124093	1.513447837	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2004	Aggregated	47.78577771	3377.381655	0	0.262292111	1.42892573	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2005	Aggregated	66.95165776	4872.463362	0	0.242865185	1.349816659	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2006	Aggregated	76.0000231	5728.578433	0	0.225864898	1.284749517	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2007	Aggregated	42.99222147	3386.910983	0	0.469811783	2.322593949	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2008	Aggregated	43.60249972	3626.916141	0	0.444903784	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2009	Aggregated	34.94675979	3097.944071	0	0.41806859	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2010	Aggregated	48.48562836	5097.076292	0	0.253865261	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2011	Aggregated	30.52561352	3123.056513	0	0.230269355	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2012	Aggregated	28.53503609	3138.020567	0	0.209045082	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2013	Aggregated	24.71771758	2906.634213	0	0.168117157	5.87040395	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	2014	Aggregated	30.52324638	3802.944286	0	0.155810911	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1994	Aggregated	0.53669913	34.27576013	0	1.202940323	3.471114449	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1995	Aggregated	0.755714767	49.15837865	0	1.202940323	3.471114449	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1996	Aggregated	16.19677082	860.7522217	0	0.225097187	0.628001032	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1997	Aggregated	18.05185896	974.538947	0	0.228081014	0.635097648	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1998	Aggregated	23.33020857	1277.032215	0	0.232142845	0.506910171	0	0	0	0

Sacramento Valley	2016	Annual	T7 tractor construction	DSL	1999	Aggregated	40.53231809	2244.535775	0	0.25761361	0.496455936	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2000	Aggregated	43.72859844	2445.67742	0	0.266084416	0.510299753	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2001	Aggregated	31.23021021	1760.117431	0	0.266073122	0.510386206	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2002	Aggregated	29.47433579	1834.946843	0	0.262640617	0.506701797	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2003	Aggregated	27.14884904	1793.940604	0	0.140089372	0.430604487	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2004	Aggregated	41.89218294	2876.749197	0	0.141789596	0.4365076	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2005	Aggregated	64.67233341	4574.348342	0	0.143013854	0.441114172	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2006	Aggregated	81.84244382	5960.47323	0	0.136578832	0.436914197	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2007	Aggregated	43.96262527	3316.445137	0	0.492928247	2.322593949	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2008	Aggregated	41.37171477	3261.952503	0	0.469811783	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2009	Aggregated	33.7119663	2806.66215	0	0.444903784	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2010	Aggregated	128.9394123	7670.670232	0	0.271224605	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2011	Aggregated	45.38565756	4321.88685	0	0.253865261	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2012	Aggregated	36.56616479	3746.432141	0	0.230269355	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2013	Aggregated	33.39438504	3678.454568	0	0.181213566	5.87040395	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	2014	Aggregated	29.74323767	3503.65021	0	0.168117157	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	1996	Aggregated	18.50050675	966.1495086	0	0.17914219	0.520667167	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	1997	Aggregated	18.31756767	973.5089775	0	0.17914219	0.520667167	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	1998	Aggregated	22.81144066	1231.555361	0	0.17871748	0.408544086	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	1999	Aggregated	31.47251374	1722.824115	0	0.203337286	0.408544086	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2000	Aggregated	35.21420106	1950.142965	0	0.203337286	0.408544086	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2001	Aggregated	31.10445186	1739.736305	0	0.203337286	0.408544086	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2002	Aggregated	35.2177439	1984.977489	0	0.203337286	0.408544086	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2003	Aggregated	30.89290721	1923.378358	0	0.109312546	0.348389092	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2004	Aggregated	41.90370667	2769.07812	0	0.109312546	0.348389092	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2005	Aggregated	56.21072755	3860.25784	0	0.109312546	0.348389092	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2006	Aggregated	78.37943485	5544.245721	0	0.109312546	0.348389092	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2007	Aggregated	46.93694578	3418.576716	0	0.514425423	2.322593949	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2008	Aggregated	41.94339662	3164.352453	0	0.492928247	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2009	Aggregated	31.71338215	2500.628062	0	0.469811783	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2010	Aggregated	120.9315218	6933.977323	0	0.28575583	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2011	Aggregated	53.1057501	4713.208459	0	0.271224605	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2012	Aggregated	53.90139257	5133.422606	0	0.253865261	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2013	Aggregated	42.42684907	4347.457114	0	0.194883637	5.87040395	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	2014	Aggregated	39.84003111	4389.104465	0	0.181213566	5.87040395	0	0	0	0

EMFAC2011 Emission Rates
Region Type: Air Basin
Region: Sacramento Valley
Calendar Year: 2014, 2015, 2016, 2017
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	ROG_RUNEX (gms/mile)	ROG_IDLEX (gms/vehicle/day)	ROG_STREX (gms/vehicle/day)	ROG_DIURN (gms/vehicle/day)	ROG_HTSK (gms/vehicle/day)	ROG_RUNLS (gms/mile)
Sacramento Valley	2014	Annual	T7 tractor construction	DSL	Aggreg	Aggregated	780.7178649	59296.22678	0	0.453276697	3.331017212	0	0	0	0
Sacramento Valley	2015	Annual	T7 tractor construction	DSL	Aggreg	Aggregated	848.3878746	64613.94648	0	0.367606303	3.50653555	0	0	0	0
Sacramento Valley	2016	Annual	T7 tractor construction	DSL	Aggreg	Aggregated	913.2669146	70163.32476	0	0.237626523	3.227332407	0	0	0	0
Sacramento Valley	2017	Annual	T7 tractor construction	DSL	Aggreg	Aggregated	977.465965	75948.76539	0	0.221891446	3.456251192	0	0	0	0

ROG_RESTL (gms/vehicle/day)	TOG_RUNEX (gms/mile)	TOG_IDLEX (gms/vehicle/day)	TOG_STREX (gms/vehicle/day)	TOG_DIURN (gms/vehicle/day)	TOG_HTSK (gms/vehicle/day)	TOG_RUNLS (gms/mile)	TOG_RESTL (gms/vehicle/day)	CO_RUNEX (gms/mile)	CO_IDLEX (gms/vehicle/day)	CO_STREX (gms/vehicle/day)	NOX_RUNEX (gms/mile)	NOX_IDLEX (gms/vehicle/day)
0	1.376356362	3.951599575	0	0	0	0	0	5.749184091	13.17912806	0	19.91690718	28.66945841
0	1.376356362	3.951599575	0	0	0	0	0	5.749184091	13.17912806	0	19.91690718	28.66945841
0	0.668454599	3.193673801	0	0	0	0	0	2.826791084	10.65134137	0	19.68133223	28.66945841
0	0.674372924	3.191624183	0	0	0	0	0	2.851818764	10.64450561	0	19.68133223	28.66945841
0	0.667739759	2.493329068	0	0	0	0	0	2.823768137	9.584696393	0	19.85513417	30.84602429
0	0.746917047	2.479896552	0	0	0	0	0	2.505269142	9.533059972	0	24.37058428	30.84602429
0	0.721462556	2.351976692	0	0	0	0	0	2.419891053	9.041318615	0	24.37058428	30.84602429
0	0.688451266	2.225283185	0	0	0	0	0	2.309166353	8.554291525	0	24.37058428	30.84602429
0	0.666015408	2.116282402	0	0	0	0	0	2.233913201	8.135277676	0	24.37058428	30.84602429
0	0.344204155	1.714002279	0	0	0	0	0	1.387569706	7.223764521	0	12.2814944	31.94395164
0	0.320313035	1.628755459	0	0	0	0	0	1.291258855	6.864486729	0	12.14958098	31.94395164
0	0.296592575	1.553880405	0	0	0	0	0	1.195635979	6.548921363	0	11.97208057	31.94395164
0	0.273615779	1.485086463	0	0	0	0	0	1.103010988	6.258985204	0	11.73597176	31.94395164
0	0.506489092	2.644096412	0	0	0	0	0	2.041779302	11.14370155	0	7.769796438	11.00996984
0	0.475939266	6.683008034	0	0	0	0	0	1.918625608	33.11863596	0	7.246835105	30.48694924
0	0.439443723	6.683008034	0	0	0	0	0	1.771503302	33.11863596	0	6.400256235	30.48694924
0	0.262144132	6.683008034	0	0	0	0	0	1.056766022	33.11863596	0	2.464062493	30.48694924
0	0.237981913	6.683008034	0	0	0	0	0	0.959362309	33.11863596	0	2.019378088	30.48694924
0	0.214833657	6.683008034	0	0	0	0	0	0.866046124	33.11863596	0	1.525052789	30.48694924
0	0.177378862	6.683008034	0	0	0	0	0	0.716529763	33.11863596	0	1.193700278	30.48694924
0	0.163202144	6.683008034	0	0	0	0	0	0.658698405	33.11863596	0	1.015686166	30.48694924
0	1.372413291	3.951599575	0	0	0	0	0	5.762147662	13.17912806	0	19.81886442	28.66945841
0	1.372413291	3.951599575	0	0	0	0	0	5.762147662	13.17912806	0	19.81886442	28.66945841
0	0.601926736	3.133020252	0	0	0	0	0	2.559273835	10.44905344	0	19.57784265	28.66945841
0	0.600626238	3.122217807	0	0	0	0	0	2.553744374	10.4130258	0	19.57784265	28.66945841
0	0.593683511	2.437733089	0	0	0	0	0	2.524225268	9.370977881	0	19.7507307	30.84602429
0	0.677858927	2.433451191	0	0	0	0	0	2.273638096	9.354517682	0	24.37058428	30.84602429
0	0.672483241	2.422004135	0	0	0	0	0	2.255607257	9.310513638	0	24.37058428	30.84602429
0	0.637006388	2.275160784	0	0	0	0	0	2.136612699	8.746027809	0	24.37058428	30.84602429
0	0.605012417	2.139955972	0	0	0	0	0	2.029300236	8.226282102	0	24.37058428	30.84602429
0	0.312069413	1.722945157	0	0	0	0	0	1.258026836	7.261454813	0	12.2814944	31.94395164
0	0.298599602	1.626723172	0	0	0	0	0	1.203726789	6.855921535	0	12.2814944	31.94395164
0	0.276483525	1.536663517	0	0	0	0	0	1.114571565	6.476359764	0	12.14958098	31.94395164
0	0.257129993	1.462589529	0	0	0	0	0	1.036552823	6.164170536	0	11.92659101	31.94395164
0	0.534844952	2.644096412	0	0	0	0	0	2.156088592	11.14370155	0	7.956265847	11.00996984
0	0.506489092	6.683008034	0	0	0	0	0	2.041779302	33.11863596	0	7.445608483	30.48694924
0	0.475939266	6.683008034	0	0	0	0	0	1.918625608	33.11863596	0	6.635686033	30.48694924
0	0.289006275	6.683008034	0	0	0	0	0	1.165053778	33.11863596	0	2.748899779	30.48694924
0	0.262144132	6.683008034	0	0	0	0	0	1.056766022	33.11863596	0	2.27558627	30.48694924
0	0.237981913	6.683008034	0	0	0	0	0	0.959362309	33.11863596	0	1.766943293	30.48694924
0	0.191388586	6.683008034	0	0	0	0	0	0.773679899	33.11863596	0	1.369617483	30.48694924
0	0.177378862	6.683008034	0	0	0	0	0	0.716529763	33.11863596	0	1.193700278	30.48694924
0	1.369455988	3.951599575	0	0	0	0	0	5.771870341	13.17912806	0	19.74533236	28.66945841
0	1.369455988	3.951599575	0	0	0	0	0	5.771870341	13.17912806	0	19.74533236	28.66945841
0	0.256256013	0.714931371	0	0	0	0	0	1.093985962	2.384394451	0	19.50022547	28.66945841
0	0.259652873	0.723010328	0	0	0	0	0	1.108487541	2.411338882	0	19.50022547	28.66945841
0	0.264276958	0.577078643	0	0	0	0	0	1.128228283	2.218368871	0	19.6724281	30.84602429

0	0.293273485	0.565177293	0	0	0	0	0	0.983682212	2.17261846	0	24.37058428	30.84602429
0	0.302916853	0.580937424	0	0	0	0	0	1.01602748	2.233202551	0	24.37058428	30.84602429
0	0.302903995	0.581035844	0	0	0	0	0	1.015984352	2.233580889	0	24.37058428	30.84602429
0	0.29899635	0.576841425	0	0	0	0	0	1.002877538	2.217456974	0	24.37058428	30.84602429
0	0.159481086	0.49021043	0	0	0	0	0	0.642906602	2.066021006	0	12.2814944	31.94395164
0	0.161416662	0.496930675	0	0	0	0	0	0.650709374	2.094343877	0	12.2814944	31.94395164
0	0.162810386	0.502174907	0	0	0	0	0	0.65632781	2.116446005	0	12.2814944	31.94395164
0	0.155484604	0.497393555	0	0	0	0	0	0.62679582	2.096294712	0	12.10385754	31.94395164
0	0.561161287	2.644096412	0	0	0	0	0	2.262176066	11.14370155	0	8.129323246	11.00996984
0	0.534844952	6.683008034	0	0	0	0	0	2.156088592	33.11863596	0	7.630106757	30.48694924
0	0.506489092	6.683008034	0	0	0	0	0	2.041779302	33.11863596	0	6.832760493	30.48694924
0	0.308768567	6.683008034	0	0	0	0	0	1.24472033	33.11863596	0	2.958452594	30.48694924
0	0.289006275	6.683008034	0	0	0	0	0	1.165053778	33.11863596	0	2.560423556	30.48694924
0	0.262144132	6.683008034	0	0	0	0	0	1.056766022	33.11863596	0	2.019429323	30.48694924
0	0.206297851	6.683008034	0	0	0	0	0	0.83449955	33.11863596	0	1.556830035	30.48694924
0	0.191388586	6.683008034	0	0	0	0	0	0.773679899	33.11863596	0	1.369617483	30.48694924
0	0.203939747	0.592739936	0	0	0	0	0	0.870641891	1.97686921	0	19.50022547	28.66945841
0	0.203939747	0.592739936	0	0	0	0	0	0.870641891	1.97686921	0	19.50022547	28.66945841
0	0.203456247	0.465096343	0	0	0	0	0	0.868577774	1.787893662	0	19.6724281	30.84602429
0	0.231484022	0.465096343	0	0	0	0	0	0.776431304	1.787893662	0	24.37058428	30.84602429
0	0.231484022	0.465096343	0	0	0	0	0	0.776431304	1.787893662	0	24.37058428	30.84602429
0	0.231484022	0.465096343	0	0	0	0	0	0.776431304	1.787893662	0	24.37058428	30.84602429
0	0.231484022	0.465096343	0	0	0	0	0	0.776431304	1.787893662	0	24.37058428	30.84602429
0	0.124444012	0.396614462	0	0	0	0	0	0.501663733	1.671555233	0	12.2814944	31.94395164
0	0.124444012	0.396614462	0	0	0	0	0	0.501663733	1.671555233	0	12.2814944	31.94395164
0	0.124444012	0.396614462	0	0	0	0	0	0.501663733	1.671555233	0	12.2814944	31.94395164
0	0.124444012	0.396614462	0	0	0	0	0	0.501663733	1.671555233	0	12.23559713	31.94395164
0	0.585634185	2.644096412	0	0	0	0	0	2.360832201	11.14370155	0	8.290258119	11.00996984
0	0.561161287	6.683008034	0	0	0	0	0	2.262176066	33.11863596	0	7.801334796	30.48694924
0	0.534844952	6.683008034	0	0	0	0	0	2.156088592	33.11863596	0	7.015681858	30.48694924
0	0.325311261	6.683008034	0	0	0	0	0	1.311407906	33.11863596	0	3.133865853	30.48694924
0	0.308768567	6.683008034	0	0	0	0	0	1.24472033	33.11863596	0	2.769976372	30.48694924
0	0.289006275	6.683008034	0	0	0	0	0	1.165053778	33.11863596	0	2.300128537	30.48694924
0	0.221860186	6.683008034	0	0	0	0	0	0.897983282	33.11863596	0	1.752243055	30.48694924
0	0.206297851	6.683008034	0	0	0	0	0	0.83449955	33.11863596	0	1.556830035	30.48694924

ROG_RESTL (gms/vehicle/day)	TOG_RUNEX (gms/mile)	TOG_IDLEX (gms/vehicle/day)	TOG_STREX (gms/vehicle/day)	TOG_DIURN (gms/vehicle/day)	TOG_HTSK (gms/vehicle/day)	TOG_RUNLS (gms/mile)	TOG_RESTL (gms/vehicle/day)	CO_RUNEX (gms/mile)	CO_IDLEX (gms/vehicle/day)	CO_STREX (gms/vehicle/day)	NOX_RUNEX (gms/mile)	NOX_IDLEX (gms/vehicle/day)
0	0.516021015	3.792109535	0	0	0	0	0	2.071970082	15.91461515	0	11.43541907	29.03991647
0	0.418491794	3.991923802	0	0	0	0	0	1.654877537	17.51204549	0	9.946528883	29.39083536
0	0.270519708	3.674072276	0	0	0	0	0	1.07107664	17.82224874	0	8.373879741	29.87329848
0	0.252606521	3.934678888	0	0	0	0	0	1.005728259	19.22383794	0	7.451169473	29.84959487

NOX_STREX (gms/vehicle/day)	CO2_RUNEX (gms/mile)	CO2_IDLEX (gms/vehicle/day)	CO2_STREX (gms/vehicle/day)	CO2_RUNEX(Pavley I+LCFS) (gms/mile)	CO2_IDLEX(Pavley I+LCFS) (gms/vehicle/day)	CO2_STREX(Pavley I+LCFS) (gms/vehicle/day)	PM10_RUNEX (gms/mile)	PM10_IDLEX (gms/vehicle/day)	PM10_STREX (gms/vehicle/day)	PM10_PMTW (gms/mile)
0	1680.096922	1939.328252	0	1654.895468	1910.238328	0	0.615928058	0.553503786	0	0.035999812
0	1680.096922	1939.328252	0	1654.895468	1910.238328	0	0.615928058	0.553503786	0	0.035999812
0	1698.815471	1948.08043	0	1673.333239	1918.859224	0	0.302073825	0.447340503	0	0.035999812
0	1698.644455	1948.104098	0	1673.164789	1918.882537	0	0.304748308	0.447053411	0	0.035999812
0	1740.646704	1995.714786	0	1714.537004	1965.779064	0	0.295602186	0.333254107	0	0.035999812
0	1769.706714	1995.917283	0	1743.161114	1965.978524	0	0.276319143	0.331458739	0	0.035999812
0	1770.385302	1997.845691	0	1743.829522	1967.878006	0	0.266902351	0.314361189	0	0.035999812
0	1771.265345	1999.755612	0	1744.696365	1969.759278	0	0.254689948	0.297427552	0	0.035999812
0	1771.863459	2001.398812	0	1745.285507	1971.37783	0	0.246389887	0.282858693	0	0.035999812
0	1751.579041	2034.749838	0	1725.305356	2004.228591	0	0.297909623	0.223237584	0	0.035999812
0	1752.231321	2036.280726	0	1725.947851	2005.736515	0	0.279608596	0.212134743	0	0.035999812
0	1752.733751	2037.625354	0	1726.442745	2007.060974	0	0.262103911	0.202382757	0	0.035999812
0	1753.187817	2038.860776	0	1726.889999	2008.277864	0	0.245297532	0.193422796	0	0.035999812
0	1776.195512	2018.046936	0	1749.552579	1987.776232	0	0.098479722	0.129207554	0	0.035999812
0	1776.195512	5584.23582	0	1749.552579	5500.472283	0	0.092604321	0.085530218	0	0.035999812
0	1776.195512	5584.23582	0	1749.552579	5500.472283	0	0.085585428	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1691.095868	5500.472283	0	0.076044911	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1691.095868	5500.472283	0	0.067463315	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1691.095868	5500.472283	0	0.059241844	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1687.203818	5500.472283	0	0.046825898	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1687.203818	5500.472283	0	0.041353634	0.085530218	0	0.035999812
0	1679.487989	1939.328252	0	1637.50079	1890.845046	0	0.616662325	0.553503786	0	0.035999812
0	1679.487989	1939.328252	0	1637.50079	1890.845046	0	0.616662325	0.553503786	0	0.035999812
0	1700.033523	1948.780829	0	1657.532685	1900.061309	0	0.27318311	0.43884471	0	0.035999812
0	1700.071202	1948.905571	0	1657.569422	1900.182932	0	0.272592882	0.437331603	0	0.035999812
0	1742.123418	1996.552902	0	1698.570332	1946.63908	0	0.263951677	0.325823243	0	0.035999812
0	1771.547725	1996.617453	0	1727.259032	1946.702016	0	0.250771352	0.325250932	0	0.035999812
0	1771.691034	1996.790018	0	1727.398758	1946.870268	0	0.248782638	0.323720938	0	0.035999812
0	1772.636807	1999.003701	0	1728.320886	1949.028608	0	0.23565811	0.304094106	0	0.035999812
0	1773.489729	2001.04193	0	1729.152486	1951.015882	0	0.223822061	0.286022862	0	0.035999812
0	1753.15373	2034.58924	0	1709.324887	1983.724509	0	0.270096917	0.224402335	0	0.035999812
0	1753.813787	2036.317222	0	1709.968442	1985.409292	0	0.258438759	0.211870051	0	0.035999812
0	1754.450025	2037.93454	0	1710.588775	1986.986176	0	0.241348812	0.20014037	0	0.035999812
0	1754.824311	2039.264782	0	1710.953704	1988.283163	0	0.227230155	0.190492718	0	0.035999812
0	1776.195512	2018.046936	0	1731.790624	1967.595762	0	0.103933175	0.129207554	0	0.035999812
0	1776.195512	5584.23582	0	1731.790624	5444.629925	0	0.098479722	0.085530218	0	0.035999812
0	1776.195512	5584.23582	0	1731.790624	5444.629925	0	0.092604321	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1673.927382	5444.629925	0	0.085585428	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1673.927382	5444.629925	0	0.076044911	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1673.927382	5444.629925	0	0.067463315	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1670.074845	5444.629925	0	0.052233702	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1670.074845	5444.629925	0	0.046825898	0.085530218	0	0.035999812
0	1679.03129	1939.328252	0	1620.265195	1871.451763	0	0.617213026	0.553503786	0	0.035999812
0	1679.03129	1939.328252	0	1620.265195	1871.451763	0	0.617213026	0.553503786	0	0.035999812
0	1709.540332	1976.703807	0	1649.70642	1907.519173	0	0.116677808	0.100141022	0	0.035999812
0	1709.441717	1976.610515	0	1649.611257	1907.429147	0	0.118224457	0.101272648	0	0.035999812
0	1751.404356	2024.602504	0	1690.105204	1953.741416	0	0.11787799	0.077131346	0	0.035999812

0	1781.800332	2024.781919	0	1719.43732	1953.914551	0	0.108495419	0.075540632	0	0.035999812
0	1781.543251	2024.544333	0	1719.189237	1953.685281	0	0.112062947	0.077647104	0	0.035999812
0	1781.543594	2024.542849	0	1719.189568	1953.683849	0	0.11205819	0.077660259	0	0.035999812
0	1781.647767	2024.60608	0	1719.290095	1953.744867	0	0.110612572	0.07709964	0	0.035999812
0	1760.630966	2056.727051	0	1699.008882	1984.741604	0	0.138031309	0.063846701	0	0.035999812
0	1760.536118	2056.606367	0	1698.917354	1984.625144	0	0.139706555	0.064721969	0	0.035999812
0	1760.467821	2056.512189	0	1698.851448	1984.534262	0	0.140912827	0.065404996	0	0.035999812
0	1760.575141	2056.598054	0	1698.955012	1984.617122	0	0.135726077	0.064782256	0	0.035999812
0	1776.195512	2018.046936	0	1714.028669	1947.415293	0	0.108994382	0.129207554	0	0.035999812
0	1776.195512	5584.23582	0	1714.028669	5388.787566	0	0.103933175	0.085530218	0	0.035999812
0	1776.195512	5584.23582	0	1714.028669	5388.787566	0	0.098479722	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1656.758896	5388.787566	0	0.092604321	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1656.758896	5388.787566	0	0.085585428	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1656.758896	5388.787566	0	0.076044911	0.085530218	0	0.035999812
0	1712.897277	5584.945872	0	1652.945872	5388.787566	0	0.057988732	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1652.945872	5388.787566	0	0.052233702	0.085530218	0	0.035999812
0	1711.059137	1978.114817	0	1625.50618	1879.209076	0	0.092857304	0.083025568	0	0.035999812
0	1711.059137	1978.114817	0	1625.50618	1879.209076	0	0.092857304	0.083025568	0	0.035999812
0	1753.21786	2026.290652	0	1665.556967	1924.976119	0	0.090749544	0.062163983	0	0.035999812
0	1783.447568	2026.290652	0	1694.27519	1924.976119	0	0.08563664	0.062163983	0	0.035999812
0	1783.447568	2026.290652	0	1694.27519	1924.976119	0	0.08563664	0.062163983	0	0.035999812
0	1783.447568	2026.290652	0	1694.27519	1924.976119	0	0.08563664	0.062163983	0	0.035999812
0	1783.447568	2026.290652	0	1694.27519	1924.976119	0	0.08563664	0.062163983	0	0.035999812
0	1762.347876	2058.407874	0	1674.230483	1955.487481	0	0.107706627	0.051656439	0	0.035999812
0	1762.347876	2058.407874	0	1674.230483	1955.487481	0	0.107706627	0.051656439	0	0.035999812
0	1762.347876	2058.407874	0	1674.230483	1955.487481	0	0.107706627	0.051656439	0	0.035999812
0	1762.347876	2058.407874	0	1674.230483	1955.487481	0	0.107706627	0.051656439	0	0.035999812
0	1776.195512	2018.046936	0	1687.385736	1917.144589	0	0.113701057	0.129207554	0	0.035999812
0	1776.195512	5584.23582	0	1687.385736	5305.024029	0	0.108994382	0.085530218	0	0.035999812
0	1776.195512	5584.23582	0	1687.385736	5305.024029	0	0.103933175	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1631.006167	5305.024029	0	0.098479722	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1631.006167	5305.024029	0	0.092604321	0.085530218	0	0.035999812
0	1716.848597	5584.23582	0	1631.006167	5305.024029	0	0.085585428	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1627.252413	5305.024029	0	0.063995849	0.085530218	0	0.035999812
0	1712.897277	5584.23582	0	1627.252413	5305.024029	0	0.057988732	0.085530218	0	0.035999812

NOX_STREX (gms/vehicle/day)	CO2_RUNEX (gms/mile)	CO2_IDLEX (gms/vehicle/day)	CO2_STREX (gms/vehicle/day)	CO2_RUNEX(Pavley I+LCFS) (gms/mile)	CO2_IDLEX(Pavley I+LCFS) (gms/vehicle/day)	CO2_STREX(Pavley I+LCFS) (gms/vehicle/day)	PM10_RUNEX (gms/mile)	PM10_IDLEX (gms/vehicle/day)	PM10_STREX (gms/vehicle/day)	PM10_PMTW (gms/mile)
0	1749.204258	2973.208747	0	1722.966194	2928.610616	0	0.259680552	0.288083746	0	0.035999812
0	1742.734068	3247.504751	0	1699.165717	3166.317132	0	0.185259114	0.250043574	0	0.035999812
0	1741.452718	3774.855595	0	1680.501873	3642.735649	0	0.097288457	0.084385842	0	0.035999812
0	1737.998172	3961.911504	0	1651.098264	3763.815929	0	0.082741131	0.076621422	0	0.035999812

PM10_PMBW (gms/mile)	PM2_5_RUNEX (gms/mile)	PM2_5_IDLEX (gms/vehicle/day)	PM2_5_STREX (gms/vehicle/day)	PM2_5_PMTW (gms/mile)	PM2_5_PMBW (gms/mile)	SOX_RUNEX (gms/mile)	SOX_IDLEX (gms/vehicle/day)	SOX_STREX (gms/vehicle/day)
0.061739677	0.566653813	0.509223483	0	0.008999953	0.026459862	0.01602891	0.018502098	0
0.061739677	0.566653813	0.509223483	0	0.008999953	0.026459862	0.01602891	0.018502098	0
0.061739677	0.277907919	0.411553262	0	0.008999953	0.026459862	0.016207494	0.018585598	0
0.061739677	0.280368444	0.411289138	0	0.008999953	0.026459862	0.016205862	0.018585824	0
0.061739677	0.271954012	0.306593778	0	0.008999953	0.026459862	0.016606583	0.019040052	0
0.061739677	0.254213612	0.30494204	0	0.008999953	0.026459862	0.016883829	0.019041984	0
0.061739677	0.245550163	0.289212294	0	0.008999953	0.026459862	0.016890303	0.019060382	0
0.061739677	0.234314753	0.273633347	0	0.008999953	0.026459862	0.016898699	0.019078603	0
0.061739677	0.226678696	0.260229998	0	0.008999953	0.026459862	0.016904406	0.01909428	0
0.061739677	0.274076853	0.205378577	0	0.008999953	0.026459862	0.016710883	0.019412465	0
0.061739677	0.257239908	0.195163964	0	0.008999953	0.026459862	0.016717106	0.01942707	0
0.061739677	0.241135598	0.186192136	0	0.008999953	0.026459862	0.016721899	0.019439898	0
0.061739677	0.225673729	0.177948972	0	0.008999953	0.026459862	0.016726231	0.019451685	0
0.061739677	0.090601344	0.118870949	0	0.008999953	0.026459862	0.016945736	0.019253111	0
0.061739677	0.085195975	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.078738594	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.069961318	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.06206625	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.054502496	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.043079826	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.038045343	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.567329339	0.509223483	0	0.008999953	0.026459862	0.016023101	0.018502098	0
0.061739677	0.567329339	0.509223483	0	0.008999953	0.026459862	0.016023101	0.018502098	0
0.061739677	0.251328462	0.403737134	0	0.008999953	0.026459862	0.016219115	0.01859228	0
0.061739677	0.250785452	0.402345075	0	0.008999953	0.026459862	0.016219474	0.01859347	0
0.061739677	0.242835543	0.299757384	0	0.008999953	0.026459862	0.016620672	0.019048048	0
0.061739677	0.230709644	0.299230857	0	0.008999953	0.026459862	0.016901393	0.019048664	0
0.061739677	0.228880027	0.297823263	0	0.008999953	0.026459862	0.016902761	0.01905031	0
0.061739677	0.216805461	0.279766578	0	0.008999953	0.026459862	0.016911784	0.01907143	0
0.061739677	0.205916296	0.263141033	0	0.008999953	0.026459862	0.016919921	0.019090875	0
0.061739677	0.248489164	0.206450148	0	0.008999953	0.026459862	0.016725906	0.019410932	0
0.061739677	0.237763659	0.194920447	0	0.008999953	0.026459862	0.016732203	0.019427418	0
0.061739677	0.222040907	0.18412914	0	0.008999953	0.026459862	0.016738273	0.019442848	0
0.061739677	0.209051742	0.1752533	0	0.008999953	0.026459862	0.016741844	0.019455539	0
0.061739677	0.095618521	0.118870949	0	0.008999953	0.026459862	0.016945736	0.019253111	0
0.061739677	0.090601344	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.085195975	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.078738594	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.069961318	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.06206625	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.048055006	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.043079826	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.567835984	0.509223483	0	0.008999953	0.026459862	0.016018743	0.018502098	0
0.061739677	0.567835984	0.509223483	0	0.008999953	0.026459862	0.016018743	0.018502098	0
0.061739677	0.107343583	0.09212974	0	0.008999953	0.026459862	0.016309814	0.018858678	0
0.061739677	0.108766501	0.093170836	0	0.008999953	0.026459862	0.016308873	0.018857788	0
0.061739677	0.108447751	0.070960839	0	0.008999953	0.026459862	0.016709216	0.019315654	0

0.061739677	0.099815786	0.069497382	0	0.008999953	0.026459862	0.016999208	0.019317366	0
0.061739677	0.103097911	0.071435336	0	0.008999953	0.026459862	0.016996755	0.019315099	0
0.061739677	0.103093535	0.071447438	0	0.008999953	0.026459862	0.016996759	0.019315085	0
0.061739677	0.101763566	0.070931669	0	0.008999953	0.026459862	0.016997753	0.019315688	0
0.061739677	0.126988805	0.058738965	0	0.008999953	0.026459862	0.016797242	0.019622138	0
0.061739677	0.128530031	0.059544212	0	0.008999953	0.026459862	0.016796338	0.019620986	0
0.061739677	0.129639801	0.060172597	0	0.008999953	0.026459862	0.016795686	0.019620088	0
0.061739677	0.124867991	0.059599676	0	0.008999953	0.026459862	0.01679671	0.019620907	0
0.061739677	0.100274832	0.118870949	0	0.008999953	0.026459862	0.016945736	0.019253111	0
0.061739677	0.095618521	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.090601344	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.085195975	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.078738594	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.069961318	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.053349633	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.048055006	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.08542872	0.076383522	0	0.008999953	0.026459862	0.016324304	0.01887214	0
0.061739677	0.08542872	0.076383522	0	0.008999953	0.026459862	0.016324304	0.01887214	0
0.061739677	0.08348958	0.057190865	0	0.008999953	0.026459862	0.016726518	0.01933176	0
0.061739677	0.078785709	0.057190865	0	0.008999953	0.026459862	0.017014924	0.01933176	0
0.061739677	0.078785709	0.057190865	0	0.008999953	0.026459862	0.017014924	0.01933176	0
0.061739677	0.078785709	0.057190865	0	0.008999953	0.026459862	0.017014924	0.01933176	0
0.061739677	0.078785709	0.057190865	0	0.008999953	0.026459862	0.017014924	0.01933176	0
0.061739677	0.099090097	0.047523924	0	0.008999953	0.026459862	0.016813623	0.019638173	0
0.061739677	0.099090097	0.047523924	0	0.008999953	0.026459862	0.016813623	0.019638173	0
0.061739677	0.099090097	0.047523924	0	0.008999953	0.026459862	0.016813623	0.019638173	0
0.061739677	0.099090097	0.047523924	0	0.008999953	0.026459862	0.016813623	0.019638173	0
0.061739677	0.104604972	0.118870949	0	0.008999953	0.026459862	0.016945736	0.019253111	0
0.061739677	0.100274832	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.095618521	0.0786878	0	0.008999953	0.026459862	0.016945736	0.05327622	0
0.061739677	0.090601344	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.085195975	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.078738594	0.0786878	0	0.008999953	0.026459862	0.016379538	0.05327622	0
0.061739677	0.058876181	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0
0.061739677	0.053349633	0.0786878	0	0.008999953	0.026459862	0.016341841	0.05327622	0

PM10_PMBW (gms/mile)	PM2_5_RUNEX (gms/mile)	PM2_5_IDLEX (gms/vehicle/day)	PM2_5_STREX (gms/vehicle/day)	PM2_5_PMTW (gms/mile)	PM2_5_PMBW (gms/mile)	SOX_RUNEX (gms/mile)	SOX_IDLEX (gms/vehicle/day)	SOX_STREX (gms/vehicle/day)
0.061739677	0.238906108	0.265037047	0	0.008999953	0.026459862	0.016688226	0.028365801	0
0.061739677	0.170438385	0.230040088	0	0.008999953	0.026459862	0.016626498	0.030982713	0
0.061739677	0.08950538	0.077634974	0	0.008999953	0.026459862	0.016614273	0.036013887	0
0.061739677	0.076121841	0.070491709	0	0.008999953	0.026459862	0.016581315	0.037798488	0

Downstream Construction -- Worker Commute (2011 EMFAC)

Emissions - Worker Commute Exhaust

Vehicle Description	Worker Fleet Makeup	Emission rate in pounds per mile								
		CO	CO_2	CH_4	N_2O	NO_x	PM_{10}	$PM_{2.5}$	SO_x	ROG
Light Duty Automobile (LDA)	50%	3.25E-03	6.59E-01	3.24E-05	1.74E-05	3.10E-04	1.03E-04	4.32E-05	7.54E-06	9.75E-05
Light Duty Truck (LDT1)	25%	7.54E-03	7.72E-01	3.46E-05	2.23E-05	7.44E-04	1.08E-04	4.73E-05	8.78E-06	2.78E-04
Light Duty Truck (LDT2)	25%	4.67E-03	9.33E-01	3.46E-05	2.23E-05	6.07E-04	1.03E-04	4.35E-05	1.03E-05	1.37E-04
Weighted Average	100%	4.68E-03	7.56E-01	3.35E-05	1.98E-05	4.93E-04	1.04E-04	4.43E-05	8.54E-06	1.52E-04

Note: N2O and CH4 factors are derived from California Climate Action Registry General Reporting Protocol Version 3.1 (January 2009), Table C.4

	2014	**2015**	**2016**	**2017**
Workers	295	253	130	20
Workers per vehicle	1.5			
Commuter vehicles per day	197	169	87	13
Roundtrip Communte Distance (miles)	20			
Workdays per week	5			
Workdays per year	260			
Annual VMT:	1,022,667	877,067	450,667	69,333

Vehicle Description	Starting Emission rate in pounds per vehicle per day								
	CO	CO_2	CH_4	N_2O	NO_x	PM_{10}	$PM_{2.5}$	SO_x	ROG
Light Duty Automobile (LDA)	4.54E-02	1.02E+00	5.00E-05	2.69E-05	3.06E-03	4.33E-05	3.93E-05	0.00E+00	3.72E-03
Light Duty Truck (LDT1)	9.35E-02	1.15E+00	5.14E-05	3.31E-05	5.01E-03	7.98E-05	7.17E-05	0.00E+00	7.69E-03
Light duty Truck (LDT2)	6.97E-02	1.39E+00	5.14E-05	3.31E-05	6.33E-03	4.73E-05	4.31E-05	0.00E+00	5.48E-03
Vehicle Description	Hot Soak Emission rate in pounds per vehicle per day								
Light Duty Automobile (LDA)									2.30E-03
Light Duty Truck (LDT1)									4.42E-03
Light duty Truck (LDT2)									2.75E-03
Vehicle Description	Partial Day Diurnal Emission rate in pounds per vehicle per day								
Light Duty Automobile (LDA)									1.11E-03
Light Duty Truck (LDT1)									2.60E-03
Light duty Truck (LDT2)									1.41E-03
Vehicle Description	Partial Day Resting Loss Emission rate in pounds per vehicle per day								
Light Duty Automobile (LDA)									6.91E-04
Light Duty Truck (LDT1)									1.49E-03
Light duty Truck (LDT2)									8.89E-04
Vehicle Description	Running Loss Emission rate in pounds per mile								
Light Duty Automobile (LDA)									1.42E-04
Light Duty Truck (LDT1)									4.18E-04
Light duty Truck (LDT2)									2.42E-04

Worker Commute Emissions (TPY or Metric TPY for GHGs)

	CO	CO_2	CH_4	N_2O	CO_2e	NO_x	PM_{10}	$PM_{2.5}$	SO_x	ROG
2014	2.40E+00	3.71E+02	1.55E-02	9.20E-03	3.74E+02	2.52E-01	5.33E-02	2.26E-02	4.37E-03	4.69E-01
2015	2.06E+00	3.18E+02	1.33E-02	7.89E-03	3.21E+02	2.16E-01	4.58E-02	1.94E-02	3.75E-03	4.03E-01
2016	1.06E+00	1.63E+02	6.85E-03	4.06E-03	1.65E+02	1.11E-01	2.35E-02	9.98E-03	1.93E-03	2.07E-01
2017	1.63E-01	2.51E+01	1.05E-03	6.24E-04	2.54E+01	1.71E-02	3.62E-03	1.54E-03	2.96E-04	3.18E-02

2014	Truck Model Year	No of Onsite Trucks	speed (mph)	VMT (per year)	ROG Emissions (lb/year)	NOx Emissions (lb/year)	CO Emissions (lb/year)	PM10 Emissions (lb/year)	PM2.5 Emissions (lb/year)	SO2 Emissions (lb/year)
Onsite Trucks	All	81	10	129,600	122.05	136.80	1,890.35	4.27	3.87	-
Total				**129,600**	**122.05**	**136.80**	**1,890.35**	**4.27**	**3.87**	**-**

2015	Truck Model Year	No of Onsite Trucks	speed (mph)	VMT (per year)	ROG Emissions (lb/year)	NOx Emissions (lb/year)	CO Emissions (lb/year)	PM10 Emissions (lb/year)	PM2.5 Emissions (lb/year)	SO2 Emissions (lb/year)
Onsite Trucks	All	69	10	110,400	86.34	105.15	1,392.77	3.35	3.05	-
Total				**110,400**	**86.34**	**105.15**	**1,392.77**	**3.35**	**3.05**	**-**

2016 All	Truck Model Year	No of Onsite Trucks	speed (mph)	VMT (per year)	ROG Emissions (lb/year)	NOx Emissions (lb/year)	CO Emissions (lb/year)	PM10 Emissions (lb/year)	PM2.5 Emissions (lb/year)	SO2 Emissions (lb/year)
Onsite Trucks	All	35	10	56,000	36.62	48.81	617.42	1.59	1.45	-
Total				**56,000**	**36.62**	**48.81**	**617.42**	**1.59**	**1.45**	**-**

Calendar Year	VMT (miles)	ROG Emissions (tons)	NOx Emissions (tons)	CO Emissions (tons)	PM10 Emissions (tons)	PM2.5 Emissions (tons)	SO2 Emissions (tons)
2014	129,600	0.06	0.07	0.95	0.00	0.00	-
2015	110,400	0.04	0.05	0.70	0.00	0.00	-
2016	56,000	0.02	0.02	0.31	0.00	0.00	-
2017	**-**	**-**	**-**	**-**	**-**	**-**	**-**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
243,457	0.29	220.32	311,763
243,457	**0.29**	**220.32**	**311,763**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
200,223	0.24	187.68	258,409
200,223	**0.24**	**187.68**	**258,409**

CO2 Emissions (lb/year)	CH4 Emissions (lb/year)	N2O Emissions (lb/year)	CO2e Emissions (lb/year)
97,944	0.12	95.20	127,459
97,944	**0.12**	**95.20**	**127,459**

CO2 Emissions (metric tons)	CH4 Emissions (metric tons)	N2O Emissions (metric tons)	CO2e Emissions (metric tons)
110	0.00	0.10	141
91	0.00	0.09	117
44	0.00	0.04	58
-	-	-	-

EMFAC2011 Emission Rates
Region Type: Air Basin
Region: Sacramento Valley
Calendar Year: 2014, 2015, 2016, 2017
Season: Annual
Vehicle Classification: EMFAC2007 Categories

Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	VMT (miles/day)	ROG_RUNEX (gms/mile)	TOG_RUNEX (gms/mile)	CO_RUNEX (gms/mile)	NOX_RUNEX (gms/mile)	CO2_RUNEX (gms/mile)
Annual	LDT1	GAS	Aggregated	10	16887.75	0.43	0.54	6.62	0.48	957.13
Annual	LDT1	GAS	Aggregated	10	17172.73	0.35	0.46	5.72	0.43	957.94
Annual	LDT1	GAS	Aggregated	10	17974.25	0.30	0.39	5.00	0.40	958.63
Annual	LDT1	GAS	Aggregated	10	18269.80	0.23	0.32	4.25	0.36	959.19

CO2_RUNEX(Pavley I+LCFS) (gms/mile)	PM10_RUNEX (gms/mile)	PM2_5_RUNEX (gms/mile)
852.10	0.01	0.01
822.66	0.01	0.01
793.35	0.01	0.01
762.54	0.01	0.01

Downstream Construction -- Light Duty Truck/Light Duty Automobile Emissions

EMFAC 2011
2009 Estimated Annual Emission Rates
EMFAC 2011 Vehicle Categories
Sacramento COUNTY
Sacramento Valley AIR BASIN
Sacramento Metropolitan AQMD

Area	CalYr	Season	Veh	Fuel	MdlYr	Speed	Pop	VMT	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	ROG_RESTL
						(Miles/hr)	(Vehicles)	(Miles/day)	(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/vehicle/day)
Sacramento (SV)	2009	Annual	LDA	GAS	AllMYr	AllSpeeds	469399.295	17268954.75	0.09798014	0	3.615287582	0.92015878	1.530929627	0.12253115	0.469678214
Sacramento (SV)	2009	Annual	LDA	DSL	AllMYr	AllSpeeds	1818.96599	49866.89121	0.12557309	0	0	0	0	0	0
									0.09805959	0	3.604877915	0.917509324	1.52652155	0.12217834	0.468325847
Sacramento (SV)	2009	Annual	LDT1	GAS	AllMYr	AllSpeeds	66309.8527	2280490.79	0.2442412	0	5.778783224	1.654354453	2.61974226	0.30183454	0.837901331
Sacramento (SV)	2009	Annual	LDT1	DSL	AllMYr	AllSpeeds	87.094864	1919.018657	0.17769982	0	0	0	0	0	0
									0.24404961	0	5.762144104	1.649590993	2.612199113	0.30096545	0.835488722

Veh	Fuel	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_DIURN	TOG_HTSK	TOG_RUNLS	TOG_RESTL	CO_RUNEX	CO_IDLEX	CO_STREX
		(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/vehicle/day)	(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)
LDA	GAS	0.12778308	0	3.866366706	0.92015878	1.530929627	0.12253115	0.469678214	2.8421191	0	38.60926348
LDA	DSL	0.14295661	0	0	0	0	0	0	0.59246891	0	0
		0.12782677	0	3.855234096	0.917509324	1.52652155	0.12217834	0.468325847	2.83564158	0	38.49809402
LDT1	GAS	0.29662157	0	6.1855475	1.654354453	2.61974226	0.30183454	0.837901331	6.06672321	0	66.6297522
LDT1	DSL	0.20229942	0	0	0	0	0	0	0.75588263	0	0
		0.29634999	0	6.167737165	1.649590993	2.612199113	0.30096545	0.835488722	6.05143145	0	66.43790204

Veh	Fuel	NOX_RUNEX	NOX_IDLEX	NOX_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CO2_RUNEX (Pavley I+LCFS)	CO2_IDLEX(Pavley I+LCFS)	CO2_STREX(Pavley I+LCFS)
		(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)
LDA	GAS	0.26608237	0	2.607987773	337.9264727	0	458.100145	337.9264727	0	458.100145
LDA	DSL	1.17141044	0	0	352.0824477	0	0	352.0824477	0	0
		0.26868913	0	2.600478472	337.9672327	0	456.7811159	337.9672327	0	456.7811159
LDT1	GAS	0.58042994	0	3.547760896	387.5766744	0	518.7114519	387.5766744	0	518.7114519
LDT1	DSL	1.30520193	0	0	371.8663518	0	0	371.8663518	0	0
		0.58251681	0	3.537545663	387.5314389	0	517.2179018	387.5314389	0	517.2179018

Veh	Fuel	PM10_RUNEX	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2_5_RUNEX	PM2_5_IDLEX	PM2_5_STREX	PM2_5_PMTW	PM2_5_PMBW	SOX_RUNEX	SOX_IDLEX
		(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/vehicle/day)	(gms/vehicle/day)	(gms/mile)	(gms/mile)	(gms/mile)	(gms/vehicle/day)
LDA	GAS	0.004010893	0	0.035041622	0.007999959	0.036749816	0.003636581	0	0.031608004	0.00199999	0.01574992	0.00342143	0
LDA	DSL	0.093170889	0	0	0.007999959	0.036749816	0.085717217	0	0	0.00199999	0.01574992	0.0033612	0
		0.004267615	0	0.034940725	0.007999959	0.036749816	0.003872919	0	0.031516993	0.00199999	0.01574992	0.00342126	
LDT1	GAS	0.007390272	0	0.057789174	0.007999959	0.036749815	0.006617213	0	0.051399986	0.00199999	0.01574992	0.00397262	0
LDT1	DSL	0.149164075	0	0	0.007999958	0.036749814	0.137230947	0	0	0.001999989	0.015749919	0.00355007	0
		0.007798488	0	0.057622778	0.007999959	0.036749815	0.006993295	0	0.051251987	0.00199999	0.01574992	0.0039714	

Folsom Early Excavation and Spur Dike Emissions: Blasting Emissions — Emissions Summary

US Army Corp of Engineers
Folsom Dam

Alternative 2

10/15/2014

Blasting

$$EF = 0.2 * 961 (A)^{0.8} / [(D)^{1.8} (M)^{1.9}]$$

Where:
EF = Emission Factor
A = Blast Area
D = Depth of Blast
M = Moisture Content

Information Blast Size #1			Comment
2014 Number of Blasts =	40	blasts/year	
2015 Number of Blasts =	40	blasts/year	
2016 Number of Blasts =	30	blasts/year	
2017 Number of Blasts =	0	blasts/year	
2014 Depth of Blast =	30	ft	
2015 Depth of Blast =	35	ft	
2016 Depth of Blast =	30	ft	
2017 Depth of Blast =	0	ft	
Moisture Content of Material =	2	%	
2014 Area of Each Blast =	2813	ft^2	
2015 Area of Each Blast =	2813	ft^3	
2016 Area of Each Blast =	2813	ft^4	
2017 Area of Each Blast =	0	ft^5	
Control Efficiency =	36%		Western Governor's Association WRAP Fugitive Dust Handbook, Table 3-6 (November 2004). Control efficiency for applying water every 4 hrs within 100 feet of a structure being demolished.

PM_{10} Blasting Emissions

Parameter	E	Controls	Unmitigated Emissions	Mitigated Emissions
	lbs/blast	%	tons/year	tons/year
2014 Blasting (PM_{10})	64.91	36%	1.30	0.83
2015 Blasting (PM_{10})	49.18	36%	0.98	0.63

2016 Blasting (PM_{10})	64.91	36%	0.97	0.62
2017 Blasting (PM_{10})	N/A	36%	0.00	0.00

$PM_{2.5}$ Blasting Emissions

Parameter	E	Controls	Unmitigated Emissions	Mitigated Emissions
	lbs/blast	%	tons/year	tons/year
2014 Blasting ($PM_{2.5}$)		36%	0.39	0.25
2015 Blasting ($PM_{2.5}$)		36%	0.30	0.19
2016 Blasting ($PM_{2.5}$)		36%	0.29	0.19
2017 Blasting ($PM_{2.5}$)		36%	0.00	0.00

Source:

$PM_{2.5}$ emission factor was not available. $PM_{2.5}$ emissions are estimated from SCAQMD CEIDAR Appendix A PM_{10}/$PM_{2.5}$ ratio for mineral products (crushing, screening, blasting, loading and unloading)

Folsom Early Excavation and Spur Dike Emissions: Stockpile Handling Emissions — Emissions Summary

US Army Corp of Engineers
Folsom Dam

Alternative 2

10/15/2014

Stockpile Material Handling

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Stockpile handling estimated using AP-42 Fifth Edition, Volume I Chapter 13.2.4: Aggregate Handling And Storage Piles
Where:
E = Emission Factor
k = Particle Size Multiplier
U = Mean Wind Speed
M = Material Moisture Content

Stockpile Handling

Equation Values			Comment
k =	0.35	dimensionless	AP 42, Chapter 13.2.4: default k value for PM_{10}
k =	0.053	dimensionless	AP 42, Chapter 13.2.4: default k value for $PM_{2.5}$
U =	5.1	mph	SMAQMD Guide to Air Quality Assessment in Sacramento County
M =	7.9	%	SMAQMD Guide to Air Quality Assessment in Sacramento County
2014 Aggregate Volume =	925,656	cy/year	Total 20,849 cubic yards of aggregate were assumed to be trucked based on ratio of aggregate and concrete required for concrete for approach channel, based on information from "Project Description_nov28_2011_RV".
2015 Aggregate Volume =	560,151	cy/year	Total 24,200 cubic yards of aggregate we approach channel, based on information from "Project Description_nov28_2011_RV". Assume 4 months of operation in 2015, 12 months of operation in 2016 and 3 months of operation in 2017.
2016 Aggregate Volume =	593,674	cy/year	Total 24,200 cubic yards of aggregate we approach channel, based on information from "Project Description_nov28_2011_RV". Assume 4 months of operation in 2015, 12 months of operation in 2016 and 3 months of operation in 2017.
2017 Aggregate Volume =	0	cy/year	

Folsom Early Excavation and Spur Dike Emissions: Stockpile Handling Emissions			Emissions Summary
US Army Corp of Engineers		**Alternative 2**	*10/15/2014*
Folsom Dam			

Density [(1)] =	1,850 pound/cubic yard	
Total Amount Disturbed =	856,000 ton/ year	2014 Aggregate Stockpile Amount Concrete Batch Plant
Total Amount Disturbed =	518,000 ton/ year	2015 Aggregate Stockpile Amount Concrete Batch Plant
Total Amount Disturbed =	549,000 ton/ year	2016 Aggregate Stockpile Amount Concrete Batch Plant
Total Amount Disturbed =	0 ton/ year	2017 Aggregate Stockpile Amount Concrete Batch Plant
Wet Suppression Controls =	90%	Stockpile control information (wet suppression control) provided by US Army Corp of Engineers in conversation on April 16, 2009. Wet Suppression control efficiency obtained from following study: Fitz, D., K. Bumiller, 2000. Evaluation of Watering to Control Dust in High Winds,

Notes

(1) Density of highly weathered granite = 1.639 mg/m^3
Reference: Howat, M.D, 1986, Discussion on Completely weathered granite-soil or rock?, Quarterly Journal of Engineering Geology and Hydrogeology, v. 19; p. 433-437

Density of decomposed granite = 137 pcf
Reference: Day, Robert W., 1999, Geotechnical and Foundation Engineering, McGraw Hill, Chapter 6.2: Phase Relationships, Pg. 6.8
Assumed stockpile is 50% highly weathered granite and 50% decomposed granite
It willl be assumed that while blasted rock will be stockpiled, there will be no fugitive dust emission from the rock pile

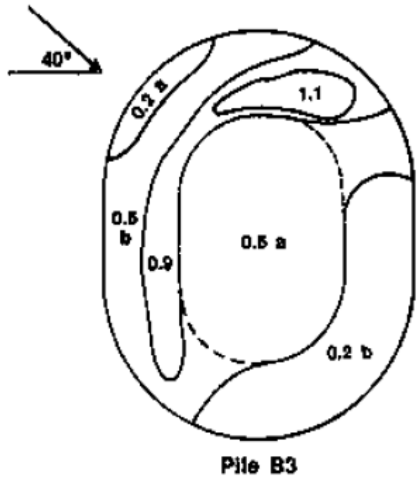
PM_{10} Stockpile Emissions

Parameter	Stockpile Amount	E	Controls	Unmitigated Emissions	Mitigated Emissions
				tons/year	tons/year
2014 Aggregate Stockpile (PM_{10})	856,000	1.68E-04	90%	7.19E-02	7.19E-03
2015 Aggregate Stockpile (PM_{10})	518,000	1.68E-04	90%	4.35E-02	4.35E-03
2016 Aggregate Stockpile (PM_{10})	549,000	1.68E-04	90%	4.61E-02	4.61E-03
2017 Aggregate Stockpile (PM_{10})	0	1.68E-04	90%	0.00E+00	0.00E+00

$PM_{2.5}$ Stockpile Emissions

Parameter	Stockpile Amount	E	Controls	Unmitigated Emissions	Mitigated Emissions
				tons/year	tons/year
2014 Aggregate Stockpile (PM2.5)	856,000	2.54E-05	90%	1.09E-02	1.09E-03
2015 Aggregate Stockpile (PM2.5)	518,000	2.54E-05	90%	6.59E-03	6.59E-04
2016 Aggregate Stockpile (PM2.5)	549,000	2.54E-05	90%	6.98E-03	6.98E-04
2017 Aggregate Stockpile (PM2.5)	0	2.54E-05	90%	0.00E+00	0.00E+00

Stockpile Wind Erosion



Ratio of Surface Wind Speed (u_s) to Approach Wind Speed (u_r)	% Pile Surface Area
u_s/u_r = 0.2a	3%
u_s/u_r = 0.2b	25%
u_s/u_r = 0.6a	28%
u_s/u_r = 0.6b	26%
u_s/u_r = 0.9	14%
u_s/u_r = 1.1	4%

Pile Subarea Distribution is based on AP-42, Figure 13.2.5-3

Aerial view of the Stockpile based on AP-42, Figure 13.2.5-2
Wind Direction is based on Wind Rose 1985: Sacramento Executive Airport (USBR Folsom Dam EIS 2007, USACE 2009 Folsom Dam Safety and Flood Damage Reduction Early Approach Channel Excavation Final Environmental Assessment/Initial Study). Sacramento Executive Airport is approximately 22 miles southwest of Folsom project site

$$u_s^+ = \frac{(u_s)}{u_r} \quad u_{10}^+$$

Where:
u_s^+ = Surface Wind Speed Distribution
u_s / u_r = Ratio of Surface Wind Speed (u_s) to Approach Wind Speed (u_r)
u_{10}^+ = Fastest Mile Wind

$$u^* = 0.10\, u_s^*$$

Where:
u* = friction velocity
u_s+ = Surface Wind Speed Distribution

$$P = 58\,(u^* - u_t^*)^2 + 25\,(u^* - u_t^*)$$

$$P = 0 \text{ for } u^* \leq u_t^*$$

Where:
P = Erosion Potential
u* = friction velocity
u_t = threshold velocity

$$\text{Emission factor} = k \sum_{i=1}^{N} P_i$$

Where:
k = Particle Size Multiplier
N = Number of Distrubances per Year
P_i = Erosion Potential Corresponding to the Observed Fastest Mile of Wind for the ith Period Between Disturbances

Stockpile Wind Erosion estimated using AP-42, Fifth Edition, Volume I Chapter 13.2.5: Industrial Wind Erosion

Stockpile Wind Erosion

Equation Values			**Comment**
k =	0.5	dimensionless	AP 42, Chapter 13.2.5: default k value for PM_{10}
k =	0.075	dimensionless	AP 42, Chapter 13.2.5: default k value for $PM_{2.5}$
N =	312		
u_t =	1.02	m/s	AP 42, Table 13.2.5-2: threshold velocity of coal overburden
u_{10}^+ =	11.1	m/s	Based on Wind Rose 1985: Sacramento Executive Airport (Folsom Dam EIS)
2014 Aggregate Stockpile Surface Area =	27440	m^2	

Folsom Early Excavation and Spur Dike Emissions: Stockpile Wind Erosion Emissions (Alternative 2)	Emissions Summary
US Army Corp of Engineers	*10/15/2014*
Folsom Dam	

2015 Aggregate Stockpile Surface Area =	17750 m^2	
2016 Aggregate Stockpile Surface Area =	26017 m^2	
2017 Aggregate Stockpile Surface Area =	17050 m^2	
Wet Suppression Controls =	90%	Stockpile control information (wet suppression control) provided by US Army Corp of Engineers in conversation on April 16, 2009. Wet Suppression control efficiency obtained from following study: Fitz, D., K. Bumiller, 2000. Evaluation of Watering to Control Dust in High Winds, J.AWMA, April.

Stockpile Wind Erosion Calculation for PM_{10} and $PM_{2.5}$

u_s*						u*					
u_s/u_r = 0.2a	u_s/u_r = 0.2b	u_s/u_r = 0.6a	u_s/u_r = 0.6b	u_s/u_r = 0.9	u_s/u_r = 1.1	u_s/u_r = 0.2a	u_s/u_r = 0.2b	u_s/u_r = 0.6a	u_s/u_r = 0.6b	u_s/u_r = 0.9	u_s/u_r = 1.1
m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s	m/s
2.22	2.22	6.66	6.66	9.99	12.21	0.22	0.22	0.67	0.67	1.00	1.22

PM_{10} Stockpile Emissions

Parameter	u* -u_t*	Erosion Potential	Stockpile Amount	Emission Factor	Controls	Unmitigated Emissions	Mitigated Emissions
	m/s	g/m^2	m^2	g/m^2		tons/year	tons/year
2014 Aggregate Stockpile (PM_{10})	0.20	7.37	27440	1149.45	90%	1.39E+00	1.39E-01
2015 Aggregate Stockpile (PM_{10})	0.20	7.37	17750	1149.45	90%	9.00E-01	9.00E-02
2016 Aggregate Stockpile (PM_{10})	0.20	7.37	26017	1149.45	90%	1.32E+00	1.32E-01
2017 Aggregate Stockpile (PM_{10})	0.20	7.37	17050	1149.45	90%	8.64E-01	8.64E-02

$PM_{2.5}$ Stockpile Emissions

Parameter	u* -u_t*	Erosion Potential	Stockpile Amount	Emission Factor	Controls	Unmitigated Emissions	Mitigated Emissions
	m/s	g/m^2	m^2	g/m^2		tons/year	tons/year
2014 Aggregate Stockpile (PM2.5)	0.20	7.37	27440	172.42	90%	2.09E-01	2.09E-02
2015 Aggregate Stockpile (PM2.5)	0.20	7.37	17750	172.42	90%	1.35E-01	1.35E-02
2016 Aggregate Stockpile (PM2.5)	0.20	7.37	26017	172.42	90%	1.98E-01	1.98E-02
2017 Aggregate Stockpile (PM2.5)	0.20	7.37	17050	172.42	90%	1.30E-01	1.30E-02

Folsom Early Excavation and Spur Dike Emissions: Fugitive Dust Emissions Alternative 2 Trucks Paved Roads — Emissions Summary

US Army Corp of Engineers — *10/15/2014*
Folsom Dam

Entrained Dust Calculation - Dry Paved Road

$$E = k\left(\frac{sL}{2}\right)^{0.65} \times \left(\frac{W}{3}\right)^{1.5} - C$$

Entrained Dust Calculation - Natural Mitigation With Precipitation Correction Factor

$$E_{ext} = \left[k\left(\frac{sL}{2}\right)^{0.65}\left(\frac{W}{3}\right)^{1.5} - C\right]\left(1-\frac{P}{4N}\right)$$

Entrained dust estimates calculated using guidance from AP 42, Fifth Edition, Volume I Chapter 13.2.1: Paved Roads

Where:

E = particulate emission factor
E_{ext} = annual or other long-term average emission factor
k = particle size multiplier for particle size range and units of interest
sLf = freeway road surface silt loading
sLa = arterial (major street/highway) road surface silt loading
sLc = collector road surface silt loading
sLl = local road surface silt loading
sLr = rural road surface silt loading
W = average weight (tons) of the vehicles traveling the road
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.
P = number of “wet” days with at least 0.01 in of precipitation during the averaging period
N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly)
VMT = vehicle mile traveled on paved roads

TFf = fraction of VMT for freeway travel
TFa = fraction of VMT for arterial travel
TFc = fraction of VMT for collector travel
TFl = fraction of VMT for local road travel
TFr = fraction of VMT for rural travel

Paved Roads

Equation Values			Comment
k =	0.016	lb/VMT	AP 42, Table 13.2-1.1: default k value for PM_{10}
k =	0.0024	lb/VMT	AP 42, Table 13.2-1.1: default k value for $PM_{2.5}$
sLf =	0.02	g/m2	Silt loading values based on silt loadings measured by MRI in the South Coast Air Quality Management District and the San Joaquin Valley Unified Air Quality Management District.
sLa =	0.035	g/m2	
sLc =	0.035	g/m2	
sLl =	0.32	g/m2	Muleski, Greg. Improvement of Specific Emission Factors (BACM Project No. 1), Final Report. Midwest Research Institute. March 29, 1996.
sLr =	1.6	g/m2	
W =	23.25	ton	Average fleet weight is based on the assumption from the average weight of HHDT (EMFAC2007): 46500 lbs
C =	0.00047	lb/VMT	AP 42, Table 13.2-1.2: default C value for PM_{10}
C =	0.00036	lb/VMT	AP 42, Table 13.2-1.2: default C value for $PM_{2.5}$
P =	90	wet days	AP-42, Figure 13.2.1-2. Mean number of days with 0.01 inch or more of precipitation in United States.
N =	365	days	
VMT=	100,000	miles/year	VMTs calculated on Haul Trucks Tabs for each scenario. Baseline here is 100,000 VMT. Below, each alternative/years VMT was used to create a multiplier to multiply emissions of 100,000 VMT
TFf =	0.235		Travel Fraction values are taken from 1993 HPMS Travel Fractions Table. Local and rural travel fraction ratio is taken from 1998 Assembly of Statistical Reports - Caltrans
TFa =	0.587		
TFc =	0.072		
TFl =	0.052		
TFr =	0.054		

Fugitive Dust PM_{10}

Roadway Surface	VMT	E	Base Emissions	Corrected Emissions[1]	E_{ext}	Mitigated Emissions	Corrected Emissions[1]
	mile/yr	lb/VMT	ton/yr	ton/yr	lb/VMT	ton/yr	ton/yr
Freeway	23500	0.02	0.20	0.20	0.02	0.19	0.19
Arterial	58700	0.02	0.72	0.72	0.02	0.67	0.67
Collector	7200	0.02	0.09	0.09	0.02	0.08	0.08
Local	5200	0.10	0.27	0.27	0.10	0.25	0.25
Rural	5400	0.30	0.80	0.80	0.28	0.76	0.76
Totals				**2.08**			**1.95**

Note:
[1] AP 42, Fifth Edition, Volume I Chapter 13.2.1, page 13.2.1-5. "There may be situations where low silt loading and/or low average weight will yield calculated negative emissions from equation 1. If this occurs, the emissions calculated from equation 1 should be set to zero."

Fugitive Dust $PM_{2.5}$

Roadway Surface	VMT	E	Base Emissions	Corrected Emissions[1]	E_{ext}	Mitigated Emissions	Corrected Emissions[1]
	mile/yr	lb/VMT	ton/yr	ton/yr	lb/VMT	ton/yr	ton/yr
Freeway	23500	2.24E-03	0.03	0.03	2.10E-03	0.02	0.02
Arterial	58700	3.37E-03	0.10	0.10	3.17E-03	0.09	0.09
Collector	7200	3.37E-03	0.01	0.01	3.17E-03	0.01	0.01
Local	5200	0.02	0.04	0.04	0.01	0.04	0.04
Rural	5400	0.04	0.12	0.12	0.04	0.11	0.11
Totals				**0.30**			**0.28**

Note:
[1] AP 42, Fifth Edition, Volume I Chapter 13.2.1, page 13.2.1-5. "There may be situations where low silt loading and/or low average weight will yield calculated negative emissions from equation 1. If this occurs, the emissions calculated from equation 1 should be set to zero."

Year	VMT	Ratio	PM10 Unmitigated (ton/yr)	PM10 Mitigated (ton/yr)	PM2.5 Unmitigated (ton/yr)	PM2.5 Mitigated (ton/yr)
2014	389,650	3.90	8.1	7.6	1.2	1.1
2015	44,850	0.45	0.9	0.9	0.1	0.1
2016	13,000	0.13	0.3	0.3	0.0	0.0
2017	0	0.00	0.0	0.0	0.0	0.0
Totals			**9.3**	**8.7**	**1.3**	**1.2**

Folsom Early Excavation and Spur Dike Emissions: Fugitive Dust Emissions Worker Paved Roads — Emissions Summary

US Army Corp of Engineers
Folsom Dam

10/15/2014

Entrained Dust Calculation - Dry Paved Road

$$E = k\left(\frac{sL}{2}\right)^{0.65} \times \left(\frac{W}{3}\right)^{1.5} - C$$

Entrained Dust Calculation - Natural Mitigation With Precipitation Correction Factor

$$E_{ext} = \left[k\left(\frac{sL}{2}\right)^{0.65}\left(\frac{W}{3}\right)^{1.5} - C\right]\left(1 - \frac{P}{4N}\right)$$

Entrained dust estimates calculated using guidance from AP 42, Fifth Edition, Volume I Chapter 13.2.1: Paved Roads

Where:

E = particulate emission factor
E_{ext} = annual or other long-term average emission factor
k = particle size multiplier for particle size range and units of interest
sLf = freeway road surface silt loading
sLa = arterial (major street/highway) road surface silt loading
sLc = collector road surface silt loading
sLl = local road surface silt loading
sLr = rural road surface silt loading
W = average weight (tons) of the vehicles traveling the road
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.
P = number of “wet” days with at least 0.01 in of precipitation during the averaging period
N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly)
VMT = vehicle mile traveled on paved roads

TFf = fraction of VMT for freeway travel
TFa = fraction of VMT for arterial travel
TFc = fraction of VMT for collector travel
TFl = fraction of VMT for local road travel
TFr = fraction of VMT for rural travel

Paved Roads

Equation Values			Comment
k =	0.016	lb/VMT	AP 42, Table 13.2-1.1: default k value for PM_{10}
k =	0.0024	lb/VMT	AP 42, Table 13.2-1.1: default k value for $PM_{2.5}$
sLf =	0.02	g/m^2	Silt loading values based on silt loadings measured by MRI in the South Coast Air Quality Management District and the San Joaquin Valley Unified Air Quality Management District.
sLa =	0.035	g/m^2	
sLc =	0.035	g/m^2	
sLl =	0.32	g/m^2	Muleski, Greg. Improvement of Specific Emission Factors (BACM Project No. 1), Final Report. Midwest Research Institute. March 29, 1996.
sLr =	1.6	g/m^2	
W =	1.75	ton	Average fleet weight is based on the assumption from URBEMIS2007 that the worker vehicle fleet mix will consist of 50% LDA and 50% LDT (Average LDA weight : 3250 lbs, and average LDT :3750 lbs)
C =	0.00047	lb/VMT	AP 42, Table 13.2-1.2: default C value for PM_{10}
C =	0.00036	lb/VMT	AP 42, Table 13.2-1.2: default C value for $PM_{2.5}$
P =	90	wet days	AP-42, Figure 13.2.1-2. Mean number of days with 0.01 inch or more of precipitation in United States.
N =	365	days	
VMT=	100,000	miles/year	Total annual VMT is calculated based on the URBEMIS default values for Sacramento County (15 miles/trip) and the assumption of 3.02 one-way trips/day and 12 workers commuting for 60 days during early excavation and 19 workers commuting for 126 days during spur dike work.
TFf =	0.235		Travel Fraction values are taken from 1993 HPMS Travel Fractions Table. Local and rural travel fraction ratio is taken from 1998 Assembly of Statistical Reports - Caltrans
TFa =	0.587		
TFc =	0.072		
TFl =	0.052		
TFr =	0.054		

Folsom Early Excavation and Spur Dike Emissions: Fugitive Dust Emissions Worker Paved Roads — Emissions Summary

US Army Corp of Engineers — *10/15/2014*
Folsom Dam

Fugitive Dust PM_{10}

Roadway Surface	VMT	E	Base Emissions	Corrected Emissions[1]	E_{ext}	Mitigated Emissions	Corrected Emissions[1]
	mile/yr	lb/VMT	ton/yr	ton/yr	lb/VMT	ton/yr	ton/yr
Freeway	23,500	-1.13E-04	-1.32E-03	0	-1.06E-04	-1.24E-03	0
Arterial	58,700	4.40E-05	1.29E-03	1.29E-03	4.13E-05	1.21E-03	1.21E-03
Collector	7,200	4.40E-05	1.58E-04	1.58E-04	4.13E-05	1.49E-04	1.49E-04
Local	5,200	1.70E-03	0.00	0.00	1.59E-03	0.00	0.00
Rural	5,400	5.70E-03	0.02	0.02	5.34E-03	0.01	0.01
Totals				**0.02**			**0.02**

Note:

[1] AP 42, Fifth Edition, Volume I Chapter 13.2.1, page 13.2.1-5. "There may be situations where low silt loading and/or low average weight will yield calculated negative emissions from equation 1. If this occurs, the emissions calculated from equation 1 should be set to zero."

Fugitive Dust $PM_{2.5}$

Roadway Surface	VMT	E	Base Emissions	Corrected Emissions[1]	E_{ext}	Mitigated Emissions	Corrected Emissions[1]
	mile/yr	lb/VMT	ton/yr	ton/yr	lb/VMT	ton/yr	ton/yr
Freeway	23,500	-3.06E-04	0.00	0	-2.88E-04	0.00	0
Arterial	58,700	-2.83E-04	-0.01	0	-2.65E-04	-0.01	0
Collector	7,200	-2.83E-04	-1.02E-03	0	-2.65E-04	-9.56E-04	0
Local	5,200	-3.51E-05	-9.12E-05	0	-3.29E-05	-8.56E-05	0
Rural	5,400	5.65E-04	1.53E-03	1.53E-03	5.30E-04	1.43E-03	1.43E-03
Totals				**1.53E-03**			**1.43E-03**

Note:

[1] AP 42, Fifth Edition, Volume I Chapter 13.2.1, page 13.2.1-5. "There may be situations where low silt loading and/or low average weight will yield calculated negative emissions from equation 1. If this occurs, the emissions calculated from equation 1 should be set to zero."

Year	VMT	Ratio	PM10 Unmitigated (ton/yr)	PM10 Mitigated (ton/yr)	PM2.5 Unmitigat ed (ton/yr)	PM2.5 Mitigated (ton/yr)
2014	1,022,667	10.22667	0.2	0.2	0.0	0.0
2015	877,067	8.770667	0.2	0.2	0.0	0.0
2016	450,667	4.506667	0.1	0.1	0.0	0.0
2017	69,333	0.693333	0.0	0.0	0.0	0.0
Totals			**0.5**	**0.5**	**0.0**	**0.0**

Folosom Early Excavation and Spur Dike Emissions: Fugitive Entrained Dust Emissions — Emissions Summary

US Army Corp of Engineers — *10/15/2014*
Folsom Dam

Entrained Dust Calculation - Dry Unpaved Road

$$E = k\left(s/12\right)^{0.9}\left(W/3\right)^{0.45}$$

Entrained Dust Calculation - Natural Mitigation With Precipitation Correction Factor

$$E_{Ext} = E\left[\left(365 - P\right)/365\right]$$

Entrained dust estimates calculated using guidance from AP 42, Fifth Edition, Volume I Chapter 13.2.2: Unpaved Roads

Where:

E =size specific particulate emission factor
E_{ext} = annual or other long-term average emission factor
k = particle size multiplier for particle size range and units of interest
s = surface material silt content
W = average weight (tons) of the vehicles traveling the road
P = number of "wet" days with at least 0.01 in of precipitation during the averaging period
VMT = vehicle mile traveled on paved roads

HHD Unpaved Roads

Equation Values			Comment
k =	1.5	lb/VMT	AP 42, Table 13.2.2-2: default k value for PM_{10}
k =	0.15	lb/VMT	AP 42, Table 13.2.2-2: default k value for $PM_{2.5}$
s (mean) =	8.5	%	Folsom Dam Safety EIS
W =	23.25	ton	Average fleet weight is based on the assumption from the average weight of HHDT (EMFAC2007): 46500 lbs
P =	90	wet days	AP-42, Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.
2014 VMT=	104,782	miles/year	
2015 VMT=	61,704	miles/year	
2016 VMT=	44,716	miles/year	
2017 VMT=	0	miles/year	
Speed Control =	44%		WRAP Fugitve Dust Handbook control factor for limiting speed on roads to under 25 mph (10 mph.)
Watering Control =	55%		URBEMIS control factor for road dust for watering twice a day. Watering of unpaved road information provided by US Army Corp of Engineers in conversation on April 16, 2009.

Folsom Early Excavation and Spur Dike Emissions: Fugitive Entrained Dust Emissions — Emissions Summary

US Army Corp of Engineers
Folsom Dam
10/15/2014

HHD Fugitive Dust PM_{10}

Scenario	VMT	E	Base Emissions	E_{ext}	Mitigated Emissions
	mile/yr	lb/VMT	ton/yr	lb/VMT	ton/yr
HHD Unpaved Roads - 2014	104,782	2.76	144.79	2.08	27.49
HHD Unpaved Roads - 2015	61,704	2.76	85.27	2.08	16.19
HHD Unpaved Roads - 2016	44,716	2.76	61.79	2.08	11.73
HHD Unpaved Roads - 2017	0	2.76	0.00	2.08	0.00

HHD Fugitive Dust $PM_{2.5}$

Scenario	VMT	E	Base Emissions	E_{ext}	Mitigated Emissions
	mile/yr	lb/VMT	ton/yr	lb/VMT	ton/yr
HHD Unpaved Roads - 2014	104,782	0.28	14.48	0.21	2.75
HHD Unpaved Roads - 2015	61,704	0.28	8.53	0.21	1.62
HHD Unpaved Roads - 2016	44,716	0.28	6.18	0.21	1.17
HHD Unpaved Roads - 2017	0	0.28	0.00	0.21	0.00

Pickups Unpaved Roads

Equation Values			Comment
k =	1.5	lb/VMT	AP 42, Table 13.2.2-2: default k value for PM_{10}
k =	0.15	lb/VMT	AP 42, Table 13.2.2-2: default k value for $PM_{2.5}$
s (mean) =	8.5	%	Folsom Dam Safety EIS
W =	2	ton	Average fleet weight is based on the assumption from the average weight of LDT (EMFAC2007): 3750 lbs
P =	90	wet days	AP-42, Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.
2014 VMT=	134,505	miles/year	
2015 VMT=	61,608	miles/year	
2016 VMT=	15,760	miles/year	
2017 VMT=	4,025	miles/year	
Speed Control =	44%		WRAP Fugitve Dust Handbook control factor for limiting speed on roads to under 25 mph.
Watering Control =	55%		URBEMIS control factor for road dust for watering twice a day. Watering of unpaved road information provided by US Army

Pickups Fugitive Dust PM_{10}

Scenario	VMT	E	Base Emissions	E_{ext}	Mitigated Emissions
	mile/yr	lb/VMT	ton/yr	lb/VMT	ton/yr
Pickups Unpaved Roads - 2014	129,600	0.92	59.38	0.69	11.27
Pickups Unpaved Roads - 2015	110,400	0.92	50.58	0.69	9.60
Pickups Unpaved Roads - 2016	56,000	0.92	25.66	0.69	4.87
Pickups Unpaved Roads - 2017	0	0.92	0.00	0.69	0.00

Folsom Early Excavation and Spur Dike Emissions: Fugitive Entrained Dust Emissions — Emissions Summary

US Army Corp of Engineers
Folsom Dam

10/15/2014

Pickups Fugitive Dust $PM_{2.5}$

Scenario	VMT	E	Base Emissions	E_{ext}	Mitigated Emissions
	mile/yr	lb/VMT	ton/yr	lb/VMT	ton/yr
Pickup Unpaved Roads - 2014	129,600	0.09	5.94	0.07	1.13
Pickup Unpaved Roads - 2015	110,400	0.09	5.06	0.07	0.96
Pickup Unpaved Roads - 2016	56,000	0.09	2.57	0.07	0.49
Pickup Unpaved Roads - 2017	0	0.09	0.00	0.07	0.00

Combined Fugitive Dust PM_{10}

Scenario	Base Emissions	Mitigated Emissions
	ton/yr	ton/yr
Pickups Unpaved Roads - 2014	204	39
Pickups Unpaved Roads - 2015	136	26
Pickups Unpaved Roads - 2016	87	17
Pickups Unpaved Roads - 2017	0	0

Combined Fugitive Dust $PM_{2.5}$

Scenario	Base Emissions	Mitigated Emissions
	ton/yr	ton/yr
Pickups Unpaved Roads - 2014	20	4
Pickups Unpaved Roads - 2015	14	3
Pickups Unpaved Roads - 2016	9	2
Pickups Unpaved Roads - 2017	0	0

Folsom Excavation Fugitive Dust Emissions

	2014	2015	2016	2017
In the Dry Excavation (CY)	0	40,000	0	0
URBEMIS EF (tonPM/1000CY)	0.059	0.059	0.059	0.059
Tons PM_{10} Emitted	0	0	0	0
Years	1	1	1	1
Watering Controls	55%	55%	55%	55%
Unmitigated PM_{10} Emissions (Tons/Year)	0.00	0.00	0.00	0.00
Mitigated PM_{10} Emissions (Ton/Year)	0.00	0.00	0.00	0.00
Unmitigated $PM_{2.5}$ Emissions (Tons/Year)	0.00	0.00	0.00	0.00
Mitigated $PM_{2.5}$ Emissions (Ton/Year)	0.00	0.00	0.00	0.00

$PM_{2.5}$ emission factor was not available. $PM_{2.5}$ emissions are estimated from SCAQMD CEIDAR Appendix A $PM_{10}/PM_{2.5}$ ratio for fugitive dust (construction and demolition)

Folsom Rock Crushing Plant - Fugitive Dust

Methodology and Assumptions from AP-42 , Fifth Edition, Volume 1 Chapter 11.19.2: Crushed Stone Processing

2014 Tonnage	205000	Tons/Year
2015 Tonnage	131000	Tons/Year
2016 Tonnage	0	Tons/Year
2017 Tonnage	0	Tons/Year
Emission Factors		
Screening (Uncontrolled)	0.015	lb-PM_{10}/Ton
Screening (Controlled)	0.00084	lb-PM_{10}/Ton
Primary Crushing	0.0007	lb-PM/Ton
Emissions		
2014 Unmitigated Emissions	1.60925	Tons-PM_{10}/year
2015 Unmitigated Emissions	1.02835	Tons-PM_{10}/year
2016 Unmitigated Emissions	0	Tons-PM_{10}/year
2017 Unmitigated Emissions	0	Tons-PM_{10}/year
2014 Mtigated Emissions	0.15785	Tons-PM_{10}/year
2015 Mtigated Emissions	0.10087	Tons-PM_{10}/year
2016 Mtigated Emissions	0	Tons-PM_{10}/year
2017 Mtigated Emissions	0	Tons-PM_{10}/year
2014 Unmitigated Emissions	0.4828	Tons-$PM_{2.5}$/year
2015 Unmitigated Emissions	0.3085	Tons-$PM_{2.5}$/year
2016 Unmitigated Emissions	0.0000	Tons-$PM_{2.5}$/year
2017 Unmitigated Emissions	0.0000	Tons-$PM_{2.5}$/year
2014 Mtigated Emissions	0.0474	Tons-$PM_{2.5}$/year
2015 Mtigated Emissions	0.0303	Tons-$PM_{2.5}$/year
2016 Mtigated Emissions	0.0000	Tons-$PM_{2.5}$/year
2017 Mtigated Emissions	0.0000	Tons-$PM_{2.5}$/year

$PM_{2.5}$ emission factor was not available. $PM_{2.5}$ emissions are estimated from SCAQMD CEIDAR Appendix A $PM_{10}/PM_{2.5}$ ratio for mineral products (crushing, screening, blasting, loading and unloading)

Electricity usage assumption from Landfield and Karra, 2000: "Life cycle assessment of a rock crusher"
SMUD E.F.s from CalEEMod, Version 2013.2.2.

Electricity consumption (kWh per ton of rock crushed):	0.65
SMUD CO2 E.F. (lb per MWh):	590.31
SMUD CH4 E.F. (lb per MWh):	0.029
SMUD N2O E.F. (lb per MWh):	0.00617
2014 rock crushing (tons):	205,000
2015 rock crushing (tons):	131,000
2016 rock crushing (tons):	0
2017 rock crushing (tons):	0

Year	Annual Electricity Usage (MWh)	CO2 Emissions (metric tons/year)	CH4 Emissions (metric tons/year)	N2O Emissions (metric tons/year)	CO2e Emissions (metric tons/year)
2014	133	36	0.00	0.00	36
2015	85	23	0.00	0.00	23
2016	0	0	0.00	0.00	0
2017	0	0	0.00	0.00	0

FUGITIVE DUST Emissions: Concrete Batch Plant (Alternative 2)

Methodology and Assumptions from AP-42 , Fifth Edition, Volume 1 Chapter 11.12: Concrete Batching

Emission Factors from AP-42 11.12 Concrete Batching
PM10 emissions in pounds per ton of concrete:

Batch Plant Source	Uncontrolled	Controlled
Aggregate transfer	0.0033	ND
Sand transfer	0.00099	ND
Cement unloading to elevated storage silo (pneumatic)	0.46	0.00034
Cement supplement unloading to elevated storage silo (pneumatic)	1.1	0.0049
Weigh hopper loading	0.0024	ND
Mixer loading (central mix)	0.134	0.0048
Truck loading (truck mix)	0.278	0.016
Total	1.98	0.033

One cubic yard of concrete (lbs) 4024

2014 Concrete Placement (cy):	23,537
2015 Concrete Placement (cy):	114,316
2016 Concrete Placement (cy):	28,591
2017 Concrete Placement (cy):	0
2014 Concrete Placement (tons):	47,356
2015 Concrete Placement (tons):	230,004
2016 Concrete Placement (tons):	57,525
2017 Concrete Placement (tons):	0

Year	Parameter	Annual Concrete Placement (tons)	Unmitigated emissions (pounds/year)	Controlled emissions (pounds/year)	Unmitigated emissions (tons/year)	Controlled emissions (tons/year)
2014	PM_{10}	47,356	93,704	1,550	47	0.8
2015	PM_{10}	230,004	455,106	7,528	228	3.8
2016	PM_{10}	57,525	113,824	1,883	57	0.9
2017	PM_{10}	0	0	0	0	0.0

Year	Parameter	Annual Concrete Placement (tons)	Unmitigated emissions (pounds/year)	Controlled emissions (pounds/year)	Unmitigated emissions (tons/year)	Controlled emissions (tons/year)
2014	$PM_{2.5}$	47,356	63,156	1,045	32	1
2015	$PM_{2.5}$	230,004	306,742	5,074	153	3
2016	$PM_{2.5}$	57,525	76,718	1,269	38	1
2017	$PM_{2.5}$	0	0	0	0	0

$PM_{2.5}$ emission factor was not available. $PM_{2.5}$ emissions are estimated from SCAQMD CEIDAR Appendix A $PM_{10}/PM_{2.5}$ ratio for cement manufacturing.

Concrete Batch Plant GHG Emissions

GHG Emissions: Concrete Batch Plant

Emission Factor from Flowers and Sanjayan, 2007 (Abstract): "Green House Gas Emissions Due to Concrete
The International Journal of Life Cycle Assessment. Vol 12, Number 5, July 2007. Landsberg, Germany: Ecom

CO_2 E.F. (kilograms per cubic meter of concrete):	320
CO_2 E.F. (kilograms per cubic yard of concrete):	245
CO_2 E.F. (kilograms per ton of concrete):	122
Weight of cubic yard of concrete (lbs):	4,024
2014 Concrete Placement (cy):	23,537
2015 Concrete Placement (cy):	114,316
2016 Concrete Placement (cy):	28,591
2017 Concrete Placement (cy):	0
2014 Concrete Placement (tons):	47,356
2015 Concrete Placement (tons):	230,004
2016 Concrete Placement (tons):	57,525
2017 Concrete Placement (tons):	0
2014 CO_2 Emissions (metric tons):	5,758
2015 CO_2 Emissions (metric tons):	27,967
2016 CO_2 Emissions (metric tons):	6,995
2017 CO_2 Emissions (metric tons):	0

Manufacture,"
ed.

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
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calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

August 26, 2014 In Reply Refer To: COE_2014_0612_001

Alicia E. Kirchner
Chief, Planning Division
Department of the Army
U.S. Army Engineer District, Sacramento
1325 J Street
Sacramento, CA 95814-2922

Re: Continuing Section 106 Consultation for the Right Bank Stabilization Project for the Folsom Dam Safety Modification Project portion of the Folsom Dam Joint Federal Project

Dear Ms Kirchner:

Pursuant to 36 CFR Part 800 (as amended 8-05-04), regulations implementing Section 106 of the National Historic Preservation Act, the Army Corps of Engineers (COE) and the State of California Central Valley Flood Protection Board (CVRPB) are continuing consultation with me for the Folsom Joint Federal Project (JFP). The COE and CVFPB propose to implement design refinements to the Folsom JFP as analyzed in the Folsom Dam Safety and Flood Damage Reduction Final EIS/EIR by the Bureau of Reclamation in 2007. These design refinements for the current action are limited to the Right Bank Stabilization Project which will include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main Folsom Dam. The Folsom Dam is located at the confluence of the North and South Forks of the American River near the city of Folsom, California.

The current proposed Right Bank Stabilization Project involves the installation of approximately 40 rock bolts that measure 25-30 feet in length and would be placed to pin the rock mass and lower the structure's center of gravity. Holes will be drilled into the rock slope and then filled with cement grout or resin to hold the rock bolts in place. The APE for the Right Bank Stabilization Project has been determined by the COE to include 400 linear feet along the lower right bank slope of the American River approximately 700 feet downstream from the powerhouse to approximately 1,100 feet downstream of the powerhouse. The APE also includes staging area space in an existing unpaved turnout near the powerhouse and an access road from the staging area to the area where the rock-bolting would occur.

A records and literature search were conducted at the North Central Information Center in March, 2014 indicating that only one known historic property is near the APE, the Folsom Dam (CA-SAC-937-H) including the left and right wing dams (CA-SAC-1103-H) which were found eligible for listing on the NRHP in 2006 with SHPO concurrence. The proposed project would result in minor changes to the visual setting of near Folsom Dam and dikes but would not affect the historic property in any other way, and the Folsom Dam and wing dams are not located within the APE. The COE archaeology staff surveyed the APE in March, 2014 which resulted in the discovery of one isolated bedrock mortar within the APE. The mortar was evaluated and determined not eligible for listing on the NRHP due to its disturbed context, lack of integrity, and lack of an associated site. The COE sent out letters to the NAHC and to all potentially interested Native American groups and individuals identified by the NAHC in June, 2014. No comments have been received to date. The COE is requesting my concurrence on their delineation of the APE and their finding of no historic properties affected for the undertaking.

After reviewing your letter and supporting documentation, I agree that the APE is appropriate for the undertaking as described. Additionally, pursuant to 36 CFR 800.4(d), I concur with your finding of no historic properties affected for this undertaking.

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and for considering historic properties in planning your project. If you require further information, please contact Jessica Tudor of my staff at phone 916-445-7016 or email jessica.tudor@parks.ca.gov.

Sincerely,

Carol Roland-Nawi, Ph.D.
State Historic Preservation Officer

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Carol Roland-Nawi, PhD
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Dr. Roland-Nawi:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation (Reclamation) in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The purposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

Construction of the auxiliary spillway was authorized by Section 101(a)(6)(A) of the Water Resources Development Act (WRDA) of 1999 (1113 Stat. 274) and modified by Section 128 of the Energy and Water Development and Appropriations Act of 2006 (119 Stat. 2259). Authorization for the Folsom JFP was included in Section 3029(b) of WRDA 2007, authorizing the Corps and Reclamation to construct the auxiliary spillway generally in accordance with Corps' 2007 Post Authorization Change Report for the American River Watershed Project in California.

We are initiating consultation under Section 106 of the National Historic Preservation Act by notifying you of the proposed undertaking pursuant to 36 CFR 800.3(a); that we have determined and documented the area of potential effects (APE) pursuant to 36 CFR 800.4(a)(1); and that we have determined that the Project qualifies for a finding of no historic properties affected pursuant to 36 CFR 800.4 (d)(1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

The APE is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1). Construction activities associated with the stabilization of the existing right bank slope will be confined to 400 linear feet along the lower right bank slope of the American River starting approximately 700 feet downstream from the downstream face of the powerhouse to approximately 1,100 feet downstream of the powerhouse. Enclosed is a memorandum in which we define and describe the APE and discuss our efforts to locate and evaluate any potential historic properties (Enclosure 2).

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and it is eligible as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site. These findings are discussed in the enclosed memorandum (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

A copy of the enclosed memorandum was also sent to all the potentially interested Native American groups and individuals identified by the Native American Heritage Commission. In addition to sending the enclosed memorandum, the Corps has also requested any comments that the tribes might have regarding the proposed project. The Corps is sensitive to the interests of Native groups and is continuing consultation with individual tribes on the Folsom JFP as a whole.

We request that you concur with our determinations of the APE and finding of *no historic properties affected* for the proposed work. Please review the enclosed information and provide your comments if any, and concurrence with our determinations. We are looking forward to your reply.

If you have any questions or comments please contact Ms. Stefanie Adams via email: stefanie.l.adams@usace.army.rnil or by phone at (916) 557-7283. Please contact Mr. William Aley, Project Manager via email: william.c.aley@usace.army.mil or by phone at (916) 557-7308 with any project specific questions.

Sincerely,

E. Scott Clark

Alicia E. Kirchner
Chief, Planning Division

Enclosures

CF:
Adam Nickels, U.S. Department of the Interior, Bureau of Reclamation, 2800 Cottage Way, MP-153, Sacramento, California 95825
Jacqueline Wait, Department of Water Resources, Division of Environmental Services, Environmental Compliance & Evaluation Branch, Cultural, Recreation, and Environmental Planning Section, 3500 Industrial Boulevard, West Sacramento, California 95691
Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians, P.O. Box 1340, Shingle Springs, California 95682
Daniel Fonseca, Tribal Historic Preservation Officer, Shingle Springs Band of Miwok Indians, P.O. Box 1340, Shingle Springs, California 95682
Andrew Godsey, Assistant Director, Cultural Resources Department, Shingle Springs Band of Miwok Indians, P.O. Box 1340, Shingle Springs, California 95682
Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria, 10720 Indian Hill Road, Auburn, California 95603
Jason Camp, Tribal Historic Preservation Officer, United Auburn Indian Community of the Auburn Rancheria, 10720 Indian Hill Road, Auburn, California 95603

Marcos Guerrero, Cultural Resources Manager, United Auburn Indian Community of the Auburn Rancheria, 10720 Indian Hill Road, Auburn, California 95603

Don Ryberg, Chairperson, T'si-Akim Maidu, 1239 East Main St., Grass Valley, California 95945

Eileen Moon, Vice Chairperson, T'si-Akim Maidu, 760 South Auburn Street, Suite 2-C, Grass Valley, California 95945

Grayson Coney, Cultural Director, Tsi-Akim Maidu, P.O. Box 1316, Colfax, California 95713

Steven Hutchason, Executive Director of Environmental Resources, Wilton Rancheria, 9300 W. Stockton Blvd, Suite 200, Elk Grove, California 95758

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Andrew Godsey, Assistant Director, Cultural Resources Department
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

Dear Mr. Godsey:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Daniel Fonseca, Tribal Historic Preservation Officer
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

Dear Mr. Fonseca:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

E. Scott Clark

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 02 2014

Don Ryberg, Chairperson
T'si-Akim Maidu
1239 East Main St.
Grass Valley, CA 95945

Dear Mr. Ryberg:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

E. Scott Miller

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Eileen Moon, Vice Chairperson
T'si-Akim Maidu
760 South Auburn Street, Suite 2-C
Grass Valley, CA 95945

Dear Ms. Moon:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Nicholas Fonseca, Chairperson
Shingle Springs Band of Miwok Indians
P.O. Box 1340
Shingle Springs, CA 95682

Dear Mr. Fonseca:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

E. Scott Clark

for Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Gene Whitehouse, Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Dear Mr. Whitehouse:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Grayson Coney, Cultural Director
T'si-Akim Maidu
P.O. Box 1316
Colfax, CA 95713

Dear Mr. Coney:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Jason Camp, Tribal Historic Preservation Officer
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Dear Mr. Camp:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Marcos Guerrero, Cultural Resources Manager
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Dear Mr. Guerrero:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA, 95814-2922

REPLY TO
ATTENTION OF

Environmental Resources Branch

JUN 0 2 2014

Steven Hutchason, Executive Director of Environmental Resources
Wilton Rancheria
9300 W. Stockton Blvd., Suite 200
Elk Grove, CA 95758

Dear Mr. Hutchason:

We are writing you with regard to an environmental assessment the U.S. Army Corps of Engineers, Sacramento District (Corps), is preparing for the Folsom Dam Safety Modification Project (Folsom JFP). The Corps and the State of California Central Valley Flood Protection Board (CVFPB) propose to implement design refinements to the Folsom JFP, as analyzed in the Folsom Dam Safety and Flood Damage Reduction, Final Environmental Impact Statement/Environmental Impact Report, issued by the U.S. Bureau of Reclamation in 2007. These design refinements described in the current action are limited to the Right Bank Stabilization Project (Project), which include slope protection measures along approximately 400 feet of the right bank of the American River downstream of the main dam. The proposed Project would ensure the lower, steeper, bank slope remains stable where flows from the main dam and the auxiliary spillway converge.

We would like to invite your consultation under Section 106 of the National Historic Preservation Act of 1966, as amended. With this letter, we are providing you with a memorandum in which we define and describe the area of potential effects (APE), discuss our efforts to identify and evaluate potential historic properties, and our determination of no historic properties affected for the proposed Project. The APE for the proposed Project is located in Township 10N, Range 7E on the Folsom, CA (1980) 7.5" U.S.G.S. quadrangle (Enclosure 1).

The proposed Project would consist of the installation of approximately 40 steel rock bolts between 25 and 30 feet in length which would be placed to pin the rock mass and ensure that the slope of the right bank remains stable. Holes would be drilled into the rock slope, individual rock bolts would then be placed in each hole and the area around the rock bolt would be filled with cement grout or resin grout to hold it in place. The rock bolts would actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. Rock bolts would be installed perpendicular to the slope and subsequently tensioned. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

A records and literature search was conducted at the North Central Information Center located at California State University, Sacramento in March 2014. The records search indicated that several areas near the APE have previously been surveyed for cultural resources. The only known historic property near the APE is Folsom Dam (CA-SAC-937-H), including the left and right wing dams and dikes (CA-SAC-1103-H), which are contributing features to Folsom Dam. Folsom Dam was found eligible for listing in the NRHP in 2006 due to its role in flood control, hydropower, and irrigation in the Sacramento region and for its role as a contributing element to the larger Central Valley Project. The proposed Project would result in minor changes to the visual setting near Folsom Dam and Dikes but would not affect the historic property in any other way.

Corps archeology staff surveyed the APE on March 25, 2014. The survey resulted in the discovery of a single, isolated bedrock mortar located within the APE. The bedrock mortar was evaluated by Corps staff and was determined to be ineligible for listing in the NRHP due to its disturbed context, lack of integrity, and lack of an associated site (Enclosure 2). In light of this, we have determined that the Project will result in a finding of no historic properties affected (36 CFR 800.4[d][1]).

We are sensitive toward the protection of traditional cultural properties and sacred sites, and make every effort to avoid them. If you have comments on the APE, our efforts to identify historic properties, or our finding of *no historic properties affected* for the proposed Project, we request that you contact us. Please let us know if you have knowledge of locations of archaeological sites or areas of traditional cultural value or concern in or near the Project APE. If you have any other comments, suggestions, or questions, please contact Stefanie Adams at (916) 557-7283 or by email at stefanie.l.adams@usace.army.mil. Please contact Mr. William Aley, Project Manager at (916) 557-7308 or by email at william.c.aley@usace.army.mil with any project specific questions.

Sincerely,

Alicia E. Kirchner
Chief, Planning Division

Enclosures

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the FOLSOM (511B) U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011

Report Date: April 8, 2013

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 130408125909

Database Last Updated: September 18, 2011

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

valley elderberry longhorn beetle (T)

Lepidurus packardi

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Plants

Orcuttia viscida

Critical habitat, Sacramento Orcutt grass (X)

Sacramento Orcutt grass (E)

Quads Containing Listed, Proposed or Candidate Species:

FOLSOM (511B)

County Lists

Sacramento County

Listed Species

Invertebrates

Apodemia mormo langei
Lange's metalmark butterfly (E)

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

Elaphrus viridis
delta green ground beetle (T)

Lepidurus packardi
Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (=Sterna, =albifrons) browni
California least tern (E)

Vireo bellii pusillus
Least Bell's vireo (E)

Mammals

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Arctostaphylos myrtifolia
Ione manzanita (T)

Calystegia stebbinsii
Stebbins's morning-glory (E)

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)

Ceanothus roderickii

Pine Hill ceanothus (E)

Cordylanthus mollis ssp. mollis
soft bird's-beak (E)

Cordylanthus palmatus
palmate-bracted bird's-beak (E)

Eriogonum apricum var. apricum
Ione buckwheat (E)

Eriogonum apricum var. prostratum
Irish Hill buckwheat (E)

Erysimum capitatum ssp. angustatum
Contra Costa wallflower (E)
Critical Habitat, Contra Costa wallflower (X)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Lasthenia conjugens
Contra Costa goldfields (E)

Neostapfia colusana
Colusa grass (T)

Oenothera deltoides ssp. howellii
Antioch Dunes evening-primrose (E)
Critical habitat, Antioch Dunes evening-primrose (X)

Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Senecio layneae
Layne's butterweed (=ragwort) (T)

Sidalcea keckii

Keck's checker-mallow (=checkerbloom) (E)

Candidate Species

Birds

Coccyzus americanus occidentalis

Western yellow-billed cuckoo (C)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.

  During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

  Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be July 07, 2013.

State of California
The Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Biogeographic Data Branch
California Natural Diversity Database

STATE & FEDERALLY LISTED ENDANGERED & THREATENED ANIMALS OF CALIFORNIA

October 2013

This is a list of animals found within California or off the coast of the State that have been classified as Endangered or Threatened by the California Fish & Game Commission (state list) or by the U.S. Secretary of the Interior or the U.S. Secretary of Commerce (federal list). The federal agencies responsible for listing are the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, Section 670.5. The official federal listing of Endangered and Threatened animals is published in the Federal Register, 50 CFR 17.11. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare." The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened." On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened."

Also included on this list are animal "Candidates" for state listing and animals "Proposed" for federal listing; federal "Candidates" are currently not included. A state Candidate species is one that the Fish and Game Commission (FGC) has formally declared a candidate species. A federal Proposed species is one that has had a published proposed rule to list in the Federal Register.

Designation		Totals as of October 2013
State listed as Endangered	SE	47
State listed as Threatened	ST	35
Federally listed as Endangered	FE	91
Federally listed as Threatened	FT	39
State Candidate (T or E)	SC	8
State Candidate (Delisting)	SCD	0
Federally proposed (Endangered)	FPE	2
Federally proposed (Threatened)	FPT	3
Federally proposed (Delisting)	FPD	4
Total number of candidate/proposed animals for listing		13
Number of animals State listed only		31
Number of animals Federally listed only		69
Number of animals listed under both State & Federal Acts		49
Total number of animals listed (excludes double counting DPSs and ESUs)		149

Common and scientific names are shown as they appear on the state or federal lists. If the nomenclature differs for a species that is included on both lists, the state nomenclature is given and the federal nomenclature is shown in a footnote. Synonyms, name changes, and other clarifying points are also footnoted.

The "List Date" for **final** federal listing is the date the listing became effective. This is usually not the date of publication of the rule in the Federal Register; it is usually about 30 days after publication, but may be longer.

If an animal was previously listed and no longer has any listing status, the entry has been grayed out. If an animal was previously proposed or a candidate for listing, but the listing was not warranted or revoked, the record has been removed from the table.

For taxa that have more than one status entry, the **current status is in bold and underlined**.

Table of contents — Page

	State Listing			Federal Listing	
<u>GASTROPODS</u>					
Trinity bristle snail *Monadenia setosa*[1]	ST	10-02-80			
Morro shoulderband (=banded dune) snail *Helminthoglypta walkeriana*				FE[2]	1-17-95
White abalone *Haliotis sorenseni*				FE[3] FE	11-16-05 6-28-01
Black abalone *Haliotis cracherodii*				FE[4] FE	4-13-11 2-13-09
<u>CRUSTACEANS</u>					
Riverside fairy shrimp *Streptocephalus woottoni*				FE	8-03-93
Conservancy fairy shrimp *Branchinecta conservatio*				FE	9-19-94
Longhorn fairy shrimp *Branchinecta longiantenna*				FE	9-19-94
Vernal pool fairy shrimp *Branchinecta lynchi*				FT	9-19-94
San Diego fairy shrimp *Branchinecta sandiegonensis*				FE	2-03-97
Vernal pool tadpole shrimp *Lepidurus packardi*				FE	9-19-94
Shasta crayfish *Pacifastacus fortis*	**<u>SE</u>** ST	2-26-88 10-02-80		FE	9-30-88
California freshwater shrimp *Syncaris pacifica*	SE	10-02-80		FE	10-31-88
<u>INSECTS</u>					
Zayante band-winged grasshopper *Trimerotropis infantilis*				FE	2-24-97
Mount Hermon June beetle *Polyphylla barbata*				FE	2-24-97
Casey's June beetle *Dinacoma caseyi*				FE	10-24-11
Delta green ground beetle *Elaphrus viridis*				FT	8-08-80

[1] Current taxonomy is *Monadenia infumata setosa.*
[2] The 2006 five year review should be consulted to better understand the status of this species.
[3] Listed by NMFS in 2001 and by USFWS in 2005.
[4] Listed by NMFS in 2009 and by USFWS in 2011.

	State Listing			Federal Listing	
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*				FPD **FT**	10-2-12 8-08-80
Ohlone tiger beetle *Cicindela ohlone*				FE	10-03-01
Kern primrose sphinx moth *Euproserpinus euterpe*				FT	4-08-80
Mission blue butterfly *Icaricia icarioides missionensis*[5]				FE	6-01-76
Lotis blue butterfly *Lycaeides argyrognomon lotis*[6]				FE	6-01-76
Palos Verdes blue butterfly *Glaucopsyche lygdamus palosverdesensis*				FE	7-02-80
El Segundo blue butterfly *Euphilotes battoides allyni*				FE	6-01-76
Smith's blue butterfly *Euphilotes enoptes smithi*				FE	6-01-76
San Bruno elfin butterfly *Callophrys mossii bayensis*				FE	6-01-76
Lange's metalmark butterfly *Apodemia mormo langei*				FE	6-01-76
Bay checkerspot butterfly *Euphydryas editha bayensis*				FT	10-18-87
Quino checkerspot butterfly *Euphydryas editha quino (=E. e. wrighti)*				FE	1-16-97
Carson wandering skipper *Pseudocopaeodes eunus obscurus*				FE	8-07-02
Laguna Mountains skipper *Pyrgus ruralis lagunae*				FE	1-16-97
Callippe silverspot butterfly *Speyeria callippe callippe*				FE	12-05-97
Behren's silverspot butterfly *Speyeria zerene behrensii*				FE	12-05-97
Oregon silverspot butterfly[7] *Speyeria zerene hippolyta*				FT	7-02-80
Myrtle's silverspot butterfly[8] *Speyeria zerene myrtleae*				FE	6-22-92

[5] Current taxonomy is *Plebejus icarioides missionensis*.
[6] Current taxonomy is *Plebejus idas lotis*.
[7] Also known by the common name Hippolyta fritillary.
[8] The USFWS and others have not yet determined if the taxonomic expansion by Emmel and Emmel (1998) into *S. z. myrtleae* and *S. z. puntareyes* is warranted. The *Speyereia zerene* along coast of Marin and Sonoma Counties are Federally Endangered under the subspecies concept in the 1992 listing.

	State Listing		Federal Listing	
Delhi Sands flower-loving fly *Rhaphiomidas terminatus abdominalis*			FE	9-23-93
FISHES				
White shark *Carcharodon carcharias*	SC	2-19-13		
Green sturgeon - southern DPS *Acipenser medirostris*			FT[9]	6-06-06
Mohave tui chub *Gila bicolor mohavensis*[10]	SE	6-27-71	FE	10-13-70
Owens tui chub *Gila bicolor snyderi*[11]	SE	1-10-74	FE	8-05-85
Thicktail chub (**Extinct**) *Gila crassicauda*	**Delisted** SE	10-02-80 1-10-74		
Bonytail[12] *Gila elegans*	**SE** ST	1-10-74 6-27-71	FE	4-23-80
Clear Lake hitch *Lavinia exilicauda chi*	SC	3-11-13		
Colorado pikeminnow *Ptychocheilus lucius*	SE	6-27-71	FE	3-11-67
Modoc sucker *Catostomus microps*	**SE** ST	10-02-80 1-10-74	FE	6-11-85
Santa Ana sucker *Catostomus santaanae*			FT[13]	5-12-00
Shortnose sucker *Chasmistes brevirostris*	**SE** ST	1-10-74 6-27-71	FE	7-18-88
Lost River sucker *Deltistes luxatus*	**SE** ST	1-10-74 6-27-67	FE	7-18-88
Razorback sucker *Xyrauchen texanus*	**SE** ST	1-10-74 6-27-71	FE	10-23-91
Delta smelt *Hypomesus transpacificus*	**SE** ST	1-20-10 12-09-93	FT	3-05-93
Longfin smelt *Spirinchus thaleichthys*	ST	4-09-10		
Pacific eulachon - southern DPS *Thaleichthys pacificus*			FT FT	4-13-11[14] 5-17-10

[9] Includes all spawning populations south of the Eel River.
[10] Current taxonomy: *Siphateles bicolor mohavensis*.
[11] Current taxonomy: *Siphateles bicolor snyderi*.
[12] Federal common name: bonytail chub.
[13] Populations in the Los Angeles, San Gabriel, and Santa Ana River basins.
[14] Eulachon was listed as Threatened by the NMFS in 2010 and by the USFWS in 2011.

	State Listing		Federal Listing	
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*[15]			**FT** FE	7-16-75 10-13-70
Paiute cutthroat trout *Oncorhynchus clarkii seleniris*			**FT** FE	7-16-75 3-11-67[16]
Coho salmon - south of Punta Gorda[17] *Oncorhynchus kisutch*	SE[18]	3-30-05	**FE**[19] FT	8-29-05 12-02-96
Coho salmon - Punta Gorda to the N. border of California[20] *Oncorhynchus kisutch*	ST[21]	3-30-05	FT[22] FT	8-29-05 6-05-97
Steelhead - southern California DPS[23] *Oncorhynchus mykiss*			FE[24] FE	2-06-06 10-17-97
Steelhead - south central California coast DPS[25] *Oncorhynchus mykiss*			FT[26] FT	2-06-06 10-17-97
Steelhead - central California coast DPS[27] *Oncorhynchus mykiss*			FT[28] FT	2-06-06 10-17-97
Steelhead - California Central Valley DPS[29] *Oncorhynchus mykiss*			FT[30] FT	2-06-06 5-18-98
Steelhead - northern California DPS[31] *Oncorhynchus mykiss*			FT[32] FT	2-06-06 8-07-00
Little Kern golden trout *Oncorhynchus mykiss whitei*[33]			FT	4-13-78
Chinook salmon - winter-run[34] *Oncorhynchus tshawytscha*	SE	9-22-89	FE[35] FE	8-29-05 2-03-94

15 According to the American Fisheries Society Special Publication 29 (2004), "clarkii" has two i's.

16 All species with a list date of 03-11-67 were listed under the Endangered Species Preservation Act of October 15, 1966.

17 The Federal listing is for central California coast Coho ESU and includes populations from Punta Gorda south to, and including, the San Lorenzo River as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system.

18 The Coho south of San Francisco Bay were state listed in 1995. In Feb 2004 the Fish and Game Commission determined that the Coho from San Francisco to Punta Gorda should also be listed as Endangered. This change was finalized by the Office of Administrative Law on 30 Mar 2005.

19 The NMFS completed a comprehensive status review in 2005 reaffirming the status.

20 The Federal listing is for southern Oregon/northern California coast Coho ESU and includes populations in coastal streams between Cape Blanco, Oregon and Punta Gorda, California.

21 The Fish and Game Commission determined that the Coho from Punta Gorda to the Oregon border should be listed as Threatened on 25 Feb 2004. This determination was finalized by the Office of Administrative Law on 30 Mar 2005.

22 The NMFS completed a comprehensive status review in 2005 reaffirming the status.

23 Coastal basins from the Santa Maria River (inclusive), south to the U.S.-Mexico Border.

24 The NMFS completed a comprehensive status review in 2006 reaffirming the status.

25 Coastal basins from the Pajaro River (inclusive) south to, but not including, the Santa Maria River.

26 The NMFS completed a comprehensive status review in 2006 reaffirming the status.

27 Coastal streams from the Russian River (inclusive) to Aptos Creek (inclusive), and the drainages of San Francisco, San Pablo, and Suisun Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers; and tributary streams to Suisun Marsh including Suisun Creek, Green Valley Creek, and an unnamed tributary to Cordelia Slough (commonly referred to as Red Top Creek), exclusive of the Sacramento-San Joaquin River Basin of the California Central Valley.

28 The NMFS completed a comprehensive status review in 2006 reaffirming the status.

29 The Sacramento and San Joaquin Rivers and their tributaries.

30 The NMFS completed a comprehensive status review in 2006 reaffirming the status.

31 Naturally spawned populations residing below impassable barriers in coastal basins from Redwood Creek in Humboldt County to, and including, the Gualala River in Mendocino County.

32 The NMFS completed a comprehensive status review in 2006 reaffirming the status.

33 Originally listed as *Salmo aguabonita whitei*. The genus *Salmo* was reclassified as *Oncorhynchus* changing the name to *Oncorhynchus aguabonita whitei*. However, recent studies indicate this is a subspecies of rainbow trout, therefore *Oncorhynchus mykiss whitei*.

34 The federal designation is for Chinook salmon - Sacramento River winter-run ESU and described as winter-run populations in the Sacramento River and its tributaries in California.

	State Listing			Federal Listing	
Chinook salmon - California coastal ESU[36] *Oncorhynchus tshawytscha*				FT[37] FT	8-29-05 11-15-99
Chinook salmon - spring-run[38] *Oncorhynchus tshawytscha*	ST	2-05-99		FT[39] FT	8-29-05 11-15-99
Bull trout *Salvelinus confluentus*	SE	10-02-80		FT	12-01-99
Desert pupfish *Cyprinodon macularius*	SE	10-02-80		FE	3-31-86
Tecopa pupfish (**Extinct)** *Cyprinodon nevadensis calidae*	**Delisted** SE	1987 6-27-71		**Delisted** FE	1-15-82 10-13-70
Owens pupfish *Cyprinodon radiosus*	SE	6-27-71		FE	3-11-67
Cottonball Marsh pupfish *Cyprinodon salinus milleri*	ST	1-10-74			
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	SE	6-27-71		FE	10-13-70
Rough sculpin *Cottus asperrimus*	ST	1-10-74			
Tidewater goby *Eucyclogobius newberryi*				FE[40]	2-04-94
AMPHIBIANS					
California tiger salamander[41] *Ambystoma californiense*	ST[42]	8-19-10		(FE) (FT)	
California tiger salamander - central California DPS *Ambystoma californiense*	(ST)			FT[43]	9-03-04
California tiger salamander - Santa Barbara County DPS *Ambystoma californiense*	(ST)			FE[43]	9-15-00
California tiger salamander - Sonoma County DPS *Ambystoma californiense*	(ST)			FE[43]	3-19-03
Santa Cruz long-toed salamander *Ambystoma macrodactylum croceum*	SE	6-27-71		FE	3-11-67

35 The NMFS completed a comprehensive status review in 2005 reaffirming the status.
36 Rivers and streams south of the Klamath River to the Russian River.
37 The NMFS completed a comprehensive status review in 2005 reaffirming the status.
38 The State listing is for "Spring-run chinook salmon (*Oncorhynchus tshawytscha*) of the Sacramento River drainage." The Federal listing is for Central Valley spring-run Chinook ESU and includes populations of spring-run Chinook salmon in the Sacramento River and its tributaries including the Feather River.
39 The NMFS completed a comprehensive status review in 2005 reaffirming the status.
40 See Federal Register 76(12):3071, 19 Jan 2011, for a summary of listing, proposed delisting, and down-list petition.
41 The State listing refers to the entire range of the species.
42 Adopted 20 May 2010. The Office of Administrative Law approved the listing on 21 Aug 2010 and the effective date of regulations was 19 Aug 2010.
43 In 2004 the California tiger salamander was listed as Threatened statewide. The Santa Barbara County and Sonoma County Distinct Vertebrate Population Segments (DPS), formerly listed as Endangered, were reclassified to Threatened. On 19 Aug 2005 U.S. District court vacated the down-listing of the Sonoma and Santa Barbara populations from Endangered to Threatened. Therefore, the Sonoma & Santa Barbara populations are once again listed as Endangered.

	State Listing			Federal Listing	
Siskiyou Mountains salamander[44] *Plethodon stormi*	ST[45]	6-27-71			
Scott Bar salamander *Plethodon asupak*	ST[46]	6-27-71			
Tehachapi slender salamander *Batrachoseps stebbinsi*	ST	6-27-71			
Kern Canyon slender salamander *Batrachoseps simatus*	ST	6-27-71			
Desert slender salamander *Batrachoseps aridus*[47]	SE	6-27-71		FE	6-04-73
Shasta salamander *Hydromantes shastae*	ST	6-27-71			
Limestone salamander *Hydromantes brunus*	ST	6-27-71			
Black toad *Bufo exsul*[48]	ST	6-27-71			
Arroyo toad *Anaxyrus californicus*[49]				FE	1-17-95
Yosemite toad *Anaxyrus canorus*				FPT	4-25-13
California red-legged frog *Rana aurora draytonii*[50]				FT	5-20-96
Oregon spotted frog *Rana pretiosa*				FPT	8-29-13
Southern mountain yellow-legged frog[51] *Rana muscosa*	SE	4-1-13		(FE) (FPE)	
Mountain yellow-legged frog - southern California DPS[52] *Rana muscosa*	(SE)			FE	8-01-02
Mountain yellow-legged frog - northern California DPS[53] *Rana muscosa*	(SE)			FPE	4-25-13

[44] The common name is spelled incorrectly in Title 14 of the CCR as "Siskiyou mountain salamander."
[45] Was a State Candidate for Delisting on 30 Sep 2005. No action was taken by the FGC after the CDFW presented a Department report on 3 Nov 2006; SMS was tabled at the 3 May 2007 FGC meeting, and there was nothing to report regarding the Department's environmental documents at the 11 Oct 2007 meeting. Therefore, with respect to Fish & Game Code 2075, it is assumed that this is no longer a candidate for delisting.
[46] As recognized by the FGC, the Scott Bar salamander is currently protected under the CESA as a sub-population of the Siskiyou Mountains salamander (*Plethodon stormi*) (Calif. Regulatory Notice Register, No. 21-Z, p. 916, 25 May 2007).
[47] Current taxonomy: *Batrachoseps major aridus.*
[48] Current taxonomy: *Anaxyrus exsul.*
[49] At the time of listing, arroyo toad was known as *Bufo microscaphus californicus,* a subspecies of southwestern toad. In 2001 it was determined to be its own species, *Bufo californicus*. Since then, many species in the genus *Bufo* were changed to the genus *Anaxyrus*, and now arroyo toad is known as *Anaxyrus californicus*.
[50] Current taxonomy: *Rana draytonii.*
[51] Though the scientific name *Rana muscosa* is not disputed, the State uses this common name, whereas the USFWS listing refers to two distinct population segments. This species is also known by the common name Sierra Madre yellow-legged frog (Vredenburg et al. 2007).
[52] San Gabriel, San Jacinto, and San Bernardino Mountains only.
[53] North of the Tehachapi Mountains from the Monarch Divide to portions of the Kern River drainage.

	State Listing			Federal Listing	
Sierra Nevada yellow-legged frog *Rana sierrae*	ST	4-1-13		FPE	4-25-13
<u>Reptiles</u>					
Desert tortoise *Gopherus agassizii*	ST	8-03-89		FT	4-02-90
Green sea turtle[54] *Chelonia mydas*				**<u>FT</u>** FE	7-28-78 10-13-70
Loggerhead sea turtle - North Pacific DPS[55] *Caretta caretta*				**<u>FE</u>** FT	10-24-11 7-28-78
Olive (=Pacific) ridley sea turtle *Lepidochelys olivacea*				FT	7-28-78
Leatherback sea turtle *Dermochelys coriacea*				FE	6-02-70
Barefoot banded gecko[56] *Coleonyx switaki*	ST	10-02-80			
Coachella Valley fringe-toed lizard *Uma inornata*	SE	10-02-80		FT	9-25-80
Blunt-nosed leopard lizard *Gambelia silus*[57]	SE	6-27-71		FE	3-11-67
Island night lizard *Xantusia riversiana*				FPD **<u>FT</u>**	2-4-13 8-11-77
Southern rubber boa *Charina bottae umbratica*[58]	ST	6-27-71			
Alameda whipsnake *Masticophis lateralis euryxanthus*	ST	6-27-71		FT	12-05-97
San Francisco garter snake *Thamnophis sirtalis tetrataenia*	SE	6-27-71		FE	3-11-67
Giant garter snake *Thamnophis couchi gigas*[59]	ST	6-27-71		FT	10-20-93
<u>Birds</u>					
Short-tailed albatross *Phoebastria albatrus*				FE FE	8-30-00[60] 6-2-1970

[54] Current nomenclature: green turtle.
[55] The 1978 listing was for the worldwide range of the species. The 24 Oct 2011 final rule is for the North Pacific DPS (north of the equator & south of 60 degrees north latitude).
[56] Current nomenclature: Barefoot gecko.
[57] Current taxonomy: *Gambelia sila*. Originally listed under the ESA as *Crotaphytus wislizenii silus*.
[58] Current taxonomy: *Charina umbratica.*
[59] Current taxonomy and Federal listing: *Thamnophis gigas.*
[60] Listed as Endangered in one of the original species list, but "due to an inadvertent oversight" when the 1973 ESA repealed the 1969 Act, short-tailed albatross was effectively delisted. Proposed listing to fix this error in 1980, with final rule in 2000.

	State Listing			Federal Listing	
California brown pelican[61] (**Recovered**) *Pelecanus occidentalis californicus*	**Delisted** SE	6-03-09 6-27-71		**Delisted** FE	12-17-09 2-20-08 10-13-70
Aleutian Canada goose **(Recovered)** *Branta canadensis leucopareia*[62]				**Delisted** FT FE	3-20-01 12-12-90 3-11-67
California condor *Gymnogyps californianus*	SE	6-27-71		FE	3-11-67
Bald eagle *Haliaeetus leucocephalus*	**SE** (rev) SE	10-02-80 6-27-71		**Delisted**[63] FT FE (rev) FE	8-08-07 7-06-99 8-11-95 2-14-78 3-11-67
Swainson's hawk *Buteo swainsoni*	ST	4-17-83			
American peregrine falcon **(Recovered)** *Falco peregrinus anatum*	**Delisted** SE	11-04-09 6-27-71		**Delisted** FE	8-25-99 6-02-70
Arctic peregrine falcon **(Recovered)** *Falco peregrinus tundrius*				**Delisted** FT FE	10-05-94 3-20-84 6-02-70
California black rail *Laterallus jamaicensis coturniculus*	ST	6-27-71			
California clapper rail *Rallus longirostris obsoletus*	SE	6-27-71		FE	10-13-70
Light-footed clapper rail *Rallus longirostris levipes*	SE	6-27-71		FE	10-13-70
Yuma clapper rail *Rallus longirostris yumanensis*	**ST** SE	2-22-78 6-27-71		FE	3-11-67
Greater sandhill crane *Grus canadensis tabida*	ST	4-17-83			
Western snowy plover *Charadrius alexandrinus nivosus*[64]				FT[65]	4-05-93
California least tern *Sterna antillarum browni*[66]	SE	6-27-71		FE	10-13-70
Marbled murrelet *Brachyramphus marmoratus*	SE	3-12-92		FT	9-30-92

[61] Federal nomenclature: Brown pelican (*Pelecanus occidentalis*).
[62] Current taxonomy: Cackling goose (*Branta hutchinsii leucopareia*).
[63] The Post-delisting Monitoring Plan will monitor the status of the bald eagle over a 20 year period with sampling events held once every 5 years.
[64] Current taxonomy: *Charadrius nivosus nivosus* (AOU 2011).
[65] Federal status applies only to the Pacific coastal population.
[66] Current taxonomy: *Sternula antillarum browni*.

	State Listing		Federal Listing	
Xantus's murrelet[67] *Synthliboramphus hypoleucus*	ST[68]	12-22-04		
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	**SE** ST	3-26-88 6-27-71		
Elf owl *Micrathene whitneyi*	SE	10-02-80		
Northern spotted owl *Strix occidentalis caurina*	SC[69]		FT	6-22-90
Great gray owl *Strix nebulosa*	SE	10-02-80		
Gila woodpecker *Melanerpes uropygialis*	SE	3-17-88		
Black-backed woodpecker *Picoides arcticus*	SC	12-27-11		
Gilded northern flicker[70] *Colaptes auratus chrysoides*	SE	3-17-88		
Willow flycatcher *Empidonax traillii*	SE[71]	1-02-91		
Southwestern willow flycatcher *Empidonax traillii extimus*	(SE)		FE	3-29-95
Bank swallow *Riparia riparia*	ST	6-11-89		
Coastal California gnatcatcher *Polioptila californica californica*			FT	3-30-93
San Clemente loggerhead shrike *Lanius ludovicianus mearnsi*			FE	8-11-77
Arizona Bell's vireo *Vireo bellii arizonae*	SE	3-17-88		
Least Bell's vireo *Vireo bellii pusillus*	SE	10-02-80	FE	5-02-86
Inyo California towhee *Pipilo crissalis eremophilus*[72]	SE	10-02-80	FT	8-03-87
San Clemente sage sparrow *Amphispiza belli clementeae*			FT	8-11-77

[67] According to the AOU (2012), this protected species that breeds on islands in southern California is now known as the Scripps's Murrelet (*Synthliboramphus scrippsi*).
[68] The FGC determined that Xantus's murrelet should be listed as a Threatened species 24 Feb 2004. The decision was reviewed by the OAL and the listing became effective on 22 Dec 2004.
[69] The FGC passed the motion to designate the northern spotted owl as a Candidate for Threatened or Endangered species status at their meeting on 7 Aug 2013; a formal Notice of Finding has not yet been posted.
[70] Current taxonomy: Gilded flicker (*Colaptes chrysoides*).
[71] State listing includes all subspecies.
[72] Current taxonomy: *Melozone crissalis eremophilus.*

	State Listing		Federal Listing	
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	SE	1-10-74		
Santa Barbara song sparrow **(Extinct)** *Melospiza melodia graminea*			**Delisted** FE	10-12-83 6-04-73
MAMMALS				
Point Arena mountain beaver *Aplodontia rufa nigra*			FE	12-12-91
San Joaquin antelope squirrel[73] *Ammospermophilus nelsoni*	ST	10-02-80		
Mohave ground squirrel *Spermophilus mohavensis*[74]	ST	6-27-71		
Morro Bay kangaroo rat *Dipodomys heermanni morroensis*	SE	6-27-71	FE	10-13-70
Giant kangaroo rat *Dipodomys ingens*	SE	10-02-80	FE	1-05-87
San Bernardino kangaroo rat[75] *Dipodomys merriami parvus*			FE	9-24-98
Tipton kangaroo rat *Dipodomys nitratoides nitratoides*	SE	6-11-89	FE	7-08-88
Fresno kangaroo rat *Dipodomys nitratoides exilis*	**SE** ST	10-02-80 6-27-71	FE	3-01-85
Stephens' kangaroo rat *Dipodomys stephensi*	ST	6-27-71	FE	9-30-88
Pacific pocket mouse *Perognathus longimembris pacificus*			FE	9-26-94
Amargosa vole *Microtus californicus scirpensis*	SE	10-02-80	FE	11-15-84
Riparian woodrat *Neotoma fuscipes riparia*			FE	3-24-00
Salt-marsh harvest mouse *Reithrodontomys raviventris*	SE	6-27-71	FE	10-13-70
American pika *Ochotona princeps*	SC	10-26-11		
Riparian brush rabbit *Sylvilagus bachmani riparius*	SE	5-29-94	FE	3-24-00
Buena Vista Lake ornate shrew *Sorex ornatus relictus*			FE	4-05-02

[73] Current taxonomy: Nelson's antelope squirrel.
[74] Current taxonomy: *Xerospermophilus mohavensis.*
[75] Federal nomenclature: San Bernardino Merriam's kangaroo rat.

	State Listing		Federal Listing	
Lesser long-nosed bat *Leptonycteris yerbabuenae*			FE	10-31-88
Townsend's big-eared bat *Corynorhinus townsendii*	SC[76]			
Gray wolf *Canis lupus*	SC	10-18-12	FPD **FE**	6-13-13 4-10-78
Island fox *Urocyon littoralis*	ST[77]	6-27-71	(FE)	
San Miguel Island Fox *Urocyon littoralis littoralis*	(ST)		FE	4-05-04
Santa Catalina Island Fox *Urocyon littoralis catalinae*	(ST)		FE	4-05-04
Santa Cruz Island Fox *Urocyon littoralis santacruzae*	(ST)		FE	4-05-04
Santa Rosa Island Fox *Urocyon littoralis santarosae*	(ST)		FE	4-05-04
San Joaquin kit fox *Vulpes macrotis mutica*	ST	6-27-71	FE	3-11-67
Sierra Nevada red fox *Vulpes vulpes necator*	ST	10-02-80		
Guadalupe fur seal *Arctocephalus townsendi*	ST	6-27-71	**FT** FE	1-15-86 3-11-67
Steller sea lion - Eastern DPS *Eumetopias jubatus*			FPD **FT** FT	4-18-12 6-4-97[78] 4-05-90
Southern sea otter *Enhydra lutris nereis*			FT	1-14-77
Wolverine *Gulo gulo*	ST	6-27-71	FPT[79]	2-4-13
Pacific fisher[80] *Martes pennanti*	SC[81]	3-11-13 4-14-09		
California (=Sierra Nevada) bighorn sheep *Ovis canadensis californiana*[82]	**SE** ST	8-27-99 6-27-71	FE	1-03-00

[76] The FGC passed the motion to designate the Townsend's big-eared bat as a candidate for Threatened or Endangered species status at their meeting on 26 Jun 2013; a formal Notice of Finding has not yet been posted.
[77] State listing includes all 6 subspecies on all 6 islands. Federal listing is for only 4 subspecies on 4 islands.
[78] The NMFS reclassified Steller sea lion as two distinct population segments: western DPS west of 144 degrees longitude (Endangered), and eastern DPS east of 144 degrees longitude (Threatened).
[79] Federal proposed listing is for the distinct population segment of the North American wolverine (*Gulo gulo luscus*) occurring in the contiguous U.S.
[80] The FGC during their review has recognized the common name Pacific fisher, whereas the USFWS recognizes the common name fisher, and candidacy refers to the West Coast DPS in California, Oregon, and Washington.
[81] The FGC Notice of Findings stated that the Pacific fisher was a candidate for listing as either an Endangered or Threatened species. At the 23 Jun 2010 meeting the FGC determined that the listing was not warranted. An 11 Mar 2013 Notice of Findings stated that pursuant to court order, the FGC set aside its 15 Sep 2010 findings rejecting the petition to list, and the Pacific fisher is a candidate species for the purposes of CESA.
[82] Current & Federal taxonomy: Sierra Nevada bighorn sheep (*Ovis canadensis sierrae)*

	State Listing			Federal Listing	
Peninsular bighorn sheep DPS[83] *Ovis canadensis cremnobates*	ST	6-27-71		FE	3-18-98
North Pacific right whale *Eubalaena japonica*[84]				FE[85] FE	4-7-08 6-02-70
Sei whale *Balaenoptera borealis*				FE	6-02-70
Blue whale *Balaenoptera musculus*				FE	6-02-70
Fin whale *Balaenoptera physalus*				FE	6-02-70
Humpback whale[86] *Megaptera novaeangliae*				FE	6-02-70
Gray whale **(Recovered)** *Eschrichtius robustus*				**Delisted** FE	6-15-94 6-02-70
Killer whale (Southern resident DPS) *Orcinus orca*				FE[87] FE	4-04-07 2-16-06 12-22-04
Sperm whale *Physeter macrocephalus*[88]				FE	6-02-70

[83] Current taxonomy: the subspecies *O.c. cremnobates* has been synonymized with *O.c. nelsoni*. The desert bighorn sheep in the Peninsular Ranges, the Peninsular bighorn sheep, is now considered to be a Distinct Population Segment (DPS) of the subspecies.
[84] The scientific name was clarified in the Federal Register Vol. 68, No. 69 April 10, 2003.
[85] The NMFS completed a status review of right whales in the N. Pacific and N. Atlantic Oceans and determined the previously Endangered northern right whale (*Eubalaena* spp.) as two separate Endangered species: North Pacific right whale (*E. japonica*) and North Atlantic right whale (*E. glacialis*).
[86] Also known as Hump-backed whale.
[87] The killer whale was listed as Endangered by the NMFS on Feb 16, 2006 and by the USFWS on Apr 4, 2007.
[88] Current taxonomy: *Physeter catodon* with *P. macrocephalus* as a synonym.

ABBREVIATIONS

AOU: American Ornithologists' Union

CCR: California Code of Regulations

CDFW: California Department of Fish and Wildlife (previously known as Department of Fish and Game (DFG))

CESA: California Endangered Species Act

DPS: Distinct population segment

ESA: Endangered Species Act (Federal)

ESU: Evolutionarily significant unit

FGC: California Fish and Game Commission

NMFS: National Marine Fisheries Service

NOAA: National Oceanic and Atmospheric Administration

USFWS: United States Fish and Wildlife Service

ADDITIONAL RESOURCES

The California Fish and Game Commission publishes notices relating to changes to Title 14 of the California Code of Regulations: http://www.fgc.ca.gov/

Title 14 of the California Code of Regulations can be accessed through The Office of Administrative Law: http://www.oal.ca.gov/

The U.S. Fish and Wildlife Service is responsible for protecting Endangered and Threatened species, and conserving candidate species and at-risk species so that ESA listing is not necessary: http://www.fws.gov/Endangered/

NOAA's National Marine Fisheries Service, Office of Protected Resources is responsible for protecting marine mammals and Endangered and Threatened marine life: http://www.nmfs.noaa.gov/pr/

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE RareFind

Query Summary:
County IS (Sacramento)
AND Quad IS (Folsom SE (3812151))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Agelaius tricolor	tricolored blackbird	ABPBXB0020	429	2	None	None	G2G3	S2	null	ABC_WLBCC-Watch List of Birds of Conservation Concern | BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_EN-Endangered | USFWS_BCC-Birds of Conservation Concern	Freshwater marsh | Marsh & swamp | Swamp | Wetland
Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	16	1	None	None	G5	S2	null	CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern	Valley & foothill grassland
Athene cunicularia	burrowing owl	ABNSB10010	1848	3	None	None	G4	S2	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_LC-Least Concern | USFWS_BCC-Birds of Conservation Concern	Coastal prairie | Coastal scrub | Great Basin grassland | Great Basin scrub | Mojavean desert scrub | Sonoran desert scrub | Valley & foothill grassland
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	611	1	Threatened	None	G3	S2S3	null	IUCN_VU-Vulnerable	Valley & foothill grassland | Vernal pool | Wetland
Buteo swainsoni	Swainson's hawk	ABNKC19070	2394	2	None	Threatened	G5	S2	null	ABC_WLBCC-Watch List of Birds of Conservation Concern | BLM_S-Sensitive | IUCN_LC-Least Concern | USFS_S-Sensitive | USFWS_BCC-Birds of Conservation Concern	Great Basin grassland | Riparian forest | Riparian woodland | Valley & foothill grassland

Emys marmorata	western pond turtle	ARAAD02030	1137	1	None	None	G3G4	S3	null	BLM_S-Sensitive | CDFW_SSC-Species of Special Concern | IUCN_VU-Vulnerable | USFS_S-Sensitive	Aquatic | Artificial flowing waters | Klamath/North coast flowing waters | Klamath/North coast standing waters | Marsh & swamp | Sacramento/San Joaquin flowing waters | Sacramento/San Joaquin standing waters | South coast flowing waters | South coast standing waters | Wetland
Eryngium pinnatisectum	Tuolumne button-celery	PDAPI0Z0P0	24	1	None	None	G2	S2	1B.2	null	Cismontane woodland | Lower montane coniferous forest | Vernal pool | Wetland
Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	93	2	None	None	G3	S3	1B.2	BLM_S-Sensitive	Marsh & swamp | Wetland

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-2013-F-0044-R004

JUN 10 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Request to Reinitiate Formal Consultation on the Folsom Dam Safety/Flood Damage Reduction Project, Sacramento County, California

Dear Ms. Kirchner:

This letter is in response to your June 5, 2014, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Folsom Dam Modification Project (project) in Sacramento County, California. At issue are effects of the proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). Your request was received by the Service on June 9, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

The Service appended this project to the *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (programmatic consultation) (Service File 1-1-96-F-66) on November 1, 2012, and was subsequently amended in reinitiation on September 23, 2013, December 24, 2013, and March 31, 2014.

The Folsom Dam Modification Project, also referred to as the Folsom Dam Safety/Flood Damage Reduction Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam.

<u>Right Bank</u>

The staging area for the right bank stabilization portion of the project may not be available for use during the scheduled time of construction. Therefore, an additional staging area is being proposed along 0.5 acre of an existing dirt road located near the project area (see inset of Figure 1). This area has been disturbed under previous actions from the construction of the Folsom Lake Crossing Bridge. Surveys were conducted by Corps staff on April 3, 2014, to collect data on elderberry shrubs near the additional proposed staging area. Three elderberry shrubs were identified adjacent to the dirt road (see Figure 1). One of the shrubs had a stem that measured greater than 5 inches in diameter at ground level but the other two shrubs were unable to be measured due to their location on the upper steep slope.

Source: U.S. Army Corps of Engineers

Figure 1. Proposed staging area and elderberry shrub locations for right bank stabilization measures along the right bank of the American River

Dike 7 and Left Drain

During a site visit to the Folsom JFP site on May 6, 2014, several elderberry shrubs that had previously been transplanted have grown back within the construction area. One shrub was identified adjacent to the Dike 7 staging area (see Figure 2) and 16 shrubs were identified near the left drain that runs along the toe of Folsom Lake Crossing (see Figure 3). The elderberry shrub at Dike 7 has one stem that is 1 to 3 inches in diameter at ground level and the shrubs along the left drain were measured at 17 stems at 1 to 3 inches in diameter and 5 stems at 3 to 5 inches in diameter. No exit holes were observed on any of the shrubs and all areas are highly disturbed.

Source: U.S. Army Corps of Engineers

Figure 2. Elderberry shrub located near the Dike 7 staging area

The elderberry shrubs at the additional staging area for the right bank stabilization work and at Dike 7 will not be directly impacted by construction. Staging area space is limited at the right bank stabilization project site and it will be difficult to observe the Service's recommended 100 foot radius buffer zone for protection of the elderberry shrubs and still meet the project purpose. The elderberry shrub at Dike 7 has sprouted within 100 feet of the current staging area. Due to the intended use of the staging area at these two sites and the limited space, the Corps is proposing a minimum 15 foot radius buffer zone using k-rails for protection.

The elderberry shrubs that have re-sprouted along the left drain will need to be removed in order to complete construction. Elderberry shrubs in this area have been removed during previous construction actions and have already been compensated for. The beetle is highly unlikely to occupy the newly sprouted elderberry shrubs since most of the stems are first year growth and the closest known occurrence of the beetle is over 3 miles away, which is beyond the beetle's flight capacity to re-occupy the site. Therefore, the removal of the newly sprouted elderberry shrubs along the left drain is unlikely to result in additional effects to the beetle.

Figure 3. Elderberry shrub locations near the left drain of Folsom Lake Crossing

The November 1, 2012, biological opinion is amended to include:

On Page 2 - In the first paragraph, the following should be changed from:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, December 4, 2013, and February 11, 2014; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; 6) the Corps March 19, 2014, request for reinitiation of formal consultation; and 7) other information available to the Service.

To:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, December 4, 2013, and February 11, 2014; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; 6) the Corps March 19, 2014, request for reinitiation of formal consultation**; 7) the Corps June 5, 2014, request for reinitiation of formal consultation; and 8)** other information available to the Service.

On Page 3 - In the Conservation Measures section, the following should be changed from:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, December 18, 2013, and March 19, 2014, letters in addition to those listed in the programmatic consultation.

To:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, December 18, 2013, **March 19, 2014, and June 5, 2014,** letters in addition to those listed in the programmatic consultation.

All other sections of the November 1, 2012, biological opinion for the Folsom Dam Modification Project remain the same. If you have any questions regarding this reinitiation, please contact Amber Aguilera, Fish and Wildlife Biologist, or Doug Weinrich, Chief, Habitat Conservation Division, at (916) 414-6600.

Sincerely,

Daniel Welsh
Acting Field Supervisor

cc:
Jamie LeFevre, Army Corps of Engineers, Sacramento, California

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-F-0044-R003

MAR 31 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Request to Reinitiate Formal Consultation on the Folsom Dam Safety/Flood Damage Reduction Project, Sacramento County, California

Dear Ms. Kirchner:

This letter is in response to your March 19, 2014, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Folsom Dam Modification Project (project) in Sacramento County, California. At issue are effects of the proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). Your request was received by the Service on March 24, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

The Service appended this project to the *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (programmatic consultation) (Service File 1-1-96-F-66) on November 1, 2012, and was subsequently amended in reinitiation on September 23, 2013, and on December 24, 2013.

The Folsom Dam Modification Project, also referred to as the Folsom Dam Safety/Flood Damage Reduction Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River.

To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts will be installed below elevation 155 (Figure 1). About 40 rock bolts between 25 and 30 feet long will be placed to pin the rock mass. Holes will be drilled into the rock slope, the rock bolts will be installed, and cement or resin grout will be added to hold the rock bolts in place. Once the grout has cured, the rock bolts will be tensioned in accordance with specifications. In addition, formed concrete may be used to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

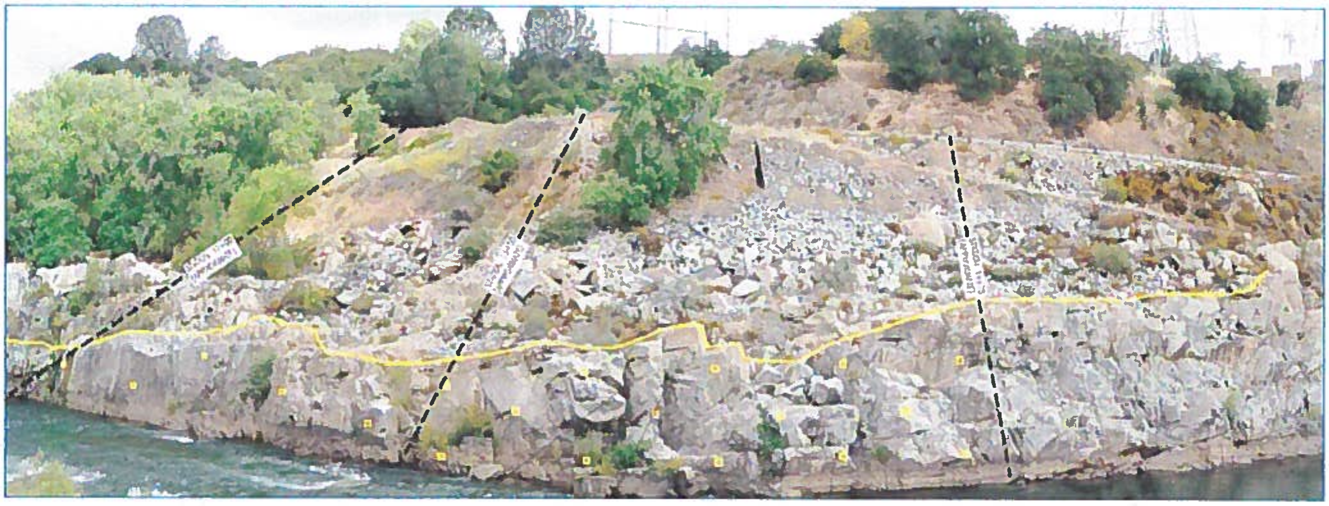
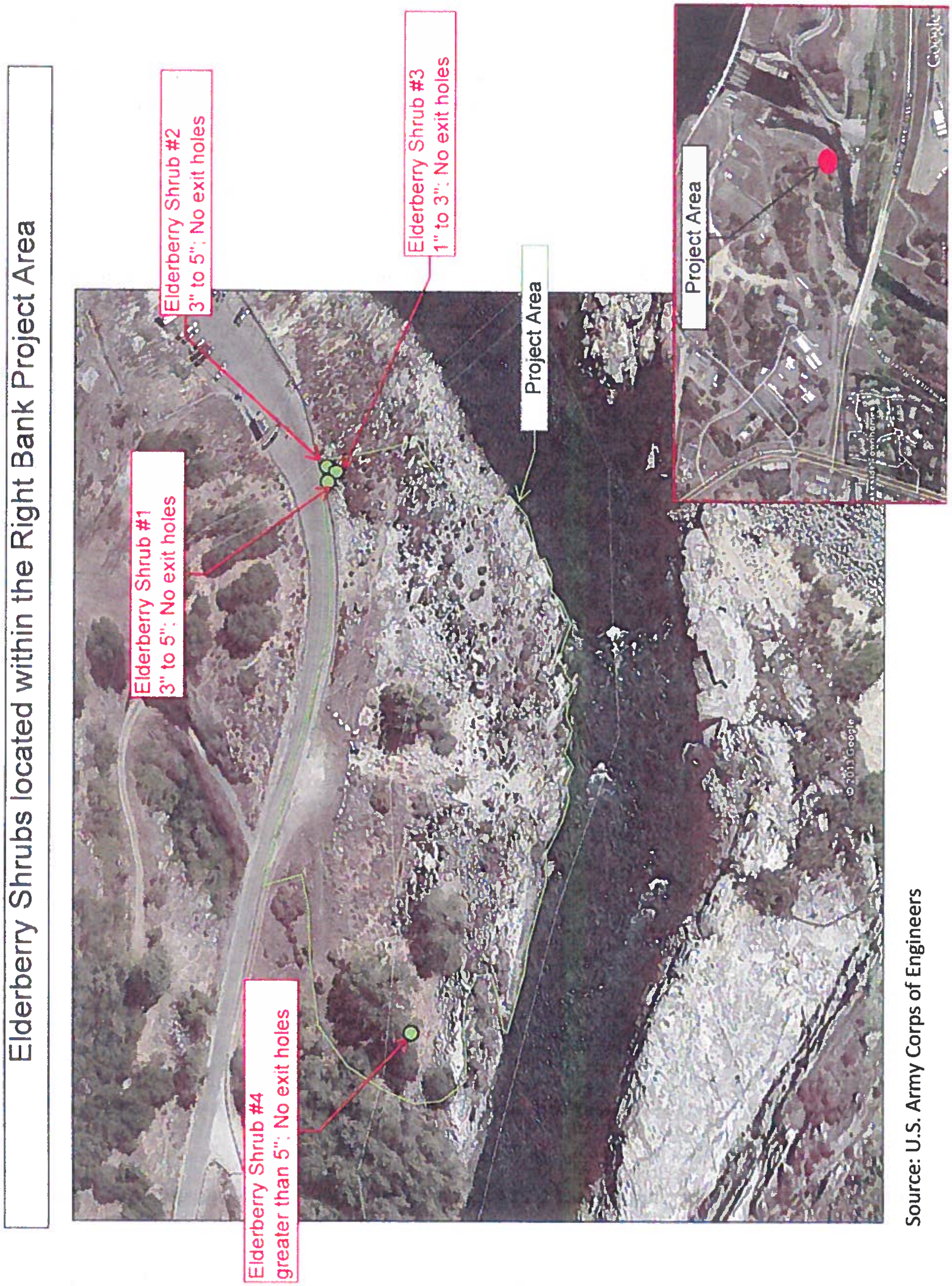


Figure 1. Approximate rock bolt locations on the right bank of the American River

The project site is located along a steep slope which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a 6 month period starting in the middle to late summer of 2015 when releases from Folsom Dam are expected to be minimal.

The project area totals 2 acres along the right bank of the American River. The area has been disturbed previously from the construction of Folsom Dam and the powerhouse, and supports small areas of annual grasses, forbs, and small shrubs. Cottonwoods and willows are located along the perimeter of the proposed access road.

Surveys were conducted on July 1, 2013, to collect data on elderberry shrubs near the project area. Three elderberry shrubs were identified adjacent to the powerhouse road and one elderberry shrub was identified adjacent to the proposed access road (Figure 2). The elderberry shrubs were measured as follows: 1 stem at 1 to 3 inches in diameter at ground level, 2 stems at 3 to 5 inches at ground level, and 1 stem greater than 5 inches at ground level. All four of the elderberry shrubs are in a non-riparian area and no exit holes were observed on any of them.



Source: U.S. Army Corps of Engineers

Figure 2. Elderberry shrub locations on the right bank of the American River

The elderberry shrubs will not be directly impacted by the proposed project. Staging area space is limited at the project site; therefore, it will be difficult to observe the Service recommended 100-foot radius buffer zone for protection of the elderberry shrubs and still meet the project purpose. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection.

To minimize potential take of the beetle, the following additional measures will be incorporated into the right bank protection portion of the project:

- A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the 100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. Due to the limited space within the project area, it will be difficult to observe the 100-foot radius buffer zone for protection of all the elderberry shrubs located at the site. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection. These areas will be fenced, flagged, and maintained during construction.

The Service has reviewed the Folsom JFP revised project description and evaluated its potential effect to the beetle. The Service finds that the effects of the proposed work are consistent with the effects analyzed in the biological opinion and subsequent reinitiations.

The November 1, 2012, biological opinion is amended to include:

On Page 2 - In the first paragraph, the following should be changed from:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, and December 4, 2013; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; and 6) other information available to the Service.

To:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, **December 4, 2013, and February 11, 2014**; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; **6) the Corps March 19, 2014, request for reinitiation of formal consultation; and 7)** other information available to the Service.

On Page 2 - In the Description of the Proposed Project section after the 3rd paragraph, add:

To ensure the slope of the right bank remains stable, about 40 post-tensioned rock bolts between 25 and 30 feet in length will be placed to pin the rock mass. Holes will be drilled into the rock

slope and then filled with cement grout or resin grout to hold the rock bolts in place. The rock bolts will be installed perpendicular to the slope and subsequently tensioned. In addition, formed concrete may be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a six month period starting in the middle to late summer of 2015.

On Page 3 - In the Conservation Measures section, the following should be changed from:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, and December 18, 2013, letters in addition to those listed in the programmatic consultation.

To:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, **December 18, 2013, and March 19, 2014, letters** in addition to those listed in the programmatic consultation.

All other sections of the November 1, 2012, biological opinion for the Folsom Dam Modification Project remain the same. If you have any questions regarding this reinitiation, please contact Amber Aguilera, Fish and Wildlife Biologist, or Doug Weinrich, Chief, Habitat Conservation Division, at (916) 414-6600.

Sincerely,

Daniel Welsh
Acting Field Supervisor

cc:
Jamie LeFevre, Army Corps of Engineers, Sacramento, California

Folsom JFP Phase V Right Bank Project Area

Tree No.	Species	Diameter at Breast Height (inches)
1	Cottonwood	26
2	Cottonwood	6
3	Cottonwood	8
4	Cottonwood	3
5	Cottonwood	10
6	Cottonwood	4
7	Cottonwood	4
8	Willow sp	20
9	Willow sp	4
10	Willow sp	17
11	Black Locust	16
12	Black Locust	3
Total		**121**

Vicinity Map

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-
2014-CPA-0007

OCT 0 3 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95825-2922

Dear Ms. Kirchner:

The U.S. Army Corps of Engineers (Corps) has requested supplemental coordination under the Fish and Wildlife Coordination Act (FWCA) for an addition to the project description under the Folsom Dam Safety/Flood Damage Reduction Project. The additional action includes slope protection measures that would occur on the right bank of the American River just downstream of Folsom Dam in Sacramento County, California. This letter transmits the U.S. Fish and Wildlife Service's (Service) final supplemental FWCA report for the proposed project (enclosed).

If you have any questions regarding this report on the proposed project, please contact Amber Aguilera, Fish and Wildlife Biologist, at (916) 414-6577.

Sincerely,

Daniel Welsh
Acting Field Supervisor

Enclosure

cc: w/ enclosure
Jamie LeFevre, COE, Sacramento, CA
Howard Brown, NOAA Fisheries, Sacramento, CA
Tina Bartlett, CDFW, Rancho Cordova, CA

FINAL SUPPLEMENTAL FISH AND WILDLIFE COORDINATION ACT REPORT
FOLSOM DAM SAFETY/FLOOD DAMAGE REDUCTION PROJECT
RIGHT BANK SLOPE PROTECTION
October 2014

BACKGROUND

The Folsom Dam Safety/Flood Damage Reduction Project, also referred to as the Folsom Dam Modification Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort among the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Protection Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Operation of this spillway would increase water discharge capability from the reservoir and help to provide a 200 year level of flood protection to the Sacramento area. The potential effects of the Folsom JFP on environmental and cultural resources were evaluated in the 2007 Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR).

The evaluation in the 2007 FEIS/EIR was based on technical studies and the level of project design available at the time. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River. After the auxiliary spillway becomes operational, changes in river hydraulics downstream of the stilling basin would occur that have not been experienced to date. Due to the orientation of the auxiliary spillway, a 400-foot reach of the right bank of the American River may be more vulnerable to erosion and scour, depending on how the facilities are operated. As a result, concerns have been raised about what the impacts might be if erosion and scour are increased due to the operation of the new auxiliary spillway.

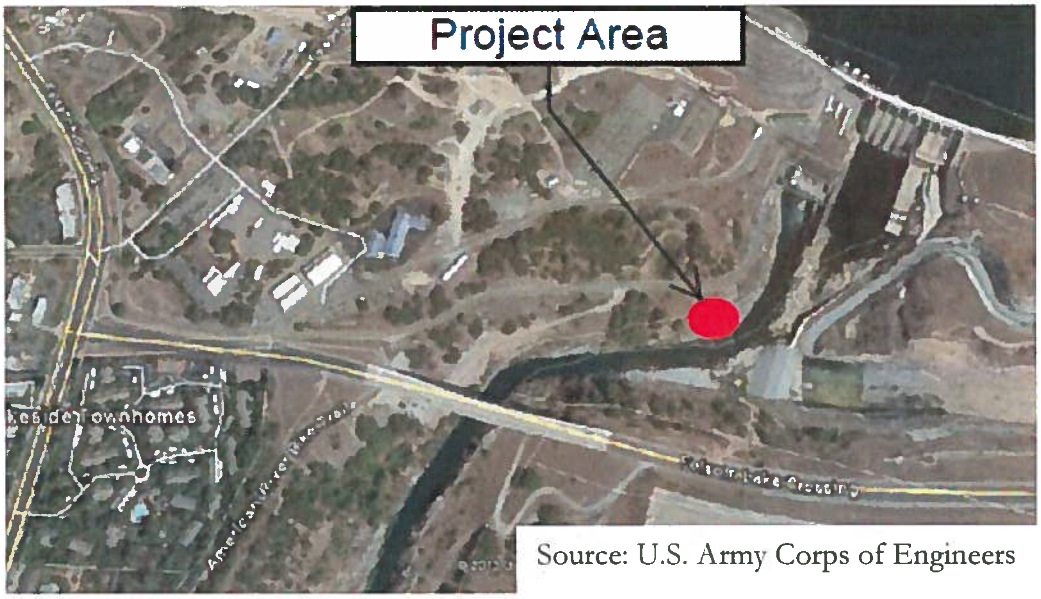
To address this concern, the Corps has proposed additional slope protection along the right bank, which is the subject of this supplemental FWCA report. The U.S. Fish and Wildlife Service (Service) previously coordinated with the Corps on the various aspects of the Folsom JFP. The proposed work addressed in this report is specific to the slope protection measures on the right bank of the American River just downstream of the main dam.

PROJECT DESCRIPTION

The Corps proposes to install slope protection measures to the right bank of the American River just downstream of Folsom Dam. The purpose of the project is to ensure the slope of the right bank remains stable where flows from the main dam and auxiliary spillway converge. Construction activities associated with the stabilization of the right bank slope would be confined to a 2 acre area of the lower right bank slope of the American River starting about 700 feet downstream from the main dam to about 800 feet upstream of Folsom Crossing Bridge, between Reclamation's maintenance road to the powerhouse and the American River (see Figure 1).

Mobilization and Staging
Access to the site would be from the west of the project area by way of Folsom-Auburn Road. About one-quarter mile to the north of the signaled intersection of Folsom-Auburn Road and Folsom Lake Crossing Road, project vehicles would turn right at the entrance to Reclamation's Central California Area Office facility. Access to the project area would be through Reclamation property.

An existing unpaved turnout area upstream of the project area near the powerhouse would be used for staging. Minimal grading would be required to enlarge the existing unpaved turnout area to develop sufficient space for staging and vehicles. Access to the powerhouse is controlled by Reclamation and the use of this area would be coordinated with them. If the turnout near the powerhouse is not available for staging during the scheduled time of construction, an additional staging area has been identified along a 0.5 acre dirt road just downstream of the project area. This area has been disturbed under previous actions from the construction of the Folsom Lake Crossing Bridge. Prior to initiation of construction, the staging area would be fenced.



Source: U.S. Army Corps of Engineers

Figure 1. Folsom JFP Right Bank Project Area

Lower Slope Protection

To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts would be installed below elevation 155. Rock bolts generally consist of steel elements (bars and strands) grouted in a drilled hole. Rock bolts actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. About 40 rock bolts between 25 and 30 feet in length would be installed perpendicular to the slope and subsequently tensioned to pin the rock mass. Holes would be drilled into the rock slope and then filled with cement grout or resin grout to hold the rock bolts in place. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

Access Road and Site Preparation

A 20-foot-wide access road and a platform would be constructed to allow for mobilization of a crane. Site preparation for the access road would include minor clearing, grubbing, and tree removal. Installation of the access road would require cutting 1,000 cubic yards (cy) of material to level the area. After the area is level, about 2,000 cy of fill material would be brought in to build up the road. The soil would then be graded, scarified, and compacted. Aggregate base material would be spread over the access road and compacted to 100 percent density. Completion of the access road is estimated to take 2 weeks.

The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation would involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. A crane platform could be setup on either the upper-slope staging area or on a mid-slope area, and the crane would lower the crew and drilling equipment over the edge to install the rock bolts. Alternatively, to access hard to reach rock bolt locations, the contractor may use a barge to conduct drilling operations. The barge would allow a track mounted drill rig to be transported to the shoreline to access the rock bolt locations.

Demobilization and Clean-up
Once the slope protection measures are completed, the contractor would remove all construction equipment, temporary fencing, and unused materials from the project area. In addition, all work areas would be cleaned of work-related debris and would be left in a presentable condition. Any roadway pavement or parking area gravel damages due to construction equipment or haul trucks would be repaired to pre-project conditions and all disturbed earthen areas would be reseeded with native grasses.

Construction Schedule
The proposed slope protection measures would be conducted over a 6 month period starting in the middle to late summer of 2015. Work hours would be limited to 7 a.m. to 6 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays. No work would be conducted on Sundays or during late evenings or night hours.

BIOLOGICAL RESOURCES

The American River and nearby areas, although highly modified from conditions of 150 years ago, support a diverse and highly valuable area for biological resources. The 23-mile-long reach of the American River Parkway downstream of Folsom and Nimbus Dams encompasses about 4,000 acres, the majority of which are in a State designated floodway and contains large areas of annual grasslands, riparian forest and scrub-shrub, oak-woodlands, bare sand and gravel, and surface waters of the river and its associated sloughs and dredge ponds (USFWS 2003).

Vegetation
The project area currently supports annual grassland and riparian vegetation communities. The project area has been disturbed under previous actions from the construction of Folsom Dam and the power house.

Site preparation for the access road would include some tree removal (see Figure 2). The area where the road would be aligned is primarily non-native grasslands with trees and shrub species interspersed throughout the site. The diameter at breast height of the affected trees ranges from 3 to 26 inches (see Table 2 on page 8). All disturbed earthen areas would be reseeded with native grasses after project completion.

Wildlife
The project area, including the lower American River corridor, provides a mosaic of riparian, riverine, grassland, and oak woodland habitat. These diverse habitats support a corresponding diversity of wildlife.

The lands near the project area provide feeding, resting, and/or nesting habitat for many bird species, many of which require the aquatic areas of the river and backwaters, or the riparian vegetation of the ecosystem. Riparian areas are known to support a species-rich songbird community (Gaines 1977), and the lower American River also provides habitat for many raptors, including Swainson's hawks, red-shouldered hawks, Cooper's hawks, and great-horned owls, all of which require or are closely associated with riparian vegetation. Bald eagles, which are more common around Folsom Reservoir, occasionally use the lower river, which provides roosting and foraging habitat. Waterfowl, particularly mallards and Canada geese, also use the area extensively.

Source: U.S. Army Corps of Engineers

Figure 2. Location of trees that would be affected by the right bank stabilization measures

More than 50 species of mammals have been recorded for the area (USFWS 1986). Common species include beaver, black-tailed jackrabbit, striped skunk, Virginia opossum, raccoon, coyote, California ground squirrel, gophers, and many small rodents and insectivores including several voles, moles, shrews, deer mice, and pocket gophers. Uncommon species include several carnivores, such as badger, long-tailed weasel, river otter, gray fox, bobcat, and mink.

Reptile species of the lower American River include common kingsnake, western rattlesnake, Gilbert and western skinks, southern alligator lizard, western fence lizard, gopher snake, and several garter snakes. Common amphibians include Pacific treefrog, California newt, California slender salamander, western toad, and the introduced bullfrog.

Relatively little is known about invertebrates of the lower American River, but elderberry plants are fairly common in areas, and provide habitat for the endangered valley elderberry longhorn beetle.

<u>Fish</u>

The lower American River supports a diverse and abundant fish community; altogether, at least 41 species of fish are known to inhabit the river (USFWS 1986). In recognition of its "outstanding and remarkable" fishery resources, the entire lower American River was included in the Wild and Scenic Rivers System in 1981, which provides some protection for these resources (USFWS 1991). Four anadromous species are important from a commercial and recreational perspective. The lower river supports a large run of fall-run Chinook salmon, a species with both commercial and recreational values. The salmon run is sustained by natural reproduction in the river, and by hatchery production at the Nimbus Salmon and Steelhead Hatchery, operated by the California Department of Fish and Wildlife (CDFW). The average annual production of fall-run Chinook salmon in the American River from 1992-2009 is 109,574 (USFWS 2013).

Steelhead, a popular sport fish, are largely sustained in the river by production from the Nimbus Hatchery, because summer water temperatures often exceed the tolerances of juvenile steelhead, which typically spend about 1 year in the river. American shad and striped bass enter the river to spawn; these two species, introduced into the Sacramento River system in the late 1800s, now support popular sport fisheries. In addition to species of economic interest, the lower American River supports many nongame species, including Sacramento pikeminnow, Sacramento sucker, tule perch, and hardhead (USFWS 1994).

Endangered Species

Based on a search of the Folsom USGS quadrangle map there are several listed species which could occur within or near the project area. The species under the jurisdiction of the Service which may be affected by the project includes the valley elderberry longhorn beetle. The other species (anadromous fish) are under the jurisdiction of National Marine Fisheries Service (NOAA Fisheries). The complete list is included in Enclosure 1 as well as a summary of Federal agencies responsibilities under the Endangered Species Act of 1973, as amended.

At the proposed construction site, elderberry survey counts were conducted most recently on July 1, 2013, and at the additional staging area on April 3, 2014. Three elderberry shrubs were identified adjacent to the powerhouse road, one elderberry shrub was identified adjacent to the proposed access road, and three elderberry shrubs were identified adjacent to the dirt road at the additional staging area. The Corps has completed consultation with the Service on the project effects to these shrubs, which are the sole host plant for the federally-listed as threatened valley elderberry longhorn beetle, and we concurred that the project, with the proposed avoidance and minimization measures, would not directly impact the species or its habitat (Enclosure 2).

DISCUSSION

Service Mitigation Policy

The recommendations provided herein for the protection of fish and wildlife resources are in accordance with the Service's Mitigation Policy as published in the Federal Register (46:15; January 23, 1981).

The Mitigation Policy provides Service personnel with guidance in making recommendations to protect or conserve fish and wildlife resources. The policy helps ensure consistent and effective Service recommendations, while allowing agencies and developers to anticipate Service recommendations and plan early for mitigation needs. The intent of the policy is to ensure protection and conservation of the most important and valuable fish and wildlife resources, while allowing reasonable and balanced use of the Nation's natural resources.

Under the Mitigation Policy, resources are assigned to one of four distinct Resource Categories, each having a mitigation planning goal which is consistent with the fish and wildlife values involved. The Resource Categories cover a range of habitat values from those considered to be unique and irreplaceable to those believed to be much more common and of relatively lesser value to fish and wildlife. However, the Mitigation Policy does not apply to threatened and endangered species, Service recommendations for completed Federal projects or projects permitted or licensed prior to enactment of Service authorities, or Service recommendations related to the enhancement of fish and wildlife resources.

In applying the Mitigation Policy during an impact assessment, the Service first identifies each specific habitat or cover-type that may be impacted by the project. Evaluation species[1] which utilize each habitat or cover-type are then selected for Resource Category analysis. Selection of evaluation species can be based on several criteria, as follows: (1) species known to be sensitive to specific land- and water-use actions; (2) species that play a key role in nutrient cycling or energy flow; (3) species that utilize a common environmental resource; or (4) species that are associated with Important Resource Problems, such as anadromous fish and migratory birds, as designated by the Director or Regional Directors of the Fish and Wildlife Service. Based on the relative importance of each specific habitat to its selected evaluation species, and the habitat's relative abundance, the appropriate Resource Category and associated mitigation planning goal are determined.

Mitigation planning goals range from "no loss of existing habitat value" (i.e., Resource Category 1) to "minimize loss of habitat value" (i.e., Resource Category 4). The planning goal of Resource Category 2 is "no net loss of in-kind habitat value." To achieve this goal, any unavoidable losses would need to be replaced in-kind. "In-kind replacement" means providing or managing substitute resources to replace the habitat value of the resources lost, where such substitute resources are physically and biologically the same or closely approximate those lost. The planning goal of Resource Category 3 is "no net loss of habitat while minimizing loss of in-kind value." To achieve this goal any unavoidable losses will be replaced in-kind or if it is not desirable or possible out-of-kind mitigation would be allowed. The planning goal of Resource Category 4 is "minimize loss of habitat value." To achieve this goal the Service will recommend ways to rectify, reduce, or minimize loss of habitat value.

In addition to mitigation planning goals based on habitat values, Region 8 of the Service, which includes California, has a mitigation planning goal of no net loss of acreage and value for wetland habitat. This goal is applied in all impact analyses.

In recommending mitigation for adverse impacts to fish and wildlife habitat, the Service uses the same sequential mitigation steps recommended in the Council on Environmental Quality's regulations. These mitigation steps (in order of preference) are: avoidance, minimization, rectifying, reducing or eliminating impacts over time, and compensation.

Two fish and/or wildlife habitats were identified in the project area which had potential for impacts from the project: annual grassland and riparian woodland. The resource categories, evaluation species, and mitigation planning goal for the habitats impacted by the project are summarized in Table 1.

The annual grassland cover-type in the project area is dominated by non-native grasses that support small mammals like the California vole, ground squirrels, and rabbits. These small mammals are the prey base for avian predators like hawks and owls. The evaluation species selected for the annual

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1 Note: Evaluation species used for Resource Category determinations may or may not be the same evaluation species used in a HEP application, if one is conducted.

grassland cover-type is the red-tailed hawk, which utilizes these areas for foraging. This species was selected because of the Service's responsibility for their protection and management under the Migratory Bird Treaty Act, and their overall high non-consumptive values to humans. Annual grassland areas potentially impacted by the project vary in their relative values to the evaluation species, depending on the degree of human disturbance, plant species composition, and juxtaposition to other foraging and nesting areas. Therefore, the Service designates the annual grassland cover-type in the project area as Resource Category 3. Our associated mitigation planning goal for these areas is "no net loss of habitat value while minimizing loss of in-kind habitat value."

Table 1. Resource categories, evaluation species, and mitigation planning goal for the habitats possibly impacted by the proposed Folsom Dam Safety/Flood Damage Reduction Project Right Bank Slope Protection, Sacramento County, California.

COVER-TYPE	EVALUATION SPECIES	RESOURCE CATEGORY	MITIGATION GOAL
Annual Grassland	Red-tailed hawk	3	No net loss of habitat value while minimizing loss of in-kind habitat value.
Riparian Woodland	Acorn woodpecker Turkey Deer	2	No net loss of in-kind habitat value or acreage.

The riparian woodland cover-type is dominated by one or more native woody tree species such as cottonwood or willow, or as in the project area, valley oak, and is characterized by a hydrologic influence of nearby waters. This cover-type supports numerous species of birds, mammals, and reptile species. The evaluation species selected for the riparian woodland that may be impacted are acorn woodpecker, turkey, and mule deer. Acorn woodpeckers utilize these woodlands for nearly all their life requisites; 50-60 percent of the acorn woodpecker's annual diet consists of acorns. Acorn woodpeckers can also represent impacts to other canopy-dwelling species. Turkeys forage and breed in riparian woodlands and are abundant in the project area. Mule deer also heavily depend on acorns as a dietary item in the fall and spring; the abundance of acorns and other browse influence the seasonal pattern of habitat use by deer. These latter species represent species which utilize the ground component of the habitat and both have important consumptive and non-consumptive human uses (i.e., hunting and bird watching). Based on the high value of riparian woodlands to the evaluation species, and their declining abundance, the Service has determined the riparian woodlands which may be affected by the project should be placed in Resource Category 2, with an associated mitigation planning goal of "no net loss of in-kind habitat value."

Based on our review of the proposed project, most of the impacts would be temporary losses of habitat value for species utilizing annual grasslands during construction on the affected right bank of the American River at the convergence of flows from the main dam and the auxiliary dam. Wildlife species utilizing this area are already highly disturbed due to the previous actions from the construction of Folsom Dam and the powerhouse. All ground disturbed areas would be restored back to pre-project conditions at the completion of construction. Wildlife species utilizing these areas would be displaced and there would be a temporary loss of habitat values during construction activities.

The proposed project would take place in reaches of the river where mature riparian woodland occurs within and adjacent to the project site. It is possible that the project would require the removal of up to 12 trees with a combined diameter at breast height of 121 inches (Table 2). The removal of trees would cause a temporary loss of habitat for any species utilizing them during and after construction until replacement plantings become established. The timing of project construction would help to avoid impacts to migratory birds which may be nesting in affected vegetation and nearby areas throughout the riparian corridor. Although the riparian woodland within the project area contains habitat for the federally listed valley elderberry longhorn beetle, the habitat would be avoided and the species would not be impacted by project construction (Enclosure 2).

Table 2. Summary of trees that are potentially affected by the right bank stabilization measures

Tree No.	Species	Diameter at Breast Height (inches)
1	Cottonwood	26
2	Cottonwood	6
3	Cottonwood	8
4	Cottonwood	3
5	Cottonwood	10
6	Cottonwood	4
7	Cottonwood	4
8	Willow sp.	20
9	Willow sp.	4
10	Willow sp.	17
11	Black Locust	16
12	Black Locust	3
Total		**121**

Project construction would take place on the right bank of the American River, immediately adjacent to the river. Although there are no planned impacts to the river due to construction, there is a possibility that the proposed project might impact aquatic species while construction workers are lowered from the created platform or while using the barge to install the rock bolts.

RECOMMENDATIONS

The Service recommends:

1. Avoid impacts to native trees, shrubs, and aquatic vegetation. Any native trees or shrubs removed with a diameter at breast height of 2 inches or greater should be replaced on-site, in-kind with container plantings so that the combined diameter of the container plantings is equal to the combined diameter of the trees removed. These replacement plantings should be monitored for at least 5 years or until they are determined to be established and self-sustaining. The planting site(s) should be protected in perpetuity.

2. Avoid future impacts to the site by ensuring all fill material is free of contaminants.

3. Avoid impacts to migratory birds nesting in trees along the access route and adjacent to the proposed bank protection site by conducting pre-construction surveys for active nests along the proposed haul road, staging area, platform, and construction site. This would especially apply if construction begins in the early summer of 2015. Work activity around active nests should be avoided until the young have fledged. The following protocol from the CDFW for Swainson's hawk would suffice for the pre-construction survey for raptors.

   A focused survey for Swainson's hawk nests will be conducted by a qualified biologist during the nesting season (February 1 to August 31) to identify active nests within 0.25 mile of the project area. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. If nesting Swainson's hawks are found within 0.25 mile of the project area, no construction will occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a qualified biologist), unless otherwise negotiated with the California Department of Fish and Wildlife. If work is begun and completed between September 1 and February 28, a survey is not required.

4. Minimize project impacts by reseeding all disturbed areas at the completion of construction with forbs and grasses.

5. Minimize the impact of removal and trimming of all trees and shrubs by having these activities supervised and/or completed by a certified arborist.

6. Contact the NOAA Fisheries for possible effects of the project on federally-listed species under their jurisdiction.

7. Contact the CDFW regarding possible effects of the project on State listed species.

REFERENCES

Gaines, D.A. 1977. The valley riparian forests of California: their importance to bird populations. Pages 57-85 *in* Riparian Forests in California: their ecology and conservation. A. Sands, ed. University of California, Davis, Inst of Ecology Publ. no. 15.

USFWS (U.S. Fish and Wildlife Service). 1986. Potential impacts to fish and wildlife from alternative actions for increasing flood control along the lower American River, California. U.S. Fish and Wildlife Service, Sacramento, California.

__________. 1991. American River Watershed Investigation, Auburn Area, Substantiating Report. U.S. Fish and Wildlife Service, Sacramento, California.

__________. 1994. Planning Aid Report for the American River Watershed Investigation, Raising of Folsom Dam Alternative. U.S. Fish and Wildlife Service, Sacramento, California.

__________. 2003. Fish and Wildlife Coordination Act Report for the American River Watershed Investigation Long-Term Evaluation. U.S. Fish and Wildlife Service, Sacramento, California.

__________. 2013. American River Watershed Information (Online), Available: http://www.fws.gov/stockton/afrp/ws_projects.cfm?code=AMERR, April 5, 2013.

ENCLOSURE 1

FEDERAL ENDANGERED AND THREATENED SPECIES LIST

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the FOLSOM (511B) U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011
Report Date: September 30, 2014

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) *Critical Habitat* designated for this species.

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.
See our Protocol and Recovery Permits pages.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our Map Room page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be December 29, 2014.

ENCLOSURE 2

ENDANGERED SPECIES CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-F-0044-R003

MAR 31 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Request to Reinitiate Formal Consultation on the Folsom Dam Safety/Flood Damage Reduction Project, Sacramento County, California

Dear Ms. Kirchner:

This letter is in response to your March 19, 2014, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Folsom Dam Modification Project (project) in Sacramento County, California. At issue are effects of the proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). Your request was received by the Service on March 24, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

The Service appended this project to the *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (programmatic consultation) (Service File 1-1-96-F-66) on November 1, 2012, and was subsequently amended in reinitiation on September 23, 2013, and on December 24, 2013.

The Folsom Dam Modification Project, also referred to as the Folsom Dam Safety/Flood Damage Reduction Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River.

To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts will be installed below elevation 155 (Figure 1). About 40 rock bolts between 25 and 30 feet long will be placed to pin the rock mass. Holes will be drilled into the rock slope, the rock bolts will be installed, and cement or resin grout will be added to hold the rock bolts in place. Once the grout has cured, the rock bolts will be tensioned in accordance with specifications. In addition, formed concrete may be used to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

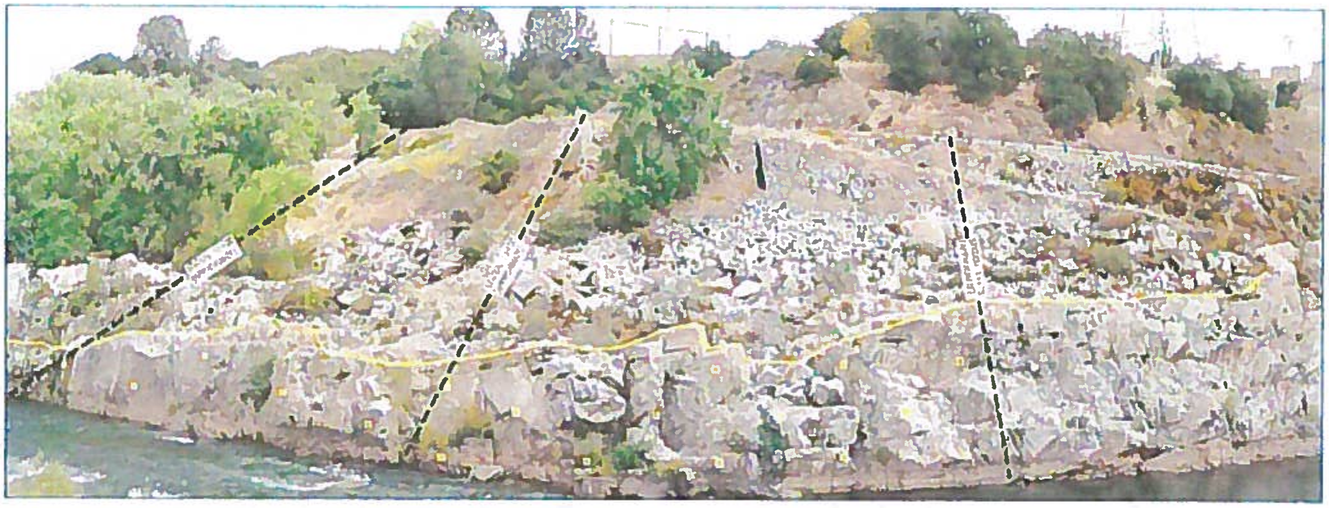
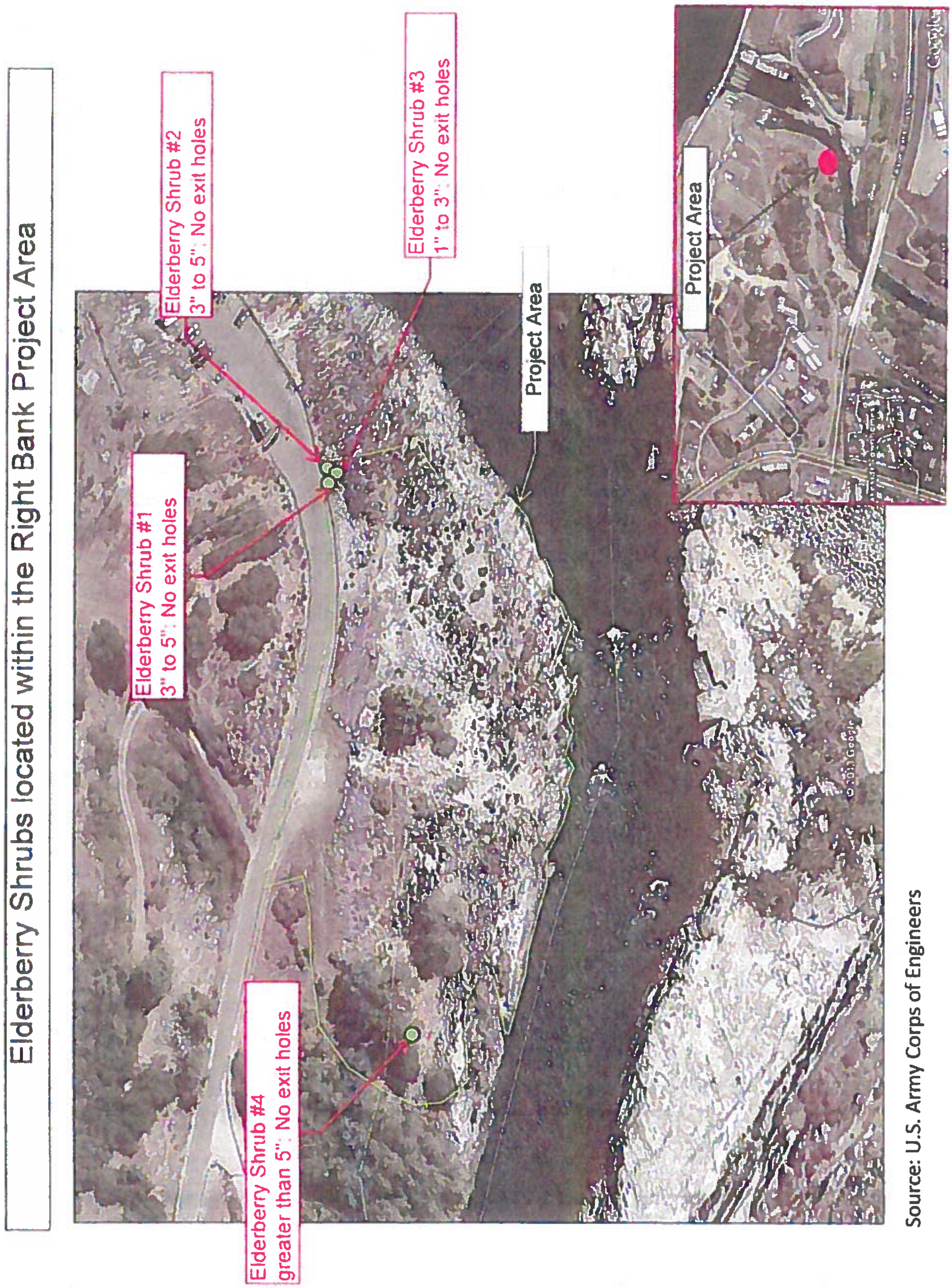


Figure 1. Approximate rock bolt locations on the right bank of the American River

The project site is located along a steep slope which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a 6 month period starting in the middle to late summer of 2015 when releases from Folsom Dam are expected to be minimal.

The project area totals 2 acres along the right bank of the American River. The area has been disturbed previously from the construction of Folsom Dam and the powerhouse, and supports small areas of annual grasses, forbs, and small shrubs. Cottonwoods and willows are located along the perimeter of the proposed access road.

Surveys were conducted on July 1, 2013, to collect data on elderberry shrubs near the project area. Three elderberry shrubs were identified adjacent to the powerhouse road and one elderberry shrub was identified adjacent to the proposed access road (Figure 2). The elderberry shrubs were measured as follows: 1 stem at 1 to 3 inches in diameter at ground level, 2 stems at 3 to 5 inches at ground level, and 1 stem greater than 5 inches at ground level. All four of the elderberry shrubs are in a non-riparian area and no exit holes were observed on any of them.



Source: U.S. Army Corps of Engineers

Figure 2. Elderberry shrub locations on the right bank of the American River

The elderberry shrubs will not be directly impacted by the proposed project. Staging area space is limited at the project site; therefore, it will be difficult to observe the Service recommended 100-foot radius buffer zone for protection of the elderberry shrubs and still meet the project purpose. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection.

To minimize potential take of the beetle, the following additional measures will be incorporated into the right bank protection portion of the project:

- A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the 100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. Due to the limited space within the project area, it will be difficult to observe the 100-foot radius buffer zone for protection of all the elderberry shrubs located at the site. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection. These areas will be fenced, flagged, and maintained during construction.

The Service has reviewed the Folsom JFP revised project description and evaluated its potential effect to the beetle. The Service finds that the effects of the proposed work are consistent with the effects analyzed in the biological opinion and subsequent reinitiations.

The November 1, 2012, biological opinion is amended to include:

On Page 2 - In the first paragraph, the following should be changed from:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, and December 4, 2013; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; and 6) other information available to the Service.

To:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, **December 4, 2013, and February 11, 2014**; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; **6) the Corps March 19, 2014, request for reinitiation of formal consultation; and 7)** other information available to the Service.

On Page 2 - In the Description of the Proposed Project section after the 3rd paragraph, add:

To ensure the slope of the right bank remains stable, about 40 post-tensioned rock bolts between 25 and 30 feet in length will be placed to pin the rock mass. Holes will be drilled into the rock

slope and then filled with cement grout or resin grout to hold the rock bolts in place. The rock bolts will be installed perpendicular to the slope and subsequently tensioned. In addition, formed concrete may be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a six month period starting in the middle to late summer of 2015.

On Page 3 - In the Conservation Measures section, the following should be changed from:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, and December 18, 2013, letters in addition to those listed in the programmatic consultation.

To:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, **December 18, 2013, and March 19, 2014, letters** in addition to those listed in the programmatic consultation.

All other sections of the November 1, 2012, biological opinion for the Folsom Dam Modification Project remain the same. If you have any questions regarding this reinitiation, please contact Amber Aguilera, Fish and Wildlife Biologist, or Doug Weinrich, Chief, Habitat Conservation Division, at (916) 414-6600.

Sincerely,

Daniel Welsh
Acting Field Supervisor

cc:
Jamie LeFevre, Army Corps of Engineers, Sacramento, California

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

In Reply Refer to:
08ESMF00-2013-
F-0044-R004

JUN 10 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Request to Reinitiate Formal Consultation on the Folsom Dam Safety/Flood Damage Reduction Project, Sacramento County, California

Dear Ms. Kirchner:

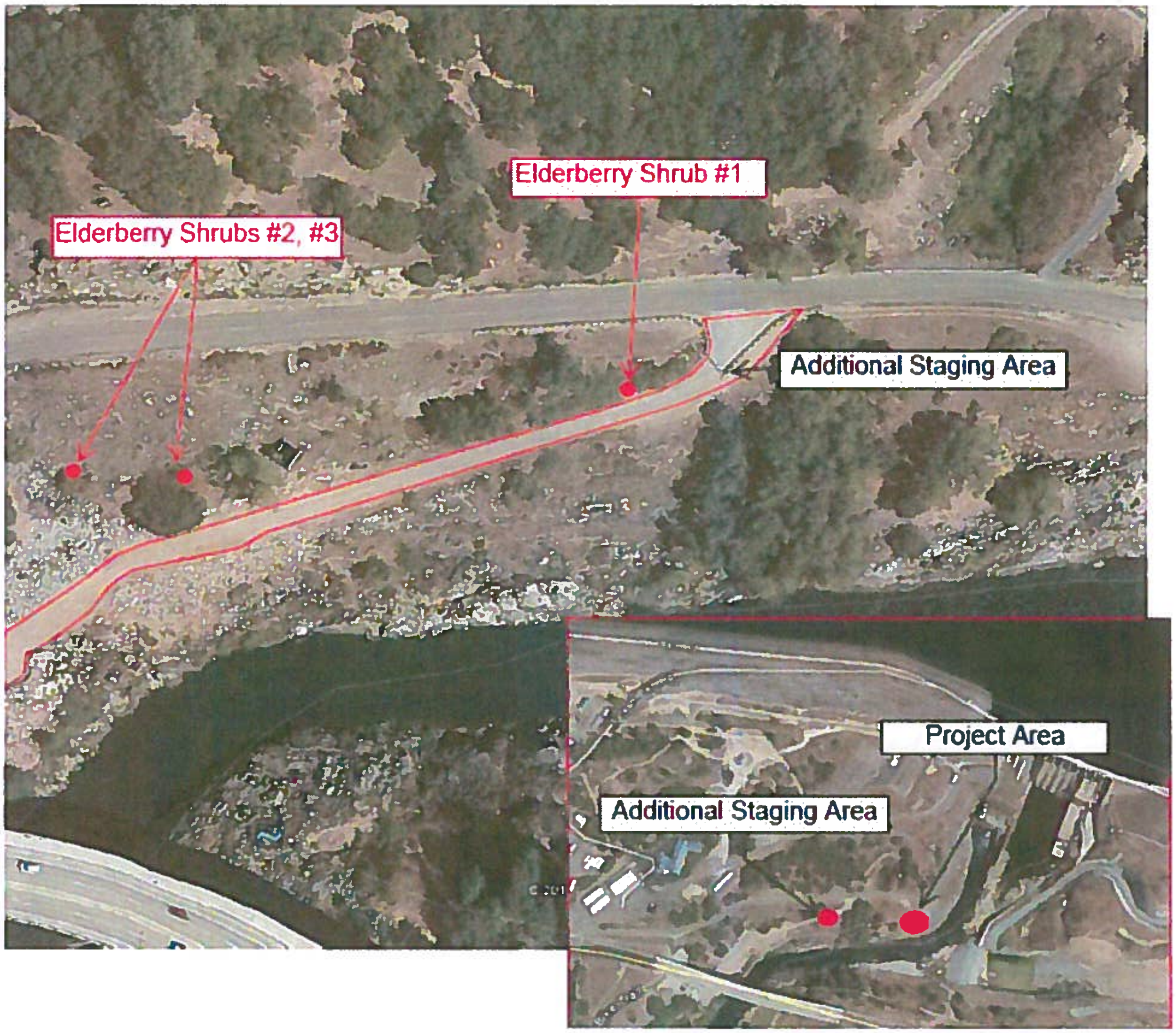
This letter is in response to your June 5, 2014, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Folsom Dam Modification Project (project) in Sacramento County, California. At issue are effects of the proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). Your request was received by the Service on June 9, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

The Service appended this project to the *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (programmatic consultation) (Service File 1-1-96-F-66) on November 1, 2012, and was subsequently amended in reinitiation on September 23, 2013, December 24, 2013, and March 31, 2014.

The Folsom Dam Modification Project, also referred to as the Folsom Dam Safety/Flood Damage Reduction Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam.

Right Bank

The staging area for the right bank stabilization portion of the project may not be available for use during the scheduled time of construction. Therefore, an additional staging area is being proposed along 0.5 acre of an existing dirt road located near the project area (see inset of Figure 1). This area has been disturbed under previous actions from the construction of the Folsom Lake Crossing Bridge. Surveys were conducted by Corps staff on April 3, 2014, to collect data on elderberry shrubs near the additional proposed staging area. Three elderberry shrubs were identified adjacent to the dirt road (see Figure 1). One of the shrubs had a stem that measured greater than 5 inches in diameter at ground level but the other two shrubs were unable to be measured due to their location on the upper steep slope.



Source: U.S. Army Corps of Engineers

Figure 1. Proposed staging area and elderberry shrub locations for right bank stabilization measures along the right bank of the American River

Dike 7 and Left Drain

During a site visit to the Folsom JFP site on May 6, 2014, several elderberry shrubs that had previously been transplanted have grown back within the construction area. One shrub was identified adjacent to the Dike 7 staging area (see Figure 2) and 16 shrubs were identified near the left drain that runs along the toe of Folsom Lake Crossing (see Figure 3). The elderberry shrub at Dike 7 has one stem that is 1 to 3 inches in diameter at ground level and the shrubs along the left drain were measured at 17 stems at 1 to 3 inches in diameter and 5 stems at 3 to 5 inches in diameter. No exit holes were observed on any of the shrubs and all areas are highly disturbed.

Source: U.S. Army Corps of Engineers

Figure 2. Elderberry shrub located near the Dike 7 staging area

The elderberry shrubs at the additional staging area for the right bank stabilization work and at Dike 7 will not be directly impacted by construction. Staging area space is limited at the right bank stabilization project site and it will be difficult to observe the Service's recommended 100 foot radius buffer zone for protection of the elderberry shrubs and still meet the project purpose. The elderberry shrub at Dike 7 has sprouted within 100 feet of the current staging area. Due to the intended use of the staging area at these two sites and the limited space, the Corps is proposing a minimum 15 foot radius buffer zone using k-rails for protection.

The elderberry shrubs that have re-sprouted along the left drain will need to be removed in order to complete construction. Elderberry shrubs in this area have been removed during previous construction actions and have already been compensated for. The beetle is highly unlikely to occupy the newly sprouted elderberry shrubs since most of the stems are first year growth and the closest known occurrence of the beetle is over 3 miles away, which is beyond the beetle's flight capacity to re-occupy the site. Therefore, the removal of the newly sprouted elderberry shrubs along the left drain is unlikely to result in additional effects to the beetle.

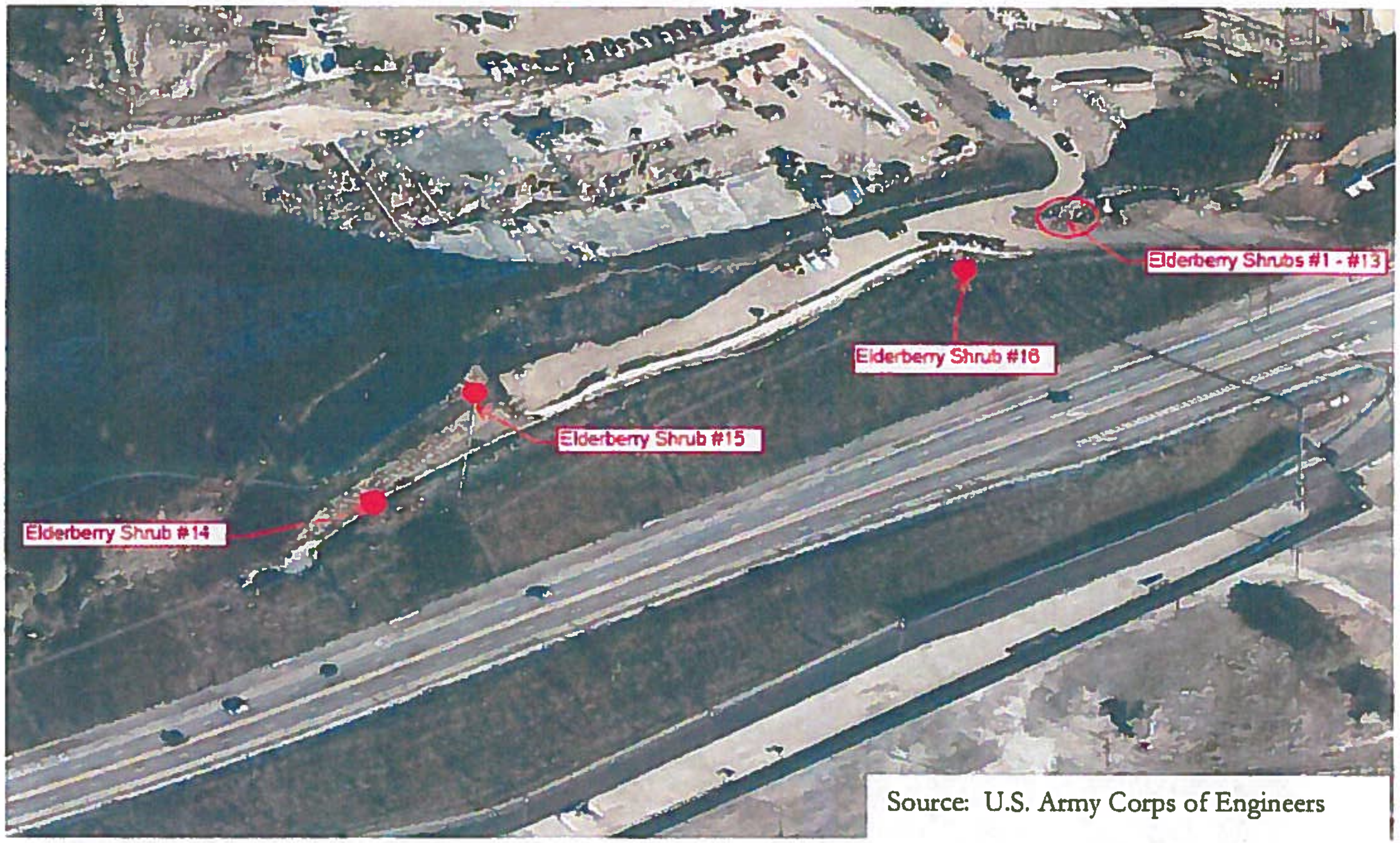


Figure 3. Elderberry shrub locations near the left drain of Folsom Lake Crossing

The November 1, 2012, biological opinion is amended to include:

On Page 2 - In the first paragraph, the following should be changed from:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, December 4, 2013, and February 11, 2014; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; 6) the Corps March 19, 2014, request for reinitiation of formal consultation; and 7) other information available to the Service.

To:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, December 4, 2013, and February 11, 2014; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; 6) the Corps March 19, 2014, request for reinitiation of formal consultation; **7) the Corps June 5, 2014, request for reinitiation of formal consultation; and 8)** other information available to the Service.

On Page 3 - In the Conservation Measures section, the following should be changed from:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, December 18, 2013, and March 19, 2014, letters in addition to those listed in the programmatic consultation.

To:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, December 18, 2013, **March 19, 2014, and June 5, 2014,** letters in addition to those listed in the programmatic consultation.

All other sections of the November 1, 2012, biological opinion for the Folsom Dam Modification Project remain the same. If you have any questions regarding this reinitiation, please contact Amber Aguilera, Fish and Wildlife Biologist, or Doug Weinrich, Chief, Habitat Conservation Division, at (916) 414-6600.

Sincerely,

Daniel Welsh
Acting Field Supervisor

cc:
Jamie LeFevre, Army Corps of Engineers, Sacramento, California

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2014-CPA-0007

APR 1 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95825-2922

Dear Ms. Kirchner:

The U.S. Army Corps of Engineers (Corps) has requested supplemental coordination under the Fish and Wildlife Coordination Act (FWCA) for the Folsom Dam Safety/Flood Damage Reduction Project. The proposed slope protection measures would occur on the right bank of the American River, Sacramento County, California. This letter transmits the U.S. Fish and Wildlife Service's (Service) draft supplemental FWCA report for the proposed project (enclosed).

By copy of this letter, we are requesting the agencies listed below to provide any review comments to the Service so that they can be incorporated into a final report for inclusion in the Corps' environmental documents.

If you have any questions regarding this report on the proposed project, please contact Amber Aguilera, Fish and Wildlife Biologist, at (916) 414-6577.

Sincerely,

Daniel Welsh
Acting Field Supervisor

Enclosure

cc: w/ enclosure
Jamie LeFevre, COE, Sacramento, CA
Howard Brown, NOAA Fisheries, Sacramento, CA
Tina Bartlett, CDFW, Rancho Cordova, CA

DRAFT SUPPLEMENTAL FISH AND WILDLIFE COORDINATION ACT REPORT
FOLSOM DAM SAFETY/FLOOD DAMAGE REDUCTION PROJECT
RIGHT BANK SLOPE PROTECTION

March 2014

BACKGROUND

The Folsom Dam Safety/Flood Damage Reduction Project, also referred to as the Folsom Dam Modification Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort among the U.S. Army Corps of Engineers (Corps), the U.S. Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Protection Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Operation of this spillway would increase water discharge capability from the reservoir and help to provide a 200 year level of flood protection to the Sacramento area. The potential effects of the Folsom JFP on environmental and cultural resources were evaluated in the 2007 Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR).

The evaluation in the 2007 FEIS/EIR was based on technical studies and the level of project design available at the time. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River. After the auxiliary spillway becomes operational, changes in river hydraulics downstream of the stilling basin would occur that have not been experienced to date. Due to the orientation of the auxiliary spillway, a 400-foot reach of the right bank of the American River may be more vulnerable to erosion and scour, depending on how the facilities are operated. As a result, concerns have been raised about what the impacts might be if erosion and scour are increased due to the operation of the new auxiliary spillway.

The U.S. Fish and Wildlife Service (Service) previously coordinated with the Corps on the various aspects of the Folsom JFP. The proposed work addressed in this report is specific to the slope protection measures on the right bank of the American River just downstream of the main dam.

PROJECT DESCRIPTION

The Corps proposes to install slope protection measures to the right bank of the American River just downstream of the Folsom Dam. The purpose of the project is to ensure the slope of the right bank remains stable where forces from the main dam and auxiliary spillway converge. Construction activities associated with the stabilization of the right bank slope would be confined to the lower right bank slope of the American River starting about 700 feet downstream from the main dam to Folsom Crossing Bridge, and Reclamation's maintenance road to the powerhouse (see insert on Figure 1, page 4).

Mobilization and Staging
Access to the site would be from the west of the project area by way of Folsom-Auburn Road. About one-quarter mile to the north of the signaled intersection of Folsom-Auburn Road and Folsom Lake Crossing Road, project vehicles would turn right at the entrance to Reclamation's Central California Area Office facility. Access to the project area would be through Reclamation property.

Staging area space is limited at the project area. There is an existing unpaved turnout area near the powerhouse in close proximity to the project area which would be used for staging and vehicle parking. Access to the powerhouse is controlled by Reclamation and the use of this area would be coordinated with them. Due to the scope and nature of work involved, the need for parking, staging and laydown areas would be small. Minimal grading would be required to enlarge the existing unpaved turnout area to develop sufficient space for staging and vehicles. Prior to initiation of construction, the staging area would be fenced.

Lower Slope Protection
To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts would be installed below elevation 155. Rock bolts generally consist of steel elements (bars and strands) grouted in a drilled hole. Rock bolts actively transfer loading between the anchored structure and its underlying rock mass, thereby lowering the structure's center of gravity. About 40 rock bolts between 25 and 30 feet in length would be installed perpendicular to the slope and subsequently tensioned to pin the rock mass. Holes would be drilled into the rock slope and then filled with cement grout or resin grout to hold the rock bolts in place. In addition to the installation of rock bolts, formed concrete could be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

Access Road and Site Preparation
A 20-foot-wide access road and a platform would be constructed to allow for mobilization of a crane. Site preparation for the access road would include minor clearing, grubbing, and tree removal. Installation of the access road would require cutting 1,000 cubic yards (cy) of material to level the area. After the area is level, about 2,000 cy of fill material would be brought in to build up the road. The soil would then be graded, scarified, and compacted. Aggregate base material would be spread over the access road and compacted to 100 percent density. Completion of the access road is estimated to take 2 weeks.

The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation would involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. A crane platform could be setup on either the upper-slope staging area or on a mid-slope area, and the crane would lower the crew and drilling equipment over the edge to install the rock bolts. Alternatively, to access hard to reach rock bolt locations, the contractor may use a barge to conduct drilling operations. The barge would allow a track mounted drill rig to be transported to the shoreline to access the rock bolt locations.

Demobilization and Clean-up
Once the slope protection measures are completed, the contractor would remove all construction

equipment, temporary fencing, and unused materials from the project area. In addition, all work areas would be cleaned of work-related debris and would be left in a presentable condition. Any roadway pavement or parking area gravel damages due to construction equipment or haul trucks would be repaired to pre-project conditions and all disturbed earthen areas would be reseeded with native grasses.

Construction Schedule
The proposed slope protection measures would be conducted over a 6 month period starting in the middle to late summer of 2015. Work hours would be limited to 7 a.m. to 6 p.m. on weekdays and 8 a.m. to 5 p.m. on Saturdays. No work would be conducted on Sundays or during late evenings or night hours.

BIOLOGICAL RESOURCES

The American River and nearby areas, although highly modified from conditions of 150 years ago, support a diverse and highly valuable area for biological resources. The 23-mile-long reach of the American River Parkway downstream of Folsom Dam encompasses about 4,000 acres, the majority of which are in a State designated floodway and contains large areas of annual grasslands, riparian forest and scrub-shrub, oak-woodlands, bare sand and gravel, and surface waters of the river and its associated sloughs and dredge ponds (USFWS 2003).

Vegetation
The project area currently supports annual grassland and riparian vegetation communities. The project area has been disturbed under previous actions from the construction of Folsom Dam and the power house.

Site preparation for the access road would include some tree removal. The area where the road would be aligned is primarily non-native grasslands with trees and shrub species interspersed throughout the site. The diameter at breast height of the affected trees ranges from 3 to 26 inches (Figure 1). All disturbed earthen areas would be reseeded with native grasses after project completion.

Wildlife
The project area, including the lower American River corridor, provides a mosaic of riparian, riverine, grassland, and oak woodland habitat. These diverse habitats support a corresponding diversity of wildlife.

The lands near the project area provide feeding, resting, and/or nesting habitat for many bird species, many of which require the aquatic areas of the river and backwaters, or the riparian vegetation of the ecosystem. Riparian areas are known to support a species-rich songbird community (Gaines 1977), and the lower American River also provides habitat for many raptors, including Swainson's hawks, red-shouldered hawks, Cooper's hawks, and great-horned owls, all of which require or are closely associated with riparian vegetation. Bald eagles, which are more common around Folsom Reservoir, occasionally use the lower river, which provides roosting and foraging habitat. Waterfowl, particularly mallards and Canada geese, also use the area extensively.

Tree No.	Species	Diameter at Breast Height (inches)
1	Cottonwood	26
2	Cottonwood	6
3	Cottonwood	8
4	Cottonwood	3
5	Cottonwood	10
6	Cottonwood	4
7	Cottonwood	4
8	Willow sp	20
9	Willow sp	4
10	Willow sp	17
11	Black Locust	16
12	Black Locust	3
Total		121

Source: U.S. Army Corps of Engineers

Figure 1. Folsom JFP Right Bank Project Area and Potentially Affected Trees

More than 50 species of mammals have been recorded for the area (USFWS 1986). Common species include beaver, black-tailed jackrabbit, striped skunk, Virginia opossum, raccoon, coyote, California ground squirrel, gophers, and many small rodents and insectivores including several voles, moles, shrews, deer mice, and pocket gophers. Uncommon species include several carnivores, such as badger, long-tailed weasel, river otter, gray fox, bobcat, and mink.

Reptile species of the lower American River include common kingsnake, western rattlesnake, Gilbert and western skinks, southern alligator lizard, western fence lizard, gopher snake, and several garter snakes. Common amphibians include Pacific treefrog, California newt, California slender salamander, western toad, and the introduced bullfrog.

Relatively little is known about invertebrates of the lower American River, but elderberry plants are fairly common in areas, and provide habitat for the endangered valley elderberry longhorn beetle.

Fish

The lower American River supports a diverse and abundant fish community; altogether, at least 41 species of fish are known to inhabit the river (USFWS 1986). In recognition of its "outstanding and remarkable" fishery resources, the entire lower American River was included in the Wild and Scenic Rivers System in 1981, which provides some protection for these resources (USFWS 1991). Four anadromous species are important from a commercial and recreational perspective. The lower river supports a large run of fall-run Chinook salmon, a species with both commercial and recreational values. The salmon run is sustained by natural reproduction in the river, and by hatchery production at the Nimbus Salmon and Steelhead Hatchery, operated by the California Department of Fish and Wildlife (CDFW). The average annual production of fall-run Chinook salmon in the American River from 1992-2009 is 109,574 (USFWS 2013).

Steelhead, a popular sport fish, are largely sustained in the river by production from the Nimbus Hatchery, because summer water temperatures often exceed the tolerances of juvenile steelhead, which typically spend about 1 year in the river. American shad and striped bass enter the river to spawn; these two species, introduced into the Sacramento River system in the late 1800s, now support popular sport fisheries. In addition to species of economic interest, the lower American River supports many nongame species, including Sacramento pikeminnow, Sacramento sucker, tule perch, and hardhead (USFWS 1994).

Endangered Species

Based on a search of the Folsom USGS quadrangle map there are several listed species which could occur within or near the project area. The species under the jurisdiction of the Service which may be affected by the project includes the valley elderberry longhorn beetle. The other species (anadromous fish) are under the jurisdiction of National Marine Fisheries Service (NOAA Fisheries). The complete list is included in Enclosure 1 as well as a summary of Federal agencies responsibilities under the Endangered Species Act of 1973, as amended.

At the proposed construction site, elderberry survey counts were conducted most recently on July 1, 2013. Three elderberry shrubs were identified adjacent to the powerhouse road and one elderberry shrub was identified adjacent to the proposed access road. The Corps has consulted with the Service on the project effects to these shrubs, which are the sole host plant for the federally-listed as threatened valley elderberry longhorn beetle (Enclosure 2).

DISCUSSION

Service Mitigation Policy

The recommendations provided herein for the protection of fish and wildlife resources are in accordance with the Service's Mitigation Policy as published in the Federal Register (46:15; January 23, 1981).

The Mitigation Policy provides Service personnel with guidance in making recommendations to protect or conserve fish and wildlife resources. The policy helps ensure consistent and effective Service recommendations, while allowing agencies and developers to anticipate Service recommendations and plan early for mitigation needs. The intent of the policy is to ensure protection and conservation of the most important and valuable fish and wildlife resources, while allowing reasonable and balanced use of the Nation's natural resources.

Under the Mitigation Policy, resources are assigned to one of four distinct Resource Categories, each having a mitigation planning goal which is consistent with the fish and wildlife values involved. The Resource Categories cover a range of habitat values from those considered to be unique and irreplaceable to those believed to be much more common and of relatively lesser value to fish and wildlife. However, the Mitigation Policy does not apply to threatened and endangered species, Service recommendations for completed Federal projects or projects permitted or licensed prior to enactment of Service authorities, or Service recommendations related to the enhancement of fish and wildlife resources.

In applying the Mitigation Policy during an impact assessment, the Service first identifies each specific habitat or cover-type that may be impacted by the project. Evaluation species[1] which utilize each habitat or cover-type are then selected for Resource Category analysis. Selection of evaluation species can be based on several criteria, as follows: (1) species known to be sensitive to specific land- and water-use actions; (2) species that play a key role in nutrient cycling or energy flow; (3) species that utilize a common environmental resource; or (4) species that are associated with Important Resource Problems, such as anadromous fish and migratory birds, as designated by the Director or Regional Directors of the Fish and Wildlife Service. Based on the relative importance of each specific habitat to its selected evaluation species, and the habitat's relative abundance, the appropriate Resource Category and associated mitigation planning goal are determined.

Mitigation planning goals range from "no loss of existing habitat value" (i.e., Resource Category 1) to "minimize loss of habitat value" (i.e., Resource Category 4). The planning goal of Resource Category 2 is "no net loss of in-kind habitat value." To achieve this goal, any unavoidable losses would need to be replaced in-kind. "In-kind replacement" means providing or managing substitute resources to replace the habitat value of the resources lost, where such

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1 Note: Evaluation species used for Resource Category determinations may or may not be the same evaluation species used in a HEP application, if one is conducted.

substitute resources are physically and biologically the same or closely approximate those lost. The planning goal of Resource Category 3 is "no net loss of habitat while minimizing loss of in-kind value." To achieve this goal any unavoidable losses will be replaced in-kind or if it is not desirable or possible out-of-kind mitigation would be allowed. The planning goal of Resource Category 4 is "minimize loss of habitat value." To achieve this goal the Service will recommend ways to rectify, reduce, or minimize loss of habitat value.

In addition to mitigation planning goals based on habitat values, Region 8 of the Service, which includes California, has a mitigation planning goal of no net loss of acreage and value for wetland habitat. This goal is applied in all impact analyses.

In recommending mitigation for adverse impacts to fish and wildlife habitat, the Service uses the same sequential mitigation steps recommended in the Council on Environmental Quality's regulations. These mitigation steps (in order of preference) are: avoidance, minimization, rectifying, reducing or eliminating impacts over time, and compensation.

Two fish and/or wildlife habitats were identified in the project area which had potential for impacts from the project: annual grassland and riparian woodland. The resource categories, evaluation species, and mitigation planning goal for the habitats impacted by the project are summarized in Table 1.

Table 1. Resource categories, evaluation species, and mitigation planning goal for the habitats possibly impacted by the proposed Folsom Dam Safety/Flood Damage Reduction Project Right Bank Slope Protection, Sacramento County, California.

COVER-TYPE	EVALUATION SPECIES	RESOURCE CATEGORY	MITIGATION GOAL
Annual Grassland	Red-tailed hawk	3	No net loss of habitat value while minimizing loss of in-kind habitat value.
Riparian Woodland	Acorn woodpecker Turkey Deer	2	No net loss of in-kind habitat value or acreage.

The evaluation species selected for the annual grassland cover-type is the red-tailed hawk, which utilizes these areas for foraging. This species was selected because of the Service's responsibility for their protection and management under the Migratory Bird Treaty Act, and their overall high non-consumptive values to humans. Annual grassland areas potentially impacted by the project vary in their relative values to the evaluation species, depending on the degree of human disturbance, plant species composition, and juxtaposition to other foraging and nesting areas. Therefore, the Service designates the annual grassland cover-type in the project area as Resource Category 3. Our associated mitigation planning goal for these areas is "no net loss of habitat value while minimizing loss of in-kind habitat value."

The evaluation species selected for the riparian woodland that may be impacted are acorn woodpecker, turkey, and mule deer. Acorn woodpeckers utilize these woodlands for nearly all their life requisites; 50-60 percent of the acorn woodpecker's annual diet consists of acorns.

Acorn woodpeckers can also represent impacts to other canopy-dwelling species. Turkeys forage and breed in riparian woodlands and are abundant in the project area. Mule deer also heavily depend on acorns as a dietary item in the fall and spring; the abundance of acorns and other browse influence the seasonal pattern of habitat use by deer. These latter species represent species which utilize the ground component of the habitat and both have important consumptive and non-consumptive human uses (i.e., hunting and bird watching). Based on the high value of riparian woodlands to the evaluation species, and their declining abundance, the Service has determined the riparian woodlands which may be affected by the project should be placed in Resource Category 2, with an associated mitigation planning goal of "no net loss of in-kind habitat value."

Based on our review of the proposed project, most of the impacts would be temporary losses of habitat value for species utilizing annual grasslands during construction on the affected right bank of the American River at the convergence of flows from the main dam and the auxiliary dam. Wildlife species utilizing this area are already highly disturbed due to the previous actions from the construction of Folsom Dam and the powerhouse. All ground disturbed areas would be restored back to pre-project conditions at the completion of construction. Wildlife species utilizing these areas would be displaced and there would be a temporary loss of habitat values during construction activities.

The proposed project would take place in reaches of the river where mature riparian woodland occurs within and adjacent to the project site. The timing of project construction would help to avoid impacts to migratory birds which may be nesting in affected vegetation and nearby areas throughout the riparian corridor.

Project construction would take place on the right bank of the American River, immediately adjacent to the river. Although there are no planned impacts to the river due to construction, there is a possibility that the proposed project might impact aquatic species while construction workers are lowered from the created platform or while using the barge to install the rock bolts.

RECOMMENDATIONS

The Service recommends:

1. Avoid impacts to native trees, shrubs, and aquatic vegetation. Any native trees or shrubs removed with a diameter at breast height of 2 inches or greater should be replaced on-site, in-kind with container plantings so that the combined diameter of the container plantings is equal to the combined diameter of the trees removed. These replacement plantings should be monitored for 5 years or until they are determined to be established and self-sustaining. The planting site(s) should be protected in perpetuity.

2. Avoid future impacts to the site by ensuring all fill material is free of contaminants.

3. Avoid impacts to migratory birds nesting in trees along the access route and adjacent to the proposed bank protection site by conducting pre-construction surveys for active nests along the proposed haul road, staging area, platform, and construction site. This would

especially apply if construction begins in the early summer of 2015. Work activity around active nests should be avoided until the young have fledged. The following protocol from the CDFW for Swainson's hawk would suffice for the pre-construction survey for raptors.

A focused survey for Swainson's hawk nests will be conducted by a qualified biologist during the nesting season (February 1 to August 31) to identify active nests within 0.25 mile of the project area. The survey will be conducted no less than 14 days and no more than 30 days prior to the beginning of construction. If nesting Swainson's hawks are found within 0.25 mile of the project area, no construction will occur during the active nesting season of February 1 to August 31, or until the young have fledged (as determined by a qualified biologist), unless otherwise negotiated with the California Department of Fish and Wildlife. If work is begun and completed between September 1 and February 28, a survey is not required.

4. Minimize project impacts by reseeding all disturbed areas at the completion of construction with forbs and grasses.

5. Minimize the impact of removal and trimming of all trees and shrubs by having these activities supervised and/or completed by a certified arborist.

6. Contact the NOAA Fisheries for possible effects of the project on federally-listed species under their jurisdiction.

7. Contact the CDFW regarding possible effects of the project on State listed species.

REFERENCES

Gaines, D.A. 1977. The valley riparian forests of California: their importance to bird populations. Pages 57-85 *in* Riparian Forests in California: their ecology and conservation. A. Sands, ed. University of California, Davis, Inst of Ecology Publ. no. 15.

USFWS (U.S. Fish and Wildlife Service). 1986. Potential impacts to fish and wildlife from alternative actions for increasing flood control along the lower American River, California. U.S. Fish and Wildlife Service, Sacramento, California.

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__________. 2013. American River Watershed Information (Online), Available: http://www.fws.gov/stockton/afrp/ws_projects.cfm?code=AMERR, April 5, 2013.

ENCLOSURE 1

FEDERAL ENDANGERED AND THREATENED SPECIES LIST

U.S. Fish & Wildlife Service

Sacramento Fish & Wildlife Office

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the FOLSOM (511B) U.S.G.S. 7 1/2 Minute Quad

Database last updated: September 18, 2011
Report Date: March 17, 2014

Listed Species

Invertebrates

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
valley elderberry longhorn beetle (T)

Lepidurus packardi
vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Plants

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Key:

- (E) *Endangered* - Listed as being in danger of extinction.
- (T) *Threatened* - Listed as likely to become endangered within the foreseeable future.
- (P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- *Critical Habitat* - Area essential to the conservation of a species.
- (PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.
- (C) *Candidate* - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) *Critical Habitat* designated for this species.

ENCLOSURE 2

ENDANGERED SPECIES CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2013-F-0044-R003

MAR 31 2014

Alicia E. Kirchner
Chief, Planning Division
Corps of Engineers, Sacramento District
1325 J Street
Sacramento, California 95814-2922

Subject: Request to Reinitiate Formal Consultation on the Folsom Dam Safety/Flood Damage Reduction Project, Sacramento County, California

Dear Ms. Kirchner:

This letter is in response to your March 19, 2014, letter requesting reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Folsom Dam Modification Project (project) in Sacramento County, California. At issue are effects of the proposed project on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) (beetle). Your request was received by the Service on March 24, 2014. This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.).

The Service appended this project to the *Programmatic Formal Consultation Permitting Projects with Relatively Small Effects on the Valley Elderberry Longhorn Beetle Within the Jurisdiction of the Sacramento Field Office, California* (programmatic consultation) (Service File 1-1-96-F-66) on November 1, 2012, and was subsequently amended in reinitiation on September 23, 2013, and on December 24, 2013.

The Folsom Dam Modification Project, also referred to as the Folsom Dam Safety/Flood Damage Reduction Project or the Folsom Joint Federal Project (Folsom JFP), is a cooperative effort between the U.S. Army Corps of Engineers (Corps), Bureau of Reclamation (Reclamation), the State of California Central Valley Flood Protection Board, and the Sacramento Area Flood Control Agency. The Folsom JFP is designed to improve the dam safety, security, and flood damage reduction features at Folsom Dam and associated facilities, including construction of a gated auxiliary spillway southeast of the main dam. Subsequent technical studies and hydraulic modeling indicated that the convergence of flows from the main dam and the auxiliary spillway could erode and possibly destabilize the existing slope along the right bank of the American River.

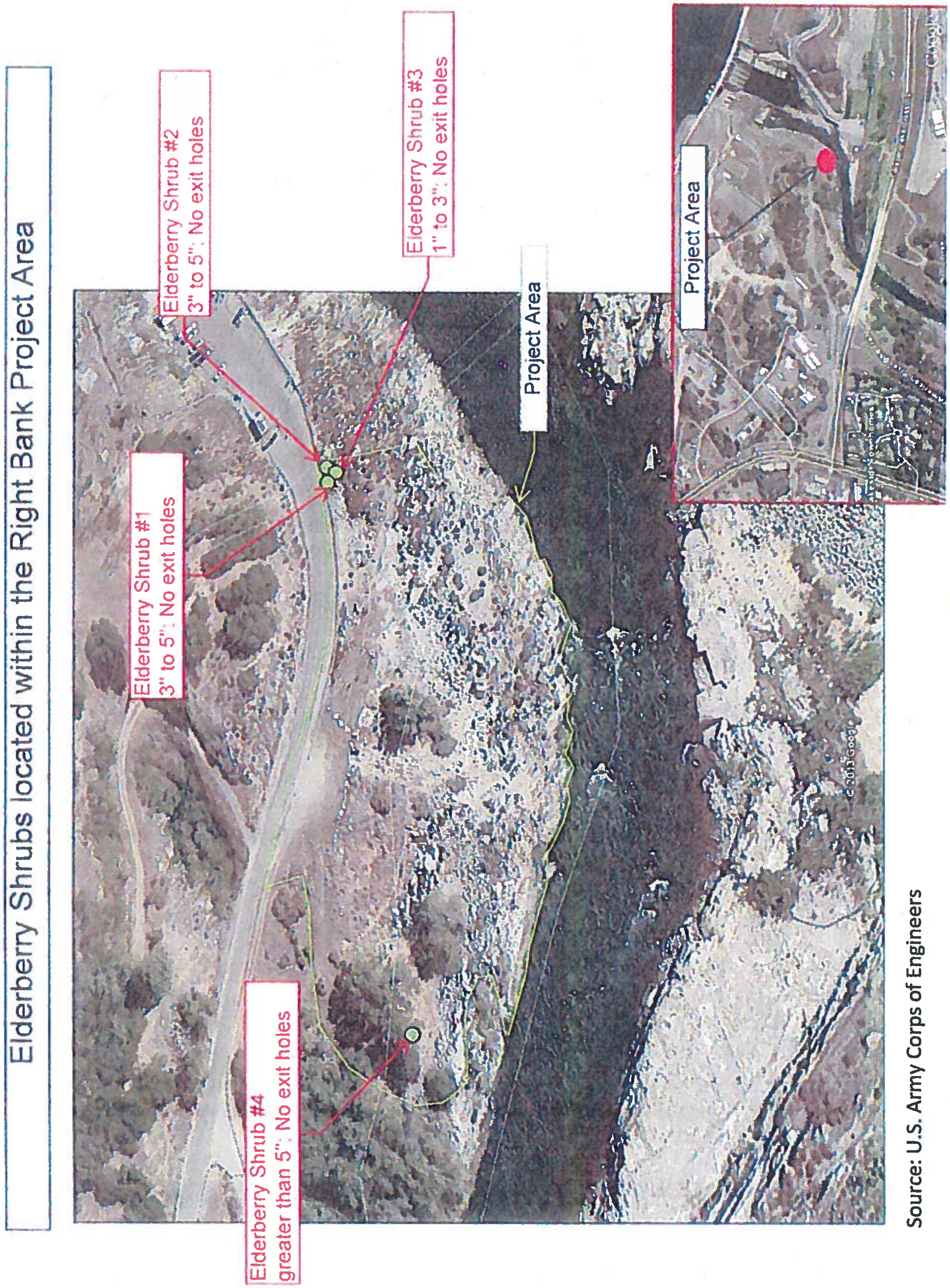
To ensure the slope of the right bank remains stable between elevations 130 and 155, post-tensioned rock bolts will be installed below elevation 155 (Figure 1). About 40 rock bolts between 25 and 30 feet long will be placed to pin the rock mass. Holes will be drilled into the rock slope, the rock bolts will be installed, and cement or resin grout will be added to hold the rock bolts in place. Once the grout has cured, the rock bolts will be tensioned in accordance with specifications. In addition, formed concrete may be used to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

Figure 1. Approximate rock bolt locations on the right bank of the American River

The project site is located along a steep slope which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a 6 month period starting in the middle to late summer of 2015 when releases from Folsom Dam are expected to be minimal.

The project area totals 2 acres along the right bank of the American River. The area has been disturbed previously from the construction of Folsom Dam and the powerhouse, and supports small areas of annual grasses, forbs, and small shrubs. Cottonwoods and willows are located along the perimeter of the proposed access road.

Surveys were conducted on July 1, 2013, to collect data on elderberry shrubs near the project area. Three elderberry shrubs were identified adjacent to the powerhouse road and one elderberry shrub was identified adjacent to the proposed access road (Figure 2). The elderberry shrubs were measured as follows: 1 stem at 1 to 3 inches in diameter at ground level, 2 stems at 3 to 5 inches at ground level, and 1 stem greater than 5 inches at ground level. All four of the elderberry shrubs are in a non-riparian area and no exit holes were observed on any of them.



Source: U.S. Army Corps of Engineers

Figure 2. Elderberry shrub locations on the right bank of the American River

The elderberry shrubs will not be directly impacted by the proposed project. Staging area space is limited at the project site; therefore, it will be difficult to observe the Service recommended 100-foot radius buffer zone for protection of the elderberry shrubs and still meet the project purpose. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection.

To minimize potential take of the beetle, the following additional measures will be incorporated into the right bank protection portion of the project:

- A minimum setback of 100 feet from the dripline of all elderberry shrubs will be established, if possible. If the 100 foot minimum buffer zone is not possible, the next maximum distance allowable will be established. Due to the limited space within the project area, it will be difficult to observe the 100-foot radius buffer zone for protection of all the elderberry shrubs located at the site. The Corps is proposing a minimum 20-foot radius buffer zone, using k-rails for protection. These areas will be fenced, flagged, and maintained during construction.

The Service has reviewed the Folsom JFP revised project description and evaluated its potential effect to the beetle. The Service finds that the effects of the proposed work are consistent with the effects analyzed in the biological opinion and subsequent reinitiations.

The November 1, 2012, biological opinion is amended to include:

On Page 2 - In the first paragraph, the following should be changed from:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, and December 4, 2013; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; and 6) other information available to the Service.

To:

The findings and recommendations in this formal consultation are based on: 1) your October 31, 2012, letter requesting formal consultation; 2) phone and email conversations between Corps and Service staff; 3) site visits on June 6, 2012, June 11, 2012, August 8, 2012, **December 4, 2013, and February 11, 2014**; 4) the Corps' September 18, 2013, request for reinitiation of formal consultation; 5) the Corps December 18, 2013, request for reinitiation of formal consultation; **6) the Corps March 19, 2014, request for reinitiation of formal consultation; and 7)** other information available to the Service.

On Page 2 - In the Description of the Proposed Project section after the 3rd paragraph, add:

To ensure the slope of the right bank remains stable, about 40 post-tensioned rock bolts between 25 and 30 feet in length will be placed to pin the rock mass. Holes will be drilled into the rock

slope and then filled with cement grout or resin grout to hold the rock bolts in place. The rock bolts will be installed perpendicular to the slope and subsequently tensioned. In addition, formed concrete may be required to fill reentrant joint cavities to prevent the potential dislodging of several large rock blocks in the vicinity.

The project site is located along a steep slope, which is difficult for drilling equipment to access. Site preparation will involve clearing an area for a work platform to place a crane and other equipment needed for installing the rock bolts. The crane will lower the crew and drilling equipment over the edge to install the rock bolts. A 20-foot-wide access road and a platform will be constructed to allow for mobilization of the crane. Site preparation for the access road will include minor clearing, grubbing, and tree removal. The proposed project will be conducted over a six month period starting in the middle to late summer of 2015.

On Page 3 - In the Conservation Measures section, the following should be changed from:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, and December 18, 2013, letters in addition to those listed in the programmatic consultation.

To:

The Corps will implement the following conservation measures proposed in the October 31, 2012, September 18, 2013, **December 18, 2013, and March 19, 2014, letters** in addition to those listed in the programmatic consultation.

All other sections of the November 1, 2012, biological opinion for the Folsom Dam Modification Project remain the same. If you have any questions regarding this reinitiation, please contact Amber Aguilera, Fish and Wildlife Biologist, or Doug Weinrich, Chief, Habitat Conservation Division, at (916) 414-6600.

Sincerely,

Daniel Welsh
Acting Field Supervisor

cc:
Jamie LeFevre, Army Corps of Engineers, Sacramento, California

No.	Comment From	Comment		Response
1.	Gregor Blackburn, FEMA	Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the Counties of Sacramento (Community Number 060262), El Dorado (Community Number 060040), and Cities of Sacramento (Community Number 060266), Folsom (Community Number 060263), Roseville (Community Number 060243), Placerville (Community Number 060041), Maps revised various dates.		Thank you for your comment. The Flood Insurance Rate Maps have been reviewed and floodplain building requirements have been considered.
2.	Gene Whitehouse, United Auburn Indian Community	Please continue to send us copies of the proposed project's environmental documents so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources.		Thank you for your comment. Coordination between the Corps and United Auburn Indian Community will continue throughout the project. A request for additional information, including baseline records search, record of native American consultation, survey and inventory report, and testing evaluation and mitigation reports regarding the Folsom Right Bank Stabilization Project was forwarded to the Corps by Vincent Heim from the Department of Water Resources. Unfortunately, the Corps is not able to provide records search data due to a confidentiality agreement that we have signed with the records centers. In order to obtain the records search information, you will need to contact the records center directly. A copy of the survey report that the Corps conducted for the Folsom Right Bank Stabilization Project was sent to United Auburn Indian Community June 2, 2014.
3.	Gene Whitehouse, United Auburn Indian Community	The UAIC's preservation committee has identified cultural resources in and around your project area, and would like to request a site visit to confirm their locations.		Thank you for your comment. A site visit is being scheduled.
4.	Karen Huss, SMAQMD Land Use & Transportation Section	The emissions table on page 21 needs to be updated to reflect the changes made to the Road Construction Emissions Model (RCEM) run.		Table has been updated to reflect changes new emission calculations. Emissions were generated using a different method.

5.	Karen Huss, SMAQMD Land Use & Transportation Section	The CO2 emissions from the project, reported on page 29 were taken straight from the RCEM which are short tons, not metric tons. I would suggest multiplying the short tons from the updated RCEM run by 0.91 to get metric tons		Table has been updated to reflect changes new emission calculations. Emissions were generated using a different method.

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

August 15, 2014

David Martasian
Central Valley Flood Protection Board
3464 El Camino Avenue, Room 200
Sacramento, California 95821

Dear Mr. Martasian:

This is in response to your request for comments on the Folsom Dam Safety and Flood Damage Reduction Draft Supplemental Environmental Assessment/Environmental Impact Report – Right Bank Stabilization (Notice of Availability) located in multiple communities in the State of California.

Please review the current effective countywide Flood Insurance Rate Maps (FIRMs) for the Counties of Sacramento (Community Number 060262), El Dorado (Community Number 060040), and Cities of Sacramento (Community Number 060266), Folsom (Community Number 060263), Roseville (Community Number 060243), Placerville (Community Number 060041), Maps revised various dates. Please note that the Cities of Sacramento, Folsom, Roseville, and Placerville, California are participants in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65.

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map.

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways.

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm.

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Sacramento floodplain manager can be reached by calling George Booth, Senior Civil Engineer, at (916) 874-6484. The City of Sacramento floodplain manager can be reached by calling Dave Brent, Director of Utilities, at (916) 808-5454. The Folsom floodplain manager can be reached by calling David Miller, Community Development Director, at (916) 355-7224. The Roseville floodplain manager can be reached by calling Carl Walker, Senior Engineer. The El Dorado County floodplain manager can be reached by calling Roger Trout, at (530) 621-5775. The Placerville floodplain manager can be reached by calling Randy Pesses, Public Works Director, at (530) 642-5557.

If you have any questions or concerns, please do not hesitate to call Michael Hornick (510) 627-7260 or Frank Mansell (510) 627-7191 of the Mitigation Staff.

Sincerely,

Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
George Booth, Senior Civil Engineer, Sacramento County
Dave Brent, Director of Utilities, City of Sacramento
David Miller, Community Development Director, City of Folsom
Carl Walker, Senior Engineer, City of Roseville
Roger Trout, El Dorado County
Randy Pesses, Public Works Director, City of Placerville
Ray Lee, WREA, State of California, Department of Water Resources, North Central Region Office
Michael Hornick, NFIP Planner, DHS/FEMA Region IX
Frank Mansell, NFIP Planner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

MIWOK United Auburn Indian Community
MAIDU of the Auburn Rancheria

Gene Whitehouse	John L. Williams	Danny Rey	Brenda Adams	Calvin Moman
Chairman	Vice Chairman	Secretary	Treasurer	Council Member

July 30, 2014

Melissa Montag
United States Army Corps of Engineers
1325 J Street, Room 1350
Sacramento, CA 95814

Subject: Folsom Dam Modifications, Approach Channel Phase III Project - Post Review Discoveries and Identification and Evaluation of Potential Historic Properties

Dear Melissa Montag,

Thank you for providing additional information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

We are currently reviewing the information provided by your agency in order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC. Please continue to send us copies of the proposed project's environmental documents so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. The information gathered will provide us with a better understanding of the project and the cultural resources on site and is invaluable for consultation purposes. Finally, please contact us if you find any Native American cultural resources in, or around, your project area.

The UAIC's preservation committee has identified cultural resources in and around your project area, and would like to request a site visit to confirm their locations. We also request that any cultural items, as defined by NAGPRA, be respectfully treated. The isolated bedrock mortar discovered in your project area is a cultural item. Thank you again for taking these matters into consideration, and for involving the UAIC in the planning process. We look forward to reviewing the additional documents requested. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM

MIWOK United Auburn Indian Community
MAIDU of the Auburn Rancheria

Gene Whitehouse, Chairman | John L. Williams, Vice Chairman | Danny Rey, Secretary | Brenda Adams, Treasurer | Calvin Moman, Council Member

July 30, 2014

Attn: David Martasian
3464 El Camino Avenue, Room 200
Sacramento, CA 95821

Subject: Folsom Dam Safety and Flood Damage Reduction Draft Supplemental Environmental Impact Report-Evening rock blasting Notice of Availability

Dear Central Valley Flood Protection Board Representative,

Thank you for providing additional information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and whose service area includes El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

We are currently reviewing the information provided by your agency in order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC. Please continue to send us copies of the proposed project's environmental documents so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. The information gathered will provide us with a better understanding of the project and the cultural resources on site and is invaluable for consultation purposes. Finally, please contact us if you find any Native American cultural resources in, or around, your project area.

Thank you again for taking these matters into consideration, and for involving the UAIC in the planning process. We look forward to reviewing the additional documents requested. Please contact Marcos Guerrero, Cultural Resources Manager, at (530) 883-2364 or email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gene Whitehouse,
Chairman

CC: Marcos Guerrero, CRM

From: KAREN HUSS [KHuss@airquality.org]
Sent: Friday, July 25, 2014 12:04 PM
To: LeFevre, Jamie M SPK
Cc: david.martasian@water.ca.gov; LARRY ROBINSON
Subject: [EXTERNAL] Folsom JFP Right Bank Draft EA/EIR

Hi Jamie,

Thanks for sending the Draft EA/EIR for the Folsom JFP Right Bank project. I think the air quality and climate change sections were done very well. I only have a few technical comments that I don't believe warrant an official letter from the SMAQMD.

1. The emissions table on page 21 needs to be updated to reflect the changes made to the Road Construction Emissions Model (RCEM) run.

2. The CO_2 emissions from the project, reported on page 29 were taken straight from the RCEM which are short tons, not metric tons. I would suggest multiplying the short tons from the updated RCEM run by 0.91 to get metric tons.

Karen Huss

SMAQMD Land Use & Transportation Section

916-874-4881