Draft
Technical Support Document for HWC MACT Standards

Volume III:

Selection of MACT Standards and Technologies

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ABSTRACT

The EPA is revising air emissions regulations for hazardous waste burning combustors, specifically incinerators, cement kilns, and light weight aggregate kilns. The new emissions standards are being developed using the "maximum achievable control technology" (MACT) approach defined in Title 3 of the 1990 Clean Air Act Amendments. MACT standards are set for the hazardous air pollutants (HAP) of PCDD/PCDF, mercury, semi volatile metals (cadmium and lead), low volatile metals (antimony, arsenic, beryllium, and chromium), total chlorine (considering both HCl and Cl_2), CO and hydrocarbons (not strictly HAPs, but used as surrogates for toxic organic HAPs), and PM (again, not itself strictly a HAP, but used as a surrogate for both condensed metals and organics). This volume documents the procedures and results of the MACT floor evaluation. This includes: (1) procedures used to determine the MACT floor levels, (2) specifics of the MACT floor evaluation for each HAP and hazardous waste burning source category for both new and existing sources, (3) beyond-the-floor control techniques applicable to the different HAP and source category combinations, and (4) achievability of the MACT floor levels.

For determining the floor for existing sources, the proposed "6% Floor" procedure is used, which includes the following steps: (1) Stack gas emissions data is ranked by test condition average. Stack gas emissions data from over one hundred trial burn compliance tests are used to determine the MACT standards. Rankings are done separately for each source category and HAP combination; (2) Control techniques used by the best 6% of sources (known as the "MACT pool") are used to define MACT control. This may include feedrate control as well as add-on air pollution control equipment that is effective for the particular HAP of interest; (3) All source test conditions using MACT (but not necessarily in the top 6% of the emissions rankings) are identified as part of the "MACT expanded universe"; (4) The entire MACT expanded universe of conditions (facilities using MACT control) is statistically evaluated to determine a floor level that is achievable on a day-to-day basis by all facilities using MACT. This is determined statistically, based on the highest emitting source in the MACT expanded universe with the consideration of variability at the 99^{th} percentile. MACT floor levels for new sources are determined in a similar manner, except MACT control is define by that used by <u>the</u> best performing facility.

Beyond-the-floor control techniques are also evaluated. Beyond-the-floor controls are controls which are able to achieve emission levels lower than the existing source floor levels. Beyond-the-floor control techniques for each of the source categories and each HAP are discussed, including a the applicability to each of the source categories and an evaluation of achievable levels using the beyond-the-floor control techniques for the particular HAP.

The achievability of the MACT floor levels is evaluated, especially related to the feasibility of the simultaneous achievability of all HAP floor levels, as well as the influence of conventional fuels and raw materials contributions to stack gas emissions levels.

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ACRONYMS

A/C	Air-to-cloth ratio; used for describing fabric filter design; defined as the fabric cloth area divided by the flue gas flow rate through the fabric filter; use for defining MACT for fabric filters
ACI	Activated carbon injection; activated carbon is used for both mercury and organics (including PCDD/PCDF control)
APCD	Air pollution control device
APCS	Air pollution control system
ASTM	American Society of Testing and Materials
BIF	Boilers and Industrial Furnaces
B-T-F	Beyond the floor
CAAA	Clean Air Act Amendments
CEM	Continuous emissions monitoring system; flue gas emissions monitoring systems that can provided continuous real-time analysis on-line; for monitoring HAPs such as PM, Hg, CO, HC, etc.
CETRED	Combustion Emissions Technical Resource Document
CK	Cement kiln
CKD	Cement kiln dust
CMS	Continuous monitoring system
CO	Carbon monoxide
CPT	Comprehensive performance test
CST the	Combined statistical and technology based MACT floor procedure; used in preferred 6% (and alternative 12%) floor procedure
DL	Detection limit
D/O/M	Design, operating, and maintenance procedures
DRE	Destruction and removal efficiency
dscf	Dry standard cubic feet
dscm	Dry standard cubic meter
EER	Energy and Environmental Research Corporation
EPA	Environmental Protection Agency
ESP	Electrostatic precipitator
EU	MACT expanded universe
FF	Fabric filter (baghouse)
FID	Flame ionization detector
GCP	Good combustion practices

GOP	Good operating practices
g	Gram
gr	Grain (7000 grains per pound)
HAP	Hazardous air pollutant
HC	Hydrocarbons
HCl	Hydrogen chloride gas
Hg	Mercury
HW	Hazardous waste
HWC	Hazardous waste combustor
HWI	Hazardous waste incinerator
IWS	Ionizing wet scrubber
LVM	Low volatile metals
LWAK	Light weight aggregate kiln
MACT	Maximum achievable control technology
MB	Mass balance
MHRA	Maximum hourly rolling average
MTEC	Maximum theoretical emissions concentration
MWC	Municipal waste combustor
MWI	Medical waste incinerator
PCB	Polychlorinated biphenyls
PCDD/PCDF	Polychlorinated dibenzo-p-dioxins and dibenzofurans
PIC	Products of incomplete combustion
PM	Particulate matter
POHC	Principal organic hazardous constituent
ppmv	Parts per million by volume in gas
RA	Run average
RCRA	Resource Conservation and Recovery Act
SCA	Specific collection area
SRE	System removal efficiency
SVM	Semi volatile metals
TEQ	Toxic equivalent
VS	Venturi scrubber
WHB	Waste heat boiler
WS	Wet scrubber

SECTION 1

INTRODUCTION

The U.S. Environmental Protection Agency (EPA) regulates the burning of hazardous waste in incinerators under 40 CFR Part 264/265, Subpart O, and in industrial furnaces under 40 CFR Part 266, Subpart H. The Agency is proposing revised regulations applicable to these hazardous waste combustion (HWC) devices. This document provides technical background for the MACT floor and beyond-the-floor emissions standards that are considered for the proposed rule. It is the third in a series of seven volumes of technical background documents for the rule. These include:

Technical Support Document for HWC MACT Standards, Volume I: Description of Source Categories, which provides process descriptions of major design and operating features including different process types and air pollution control devices currently in use and potentially applicable to various combustion source categories; description of air pollution control devices including design principles, performance and operating efficiency, process monitoring options, and upgrade/retrofit options; and major source determination for all sources including a discussion on the methodology used to estimate annual emissions, assumptions used, and an emissions summary for each source listing each HAP.

Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base, which contains a summary of the emissions information on toxic metals, particulate matter (PM), HCl and Cl_2, hydrocarbons, carbon monoxide, semi-volatile and volatile organic compounds, and dioxins/furans from HWCs. Other detailed information encompassed in the data summary include company name and location, emitting process information, combustor design and operation information, APCD design and operation information, stack conditions during testing, feed stream feed rates, and emissions rates of HAPs by test condition.

Technical Support Document for HWC MACT Standards, Volume III: Selection of Proposed MACT Standards and Technologies, which identifies the MACT floor for each HAP and source category for existing sources and new sources and discusses the approach used to define the floor and beyond-the-floor alternatives considered for the proposed rule.

Technical Support Document for HWC MACT Standards, Volume IV: Compliance with the Proposed HWC Standards, which contains detailed discussions of continuous emissions monitors and operating limits for the proposed rule.

Technical Support Document for HWC MACT Standards, Volume V: Engineering Costs, which contains the cost estimates for APCD requirements for existing and new facilities to meet the proposed emissions standards.

Technical Support Document for HWC MACT Standards, Volume VI: Development of Comparable Fuels Specifications, which summarizes the composition including hazardous species in benchmark fossil fuels such as gasoline, #2 fuel oil, #4 fuel oil, and #6 fuel oil. This information is being used to develop specifications which EPA is considering to allow comparable fuels to be excluded from the definition of hazardous waste.

Technical Support Document for HWC MACT Standards, Volume VII: Miscellaneous Technical Issues, which provides additional information on several topics such as the treatment of measurements below analytical detection limits, the procedures for handling missing data, and the rationale for grouping metals of similar volatility. The impact of these methodologies on the proposed MACT limits, the cost estimates, and the national emissions estimates are also discussed.

The MACT emission standards are being proposed for three types of hazardous waste combustion facilities:

- Cement Kilns
- Lightweight Aggregate Kilns
- Incinerators (On-site and Commercial)

The hazardous air pollutants for which emission standards are proposed are:

- Mercury (Hg)
- Low Volatility Metals (LVM)
- Semi-Volatile Metals (SVM)
- Particulate Matter (PM)
- Hydrogen Chloride and Chlorine as Total Chlorine (HCl/Cl_2)
- Carbon Monoxide (CO)
- Hydrocarbons (HC)
- Dioxins/Furans (PCDD/PCDF)

These emission standards are being developed through the "maximum achievable control technology" (MACT) approach defined in Title 3 of the 1990 Clean Air Act Amendments (CAAA). In this approach the MACT floor standard for existing facilities is established at the level of the average performance of the best 12% of existing sources. Depending on cost effectiveness, more stringent, but technically achievable, beyond-the-floor standards for specific HAPs are considered.

The proposed floor and beyond-the-floor standards have been selected based on a database (described in Volume II) of trial burn and compliance test emissions measurements from 77 incinerators, 35 cement kilns, and 12 lightweight aggregate kilns. The MACT floor has been identified as the log mean plus a variability factor of the source with the highest emissions (based on the arithmetic average) of those sources using emission control used by sources emitting the HAP or HAP surrogate at below a level of the median of the best performing 12% of sources (or top 5 if there are fewer than 30 sources). These sources are called the expanded MACT pool. The variability is a measure of the average variability among runs for those test conditions from sources in the expanded MACT pool. This is called the "6% Floor" and is the one ultimately selected for the proposed rule. It was selected because it ensures that all facilities with the MACT control can meet the MACT floor.

An alternative approach discussed in the preamble to the proposed rule is the "12% Floor". It is based on the interpretation that the CAAA requirement of meeting the average performance of the best 12% means the day-to-day performance achievable by the average source having the technologies represented by the top 12% of sources. It was not selected for proposal because not all sources having the MACT technology can meet this floor. That is, although the MACT floor control would be the set of controls used by the best performing 12% of sources, many of those sources are not achieving the average emissions level of the sources.

In addition to existing sources, MACT standards are also identified for new sources that begin burning hazardous waste after the proposed regulation is in place. Analysis of the MACT floors for these "new sources" is also provided.

This report describes in detail the procedure and rationale that was used to set the MACT stack gas emissions standards levels. It consists of sections, including:

Section 2: Describes the procedure used to determine the MACT floor for existing sources (using the "6% Floor" approach) and for new sources.

Section 3: Documents the MACT floor for existing sources using the "6% Floor" procedure.

Section 4: Documents the MACT floor for new sources.

Section 5: Describes the various techniques that can be used to achieve beyond-the-floor emissions levels, their performance levels, and their applicability to the different hazardous waste burning source categories.

Section 6: Discusses the technical feasibility of simultaneously achieving the proposed floor and beyond-the-floor MACT standards for each source category.

APPENDIX A: Documents the MACT floor and beyond-the-floor levels that are determined using the alternative "12% Floor" approach.

APPENDIX B: Documents an additional floor option for which costs are provided in Volume V.

APPENDIX C:	Discusses in detail the statistical procedure that is used to account for within-test condition emissions variability.
APPENDIX D:	Lists air pollution control device acronyms that are used.
APPENDIX E:	Lists facility names and locations by EPA ID Number.
APPEDNIX F:	Graphical ranking plots of emissions data for all HAPs by condition ID and source category type for all data ("entire universe") as well as the "6% MACT Floor" expanded universe data set, as determined in Section 3.

SECTION 2

FLOOR DETERMINATION PROCEDURES

The procedure used to determine the MACT floor levels for existing and new sources is described in the following.

2.1 EXISTING SOURCE PROCEDURE

Two alternative procedures were considered for setting MACT floor levels: a purely statistical approach, and a combined technology and statistical approach.

2.1.1 Consideration of Purely Statistical Approach

The preliminary approach that was considered for determining MACT-based emissions levels for particulate matter (PM) and PCDD/PCDF from existing hazardous waste combustors (HWC) is presented in *Draft Combustion Emissions Technical Resource Document (CETRED)* (U.S. EPA, 1994). The CETRED approach used a statistical procedure to establish "floor" emissions levels. The approach was an attempt to conform with the language of the Clean Air Act Title III amendments. It was a purely statistical approach that focused on the performance of the "best performing MACT facilities". It involved the following procedures:

- Pool all available test data for the HAP of interest from each separate hazardous waste burning facility. This includes considering flue gas emission data from different test conditions and different test dates from the same facility as one body of data.

- Screen out unrepresentative data. For example, facilities which burn low ash content wastes and fuels or do not use active PM air pollution control devices are not considered for evaluation of the PM floor; facilities which use low chlorine content wastes are removed from the evaluation of the PCDD/PCDF floor.

- Based on all available test runs, the individual facilities are ranked according to a "combined parameter" which considers both the average emissions level and the intrafacility variability between different test runs from each individual facility. The combined parameter for each facility is calculated as the average of all runs plus twice the standard deviation based on all test runs.

- Based on the ranking, select the best performing (lowest combined parameter) 12% of sources (or the top 5 there are less than 30 total) as the "MACT pool".

- Statistically evaluate the MACT pool facilities to identify the MACT floor. The statistical methodology that was considered uses a tolerance limit procedure to determine a level that the "average" MACT pool facility could achieve 99% of the time at a 95% confidence level. The methodology is discussed in detail in CETRED (U.S. EPA, 1994).

In CETRED, MACT floor limits were calculated for both "supersource" categories (where all data from all of the different source categories were considered together) as well as for different individual source category and HAP combinations. CETRED supersource limits for PM and PCDD/PCDF TEQ were determined to be at 0.005 gr/dscf and 0.2 TEQ ng/dscm, respectively. The CETRED approach was considered briefly for the determination of other HAP floors such as metals, HCl, Cl_2, CO, and HC. After receiving comments on the CETRED approach, the purely statistical approach that was used in CETRED for determining MACT floor levels, was dropped for the following reasons:

- Achievability of the statistically derived floors is fundamentally incompatible with the intent of MACT. All facilities using MACT must be able to meet the floor. In some cases, facilities using MACT do not happen to fall into the best performing MACT pool. Thus, if the floor level is set based solely on facilities in the MACT pool, then these facilities which use MACT technology and are not in the MACT pool, will not be able to meet the MACT floor.

- In CETRED, it was assumed that the emissions data across source category are "normally" distributed (in a statistical sense, as opposed to lognormally distributed). The assumed distribution type is important since it affects the statistically derived limit. Subsequent analyses on the individual HAPs has shown that for many, the distribution is neither normal nor log-normal. The form of the distribution may be further complicated by the inclusion of diverse control technologies which may have different performance characteristics.

2.1.2 Combined Technology and Statistical Approach

To address the concerns of the CETRED approach discussed above, a technology approach with a statistical overlay to consider emissions variability is used to determine MACT floor levels. This approach involves a six step analysis procedure consisting of:

- Rank the stack emissions data,
- Screen the stack gas emissions data,
- Select the best performing MACT pool sources,
- Define MACT control,
- Identify the MACT expanded universe, and
- Statistically evaluate the MACT expanded universe to determine the MACT floor.

2.1.2.1 Rank Emissions Data

In the first step, for each source category, HAP emissions data from different facilities and test conditions are compiled from EPA's HWC Emissions Database. The database is described in detail in the accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*. The database contains detailed results of over a one-hundred trial burns and compliance tests from incinerators and cement and light weight aggregate kilns. All data considered are in terms of flue gas concentrations, corrected to 7% O_2 and standard conditions; "non-detects" (measurements at the analytical method detection limit) are considered at the full detection limit.

For each HAP, all individual test conditions are ranked from lowest to highest by the test condition average HAP emissions concentration. When a source has emissions data for a HAP from several different tests conditions, each test condition is considered separately. That is, for each unit that had conducted a series of tests under different operating conditions, data generated under one test condition is not combined with emission data of a completely separate test condition. Each test condition is treated separately since each test condition in conducted using similar waste types and under similar facility operating conditions (such as temperature, waste feedrate, etc.). This is done because it is not appropriate to pool results from widely different test conditions, for example a metals/chlorine test condition and an organics test condition. Individual test condition averages are determined by the average of all runs within a test condition, typically three.

Rankings are done separately for each individual HAP and source category combination. A "supersource" analysis (evaluation of a single HAP for all three source categories simultaneously) was not considered because, although the source categories have the similarity of burning hazardous waste, each has different characteristics and emissions profiles, making a supersource category technically inappropriate.

MACT floor levels are identified for the metals groupings of LVM (consisting of antimony, arsenic, beryllium, and chromium), and SVM (consisting of cadmium and lead), as opposed to standards for each individual metal in the grouping. Also, levels are identified for total chlorine ($HCl + Cl_2$). However, for many of the facilities, stack gas emission data are not available for all of the species of the metals volatility group or total chlorine group. For example, many facilities conducted stack gas sampling for chromium during trial burns, while fewer measured the other metals in the LVM group. Likewise, almost all incinerators have HCl measurements (which are required as part of current RCRA compliance), while relatively few have Cl_2 gas measurements (which were not required under RCRA). Thus, the analysis may be based on a limited number of conditions if restricted to only consider test run data which had flue gas measurements for all components of the groupings. Instead, all runs are considered that have at a minimum, flue gas measurements for one of the constituents in the group. In these cases, the emissions of the total HAP group for a source is assumed to hold the same ranking (relative to other sources) as the average of the rankings of all measured HAPs within the group. This is accomplished using the following procedure:

- For each of the constituents of the group in question, rank all available flue gas emissions concentrations (by individual test run) for all source categories by emissions level.

- For the constituent(s) which have flue gas measurements, determine the relative positions (percentile rankings) in comparison to all of the other data for that constituent, using the ranking previously determined.

- Determine the average of the individual percentile rankings based on each of the constituents for which flue gas measurement data are available.

- Use the average percentile ranking for flue gas measurement(s) to determine the appropriate values of the missing constituents by selecting the missing constituents at a level that corresponds to the average percentile ranking for the flue gas measurements (e.g., if for SVM, a lead flue gas measurement is available at a 45^{th} percentile in comparison with all other lead data, then a cadmium value is substituted that corresponds to the 45^{th} percentile of all cadmium data).

The individual constituents (from both the flue gas measurements, as well as the percentile ranking substituted estimates as described above) are added together to form a group total. Again, measurements at non-detect levels are considered at the detection limit.

2.1.2.2 Screen Data

The conditions compiled above are "screened" (non-representative conditions are removed from consideration in the following MACT analysis) for a variety of reasons including:

- Conditions where flue gas measurements were reported as "non-detect" at high detection levels. In these cases, the emissions level may be significantly less than that reported. What constitutes "high" is determined in comparison with other measurements and the detection limit that should be routinely achievable considering typical sampling time and analytical limitations.

- Conditions where flue gas sampling and/or analytical testing problems occurred (e.g., high blank, poor recoveries, broken probes, non-isokinetic sampling, and other QA/QC problems).

- Conditions with suspect mass balance or partitioning. In these cases, the feedrate. "maximum theoretical emissions concentration" (MTEC, as described in detail in the following Section 2.1.2.4) and corresponding emissions level does not conform with expected engineering judgement of the behavior of the particular HAP. For example, for mercury, conditions where either the mercury emissions is significantly lower or higher than the input MTEC feedrate are screenout out from the analysis; these conditions have either inexplicably high system removal efficiencies (when the emissions is much lower than the feed) or negative system removal efficiencies (when the emissions are higher than the feedrate). In these cases, suspect mass balance or partitioning is a likely indicator of problems with feedrate MTEC and/or flue gas emissions measurements.

- Conditions which are obvious outliers (low or high) with respect to all other measurements within the source category of interest.

- Conditions where it is believed that the facility was operated with sub-standard design, operation, and/or maintenance (D/O/M) practices. For example, facilities with multiple, but apparently similar, conditions for one HAP, where some conditions are unexplainably dramatically different than others.

- Conditions in the EPA HWC database where facilities were not burning hazardous waste ("baseline" conditions).

- Conditions in which one of the emissions level is higher than current RCRA standard (e.g., conditions with individual run PM measurements higher than 0.08 gr/dscf).

2.1.2.3 Select Best Performing MACT Pool

The second step is to select the best performing sources based on the lowest average condition stack emissions levels from the ranking performed above. These best-performing sources define the "MACT pool". For the proposed "6% approach" which is discussed in the main part of this document, the MACT pool is comprised of the median (and better) of the best performing 12% of existing sources, which is interpreted to consist of the best performing 6% of sources (or the top 3 sources, if emissions data are available on less than 30 different sources). In determining the total number of emitting sources which the 6% (or top 3) is based on, the following is considered:

- The total number is based on the number of different emitting sources (individual combustion unit emitting processes, e.g, different kilns on the same site would be considered as different units). The total is not based on the number of different conditions (e.g., if an emitting source had measured a particular HAP during multiple test conditions, the source is considered only once when determining the total number of different emitting sources).

- When MTEC (which is described in detail shortly) is used to define the MACT technology, if a source did not have an MTEC feedrate measurement (even though it may have had stack gas emissions concentration measurements), it was ignored when determining the number of total facilities for which data were available).

Additionally, when determining the MACT pool, the following were considered:

- Conditions that define the MACT pool must be from different facility sources. If necessary, next-in-line sources are selected to obtain the required number of different sources for the MACT pool. For example, if the MACT pool is determined to contain 3 sources, and one source had the best performing three conditions, the MACT pool would not contain these three test conditions from the same source. Instead, the next best performing conditions from different facilities would be included in the MACT pool until the required number of different facilities is reached.

- If any of the facilities in the source category universe use an active air pollution control device for the HAP of interest, then the MACT pool is expanded to contain at a minimum one facility that uses a HAP controlling air pollution control device. For example, for the incinerators chlorine evaluation, some facilities have low chlorine feedrates with no active chlorine control device; but the majority of incinerators use some type of wet or dry scrubbing device for chlorine control. Thus the MACT pool must contain at least one facility which uses wet or dry scrubbing chlorine control. This is to avoid the possibility of defining MACT solely based on MTEC feedrate control, as discussed further below.

2.1.2.4 Define MACT

The best performing MACT pool sources that were determined above are used to define MACT (i.e., control schemes used by the lowest emitting sources). MACT can be defined by one or a combination of the following:

- Air pollution control technology used for the particular HAP. The definition of MACT may be further refined by design, operation, and maintenance features of the particular control technology that affects performance. These include:

  — For electrostatic precipitators (ESPs), specific collection area (SCA) is used. Note that as discussed in Technical Support Document Volume I, SCA may have a significant affect on ESP performance. However, other parameters such as plateto-plate spacing, current density, and voltage may also be applicable, but were not used due to lack of comprehensive information on these design specifics from most facilities using ESPs.

  — For fabric filters, air-to-cloth ratio (A/C) is used to differentiate between different fabric filter units. Again, other parameters such as cloth type, fabric age, cleaning practices, and pressure drop may also be applicable, but were not used due to lack of information on specific facility fabric filters.

  — For wet scrubbers, no design specifics were used; instead MACT was defined by wet scrubber class (i.e., venturi scrubbers, packed bed scrubbers, spray tower scrubbers, etc.). Although pressure drop (for venturi and other high energy scrubbers) as well as liquid-to-gas ratio and packing type and flue gas residence time may be appropriate for certain wet scrubbers, which may varying greatly in design, due to lack of detailed design information, no specific design or operating parameters are used in the MACT analysis to further refine the definition of MACT.

- Feedrate control of the particular HAP, if applicable (i.e., for chlorine and metals). Feedrate is a direct method for controlling emissions for HAPs such as metals and chlorine. Feedrate measurements were required for cement and light weight aggregate kiln compliance tests and some of the more recent incinerator trial burns, and thus they are readily available.

Feedrate measurements are converted to "maximum theoretical emissions concentrations" (MTEC), which is an approach to normalize feedrates across sources with varying waste burning capacities. MTEC is the theoretical flue gas emissions concentration that would occur if all of the feed metal or chlorine partitioned 100% to the stack. For determining MTECs for LVM and SVM metals volatility groupings, individual feedrate components of the groupings were simply added together. Measurements reported below the detection level were treated as measured at the full detection level. In cases where individual constituent feed measurements were not available, it was assumed they were not present (treated as zero content in the feed). Also, MTECs are based solely on hazardous waste feedrate measurements. They are not based on total feedrate into the system, which may be higher than that of the hazardous waste due to contributions from supplemental fossil fuels or raw materials in industrial kilns. This is done to avoid identifying MACT floor levels based on feedrate control of raw materials or conventional fossil fuels.

In cases where only feedrate control is used for control of the particular HAP, then the MACT floor is defined by the highest MTEC used by the MACT pool sources. In cases where some sources in the MACT pool use feedrate control only and others use feedrate control in combination with emission control technologies, MACT is defined as either feedrate control only or combined feedrate with emissions control technologies. In certain situations, the definition of MACT may be complicated by different MACT pool source conditions that have conflicting APCD design features and MTEC feedrate controls. For example, one condition in the MACT pool may have a high MTEC and standard design features. Another condition may have a lower MTEC and substandard design features for the same APCD type. In this case, MACT for a particular APCD type is defined by a combination of most lenient features of both MACT pool sources (i.e., highest MTEC and "worst" design feature).

"Equivalent (or improved) technology" may also be used to expand the definition of MACT air pollution control technology beyond that determined by the best-performing MACT pool facilities. Additional technologies that are not used by the MACT pool are considered as MACT if, based on engineering judgement, they have equivalent (or better) performance to that used by the MACT pool. Consider, for example, MACT for SVM for incinerators is determined to be a venturi scrubber with a corresponding feedrate MTEC, and that no facilities with fabric filters, ESPs, or ionizing wet scrubbers happen to make it into the MACT pool. In this case, fabric filters, ESPs, and ionizing wet scrubbers (which are believed to have similar or improved SVM control performance compared with the MACT venturi scrubbers) would be added to the definition of MACT (with the corresponding venturi scrubber limiting MTEC).

2.1.2.5 Identify MACT Expanded Universe

The MACT definition is used to identify all conditions in the entire source category which are also believed to use MACT or equivalent control schemes. This new expanded set, containing the MACT best performing facilities as well as potentially other higher emitting facilities that use MACT, is referred to as the "MACT Expanded Universe" (MACT EU) or "Expanded MACT Pool".

If MACT is defined by feedrate MTEC only, the facilities in the MACT EU must simply have an MTEC at or below the MACT defining level. If MACT is defined by APCD only, then the facilities in the MACT EU must have the same or equivalent technology (with appropriate design characteristics if known). If MACT is defined by both feedrate MTEC and APCD, then facilities in the EU must have a combination of both lower MTEC feedrate compared with the MACT level and equal or better APCD. Facility conditions not using MACT (using either non-MACT control technology or higher MTEC feedrates) are not considered part of the EU.

2.1.2.6 Statistically Evaluate the MACT Expanded Universe to Determine Floor

The MACT EU that has been identified above is used to determine the MACT floor level for each HAP and source category combination. The MACT floor level is the emissions level that all existing sources in the MACT EU are able to achieve routinely on a day-to-day basis. The MACT floor level is calculated using a statistical procedure that is described in detail in Appendix C ("Statistical Analysis of Hazardous Air Pollutant Concentrations From Hazardous Waste Combustors"). Only the results from the statistical analysis are discussed in this document. The procedure is described briefly below.

The first step of the statistical procedure is to determine the distribution of the data in the MACT EU for each source category and HAP combination. Note that in general the HAP data fit a log-normal distribution better than a normal distribution; therefore all HAP distributions are assumed to be log-normally distributed.

Next, a MACT floor "design" level is determined as the log-mean of the source condition in the MACT EU with the highest arithmetic mean. The MACT "standard" level is determined as the design level with the additional consideration of typical emissions variability. Emissions variability is statistically estimated, given that the database consists of short term "snap-shots" of emissions levels. The statistical approach identifies the MACT floor standard that a source emitting at the "design" level and having average with-in test condition variability (determined by sources in the MACT EU) could be expected to meet 99% of the time (standards based on the 90 and 95th percentile limits were also calculated). The delta-lognormal methodology is used for analysis. This methodology is advantageous since it allows for the consideration of detected versus non-detected samples (i.e., less weight given to non-detect sample measurements), and the variability factor considers the average variability among runs with-in test conditions in the MACT EU (i.e., it does not consider variability between different sources test conditions).

In a few situations, results of the statistical analysis are not used; instead, floor levels are proposed at the level of the current federally enforced EPA RCRA standard (e.g., HC for cement kilns at the main stack at 20 ppmv).

2.2 NEW SOURCE PROCEDURE

For new sources, the standards for a source category cannot be less stringent than the emission control that is achieved in practice by the best-controlled similar source. The approach to determine the MACT floor for new sources parallels in almost all ways to that described above for existing sources (the Combined Technology and Statistical Approach), except for one difference. The determination of the MACT is defined by the best performing source, not the top 6% (the median and better of the best performing 12%). All other procedures are similar for the new floor determination compared with the existing floor evaluation methodology.

SECTION 3

EXISTING SOURCES FLOOR DETERMINATIONS

MACT floor levels for existing sources using the proposed "6% Floor" approach described in Section 2 are discussed for each of the HAP (or HAP surrogate) and source category combinations. The discussions include, for each combination:

- Summary tables of all test condition stack gas emissions data from the HWC database presented in the accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*.

- HAP control techniques used by the existing sources.

- The range of emission levels for the entire source category.

- Identification of the best-performing MACT pool sources, the range of emissions levels of the best performing sources, MACT technologies used by the best performing technologies (used to define MACT), and discussion of "equivalent technologies" used to expand the definition of MACT if appropriate.

- Identification of the MACT expanded universe (EU) facilities based on the definition of MACT. The range of emissions levels in the EU. A discussion of the reasons that conditions were not included in the EU.

- The existing source MACT design and standard level based on the statistical analysis of the MACT EU population of source test conditions.

The summary ranking tables for each of the HAP and source category combinations are used to define the MACT pool, determine the expanded universe, and screen out conditions. The tables contain the following columns of information for each test condition (row entry) from left to right across the table:

- "Subst" — Defines the HAP of interest ("PM" stands for particulate matter, "TEQ" stands for PCDD/PCDF TEQ, "SVM" for semi-volatile metals, "LVM" for low volatility metals, "TOT CL" for total chlorine, "CO" for carbon monoxide, and "HC" for hydrocarbons).

- "Syst Type" — Defines the source category type ("INC" for incinerators, "CK" for cement kilns, and "LWAK" for light weight aggregate kilns).

- “EPA Cond ID” — Defines the test condition identification number corresponding to the ID number used in the EPA HWC database. The first three digits identify the combustion source emitting point (each emitting source must have its own stack), followed by the test condition ID number (e.g., “C2” stands for test condition number 2). The test condition ID is required since some facility emitting points have a number of different test conditions for the same HAP. Facility name and locations corresponding to the three digit ID codes are given in Appendix E.

- “APCS” — Identifies the devices used in the air pollution control system. An acronyms list for the various devices is provided in Appendix D and in accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*.

- For PCDD/PCDF only, “APCS Class” — Identifies the type of air pollution control system used, depending on whether the flue gas is saturated prior to the primary PM control device. A “w” stands for a wet type (flue gas is saturated at the primary PM control device), “d” for dry (the flue gas temperature is maintained above the saturation point in the primary PM control device), or w/d” for wet/dry (the air pollution control system utilizes both wet and dry PM control devices).

- For PCDD/PCDF only, “PM APCD Temp” — This identifies the flue gas temperature at the primary PM APCD. It is used for PCDD/PCDF to define MACT.

- For total chlorine, and metals groupings (SVM, LVM, and mercury), “MTEC” — MTEC is used to define MACT and determine the MACT EU. The MTECs shown consider that contributed by hazardous waste only, and do not include that from the raw materials or supplemental fuels. MTECs are used in the MACT process; the procedure for determining MTECs is described in detail in Section 2 of this volume.

- “Stack Gas Conc” — Stack gas emissions concentrations of the HAP of interest for the test condition. Average (“Avg”) of all the individual runs (usually three) in test condition, as well as the maximum (“Max”) and minimum (“Min”) of the individual run levels are provided. Note that the test conditions are ranked, lowest to highest, by condition average.

- “Comments” — Identifies for each test condition the following:

  — “MACT source” — Used if the condition is one of the best-performing MACT sources (in MACT pool), and is used to define MACT. The HAP control method used by the condition follows in the parenthesis.

  — “Already MACT source” — Used if a condition from the same facility has already been included in the MACT pool.

  — “In” — Used if the condition is considered as part of MACT expanded universe. The reason is included in the parenthesis.

— “Out” — Used if the condition is not considered as part of the MACT EU. Reasons are given following. For example, “Not MACT” signifies that the condition does not use MACT technology; “Poor MB” signifies that the condition has a poor mass balance; “HW not burned” signifies that this is a baseline condition where hazardous wastes are not burned; “DL measurement” is used when the measurement level of the stack gas is at the analytical detection limit.

3.1 PCDD/PCDF TEQ

3.1.1 Incinerators

Table 3-1 summarizes all PCDD/PCDF TEQ condition data from HWIs, ranked by condition average. Condition data are from 24 different HWIs. Condition averages range widely from 0.005 to 38.5 TEQ ng/dscm. PCDD/PCDF is controlled from incinerators by a variety of techniques including:

- Maintaining good combustion conditions (limiting generation of PCDD/PCDF precursors, which may be indicated by flue gas CO and HC levels).
- Rapid flue gas quenching and limiting PM air pollution control device temperature (to prevent the low-temperature catalytic formation process).
- Use of PM air pollution control devices to capture condensed and adsorbed particulate PCDD/PCDF, and use of activated carbon to collect (adsorb) PCDD/PCDF from flue gas (only one facility, source 222, currently uses carbon injection).

The MACT pool contains 3 facilities. The MACT pool sources have average condition emissions levels of less than 0.01 TEQ ng/dscm. All of the best-performing MACT pool facilities use quenching of the hot gases from the combustion chamber to saturation conditions, followed by wet scrubbing air pollution control systems for primary PM control and acid gas control (at which flue gas temperatures are typically below 200°F). The control of flue gas temperature may inhibit the formation of PCDD/PCDF downstream of the combustion system; PCDD/PCDF has been shown to form in PM control devices operating at temperatures of from 400 to 700°F. MACT is defined as the control of the primary PM air pollution control device temperature below 400°F.

Based on the above definition of MACT for PCDD/PCDF control, the MACT expanded universe contains all HWIs using primary PM control device temperature below 400°F. The MACT EU contains conditions with a large range of PCDD/PCDF levels, from 0.005 to 38.5 TEQ ng/dscm. This indicates that the air pollution control device system type (and flue gas temperature profile and quenching rate) may not be the only important considerations affecting PCDD/PCDF control; other factors such as combustion quality and waste composition (such as the level of PCDD/PCDF precursors and formation/destruction catalysts) may also be of importance. However, these parameters are difficult to quantify for the definition of MACT.

The majority of conditions in the EU have levels less than 0.7 ng/dscm; while greater than 50% have levels less than 0.2 ng/dscm. However, there are a couple of relatively high emitters. Additionally, only two types of facilities in the MACT EU have emissions levels above 3.5 TEQ ng/dscm: those burning substantial levels of known PCDD/PCDF precursors, or those equipped with waste heat boilers.

Source 330, with two test conditions that have an average greater than 34 TEQ ng/dscm, uses the MACT rapid wet quench and wet scrubbing APCS. It burns waste oils with high extremely high levels of PCBs (30% by weight). The combustor was operating at good combustion conditions (greater than 2000°F, greater than 2 seconds combustion gas residence time, greater than 99.9999% PCB destruction efficiency). However, the PCBs may lead to the formation of PCDD/PCDF either by themselves or by PICs generated during their combustion acting as formation precursors.

Source 229 uses a waste heat boiler followed by a wet quench and wet scrubbing system. Facilities using waste heat boilers or other types of heat exchangers (for flue gas cooling and/or energy recovery purposes) followed by wet scrubbing systems have been included in the MACT EU. However, it has been hypothesized that boilers and other types of heat exchangers may provide conditions leading to low-temperature catalytic formation (due to particulate hold-up on heat exchanger tubes and slow gas cooling through the catalytic PCDD/PCDF formation temperature region). Waste heat boiler equipped incinerators using wet PM control systems have emissions ranging from 0.4 to 8 TEQ ng/dscm. Additionally, it is noted that wastes spiked with high levels of carbon tetrachloride and hexachlorobenzene were used during the trial burn for source 229; once again, these suspected PCDD/PCDF precursors may also be responsible for the high PCDD/PCDF levels.

Statistical analysis of the MACT EU provides a design level of 20 TEQ ng/dscm with a corresponding standard of 40 TEQ ng/dscm. Note that the floor may also be expressed as primary PM control device temperature control to below 400°F. Additionally, note that over 50% of the conditions in the entire database currently meet a level of 0.2 TEQ ng/dscm.

3.1.2 Cement Kilns

Table 3-2 summarizes all PCDD/PCDF TEQ test condition data from CKs, ranked by condition average. The data are from 27 different CKs. Condition averages range widely from 0.004 to nearly 50 TEQ ng/dscm. All of the control techniques discussed above for incinerators may also be applicable for the control of PCDD/PCDF in CKs. Presently, PCDD/PCDF in CKs is controlled (inadvertently, generally) primarily by limiting PM air pollution control device temperature (to prevent the low-temperature catalytic formation process) and use of particulate matter air pollution control devices (to capture condensed and adsorbed particulate PCDD/PCDF). Carbon injection and flue gas quenching are not used, although some kilns are evaluating the use of flue gas quenching (and reduced PM control device temperature) for controlling PCDD/PCDF. Many factors potentially affect PCDD/PCDF formation in a cement kiln (e.g., formation may occur in the kiln or preheater unit). However, reducing flue gas temperature in the PM control device is one factor shown to have a significant impact on PCDD/PCDF formation (e.g., EPA, 1994; EER, 1995). Additionally, recently testing on a hazardous waste burning cement kiln has shown that PCDD/PCDF is not present at significant levels prior to the APCD (EER, 1995).

The MACT pool contains 3 facilities. The facilities have condition averages less than 0.02 TEQ ng/dscm. MACT for CKs is defined by limiting the primary PM control device (ESP or FF) temperature. Also, although PM control device type and efficiency may be related to PCDD/PCDF control as mentioned above, it is not believed to be of importance compared with APCD temperature. Thus, MACT for CKs is determined by the maximum PM air pollution control device temperature used by sources in the MACT pool. The MACT limit temperature, based on source 207C1, is 418°F.

The MACT expanded universe contains all conditions with PM air pollution control device temperatures below the MACT limit of 418°F. The majority of kilns in the MACT EU are low emitters; all except 1 facility has a condition average below 0.8 TEQ ng/dscm; 75% of the facilities in the MACT EU are below 0.2 ng/dscm. However, one facility with low APCD temperature (source 203C1) is emitting at a much higher level (5 TEQ ng/dscm). Therefore although temperature in general seems to be a good indicator of PCDD/PCDF levels, in some cases the general trend of low PCDD/PCDF with low temperature does not hold.

The statistically derived MACT floor analysis of the MACT EU provides a design level of 4 TEQ ng/dscm, and a standard of 8 TEQ ng/dscm. Additionally, the floor may be expressed as controlling PM APCD flue gas temperature to below 418°F. Note that 75% of the existing sources with PM APCD temperature below 418°F currently achieve emission levels of below 0.2 TEQ ng/dscm.

3.1.3 Light Weight Aggregate Kilns

PCDD/PCDF stack gas emissions measurements were obtained for only one facility (conditions 336C1 and 336C2). The data indicated an average test condition emission level of 0.04 TEQ ng/dscm. Due to the lack of PCDD/PCDF data for LWAKs, and because of certain design and process similarities between LWAKs and cement kilns that may affect PCDD/PCDF emissions, such as high inlet PM grain loading, similar APCDs, and concurrent kiln operation (raw materials fed at the cold end of the kiln) leading to similar kiln temperature profiles (and possibly organics gas content), the PCDD/PCDF data from the LWAKs and cement kilns were pooled to determine floor levels. Therefore, identical PCDD/PCDF MACT floor levels for both LWAKs and cement kilns. The determination of this floor level is discussed above for existing cement kilns in greater detail.

3.2 PARTICULATE MATTER

3.2.1 Incinerators

Table 3-3 summarizes all particulate matter (PM) test condition data from HWIs, ranked by condition average. The data are from 73 different incinerators. Condition averages range widely from 0.00002 to 1.9 gr/dscf. PM is controlled from HWIs with a wide range of techniques; some with a combination of multiple state-of-the-art device such as FF, ESPs, and novel wet scrubbers (e.g., IWS, hydrosonic, etc.). Many of the liquid injection types use only conventional venturi scrubbers. A couple sources use no active add-on APCD, relying instead on waste ash feedrate control.

The MACT pool is comprised of 5 sources (6% of all sources in the database). All MACT pool sources control PM to less than 0.001 gr/dscf on average. MACT is defined by the use of the following PM APCDs:

- FF with air-to-cloth ratio less than 10 acfm/ft^2 (based on source 350C3).

- IWS and VS (based on source 354C1). ESP is considered as equivalent technology.

The MACT EU contains sources with test condition averages up to 0.03 gr/dscf. Conditions not making it into the EU do not have the appropriate MACT PM control technology. Statistical analysis of the MACT EU provided a floor design level of 0.038 gr/dscf, with a corresponding standard level of 0.107 gr/dscf. Almost all facilities would meet this standard. Note that currently, HWIs are subject to a RCRA standard of 0.08 gr/dscf.

3.2.2 Cement Kilns

Table 3-4 summarizes all PM test condition data from CKs, ranked by condition average. The data are from 34 different CKs. Condition averages range widely from 0.001 to 0.21 gr/dscf. Cement kilns typically have a high uncontrolled grain loading (greater than 30 gr/dscf); finely pulverized raw material fed to the kiln is entrained in the flue gas entering the control device. FFs and ESPs are used for PM control. Wet process kilns have traditionally used ESPs; all but one of the wet kilns uses currently uses an ESP. However, there is no technical reason as to why wet kilns can not use fabric filters, as discussed further in Section 5. Dry kilns use both FFs and ESPs.

The MACT pool consists of 3 sources. These sources have emissions levels below 0.003 gr/dscf on average. They all use FFs for PM control with an air-to-cloth ratio of less than 2.3 acfm/ft^2, defining MACT. The MACT EU contains all FF conditions with an air-to-cloth ratio less than 2.3 acfm/ft^2. ESPs are not identified by MACT; however, well designed and operated devices can easily achieve these levels. The MACT EU contains conditions with average levels up to 0.05. Statistical analysis of the EU provides a MACT design level of 0.032 and a MACT standard of 0.065.

New Source Performance Standards for cement manufacturing plants (non-hazardous waste burning kilns) establish a PM standard for new CK sources of 0.3 lbs PM per ton of raw material feed (on a dry basis) to the kiln (40 CFR Part 60.62). This equates approximately to a stack gas concentration level of 0.03 gr/dscf. Because this performance standard is a federally enforceable limit that many CKs are currently subject to (the standards were promulgated in 1971), this 0.03 gr/dscf level standard, not the statistically-derived limit discussed above, is chosen to represent the MACT floor level. This level is achievable by about 60% of the existing hazardous waste burning CKs.

3.2.3 Light Weight Aggregate Kilns

Table 3-5 summarizes all PM test condition data from LWAKs, ranked by condition average. The data are from 12 different LWAKs. Condition averages range from 0.0005 to 0.02 gr/dscf. Like CKs, LWAKs have high grain loading in flue gas. All use FFs for PM control; one uses a FF with a VS.

The MACT pool consists of 3 sources. These sources have emissions levels below 0.006 gr/dscf on average. They all use FFs for PM control with an air-to-cloth ratio of less than 2.8 acfm/ft^2, which defines MACT. The MACT EU contains all FF conditions with an air-to-cloth ratio of less than 2.8 acfm/ft^2. The MACT EU contains conditions with average levels up to 0.02 gr/dscf. Statistical analysis of the EU provides a MACT design level of 0.024 gr/dscf and a corresponding MACT standard of 0.05 gr/dscf.

3.3 MERCURY

3.3.1 Incinerators

Table 3-6 summarizes all mercury test condition data from HWIs, ranked by condition average. The data are from about 29 different HWIs. Condition averages range widely from 0.1 to 1,400 µg/dscm flue gas measurements. Mercury emissions from HWIs are controlled through feedrate control and/or use of air pollution control devices. Carbon injection is used on one facility as discussed above for PCDD/PCDF; however, no performance data for mercury control is available. Wet scrubbers, which have limited capture ability for certain soluble forms of mercury species (primarily mercury salts), are used by almost all HWIs.

The MACT pool is comprised of the top 3 sources. These sources have condition average emissions levels of less than 0.9 µg/dscm. One source uses feedrate control; the others use feedrate control with wet scrubbing. MACT is defined as either feedrate control with an MTEC less than 19 µg/dscm (based on source 341C2), or a wet scrubber with a feedrate control MTEC less than 51 (based on source 221C5).

The MACT EU contains sources with test condition averages up to 48 µg/dscm (source 902C1). This source uses a wet scrubber, but unlike that in the MACT pool, the wet scrubber did not demonstrate mercury control. All but 2 of the conditions in the EU have emissions levels less than 20 µg/dscm. Conditions not making it into the EU had either MTECs higher than the MACT limit (the limit depends on the use of wet scrubbing), or mass balance problems (stack emissions significantly higher than the feedrate MTEC measurements, such as 327C2, indicating that the reported MTEC is in question).

The floor design level is determined to be 57 µg/dscm, with a corresponding standard level of 130 µg/dscm. About 70% of conditions in the entire HWI universe currently meet this design level using feedrate with or without mercury emissions control devices (wet scrubbers).

3.3.2 Cement Kilns

Table 3-7 summarizes all mercury test condition data from CKs, ranked by condition average. The data are from 25 different CKs. Condition averages range widely from 3 to 600 μg/dscm. Note that source 301C1 is shown in the ranking tables having an average emissions level of 3,000 μg/dscm; this was the level that was measured during the trial where a significant amount of mercury was spiked into the waste. Further assessment of this facility has determined that in normal operations, much lower mercury feedrates are used; it is assumed that the facility has a waste feed MTEC of 200 μg/dscm which is typical of the other hazardous waste burning cement kilns, and a total emissions level of 600 μg/dscm when considering mercury from the raw materials and supplemental fossil fuels.

Mercury system removal efficiencies (SREs) (determined as one minus the measured stack gas mass emissions rate of mercury divided by the input system mass emissions rate (MTEC)) in CKs range from 0 to more than 90%. Because mercury is a volatile compound at the typical operating temperature of PM control devices (ESPs and FFs), collection of mercury in these control devices is highly variable. Typically, most of the mercury exists in the kiln system as volatile stack emissions; and only a small fraction partitions to the clinker product or the captured APCD dust (cement kiln dust). Therefore, it is assumed that mercury is not currently being actively controlled in hazardous waste burning CKs by any other means than control of the mercury content in the hazardous waste feed.

As discussed above, due to the variability of system removal performance and expected volatility of mercury, MACT for mercury control in CKs is defined as hazardous waste feedrate control only. The MACT pool is comprised of the top 3 sources. These sources have average emissions levels of less than 8 μg/dscm. MACT is defined as feedrate control with a hazardous waste MTEC less than 108 μg/dscm (based on source 406C1).

The MACT EU contains sources with test condition averages up to 92 μg/dscm (source 208C2). Conditions not making it into the EU have hazardous waste MTECs that are higher than the MACT limit, have mass balance problems (stack emissions significantly higher than the feedrate MTEC measurements, such as 305C3, indicating that the reported MTEC is in question), or were not operating with hazardous waste during the testing period.

The floor design level is determined to be 81 μg/dscm, with a corresponding standard level of 130 μg/dscm. Over 75% of conditions in the entire CK universe currently meet this design level.

3.3.3 Light Weight Aggregate Kilns

Table 3-8 summarizes all mercury test condition data from LWAKs, ranked by condition average. The data are from 10 different LWAKs. Condition averages range widely from 0.4 to 560 μg/dscm. All except one LWAK uses hazardous waste feedrate control; source 307 uses a VS that achieves about 75% mercury control.

Similar to CKs discussed above, the top 3 MACT pool sources utilize hazardous waste feedrate control. These MACT pool sources have condition average emissions levels below 9 µg/dscm. MACT is defined based on feedrate control used by the highest MACT pool source. The MACT feedrate control MTEC level is 17 µg/dscm (based on source 313C1).

The MACT EU contains all conditions with feedrate MTECs less than the MACT defining level of 17 µg/dscm. The highest condition average in the EU is 32 µg/dscm (source 223C1). The MACT floor design is determined to be 36 µg/dscm, while the associated MACT standard is 72 µg/dscm. All facilities except source 307 currently meet this design level.

3.4 SEMI VOLATILE METALS

3.4.1 Incinerators

Table 3-9 summarizes all SVM test condition data from HWIs, ranked by condition average. The data are from 42 different HWIs. Condition averages range widely from 1.5 to almost 30,000 µg/dscm. SVMs (cadmium and lead) are volatile at the typical temperatures within the incinerator chamber, but usually condense onto the fine particulate at the PM APCD temperatures where they are collected. Thus, the control of SVM emissions is related to PM control. Additionally, because of the potential for adsorption for these metals onto the fine PM that is less effectively collected than large particulate, the control efficiency for SVM is lower than that for total PM. SVM in HWIs is controlled with a combination of both feedrate control and PM air pollution control device.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 6 µg/dscm. These sources, defining MACT, use:

- VS with an MTEC of 1.7×10^2 µg/dscm (based on source 500C1). Any PM control device is considered as equivalent technology.
- ESP and WS combination with an MTEC of 5.8×10^3 µg/dscm (based on source 340C1).
- VS and IWS with an MTEC of 4.9×10^4 µg/dscm (based on source 354C1). FFs are considered as equivalent technology.

The MACT EU contains sources with test condition averages up to 100 µg/dscm. The floor design level is determined to be 120 µg/dscm, with a corresponding standard level of 270 µg/dscm. About 65% of conditions in the entire existing source universe currently meet this design level, even though many of these facilities do not use MACT.

3.4.2 Cement Kilns

Table 3-10 summarizes all SVM test condition data from CKs, ranked by condition average. The data are from 34 different CKs. Condition averages range widely from 4 to 6,000 µg/dscm.

SVM behavior and control is in some respects similar to that discussed for incinerators; SVM in CKs is controlled with a combination of both feedrate control and PM air pollution control devices (either FF or ESPs). Additionally, constituents of the cement making process may act to bind up the SVMs in the cement clinker product, providing additional control. Note that SVM system removal efficiencies (SRE) in cement kilns typically range from 99 to 99.9%, with some greater than 99.99%, depending on factors such as feedrate MTEC level, APCD type, and other system operating characteristics such as the use of kiln dust recycling.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 9 µg/dscm. All 3 sources use FFs. MACT is defined as a FF with an air-to-cloth ratio of less than 2.1 acfm/ft^2 and MTEC of less than 8.4x10^4 µg/dscm (based on source 316C1).

The MACT EU contains sources with test condition averages up to 33 µg/dscm (source 303C3). Conditions not making it into the EU either do not use FFs, or use FFs with hazardous waste MTECs that are higher than the MACT limit or air-to-cloth ratios higher than 2.1. The MACT floor design level is determined to be 34 µg/dscm, with a corresponding standard level of 57 µg/dscm. About 35% of conditions in the entire universe currently meet this design level.

3.4.3 Light Weight Aggregate Kilns

Table 3-11 summarizes all SVM test condition data from LWAKs, ranked by condition average. The data are from 10 different LWAKs. Condition averages range widely from 1 to over 1,600 µg/dscm. SVM behavior and control is similar to that discussed above for HWI and CKs. SVM in LWAKs are controlled with a combination of both feedrate control and PM air pollution control device. SVM SREs in LWAKs, as in CKs, range typically from 99 to 99.9%, with some as high as 99.99%.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 4 µg/dscm. All three sources use FFs. MACT is defined as the use of an FF with air-to-cloth ratio less than 1.5 acfm/ft^2 and an MTEC of less than 2.7x10^5 µg/dscm (based on source 225C1) or a combination of FF and VS with the FF at an air-to-cloth ratio less than 4.2 and an MTEC less than 5.4x10^4 (based on source 307C4).

The MACT EU contains sources with test condition averages up to 4 µg/dscm. The MACT floor design level is determined to be 7.4 µg/dscm, with a corresponding standard level of 12 µg/dscm. About 50% of conditions in the entire existing source universe currently meet this design level.

3.5 LOW VOLATILE METALS

3.5.1 Incinerators

Table 3-12 summarizes all LVM test condition data from HWIs, ranked by condition average. The data are from 41 different HWIs. Condition averages range widely from 4 to over 130,000 µg/dscm. LVM are relatively non-volatile at the typical temperatures within the incinerator chamber, thus, the control of LVM emissions is related primarily to PM control; although feedrate is also important. LVM in HWIs are controlled with a combination of both feedrate control and PM air pollution control devices.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 8 µg/dscm. These sources, defining MACT, use:

- VS with an MTEC of $1x10^3$ µg/dscm (based on source 500C1). Any PM control device is considered as equivalent technology.

- IWS with an MTEC of $6.2x10^3$ µg/dscm (based on source 348C1). FF and ESPs are considered as equivalent technology.

The MACT EU contains sources with test condition averages up to 145 µg/dscm (source 221C4). The floor design level is determined to be 110 µg/dscm, with a corresponding standard level of 210 µg/dscm. About 80% of conditions in the entire existing source universe currently meet this design level, even though many of these facilities do not use the MACT floor defining control schemes.

3.5.2 Cement Kilns

Table 3-13 summarizes all LVM test condition data from CKs, ranked by condition average. The data are from 34 different CKs. Condition averages range widely from 4 to 520 µg/dscm. As discussed for HWIs, LVMs are relatively non-volatile at the typical temperature of the kiln. LVM in CKs is controlled with a combination of both feedrate control and PM air pollution control device. Note that LVM SREs in CKs typically are greater 99.95%, with some above 99.99%.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 6 µg/dscm. Two of the sources use FFs, and one uses an ESP. MACT is defined as either a FF with an air-to-cloth ratio of less than 2.3 acfm/ft^2 and a MTEC of less than $1.4x10^5$ µg/dscm (based on sources 320C1 and 316C2, which have a maximum MTEC of $4.4x10^4$) or an ESP with a specific collection area (SCA) greater than 350 ft^2/kacfm with an MTEC less than $1.4x10^5$ µg/dscm (based on source 204C1). Note that the FF with an air-to-cloth ratio of 2.3 is beleived to have equivalent (or better) performance compared with the ESP with an SCA of 350; therefore the higher MTEC associated with the ESP source 204C1 is applied as well to the FF MACT definition.

The MACT EU contains sources with test condition averages up to 60 µg/dscm (319C1). The floor design level is determined to be 67 µg/dscm, with a corresponding standard level of 130 µg/dscm. Over 80% of conditions in the entire existing source universe currently meet this design level.

3.5.3 Light Weight Aggregate Kilns

Table 3-14 summarizes all LVM test condition data from LWAKs, ranked by condition average. The data are from 10 different LWAKs. Condition averages range from 10 to 289 µg/

dscm. LVM behavior and control is similar to that discussed above for HWI and CKs. LVM in LWAKs is controlled with a combination of both feedrate control and PM air pollution control device. SREs for LVM in LWAKs are also, like cement kilns, typically greater than 99.9%, with some above 99.99%.

The MACT pool is comprised of the top 3 sources. These sources have average emissions levels less than 37 μg/dscm. All three sources use FFs. MACT is defined as a FF with air-tocloth ratio less than 1.8 acfm/ft^2 and a MTEC of less than $4.6x10^4$ μg/dscm (based on source 312C1).

The MACT EU contains sources with test condition averages up to 289 μg/dscm. The floor design level is determined to be 230 μg/dscm, with a corresponding standard level of 340 μg/dscm. All of the conditions in the entire existing source universe currently meet this design level.

3.6 TOTAL CHLORINE (HCl + Cl_2)

3.6.1 Incinerators

Table 3-15 summarizes all total chlorine test condition data from HWIs, ranked by condition average. The data are from 59 different sources. Condition averages range widely from 0.1 to 1,000 ppmv. Almost all HWIs use some type of wet scrubbing for the control of chlorine. Wet scrubbing devices include venturi-types, packed towers, spray towers, ionizing wet scrubbers, and free-jet and hydro-sonic scrubbers. A couple use dry or semi-dry scrubbing either by themselves or in combination with wet scrubbing. A couple do not use any add-on chlorine gas control systems, instead relying on chlorine feedrate control.

The top 4 MACT pool sources (6% of the data sources) use wet scrubbers for chlorine control. This includes combinations of venturi and packed bed scrubbing, and hydrosonic scrubbing by itself. These MACT pool sources have condition average emissions levels below 0.3 ppmv. MACT is defined based on feedrate control used by the highest MACT pool source in combination with wet scrubbing. The MACT feedrate control MTEC level is $2.1x10^7$ μg/dscm (based on source 808C2).

The MACT EU contains all conditions with feedrate MTEC less than the MACT defining level of $2.1x10^7$ μg/dscm in conjunction with wet scrubbing. The highest condition average in the expanded universe is at 70 ppmv. The MACT floor design level is determined to be 96 ppmv, while the associated MACT standard is 280 ppmv. About 90% of all test conditions in the entire source category universe meet this design level. Facilities not included in the EU include those not using wet scrubbing, as well as those using wet scrubbing with MTECs above the MACT defining level.

3.6.2 Cement Kilns

Table 3-16 summarizes all total chlorine test condition data from CKs, ranked by condition average. The data are from 33 different CKs. Condition averages range widely from 0.1 to 220 ppmv. No hazardous waste burning CKs currently use a dedicated control device designed specifically to remove chlorine from the flue gas (e.g., wet or dry scrubbers). Most of the chlorine generated during combustion of chlorine-containing hazardous wastes is neutralized by the highly alkaline particulate resulting from the use of limestone in the cement making process. In effect, the kiln itself is a dry scrubbing process. As shown in Table 3-16, chlorine system removal efficiencies in hazardous waste burning CKs ranges from 60 to 99+%, with most greater than 95%.

MACT for chlorine control in CKs is defined by chlorine feedrate control (although in general FF-equipped kilns tend to have increased levels of chlorine control, possibly due to the filter cake build-up of acid gas absorbing entrained cement kiln dust). The top 3 MACT pool sources have condition average emissions levels below 0.7 ppmv. MACT is defined based on the highest feedrate MTEC used by a MACT pool source (source 204C2, with a chlorine MTEC of $1.6x10^6$ µg/dscm).

The MACT EU contains all conditions with feedrate MTEC less than the MACT defining level of $1.6x10^6$ µg/dscm. The highest condition average in the EU is at 220 ppmv, which is also the highest emitting source in the entire source category. The MACT floor design level is determined to be 270 ppmv, while the associated MACT standard is 630 ppmv. All test conditions meet this design level. Facilities not included in the EU include those with MTECs above the MACT defining level.

3.6.3 Light Weight Aggregate Kilns

Table 3-17 summarizes all total chlorine test condition data from LWAKs, ranked by condition average. The data are from 10 different LWAKs. Condition averages range widely from 13 to 2,000 ppmv. One source (307) uses a wet scrubbing VS for the control of chlorine. Dry scrubbing for chlorine control is believed to be used on the Solite Carolina and Florida facilities; however, control efficiency is unclear due to conflicting trial burn results. For all other LWAKs, which use FF alone, feedrate control is the chlorine control method.

The best performing top 3 MACT pool sources use a combination of feedrate control and wet venturi scrubber as well as feedrate control alone for chlorine control. These MACT pool sources have condition average emissions levels below 853 ppmv. MACT is defined as either the use of wet scrubbing with a feedrate control MTEC of $1.4x10^7$ (based on source 307C2) or feedrate control alone with an MTEC level of $1.5x10^6$ µg/dscm (source 314C1).

The MACT EU contains all conditions with feedrate MTEC less than the MACT defining level of $1.5x10^6$ µg/dscm; there are no other facilities in the universe that use wet scrubbing beyond that in the MACT pool. The highest condition average in the expanded universe is 1,347 ppmv. The MACT floor design level is determined to be 1,400 ppmv, while the associated MACT standard is 2,100 ppmv. About 90% of all test conditions meet this design level.

3.7 TRACE ORGANICS SURROGATES

3.7.1 Incinerators

3.7.1.1 Hydrocarbons

Tables 3-18 and 3-19 summarize all HC run average (RA) and HC maximum hourly rolling average (MHRA) test condition data from HWIs, ranked by condition average (also shown in Figures 3-3 and 3-4). The HC (RA) data are from 31 different sources and ranges widely from 0.2 to 36 ppmv. The HC (MHRA) data are from only 3 sources and ranges from 2 to 43 ppmv. HC is controlled from HWIs by maintaining "good combustion design, operating, and maintenance practices" (GCP-D/O/M) which may include providing adequate excess oxygen and fuel and air mixing, blending of wastes and fuels to avoid combustion "spikes", maintenance of high temperature and adequate flue gas residence time at temperature, operation of the facility by qualified operators, periodic maintenance of burners and fuel and supply lines and injection nozzles to the recommended standards, and/or use of combustion gas afterburning.

The best performing sources have HC levels of less than 1 ppmv. MACT for HC is defined as GCP-D/O/M described above. It has not been attempted to quantify the GCP-D/O/M used by these best-performing facilities; even if it was, it may be of limited use in determining the MACT EU without a detailed evaluation of each test condition. Therefore, a quantitative evaluation of the entire universe, combined with engineering judgement on what HC level is reasonably achievable by well operated and designed facilities, is used to determine the floor level.

All source category test conditions are shown in Figures 3-3 and 3-4. A sharp break in the run average plot occurs at source 706C1, having a test condition average level of 6 ppmv. Other conditions to the right of this source on the plot (having higher test condition averages) are considered as not having been operated with GCP-D/O/M. Thus the MACT EU is determined as all test conditions with test averages below that of source 706C1 (all conditions to the left of source 706C1 on the plot). Statistical evaluation of this EU provides a design level of 6.1 ppmv, and a standard of 12 ppmv. Over 95% of HC (RA) existing source conditions in the entire universe meet this level.

Note that the data discussed above may have certain limitations. Unlike CKs and LWAKs, HWIs are not currently required to monitor HC under EPAs regulations. Emissions data were obtained mostly for their own information. It is not clear in many cases if the data were obtained using heated or unheated HC flame ionization detectors (FID). In unheated FIDs, soluble volatiles and semi-volatiles in the stack gas are condensed out before entering the detector; therefore unheated FID HC measurements may be biased low compared with heated FID detectors. Additionally, much of the data is reported as averages over the entire test period, as opposed to the maximum hourly rolling average period that is proposed for the MACT standards. However, the MACT analysis has been conducted noting, but neglecting at this time, these limitations.

3.7.1.2 Carbon Monoxide

Tables 3-20 and 3-21 summarizes CO (RA) and CO (MHRA) test condition data from HWIs. CO (RA) are available from 59 facilities. CO (RA) ranges widely from 0.3 to 10,000 ppmv. CO (MHRA) are available from 17 facilities, and range from 10 to 1,600 ppmv. As discussed above for HC, CO is controlled from incinerators by maintaining good combustion practices including providing adequate excess oxygen and fuel/air mixing, blending of wastes and fuels to avoid combustion "spikes", maintenance of high temperature and adequate flue gas residence time, operation of the facility by qualified operators, periodic maintenance of burners, fuel and supply lines, and injection nozzles to the recommended standards, and/or use of combustion gas afterburning.

The best performing sources have levels below 10 ppmv. As discussed above for HCs, quantifying GCP-D/O/M used by the MACT facilities, and determining if other facilities use this control, is difficult without a detailed evaluation of each test condition. Thus, the MACT floor, again like HC, is based on engineering judgement and levels being achieved by the entire existing source category universe. All CO data, by source test condition and ranked by condition average, is shown in Figure 3-5. A discontinuity occurs at source 351C1, with a condition average of about 50 ppmv; higher emitting conditions to the right of this breakpoint source are not considered to not be using GCP-D/O/M. All conditions to the left of the breakpoint source are considered as part of the expanded universe (those with condition average levels below about 50 ppmv). Based on this EU, a MACT floor design level of 52 ppmv, and a MACT standard of 120 ppmv is determined. About 80% of existing facilities meet this standard.

3.7.2 Cement Kilns

Cement kilns that do not have bypass stack (almost exclusively long kilns) are currently required under the EPA RCRA BIF regulations to:

- Control CO in the main stack to less than 100 ppmv (no limit on HC); or
- Control HC in the main stack to less than 20 ppmv (no limit on CO).

Cement kilns with bypasses (typically preheater and preheater/precalciner arrangements) can monitor the bypass stack to comply with:

- Control of CO in the bypass to less than 100 ppmv (no limit on HC); or
- Control of HC in the bypass to less than 20 ppmv (no limit on CO).

Note that for kilns with bypasses, there is no current regulatory requirement for controlling stack emissions of either CO or HC, therefore there is no associated MACT floor at the stack for either CO or HC.

3.7.2.1 Main Stack

Hydrocarbons — Tables 3-22 and 3-23 summarize HC (RA) and HC (MHRA) stack gas emissions from CKs. HC (MHRA) condition averages range from 5 to 100 ppmv. HC stack gas levels may be due to generation from both the main flame and waste combustion and from low temperature desorption from raw materials as they heat up in the counter-current CK operation. Thus, HCs in the main stack can be controlled through both the use of good combustion practices at the main flame burner and waste combustion locations and use of raw materials that are low in organic content.

The definition of MACT for HC in CKs ideally may include the use of raw materials with low organics content and/or combustion related parameters of the main flame burner and waste combustion locations. However, due to the absence of this type of information, the definition of MACT and screening of the universe to identify the MACT EU was not performed. Instead, the floor is proposed at the current EPA RCRA BIF standard of 20 ppmv. Note that most of the kilns are able to comply with the current BIF standard of 20 ppmv based on the BIF trial burn compliance tests contained in the EPA HWC emissions database. However, the database does contain some facilities with levels above the 20 ppmv standard. This is because under the original BIF rule, a site specific HC limit was allowed where HC emissions could exceed 20 ppmv; under this compliance option it had to be demonstrated that the HC emissions levels were not influenced (increased) by the addition of burning hazardous wastes compared with baseline non-hazardous waste burning HC levels. However, subsequent litigation vacated this option provided in the original BIF rule. Since these BIF trial burn compliance tests, five kilns that were unable to meet the 20 limit have taken steps to reduce their HC emissions below 20 ppmv by either raw material substitution of the problematic feed stream(s) or improved combustion at the hot end.

Carbon Monoxide — It is inappropriate to set a limit on stack gas CO levels for CKs. CO that is present in the flue gas at the main stack may be generated from conditions unrelated to the combustion efficiency of the burning of hazardous wastes and fuel at the hot-end main flame, therefore CO can not be used as an indicator of the combustion efficiency. Instead, CO may be generated from the internal kiln process chemistry involving both limestone calcination which produces high levels of CO_2 which dissociates at high sintering conditions and low temperature evolution from organics in raw material feedstocks. Tables 3-24 and 3-25 summarize CO (RA) and CO (MHRA) levels from hazardous waste burning CKs. CO (MHRA) condition average levels range widely, from 50 to 3,000 ppmv. Only a couple of the facilities were able to certify compliance with the BIF CO standard of 100; instead, they complied with the alternative standard that allowed CO to exceed 100 if the HC was below 20 ppmv.

4.7.2.1 Bypass Stack

Most preheater and preheater/precalciner arrangement cement kilns are equipped with bypass ducts where a portion (typically 5 to 30%) of the kiln exhaust is diverted to a separate air pollution control device, and sometimes, to a separate stack. The gases are diverted to avoid the build-up of alkali metal salts that adversely affect the kiln operation.

Unlike the stack gas, the bypass stack gas HC and CO levels may be representative of kiln combustion efficiency (not affected by raw materials desorption at low temperature and resulting evolution of unburned HC and CO, or CO formation from high temperature calcination process). Tables 3-26 through 3-29 summarize bypass pass data for HC and CO (also shown in Figures 3-6 through 3-9). As like the current EPA RCRA BIF regulation, bypass stack standards are set on both CO and HC; however, also like BIF, compliance can be achieved by meeting either one of the limits. A MACT HC bypass stack floor standard is determined to be 6.7 ppmv with a corresponding design level of 5.1 ppmv (based on a statistical analysis of the MACT EU determined as all sources with condition averages below the "breakpoint" source 316C2, shown in Figure 3-7). A MACT CO bypass stack floor level of 100 ppmv is proposed; this is based on the current BIF standard. All but one kiln can meet the HC level. Half of the kilns can meet the CO level.

3.7.3 Light Weight Aggregate Kilns

3.7.3.1 Hydrocarbons

Tables 3-30 and 3-31 summarize HC (RA) and HC (MHRA) emissions from LWAKs. HC (MHRA) levels range from 3 to 13 ppmv (also shown in Figures 3-10 and 3-11. The BIF rule limits HC levels to 20 ppmv when CO exceeds 100 ppmv. HCs are controlled from LWAKs, exactly like that discussed for CKs, by maintaining combustion efficiency (good combustion practices) at the main flame burner and utilizing raw materials low in organics content. The best performing sources use good combustion practices to control HC. However, like incinerators and CKs, MACT has not been quantitatively defined. Based on an evaluation of the entire set of HC (MHRA) data, a breakpoint at source 312C1 with a condition average of 6 ppmv is determined; sources with higher condition averages are not considered to use MACT. Based on the statistical evaluation of the MACT EU (consisting of all conditions with averages less than 6 ppmv), a MACT floor design level of 6.4 ppmv and a MACT standard of 14 ppmv is determined. All but one LWAK facility currently meets this standard. It is not clear if the elevated HC levels are caused by operating under poor combustion conditions or from high levels of organics from the raw materials.

3.7.3.2 Carbon Monoxide

Tables 3-32 and 3-33 summarizes CO (RA) and CO (MHRA) emissions from LWAKs. CO (MHRA) levels range from 3 to 1,300 ppmv (also shown in Figures 3-12 and 3-13. The BIF rule currently limits the emissions of CO from LWAKs to 100 ppmv; however, the BIF rule provides an alternative standard that allow higher CO levels if HC levels are less than 20 ppmv. CO in LWAKs is controlled by maintaining good combustion conditions at the main flame burner and waste burning locations. The best performing sources control CO by maintaining good combustion conditions; however, like discussed for incinerators, MACT has not been quantitatively defined. Evaluation of the plot of all CO (MHRA) data in Figure 3-13 shows a curve discontinuity at a source test condition average of about 120 ppmv (source 310C1). All source conditions with levels above 120 ppmv are not considered to be using MACT (only one source test condition). Statistical analysis of the resulting MACT EU provided a MACT floor design level of 120 and a MACT standard of 270 ppmv. All except one of existing sources can meet this level.

3.8 SUMMARY OF EXISTING SOURCE FLOOR LEVELS

The MACT floor design and standard levels based on the statistical analysis of the MACT EU for existing sources are summarized in Table 3-34. Note that these levels have not been selected in all cases as being representative of the MACT floor. See the preamble of this rule for a discussion of the proposed MACT floor levels.

3.9 PLOTS OF ENTIRE UNIVERSE AND MACT EXPANDED UNIVERSES

Plots of the entire universes for each HAP and source category combination, as well as plots of the 6% MACT floor expanded universes, are shown in Appendix F, ranked by condition average. These plots are graphical presentations of the Tables in this section.

TABLE 3-1. PCDD/PCDF TEQ, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	INC	347C2	C/QC/VS/S/DM	w	163	0.00	0.00	0.00	MACT source (wet APCS)
D/F TEQ	INC	347C1	C/QC/VS/S/DM	w	163	0.01	0.01	0.00	Source already in MACT pool
D/F TEQ	INC	902C1	QT/VS/PT	w		0.01	0.01	0.01	MACT source (wet APCS)
D/F TEQ	INC	354C2	QC/AS/VS/DM/IWS	w		0.01	0.02	0.01	MACT source (wet APCS)
D/F TEQ	INC	706C3	QT/HS/C	w		0.01	0.01	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	222C8	WHB/SD/ESP/Q/PBS	w/d		0.02	0.02	0.01	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	502C1	WHB/QC/PBC/VS/ES	w		0.02	0.02	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	222C9	WHB/SD/ESP/Q/PBS	w/d		0.02	0.06	0.01	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	347C3	C/QC/VS/S/DM	w	164	0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	706C2	QT/HS/C	w		0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	500C1	QC/VS/KOV/DM	w	192	0.03	0.03	0.03	In: MACT EU (wet APCS)
D/F TEQ	INC	222C7	WHB/SD/ESP/Q/PBS	w/d	383	0.03	0.04	0.02	In: MACT EU (dry w/ ACI)
D/F TEQ	INC	347C4	C/QC/VS/S/DM	w	161	0.04	0.04	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	500C3	QC/VS/KOV/DM	w	191	0.04	0.05	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	331C1	PT/IWS	w		0.06	0.11	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	222C5	WHB/SD/ESP/Q/PBS	w/d	383	0.07	0.10	0.04	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	222C6	WHB/SD/ESP/Q/PBS	w/d	359	0.07	0.08	0.06	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	214C1	IWS	w	105	0.10	0.19	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	221C4	SS/PT/VS	w		0.10	0.10	0.10	In: MACT EU (wet APCS)
D/F TEQ	INC	346C1	C/QC/VS/PT/DM	w	178	0.13	0.14	0.11	In: MACT EU (wet APCS)
D/F TEQ	INC	808C1	QT/PBS/ESP	w		0.15	0.18	0.13	In: MACT EU (wet APCS)
D/F TEQ	INC	1001C1	?	?		0.16	0.28	0.07	Out: Unknown APCS
D/F TEQ	INC	725C1	WS/QT	w		0.17	0.25	0.06	In: MACT EU (wet APCS)
D/F TEQ	INC	353C2	QC/VS/DM/ESP	w		0.17	0.27	0.12	In: MACT EU (wet APCS)
D/F TEQ	INC	221C2	SS/PT/VS	w		0.20	0.20	0.20	In: MACT EU (wet APCS)
D/F TEQ	INC	222C4	WHB/SD/ESP/Q/PBS	w/d	381	0.22	0.45	0.15	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	915C2	QC/VS/C	w		0.24	0.32	0.18	In: MACT EU (wet APCS)
D/F TEQ	INC	807C3	C/WHB/VQ/PT/HS/DM	w		0.25	0.35	0.19	In: MACT EU (wet APCS)
D/F TEQ	INC	221C1	SS/PT/VS	w		0.39	0.39	0.39	In: MACT EU (wet APCS)
D/F TEQ	INC	807C2	C/WHB/VQ/PT/HS/DM	w		0.40	0.60	0.16	In: MACT EU (wet APCS)
D/F TEQ	INC	807C1	C/WHB/VQ/PT/HS/DM	w		0.56	0.99	0.28	In: MACT EU (wet APCS)
D/F TEQ	INC	221C3	SS/PT/VS	w		0.63	0.63	0.63	In: MACT EU (wet APCS)
D/F TEQ	INC	915C3	QC/VS/C	w		0.68	0.84	0.57	In: MACT EU (wet APCS)
D/F TEQ	INC	334C1	WS/ESP/PT	w		0.69	1.23	0.34	In: MACT EU (wet APCS)
D/F TEQ	INC	327C4	SD/FF/WS/ESP	w/d	400	0.76	0.95	0.57	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	221C5	SS/PT/VS	w		0.78	0.78	0.78	In: MACT EU (wet APCS)
D/F TEQ	INC	222C2	WHB/SD/ESP/Q/PBS	w/d	384	1.21	1.70	0.82	In: MACT EU (dry APCS < 400°F)

TABLE 3-1. PCDD/PCDF TEQ, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm)			Comments
						Avg	Max	Min	
D/F TEQ	INC	327C5	SD/FF/WS/ESP	w/d	460	1.31	2.00	0.90	Out: Not MACT
D/F TEQ	INC	325C9	SD/FF/WS/IWS	w/d	430	2.02	2.30	1.75	Out: Not MACT
D/F TEQ	INC	325A2	SD/FF/WS/IWS	w/d	460	2.13	2.20	2.00	Out: Not MACT
D/F TEQ	INC	222C3	WHB/SD/ESP/Q/PBS	w/d	379	2.22	2.62	1.50	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	325C8	SD/FF/WS/IWS	w/d	460	2.26	2.43	2.16	Out: Not MACT
D/F TEQ	INC	325A1	SD/FF/WS/IWS	w/d	460	2.37	2.50	2.30	Out: Not MACT
D/F TEQ	INC	334C2	WS/ESP/PT	w		3.48	4.53	2.97	In: MACT EU (wet APCS)
D/F TEQ	INC	222C1	WHB/SD/ESP/Q/PBS	w/d	411	3.61	4.86	1.88	Out: Not MACT
D/F TEQ	INC	914C1	?	?		4.39	4.39	4.39	Out: Unknown ACPS
D/F TEQ	INC	229C1	WHB/ACS/HCS/CS	w	500	4.51	11.18	1.05	In: MACT EU (wet APCS)
D/F TEQ	INC	229C2	WHB/ACS/HCS/CS	w	500	8.02	11.19	3.14	In: MACT EU (wet APCS)
D/F TEQ	INC	327C3	SD/FF/WS/ESP	w/d	457	8.50	10.90	7.15	Out: Not MACT
D/F TEQ	INC	327C2	SD/FF/WS/ESP	w/d	450	18.36	22.86	13.34	Out: Not MACT
D/F TEQ	INC	327C1	SD/FF/WS/ESP	w/d	450	20.10	27.50	10.99	Out: Not MACT
D/F TEQ	INC	330C1	QT/WS/DM	w		33.47	76.46	9.45	In: MACT EU (wet APCS)
D/F TEQ	INC	330C2	QT/WS/DM	w		38.54	73.22	3.85	In: MACT EU (wet APCS)

TABLE 3-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	CK	208C1	ESP	d	409	0.00	0.01	0.00	MACT source (409°F)
D/F TEQ	CK	207C1	MC/ESP	d	418	0.02	0.02	0.02	MACT source (418°F)
D/F TEQ	CK	205C3	ESP	d	470	0.02	0.03	0.02	Out: HW not burned
D/F TEQ	CK	315C2	FF	d	403	0.02	0.02	0.02	MACT source (403°F)
D/F TEQ	LWAK	336C2	FF	d	400	0.04	0.04	0.04	In: MACT EU
D/F TEQ	CK	401C4	ESP	d	296	0.04	0.05	0.03	In: MACT EU
D/F TEQ	CK	315C1	FF	d	341	0.04	0.04	0.04	In: MACT EU
D/F TEQ	CK	402C3	ESP	d	276	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	206C4	ESP	d	530	0.04	0.06	0.03	Out: HW not burned
D/F TEQ	LWAK	336C1	FF	d	400	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	401C3	ESP	d	379	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	316C2	FF	d	492	0.05	0.07	0.03	Out: High APCD temperature
D/F TEQ	CK	401C5	ESP	d	365	0.05	0.06	0.03	In: MACT EU
D/F TEQ	CK	322C53	ESP	d	374	0.05	0.05	0.05	In: MACT EU
D/F TEQ	CK	323C52	ESP	d	351	0.05	0.05	0.05	Out: HW not burned
D/F TEQ	CK	306C1	MC/FF	d	547	0.05	0.06	0.05	Out: High APCD temperature
D/F TEQ	CK	319C52	ESP	d	497	0.06	0.09	0.04	Out: High APCD temperature
D/F TEQ	CK	323C50	ESP	d	360	0.07	0.17	0.04	In: MACT EU
D/F TEQ	CK	322C54	ESP	d	455	0.09	0.09	0.08	Out: HW not burned
D/F TEQ	CK	320C1	FF	d	484	0.09	0.13	0.05	Out: High APCD temperature
D/F TEQ	CK	228C4	ESP	d	381	0.12	0.21	0.07	In: MACT EU
D/F TEQ	CK	319C51	ESP	d	568	0.13	0.20	0.05	Out: High APCD temperature
D/F TEQ	CK	402C4	ESP	d	350	0.13	0.15	0.11	In: MACT EU
D/F TEQ	CK	304C3	ESP	d	417	0.14	0.18	0.09	Out: HW not burned
D/F TEQ	CK	319C9	ESP	d	426	0.16	0.20	0.11	Out: High APCD temperature
D/F TEQ	CK	405C1	ESP	d	256	0.17	0.28	0.10	In: MACT EU
D/F TEQ	CK	205C4	ESP	d	470	0.20	0.37	0.05	Out: High APCD temperature
D/F TEQ	CK	319B1	ESP	d	462	0.34	0.48	0.24	Out: High APCD temperature
D/F TEQ	CK	228C3	ESP	d	459	0.37	0.57	0.21	Out: High APCD temperature
D/F TEQ	CK	322C52	ESP	d	415	0.45	0.45	0.45	In: MACT EU
D/F TEQ	CK	204C2	ESP	d	597	0.47	0.75	0.28	Out: High APCD temperature
D/F TEQ	CK	406C1	ESP	d	352	0.50	0.95	0.30	In: MACT EU
D/F TEQ	CK	316C1	FF	d	507	0.58	1.54	0.09	Out: High APCD temperature
D/F TEQ	CK	335C50	ESP	d	400	0.59	0.62	0.56	In: MACT EU
D/F TEQ	CK	319C54	ESP	d	518	0.60	0.61	0.60	Out: HW not burned
D/F TEQ	CK	319C53	ESP	d	499	0.62	1.11	0.32	Out: High APCD temperature
D/F TEQ	CK	323C51	ESP	d	400	0.79	0.91	0.67	In: MACT EU

TABLE 3-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	CK	319C50	ESP	d	562	0.95	1.07	0.77	Out: High APCD temperature
D/F TEQ	CK	322C51	ESP	d	460	1.00	1.00	1.00	Out: High APCD temperature
D/F TEQ	CK	404C1	ESP	d	498	1.02	1.55	0.60	Out: High APCD temperature
D/F TEQ	CK	402C1	ESP	d	433	1.02	1.39	0.64	Out: High APCD temperature
D/F TEQ	CK	204C3	ESP	d	596	1.10	1.79	0.75	Out: HW not burned
D/F TEQ	CK	319C5	ESP	d	443	1.12	1.12	1.12	Out: High APCD temperature
D/F TEQ	CK	317C2	FF	d	505	1.13	1.16	1.06	Out: High APCD temperature
D/F TEQ	CK	317C3	FF	d	500	1.32	1.32	1.32	Out: High APCD temperature
D/F TEQ	CK	401C1	ESP	d	436	1.76	3.84	0.35	Out: High APCD temperature
D/F TEQ	CK	206C3	ESP	d	563	1.97	2.51	1.40	Out: High APCD temperature
D/F TEQ	CK	304C1	ESP	d	527	3.62	4.23	3.18	Out: High APCD temperature
D/F TEQ	CK	322C1	ESP	d	537	3.72	5.90	2.59	Out: High APCD temperature
D/F TEQ	CK	403C1	ESP	d	493	3.82	12.64	0.50	Out: High APCD temperature
D/F TEQ	CK	203C1	ESP	d	383	5.06	7.64	1.95	In: MACT EU
D/F TEQ	CK	323C1	ESP	d	490	5.18	9.39	2.56	Out: High APCD temperature
D/F TEQ	CK	322C50	ESP	d	500	5.60	8.37	3.64	Out: High APCD temperature
D/F TEQ	CK	319C7	ESP	d	474	5.79	5.79	5.79	Out: High APCD temperature
D/F TEQ	CK	319C6	ESP	d	527	7.54	9.35	5.74	Out: High APCD temperature
D/F TEQ	CK	300C2	ESP	d	608	10.97	13.20	6.63	Out: High APCD temperature
D/F TEQ	CK	319C2	ESP	d	593	19.71	25.83	14.70	Out: High APCD temperature
D/F TEQ	CK	335C1	ESP	d	718	32.42	50.52	21.82	Out: High APCD temperature
D/F TEQ	CK	305C3	ESP	d	741	49.46	62.26	29.67	Out: High APCD temperature
D/F TEQ	CK	309C1	MC/ESP	d	641	49.86	57.34	40.14	Out: High APCD temperature

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	500C4	QC/VS/KOV/DM		0.0000	0.0000	0.0000	Out: Source category outlier
PM	INC	337C1	WHB/DA/DI/FF		0.0003	0.0005	0.0002	MACT source (FF, A/C=3.8)
PM	INC	354C1	QC/AS/VS/DM/IWS		0.0005	0.0012	0.0001	MACT source (VS/IWS)
PM	INC	350C2	WHB/HE/FF		0.0005	0.0007	0.0004	Source already in MACT pool
PM	INC	347C4	C/QC/VS/S/DM		0.0006	0.0006	0.0006	Out: HW not burned
PM	INC	350C6	WHB/HE/FF		0.0006	0.0007	0.0005	Source already in MACT pool
PM	INC	209C2	WHB/FF/VQ/PT/DM		0.0007	0.0008	0.0005	Source already in MACT pool
PM	INC	350C3	WHB/HE/FF		0.0007	0.0015	0.0002	MACT source (FF, A/C=10.0)
PM	INC	350C9	WHB/HE/FF		0.0007	0.0013	0.0000	Source already in MACT pool
PM	INC	350C5	WHB/HE/FF		0.0008	0.0009	0.0007	Source already in MACT pool
PM	INC	350C4	WHB/HE/FF		0.0008	0.0012	0.0006	Source already in MACT pool
PM	INC	209C1	WHB/FF/VQ/PT/DM		0.0009	0.0016	0.0005	MACT source (FF, A/C=3.0)
PM	INC	354C2	QC/AS/VS/DM/IWS		0.0009	0.0018	0.0004	Source already in MACT pool
PM	INC	327C3	SD/FF/WS/ESP		0.0009	0.0015	0.0003	MACT source (FF, A/C=1.7)
PM	INC	350C8	WHB/HE/FF		0.0009	0.0012	0.0007	In: MACT EU (FF, A/C=8.6)
PM	INC	349C3	QC/FF/QC/PT		0.0010	0.0015	0.0008	In: MACT EU (FF, A/C=3.0)
PM	INC	338C2	QC/FF/SS/C/HES/DM		0.0011	0.0017	0.0005	In: MACT EU (FF, A/C=?)
PM	INC	349C2	QC/FF/QC/PT		0.0012	0.0017	0.0008	In: MACT EU (FF, A/C=2.9)
PM	INC	500C3	QC/VS/KOV/DM		0.0012	0.0020	0.0008	Out: Not MACT
PM	INC	349C4	QC/FF/QC/PT		0.0012	0.0022	0.0005	In: MACT EU (FF, A/C=2.4)
PM	INC	346C1	C/QC/VS/PT/DM		0.0013	0.0020	0.0005	Out: Not MACT
PM	INC	222C5	WHB/SD/ESP/Q/PBS		0.0013	0.0028	0.0008	In: MACT EU
PM	INC	341C2	DA/DI/FF/HEPA/CA		0.0013	0.0021	0.0006	In: MACT EU (FF/HEPA)
PM	INC	726C2	QC/CS/DM/VS		0.0013	0.0020	0.0010	Out: Not MACT
PM	INC	338C1	QC/FF/SS/C/HES/DM		0.0014	0.0020	0.0008	In: MACT EU (FF, A/C=?)
PM	INC	354C3	QC/AS/VS/DM/IWS		0.0014	0.0017	0.0011	In: MACT EU (VS/IWS)
PM	INC	333C2	SD/FF		0.0014	0.0027	0.0005	In: MACT EU (FF, A/C=9.9)
PM	INC	344C1	QC/VS/PT/DM		0.0014	0.0020	0.0007	Out: Not MACT
PM	INC	209C7	WHB/FF/VQ/PT/DM		0.0015	0.0021	0.0008	In: MACT EU (FF, A/C=2.9)
PM	INC	350C1	WHB/HE/FF		0.0016	0.0025	0.0010	In: MACT EU (FF, A/C=9.2)
PM	INC	222C6	WHB/SD/ESP/Q/PBS		0.0016	0.0018	0.0015	Out: Not MACT
PM	INC	327C2	SD/FF/WS/ESP		0.0016	0.0027	0.0010	In: MACT EU (FF, A/C=1.6)
PM	INC	325C6	SD/FF/WS/IWS		0.0017	0.0020	0.0010	In: MACT EU (FF, A/C=3.8)
PM	INC	348C1	QC/AS/IWS		0.0017	0.0032	0.0009	Out: Not MACT

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	344C2	QC/VS/PT/DM		0.0017	0.0018	0.0016	Out: Not MACT
PM	INC	327C1	SD/FF/WS/ESP		0.0017	0.0025	0.0009	In: MACT EU (FF, A/C=1.7)
PM	INC	500C1	QC/VS/KOV/DM		0.0019	0.0028	0.0012	Out: Not MACT
PM	INC	222C3	WHB/SD/ESP/Q/PBS		0.0019	0.0028	0.0010	In: MACT EU
PM	INC	333C1	SD/FF		0.0019	0.0046	0.0004	In: MACT EU (FF, A/C=9.7)
PM	INC	703C2	WHB		0.0020	0.0030	0.0010	Out: Not MACT
PM	INC	347C2	C/QC/VS/S/DM		0.0026	0.0026	0.0026	Out: HW not burned
PM	INC	222C2	WHB/SD/ESP/Q/PBS		0.0026	0.0034	0.0018	In: MACT EU
PM	INC	209C4	WHB/FF/VQ/PT/DM		0.0026	0.0039	0.0001	In: MACT EU (FF, A/C=2.0)
PM	INC	341C1	DA/DI/FF/HEPA/CA		0.0026	0.0050	0.0010	In: MACT EU (FF, A/C=?)
PM	INC	222C1	WHB/SD/ESP/Q/PBS		0.0027	0.0035	0.0017	In: MACT EU
PM	INC	339C1	AT/PT/RJS/ESP		0.0028	0.0033	0.0021	In: MACT EU
PM	INC	359C4	WHB/FF/S		0.0030	0.0034	0.0027	In: MACT EU (FF, A/C=7.6)
PM	INC	714C4	WS		0.0033	0.0040	0.0030	Out: Not MACT
PM	INC	904C2	?		0.0033	0.0041	0.0029	Out: Unknown APCS
PM	INC	222C7	WHB/SD/ESP/Q/PBS		0.0035	0.0060	0.0024	In: MACT EU
PM	INC	703C1	WHB		0.0037	0.0040	0.0030	Out: Not MACT
PM	INC	726C1	QC/CS/DM/VS		0.0037	0.0040	0.0030	Out: Not MACT
PM	INC	325C4	SD/FF/WS/IWS		0.0037	0.0050	0.0030	In: MACT EU (FF, A/C=3.8)
PM	INC	325C5	SD/FF/WS/IWS		0.0037	0.0040	0.0030	In: MACT EU (FF, A/C=3.8)
PM	INC	342C1	WHB/QC/S/VS/DM		0.0038	0.0056	0.0022	Out: Not MACT
PM	INC	500C2	QC/VS/KOV/DM		0.0038	0.0054	0.0017	Out: Not MACT
PM	INC	914C1	?		0.0041	0.0042	0.0038	Out: Unknown APCS
PM	INC	351C2	GC/C/FF		0.0045	0.0048	0.0039	In: MACT EU (FF, A/C=2.8)
PM	INC	209C8	WHB/FF/VQ/PT/DM		0.0046	0.0077	0.0027	In: MACT EU (FF, A/C=2.9)
PM	INC	600C2	WHB/QC/PT/IWS		0.0047	0.0060	0.0040	Out: Not MACT
PM	INC	325C7	SD/FF/WS/IWS		0.0047	0.0060	0.0040	In: MACT EU (FF, A/C=3.8)
PM	INC	349C1	QC/FF/QC/PT		0.0048	0.0064	0.0032	In: MACT EU (FF, A/C=3.1)
PM	INC	340C2	WHB/ESP/WS		0.0051	0.0068	0.0040	In: MACT EU
PM	INC	351C1	GC/C/FF		0.0054	0.0071	0.0045	In: MACT EU (FF, A/C=2.4)
PM	INC	714C3	WS		0.0057	0.0060	0.0050	Out: Not MACT
PM	INC	400C1	SD/FF		0.0062	0.0080	0.0048	In: MACT EU (FF, A/C=3.8)
PM	INC	824C1	QT/VS/PT/DM		0.0063	0.0068	0.0056	Out: Not MACT
PM	INC	209C5	WHB/FF/VQ/PT/DM		0.0068	0.0092	0.0037	In: MACT EU (FF, A/C=2.9)

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	Comments
PM	INC	210C2	FF/S		0.0068	0.0125	0.0027	In: MACT EU (FF, A/C=2.5)
PM	INC	340C1	WHB/ESP/WS		0.0074	0.0087	0.0051	In: MACT EU
PM	INC	209C3	WHB/FF/VQ/PT/DM		0.0081	0.0122	0.0033	In: MACT EU (FF, A/C=2.9)
PM	INC	331C1	PT/IWS		0.0083	0.0100	0.0070	Out: Not MACT
PM	INC	353C1	QC/VS/DM/ESP		0.0084	0.0114	0.0052	In: MACT EU
PM	INC	210C1	FF/S		0.0084	0.0184	0.0018	In: MACT EU (FF, A/C=3.4)
PM	INC	211C1	FF/S		0.0085	0.0114	0.0038	In: MACT EU (FF, A/C=4.1)
PM	INC	359C5	WHB/FF/S		0.0089	0.0127	0.0055	In: MACT EU (FF, A/C=7.1)
PM	INC	714C2	WS		0.0093	0.0110	0.0080	Out: Not MACT
PM	INC	727C1	GC/C/FF		0.0103	0.0120	0.0090	In: MACT EU (FF, A/C=2.2)
PM	INC	600C1	WHB/QC/PT/IWS		0.0103	0.0120	0.0080	Out: Not MACT
PM	INC	229C1	WHB/ACS/HCS/CS		0.0104	0.0117	0.0092	Out: Not MACT
PM	INC	808C2	QT/PBS/ESP		0.0109	0.0178	0.0067	In: MACT EU
PM	INC	209C6	WHB/FF/VQ/PT/DM		0.0109	0.0171	0.0050	In: MACT EU (FF, A/C=2.8)
PM	INC	347C3	C/QC/VS/S/DM		0.0110	0.0152	0.0044	Out: Not MACT
PM	INC	353C2	QC/VS/DM/ESP		0.0111	0.0133	0.0096	In: MACT EU
PM	INC	347C1	C/QC/VS/S/DM		0.0116	0.0135	0.0080	Out: Not MACT
PM	INC	351C3	GC/C/FF		0.0121	0.0152	0.0084	In: MACT EU (FF, A/C=2.5)
PM	INC	229C2	WHB/ACS/HCS/CS		0.0123	0.0126	0.0121	Out: Not MACT
PM	INC	221C5	SS/PT/VS		0.0125	0.0131	0.0122	Out: Not MACT
PM	INC	350C7	WHB/HE/FF		0.0127	0.0138	0.0119	Out: APCS bypassed
PM	INC	904C1	?		0.0130	0.0153	0.0108	Out: Unknown APCS
PM	INC	221C3	SS/PT/VS		0.0131	0.0193	0.0032	Out: Not MACT
PM	INC	324C3	?		0.0135	0.0375	0.0043	Out: Unknown APCS
PM	INC	351C4	GC/C/FF		0.0138	0.0153	0.0126	In: MACT EU (FF, A/C=3.3)
PM	INC	708C3	WS/ESP		0.0141	0.0173	0.0122	In: MACT EU
PM	INC	359C1	WHB/FF/S		0.0141	0.0355	0.0056	In: MACT EU (FF, A/C=5.5)
PM	INC	221C1	SS/PT/VS		0.0142	0.0160	0.0116	Out: Not MACT
PM	INC	221C2	SS/PT/VS		0.0147	0.0177	0.0126	Out: Not MACT
PM	INC	221C4	SS/PT/VS		0.0147	0.0205	0.0105	Out: Not MACT
PM	INC	707C3	QT/WS		0.0149	0.0198	0.0097	Out: Not MACT
PM	INC	704C1	NONE		0.0153	0.0200	0.0110	Out: Not MACT
PM	INC	708C1	WS/ESP		0.0158	0.0182	0.0122	In: MACT EU
PM	INC	904C3	?		0.0164	0.0282	0.0103	Out: Unknown APCS

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Syst Type		EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	Comments
PM	INC	710C1	QT/OS/C/S		0.0168	0.0177	0.0150	Out: Not MACT
PM	INC	214C1	IWS		0.0172	0.0241	0.0086	Out: Not MACT
PM	INC	229C3	WHB/ACS/HCS/CS		0.0175	0.0200	0.0149	Out: Not MACT
PM	INC	229C4	WHB/ACS/HCS/CS		0.0175	0.0193	0.0157	Out: Not MACT
PM	INC	324C1	?		0.0177	0.0712	0.0041	Out: Unknown APCS
PM	INC	214C3	IWS		0.0190	0.0203	0.0178	Out: Not MACT
PM	INC	359C2	WHB/FF/S		0.0193	0.0435	0.0061	In: MACT EU (FF, A/C=5.7)
PM	INC	216C7	HES/WS		0.0203	0.0286	0.0162	Out: Not MACT
PM	INC	504C1	VS/C		0.0209	0.0392	0.0126	Out: Not MACT
PM	INC	710C2	QT/OS/C/S		0.0214	0.0222	0.0207	Out: Not MACT
PM	INC	902C1	QT/VS/PT		0.0214	0.0238	0.0194	Out: Not MACT
PM	INC	725C1	WS/QT		0.0215	0.0288	0.0159	Out: Not MACT
PM	INC	711C1	C/VS/AS		0.0217	0.0290	0.0180	Out: Not MACT
PM	INC	704C2	NONE		0.0220	0.0280	0.0140	Out: Not MACT
PM	INC	712C2	NONE		0.0221	0.0267	0.0197	Out: Not MACT
PM	INC	807C2	C/WHB/VQ/PT/HS/DM		0.0222	0.0261	0.0195	Out: Not MACT
PM	INC	702A3	QT/S/C		0.0223	0.0230	0.0210	Out: Not MACT
PM	INC	212C1	FF/S		0.0224	0.0236	0.0200	In: MACT EU (FF, A/C=4.1)
PM	INC	330C1	QT/WS/DM		0.0227	0.0261	0.0159	Out: Not MACT
PM	INC	324C2	?		0.0233	0.0712	0.0047	Out: Unknown APCS
PM	INC	915C3	QC/VS/C		0.0237	0.0370	0.0150	Out: Not MACT
PM	INC	357C1	QC/VS/PT/IWS		0.0249	0.0327	0.0177	In: MACT EU (VS/IWS)
PM	INC	229C6	WHB/ACS/HCS/CS		0.0255	0.0258	0.0252	Out: Not MACT
PM	INC	354C4	QC/AS/VS/DM/IWS		0.0255	0.0366	0.0167	In: MACT EU (VS/IWS)
PM	INC	358C2	QC/VS/C/CT/S/DM		0.0260	0.0288	0.0245	Out: Not MACT
PM	INC	701C2	VS/PT		0.0261	0.0272	0.0243	Out: Not MACT
PM	INC	359C3	WHB/FF/S		0.0264	0.0663	0.0058	In: MACT EU (FF, A/C=5.7)
PM	INC	358C4	QC/VS/C/CT/S/DM		0.0268	0.0273	0.0262	Out: Not MACT
PM	INC	216C6	HES/WS		0.0268	0.0335	0.0218	Out: Not MACT
PM	INC	808C1	QT/PBS/ESP		0.0273	0.0597	0.0089	In: MACT EU
PM	INC	503C1	HTHE/ LTHE/ FF		0.0277	0.0320	0.0250	In: MACT EU (FF, A/C=5.5)
PM	INC	214C2	IWS		0.0277	0.0338	0.0171	Out: Not MACT
PM	INC	216C1	HES/WS		0.0277	0.0295	0.0263	Out: Not MACT
PM	INC	807C3	C/WHB/VQ/PT/HS/DM		0.0279	0.0395	0.0219	Out: Not MACT
PM	INC	706C3	QT/HS/C		0.0284	0.0337	0.0253	Out: Not MACT

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Syst Type	EPA	Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	Comments
PM	INC	706C3	QT/HS/C		0.0284	0.0337	0.0253	Out: Not MACT
PM	INC	707C7	QT/WS		0.0285	0.0300	0.0259	Out: Not MACT
PM	INC	503C2	HTHE/ LTHE/ FF		0.0287	0.0350	0.0240	In: MACT EU (FF, A/C=5.2)
PM	INC	324C4	?		0.0290	0.1152	0.0048	Out: > 0.08 gr/dscf, Unknown APCS
PM	INC	700C2	SD/RJS/VS/WS		0.0301	0.0334	0.0283	Out: Not MACT
PM	INC	806C2	C/VS		0.0307	0.0314	0.0301	Out: Not MACT
PM	INC	329C1	PT/IWS		0.0311	0.0368	0.0267	Out: Not MACT
PM	INC	229C5	WHB/ACS/HCS/CS		0.0313	0.0350	0.0275	Out: Not MACT
PM	INC	711C2	C/VS/AS		0.0313	0.0490	0.0220	Out: Not MACT
PM	INC	356C1	QC/AS/FN/S/DM		0.0323	0.0350	0.0310	Out: Not MACT
PM	INC	707A2	QT/WS		0.0327	0.0381	0.0280	Out: Not MACT
PM	INC	358C1	QC/VS/C/CT/S/DM		0.0330	0.0361	0.0305	Out: Not MACT
PM	INC	216C5	HES/WS		0.0331	0.0408	0.0265	Out: Not MACT
PM	INC	701C1	VS/PT		0.0332	0.0384	0.0283	Out: Not MACT
PM	INC	707C2	QT/WS		0.0337	0.0358	0.0303	Out: Not MACT
PM	INC	807C1	C/WHB/VQ/PT/HS/DM		0.0340	0.0492	0.0221	Out: Not MACT
PM	INC	714C5	WS		0.0347	0.0400	0.0280	Out: Not MACT
PM	INC	502C1	WHB/QC/PBC/VS/ES		0.0360	0.0400	0.0330	Out: Not MACT
PM	INC	906C5	QT/PT		0.0360	0.0430	0.0290	Out: Not MACT
PM	INC	707C4	QT/WS		0.0367	0.0378	0.0361	Out: Not MACT
PM	INC	784C1	NONE		0.0370	0.0390	0.0340	Out: Not MACT
PM	INC	712C1	NONE		0.0377	0.0667	0.0228	Out: Not MACT
PM	INC	706C1	QT/HS/C		0.0379	0.0404	0.0344	Out: Not MACT
PM	INC	714C1	WS		0.0380	0.0440	0.0320	Out: Not MACT
PM	INC	707C1	QT/WS		0.0381	0.0486	0.0262	Out: Not MACT
PM	INC	705C2	QT/VS/ESP/PT		0.0383	0.0546	0.0239	Out: MACT ESP (Poor D/O/M)
PM	INC	702A2	QT/S/C		0.0417	0.0510	0.0280	Out: Not MACT
PM	INC	710C3	QT/OS/C/S		0.0422	0.0443	0.0383	Out: Not MACT
PM	INC	358C3	QC/VS/C/CT/S/DM		0.0429	0.0448	0.0411	Out: Not MACT
PM	INC	711C3	C/VS/AS		0.0430	0.0450	0.0390	Out: Not MACT
PM	INC	705C1	QT/VS/ESP/PT		0.0433	0.1003	0.0127	Out: > 0.08 gr/dscf
PM	INC	728C1	QT/PT/VS		0.0436	0.0453	0.0425	Out: Not MACT
PM	INC	784C2	NONE		0.0443	0.0470	0.0420	Out: Not MACT
PM	INC	216C4	HES/WS		0.0443	0.0510	0.0320	Out: Not MACT

TABLE 3-3. PM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	Comments
PM	INC	707C8	QT/WS		0.0449	0.0471	0.0426	Out: Not MACT
PM	INC	707A1	QT/WS		0.0456	0.0486	0.0426	Out: Not MACT
PM	INC	353C3	QC/VS/DM/ESP		0.0466	0.0492	0.0449	Out: MACT ESP (CO - 353C1, poor D/O/M)
PM	INC	702A1	QT/S/C		0.0467	0.0530	0.0430	Out: Not MACT
PM	INC	708C2	WS/ESP		0.0490	0.0686	0.0332	Out: Not MACT
PM	INC	709C1	NONE		0.0505	0.1060	0.0140	Out: > 0.08 gr/dscf
PM	INC	805C1	QT/QS/VS/ES/PBS		0.0544	0.0577	0.0489	Out: Not MACT
PM	INC	806C1	C/VS		0.0560	0.0644	0.0444	Out: Not MACT
PM	INC	700C1	SD/RJS/VS/WS		0.0572	0.0609	0.0525	Out: Not MACT
PM	INC	334C2	WS/ESP/PT		0.0575	0.0746	0.0395	Out: MACT ESP (Poor D/O/M)
PM	INC	915C2	QC/VS/C		0.0580	0.0620	0.0520	Out: Not MACT
PM	INC	330C2	QT/WS/DM		0.0593	0.0632	0.0566	Out: Not MACT
PM	INC	706C2	QT/HS/C		0.0618	0.0660	0.0565	Out: Not MACT
PM	INC	334C1	WS/ESP/PT		0.0624	0.1070	0.0368	Out: > 0.08 gr/dscf
PM	INC	713C1	VS/PT		0.0649	0.0684	0.0589	Out: Not MACT
PM	INC	825C1	CCS/QC/ESP		0.0650	0.0800	0.0300	Out: > 0.08 gr/dscf
PM	INC	906C1	QT/PT		0.0660	0.0930	0.0480	Out: > 0.08 gr/dscf
PM	INC	701C3	VS/PT		0.0694	0.0784	0.0601	Out: Not MACT
PM	INC	915C4	QC/VS/C		0.0707	0.0760	0.0660	Out: Not MACT
PM	INC	702C7	QT/S/C		0.0715	0.1070	0.0414	Out: > 0.08 gr/dscf
PM	INC	906C3	QT/PT		0.0723	0.0750	0.0680	Out: Not MACT
PM	INC	915C1	QC/VS/C		0.0763	0.0780	0.0740	Out: Not MACT
PM	INC	359C6	WHB/FF/S		0.0767	0.0954	0.0569	Out: > 0.08 gr/dscf
PM	INC	906C4	QT/PT		0.0870	0.0940	0.0760	Out: > 0.08 gr/dscf
PM	INC	906C2	QT/PT		0.0893	0.1140	0.0760	Out: > 0.08 gr/dscf
PM	INC	702C6	QT/S/C		0.0900	0.1040	0.0805	Out: > 0.08 gr/dscf
PM	INC	702C8	QT/S/C		0.1095	0.1321	0.0810	Out: > 0.08 gr/dscf
PM	INC	332C1	WS		0.1137	0.1331	0.0970	Out: > 0.08 gr/dscf
PM	INC	727C2	GC/C/FF		0.1567	0.2160	0.1000	Out: > 0.08 gr/dscf
PM	INC	702C9	QT/S/C		0.1879	0.1893	0.1864	Out: > 0.08 gr/dscf
PM	INC	707C9	QT/WS		1.9014	5.5901	0.0292	Out: > 0.08 gr/dscf

TABLE 3-4. PM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	CK	315C2	FF		0.001	0.001	0.000	MACT source (FF, A/C=1.8)
PM	CK	315C1	FF		0.001	0.001	0.001	Source already in MACT pool
PM	CK	317C3	FF		0.002	0.004	0.001	Out: HW not burned
PM	CK	317C1	FF		0.002	0.003	0.002	MACT source (FF, A/C=1.3)
PM	CK	317C2	FF		0.003	0.004	0.003	Source already in MACT pool
PM	CK	320C1	FF		0.003	0.006	0.001	MACT source (FF, A/C=2.3)
PM	CK	404C2	ESP		0.004	0.005	0.004	Out: Not MACT
PM	CK	404C1	ESP		0.007	0.018	0.004	Out: Not MACT
PM	CK	318C2	ESP		0.010	0.011	0.008	Out: Not MACT
PM	CK	30151	FF		0.011	0.017	0.003	In: MACT EU (FF, A/C=1.5)
PM	CK	316C1	FF		0.011	0.012	0.010	In: MACT EU (FF, A/C=1.2)
PM	CK	316C2	FF		0.012	0.013	0.012	In: MACT EU (FF, A/C=1.2)
PM	CK	200C1	FF		0.014	0.016	0.011	Out: MACT (FF), High A/C
PM	CK	203C1	ESP		0.014	0.017	0.011	Out: Not MACT
PM	CK	208C1	ESP		0.014	0.015	0.012	Out: Not MACT
PM	CK	208C2	ESP		0.016	0.025	0.011	Out: Not MACT
PM	CK	306C1	MC/FF		0.016	0.023	0.012	In: MACT EU (FF, A/C=1.8)
PM	CK	207C2	MC/ESP		0.018	0.024	0.010	Out: Not MACT
PM	CK	406C1	ESP		0.019	0.026	0.015	Out: Not MACT
PM	CK	322C1	ESP		0.019	0.033	0.011	Out: Not MACT
PM	CK	308C1	ESP		0.021	0.024	0.016	Out: Not MACT
PM	CK	323C1	ESP		0.022	0.033	0.005	Out: Not MACT
PM	CK	202C1	FF		0.022	0.025	0.020	In: MACT EU (FF, A/C=1.9)
PM	CK	309C2	MC/ESP		0.023	0.035	0.013	Out: Not MACT
PM	CK	206C1	ESP		0.023	0.029	0.015	Out: Not MACT
PM	CK	303C1	QC/FF		0.023	0.025	0.021	In: MACT EU (FF, A/C=2.2)
PM	CK	335C1	ESP		0.023	0.033	0.017	Out: Not MACT
PM	CK	303C2	QC/FF		0.024	0.026	0.023	In: MACT EU (FF, A/C=2.3)
PM	CK	309C1	MC/ESP		0.026	0.029	0.022	Out: Not MACT
PM	CK	207C1	MC/ESP		0.028	0.032	0.026	Out: Not MACT
PM	CK	204C1	ESP		0.028	0.032	0.024	Out: Not MACT
PM	CK	202C2	FF		0.031	0.042	0.025	In: MACT EU (FF, A/C=1.9)
PM	CK	403C2	ESP		0.031	0.039	0.016	Out: Not MACT
PM	CK	402C1	ESP		0.033	0.049	0.022	Out: Not MACT
PM	CK	302C1	ESP		0.034	0.060	0.020	Out: Not MACT
PM	CK	405C1	ESP		0.035	0.065	0.016	Out: Not MACT
PM	CK	403C1	ESP		0.035	0.049	0.025	Out: Not MACT

TABLE 3-4. PM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	CK	201C1	FF		0.036	0.109	0.008	Out: > 0.08 gr/dscf
PM	CK	319C1	ESP		0.037	0.040	0.034	Out: Not MACT
PM	CK	30141	FF		0.039	0.053	0.029	In: MACT EU (FF, A/C=1.2)
PM	CK	30143	FF		0.041	0.046	0.031	In: MACT EU (FF, A/C=0.9)
PM	CK	401C4	ESP		0.041	0.051	0.030	Out: Not MACT
PM	CK	401C1	ESP		0.048	0.061	0.038	Out: Not MACT
PM	CK	401C3	ESP		0.049	0.053	0.042	Out: Not MACT
PM	CK	30153	FF		0.050	0.078	0.004	In: MACT EU (FF, A/C=1.6)
PM	CK	205C1	ESP		0.050	0.058	0.045	Out: Not MACT
PM	CK	304C1	ESP		0.057	0.064	0.049	Out: Not MACT
PM	CK	305C1	ESP		0.064	0.072	0.053	Out: Not MACT
PM	CK	300C1	ESP		0.071	0.083	0.057	Out: Not MACT, > 0.08 gr/dscf
PM	CK	305C3	ESP		0.074	0.075	0.072	Out: Not MACT
PM	CK	401C5	ESP		0.077	0.105	0.063	Out: Not MACT, > 0.08 gr/dscf
PM	CK	305C2	ESP		0.080	0.086	0.075	Out: Not MACT, > 0.08 gr/dscf
PM	CK	402C5	ESP		0.085	0.119	0.064	Out: Not MACT, > 0.08 gr/dscf
PM	CK	321C1	ESP		0.210	0.490	0.035	Out: Not MACT, > 0.08 gr/dscf

TABLE 3-5. PM, LWAKs, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	Comments
PM	LWAK	225C1	FF		0.000	0.001	0.000	MACT source (FF, A/C=1.5)
PM	LWAK	227C1	FF		0.001	0.002	0.001	MACT source (FF, A/C=2.8)
PM	LWAK	226C1	FF		0.002	0.004	0.001	Source already in MACT pool
PM	LWAK	223C1	FF		0.004	0.008	0.002	Source already in MACT pool
PM	LWAK	224C1	FF		0.005	0.009	0.002	Source already in MACT pool
PM	LWAK	311C1	FF		0.006	0.007	0.004	MACT source (FF, A/C=1.9)
PM	LWAK	307C4	FF/VS		0.007	0.008	0.006	Out: MACT (FF), High A/C
PM	LWAK	313C1	FF		0.007	0.008	0.006	In: MACT EU (FF, A/C=1.4)
PM	LWAK	307C1	FF/VS		0.008	0.012	0.006	Out: MACT (FF), High A/C
PM	LWAK	336C1	FF		0.009	0.011	0.007	In: MACT EU (FF, A/C=?)
PM	LWAK	312C1	FF		0.010	0.018	0.005	In: MACT EU (FF, A/C=1.8)
PM	LWAK	307C2	FF/VS		0.010	0.016	0.006	Out: MACT (FF), High A/C
PM	LWAK	310C1	FF		0.018	0.026	0.013	Out: MACT (FF), High A/C
PM	LWAK	307C3	FF/VS		0.022	0.037	0.013	Out: MACT (FF), High A/C
PM	LWAK	314C1	FF		0.022	0.029	0.012	In: MACT EU (FF, A/C=1.4)

TABLE 3-6. MERCURY, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	INC	221C5	SS/PT/VS	51.1	0.1	0.1	0.0	99.90	MACT source (WS w/ MTEC of 5.1e1)
Mercury	INC	221C3	SS/PT/VS	35.2	0.1	0.2	0.0	99.70	Source already in MACT pool
Mercury	INC	216C7	HES/WS		0.3	0.3	0.2		Out: No MTEC
Mercury	INC	346C1	C/QC/VS/PT/DM		0.4	0.7	0.2		Out: No MTEC
Mercury	INC	347C4	C/QC/VS/S/DM		0.5	0.5	0.5		Out: No MTEC
Mercury	INC	824C1	QT/VS/PT/DM	5.1	0.8	1.0	0.6	84.95	MACT source (WS w/ MTEC of 5.1e0)
Mercury	INC	341C2	DA/DI/FF/HEPA/CA	18.5	0.9	1.0	0.9	94.93	MACT source (FC w/ MTEC of 1.9e1)
Mercury	INC	216C5	HES/WS		1.0	1.7	0.1		Out: No MTEC
Mercury	INC	503C1	HTHE/ LTHE/ FF		1.2	1.5	0.8		Out: No MTEC
Mercury	INC	341C1	DA/DI/FF/HEPA/CA	8.6	1.3	2.2	0.9	84.26	In: MACT EU (FC)
Mercury	INC	354C1	QC/AS/VS/DM/IWS	1861.7	1.4	3.4	0.6	99.92	Out: MACT (WS), High MTEC
Mercury	INC	725C1	WS/QT		1.7	1.8	1.5		Out: No MTEC
Mercury	INC	353C1	QC/VS/DM/ESP		2.5	5.3	1.1		Out: No MTEC
Mercury	INC	209C1	WHB/FF/VQ/PT/DM	234.1	2.5	2.6	2.5	98.91	Out: MACT (WS), High MTEC
Mercury	INC	705C1	QT/VS/ESP/PT	0.1	2.8	6.1	0.4	-4963.30	Out: MACT (WS), MB problem
Mercury	INC	500C1	QC/VS/KOV/DM	106.1	2.9	3.4	2.3	97.29	Out: MACT (WS), High MTEC
Mercury	INC	209C2	WHB/FF/VQ/PT/DM	253.8	3.1	4.5	0.3	98.76	Out: MACT (WS), High MTEC
Mercury	INC	347C2	C/QC/VS/S/DM		3.4	3.4	3.4		Out: No MTEC
Mercury	INC	334C2	WS/ESP/PT	37.8	4.0	6.4	1.8	89.43	In: MACT EU (WS)
Mercury	INC	347C1	C/QC/VS/S/DM		4.1	11.3	1.5		Out: No MTEC
Mercury	INC	221C1	SS/PT/VS	8.5	4.3	5.8	1.9	48.99	In: MACT EU (WS)
Mercury	INC	330C1	QT/WS/DM	0.1	4.6	4.7	4.5	-6107.24	In: MACT EU (WS)
Mercury	INC	700C1	SD/RJS/VS/WS	9.4	4.7	6.0	3.6	50.34	In: MACT EU (WS)
Mercury	INC	807C3	C/WHB/VQ/PT/HS/DM	0.7	5.3	6.8	3.4	-638.81	In: MACT EU (WS)
Mercury	INC	330C2	QT/WS/DM	0.2	5.8	8.3	3.2	-2980.36	In: MACT EU (WS)
Mercury	INC	342C1	WHB/QC/S/VS/DM		6.2	7.7	4.4		Out: No MTEC
Mercury	INC	353C2	QC/VS/DM/ESP		6.5	7.9	5.4		Out: No MTEC
Mercury	INC	340C1	WHB/ESP/WS	182.6	7.6	9.4	5.7	95.85	Out: MACT (WS), High MTEC
Mercury	INC	334C1	WS/ESP/PT	296.9	9.9	16.0	7.3	96.68	Out: MACT (WS), High MTEC
Mercury	INC	807C1	C/WHB/VQ/PT/HS/DM	14.3	10.7	20.1	1.2	24.89	In: MACT EU (WS)
Mercury	INC	340C2	WHB/ESP/WS	135.7	12.3	13.9	10.1	90.92	Out: MACT (WS), High MTEC
Mercury	INC	347C3	C/QC/VS/S/DM		16.1	22.4	12.0		Out: No MTEC
Mercury	INC	807C2	C/WHB/VQ/PT/HS/DM	1.8	17.9	18.4	17.5	-894.48	Out: MACT (WS), MB problem
Mercury	INC	221C4	SS/PT/VS	15.4	19.2	34.7	7.3	-24.26	In: MACT EU (WS)
Mercury	INC	705C2	QT/VS/ESP/PT	9.3	19.3	30.1	3.8	-107.56	Out: MACT (WS), MB problem
Mercury	INC	400C1	SD/FF	27680.5	19.4	26.4	15.7	99.93	Out: MACT (FC), High MTEC
Mercury	INC	325C7	SD/FF/WS/IWS	52.1	25.2	43.2	11.4	51.72	Out: MACT (WS), High MTEC

TABLE 3-6. MERCURY, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	INC	325C6	SD/FF/WS/IWS	95.8	27.1	30.3	22.0	71.67	Out: MACT (WS), High MTEC
Mercury	INC	221C2	SS/PT/VS	30.2	27.2	50.0	10.7	9.64	In: MACT EU (WS)
Mercury	INC	338C1	QC/FF/SS/C/HES/DM		27.7	43.3	8.2		Out: No MTEC
Mercury	INC	325C5	SD/FF/WS/IWS	263.1	30.1	44.8	19.8	88.56	Out: MACT (WS), High MTEC
Mercury	INC	214C3	IWS	3357.9	31.7	46.5	22.5	99.06	Out: MACT (WS), High MTEC
Mercury	INC	331C1	PT/IWS		38.8	52.3	18.6		Out: No MTEC
Mercury	INC	503C2	HTHE/ LTHE/ FF		42.9	94.0	4.6		Out: No MTEC
Mercury	INC	325C4	SD/FF/WS/IWS	60.1	44.4	65.6	8.4	26.17	Out: MACT (WS), Poor D/O/M (CO - 325C6/5)
Mercury	INC	216C6	HES/WS		44.6	106.3	11.9		Out: No MTEC
Mercury	INC	902C1	QT/VS/PT	32.3	47.7	54.4	42.1	-47.88	In: MACT EU (WS)
Mercury	INC	214C2	IWS	70348.9	48.8	90.3	19.2	99.93	Out: MACT (WS), High MTEC
Mercury	INC	338C2	QC/FF/SS/C/HES/DM		89.6	103.3	75.9		Out: No MTEC
Mercury	INC	806C2	C/VS		117.8	146.2	84.5		Out: No MTEC
Mercury	INC	806C1	C/VS		172.6	195.5	129.5		Out: No MTEC
Mercury	INC	325C3	SD/FF/WS/IWS		177.8	517.2	6.6		Out: No MTEC
Mercury	INC	337C1	WHB/DA/DI/FF	69.7	188.1	278.8	146.5	-170.11	Out: MACT (FC), MB problem
Mercury	INC	216C3	HES/WS		261.0	679.9	37.5		Out: No MTEC
Mercury	INC	327C2	SD/FF/WS/ESP	75.6	394.5	570.1	285.4	-421.63	Out: MACT (WS), MB problem
Mercury	INC	214C1	IWS		481.6	784.0	128.8		Out: No MTEC
Mercury	INC	327C3	SD/FF/WS/ESP	123.3	1121.5	2396.7	154.1	-809.79	Out: MACT (WS), MB problem
Mercury	INC	504C1	VS/C	2146.1	1322.7	2342.9	77.8	38.37	Out: MACT (WS), High MTEC
Mercury	INC	327C1	SD/FF/WS/ESP	477.4	1360.7	2067.9	563.9	-185.04	Out: MACT (WS), MB problem

TABLE 3-7. MERCURY, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	SRE (%)	Comments
Mercury	CK	303C1	QC/FF	0	3	4	3	98.42	Out: HW not burned
Mercury	CK	404C1	ESP	28	4	7	2	89.73	MACT source (FC w/ MTEC of 2.8e1)
Mercury	CK	305C3	ESP	129872	5	7	4	100.00	Out: MB problem
Mercury	CK	201C1	FF		5	15	1		Out: No MTEC
Mercury	CK	203C1	ESP	10	6	6	6	85.58	MACT source (FC w/ MTEC of 1.1e1)
Mercury	CK	406C1	ESP	108	8	16	5	93.43	MACT source (FC w/ MTEC of 1.1e2)
Mercury	CK	200C1	FF		11	21	3		Out: No MTEC
Mercury	CK	305C1	ESP	29	16	18	13	92.88	In: MACT EU (FC)
Mercury	CK	207C1	MC/ESP	6	17	22	13	84.16	In: MACT EU (FC)
Mercury	CK	206C1	ESP	19	17	23	13	99.92	In: MACT EU (FC)
Mercury	CK	204C1	ESP	5	19	24	15	82.06	In: MACT EU (FC)
Mercury	CK	402C1	ESP	118	19	38	8	99.81	Out: MACT (FC), High MTEC
Mercury	CK	208C1	ESP	6	20	25	12	81.30	In: MACT EU (FC)
Mercury	CK	202C2	FF	7	20	22	18	64.43	In: MACT EU (FC)
Mercury	CK	405C1	ESP	153	21	26	12	87.72	Out: MACT (FC), High MTEC
Mercury	CK	205C1	ESP	10	30	37	23	48.91	In: MACT EU (FC)
Mercury	CK	401C5	ESP	47	36	50	19	37.73	In: MACT EU (FC)
Mercury	CK	304C1	ESP	9	42	52	28	56.53	In: MACT EU (FC)
Mercury	CK	309C1	MC/ESP	88	43	54	36	71.80	In: MACT EU (FC)
Mercury	CK	402C4	ESP	33	51	70	39	-12.77	In: MACT EU (FC)
Mercury	CK	319C1	ESP	5	56	59	53	25.49	In: MACT EU (FC)
Mercury	CK	335C1	ESP	25813	60	100	39	99.77	Out: MACT (FC), High MTEC
Mercury	CK	303C3	QC/FF	53	92	172	48	75.75	In: MACT EU (FC)
Mercury	CK	30152	FF	240	106	143	117	84.52	Out: MACT (FC), High MTEC
Mercury	CK	30142	FF	240	128	139	69	81.27	Out: MACT (FC), High MTEC
Mercury	CK	401C1	ESP	545	148	382	44	73.36	Out: MACT (FC), High MTEC
Mercury	CK	403C1	ESP	62	1014	1598	719	-1237.61	Out: MB problem, DL measurement
Mercury	CK	306C1	MC/FF	3339	2988	4574	1048	22.11	Out: MACT (FC), High MTEC

TABLE 3-8. MERCURY, LWAKs, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	LWAK	313C1	FF	17	0	1	0	99.24	MACT source (FC w/ MTEC of 1.7e1)
Mercury	LWAK	225C1	FF	3	5	6	3	67.38	MACT source (FC w/ MTEC of 2.9e0)
Mercury	LWAK	312C1	FF	12	9	10	8	79.49	MACT source (FC w/ MTEC of 1.2e1)
Mercury	LWAK	310C1	FF	11	15	20	11	60.35	In: MACT EU (FC)
Mercury	LWAK	311C1	FF	24	15	19	11	73.76	Out: MACT (FC), High MTEC
Mercury	LWAK	224C1	FF	10	16	19	14	44.80	In: MACT EU (FC)
Mercury	LWAK	227C1	FF	10	17	19	16	73.24	In: MACT EU (FC)
Mercury	LWAK	314C1	FF	63	22	25	16	80.74	Out: MACT (FC), High MTEC
Mercury	LWAK	223C1	FF	17	32	34	30	30.66	In: MACT EU (FC)
Mercury	LWAK	307C1	FF/VS	2328	422	456	324	82.57	Out: MACT (FC), High MTEC
Mercury	LWAK	307C3	FF/VS	1991	472	511	431	77.15	Out: MACT (FC), High MTEC
Mercury	LWAK	307C4	FF/VS	2212	493	511	472	78.50	Out: MACT (FC), High MTEC
Mercury	LWAK	307C2	FF/VS	2142	561	760	403	74.69	Out: MACT (FC), High MTEC

TABLE 3-9. SVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	325C3	SD/FF/WS/IWS		1	2	1	Out: No MTEC
SVM	INC	712C1	NONE	0	2	2	2	Out: MB problem, Sub. > 75%
SVM	INC	354C1	QC/AS/VS/DM/IWS	48776	3	3	2	MACT source (VS/IWS w/ MTEC of 4.9e4) (FF or ESP as ET)
SVM	INC	712C2	NONE	1	3	4	2	Out: MB problem, Sub. > 75%
SVM	INC	222C5	WHB/SD/ESP/Q/PBS		3	6	2	Out: No MTEC
SVM	INC	500C1	QC/VS/KOV/DM	168	4	5	2	MACT source (VS w/ MTEC of 1.7e2) (Any PM APCS as ET)
SVM	INC	347C4	C/QC/VS/S/DM		4	4	4	Out: No MTEC
SVM	INC	340C1	WHB/ESP/WS	5795	6	7	4	MACT source (ESP w/ MTEC of 5.8e3)
SVM	INC	209C2	WHB/FF/VQ/PT/DM	188533	7	8	6	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	341C2	DA/DI/FF/HEPA/CA	495	10	11	10	In: MACT EU (ET VS/IWS)
SVM	INC	209C1	WHB/FF/VQ/PT/DM	129450	11	19	6	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	353C1	QC/VS/DM/ESP		11	12	9	Out: No MTEC
SVM	INC	347C1	C/QC/VS/S/DM		12	13	9	Out: No MTEC
SVM	INC	347C3	C/QC/VS/S/DM		13	20	8	Out: No MTEC
SVM	INC	221C2	SS/PT/VS	4666	13	23	3	Out: MACT (VS), High MTEC
SVM	INC	340C2	WHB/ESP/WS	3786	13	20	9	In: MACT EU (ESP)
SVM	INC	347C2	C/QC/VS/S/DM		14	14	14	Out: No MTEC
SVM	INC	341C1	DA/DI/FF/HEPA/CA	403	17	24	10	In: MACT EU (ET VS/IWS)
SVM	INC	342C1	WHB/QC/S/VS/DM		21	30	13	Out: No MTEC
SVM	INC	221C3	SS/PT/VS	2077	22	31	9	Out: MACT (VS), High MTEC
SVM	INC	348C1	QC/AS/IWS	904	23	54	7	In: MACT EU (ET ESP)
SVM	INC	327C2	SD/FF/WS/ESP	3798	23	55	7	In: MACT EU (ET VS/IWS)
SVM	INC	344C2	QC/VS/PT/DM		24	39	16	Out: No MTEC
SVM	INC	902C1	QT/VS/PT	240	24	25	23	Out: MACT (VS), High MTEC
SVM	INC	327C1	SD/FF/WS/ESP	11148	25	37	16	In: MACT EU (ET VS/IWS)
SVM	INC	229C1	WHB/ACS/HCS/CS	89	25	27	23	In: MACT EU (ET VS)
SVM	INC	229C3	WHB/ACS/HCS/CS	1	27	31	23	Out: MACT (ET VS), MB problem, Sub. > 85%, DL measurement
SVM	INC	338C1	QC/FF/SS/C/HES/DM		28	31	24	Out: No MTEC
SVM	INC	221C5	SS/PT/VS	1290	29	39	23	Out: MACT (VS), High MTEC
SVM	INC	338C2	QC/FF/SS/C/HES/DM		31	34	28	Out: No MTEC
SVM	INC	229C2	WHB/ACS/HCS/CS	125	35	42	25	In: MACT EU (ET VS)
SVM	INC	327C3	SD/FF/WS/ESP	10366	37	57	21	In: MACT EU (ET VS/IWS)
SVM	INC	725C1	WS/QT		37	44	29	Out: No MTEC
SVM	INC	349C3	QC/FF/QC/PT	532412	39	44	37	Out: MACT (ET VS/IWS), High MTEC

TABLE 3-9. SVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	824C1	QT/VS/PT/DM	375	42	63	14	Out: MACT (VS), High MTEC
SVM	INC	221C4	SS/PT/VS	443	44	71	23	Out: MACT (VS), High MTEC
SVM	INC	504C1	VS/C	14632	44	75	24	Out: MACT (VS), High MTEC
SVM	INC	807C3	C/WHB/VQ/PT/HS/DM	48240	56	77	40	Out: MACT (ET VS), High MTEC
SVM	INC	325C7	SD/FF/WS/IWS	10716	58	140	13	In: MACT EU (ET VS/IWS)
SVM	INC	229C5	WHB/ACS/HCS/CS	1	64	71	57	Out: MACT (ET VS), MB problem
SVM	INC	229C6	WHB/ACS/HCS/CS	0	71	76	66	Out: MACT (ET VS), MB problem, Sub. > 91%, DL measurement
SVM	INC	346C1	C/QC/VS/PT/DM		89	114	63	Out: No MTEC
SVM	INC	325C4	SD/FF/WS/IWS	4884	91	163	54	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	337C1	WHB/DA/DI/FF	45856	94	148	63	In: MACT EU (ET VS/IWS)
SVM	INC	221C1	SS/PT/VS	163	101	122	78	In: MACT EU (VS)
SVM	INC	216C3	HES/WS		103	178	58	Out: No MTEC
SVM	INC	705C1	QT/VS/ESP/PT	0	116	163	66	Out: MACT (ESP), MB problem
SVM	INC	214C1	IWS		201	384	75	Out: No MTEC
SVM	INC	353C2	QC/VS/DM/ESP		210	335	128	Out: No MTEC
SVM	INC	325C6	SD/FF/WS/IWS	5805	225	472	91	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	359C4	WHB/FF/S		227	263	175	Out: No MTEC
SVM	INC	330C2	QT/WS/DM	358	244	253	235	Out: Not MACT
SVM	INC	325C5	SD/FF/WS/IWS	4360	245	366	115	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	807C1	C/WHB/VQ/PT/HS/DM	174720	262	370	206	Out: MACT (ET VS), High MTEC
SVM	INC	705C2	QT/VS/ESP/PT	153	301	484	199	Out: MACT (ESP), MB problem
SVM	INC	807C2	C/WHB/VQ/PT/HS/DM	230683	312	429	233	Out: MACT (ET VS), High MTEC
SVM	INC	359C5	WHB/FF/S		332	522	191	Out: No MTEC
SVM	INC	330C1	QT/WS/DM	108	418	494	324	Out: Not MACT, MB problem
SVM	INC	806C2	C/VS		461	496	391	Out: No MTEC
SVM	INC	324C1	?		537	1532	95	Out: No MTEC
SVM	INC	806C1	C/VS		591	726	444	Out: No MTEC
SVM	INC	400C1	SD/FF	2538985	656	813	407	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	214C2	IWS	151644	689	905	328	Out: MACT (IWS), High MTEC
SVM	INC	503C1	HTHE/ LTHE/ FF	302756	721	722	719	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	216C7	HES/WS		826	1076	404	Out: No MTEC
SVM	INC	324C4	?		838	2108	121	Out: No MTEC
SVM	INC	809C1	VS	20803	865	991	766	Out: MACT (VS), High MTEC
SVM	INC	810C1	Q/VS/PBS	56371	882	1095	522	Out: MACT (VS), High MTEC

TABLE 3-9. SVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	503C2	HTHE/ LTHE/ FF	68334	911	1220	694	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	359C6	WHB/FF/S		993	1402	547	Out: No MTEC
SVM	INC	214C3	IWS	343542	1000	1322	446	Out: MACT (IWS), High MTEC
SVM	INC	216C5	HES/WS		1021	1279	778	Out: No MTEC
SVM	INC	216C6	HES/WS		1045	1279	771	Out: No MTEC
SVM	INC	915C1	QC/VS/C		1284	1582	1043	Out: No MTEC
SVM	INC	502C1	WHB/QC/PBC/VS/ES		1509	2247	1016	Out: No MTEC
SVM	INC	334C2	WS/ESP/PT	566	1706	2575	952	Out: MACT (ESP), MB problem
SVM	INC	810C2	Q/VS/PBS	653523	1777	2041	1399	Out: MACT (VS), High MTEC
SVM	INC	324C2	?		3040	18083	158	Out: No MTEC
SVM	INC	331C1	PT/IWS		3465	4705	1992	Out: No MTEC
SVM	INC	334C1	WS/ESP/PT	122029	7964	13516	3413	Out: MACT (WS/ESP), High MTEC
SVM	INC	324C3	?		8262	53289	152	Out: No MTEC
SVM	INC	809C2	VS	205717	19769	23051	16802	Out: MACT (VS), High MTEC
SVM	INC	700C1	SD/RJS/VS/WS	222057	29350	37804	24633	Out: MACT (VS), High MTEC
SVM	INC	905C1	QT/VS/AS/CS	13398	29761	39956	23066	Out: MACT (VS), MB problem

TABLE 3-10. SVM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	CK	320C1	FF	33453	3.6	6.5	2.1	MACT source (FF, A/C=2.1, w/ MTEC of 3.6e4)
SVM	CK	316C2	FF	65771	5.6	7.6	4.0	Source already in MACT pool
SVM	CK	316C1	FF	83491	6.2	6.8	5.5	MACT source (FF, A/C=1.2, w/ MTEC of 8.4e4)
SVM	CK	30142	FF	76266	8.6	12.3	6.2	MACT source (FF, A/C=1.3, w/ MTEC of 7.6e4)
SVM	CK	321C1	ESP	207029	11.4	22.4	5.1	Out: Not MACT
SVM	CK	303C1	QC/FF	13000	12.9	13.7	11.6	In: MACT EU (FF, A/C=2.2)
SVM	CK	30152	FF	76266	14.8	29.1	4.3	In: MACT EU (FF, A/C=1.6)
SVM	CK	306C1	MC/FF	48726	16.6	23.8	10.2	In: MACT EU (FF, A/C=1.8)
SVM	CK	315C2	FF	157511	18.3	26.6	14.0	Out: MACT (FF), High MTEC
SVM	CK	315C1	FF	163256	21.1	34.2	13.9	Out: MACT (FF, A/C=1.6), High MTEC
SVM	CK	317C1	FF	42728	28.3	29.6	27.1	In: MACT EU (FF, A/C=1.3)
SVM	CK	317C3	FF	0	28.8	28.9	28.7	In: MACT EU (FF, A/C=1.5)
SVM	CK	317C2	FF	42189	28.9	29.5	27.9	In: MACT EU (FF, A/C=1.1)
SVM	CK	403C1	ESP	127283	29.7	34.0	25.0	Out: Not MACT
SVM	CK	303C3	QC/FF	26096	32.5	38.3	21.9	In: MACT EU (FF, A/C=2.4)
SVM	CK	404C1	ESP	60982	57.4	67.5	49.3	Out: Not MACT
SVM	CK	200C1	FF	26905	62.0	70.7	41.3	Out: MACT (FF, A/C=4), High A/C
SVM	CK	208C2	ESP	15158	86.9	117.1	61.2	Out: Not MACT
SVM	CK	308C1	ESP	27457	93.2	106.9	82.9	Out: Not MACT
SVM	CK	208C1	ESP	30942	98.0	141.5	72.7	Out: Not MACT
SVM	CK	202C2	FF	185075	109.1	114.3	99.2	Out: MACT (FF, A/C=1.5), High MTEC
SVM	CK	318C2	ESP	113263	140.1	164.3	126.5	Out: Not MACT
SVM	CK	322C1	ESP	137960	150.8	168.9	134.6	Out: Not MACT
SVM	CK	207C2	MC/ESP	49680	257.9	636.0	80.5	Out: Not MACT
SVM	CK	206C1	ESP	164386	272.9	317.6	229.7	Out: Not MACT
SVM	CK	401C1	ESP	74007	381.5	704.0	218.7	Out: Not MACT
SVM	CK	204C1	ESP	212177	505.4	780.7	261.8	Out: Not MACT
SVM	CK	207C1	MC/ESP	82353	506.9	725.7	312.3	Out: Not MACT
SVM	CK	203C1	ESP	158786	528.3	613.3	420.6	Out: Not MACT
SVM	CK	309C1	MC/ESP	81002	543.1	747.9	298.6	Out: Not MACT
SVM	CK	304C1	ESP	140000	599.3	646.2	535.3	Out: Not MACT
SVM	CK	406C1	ESP	121721	661.7	932.4	437.4	Out: Not MACT, DL measurement
SVM	CK	319C1	ESP	220000	677.8	1148.4	261.2	Out: Not MACT
SVM	CK	335C1	ESP	75279	752.5	933.1	629.1	Out: Not MACT
SVM	CK	402C1	ESP	207994	814.8	1313.0	380.8	Out: Not MACT, DL measurement
SVM	CK	305C3	ESP	67136	897.3	1153.5	630.5	Out: Not MACT
SVM	CK	201C1	FF	172743	924.5	3553.7	43.8	Out: MACT (FF), High MTEC

TABLE 3-10. SVM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	CK	323C1	ESP	145718	972.7	1340.5	713.2	Out: Not MACT
SVM	CK	205C1	ESP	139789	1169.4	1512.3	560.1	Out: Not MACT
SVM	CK	405C1	ESP	77813	1169.9	1912.3	896.3	Out: Not MACT
SVM	CK	305C1	ESP	152835	1321.7	1697.9	1022.1	Out: Not MACT, DL measurement
SVM	CK	302C1	ESP	369251	1529.0	3030.2	677.3	Out: Not MACT
SVM	CK	401C5	ESP	148756	1966.2	4237.0	622.6	Out: Not MACT
SVM	CK	300C2	ESP	455411	2345.3	4865.1	702.2	Out: Not MACT
SVM	CK	402C4	ESP	45400	6047.0	6650.9	5511.6	Out: Not MACT

TABLE 3-11. SVM, LWAKs, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	LWAK	225C1	FF	270004	1	1	1	MACT source (FF, A/C=1.5, w/ MTEC of 2.7e5)
SVM	LWAK	307C4	FF/VS	53860	4	6	3	MACT source (FF/VS, A/C=4.2, w/ MTEC of 5.4e4)
SVM	LWAK	224C1	FF	14691	4	5	3	MACT source (FF, A/C=1.5, w/ MTEC of 1.5e4)
SVM	LWAK	307C3	FF/VS	56984	4	7	2	Out: MACT (FF/VS, A/C = 4.4), High MTEC
SVM	LWAK	223C1	FF	731989	5	6	4	Out: MACT (FF, A/C=1.2), High MTEC
SVM	LWAK	307C2	FF/VS	51156	7	12	5	In: MACT EU (FF/VS, A/C = 4.4)
SVM	LWAK	307C1	FF/VS	55659	10	15	7	Out: MACT (FF/VS, A/C=4.3), High MTEC
SVM	LWAK	227C1	FF	23904	31	60	12	Out: MACT (FF, A/C=2.8), High A/C
SVM	LWAK	312C1	FF	457634	403	622	163	Out: MACT (FF, A/C=1.8), High MTEC
SVM	LWAK	310C1	FF	289	495	884	265	Out: MACT (FF, A/C=3.6), High A/C, MB problem
SVM	LWAK	311C1	FF	374691	516	923	179	Out: MACT (FF, A/C=1.9), High MTEC
SVM	LWAK	313C1	FF	687282	663	1290	250	Out: MACT (FF, A/C=1.4), High MTEC
SVM	LWAK	314C1	FF	686565	1667	1835	1514	Out: MACT (FF, A/C=1.4), High MTEC

TABLE 3-12. LVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	INC	500C1	QC/VS/KOV/DM	1029	4	4	3	MACT source (VS w/ MTEC of 1.0e3) (Any PM control as ET)
LVM	INC	348C1	QC/AS/IWS	6238	4	5	3	MACT source (IWS w/ MTEC of 6.2e3) (FF or ESP as ET)
LVM	INC	342C1	WHB/QC/S/VS/DM		4	7	2	Out: No MTEC
LVM	INC	344C1	QC/VS/PT/DM		4	5	4	Out: No MTEC
LVM	INC	351C1	GC/C/FF		6	9	5	Out: No MTEC
LVM	INC	806C2	C/VS		7	10	6	Out: No MTEC
LVM	INC	325C3	SD/FF/WS/IWS		7	8	6	Out: No MTEC
LVM	INC	347C1	C/QC/VS/S/DM		7	9	5	Out: No MTEC
LVM	INC	351C2	GC/C/FF		8	9	4	Out: No MTEC
LVM	INC	341C2	DA/DI/FF/HEPA/CA	1210	8	8	8	MACT source (FF w/ MTEC of 1.2e3)
LVM	INC	347C2	C/QC/VS/S/DM		8	8	8	Out: No MTEC
LVM	INC	806C1	C/VS		9	11	7	Out: No MTEC
LVM	INC	902C1	QT/VS/PT	1439	10	10	9	Out: MACT (VS), High MTEC
LVM	INC	354C1	QC/AS/VS/DM/IWS	26731	10	10	10	Out: MACT (IWS), High MTEC
LVM	INC	712C2	NONE	3	11	14	8	Out: Not MACT
LVM	INC	341C1	DA/DI/FF/HEPA/CA	725	11	18	8	In: MACT EU (FF)
LVM	INC	340C2	WHB/ESP/WS	27853	11	12	10	Out: MACT (ET VS), High MTEC
LVM	INC	325C4	SD/FF/WS/IWS	5672	13	14	11	In: MACT EU (IWS)
LVM	INC	209C2	WHB/FF/VQ/PT/DM	248537	14	19	10	Out: MACT (ET VS), High MTEC
LVM	INC	346C1	C/QC/VS/PT/DM		15	30	5	Out: No MTEC
LVM	INC	347C4	C/QC/VS/S/DM		17	17	17	Out: No MTEC
LVM	INC	351C3	GC/C/FF		17	19	15	Out: No MTEC
LVM	INC	221C2	SS/PT/VS	1042	18	29	9	In: MACT EU (VS)
LVM	INC	327C3	SD/FF/WS/ESP	7559	20	22	18	Out: MACT (ET VS), High MTEC
LVM	INC	327C2	SD/FF/WS/ESP	4589	23	34	16	In: MACT EU (ET IWS)
LVM	INC	221C3	SS/PT/VS	12504	28	41	7	Out: MACT (VS), High MTEC
LVM	INC	705C1	QT/VS/ESP/PT	1	28	38	22	Out: MACT (VS), MB problem
LVM	INC	353C1	QC/VS/DM/ESP		29	34	19	Out: No MTEC
LVM	INC	347C3	C/QC/VS/S/DM		31	60	11	Out: No MTEC
LVM	INC	209C1	WHB/FF/VQ/PT/DM	215385	31	38	23	Out: MACT (ET VS), High MTEC

TABLE 3-12. LVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	INC	325C6	SD/FF/WS/IWS	7344	34	38	32	Out: MACT (IWS), High MTEC
LVM	INC	214C3	IWS	88167	34	51	20	Out: MACT (IWS), High MTEC
LVM	INC	327C1	SD/FF/WS/ESP	66578	38	42	32	Out: MACT (ET VS), High MTEC
LVM	INC	330C2	QT/WS/DM	50	40	43	37	Out: Not MACT
LVM	INC	229C1	WHB/ACS/HCS/CS	699	41	48	37	In: MACT EU (ET VS)
LVM	INC	216C6	HES/WS		47	53	36	Out: No MTEC
LVM	INC	325C5	SD/FF/WS/IWS	3204	48	64	39	In: MACT EU (IWS)
LVM	INC	331C1	PT/IWS		50	64	31	Out: No MTEC
LVM	INC	725C1	WS/QT		51	62	43	Out: No MTEC
LVM	INC	216C5	HES/WS		51	59	38	Out: No MTEC
LVM	INC	221C1	SS/PT/VS	118	53	77	38	In: MACT EU (VS)
LVM	INC	807C3	C/WHB/VQ/PT/HS/DM	271671	56	65	50	Out: Not MACT
LVM	INC	712C1	NONE	1	56	103	30	Out: Not MACT
LVM	INC	214C2	IWS	57412	59	87	24	Out: MACT (IWS), High MTEC
LVM	INC	229C2	WHB/ACS/HCS/CS	1407	60	79	51	In: MACT EU (VS)
LVM	INC	330C1	QT/WS/DM	12	63	67	55	Out: Not MACT
LVM	INC	502C1	WHB/QC/PBC/VS/ES	58	65	85	34	Out: MACT (IWS), MB problem
LVM	INC	229C6	WHB/ACS/HCS/CS	804	66	81	51	In: MACT EU (ET VS)
LVM	INC	229C3	WHB/ACS/HCS/CS	251	68	72	64	In: MACT EU (ET VS)
LVM	INC	338C2	QC/FF/SS/C/HES/DM		72	81	63	Out: No MTEC
LVM	INC	229C5	WHB/ACS/HCS/CS	588	77	80	75	In: MACT EU (ET VS)
LVM	INC	338C1	QC/FF/SS/C/HES/DM		97	148	64	Out: No MTEC
LVM	INC	324C1	?		98	164	53	Out: No MTEC
LVM	INC	325C7	SD/FF/WS/IWS	3868	101	212	27	In: MACT EU (IWS)
LVM	INC	400C1	SD/FF	622484	102	126	70	Out: MACT (ET VS), High MTEC
LVM	INC	324C2	?		112	208	42	Out: No MTEC
LVM	INC	324C3	?		115	176	49	Out: No MTEC
LVM	INC	216C7	HES/WS		121	135	97	Out: No MTEC
LVM	INC	824C1	QT/VS/PT/DM	8552	122	146	109	Out: MACT (VS), High MTEC
LVM	INC	221C5	SS/PT/VS	9805	135	162	94	Out: MACT (VS), High MTEC

TABLE 3-12. LVM, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	INC	221C4	SS/PT/VS	501	145	333	45	In: MACT EU (VS)
LVM	INC	340C1	WHB/ESP/WS	35259	147	422	9	Out: MACT (ET VS), High MTEC
LVM	INC	504C1	VS/C	73631	157	300	19	Out: MACT (VS), High MTEC
LVM	INC	905C1	QT/VS/AS/CS	6832	181	197	162	Out: MACT (VS), High MTEC
LVM	INC	807C1	C/WHB/VQ/PT/HS/DM	239157	193	281	55	Out: Not MACT
LVM	INC	324C4	?		194	527	47	Out: No MTEC
LVM	INC	344C2	QC/VS/PT/DM		198	335	129	Out: No MTEC
LVM	INC	807C2	C/WHB/VQ/PT/HS/DM	367262	209	318	92	Out: Not MACT
LVM	INC	503C2	HTHE/ LTHE/ FF	538274	246	308	175	Out: MACT (ET IWS), High MTEC
LVM	INC	337C1	WHB/DA/DI/FF	4247	261	431	167	Out: MACT (ET VS), MB problem
LVM	INC	216C3	HES/WS		269	362	157	Out: No MTEC
LVM	INC	705C2	QT/VS/ESP/PT	797	301	491	199	Out: MACT (ET IWS), MB problem
LVM	INC	810C1	Q/VS/PBS	55023	321	457	146	Out: MACT (VS), High MTEC
LVM	INC	214C1	IWS		339	460	198	Out: No MTEC
LVM	INC	353C2	QC/VS/DM/ESP		353	960	38	Out: No MTEC
LVM	INC	809C1	VS	56047	397	469	353	Out: MACT (VS), High MTEC
LVM	INC	334C2	WS/ESP/PT	6827	451	566	205	Out: MACT (ET IWS), High MTEC
LVM	INC	915C4	QC/VS/C		612	898	446	Out: No MTEC
LVM	INC	503C1	HTHE/ LTHE/ FF	194079	634	752	548	Out: MACT (ET VS), High MTEC
LVM	INC	700C1	SD/RJS/VS/WS	6851	721	789	668	Out: MACT (VS), High MTEC
LVM	INC	334C1	WS/ESP/PT	21901	820	2101	204	Out: MACT (ET IWS), High MTEC
LVM	INC	810C2	Q/VS/PBS	2250207	836	921	758	Out: MACT (VS), High MTEC
LVM	INC	915C1	QC/VS/C		873	1037	728	Out: No MTEC
LVM	INC	359C4	WHB/FF/S		1064	1855	345	Out: No MTEC
LVM	INC	809C2	VS	1332199	7224	7976	6552	Out: MACT (VS), High MTEC
LVM	INC	359C5	WHB/FF/S		10971	13042	8641	Out: No MTEC
LVM	INC	359C6	WHB/FF/S		132678	157456	96750	Out: No MTEC

TABLE 3-13. LVM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	CK	320C1	FF	25210	4	5	3	MACT source (FF, A/C=2.3, w/ MTEC of 2.5e4)
LVM	CK	316C2	FF	44108	5	6	4	MACT source (FF, A/C=1.2, w/ MTEC of 4.4e4)
LVM	CK	204C1	ESP	143982	6	7	5	MACT source (ESP, SCA=350, w/ MTEC of 1.4e5)
LVM	CK	308C1	ESP	29513	7	9	5	In: MACT EU (ESP, SCA=860)
LVM	CK	206C1	ESP	205763	9	9	8	Out: MACT (ESP), High MTEC
LVM	CK	315C1	FF	258174	9	12	3	Out: MACT (FF), High MTEC
LVM	CK	309C1	MC/ESP	106203	9	19	5	In: MACT EU (ESP)
LVM	CK	208C1	ESP	15357	10	11	8	In: MACT EU (ESP, SCA=?)
LVM	CK	303C3	QC/FF	25232	10	22	4	In: MACT EU (FF, A/C=2.4)
LVM	CK	335C1	ESP	39270	11	11	11	In: MACT EU (ESP, SCA=420)
LVM	CK	315C2	FF	247408	11	11	11	Out: MACT (FF), High MTEC
LVM	CK	316C1	FF	65167	11	14	9	In: MACT EU (FF)
LVM	CK	321C1	ESP	83779	11	24	4	In: MACT EU (ESP)
LVM	CK	306C1	MC/FF	231592	13	15	12	Out: MACT (FF), High MTEC
LVM	CK	208C2	ESP	7115	14	26	6	In: MACT EU (ESP, SCA=?)
LVM	CK	30142	FF	23371	16	19	14	In: MACT EU (FF, A/C=1.3)
LVM	CK	30152	FF	23371	17	22	13	In: MACT EU (FF, A/C=?)
LVM	CK	205C1	ESP	171391	19	23	13	Out: MACT (ESP), High MTEC
LVM	CK	318C2	ESP	15678	19	23	16	In: MACT EU (ESP, SCA=434)
LVM	CK	305C3	ESP	44058	20	21	20	In: MACT EU (ESP, SCA=340)
LVM	CK	317C1	FF	39252	23	25	23	In: MACT EU (FF)
LVM	CK	317C3	FF	0	23	24	24	In: MACT EU (FF, A/C=1.5)
LVM	CK	317C2	FF	35645	24	24	23	In: MACT EU (FF)
LVM	CK	322C1	ESP	173846	24	29	16	Out: MACT (ESP), High MTEC
LVM	CK	303C1	QC/FF	5610	25	39	18	In: MACT EU (FF, A/C=2.3)
LVM	CK	401C5	ESP	15312	27	52	8	Out: MACT (ESP, SCA=243)
LVM	CK	302C1	ESP	264797	27	43	19	Out: MACT (ESP), High MTEC
LVM	CK	202C2	FF	120729	29	30	29	In: MACT EU (FF)
LVM	CK	203C1	ESP	47698	31	42	25	Out: MACT (ESP, SCA=220)
LVM	CK	403C1	ESP	66049	34	37	32	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	305C1	ESP	86477	38	43	34	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	402C4	ESP	16212	50	59	40	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	207C2	MC/ESP	15408	55	294	6	In: MACT EU (ESP, SCA=?)
LVM	CK	304C1	ESP	170000	57	102	27	Out: MACT (ESP), High MTEC
LVM	CK	207C1	MC/ESP	16590	57	160	9	In: MACT EU (ESP, SCA=?)
LVM	CK	319C1	ESP	15400	60	73	44	In: MACT EU (ESP)
LVM	CK	300C2	ESP	492419	102	197	38	Out: MACT (ESP), High MTEC

TABLE 3-13. LVM, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	CK	323C1	ESP	154346	127	244	62	Out: MACT (ESP, SCA=238), High MTEC
LVM	CK	404C1	ESP	167319	130	170	97	Out: MACT (ESP), High MTEC, DL measurement
LVM	CK	402C1	ESP	199783	162	167	155	Out: MACT (ESP, SCA=230), High MTEC, DL measure
LVM	CK	401C1	ESP	30735	173	182	162	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	406C1	ESP	105475	184	191	180	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	405C1	ESP	176599	304	351	267	Out: MACT (ESP), High MTEC, DL measurement
LVM	CK	200C1	FF	354752	367	451	248	Out: MACT (FF), High MTEC, DL measurement
LVM	CK	201C1	FF	295437	520	1124	263	Out: MACT (FF), High MTEC, DL measurement

TABLE 3-14. LVM, LWAKs, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	LWAK	225C1	FF	20344	10	12	9	Source already in MACT pool
LVM	LWAK	224C1	FF	36730	22	30	17	MACT source (FF, A/C=1.5, w/ MTEC of 3.7e4)
LVM	LWAK	227C1	FF	6911	25	37	18	Source already in MACT pool
LVM	LWAK	223C1	FF	33422	34	37	30	MACT source (FF, A/C=1.2, w/ MTEC of 3.3e4)
LVM	LWAK	312C1	FF	46190	37	54	22	MACT source (FF, A/C=1.8, w/ MTEC of 4.6e4)
LVM	LWAK	311C1	FF	40635	41	52	36	In: MACT EU (FF, A/C=1.9)
LVM	LWAK	310C1	FF	166	60	88	31	Out: MACT (FF, A/C=3.6), High A/C
LVM	LWAK	307C1	FF/VS	54494	67	174	30	Out: MACT (FF, A/C=4.3), High A/C
LVM	LWAK	307C3	FF/VS	49464	122	164	81	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	307C4	FF/VS	52192	145	308	61	Out: MACT (FF, A/C=4.2), High A/C
LVM	LWAK	307C2	FF/VS	50080	206	743	13	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	314C1	FF	49552	227	317	162	In: MACT EU (FF, A/C=1.4)
LVM	LWAK	313C1	FF	66835	289	329	245	Out: MACT EU (FF, A/C=1.4), High MTEC

TABLE 3-15. TOTAL CHLORINE, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	347C2	C/QC/VS/S/DM		0.1	0.1	0.1		Out: No MTEC
Tot Cl	INC	358C2	QC/VS/C/CT/S/DM	1.11E+07	0.2	0.2	0.2	100.00	MACT pool (VS/S MTEC of 1.1e7)
Tot Cl	INC	338C1	QC/FF/SS/C/HES/DM		0.2	0.3	0.2		Out: No MTEC
Tot Cl	INC	342C2	WHB/QC/S/VS/DM	4.34E+06	0.3	0.3	0.2	99.99	MACT pool (VS/S w/ MTEC of 4.4e6)
Tot Cl	INC	706C3	QT/HS/C	1.73E+07	0.3	0.3	0.3	100.00	MACT pool (HS w/ MTEC of 1.7e7)
Tot Cl	INC	338C2	QC/FF/SS/C/HES/DM		0.3	0.3	0.3		Out: No MTEC
Tot Cl	INC	808C2	QT/PBS/ESP	2.09E+07	0.3	0.7	0.1	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	706C1	QT/HS/C	1.56E+07	0.4	0.5	0.2	100.00	In: MACT EU (WS)
Tot Cl	INC	354C3	QC/AS/VS/DM/IWS	1.41E+07	0.4	0.4	0.3	100.00	In: MACT EU (WS)
Tot Cl	INC	222C1	WHB/SD/ESP/Q/PBS		0.4	0.5	0.3		Out: No MTEC
Tot Cl	INC	337C2	WHB/DA/DI/FF	9.59E+04	0.4	0.5	0.3	99.37	Out: Not MACT
Tot Cl	INC	728C1	QT/PT/VS	1.83E+07	0.4	0.8	0.0	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	347C1	C/QC/VS/S/DM		0.5	1.6	0.1		Out: No MTEC
Tot Cl	INC	600C1	WHB/QC/PT/IWS	3.05E+07	0.6	0.9	0.4	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	707C7	QT/WS		0.6	0.7	0.6		Out: No MTEC
Tot Cl	INC	358C3	QC/VS/C/CT/S/DM	4.22E+07	0.6	0.8	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	327C2	SD/FF/WS/ESP		0.6	0.8	0.5		Out: No MTEC
Tot Cl	INC	808C1	QT/PBS/ESP	2.58E+07	0.7	1.1	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C1	C/VS/AS	9.09E+05	0.8	0.9	0.8	99.87	In: MACT EU (WS)
Tot Cl	INC	346C1	C/QC/VS/PT/DM		0.9	1.0	0.8		Out: No MTEC
Tot Cl	INC	348C1	QC/AS/IWS	9.85E+07	0.9	1.1	0.6	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C2	C/VS/AS	1.70E+05	0.9	1.0	0.8	99.21	In: MACT EU (WS)
Tot Cl	INC	706C2	QT/HS/C	1.73E+07	1.0	1.4	0.2	99.99	In: MACT EU (WS)
Tot Cl	INC	708C3	WS/ESP	5.52E+07	1.0	2.3	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	214C3	IWS	5.05E+07	1.0	1.3	0.7	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	344C2	QC/VS/PT/DM		1.1	2.2	0.1		Out: No MTEC
Tot Cl	INC	711C3	C/VS/AS	7.78E+05	1.1	1.2	1.0	99.80	In: MACT EU (WS)
Tot Cl	INC	701C2	VS/PT		1.1	2.3	0.4		Out: No MTEC
Tot Cl	INC	344C1	QC/VS/PT/DM		1.3	1.3	1.2		Out: No MTEC
Tot Cl	INC	354C4	QC/AS/VS/DM/IWS		1.3	2.2	0.6		Out: No MTEC
Tot Cl	INC	708C2	WS/ESP	6.22E+07	1.4	2.6	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	500C4	QC/VS/KOV/DM	1.54E+07	1.4	2.4	0.9	99.99	In: MACT EU (WS)
Tot Cl	INC	325C4	SD/FF/WS/IWS	1.19E+07	1.4	3.2	0.3	99.98	In: MACT EU (WS)

TABLE 3-15. TOTAL CHLORINE, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	708C1	WS/ESP	8.72E+07	1.4	2.7	0.8	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	807C1	C/WHB/VQ/PT/HS/DM		1.6	1.9	1.2		Out: No MTEC
Tot Cl	INC	327C3	SD/FF/WS/ESP		1.7	3.3	0.5		Out: No MTEC
Tot Cl	INC	707C1	QT/WS		1.7	3.7	0.6		Out: No MTEC
Tot Cl	INC	347C3	C/QC/VS/S/DM		1.8	3.9	0.1		Out: No MTEC
Tot Cl	INC	359C2	WHB/FF/S	2.24E+07	1.8	2.1	1.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	341C2	DA/DI/FF/HEPA/CA	2.62E+06	1.8	2.1	1.5	99.90	Out: Not MACT
Tot Cl	INC	600C2	WHB/QC/PT/IWS	4.91E+07	1.8	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	325C8	SD/FF/WS/IWS		1.8	4.9	0.1		Out: No MTEC
Tot Cl	INC	222C6	WHB/SD/ESP/Q/PBS	2.84E+07	1.9	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	222C3	WHB/SD/ESP/Q/PBS		1.9	2.2	1.4		Out: No MTEC
Tot Cl	INC	214C1	IWS	2.42E+07	1.9	2.0	1.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	500C3	QC/VS/KOV/DM	1.85E+07	2.2	3.6	1.2	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	359C3	WHB/FF/S	1.60E+07	2.3	4.4	0.7	99.98	In: MACT EU (WS)
Tot Cl	INC	214C2	IWS	2.82E+07	2.3	3.0	2.0	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	354C2	QC/AS/VS/DM/IWS	3.33E+06	2.4	2.5	2.1	99.99	In: MACT EU (WS)
Tot Cl	INC	824C1	QT/VS/PT/DM	4.91E+06	2.4	2.7	1.8	99.93	In: MACT EU (WS)
Tot Cl	INC	209C4	WHB/FF/VQ/PT/DM	1.13E+07	2.8	3.9	0.6	99.96	In: MACT EU (WS)
Tot Cl	INC	707A2	QT/WS	7.75E+06	2.9	3.7	2.3	99.94	In: MACT EU (WS)
Tot Cl	INC	807C2	C/WHB/VQ/PT/HS/DM		3.2	3.7	2.6		Out: No MTEC
Tot Cl	INC	325C5	SD/FF/WS/IWS	1.71E+06	3.4	5.0	1.7	99.71	In: MACT EU (WS)
Tot Cl	INC	807C3	C/WHB/VQ/PT/HS/DM		3.5	3.7	3.1		Out: No MTEC
Tot Cl	INC	359C1	WHB/FF/S	2.25E+07	3.5	7.0	1.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	222C2	WHB/SD/ESP/Q/PBS		4.0	4.4	3.3		Out: No MTEC
Tot Cl	INC	825C1	CCS/QC/ESP	3.45E+07	4.0	8.4	2.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	700C2	SD/RJS/VS/WS	1.74E+06	4.2	5.2	3.5	99.65	In: MACT EU (WS)
Tot Cl	INC	359C4	WHB/FF/S	7.19E+06	4.3	5.7	0.0	99.91	In: MACT EU (WS)
Tot Cl	INC	358C1	QC/VS/C/CT/S/DM	4.68E+07	4.3	11.3	0.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	209C7	WHB/FF/VQ/PT/DM	3.36E+07	4.3	5.6	3.7	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C8	WHB/FF/VQ/PT/DM	4.81E+07	4.4	6.7	1.9	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	707C8	QT/WS		4.6	12.3	0.7		Out: No MTEC
Tot Cl	INC	902C1	QT/VS/PT	3.92E+07	4.6	6.1	2.6	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C5	WHB/FF/VQ/PT/DM	2.72E+07	4.7	6.5	3.3	99.97	Out: MACT (WS), High MTEC

TABLE 3-15. TOTAL CHLORINE, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	INC	347C4	C/QC/VS/S/DM		4.9	4.9	4.9		Out: No MTEC
Tot Cl	INC	504C1	VS/C	6.38E+04	5.1	11.4	0.1	89.37	In: MACT EU (WS)
Tot Cl	INC	229C3	WHB/ACS/HCS/CS	1.93E+08	5.5	7.0	4.1	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	359C5	WHB/FF/S	7.32E+06	5.6	7.0	3.6	99.89	In: MACT EU (WS)
Tot Cl	INC	209C6	WHB/FF/VQ/PT/DM	3.65E+07	5.8	6.3	5.2	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	714C4	WS	4.65E+06	6.2	7.6	3.8	99.80	In: MACT EU (WS)
Tot Cl	INC	325C6	SD/FF/WS/IWS	3.27E+06	6.4	12.8	0.3	99.71	In: MACT EU (WS)
Tot Cl	INC	341C1	DA/DI/FF/HEPA/CA	8.92E+05	6.8	17.9	1.1	98.89	Out: Not MACT
Tot Cl	INC	707A1	QT/WS		7.2	8.2	5.8		Out: No MTEC
Tot Cl	INC	701C3	VS/PT		7.2	8.0	5.9		Out: No MTEC
Tot Cl	INC	357C1	QC/VS/PT/IWS	1.05E+07	7.5	10.3	5.0	99.90	In: MACT EU (WS)
Tot Cl	INC	707C9	QT/WS	8.17E+06	7.6	13.0	4.0	99.87	In: MACT EU (WS)
Tot Cl	INC	354C1	QC/AS/VS/DM/IWS	3.51E+06	7.7	11.4	4.3	99.97	In: MACT EU (WS)
Tot Cl	INC	707C2	QT/WS	6.48E+06	7.9	10.2	3.5	99.82	In: MACT EU (WS)
Tot Cl	INC	329C1	PT/IWS	2.00E+07	8.3	15.4	3.2	99.94	In: MACT (WS), High MTEC
Tot Cl	INC	358C4	QC/VS/C/CT/S/DM	4.39E+07	9.1	9.6	8.2	99.97	Out: MACT (WS), High MTEC
Tot Cl	INC	705C2	QT/VS/ESP/PT		9.2	10.1	8.0		Out: No MTEC
Tot Cl	INC	327C1	SD/FF/WS/ESP		9.7	12.2	7.6		Out: No MTEC
Tot Cl	INC	216C7	HES/WS		9.7	11.4	8.5		Out: No MTEC
Tot Cl	INC	805C1	QT/QS/VS/ES/PBS	3.47E+06	10.0	15.0	7.4	99.58	In: MACT EU (WS)
Tot Cl	INC	216C2	HES/WS		10.4	11.5	8.6		Out: No MTEC
Tot Cl	INC	221C3	PT		11.4	13.0	8.4		Out: No MTEC
Tot Cl	INC	339C1	AT/PT/RJS/ESP	3.56E+07	11.5	46.2	0.2	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	707C4	QT/WS	9.03E+06	11.8	13.2	10.7	99.81	In: MACT EU (WS)
Tot Cl	INC	705C1	QT/VS/ESP/PT		12.3	19.7	5.5		Out: No MTEC
Tot Cl	INC	334C1	WS/ESP/PT	4.18E+06	13.0	17.4	8.5	99.55	In: MACT EU (WS)
Tot Cl	INC	707C3	QT/WS	1.09E+07	13.0	20.4	9.2	99.83	In: MACT EU (WS)
Tot Cl	INC	340C1	WHB/ESP/WS	4.45E+06	14.0	18.9	10.3	99.54	In: MACT EU (WS)
Tot Cl	INC	221C2	PT		14.7	16.7	13.5		Out: No MTEC
Tot Cl	INC	210C1	FF/S	1.99E+07	15.7	27.7	5.9	99.89	Out: MACT (WS), High MTEC
Tot Cl	INC	221C1	PT		16.5	19.8	10.9		Out: No MTEC
Tot Cl	INC	209C1	WHB/FF/VQ/PT/DM	3.86E+07	16.6	24.6	6.5	99.94	Out: MACT (WS), High MTEC
Tot Cl	INC	502C1	WHB/QC/PBC/VS/ES	9.62E+06	19.7	35.5	1.4	99.70	In: MACT EU (WS)

TABLE 3-15. TOTAL CHLORINE, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	334C2	WS/ESP/PT	9.39E+06	21.7	28.5	17.2	99.66	In: MACT EU (WS)
Tot Cl	INC	340C2	WHB/ESP/WS	2.37E+06	22.4	26.4	18.4	98.62	In: MACT EU (WS)
Tot Cl	INC	701C1	VS/PT		26.1	27.7	24.5		Out: No MTEC
Tot Cl	INC	713C1	VS/PT	1.22E+05	26.9	28.4	24.5	67.93	In: MACT EU (WS)
Tot Cl	INC	500C1	QC/VS/KOV/DM	2.61E+06	28.9	51.2	1.0	98.39	In: MACT EU (WS)
Tot Cl	INC	700C1	SD/RJS/VS/WS	3.19E+06	29.6	46.4	18.8	98.65	In: MACT EU (WS)
Tot Cl	INC	714C3	WS	6.38E+06	32.0	38.7	23.6	99.27	In: MACT EU (WS)
Tot Cl	INC	359C6	WHB/FF/S	6.27E+06	32.6	34.9	29.2	99.24	In: MACT EU (WS)
Tot Cl	INC	221C4	PT		34.2	39.7	24.5		Out: No MTEC
Tot Cl	INC	209C3	WHB/FF/VQ/PT/DM	1.04E+07	35.3	42.0	30.8	99.50	In: MACT EU (WS)
Tot Cl	INC	211C1	FF/S	2.55E+07	37.7	48.3	27.9	99.78	Out: MACT (WS), High MTEC
Tot Cl	INC	325C7	SD/FF/WS/IWS	8.71E+06	39.3	101.1	4.0	99.34	In: MACT EU (WS)
Tot Cl	INC	221C5	PT		39.7	42.9	38.1		Out: No MTEC
Tot Cl	INC	906C2	QT/PT	4.82E+06	44.1	64.4	16.0	98.67	In: MACT EU (WS)
Tot Cl	INC	806C1	C/VS		45.3	47.0	43.6		Out: No MTEC
Tot Cl	INC	333C1	SD/FF	8.57E+06	48.6	59.1	33.7	99.17	Out: Not MACT
Tot Cl	INC	806C2	C/VS	9.51E+02	52.2	72.7	33.1	-4147.19	In: MACT EU (WS)
Tot Cl	INC	210C2	FF/S	1.81E+07	54.1	62.8	45.0	99.56	Out: MACT (WS), High MTEC
Tot Cl	INC	229C6	WHB/ACS/HCS/CS	2.17E+08	54.4	56.0	52.8	99.96	Out: MACT (WS), High MTEC
Tot Cl	INC	330C1	QT/WS/DM		55.8	77.2	31.9		Out: No MTEC
Tot Cl	INC	333C2	SD/FF	1.31E+07	59.0	83.0	20.1	99.35	Out: Not MACT
Tot Cl	INC	332C1	WS	3.84E+07	64.8	86.1	36.3	99.75	Out: MACT (WS), High MTEC
Tot Cl	INC	714C2	WS	7.34E+06	70.3	81.4	63.7	98.61	In: MACT EU (WS)
Tot Cl	INC	714C1	WS	1.04E+07	70.4	76.3	67.0	99.01	In: MACT EU (WS)
Tot Cl	INC	725C1	WS/QT		75.2	95.1	65.1		Out: No MTEC
Tot Cl	INC	229C5	WHB/ACS/HCS/CS	2.58E+08	96.8	108.6	85.1	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	337C1	WHB/DA/DI/FF		99.3	111.4	91.4		Out: No MTEC, Not MACT
Tot Cl	INC	229C1	WHB/ACS/HCS/CS	1.54E+08	102.0	126.4	78.1	99.90	Out: MACT (WS), High MTEC
Tot Cl	INC	209C2	WHB/FF/VQ/PT/DM	4.04E+07	106.5	142.9	78.4	99.62	Out: MACT (WS), High MTEC
Tot Cl	INC	212C1	FF/S	3.31E+07	133.9	249.6	64.2	99.41	Out: MACT (WS), High MTEC
Tot Cl	INC	906C1	QT/PT	6.22E+07	134.3	143.7	117.3	99.69	Out: MACT (WS), High MTEC
Tot Cl	INC	714C5	WS	1.27E+07	135.6	212.2	94.2	98.44	Out: MACT (WS), Poor D/O/M (714C4)
Tot Cl	INC	500C2	QC/VS/KOV/DM	1.26E+07	139.3	343.2	2.2	98.39	Out: MACT (WS), Poor D/O/M (500C4)

TABLE 3-15. TOTAL CHLORINE, INCINERATORS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	906C3	QT/PT	5.27E+07	159.4	179.6	126.7	99.56	Out: MACT (WS), High MTEC
Tot Cl	INC	229C4	WHB/ACS/HCS/CS	1.86E+08	159.8	271.4	48.2	99.87	Out: MACT (WS), High MTEC
Tot Cl	INC	324C4	?		163.2	668.6	2.9		Out: No MTEC, Unknown APCS
Tot Cl	INC	704C1	NONE	9.45E+07	163.7	178.1	155.5	99.75	Out: MACT (WS), High MTEC
Tot Cl	INC	725C2	WS/QT		164.7	177.6	140.2		Out: No MTEC
Tot Cl	INC	906C5	QT/PT	7.94E+07	188.3	205.1	172.0	99.65	Out: MACT (WS), High MTEC
Tot Cl	INC	324C3	?		192.6	622.8	4.2		Out: No MTEC
Tot Cl	INC	324C1	?		200.9	550.4	7.5		Out: No MTEC
Tot Cl	INC	704C2	NONE	1.14E+08	214.3	274.3	167.2	99.73	Out: Not MACT
Tot Cl	INC	324C2	?		215.1	560.2	7.8		Out: No MTEC
Tot Cl	INC	229C2	WHB/ACS/HCS/CS	1.96E+08	218.1	318.4	154.4	99.84	Out: MACT (WS), High MTEC
Tot Cl	INC	914C1	?	1.77E+07	227.1	273.4	202.3	98.13	Out: Unknown APCS
Tot Cl	INC	906C4	QT/PT	6.57E+07	252.7	344.8	175.5	99.44	Out: MACT (WS), High MTEC
Tot Cl	INC	703C1	WHB	5.41E+05	325.5	376.4	247.8	12.48	Out: Not MACT
Tot Cl	INC	710C3	QT/OS/C/S	4.52E+07	346.8	353.9	341.5	98.88	Out: MACT (WS), High MTEC
Tot Cl	INC	710C1	QT/OS/C/S	6.52E+07	355.5	381.7	306.3	99.21	Out: MACT (WS), High MTEC
Tot Cl	INC	703C2	WHB	4.87E+05	378.1	445.2	260.7	-13.00	Out: Not MACT
Tot Cl	INC	710C2	QT/OS/C/S	4.91E+07	439.6	483.1	382.8	98.70	Out: MACT (WS), High MTEC
Tot Cl	INC	784C1	NONE		1012.3	1061.3	963.5		Out: No MTEC, Not MACT
Tot Cl	INC	784C2	NONE		1067.9	1119.8	974.5		Out: No MTEC, Not MACT

TABLE 3-16. TOTAL CHLORINE, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	CK	204C2	ESP	1.62E+06	0.1	0.1	0.1	99.99	MACT pool (FC w/ MTEC of 1.6e6)
Tot Cl	CK	304C2	ESP		0.4	0.6	0.2		Out: No MTEC
Tot Cl	CK	30141	FF	1.17E+06	0.4	0.6	0.3	99.96	MACT pool (FC w/ MTEC of 1.2e6)
Tot Cl	CK	403C1	ESP	1.60E+06	0.7	1.6	0.2	99.95	MACT pool (FC w/ MTEC of 1.6e6)
Tot Cl	CK	30151	FF	1.17E+06	0.7	1.0	0.3	99.93	In: MACT EU (FC)
Tot Cl	CK	403C2	ESP	2.15E+06	0.9	1.1	0.8	99.95	Out: MACT (FC), High MTEC
Tot Cl	CK	315C1	FF	4.74E+05	1.4	1.7	1.1	99.71	In: MACT EU (FC)
Tot Cl	CK	202C1	FF	3.00E+05	1.7	2.5	1.2	99.77	In: MACT EU (FC)
Tot Cl	CK	303C1	QC/FF	0.00E+00	2.0	3.1	1.2	98.99	In: MACT EU (FC)
Tot Cl	CK	315C2	FF	3.90E+05	2.7	2.8	2.6	99.38	In: MACT EU (FC)
Tot Cl	CK	317C1	FF	1.24E+05	2.9	3.5	2.2	98.58	In: MACT EU (FC)
Tot Cl	CK	306C1	MC/FF	7.39E+05	2.9	3.9	2.3	99.46	In: MACT EU (FC)
Tot Cl	CK	405C1	ESP	1.64E+06	3.2	4.0	2.6	99.81	Out: MACT (FC), High MTEC
Tot Cl	CK	317C2	FF	2.59E+05	3.7	5.6	2.2	99.11	In: MACT EU (FC)
Tot Cl	CK	208C1	ESP	4.26E+05	4.5	6.2	2.9	98.96	In: MACT EU (FC)
Tot Cl	CK	207C1	MC/ESP	7.36E+05	4.9	5.3	4.5	99.26	In: MACT EU (FC)
Tot Cl	CK	308C1	ESP	7.79E+05	5.6	6.3	4.4	99.19	In: MACT EU (FC)
Tot Cl	CK	320C1	FF	3.34E+05	5.9	9.2	3.9	98.08	In: MACT EU (FC)
Tot Cl	CK	317C3	FF	0.00E+00	7.0	7.8	6.0	94.79	In: MACT EU (FC)
Tot Cl	CK	321C1	ESP	1.12E+06	9.5	12.0	6.9	99.10	In: MACT EU (FC)
Tot Cl	CK	302C1	ESP	2.19E+06	10.2	11.0	9.8	99.36	Out: MACT (FC), High MTEC
Tot Cl	CK	401C5	ESP	1.86E+06	10.4	14.9	6.9	99.37	Out: MACT (FC), High MTEC
Tot Cl	CK	205C1	ESP	5.47E+05	16.6	20.2	13.5	96.05	In: MACT EU (FC)
Tot Cl	CK	200C1	FF	3.24E+06	18.2	24.1	15.3	99.19	Out: MACT (FC), High MTEC
Tot Cl	CK	201C1	FF	3.02E+06	20.1	24.9	16.6	99.04	Out: MACT (FC), High MTEC
Tot Cl	CK	402C1	ESP	2.79E+06	21.6	41.9	6.7	99.05	Out: MACT (FC), High MTEC
Tot Cl	CK	402C4	ESP	2.82E+06	22.0	31.7	14.2	99.07	Out: MACT (FC), High MTEC
Tot Cl	CK	316C2	FF	4.40E+05	22.2	25.0	20.5	96.03	In: MACT EU (FC)
Tot Cl	CK	322C1	ESP	3.07E+06	22.6	27.5	18.4	98.96	Out: MACT (FC), High MTEC
Tot Cl	CK	319C2	ESP		27.1	29.2	25.6		Out: No MTEC
Tot Cl	CK	305C3	ESP	4.72E+05	28.4	30.2	25.9	93.10	In: MACT EU (FC)
Tot Cl	CK	202C2	FF	8.54E+05	31.1	46.6	14.2	97.73	In: MACT EU (FC)
Tot Cl	CK	300C1	ESP	2.21E+06	33.8	43.7	23.8	97.81	Out: MACT (FC), High MTEC
Tot Cl	CK	316C1	FF	6.95E+05	35.1	36.9	33.5	95.34	In: MACT EU (FC)
Tot Cl	CK	309C1	MC/ESP	1.03E+06	35.7	44.1	24.1	95.23	In: MACT EU (FC)
Tot Cl	CK	303C2	QC/FF	1.26E+06	36.0	96.8	5.3	96.71	In: MACT EU (FC)
Tot Cl	CK	401C1	ESP	3.67E+06	36.2	47.4	22.4	98.76	Out: MACT (FC), High MTEC

TABLE 3-16. TOTAL CHLORINE, CEMENT KILNS, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	CK	319C8	ESP	1.97E+05	42.4	42.4	42.4	84.36	In: MACT EU (FC)
Tot Cl	CK	319C7	ESP		42.5	53.5	31.4		Out: No MTEC
Tot Cl	CK	406C1	ESP	8.23E+05	42.8	121.9	4.6	96.41	In: MACT EU (FC)
Tot Cl	CK	318C2	ESP		50.6	62.5	42.5		Out: No MTEC
Tot Cl	CK	319C4	ESP		51.1	57.2	39.3		Out: No MTEC
Tot Cl	CK	318C1	ESP	7.40E+05	51.3	63.9	41.7	91.71	In: MACT EU (FC)
Tot Cl	CK	404C2	ESP	2.09E+06	56.8	66.5	49.6	96.89	Out: MACT (FC), High MTEC
Tot Cl	CK	309C2	MC/ESP	1.00E+06	57.0	83.5	31.6	92.27	In: MACT EU (FC)
Tot Cl	CK	323C1	ESP	3.65E+06	71.9	101.1	31.4	97.19	Out: MACT (FC), High MTEC
Tot Cl	CK	404C1	ESP	1.65E+06	76.6	105.7	20.5	94.75	Out: MACT (FC), High MTEC
Tot Cl	CK	206C1	ESP	9.83E+05	81.2	148.2	15.1	89.09	In: MACT EU (FC)
Tot Cl	CK	203C1	ESP	1.33E+06	117.2	128.7	96.4	87.29	In: MACT EU (FC)
Tot Cl	CK	335C1	ESP	6.45E+05	121.9	150.9	102.6	77.97	In: MACT EU (FC)
Tot Cl	CK	305C1	ESP	1.24E+06	157.2	185.6	105.9	94.79	In: MACT EU (FC)
Tot Cl	CK	319C6	ESP	8.30E+05	220.8	227.2	214.5	61.27	In: MACT EU (FC)

TABLE 3-17. TOTAL CHLORINE, LWAKs, EXISTING SOURCES, 6% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	LWAK	307C3	FF/VS	7.70E+06	13.3	15.3	10.5	99.75	Source already in MACT pool
Tot Cl	LWAK	307C2	FF/VS	1.39E+07	26.0	33.1	19.9	99.73	MACT pool (VS w/ MTEC of 1.4e7)
Tot Cl	LWAK	224C1	FF	8.53E+05	28.8	82.9	1.6	95.12	Out: MB problem
Tot Cl	LWAK	307C4	FF/VS	1.22E+07	30.9	38.3	25.7	99.63	Source already in MACT pool
Tot Cl	LWAK	307C1	FF/VS	3.31E+06	41.7	95.5	22.2	98.17	Source already in MACT pool
Tot Cl	LWAK	225C1	FF	8.39E+05	641.1	752.8	567.3	-10.55	MACT pool (FC w/ MTEC of 8.4e5)
Tot Cl	LWAK	314C1	FF	1.54E+06	853.2	920.7	814.9	33.74	MACT pool (FC w/ MTEC of 1.5e6)
Tot Cl	LWAK	310C1	FF	7.66E+05	1199.1	1235.0	1160.0	-68.03	In: MACT EU (FC)
Tot Cl	LWAK	312C1	FF	1.91E+06	1241.2	1341.9	1070.8	18.59	Out: MACT (FC), HIgh MTEC
Tot Cl	LWAK	311C1	FF	9.02E+05	1258.4	1352.6	1184.7	-47.23	In: MACT EU (FC)
Tot Cl	LWAK	227C1	FF	6.76E+05	1347.1	1522.0	999.9	-71.64	In: MACT EU (FC)
Tot Cl	LWAK	313C1	FF	2.10E+06	1509.0	1572.7	1419.9	7.81	Out: MACT (FC), High MTEC
Tot Cl	LWAK	223C1	FF	2.40E+06	2079.5	2317.4	1755.3	-25.75	Out: MACT (FC), High MTEC

TABLE 3-18. HC (RA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (RA)	INC	222C6	0	0	0
HC (RA)	INC	325C8	0	0	0
HC (RA)	INC	915C2	0	0	0
HC (RA)	INC	222C1	0	0	0
HC (RA)	INC	222C2	0	1	0
HC (RA)	INC	915C1	0	0	0
HC (RA)	INC	703C2	0	0	0
HC (RA)	INC	703C1	0	0	0
HC (RA)	INC	325C6	0	1	0
HC (RA)	INC	222C3	1	1	0
HC (RA)	INC	325C5	1	1	1
HC (RA)	INC	701C3	1	1	1
HC (RA)	INC	325C4	1	1	1
HC (RA)	INC	325C7	1	2	0
HC (RA)	INC	710C2	1	2	1
HC (RA)	INC	214C2	1	1	1
HC (RA)	INC	214C1	1	1	1
HC (RA)	INC	725C1	1	2	0
HC (RA)	INC	726C2	1	1	1
HC (RA)	INC	915C3	1	2	1
HC (RA)	INC	339C1	1	2	1
HC (RA)	INC	338C1	1	2	1
HC (RA)	INC	340C2	1	2	1
HC (RA)	INC	709C1	1	2	1
HC (RA)	INC	214C3	2	2	1
HC (RA)	INC	906C1	2	3	1
HC (RA)	INC	906C2	2	3	0
HC (RA)	INC	807C3	2	2	2
HC (RA)	INC	344C1	2	3	1
HC (RA)	INC	334C1	2	2	2
HC (RA)	INC	334C2	2	2	2
HC (RA)	INC	906C4	2	2	2
HC (RA)	INC	340C1	2	4	0
HC (RA)	INC	725C2	2	4	1
HC (RA)	INC	338C2	2	2	2
HC (RA)	INC	807C1	2	3	2
HC (RA)	INC	210C2	3	3	2
HC (RA)	INC	329C1	3	4	1
HC (RA)	INC	906C3	3	4	1
HC (RA)	INC	710C1	3	6	1
HC (RA)	INC	211C1	3	4	2
HC (RA)	INC	221C4	3	3	3
HC (RA)	INC	337C2	3	3	3
HC (RA)	INC	221C5	3	4	3
HC (RA)	INC	221C3	3	4	3
HC (RA)	INC	221C1	4	5	3
HC (RA)	INC	327C1	4	5	3
HC (RA)	INC	212C1	4	6	3
HC (RA)	INC	221C2	4	5	3
HC (RA)	INC	809C2	4	5	3
HC (RA)	INC	809C1	4	5	4
HC (RA)	INC	706C2	5	5	4
HC (RA)	INC	327C2	5	5	4
HC (RA)	INC	904C2	5	6	5

TABLE 3-18. HC (RA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (RA)	INC	807C2	5	12	2
HC (RA)	INC	210C1	5	9	2
HC (RA)	INC	706C1	5	7	4
HC (RA)	INC	902C1	5	8	4
HC (RA)	INC	706C3	5	6	5
HC (RA)	INC	327C3	7	9	5
HC (RA)	INC	805C1	8	14	4
HC (RA)	INC	904C1	8	10	6
HC (RA)	INC	904C3	9	10	8
HC (RA)	INC	806C1	11	12	10
HC (RA)	INC	710C3	16	36	1
HC (RA)	INC	726C1	22	37	2
HC (RA)	INC	727C1	24	58	7
HC (RA)	INC	806C2	36	68	19
HC (RA)	INC	727C2	299	385	152

TABLE 3-19. HC (MHRA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (MHRA)	INC	710C2	2	4	1
HC (MHRA)	INC	807C3	2	2	2
HC (MHRA)	INC	807C1	2	3	1
HC (MHRA)	INC	710C1	5	10	2
HC (MHRA)	INC	915C2	16	23	6
HC (MHRA)	INC	915C3	17	28	4
HC (MHRA)	INC	807C2	17	45	2
HC (MHRA)	INC	915C1	21	33	5
HC (MHRA)	INC	710C3	43	72	2

TABLE 3-20. CO (RA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	INC	904C2	0	0	0
CO (RA)	INC	209C7	0	1	0
CO (RA)	INC	209C5	0	1	0
CO (RA)	INC	904C3	0	0	0
CO (RA)	INC	210C2	0	1	0
CO (RA)	INC	904C1	1	1	0
CO (RA)	INC	337C2	1	1	0
CO (RA)	INC	209C8	1	1	1
CO (RA)	INC	325C4	1	1	0
CO (RA)	INC	915C1	1	1	1
CO (RA)	INC	349C1	1	1	1
CO (RA)	INC	358C4	1	1	1
CO (RA)	INC	350C5	1	1	1
CO (RA)	INC	350C3	1	1	1
CO (RA)	INC	350C4	1	1	1
CO (RA)	INC	703C2	1	1	1
CO (RA)	INC	350C6	1	1	1
CO (RA)	INC	350C7	1	1	1
CO (RA)	INC	714C3	1	1	1
CO (RA)	INC	703C1	1	2	1
CO (RA)	INC	350C8	1	1	1
CO (RA)	INC	350C9	1	1	1
CO (RA)	INC	216C5	1	2	1
CO (RA)	INC	341C2	2	3	1
CO (RA)	INC	354C4	2	3	1
CO (RA)	INC	725C2	2	3	1
CO (RA)	INC	338C1	2	3	1
CO (RA)	INC	338C2	2	3	2
CO (RA)	INC	708C1	2	2	2
CO (RA)	INC	358C1	2	3	2
CO (RA)	INC	337C1	2	6	0
CO (RA)	INC	807C1	2	4	2
CO (RA)	INC	784C1	3	3	2
CO (RA)	INC	325C6	3	3	2
CO (RA)	INC	325C5	3	3	2
CO (RA)	INC	705C2	3	6	0
CO (RA)	INC	354C2	3	4	1
CO (RA)	INC	356C1	3	5	1
CO (RA)	INC	354C1	3	3	3
CO (RA)	INC	705C1	3	4	2
CO (RA)	INC	325C7	3	4	2
CO (RA)	INC	914C1	4	6	2
CO (RA)	INC	807C3	4	11	0
CO (RA)	INC	349C3	4	7	1
CO (RA)	INC	708C2	4	6	2
CO (RA)	INC	212C1	4	5	2
CO (RA)	INC	211C1	4	6	3
CO (RA)	INC	327C2	4	6	2
CO (RA)	INC	333C2	5	11	1
CO (RA)	INC	704C1	5	5	4
CO (RA)	INC	784C2	5	5	4
CO (RA)	INC	350C2	5	9	2
CO (RA)	INC	341C1	5	7	3
CO (RA)	INC	906C4	5	5	5

TABLE 3-20. CO (RA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	INC	906C3	5	5	5
CO (RA)	INC	709C1	6	7	5
CO (RA)	INC	906C2	6	7	5
CO (RA)	INC	725C1	6	6	6
CO (RA)	INC	354C3	6	15	2
CO (RA)	INC	325C3	6	18	1
CO (RA)	INC	906C1	7	8	6
CO (RA)	INC	214C1	7	11	5
CO (RA)	INC	824C1	7	9	5
CO (RA)	INC	351C3	8	10	5
CO (RA)	INC	348C1	8	8	7
CO (RA)	INC	333C1	8	9	7
CO (RA)	INC	711C1	8	15	2
CO (RA)	INC	351C2	8	11	4
CO (RA)	INC	327C1	8	12	7
CO (RA)	INC	714C5	9	16	1
CO (RA)	INC	221C1	9	11	8
CO (RA)	INC	915C4	10	14	6
CO (RA)	INC	713C1	10	25	2
CO (RA)	INC	334C1	10	17	4
CO (RA)	INC	327C3	10	13	4
CO (RA)	INC	353C1	10	13	7
CO (RA)	INC	329C1	10	14	8
CO (RA)	INC	209C4	10	17	4
CO (RA)	INC	216C6	10	28	1
CO (RA)	INC	222C3	11	12	9
CO (RA)	INC	357C1	11	16	6
CO (RA)	INC	807C2	12	22	0
CO (RA)	INC	340C2	12	13	11
CO (RA)	INC	906C5	13	22	8
CO (RA)	INC	808C2	13	14	12
CO (RA)	INC	344C1	14	15	13
CO (RA)	INC	710C1	15	15	14
CO (RA)	INC	221C4	15	16	14
CO (RA)	INC	711C3	15	21	9
CO (RA)	INC	708C3	15	22	4
CO (RA)	INC	710C3	16	36	2
CO (RA)	INC	810C1	16	24	12
CO (RA)	INC	353C2	16	20	10
CO (RA)	INC	710C2	17	34	8
CO (RA)	INC	349C2	17	29	1
CO (RA)	INC	726C2	17	18	16
CO (RA)	INC	221C2	18	19	17
CO (RA)	INC	221C5	18	18	17
CO (RA)	INC	714C2	18	35	8
CO (RA)	INC	711C2	18	23	14
CO (RA)	INC	214C3	19	21	18
CO (RA)	INC	221C3	20	20	20
CO (RA)	INC	353C3	20	21	19
CO (RA)	INC	344C2	21	26	18
CO (RA)	INC	726C1	23	25	20
CO (RA)	INC	214C2	24	36	18
CO (RA)	INC	810C2	25	37	19
CO (RA)	INC	324C3	26	35	20

TABLE 3-20. CO (RA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	INC	346C1	28	35	20
CO (RA)	INC	324C4	29	30	25
CO (RA)	INC	706C1	31	34	28
CO (RA)	INC	222C1	34	38	29
CO (RA)	INC	324C1	35	45	28
CO (RA)	INC	905C1	35	41	27
CO (RA)	INC	222C6	36	46	21
CO (RA)	INC	902C1	41	46	38
CO (RA)	INC	706C2	42	45	41
CO (RA)	INC	324C2	43	60	36
CO (RA)	INC	216C7	44	86	20
CO (RA)	INC	706C3	45	49	41
CO (RA)	INC	714C1	46	66	25
CO (RA)	INC	340C1	50	82	22
CO (RA)	INC	351C4	52	59	39
CO (RA)	INC	351C1	53	97	18
CO (RA)	INC	222C2	64	75	52
CO (RA)	INC	806C1	68	73	60
CO (RA)	INC	359C6	95	191	18
CO (RA)	INC	915C2	100	122	69
CO (RA)	INC	359C4	104	167	35
CO (RA)	INC	359C5	106	129	81
CO (RA)	INC	915C3	109	125	97
CO (RA)	INC	350C1	140	394	8
CO (RA)	INC	334C2	166	280	107
CO (RA)	INC	808C1	202	487	29
CO (RA)	INC	209C6	226	656	9
CO (RA)	INC	727C1	296	341	232
CO (RA)	INC	325C1	308	911	5
CO (RA)	INC	806C2	320	337	302
CO (RA)	INC	805C2	354	459	291
CO (RA)	INC	325C2	438	1299	4
CO (RA)	INC	805C1	441	831	119
CO (RA)	INC	332C1	550	702	362
CO (RA)	INC	809C1	1250	1302	1220
CO (RA)	INC	809C2	1266	1408	1158
CO (RA)	INC	209C3	1499	1666	1228
CO (RA)	INC	707A5	1851	2026	1745
CO (RA)	INC	707A4	3401	3936	2951
CO (RA)	INC	727C2	3718	4428	2605
CO (RA)	INC	707A2	3730	4382	3320
CO (RA)	INC	707C4	4189	4803	3475
CO (RA)	INC	707C3	5788	6073	5638
CO (RA)	INC	707A6	6422	6868	5571
CO (RA)	INC	707C2	6716	7618	5862
CO (RA)	INC	707A3	7545	7767	7268
CO (RA)	INC	707C8	9583	10255	8685
CO (RA)	INC	707A1	10061	11338	9063
CO (RA)	INC	707C7	10330	11206	9426
CO (RA)	INC	707C1	10397	11687	9550
CO (RA)	INC	707C9	10448	11422	8840

TABLE 3-21. CO (MHRA), INCINERATORS

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv) Avg	Max	Min
CO (MHRA)	INC	709C1	8	8	6
CO (MHRA)	INC	325C3	10	22	1
CO (MHRA)	INC	341C2	12	16	4
CO (MHRA)	INC	351C2	13	17	7
CO (MHRA)	INC	351C3	13	18	8
CO (MHRA)	INC	915C1	14	18	11
CO (MHRA)	INC	807C1	18	46	4
CO (MHRA)	INC	710C1	38	70	20
CO (MHRA)	INC	807C3	44	127	1
CO (MHRA)	INC	710C2	54	129	15
CO (MHRA)	INC	351C4	59	66	45
CO (MHRA)	INC	341C1	99	100	97
CO (MHRA)	INC	807C2	175	331	1
CO (MHRA)	INC	351C1	195	334	49
CO (MHRA)	INC	710C3	241	634	2
CO (MHRA)	INC	915C4	251	735	6
CO (MHRA)	INC	325C1	383	1131	6
CO (MHRA)	INC	325C2	553	1631	6
CO (MHRA)	INC	915C3	1209	2159	540
CO (MHRA)	INC	915C2	1644	2628	680

TABLE 3-22. HC (RA), CEMENT KILNS MAIN STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (RA)	CK main	206C4	4	4	4
HC (RA)	CK main	322C1	7	8	5
HC (RA)	CK main	401C5	7	9	5
HC (RA)	CK main	401C3	8	10	6
HC (RA)	CK main	323C1	8	12	3
HC (RA)	CK main	403C1	10	11	7
HC (RA)	CK main	404C1	10	15	7
HC (RA)	CK main	309C1	11	11	10
HC (RA)	CK main	402C4	11	13	10
HC (RA)	CK main	228C4	12	12	11
HC (RA)	CK main	401C4	12	15	10
HC (RA)	CK main	405C1	14	17	12
HC (RA)	CK main	404C2	14	15	11
HC (RA)	CK main	206C3	14	14	14
HC (RA)	CK main	403C2	14	15	13
HC (RA)	CK main	206C1	14	14	14
HC (RA)	CK main	335C1	15	18	8
HC (RA)	CK main	309C2	15	16	14
HC (RA)	CK main	206C2	16	16	16
HC (RA)	CK main	300C1	16	17	14
HC (RA)	CK main	405C2	16	20	14
HC (RA)	CK main	228C1	16	21	14
HC (RA)	CK main	402C3	17	22	10
HC (RA)	CK main	300C2	17	18	16
HC (RA)	CK main	205C3	18	18	18
HC (RA)	CK main	203C1	19	19	18
HC (RA)	CK main	301C1	19	23	15
HC (RA)	CK main	205C4	19	19	19
HC (RA)	CK main	301C2	21	27	17
HC (RA)	CK main	305C3	22	24	21
HC (RA)	CK main	205C2	26	26	26
HC (RA)	CK main	205C1	26	26	26
HC (RA)	CK main	402C2	26	30	23
HC (RA)	CK main	402C1	32	36	29
HC (RA)	CK main	301C3	35	42	29
HC (RA)	CK main	303C2	36	38	33
HC (RA)	CK main	401C2	47	49	44
HC (RA)	CK main	317C3	54	57	50
HC (RA)	CK main	317C1	54	59	46
HC (RA)	CK main	317C2	55	56	54
HC (RA)	CK main	303C3	60	67	55
HC (RA)	CK main	319C2	60	64	58
HC (RA)	CK main	319C4	61	71	58
HC (RA)	CK main	401C1	67	70	64
HC (RA)	CK main	320C1	69	79	61
HC (RA)	CK main	319C1	76	77	75
HC (RA)	CK main	303C1	87	99	76

TABLE 3-23. HC (MHRA), CEMENT KILNS MAIN STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (MHRA)	CK main	318C2	5	5	5
HC (MHRA)	CK main	318C1	7	8	5
HC (MHRA)	CK main	322C1	7	9	6
HC (MHRA)	CK main	318C3	8	11	5
HC (MHRA)	CK main	323C1	11	13	9
HC (MHRA)	CK main	404C1	13	18	8
HC (MHRA)	CK main	309C1	13	14	13
HC (MHRA)	CK main	403C1	15	18	12
HC (MHRA)	CK main	228C4	16	17	14
HC (MHRA)	CK main	309C2	17	18	15
HC (MHRA)	CK main	300C1	19	19	19
HC (MHRA)	CK main	203C1	19	20	19
HC (MHRA)	CK main	300C2	19	20	19
HC (MHRA)	CK main	403C2	19	20	19
HC (MHRA)	CK main	404C2	20	20	19
HC (MHRA)	CK main	405C2	21	25	17
HC (MHRA)	CK main	405C1	22	26	17
HC (MHRA)	CK main	228C1	22	33	17
HC (MHRA)	CK main	402C2	37	46	29
HC (MHRA)	CK main	402C1	44	61	32
HC (MHRA)	CK main	401C2	52	54	49
HC (MHRA)	CK main	401C1	84	95	71
HC (MHRA)	CK main	320C1	100	101	98

TABLE 3-24. CO (RA), CEMENT KILNS MAIN STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	CK main	306C1	14	22	8
CO (RA)	CK main	207C2	25	28	21
CO (RA)	CK main	207C1	26	27	25
CO (RA)	CK main	208C1	47	50	45
CO (RA)	CK main	208C2	50	57	44
CO (RA)	CK main	300C2	98	186	56
CO (RA)	CK main	309C1	101	125	53
CO (RA)	CK main	206C4	115	115	115
CO (RA)	CK main	30153	115	129	105
CO (RA)	CK main	205C1	132	132	132
CO (RA)	CK main	309C2	136	137	135
CO (RA)	CK main	30143	139	184	68
CO (RA)	CK main	206C2	153	153	153
CO (RA)	CK main	206C1	154	154	154
CO (RA)	CK main	335C1	159	194	131
CO (RA)	CK main	206C3	163	163	163
CO (RA)	CK main	205C4	164	164	164
CO (RA)	CK main	205C3	167	167	167
CO (RA)	CK main	205C2	175	175	175
CO (RA)	CK main	319C5	184	184	184
CO (RA)	CK main	319C7	218	229	206
CO (RA)	CK main	319C6	240	272	220
CO (RA)	CK main	228C4	248	256	240
CO (RA)	CK main	403C1	248	312	195
CO (RA)	CK main	203C1	278	291	270
CO (RA)	CK main	319C1	295	301	292
CO (RA)	CK main	317C1	317	340	282
CO (RA)	CK main	323C1	327	682	86
CO (RA)	CK main	317C2	339	349	333
CO (RA)	CK main	319C2	343	364	329
CO (RA)	CK main	317C3	349	360	332
CO (RA)	CK main	319C4	349	406	331
CO (RA)	CK main	322C1	364	547	174
CO (RA)	CK main	300C1	379	595	234
CO (RA)	CK main	404C2	401	551	255
CO (RA)	CK main	403C2	425	515	356
CO (RA)	CK main	404C1	459	580	226
CO (RA)	CK main	401C4	491	627	396
CO (RA)	CK main	401C2	513	597	438
CO (RA)	CK main	228C1	515	549	475
CO (RA)	CK main	30152	568	671	447
CO (RA)	CK main	401C5	612	673	576
CO (RA)	CK main	401C3	638	649	628
CO (RA)	CK main	30142	643	819	452
CO (RA)	CK main	402C3	667	977	422
CO (RA)	CK main	405C2	700	851	488
CO (RA)	CK main	402C4	722	1051	532
CO (RA)	CK main	402C1	882	1098	573
CO (RA)	CK main	401C1	923	1203	626
CO (RA)	CK main	402C2	946	1238	666
CO (RA)	CK main	405C1	1007	1123	905
CO (RA)	CK main	30151	1051	1381	564
CO (RA)	CK main	303C1	1234	1535	986
CO (RA)	CK main	30141	1274	1454	1005

TABLE 3-24. CO (RA), CEMENT KILNS MAIN STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	CK main	320C1	1511	1708	1365
CO (RA)	CK main	303C2	2039	2947	1559
CO (RA)	CK main	303C3	2699	3136	2258
CO (RA)	CK main	305C3	3960	5186	2555

TABLE 3-25. CO (MHRA), CEMENT KILNS MAIN STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (MHRA)	CK main	207C2	31	39	23
CO (MHRA)	CK main	207C1	34	39	28
CO (MHRA)	CK main	306C1	41	64	11
CO (MHRA)	CK main	208C1	50	52	48
CO (MHRA)	CK main	208C2	54	62	49
CO (MHRA)	CK main	309C1	132	140	126
CO (MHRA)	CK main	309C2	145	155	138
CO (MHRA)	CK main	300C2	170	296	73
CO (MHRA)	CK main	318C1	272	297	223
CO (MHRA)	CK main	203C1	300	312	276
CO (MHRA)	CK main	228C4	380	491	320
CO (MHRA)	CK main	403C1	487	629	350
CO (MHRA)	CK main	322C1	594	850	276
CO (MHRA)	CK main	300C1	623	757	556
CO (MHRA)	CK main	404C1	660	824	325
CO (MHRA)	CK main	323C1	692	1200	125
CO (MHRA)	CK main	404C2	704	796	645
CO (MHRA)	CK main	403C2	741	900	596
CO (MHRA)	CK main	228C1	773	837	666
CO (MHRA)	CK main	401C2	808	932	637
CO (MHRA)	CK main	405C2	1075	1262	744
CO (MHRA)	CK main	405C1	1191	1412	995
CO (MHRA)	CK main	402C2	1582	1894	1371
CO (MHRA)	CK main	402C1	1908	3017	1335
CO (MHRA)	CK main	401C1	2027	3511	1161
CO (MHRA)	CK main	320C1	2070	2121	1966

TABLE 3-26. HC (RA), CEMENT KILNS BYPASS STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (RA)	CK bypass	315C2	2	2	2
HC (RA)	CK bypass	315C3	2	2	2
HC (RA)	CK bypass	315C1	2	2	2
HC (RA)	CK bypass	406C2	3	4	2
HC (RA)	CK bypass	402C4	4	8	0
HC (RA)	CK bypass	316C2	4	5	4
HC (RA)	CK bypass	316C1	6	7	5
HC (RA)	CK bypass	406C1	6	14	1
HC (RA)	CK bypass	402C3	8	10	6
HC (RA)	CK bypass	301C2	10	22	4
HC (RA)	CK bypass	301C3	24	44	7
HC (RA)	CK bypass	301C1	37	59	14

TABLE 3-27. HC (MHRA), CEMENT KILNS BYPASS STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (MHRA)	CK bypass	315C2	2	2	2
HC (MHRA)	CK bypass	315C1	3	3	2
HC (MHRA)	CK bypass	406C2	5	6	3
HC (MHRA)	CK bypass	316C2	5	6	4
HC (MHRA)	CK bypass	316C1	7	8	6
HC (MHRA)	CK bypass	406C1	11	22	3

TABLE 3-28. CO (RA), CEMENT KILNS BYPASS STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv) Avg	Max	Min
CO (RA)	CK bypass	315C2	2	5	1
CO (RA)	CK bypass	301C2	14	14	14
CO (RA)	CK bypass	321C1	23	25	21
CO (RA)	CK bypass	315C3	36	51	17
CO (RA)	CK bypass	315C1	37	52	20
CO (RA)	CK bypass	316C2	131	183	95
CO (RA)	CK bypass	316C1	133	145	119
CO (RA)	CK bypass	406C1	230	315	179
CO (RA)	CK bypass	301C1	248	380	146
CO (RA)	CK bypass	406C2	286	325	246
CO (RA)	CK bypass	402C3	427	475	365
CO (RA)	CK bypass	402C4	602	718	487

TABLE 3-29. CO (MHRA), CEMENT KILNS BYPASS STACK

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (MHRA)	CK bypass	315C2	6	11	3
CO (MHRA)	CK bypass	321C1	39	61	31
CO (MHRA)	CK bypass	315C1	50	84	23
CO (MHRA)	CK bypass	316C2	283	323	261
CO (MHRA)	CK bypass	316C1	293	308	281
CO (MHRA)	CK bypass	406C1	522	756	350
CO (MHRA)	CK bypass	406C2	568	655	432

TABLE 3-30. HC (RA), LWAKs

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (RA)	LWAK	313C1	3	4	2
HC (RA)	LWAK	310C1	3	5	2
HC (RA)	LWAK	314C1	4	5	3
HC (RA)	LWAK	311C1	5	5	5
HC (RA)	LWAK	312C1	5	5	5
HC (RA)	LWAK	227C1	9	11	8

TABLE 3-31. HC (MHRA), LWAKs

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
HC (MHRA)	LWAK	400C1	3	8	1
HC (MHRA)	LWAK	310C1	4	6	2
HC (MHRA)	LWAK	313C1	5	6	4
HC (MHRA)	LWAK	314C1	5	6	4
HC (MHRA)	LWAK	312C1	5	6	5
HC (MHRA)	LWAK	311C1	5	6	5
HC (MHRA)	LWAK	227C1	13	13	12

TABLE 3-32. CO (RA), LWAKs

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (RA)	LWAK	314C1	3	4	2
CO (RA)	LWAK	224C1	7	7	7
CO (RA)	LWAK	223C1	9	10	9
CO (RA)	LWAK	306C1	14	22	8
CO (RA)	LWAK	225C1	14	28	7
CO (RA)	LWAK	313C1	15	22	7
CO (RA)	LWAK	226C1	16	22	11
CO (RA)	LWAK	307C3	41	46	37
CO (RA)	LWAK	307C1	46	51	40
CO (RA)	LWAK	307C2	47	51	43
CO (RA)	LWAK	307C4	49	51	48
CO (RA)	LWAK	312C1	60	70	51
CO (RA)	LWAK	311C1	60	70	51
CO (RA)	LWAK	310C1	88	128	61
CO (RA)	LWAK	227C1	786	1048	484

TABLE 3-33. CO (MHRA), LWAKs

Substance	Syst Type	EPA Cond ID	Stack Gas Conc (ppmv)		
			Avg	Max	Min
CO (MHRA)	LWAK	314C1	4	5	2
CO (MHRA)	LWAK	224C1	7	8	7
CO (MHRA)	LWAK	223C1	9	10	9
CO (MHRA)	LWAK	400C1	10	16	4
CO (MHRA)	LWAK	226C1	22	33	12
CO (MHRA)	LWAK	225C1	24	56	8
CO (MHRA)	LWAK	313C1	27	47	16
CO (MHRA)	LWAK	306C1	41	64	11
CO (MHRA)	LWAK	312C1	71	92	54
CO (MHRA)	LWAK	311C1	71	92	54
CO (MHRA)	LWAK	310C1	116	194	68
CO (MHRA)	LWAK	227C1	1289	1904	628

TABLE 3-34. SUMMARY OF 6% MACT FLOORS FOR EXISTING SOURCES
(BASED ON STATISTICAL EVALUATION OF MACT EU)

HAP	Units	Incinerators		Cement Kilns		LWA Kilns	
		Stnd	Design	Stnd	Design	Stnd	Design
PCDD/PCDF	TEQ ng/dscm	40	20	8	4.7	8	4.7
Mercury	µg/dscm	130	57	130	81	72	36
Semi Volatile Metals	µg/dscm	270	120	57	34	12	8
Low Volatile Metals	µg/dscm	210	110	130	67	340	230
Particulate Matter	gr/dscf	0.107	0.038	0.065	0.032	0.05	0.024
Total Chlorine	ppmv	280	96	630	270	2100	1400
CO	ppmv	120	52	n/a	n/a	270	120
HC	ppmv	12	6.1	m : 20*	m : 10	14	6.5
				b : 6.7 or CO 100	b : 5.1 or CO 100		

m : cement kiln main stack
b : cement kiln bypass stack
* : Based on current RCRA standard

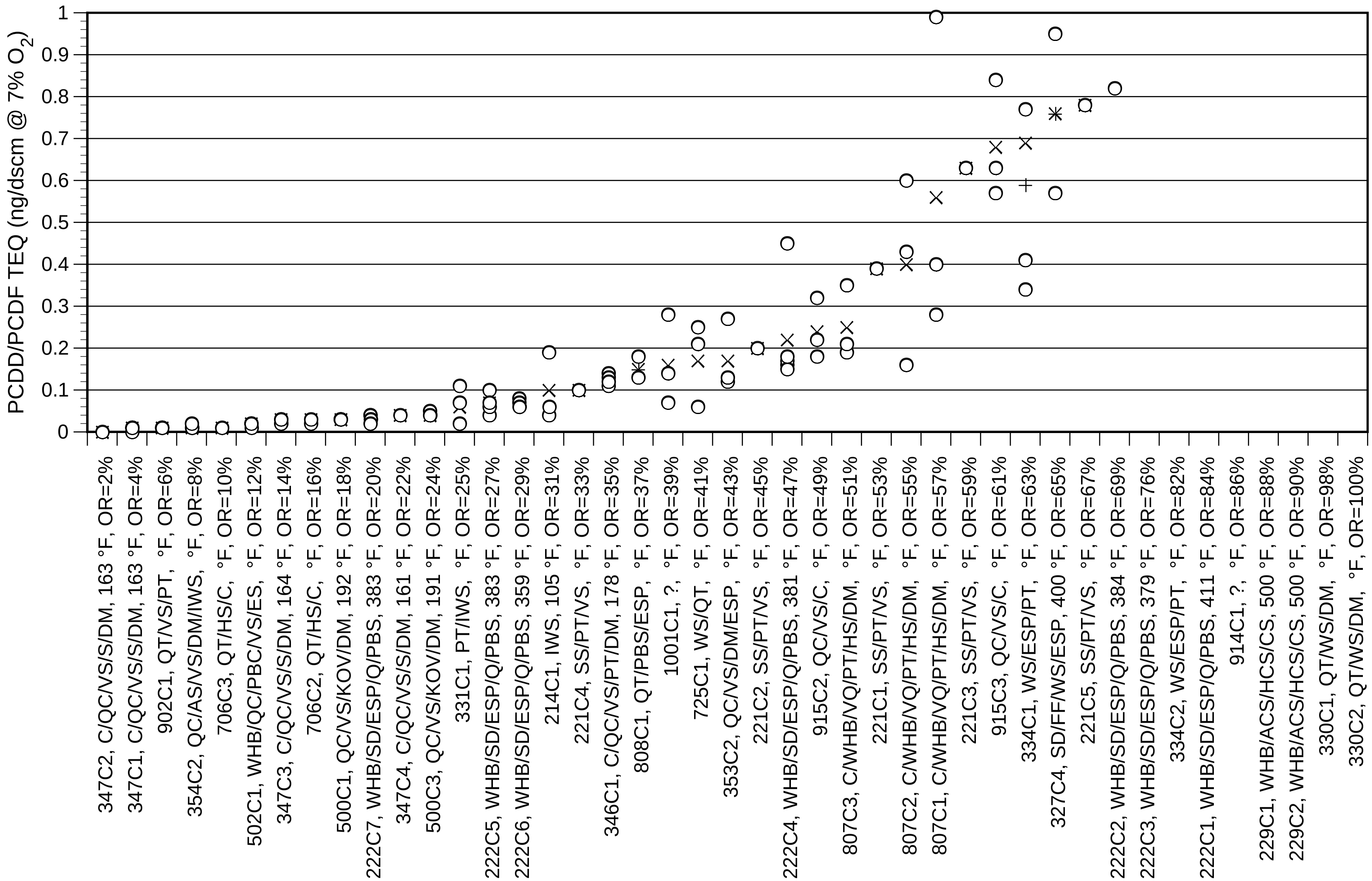

Figure 3-1. PCDD/PCDF TEQ, incinerators, MACT pool and expanded universe, existing sources, 6% MACT floor analysis.

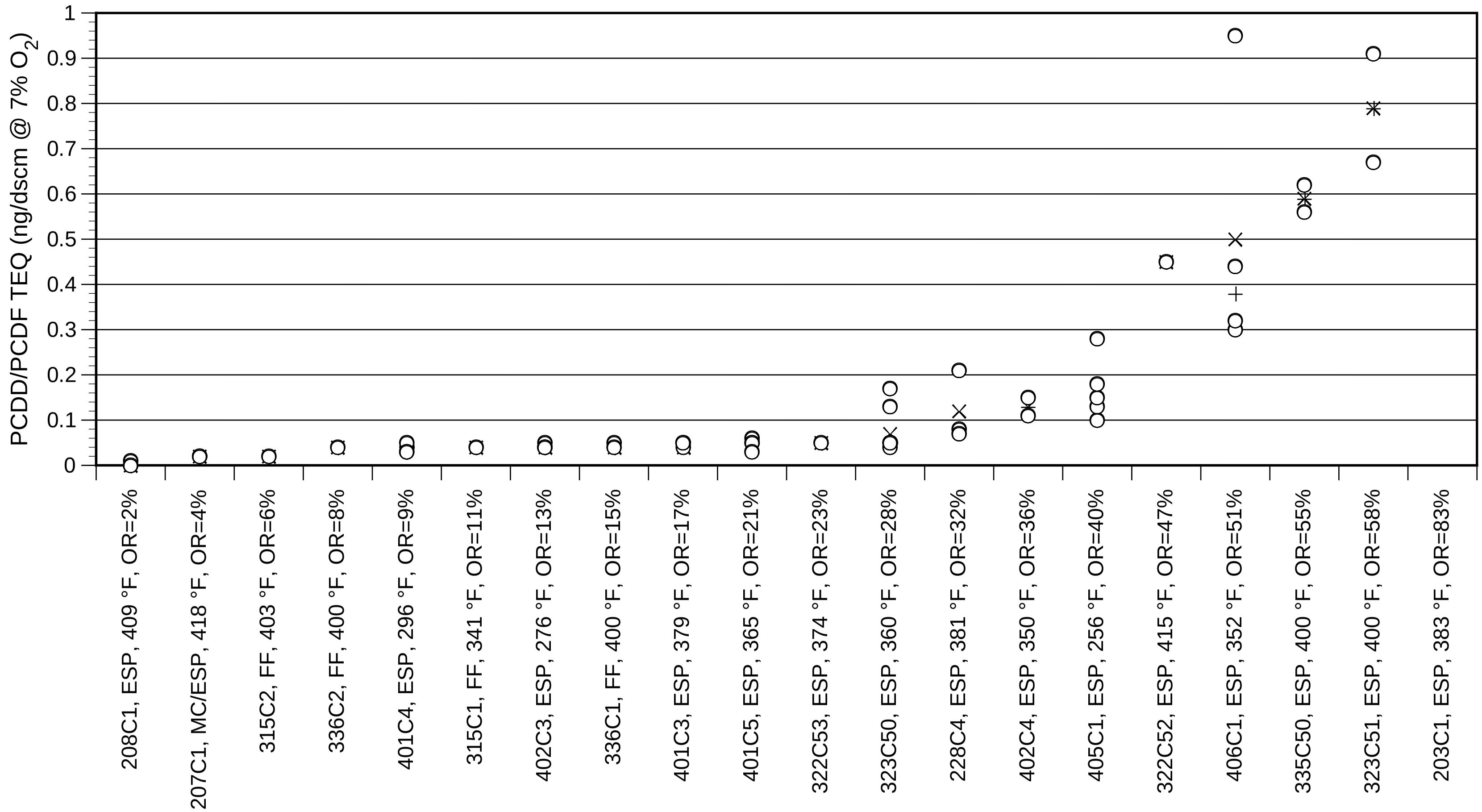

Figure 3-2. PCDD/PCDF TEQ, industrial kilns, MACT pool and expanded universe, existing sources, 6% MACT floor analysis.

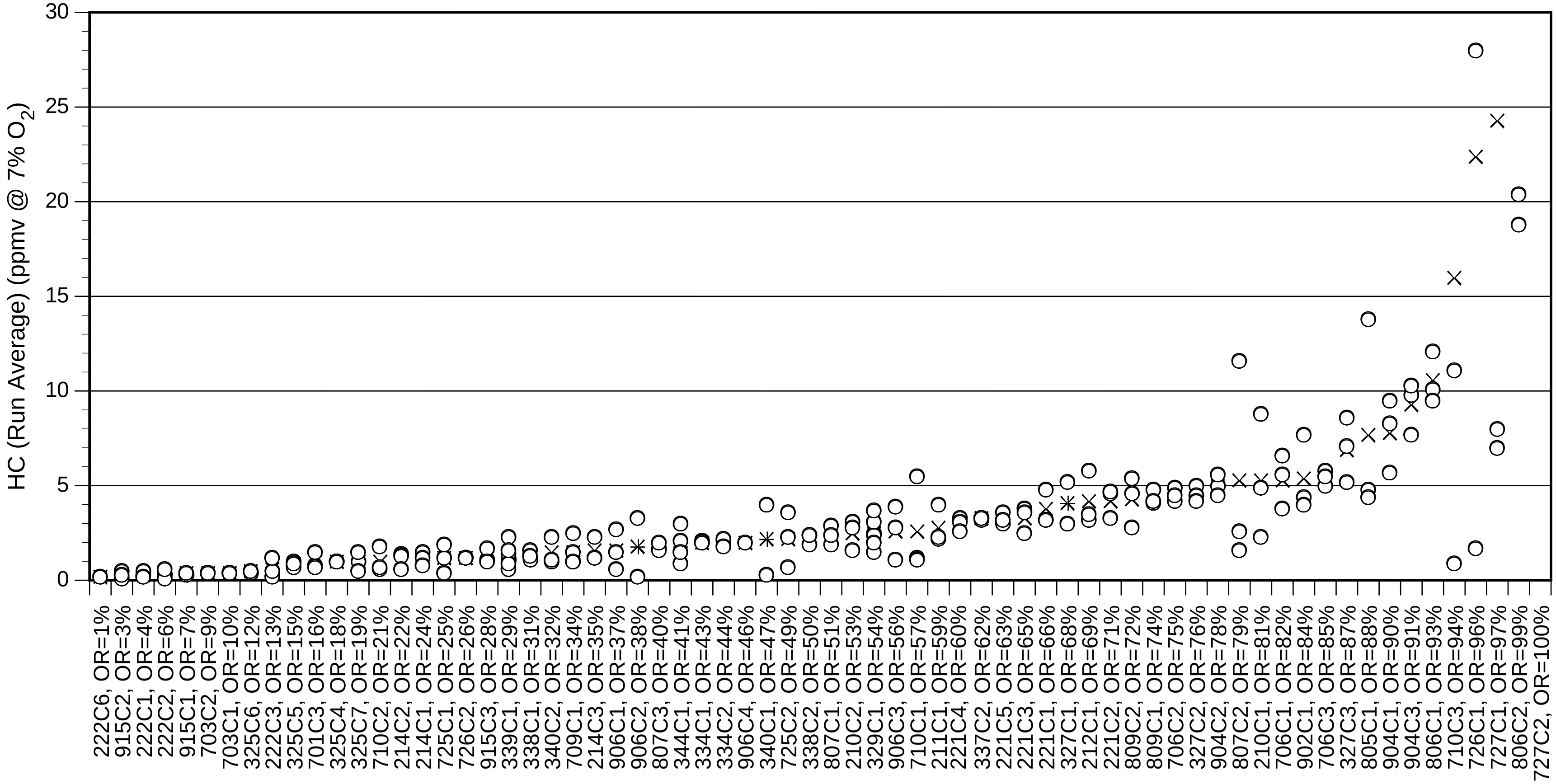

Figure 3-3. HC (run average), incinerators, entire universe.

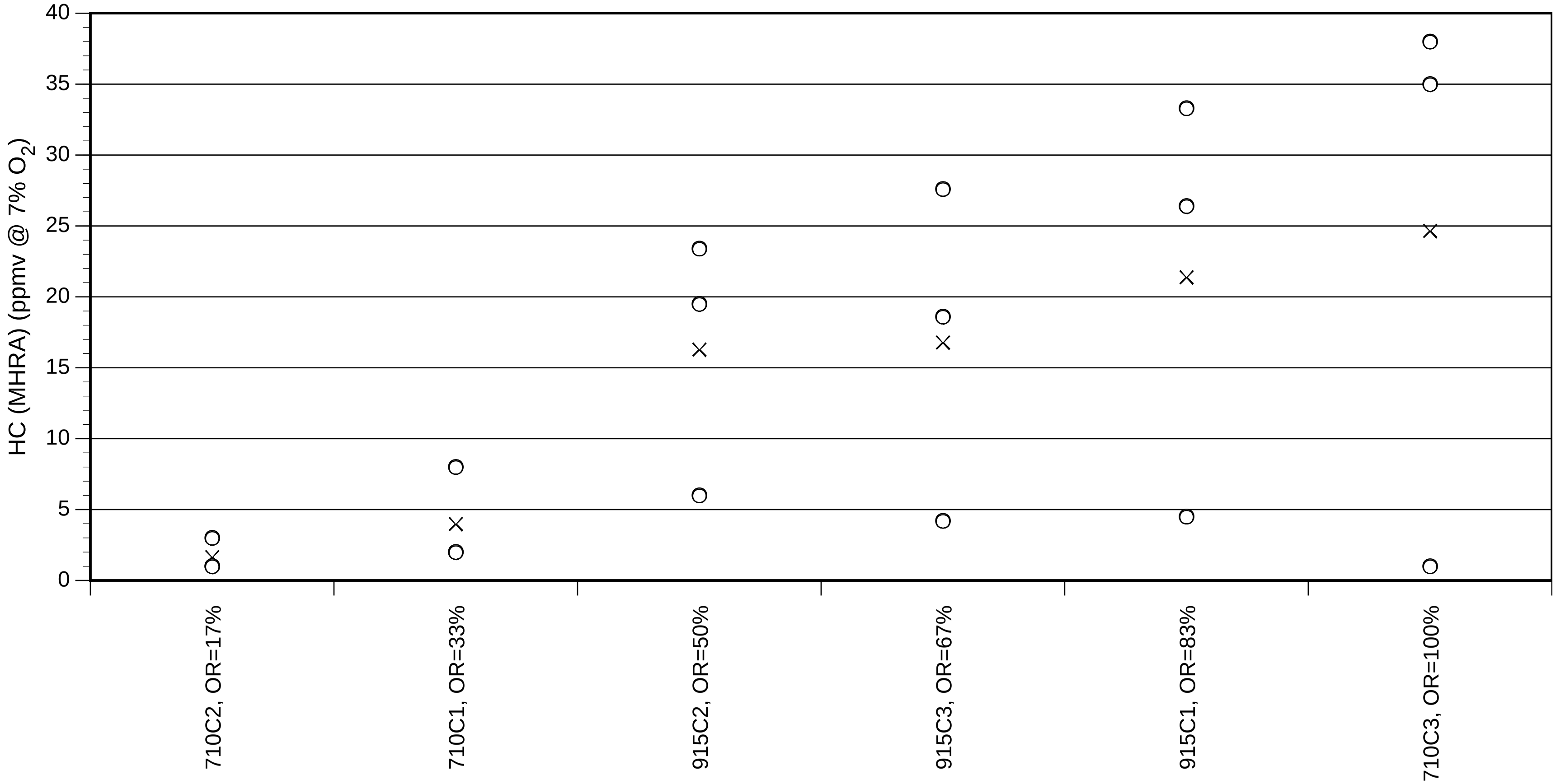

Figure 3-4. HC (maximum hourly rolling average), incinerators, entire universe.

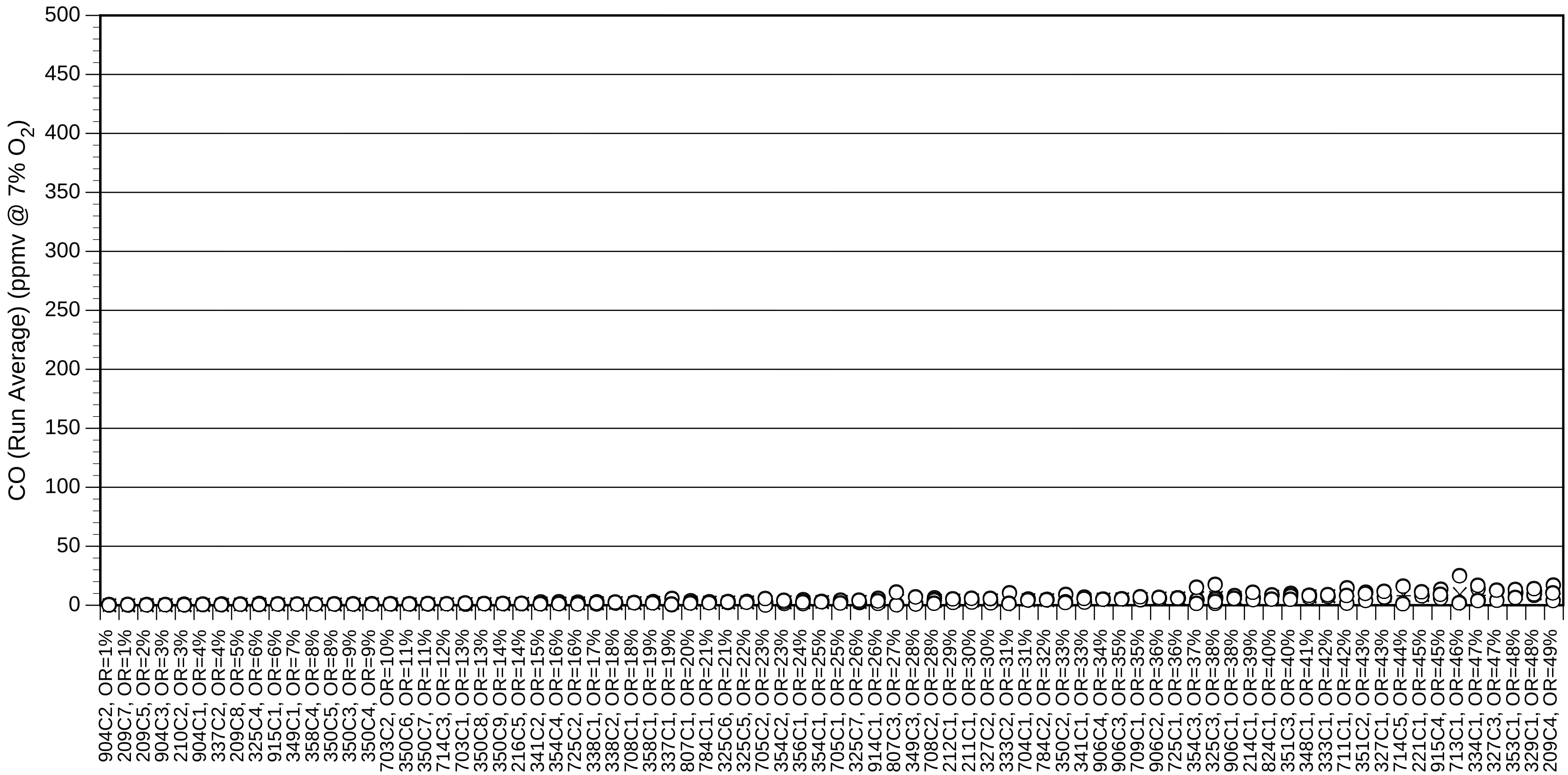

Figure 3-5. CO (run average), incinerators, entire universe (1 of 2).

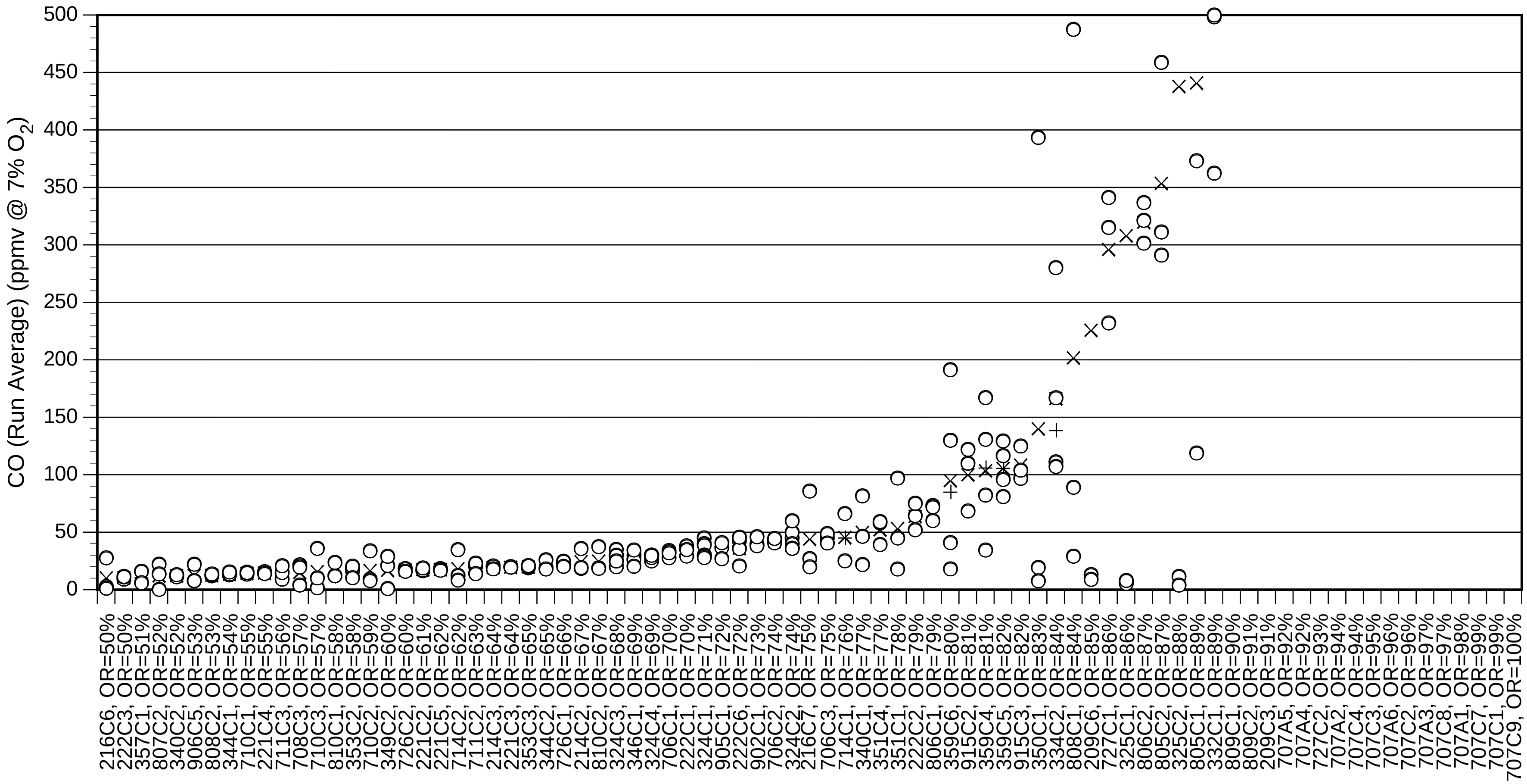

Figure 3-5. CO (run average), incinerators, entire universe (2 of 2).

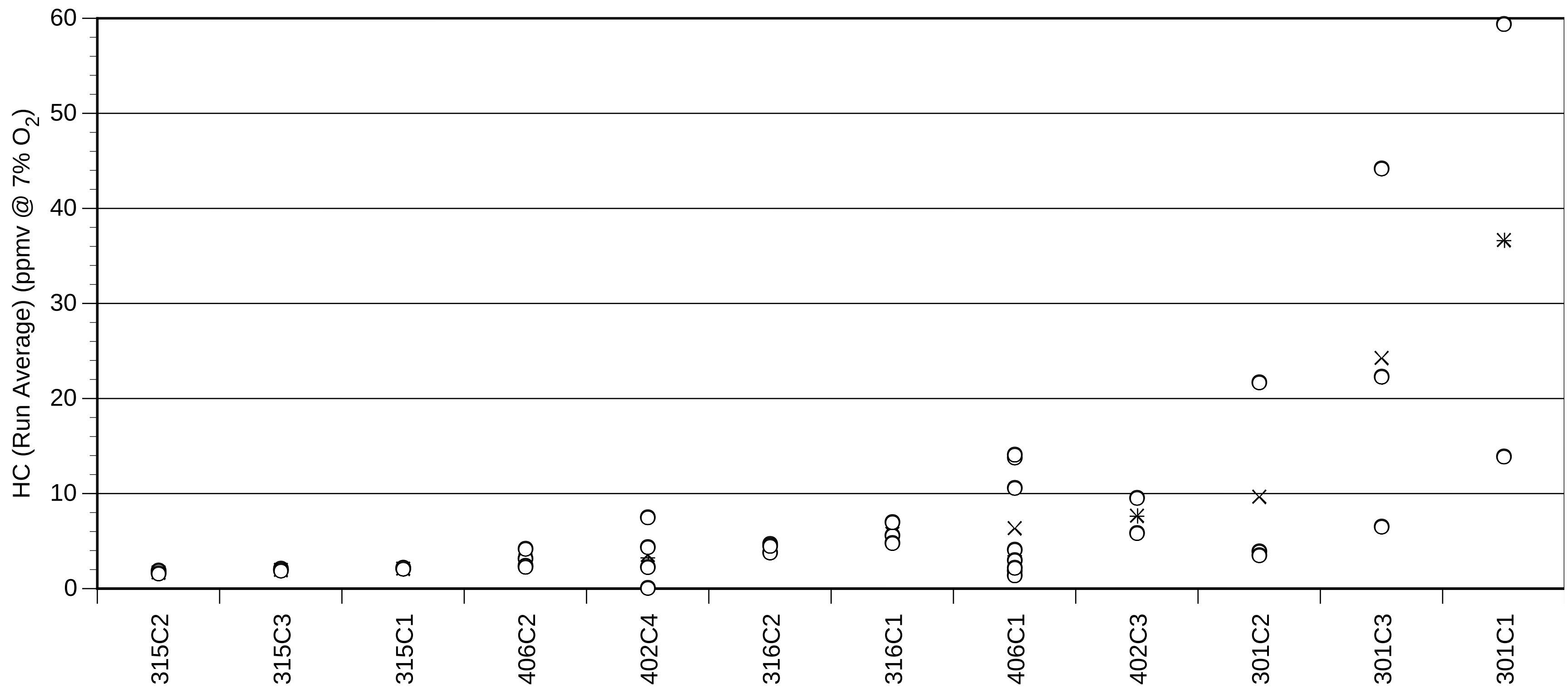

Figure 3-6. HC (run average), cement kiln bypass, entire universe.

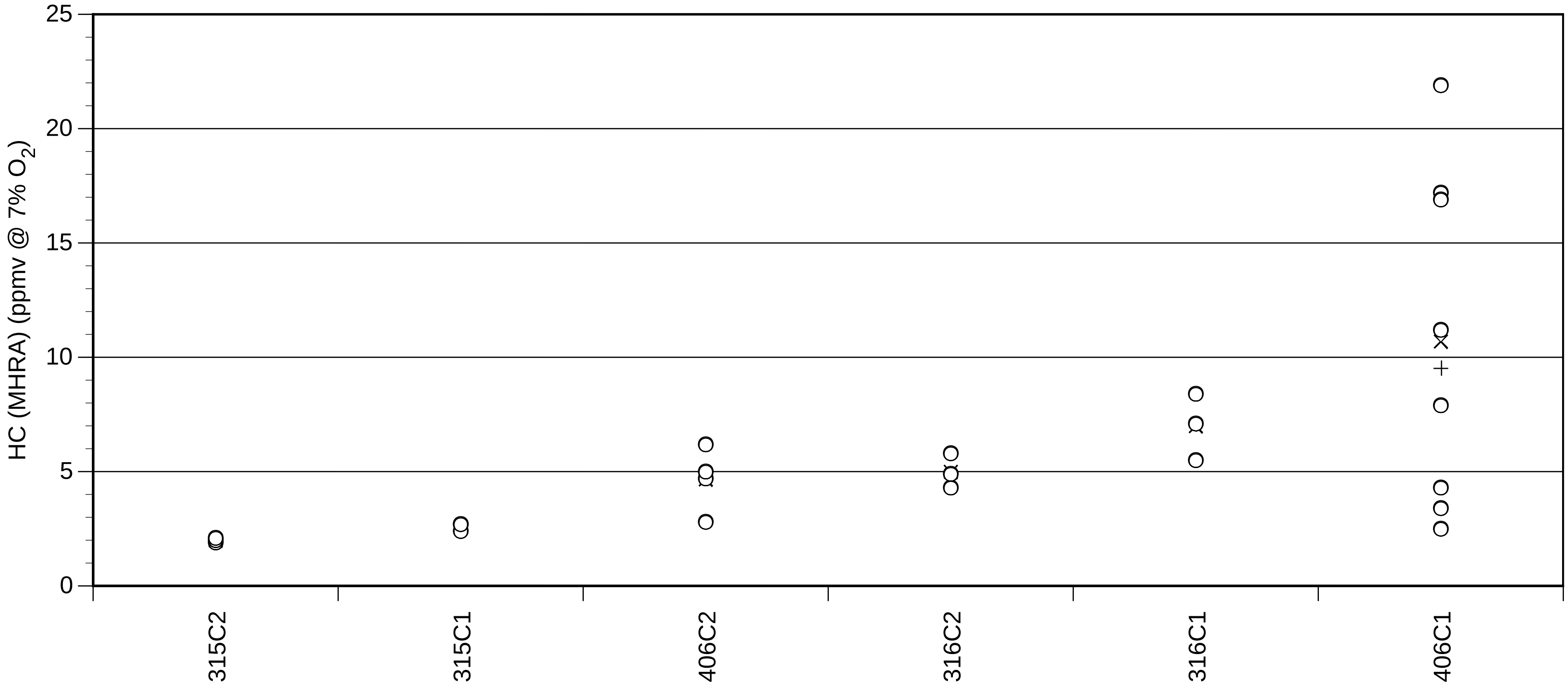

Figure 3-7. HC (maximum hourly rolling average), cement kiln bypass, entire universe.

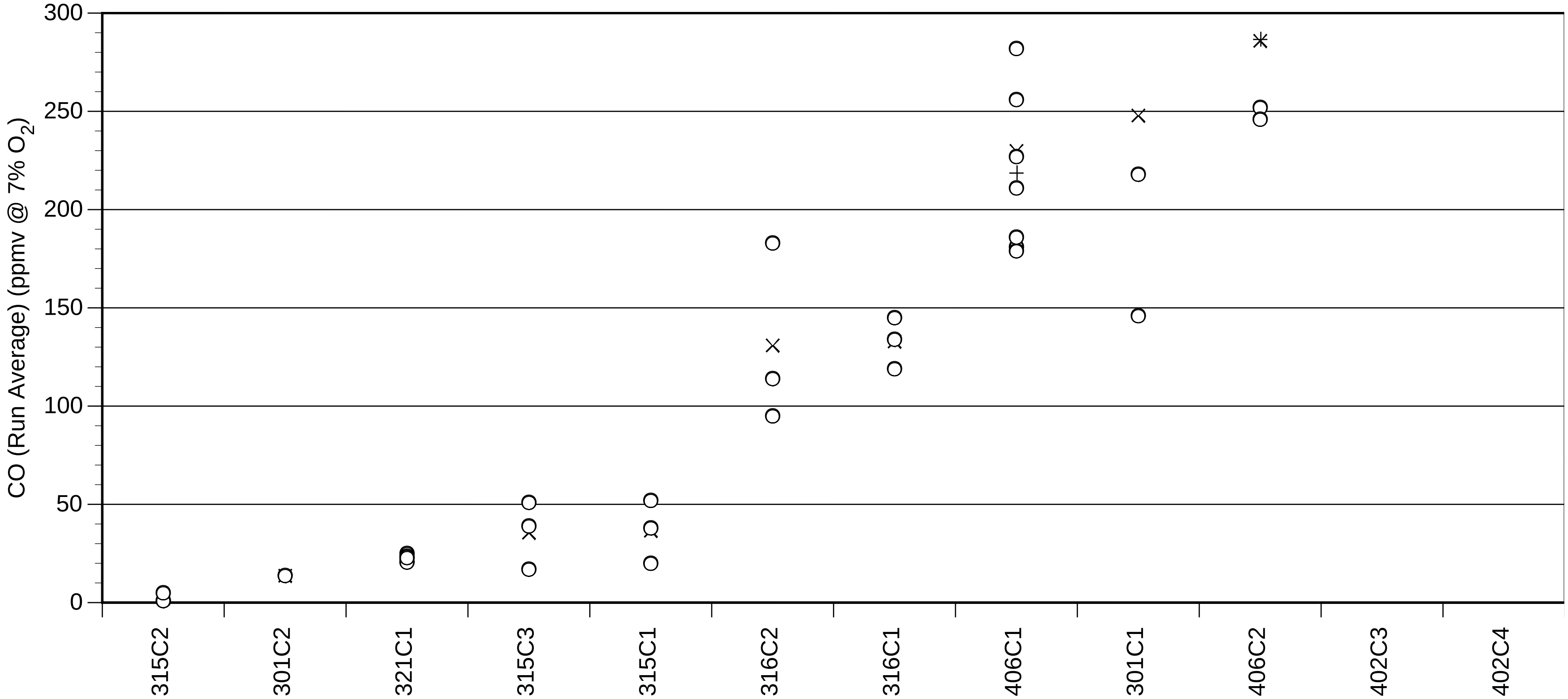

Figure 3-8. CO (run average), cement kiln bypass, entire universe.

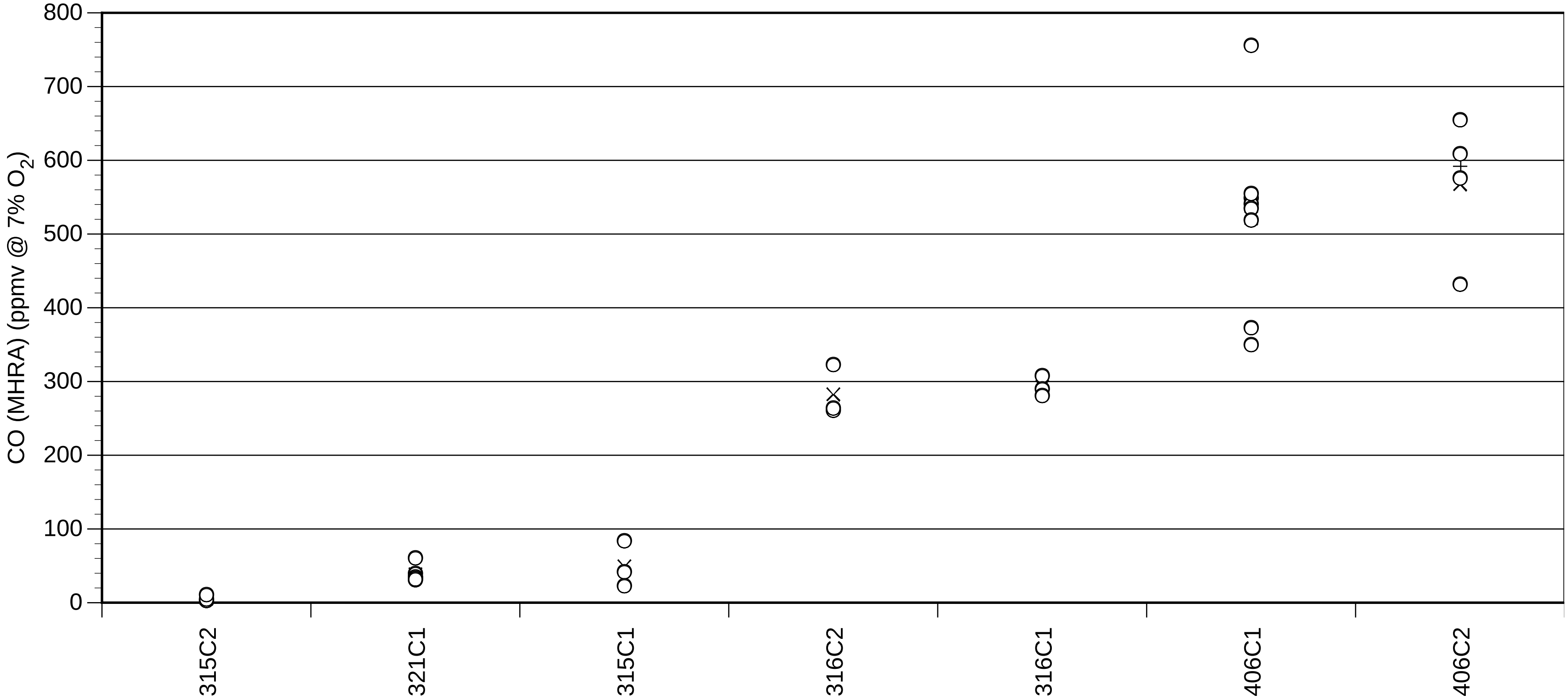

Figure 3-9. CO (maximum hourly rolling average), cement kiln bypass, entire universe.

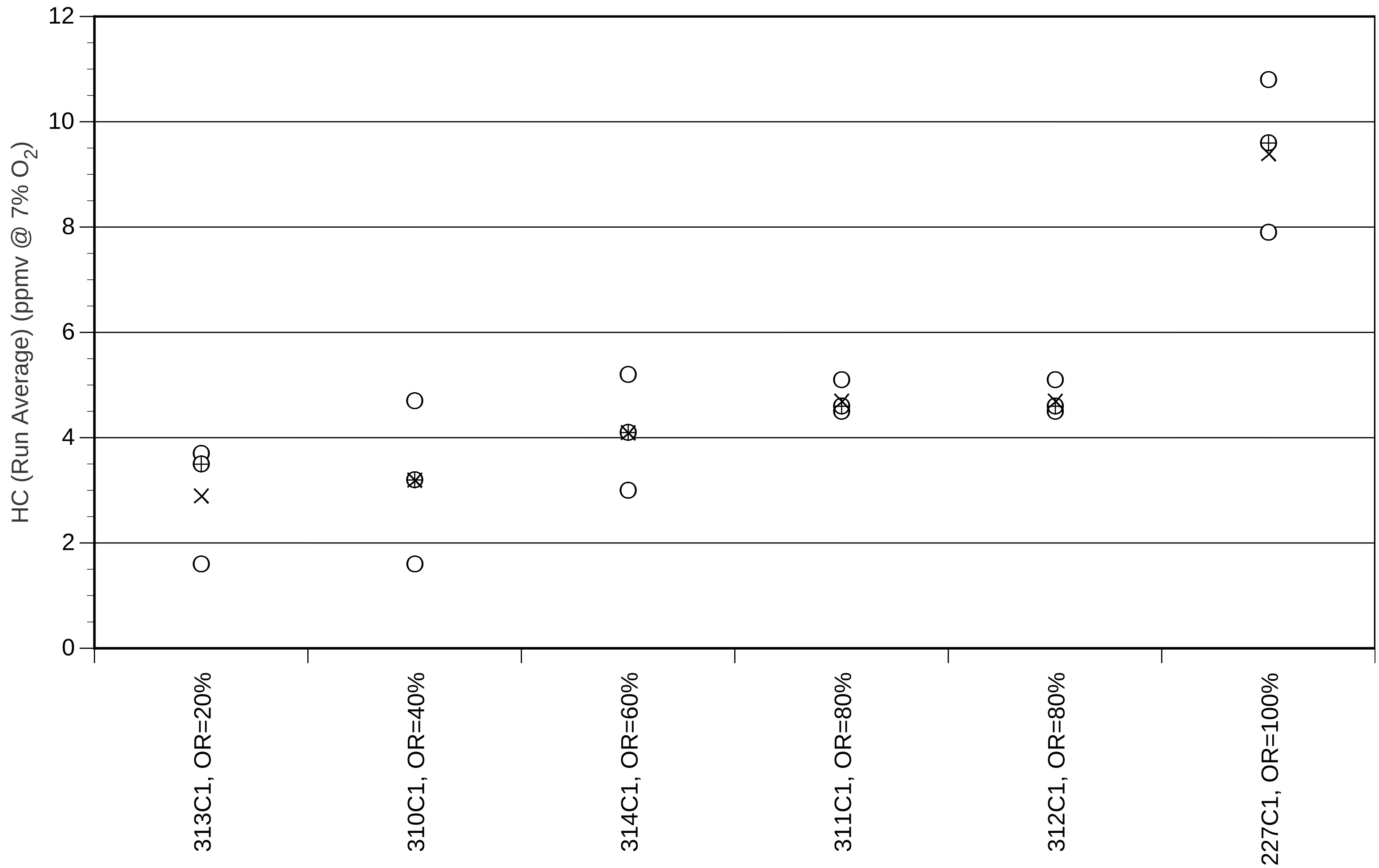

Figure 3-10. HC (run average), LWAKs, entire universe.

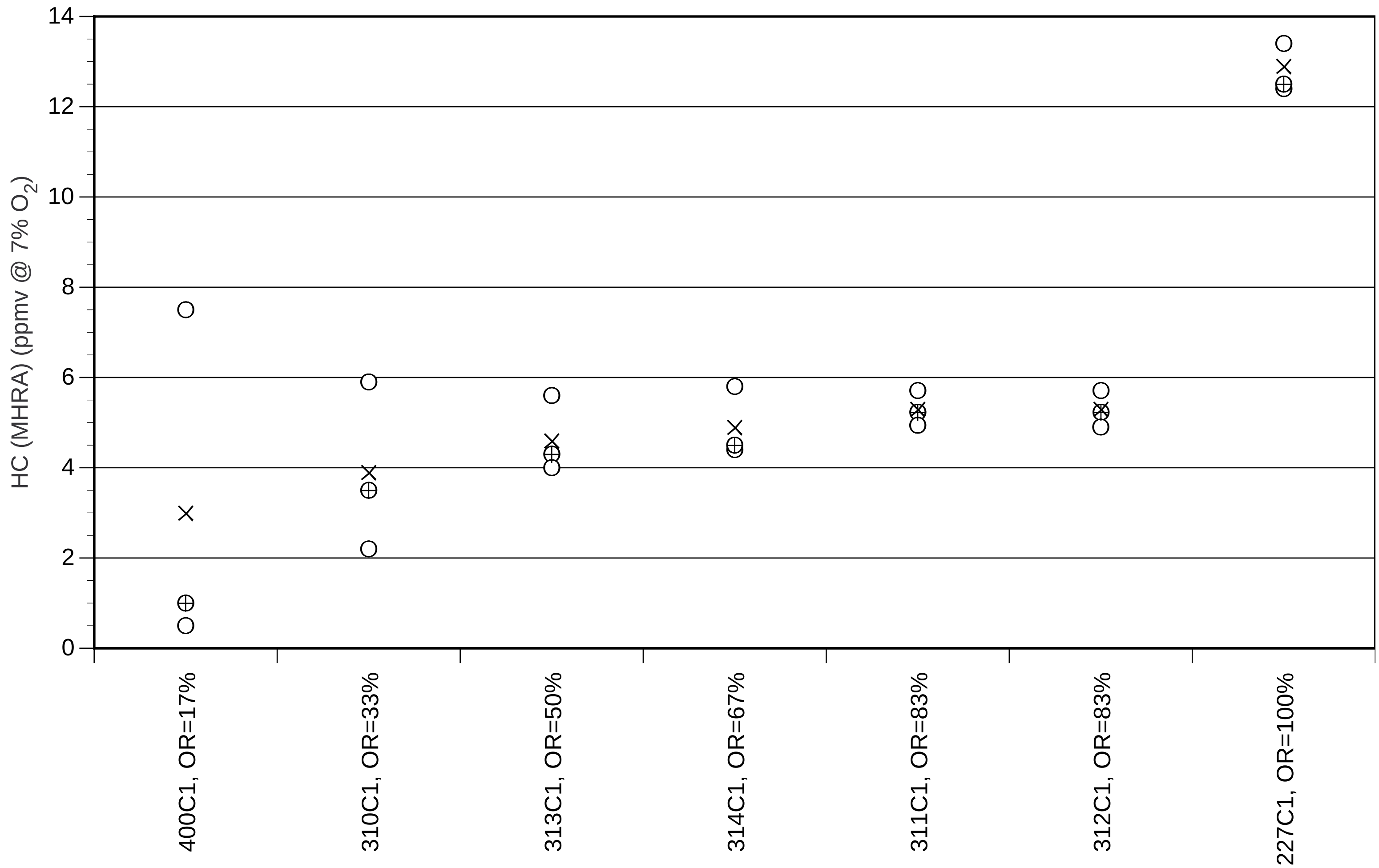

Figure 3-11. HC (maximum hourly rolling average), LWAKs, entire universe.

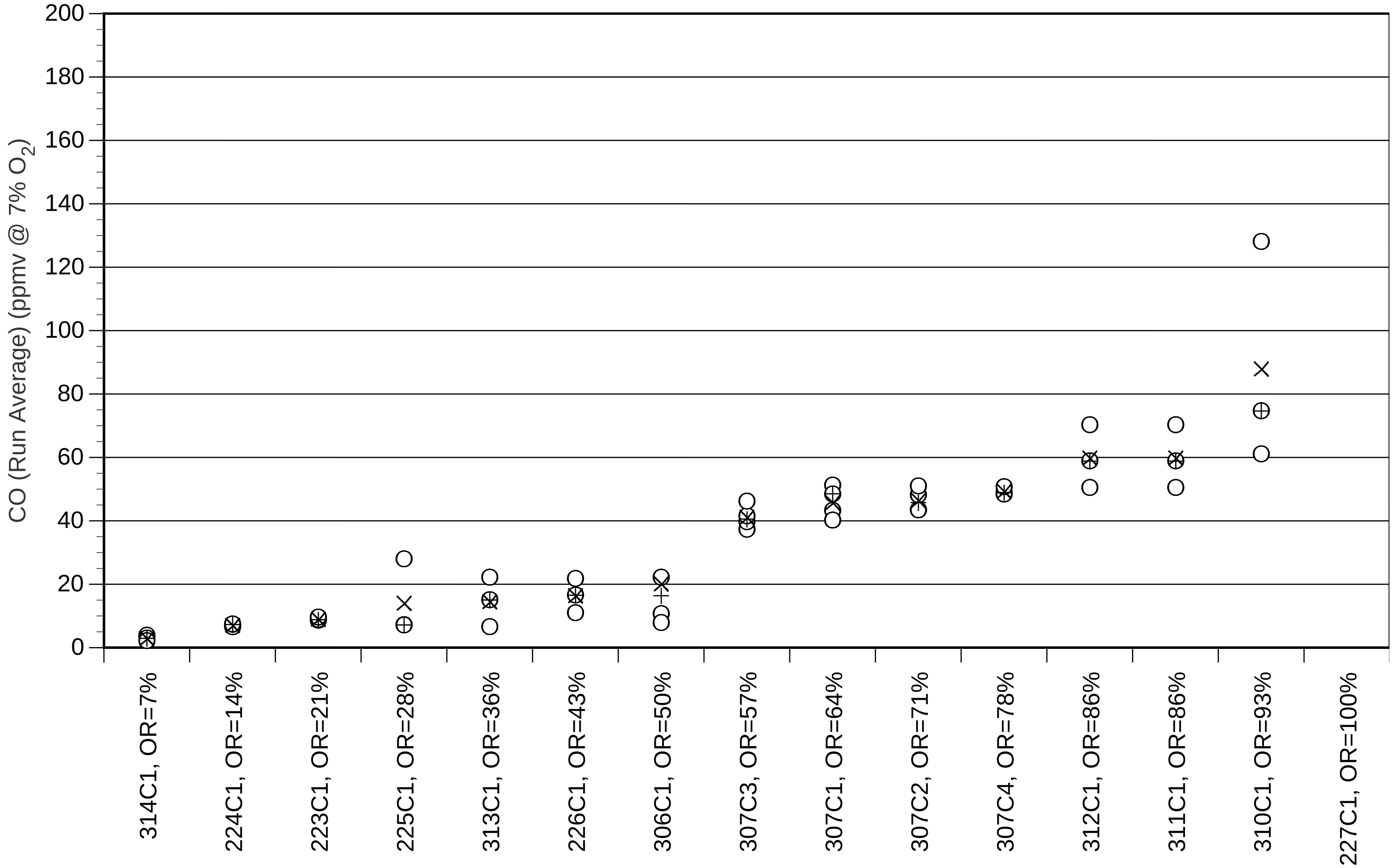

Figure 3-12. CO (run average), LWAKs, entire universe.

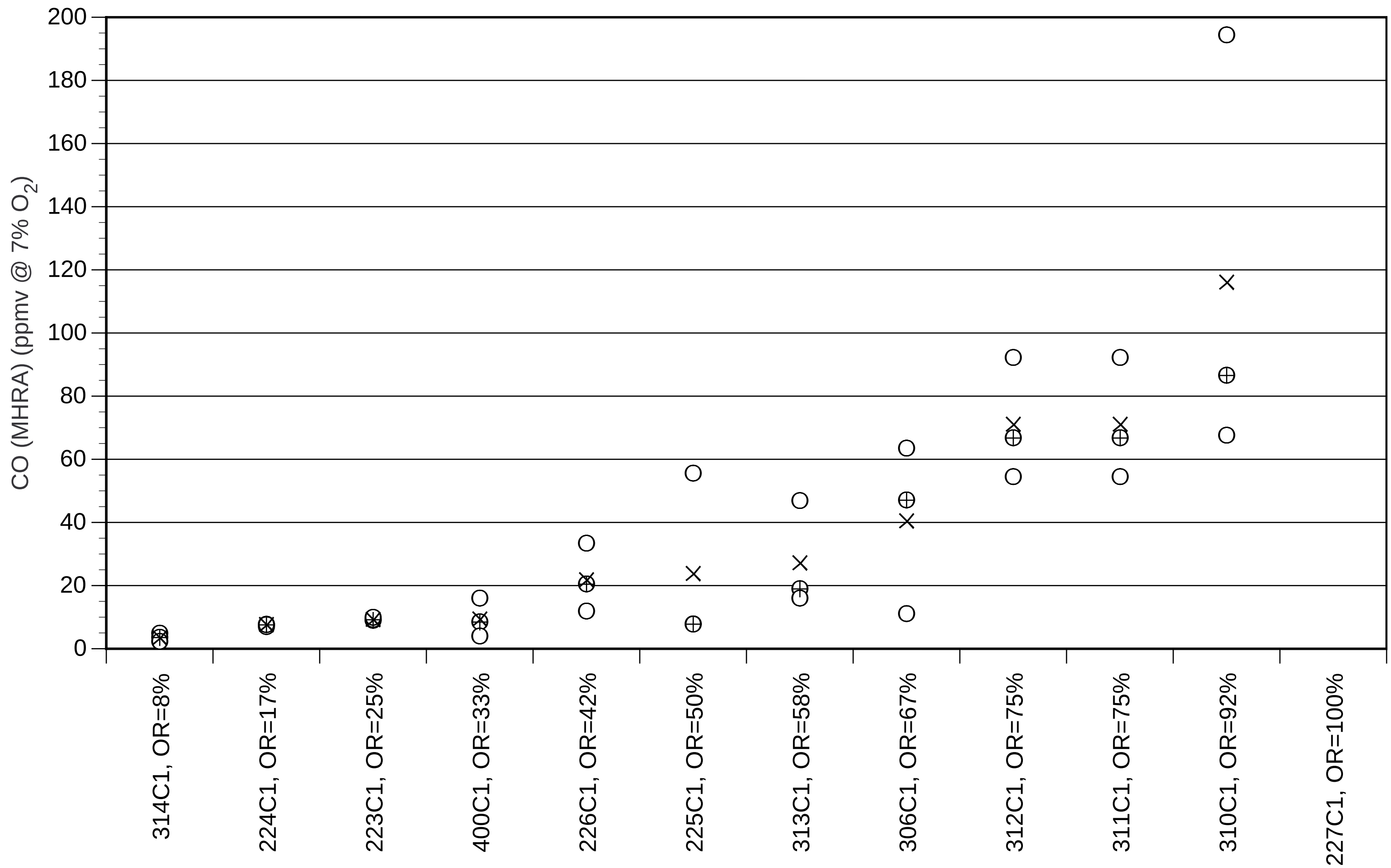

Figure 3-13. CO (maximum hourly rolling average), LWAKs, entire universe.

SECTION 4

NEW SOURCE FLOOR DETERMINATIONS

MACT floor levels for new sources are discussed for each HAP (or HAP surrogate) and source category combination. Similar to that discussed in Section 3 for existing sources, for each combination, the following is presented:

- Summary tables of all test condition stack gas emissions data from the HWC database presented in the accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*.

- Identification of the best performing MACT pool source, its emissions level, the definition of MACT based on this best performing source, and discussion of "equivalent technologies" used to expanded the definition MACT if appropriate.

- Identification of the MACT expanded universe (EU) facilities based on the definition of MACT. The range of emissions levels in the EU. A discussion of the reasons that conditions were not included in the EU.

- The new source MACT design and standard level based on the statistical analysis of the MACT EU population of source test conditions.

A discussion of the HAP control techniques used by the existing sources and the range of emission levels for the entire source category is discussed in detail in Section 3, and is not repeated here.

Similar to that used in Section 3 for determining MACT floors for existing sources, the summary ranking tables for each of the HAP and source category combinations are used to define the MACT best performing source, determine the expanded universe, and screen out conditions. As with those presented in Section 3, the tables contain the following columns of information for each test condition (row entry) from left to right across the table:

- "Subst" -- Defines the HAP of interest ("PM" stands for particulate matter, "TEQ" stands for PCDD/PCDF TEQ, "SVM" for semi-volatile metals, "LVM" for low volatility metals, "TOT CL" for total chlorine, "CO" for carbon monoxide, and "HC" for hydrocarbons).

- "Syst Type" -- Defines the source category type ("INC" for incinerators, "CK" for cement kilns, and "LWAK" for light weight aggregate kilns).

- “EPA Cond ID” -- Defines the test condition identification number corresponding to the ID number used in the EPA HWC database. The first three digits identify the combustion source emitting point (each emitting source must have its own stack), followed by the test condition ID number (e.g., “C2” stands for test condition number 2). The test condition ID is required since some facility emitting points have a number of different test conditions for the same HAP. Facility name and location are given for the combustion source emitting point three digit ID number in Appendix E.

- “APCS” -- Identifies the devices used in the air pollution control system. An acronyms list for the various devices is provided in Appendix D and in accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base.*

- For PCDD/PCDF only, “APCS Class” -- Identifies the type of air pollution control system used. A “w” stands for wet, “d” for dry, or w/d” for wet/dry. The type depends on if the flue gas is saturated prior to the primary PM control device.

- For PCDD/PCDF only, “PM APCD Temp” -- This identifies the flue gas temperature at the primary PM APCD. It is used for PCDD/PCDF to define MACT.

- For total chlorine, and metals (SVM, LVM, and mercury), “MTEC” -- MTEC is used to define MACT and determine the MACT EU. The MTECs shown consider that contributed by hazardous waste only, and do not include that from the raw materials or supplemental fuels. MTECs are used in the MACT process; the calculation of MTEC is described in detail in Section 3 of this volume.

- “Stack Gas Conc” -- Stack gas emissions concentrations of the HAP of interest for the test condition. Average (“Avg”) of all the individual runs (usually three) in test condition, as well as the maximum (“Max”) and minimum (“Min”) of the individual run levels are provided. Note that the test conditions are ranked, lowest to highest, by condition average.

- “Comments” -- Identifies for each test condition the following:

  - “MACT source” -- Used if the condition is one of the best-performing MACT source, and is used to define MACT. The HAP control method used by the condition follows in the parenthesis.

  - “Already MACT source” -- Used if a condition of the same facility has already been included in the MACT pool.

  - “In” -- Used if the condition is considered as part of MACT expanded universe. The reason is included in the parenthesis.

  - “Out” -- Used if the condition is not considered as part of the MACT EU. Reasons are given following. For example, “Not MACT” signifies that the condition does not use MACT technology; “Poor MB” signifies that the condition has a poor mass balance; "HW not burned" signifies that this is a baseline condition where hazardous wastes are not burned; "DL measurement" is used when the measurement level of the stack gas is at the analytical detection limit.

4.1 PCDD/PCDF TEQ

4.1.1 Incinerators

Table 4-1 summarizes all PCDD/PCDF TEQ test condition data from HWIs, ranked by condition average. The analysis is identical to that for existing sources discussed in Section 3 (exact same MACT pool sources, MACT expanded universe, and floor design and standard levels).

4.1.2 Cement Kilns

Table 4-2 summarizes all PCDD/PCDF TEQ test condition data from HWIs, ranked by condition average. The analysis is similar to that discussed in Section 3 for existing sources. The only difference is that MACT is defined by an primary PM APCD operating temperature of 409°F as opposed to 418°F that is used for existing sources with the 6% floor procedure. This changes the MACT expanded universe slightly, and has no significant effect on the floor design or standard levels in comparison with the 6% analysis.

4.1.3 Light Weight Aggregate Kilns

The analysis is identical, as discussed in Section 3 for existing sources, to cement kilns above.

4.2 PARTICULATE MATTER

4.2.1 Incinerators

Table 4-3 summarizes all particulate matter (PM) test condition data from HWIs, ranked by condition average. The best performing source (337C1) has an average emissions level of less than 0.001 gr/dscf. MACT is defined by the use of a FF with an air-to-cloth ratio of less than 3.8 acfm/ft^2.

The MACT EU contains sources with test condition averages up to 0.014 gr/dscf. Statistical analysis of the MACT EU provides a floor design level of 0.017 gr/dscf, with a corresponding standard level of 0.039 gr/dscf. Over 50% of all existing source conditions meet this design level.

4.2.2 Cement Kilns

Table 4-4 summarizes all PM test condition data from CKs, ranked by condition average. The best performing MACT source (source 315C2) has an average emissions level below 0.001

gr/dscf. MACT is defined as the use of a FF with an air-to-cloth ratio of less than 1.8 acfm/ft^2. The MACT EU contains all FF conditions with an air-to-cloth ratio less than 1.8 acfm/ft^2. The MACT EU contains conditions with average levels up to 0.05. Statistical analysis of the EU provides a MACT design level of 0.032 and a MACT standard of 0.065.

However, for similar reasons discussed above for existing CKs, a new source PM MACT floor of 0.03 gr/dscf is proposed, which is identical to that for existing sources. This is based on the PM New Source Performance Standards for cement manufacturing plants (non-hazardous waste burning kilns) (CFR 60.62).

4.2.3 Light Weight Aggregate Kilns

Table 4-5 summarizes all PM test condition data from LWAKs, ranked by condition average. The best performing MACT source (source 225C1) has an average emissions level of less than 0.001 gr/dscf. MACT is defined as the use of a FF with an air-to-cloth ratio of less than 1.5 acfm/ft^2. The MACT EU contains conditions with average levels up to 0.02 gr/dscf. Statistical analysis of the EU provides a MACT design level of 0.025 gr/dscf and a corresponding MACT standard of 0.054 gr/dscf.

4.3 MERCURY

4.3.1 Incinerators

Table 4-6 summarizes all mercury test condition data from HWIs, ranked by condition average. The best performing source (221C5) has a condition average emissions level of 0.1 µg/dscm. The source uses a combination of mercury feedrate control and wet scrubbing for mercury control. MACT is defined as feedrate control with an MTEC less than 51 µg/dscm and the use of a wet scrubber (any type of wet type scrubber). Note that this definition is identical to that discussed for existing sources in Section 3, except without a feedrate-only control option.

The MACT EU contains sources with test condition averages up to 48 µg/dscm (source 902C1) (exactly the same as the existing source EU). This source uses a wet scrubber, but unlike the MACT source condition, the wet scrubber did not achieve any mercury control. Conditions not making it into the EU either do not use wet scrubbing and/or have MTECs higher than the MACT limit or have mass balance problems (stack emissions significantly higher than the feedrate MTEC measurements, such as 327C2, indicating that the reported MTEC is in question).

The new source MACT floor design level is determined to be 58 µg/dscm, with a corresponding standard level of 130 µg/dscm. Over 80% of the conditions in the entire HWI universe currently meet this design level using feedrate with or without mercury emissions control devices (wet scrubbers).

4.3.2 Cement Kilns

Table 4-7 summarizes all mercury test condition data from CKs, ranked by condition average. As discussed in Section 3, due to the variability of system removal performance and expected volatility of mercury, MACT for mercury control in CKs is defined as feedrate control only. The best performing MACT source (source 404C1) has an average emissions levels of 4 µg/dscm. MACT is defined as feedrate control with a hazardous waste MTEC less than 28 µg/dscm. This is lower than the MACT limit for existing sources (MTEC limit of 110 µg/dscm).

The MACT EU contains sources with test condition averages up to 56 µg/dscm (source 208C2). Conditions not making it into the EU have hazardous waste MTECs that are higher than the MACT limit, have mass balance problems (stack emissions significantly higher than the feedrate MTEC measurements, such as 305C3, indicating that the reported MTEC is in question), or are not operating with hazardous waste during the testing period.

The floor design level is determined to be 58 µg/dscm, with a corresponding standard level of 82 µg/dscm. Over 75% of conditions in the entire CK universe currently meet this design level.

4.3.3 Light Weight Aggregate Kilns

Table 4-8 summarizes all mercury test condition data from LWAKs, ranked by condition average. Similar to CKs discussed above, the best performing source utilizes feedrate control (313C1) and has a condition average emission of 0.4 µg/dscm. MACT is defined based on a feedrate control MTEC level of 17 µg/dscm; this is exactly the same as existing sources discussed in Section 4.

The MACT EU contains all conditions with feedrate MTECs less than the MACT defining level of 17 µg/dscm. The highest condition average in the EU is at 32 µg/dscm (source 223C1). The MACT floor design is determined to be 36 µg/dscm, while the associated MACT standard is 72 µg/dscm. All sources except source 307 can meet this design level. Note that this source used relatively high levels of mercury spiking during its trial burn tests.

4.4 SEMI VOLATILE METALS

4.4.1 Incinerators

Table 4-9 summarizes all SVM test condition data from HWIs, ranked by condition average. The best performing MACT source (source 354C1) has an average emissions level of 3 µg/dscm. This source uses a VS and IWS with an MTEC of 4.9×10^4 µg/dscm. A FF/WS combination APCS is considered as equivalent technology to the VS/IWS train.

The MACT EU contains sources with test condition averages up to 94 µg/dscm. The floor design level is determined to be 120 µg/dscm, with a corresponding standard level of 240 µg/dscm. About 65% of conditions in the entire existing source universe currently meet this design level, even though many of these facilities do not use MACT.

4.4.2 Cement Kilns

Table 4-10 summarizes all SVM test condition data from CKs, ranked by condition average. The best performing MACT source (320C1) has an average emission level of 4 µg/dscm. MACT is defined as a FF with an air-to-cloth ratio of less than 2.1 $acfm/ft^2$ and an MTEC of less than $3.6x10^4$ µg/dscm.

The MACT EU contains sources with test condition averages up to 33 µg/dscm (source 303C3). Conditions not making it into the EU either do not use FFs, or use FFs with hazardous waste MTECs that are higher than the MACT limit or air-to-cloth ratios higher than 2.1. The MACT floor design level is determined to be 34 µg/dscm, with a corresponding standard level of 54 µg/dscm. About 35% of the conditions in the entire universe currently meet this design level.

4.4.3 Light Weight Aggregate Kilns

Table 4-11 summarizes all SVM test condition data from LWAKs, ranked by condition average. The best performing MACT source (source 225C1) has an average emissions level of 1 µg/dscm. MACT is defined as the use of an FF with an air-to-cloth ratio of less than 1.5 $acfm/ft^2$ and an MTEC of less than $2.7x10^5$ µg/dscm.

The MACT EU contains sources with test condition averages up to 4 µg/dscm. The MACT floor design level is determined to be 4 µg/dscm, with a corresponding standard level of 5.2 µg/dscm. Less than 50% of the conditions in the entire existing source universe currently meet this design level.

4.5 LOW VOLATILE METALS

4.5.1 Incinerators

Table 4-12 summarizes all LVM test condition data from HWIs, ranked by condition average. The best performing MACT source (source 500C1) has an average emissions level of 4 µg/dscm. MACT is defined as the use of a VS with an MTEC of $1x10^3$ µg/dscm. Any PM control device is considered as equivalent technology (those including IWS, ESP, or FF). Note that in general, VSs are not the best performers for LVM control, compared with more efficient IWS, ESP, and FFs. However, possibly due to low feedrate MTEC, a facility with a VS has the lowest stack gas emissions concentration, but not necessarily the highest level of LVM control (considering the difference between the inlet flue gas and outlet stack gas concentration across the LVM APCD).

The MACT EU contains sources with test condition averages up to 145 µg/dscm (source 221C4). The floor design level is determined to be 110 µg/dscm, with a corresponding standard level of 260 µg/dscm. About 70% of the conditions in the entire existing source universe currently meet this design level, even though many of these facilities do not use the MACT floor defining control schemes.

4.5.2 Cement Kilns

Table 4-13 summarizes all LVM test condition data from CKs, ranked by condition average. The best performing MACT source (source 320C1) has an average emissions level of less than 4 µg/dscm. MACT is defined by the use of a FF with an air-to-cloth ratio of less than 2.3 acfm/ft^2 and a MTEC of less than $2.5x10^4$ µg/dscm.

The MACT EU contains sources with test condition averages of up to 25 µg/dscm (303C1). The floor design level is determined to be 26 µg/dscm, with a corresponding standard level of 44 µg/dscm. Over 50% of the test conditions in the entire existing source universe currently meet this design level.

4.5.3 Light Weight Aggregate Kilns

Table 4-14 summarizes all LVM test condition data from LWAKs, ranked by condition average. The best performing MACT source (source 224C1) has an average emissions level of 10 µg/dscm. MACT is defined as a FF with an air-to-cloth ratio of less than 1.3 acfm/ft^2 and an MTEC of less than $3.7x10^4$ µg/dscm.

The MACT EU contains sources with test condition averages up to 41 µg/dscm. The floor design level is determined to be 36 µg/dscm, with a corresponding standard level of 55 µg/dscm. About 25% of the conditions in the entire existing source universe currently meet this design level.

4.6 TOTAL CHLORINE (HCl + Cl_2)

4.6.1 Incinerators

Table 4-15 summarizes all total chlorine test condition data from HWIs, ranked by condition average. The best performing source (358C2) has a condition average emissions level of 0.2 ppmv. MACT is defined based on a feedrate control MTEC level is $1.7x10^7$ µg/dscm with wet scrubbing (based on source 706C3); note that this is identical to that for existing sources.

The MACT EU contains all conditions with feedrate MTEC less than the MACT defining level of $1.7x10^7$ µg/dscm in conjunction with wet scrubbing. The highest condition average in the expanded universe is at 70 ppmv. The MACT floor design level is determined to be 96 ppmv, while the associated MACT standard is 280 ppmv. About 90% of all test conditions in the entire source category universe meet this design level. Facilities not included in the EU include those not using wet scrubbing, as well as those using wet scrubbing with MTECs above the MACT defining level.

4.6.2 Cement Kilns

Table 4-16 summarizes all total chlorine test condition data from CKs, ranked by condition average. The best performing MACT source (source 204C2) has a condition average emission level of 0.1 ppmv. MACT is defined based on chlorine feedrate control with a chlorine MTEC of $1.6x10^6$ µg/dscm. Note that this is the same as MACT for existing sources.

The MACT EU contains all conditions with feedrate MTEC less than the MACT defining level of 1.6×10^6 μg/dscm. The highest condition average in the EU is at 220 ppmv, which is also the highest emitting source in the entire source category. The MACT floor design level is determined to be 270 ppmv, while the associated MACT standard is 630 ppmv. All test conditions meet this design level. Facilities not included in the EU include those with MTECs above the MACT defining level.

4.6.3 Light Weight Aggregate Kilns

Table 4-17 summarizes all total chlorine test condition data from LWAKs, ranked by condition average. The best performing source (307C3) uses a combination of feedrate control and a wet venturi scrubber. It has a condition average emissions level of 13 ppmv. MACT is defined as the use of wet scrubbing with a feedrate control MTEC of 1.4×10^7 (based on source 307C2). There are no other facilities in the universe that use wet scrubbing beyond the MACT source. The MACT floor design level is determined to be 36 ppmv, while the associated MACT standard is 62 ppmv.

4.7 TRACE ORGANICS SURROGATES

The MACT floor level for new sources for trace organics surrogates CO and HC are identical to that discussed for existing sources in Section 3. This is since, as discussed in Section 3, is not possible to quantitatively define the combustor characteristics that define MACT for CO and THC, and the resulting MACT EU, without a detailed evaluation of each facility source test condition.

4.8 SUMMARY OF NEW SOURCE FLOOR LEVELS

The statistically derived MACT floor design and standard levels for new sources are summarized in Table 4-18. Note that these levels have not been selected in all cases as being representative of the MACT floor. See the preamble of this rule for a discussion of the proposed MACT floor levels.

TABLE 4-1. PCDD/PCDF TEQ, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	INC	347C2	C/QC/VS/S/DM	w	163	0.00	0.00	0.00	MACT source (wet APCS)
D/F TEQ	INC	347C1	C/QC/VS/S/DM	w	163	0.01	0.01	0.00	In: MACT EU (wet APCS)
D/F TEQ	INC	902C1	QT/VS/PT	w		0.01	0.01	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	354C2	QC/AS/VS/DM/IWS	w		0.01	0.02	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	706C3	QT/HS/C	w		0.01	0.01	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	222C8	WHB/SD/ESP/Q/PBS	w/d		0.02	0.02	0.01	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	502C1	WHB/QC/PBC/VS/ES	w		0.02	0.02	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	222C9	WHB/SD/ESP/Q/PBS	w/d		0.02	0.06	0.01	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	347C3	C/QC/VS/S/DM	w	164	0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	706C2	QT/HS/C	w		0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	500C1	QC/VS/KOV/DM	w	192	0.03	0.03	0.03	In: MACT EU (wet APCS)
D/F TEQ	INC	222C7	WHB/SD/ESP/Q/PBS	w/d	383	0.03	0.04	0.02	In: MACT EU (dry w/ ACI)
D/F TEQ	INC	347C4	C/QC/VS/S/DM	w	161	0.04	0.04	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	500C3	QC/VS/KOV/DM	w	191	0.04	0.05	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	331C1	PT/IWS	w		0.06	0.11	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	222C5	WHB/SD/ESP/Q/PBS	w/d	383	0.07	0.10	0.04	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	222C6	WHB/SD/ESP/Q/PBS	w/d	359	0.07	0.08	0.06	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	214C1	IWS	w	105	0.10	0.19	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	221C4	SS/PT/VS	w		0.10	0.10	0.10	In: MACT EU (wet APCS)
D/F TEQ	INC	346C1	C/QC/VS/PT/DM	w	178	0.13	0.14	0.11	In: MACT EU (wet APCS)
D/F TEQ	INC	808C1	QT/PBS/ESP	w		0.15	0.18	0.13	In: MACT EU (wet APCS)
D/F TEQ	INC	1001C1	?	?		0.16	0.28	0.07	Out: Unknown APCS
D/F TEQ	INC	725C1	WS/QT	w		0.17	0.25	0.06	In: MACT EU (wet APCS)
D/F TEQ	INC	353C2	QC/VS/DM/ESP	w		0.17	0.27	0.12	In: MACT EU (wet APCS)
D/F TEQ	INC	221C2	SS/PT/VS	w		0.20	0.20	0.20	In: MACT EU (wet APCS)
D/F TEQ	INC	222C4	WHB/SD/ESP/Q/PBS	w/d	381	0.22	0.45	0.15	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	915C2	QC/VS/C	w		0.24	0.32	0.18	In: MACT EU (wet APCS)
D/F TEQ	INC	807C3	C/WHB/VQ/PT/HS/DM	w		0.25	0.35	0.19	In: MACT EU (wet APCS)
D/F TEQ	INC	221C1	SS/PT/VS	w		0.39	0.39	0.39	In: MACT EU (wet APCS)
D/F TEQ	INC	807C2	C/WHB/VQ/PT/HS/DM	w		0.40	0.60	0.16	In: MACT EU (wet APCS)
D/F TEQ	INC	807C1	C/WHB/VQ/PT/HS/DM	w		0.56	0.99	0.28	In: MACT EU (wet APCS)
D/F TEQ	INC	221C3	SS/PT/VS	w		0.63	0.63	0.63	In: MACT EU (wet APCS)
D/F TEQ	INC	915C3	QC/VS/C	w		0.68	0.84	0.57	In: MACT EU (wet APCS)
D/F TEQ	INC	334C1	WS/ESP/PT	w		0.69	1.23	0.34	In: MACT EU (wet APCS)

TABLE 4-1. PCDD/PCDF TEQ, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm)			Comments
						Avg	Max	Min	
D/F TEQ	INC	327C4	SD/FF/WS/ESP	w/d	400	0.76	0.95	0.57	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	221C5	SS/PT/VS	w		0.78	0.78	0.78	In: MACT EU (wet APCS)
D/F TEQ	INC	222C2	WHB/SD/ESP/Q/PBS	w/d	384	1.21	1.70	0.82	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	327C5	SD/FF/WS/ESP	w/d	460	1.31	2.00	0.90	Out: Not MACT
D/F TEQ	INC	325C9	SD/FF/WS/IWS	w/d	430	2.02	2.30	1.75	Out: Not MACT
D/F TEQ	INC	325A2	SD/FF/WS/IWS	w/d	460	2.13	2.20	2.00	Out: Not MACT
D/F TEQ	INC	222C3	WHB/SD/ESP/Q/PBS	w/d	379	2.22	2.62	1.50	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	325C8	SD/FF/WS/IWS	w/d	460	2.26	2.43	2.16	Out: Not MACT
D/F TEQ	INC	325A1	SD/FF/WS/IWS	w/d	460	2.37	2.50	2.30	Out: Not MACT
D/F TEQ	INC	334C2	WS/ESP/PT	w		3.48	4.53	2.97	In: MACT EU (wet APCS)
D/F TEQ	INC	222C1	WHB/SD/ESP/Q/PBS	w/d	411	3.61	4.86	1.88	Out: Not MACT
D/F TEQ	INC	914C1	?	?		4.39	4.39	4.39	Out: Unknown ACPS
D/F TEQ	INC	229C1	WHB/ACS/HCS/CS	w	500	4.51	11.18	1.05	In: MACT EU (wet APCS)
D/F TEQ	INC	229C2	WHB/ACS/HCS/CS	w	500	8.02	11.19	3.14	In: MACT EU (wet APCS)
D/F TEQ	INC	327C3	SD/FF/WS/ESP	w/d	457	8.50	10.90	7.15	Out: Not MACT
D/F TEQ	INC	327C2	SD/FF/WS/ESP	w/d	450	18.36	22.86	13.34	Out: Not MACT
D/F TEQ	INC	327C1	SD/FF/WS/ESP	w/d	450	20.10	27.50	10.99	Out: Not MACT
D/F TEQ	INC	330C1	QT/WS/DM	w		33.47	76.46	9.45	In: MACT EU (wet APCS)
D/F TEQ	INC	330C2	QT/WS/DM	w		38.54	73.22	3.85	In: MACT EU (wet APCS)

TABLE 4-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	CK	208C1	ESP	d	409	0.00	0.01	0.00	MACT source (409°F)
D/F TEQ	CK	207C1	MC/ESP	d	418	0.02	0.02	0.02	Out: High APCD temperature
D/F TEQ	CK	205C3	ESP	d	470	0.02	0.03	0.02	Out: HW not burned
D/F TEQ	CK	315C2	FF	d	403	0.02	0.02	0.02	In: MACT EU
D/F TEQ	LWAK	336C2	FF	d	400	0.04	0.04	0.04	In: MACT EU
D/F TEQ	CK	401C4	ESP	d	296	0.04	0.05	0.03	In: MACT EU
D/F TEQ	CK	315C1	FF	d	341	0.04	0.04	0.04	In: MACT EU
D/F TEQ	CK	402C3	ESP	d	276	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	206C4	ESP	d	530	0.04	0.06	0.03	Out: HW not burned
D/F TEQ	LWAK	336C1	FF	d	400	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	401C3	ESP	d	379	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	316C2	FF	d	492	0.05	0.07	0.03	Out: High APCD temperature
D/F TEQ	CK	401C5	ESP	d	365	0.05	0.06	0.03	In: MACT EU
D/F TEQ	CK	322C53	ESP	d	374	0.05	0.05	0.05	In: MACT EU
D/F TEQ	CK	323C52	ESP	d	351	0.05	0.05	0.05	Out: HW not burned
D/F TEQ	CK	306C1	MC/FF	d	547	0.05	0.06	0.05	Out: High APCD temperature
D/F TEQ	CK	319C52	ESP	d	497	0.06	0.09	0.04	Out: High APCD temperature
D/F TEQ	CK	323C50	ESP	d	360	0.07	0.17	0.04	In: MACT EU
D/F TEQ	CK	322C54	ESP	d	455	0.09	0.09	0.08	Out: HW not burned
D/F TEQ	CK	320C1	FF	d	484	0.09	0.13	0.05	Out: High APCD temperature
D/F TEQ	CK	228C4	ESP	d	381	0.12	0.21	0.07	In: MACT EU
D/F TEQ	CK	319C51	ESP	d	568	0.13	0.20	0.05	Out: High APCD temperature
D/F TEQ	CK	402C4	ESP	d	350	0.13	0.15	0.11	In: MACT EU
D/F TEQ	CK	304C3	ESP	d	417	0.14	0.18	0.09	Out: HW not burned
D/F TEQ	CK	319C9	ESP	d	426	0.16	0.20	0.11	Out: High APCD temperature
D/F TEQ	CK	405C1	ESP	d	256	0.17	0.28	0.10	In: MACT EU
D/F TEQ	CK	205C4	ESP	d	470	0.20	0.37	0.05	Out: High APCD temperature
D/F TEQ	CK	319B1	ESP	d	462	0.34	0.48	0.24	Out: High APCD temperature
D/F TEQ	CK	228C3	ESP	d	459	0.37	0.57	0.21	Out: High APCD temperature
D/F TEQ	CK	322C52	ESP	d	415	0.45	0.45	0.45	In: MACT EU
D/F TEQ	CK	204C2	ESP	d	597	0.47	0.75	0.28	Out: High APCD temperature
D/F TEQ	CK	406C1	ESP	d	352	0.50	0.95	0.30	In: MACT EU
D/F TEQ	CK	316C1	FF	d	507	0.58	1.54	0.09	Out: High APCD temperature
D/F TEQ	CK	335C50	ESP	d	400	0.59	0.62	0.56	In: MACT EU

TABLE 4-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm)			Comments
						Avg	Max	Min	
D/F TEQ	CK	319C54	ESP	d	518	0.60	0.61	0.60	Out: HW not burned
D/F TEQ	CK	319C53	ESP	d	499	0.62	1.11	0.32	Out: High APCD temperature
D/F TEQ	CK	323C51	ESP	d	400	0.79	0.91	0.67	In: MACT EU
D/F TEQ	CK	319C50	ESP	d	562	0.95	1.07	0.77	Out: High APCD temperature
D/F TEQ	CK	322C51	ESP	d	460	1.00	1.00	1.00	Out: High APCD temperature
D/F TEQ	CK	404C1	ESP	d	498	1.02	1.55	0.60	Out: High APCD temperature
D/F TEQ	CK	402C1	ESP	d	433	1.02	1.39	0.64	Out: High APCD temperature
D/F TEQ	CK	204C3	ESP	d	596	1.10	1.79	0.75	Out: HW not burned
D/F TEQ	CK	319C5	ESP	d	443	1.12	1.12	1.12	Out: High APCD temperature
D/F TEQ	CK	317C2	FF	d	505	1.13	1.16	1.06	Out: High APCD temperature
D/F TEQ	CK	317C3	FF	d	500	1.32	1.32	1.32	Out: High APCD temperature
D/F TEQ	CK	401C1	ESP	d	436	1.76	3.84	0.35	Out: High APCD temperature
D/F TEQ	CK	206C3	ESP	d	563	1.97	2.51	1.40	Out: High APCD temperature
D/F TEQ	CK	304C1	ESP	d	527	3.62	4.23	3.18	Out: High APCD temperature
D/F TEQ	CK	322C1	ESP	d	537	3.72	5.90	2.59	Out: High APCD temperature
D/F TEQ	CK	403C1	ESP	d	493	3.82	12.64	0.50	Out: High APCD temperature
D/F TEQ	CK	203C1	ESP	d	383	5.06	7.64	1.95	In: MACT EU
D/F TEQ	CK	323C1	ESP	d	490	5.18	9.39	2.56	Out: High APCD temperature
D/F TEQ	CK	322C50	ESP	d	500	5.60	8.37	3.64	Out: High APCD temperature
D/F TEQ	CK	319C7	ESP	d	474	5.79	5.79	5.79	Out: High APCD temperature
D/F TEQ	CK	319C6	ESP	d	527	7.54	9.35	5.74	Out: High APCD temperature
D/F TEQ	CK	300C2	ESP	d	608	10.97	13.20	6.63	Out: High APCD temperature
D/F TEQ	CK	319C2	ESP	d	593	19.71	25.83	14.70	Out: High APCD temperature
D/F TEQ	CK	335C1	ESP	d	718	32.42	50.52	21.82	Out: High APCD temperature
D/F TEQ	CK	305C3	ESP	d	741	49.46	62.26	29.67	Out: High APCD temperature
D/F TEQ	CK	309C1	MC/ESP	d	641	49.86	57.34	40.14	Out: High APCD temperature

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	500C4	QC/VS/KOV/DM		0.000	0.000	0.000	Out: Source category outlier
PM	INC	337C1	WHB/DA/DI/FF		0.000	0.001	0.000	MACT source (FF, A/C=3.8)
PM	INC	354C1	QC/AS/VS/DM/IWS		0.001	0.001	0.000	Out: Not MACT
PM	INC	350C2	WHB/HE/FF		0.001	0.001	0.000	Out: MACT (FF), High A/C (9.4)
PM	INC	347C4	C/QC/VS/S/DM		0.001	0.001	0.001	Out: HW not burned
PM	INC	350C6	WHB/HE/FF		0.001	0.001	0.001	Out: MACT (FF), High A/C (8.8)
PM	INC	209C2	WHB/FF/VQ/PT/DM		0.001	0.001	0.001	In: MACT (FF, A/C=2.6)
PM	INC	350C3	WHB/HE/FF		0.001	0.002	0.000	Out: MACT (FF, A/C=10)
PM	INC	350C9	WHB/HE/FF		0.001	0.001	0.000	Out: MACT (FF, A/C=8.3)
PM	INC	350C5	WHB/HE/FF		0.001	0.001	0.001	Out: MACT (FF, A/C=9)
PM	INC	350C4	WHB/HE/FF		0.001	0.001	0.001	Out: MACT (FF, A/C=9)
PM	INC	209C1	WHB/FF/VQ/PT/DM		0.001	0.002	0.001	In: MACT EU (FF, A/C=3.0)
PM	INC	354C2	QC/AS/VS/DM/IWS		0.001	0.002	0.000	In: MACT EU (FF)
PM	INC	327C3	SD/FF/WS/ESP		0.001	0.001	0.000	In: MACT EU (FF, A/C=1.7)
PM	INC	350C8	WHB/HE/FF		0.001	0.001	0.001	Out: MACT (FF, A/C=8.6)
PM	INC	349C3	QC/FF/QC/PT		0.001	0.001	0.001	In: MACT EU (FF, A/C=3.0)
PM	INC	338C2	QC/FF/SS/C/HES/DM		0.001	0.002	0.001	In: MACT EU (FF, A/C=?)
PM	INC	349C2	QC/FF/QC/PT		0.001	0.002	0.001	In: MACT EU (FF, A/C=2.9)
PM	INC	500C3	QC/VS/KOV/DM		0.001	0.002	0.001	Out: Not MACT
PM	INC	349C4	QC/FF/QC/PT		0.001	0.002	0.001	In: MACT EU (FF, A/C=2.4)
PM	INC	346C1	C/QC/VS/PT/DM		0.001	0.002	0.000	Out: Not MACT
PM	INC	222C5	WHB/SD/ESP/Q/PBS		0.001	0.003	0.001	Out: Not MACT
PM	INC	341C2	DA/DI/FF/HEPA/CA		0.001	0.002	0.001	In: MACT EU (FF/HEPA)
PM	INC	726C2	QC/CS/DM/VS		0.001	0.002	0.001	Out: Not MACT
PM	INC	338C1	QC/FF/SS/C/HES/DM		0.001	0.002	0.001	In: MACT EU (FF, A/C=?)
PM	INC	354C3	QC/AS/VS/DM/IWS		0.001	0.002	0.001	Out: Not MACT
PM	INC	333C2	SD/FF		0.001	0.003	0.001	Out: MACT (FF, A/C=9.9)
PM	INC	344C1	QC/VS/PT/DM		0.001	0.002	0.001	Out: Not MACT
PM	INC	209C7	WHB/FF/VQ/PT/DM		0.002	0.002	0.001	In: MACT EU (FF, A/C=2.9)
PM	INC	350C1	WHB/HE/FF		0.002	0.003	0.001	Out: MACT (FF, A/C=9.2)
PM	INC	222C6	WHB/SD/ESP/Q/PBS		0.002	0.002	0.002	Out: Not MACT
PM	INC	327C2	SD/FF/WS/ESP		0.002	0.003	0.001	In: MACT EU (FF, A/C=1.6)
PM	INC	325C6	SD/FF/WS/IWS		0.002	0.002	0.001	In: MACT EU (FF, A/C=3.8)
PM	INC	348C1	QC/AS/IWS		0.002	0.003	0.001	Out: Not MACT

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	344C2	QC/VS/PT/DM		0.002	0.002	0.002	Out: Not MACT
PM	INC	327C1	SD/FF/WS/ESP		0.002	0.003	0.001	In: MACT EU (FF, A/C=1.7)
PM	INC	500C1	QC/VS/KOV/DM		0.002	0.003	0.001	Out: Not MACT
PM	INC	222C3	WHB/SD/ESP/Q/PBS		0.002	0.003	0.001	Out: Not MACT
PM	INC	333C1	SD/FF		0.002	0.005	0.000	Out: MACT (FF, A/C=9.7)
PM	INC	703C2	WHB		0.002	0.003	0.001	Out: Not MACT
PM	INC	347C2	C/QC/VS/S/DM		0.003	0.003	0.003	Out: HW not burned
PM	INC	222C2	WHB/SD/ESP/Q/PBS		0.003	0.003	0.002	Out: Not MACT
PM	INC	209C4	WHB/FF/VQ/PT/DM		0.003	0.004	0.000	In: MACT EU (FF, A/C=2.0)
PM	INC	341C1	DA/DI/FF/HEPA/CA		0.003	0.005	0.001	In: MACT EU (FF, A/C=?)
PM	INC	222C1	WHB/SD/ESP/Q/PBS		0.003	0.004	0.002	Out: Not MACT
PM	INC	339C1	AT/PT/RJS/ESP		0.003	0.003	0.002	Out: Not MACT
PM	INC	359C4	WHB/FF/S		0.003	0.003	0.003	Out: MACT (FF, A/C=7.6)
PM	INC	714C4	WS		0.003	0.004	0.003	Out: Not MACT
PM	INC	904C2	?		0.003	0.004	0.003	Out: Unknown APCS
PM	INC	222C7	WHB/SD/ESP/Q/PBS		0.003	0.006	0.002	Out: Not MACT
PM	INC	703C1	WHB		0.004	0.004	0.003	Out: Not MACT
PM	INC	726C1	QC/CS/DM/VS		0.004	0.004	0.003	Out: Not MACT
PM	INC	325C4	SD/FF/WS/IWS		0.004	0.005	0.003	In: MACT EU (FF, A/C=3.8)
PM	INC	325C5	SD/FF/WS/IWS		0.004	0.004	0.003	In: MACT EU (FF, A/C=3.8)
PM	INC	342C1	WHB/QC/S/VS/DM		0.004	0.006	0.002	Out: Not MACT
PM	INC	500C2	QC/VS/KOV/DM		0.004	0.005	0.002	Out: Not MACT
PM	INC	914C1	?		0.004	0.004	0.004	Out: Unknown APCS
PM	INC	351C2	GC/C/FF		0.004	0.005	0.004	In: MACT EU (FF, A/C=2.8)
PM	INC	209C8	WHB/FF/VQ/PT/DM		0.005	0.008	0.003	In: MACT EU (FF, A/C=2.9)
PM	INC	600C2	WHB/QC/PT/IWS		0.005	0.006	0.004	Out: Not MACT
PM	INC	325C7	SD/FF/WS/IWS		0.005	0.006	0.004	In: MACT EU (FF, A/C=3.8)
PM	INC	349C1	QC/FF/QC/PT		0.005	0.006	0.003	In: MACT EU (FF, A/C=3.1)
PM	INC	340C2	WHB/ESP/WS		0.005	0.007	0.004	Out: Not MACT
PM	INC	351C1	GC/C/FF		0.005	0.007	0.004	In: MACT EU (FF, A/C=2.4)
PM	INC	714C3	WS		0.006	0.006	0.005	Out: Not MACT
PM	INC	400C1	SD/FF		0.006	0.008	0.005	In: MACT EU (FF, A/C=3.8)
PM	INC	824C1	QT/VS/PT/DM		0.006	0.007	0.006	Out: Not MACT
PM	INC	209C5	WHB/FF/VQ/PT/DM		0.007	0.009	0.004	In: MACT EU (FF, A/C=2.9)

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	210C2	FF/S		0.007	0.013	0.003	In: MACT EU (FF, A/C=2.5)
PM	INC	340C1	WHB/ESP/WS		0.007	0.009	0.005	Out: Not MACT
PM	INC	209C3	WHB/FF/VQ/PT/DM		0.008	0.012	0.003	In: MACT EU (FF, A/C=2.9)
PM	INC	331C1	PT/IWS		0.008	0.010	0.007	Out: Not MACT
PM	INC	353C1	QC/VS/DM/ESP		0.008	0.011	0.005	Out: Not MACT
PM	INC	210C1	FF/S		0.008	0.018	0.002	In: MACT EU (FF, A/C=3.4)
PM	INC	211C1	FF/S		0.009	0.011	0.004	In: MACT EU (FF, A/C=4.1)
PM	INC	359C5	WHB/FF/S		0.009	0.013	0.006	Out: MACT (FF, A/C=7.1)
PM	INC	714C2	WS		0.009	0.011	0.008	Out: Not MACT
PM	INC	727C1	GC/C/FF		0.010	0.012	0.009	In: MACT EU (FF, A/C=2.2)
PM	INC	600C1	WHB/QC/PT/IWS		0.010	0.012	0.008	Out: Not MACT
PM	INC	229C1	WHB/ACS/HCS/CS		0.010	0.012	0.009	Out: Not MACT
PM	INC	808C2	QT/PBS/ESP		0.011	0.018	0.007	Out: Not MACT
PM	INC	209C6	WHB/FF/VQ/PT/DM		0.011	0.017	0.005	In: MACT EU (FF, A/C=2.8)
PM	INC	347C3	C/QC/VS/S/DM		0.011	0.015	0.004	Out: Not MACT
PM	INC	353C2	QC/VS/DM/ESP		0.011	0.013	0.010	Out: Not MACT
PM	INC	347C1	C/QC/VS/S/DM		0.012	0.013	0.008	Out: Not MACT
PM	INC	351C3	GC/C/FF		0.012	0.015	0.008	In: MACT EU (FF, A/C=2.5)
PM	INC	229C2	WHB/ACS/HCS/CS		0.012	0.013	0.012	Out: Not MACT
PM	INC	221C5	SS/PT/VS		0.013	0.013	0.012	Out: Not MACT
PM	INC	350C7	WHB/HE/FF		0.013	0.014	0.012	Out: APCS bypassed
PM	INC	904C1	?		0.013	0.015	0.011	Out: Unknown APCS
PM	INC	221C3	SS/PT/VS		0.013	0.019	0.003	Out: Not MACT
PM	INC	324C3	?		0.014	0.037	0.004	Out: Unknown APCS
PM	INC	351C4	GC/C/FF		0.014	0.015	0.013	In: MACT EU (FF, A/C=3.3)
PM	INC	708C3	WS/ESP		0.014	0.017	0.012	Out: Not MACT
PM	INC	359C1	WHB/FF/S		0.014	0.035	0.006	Out: MACT (FF, A/C=5.5)
PM	INC	221C1	SS/PT/VS		0.014	0.016	0.012	Out: Not MACT
PM	INC	221C2	SS/PT/VS		0.015	0.018	0.013	Out: Not MACT
PM	INC	221C4	SS/PT/VS		0.015	0.020	0.011	Out: Not MACT
PM	INC	707C3	QT/WS		0.015	0.020	0.010	Out: Not MACT
PM	INC	704C1	NONE		0.015	0.020	0.011	Out: Not MACT
PM	INC	708C1	WS/ESP		0.016	0.018	0.012	Out: Not MACT
PM	INC	904C3	?		0.016	0.028	0.010	Out: Unknown APCS

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	710C1	QT/OS/C/S		0.017	0.018	0.015	Out: Not MACT
PM	INC	214C1	IWS		0.017	0.024	0.009	Out: Not MACT
PM	INC	229C3	WHB/ACS/HCS/CS		0.017	0.020	0.015	Out: Not MACT
PM	INC	229C4	WHB/ACS/HCS/CS		0.018	0.019	0.016	Out: Not MACT
PM	INC	324C1	?		0.018	0.071	0.004	Out: Unknown APCS
PM	INC	214C3	IWS		0.019	0.020	0.018	Out: Not MACT
PM	INC	359C2	WHB/FF/S		0.019	0.043	0.006	Out: MACT (FF, A/C=5.7)
PM	INC	216C7	HES/WS		0.020	0.029	0.016	Out: Not MACT
PM	INC	504C1	VS/C		0.021	0.039	0.013	Out: Not MACT
PM	INC	710C2	QT/OS/C/S		0.021	0.022	0.021	Out: Not MACT
PM	INC	902C1	QT/VS/PT		0.021	0.024	0.019	Out: Not MACT
PM	INC	725C1	WS/QT		0.022	0.029	0.016	Out: Not MACT
PM	INC	711C1	C/VS/AS		0.022	0.029	0.018	Out: Not MACT
PM	INC	704C2	NONE		0.022	0.028	0.014	Out: Not MACT
PM	INC	712C2	NONE		0.022	0.027	0.020	Out: Not MACT
PM	INC	807C2	C/WHB/VQ/PT/HS/DM		0.022	0.026	0.019	Out: Not MACT
PM	INC	702A3	QT/S/C		0.022	0.023	0.021	Out: Not MACT
PM	INC	212C1	FF/S		0.022	0.024	0.020	Out: MACT (FF, A/C=4.1)
PM	INC	330C1	QT/WS/DM		0.023	0.026	0.016	Out: Not MACT
PM	INC	324C2	?		0.023	0.071	0.005	Out: Unknown APCS
PM	INC	915C3	QC/VS/C		0.024	0.037	0.015	Out: Not MACT
PM	INC	357C1	QC/VS/PT/IWS		0.025	0.033	0.018	Out: Not MACT
PM	INC	229C6	WHB/ACS/HCS/CS		0.026	0.026	0.025	Out: Not MACT
PM	INC	354C4	QC/AS/VS/DM/IWS		0.026	0.037	0.017	Out: Not MACT
PM	INC	358C2	QC/VS/C/CT/S/DM		0.026	0.029	0.025	Out: Not MACT
PM	INC	701C2	VS/PT		0.026	0.027	0.024	Out: Not MACT
PM	INC	359C3	WHB/FF/S		0.026	0.066	0.006	Out: MACT (FF, A/C=5.7)
PM	INC	358C4	QC/VS/C/CT/S/DM		0.027	0.027	0.026	Out: Not MACT
PM	INC	216C6	HES/WS		0.027	0.033	0.022	Out: Not MACT
PM	INC	808C1	QT/PBS/ESP		0.027	0.060	0.009	Out: Not MACT
PM	INC	503C1	HTHE/ LTHE/ FF		0.028	0.032	0.025	Out: MACT (FF, A/C=5.5)
PM	INC	214C2	IWS		0.028	0.034	0.017	Out: Not MACT
PM	INC	216C1	HES/WS		0.028	0.029	0.026	Out: Not MACT
PM	INC	807C3	C/WHB/VQ/PT/HS/DM		0.028	0.039	0.022	Out: Not MACT

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	706C3	QT/HS/C		0.028	0.034	0.025	Out: Not MACT
PM	INC	707C7	QT/WS		0.029	0.030	0.026	Out: Not MACT
PM	INC	503C2	HTHE/ LTHE/ FF		0.029	0.035	0.024	Out: MACT (FF, A/C=5.2)
PM	INC	324C4	?		0.029	0.115	0.005	Out: > 0.08 gr/dscf, Unknown APCS
PM	INC	700C2	SD/RJS/VS/WS		0.030	0.033	0.028	Out: Not MACT
PM	INC	806C2	C/VS		0.031	0.031	0.030	Out: Not MACT
PM	INC	329C1	PT/IWS		0.031	0.037	0.027	Out: Not MACT
PM	INC	229C5	WHB/ACS/HCS/CS		0.031	0.035	0.028	Out: Not MACT
PM	INC	711C2	C/VS/AS		0.031	0.049	0.022	Out: Not MACT
PM	INC	356C1	QC/AS/FN/S/DM		0.032	0.035	0.031	Out: Not MACT
PM	INC	707A2	QT/WS		0.033	0.038	0.028	Out: Not MACT
PM	INC	358C1	QC/VS/C/CT/S/DM		0.033	0.036	0.031	Out: Not MACT
PM	INC	216C5	HES/WS		0.033	0.041	0.027	Out: Not MACT
PM	INC	701C1	VS/PT		0.033	0.038	0.028	Out: Not MACT
PM	INC	707C2	QT/WS		0.034	0.036	0.030	Out: Not MACT
PM	INC	807C1	C/WHB/VQ/PT/HS/DM		0.034	0.049	0.022	Out: Not MACT
PM	INC	714C5	WS		0.035	0.040	0.028	Out: Not MACT
PM	INC	502C1	WHB/QC/PBC/VS/ES		0.036	0.040	0.033	Out: Not MACT
PM	INC	906C5	QT/PT		0.036	0.043	0.029	Out: Not MACT
PM	INC	707C4	QT/WS		0.037	0.038	0.036	Out: Not MACT
PM	INC	784C1	NONE		0.037	0.039	0.034	Out: Not MACT
PM	INC	712C1	NONE		0.038	0.067	0.023	Out: Not MACT
PM	INC	706C1	QT/HS/C		0.038	0.040	0.034	Out: Not MACT
PM	INC	714C1	WS		0.038	0.044	0.032	Out: Not MACT
PM	INC	707C1	QT/WS		0.038	0.049	0.026	Out: Not MACT
PM	INC	705C2	QT/VS/ESP/PT		0.038	0.055	0.024	Out: Not MACT
PM	INC	702A2	QT/S/C		0.042	0.051	0.028	Out: Not MACT
PM	INC	710C3	QT/OS/C/S		0.042	0.044	0.038	Out: Not MACT
PM	INC	358C3	QC/VS/C/CT/S/DM		0.043	0.045	0.041	Out: Not MACT
PM	INC	711C3	C/VS/AS		0.043	0.045	0.039	Out: Not MACT
PM	INC	705C1	QT/VS/ESP/PT		0.043	0.100	0.013	Out: > 0.08 gr/dscf
PM	INC	728C1	QT/PT/VS		0.044	0.045	0.043	Out: Not MACT
PM	INC	784C2	NONE		0.044	0.047	0.042	Out: Not MACT
PM	INC	216C4	HES/WS		0.044	0.051	0.032	Out: Not MACT

TABLE 4-3. PM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	INC	707C8	QT/WS		0.045	0.047	0.043	Out: Not MACT
PM	INC	707A1	QT/WS		0.046	0.049	0.043	Out: Not MACT
PM	INC	353C3	QC/VS/DM/ESP		0.047	0.049	0.045	Out: Not MACT
PM	INC	702A1	QT/S/C		0.047	0.053	0.043	Out: Not MACT
PM	INC	708C2	WS/ESP		0.049	0.069	0.033	Out: Not MACT
PM	INC	709C1	NONE		0.051	0.106	0.014	Out: > 0.08 gr/dscf
PM	INC	805C1	QT/QS/VS/ES/PBS		0.054	0.058	0.049	Out: Not MACT
PM	INC	806C1	C/VS		0.056	0.064	0.044	Out: Not MACT
PM	INC	700C1	SD/RJS/VS/WS		0.057	0.061	0.053	Out: Not MACT
PM	INC	334C2	WS/ESP/PT		0.058	0.075	0.040	Out: Not MACT
PM	INC	915C2	QC/VS/C		0.058	0.062	0.052	Out: Not MACT
PM	INC	330C2	QT/WS/DM		0.059	0.063	0.057	Out: Not MACT
PM	INC	706C2	QT/HS/C		0.062	0.066	0.057	Out: Not MACT
PM	INC	334C1	WS/ESP/PT		0.062	0.107	0.037	Out: > 0.08 gr/dscf
PM	INC	713C1	VS/PT		0.065	0.068	0.059	Out: Not MACT
PM	INC	825C1	CCS/QC/ESP		0.065	0.080	0.030	Out: > 0.08 gr/dscf
PM	INC	906C1	QT/PT		0.066	0.093	0.048	Out: > 0.08 gr/dscf
PM	INC	701C3	VS/PT		0.069	0.078	0.060	Out: Not MACT
PM	INC	915C4	QC/VS/C		0.071	0.076	0.066	Out: Not MACT
PM	INC	702C7	QT/S/C		0.072	0.107	0.041	Out: > 0.08 gr/dscf
PM	INC	906C3	QT/PT		0.072	0.075	0.068	Out: Not MACT
PM	INC	915C1	QC/VS/C		0.076	0.078	0.074	Out: Not MACT
PM	INC	359C6	WHB/FF/S		0.077	0.095	0.057	Out: > 0.08 gr/dscf
PM	INC	906C4	QT/PT		0.087	0.094	0.076	Out: > 0.08 gr/dscf
PM	INC	906C2	QT/PT		0.089	0.114	0.076	Out: > 0.08 gr/dscf
PM	INC	702C6	QT/S/C		0.090	0.104	0.081	Out: > 0.08 gr/dscf
PM	INC	702C8	QT/S/C		0.109	0.132	0.081	Out: > 0.08 gr/dscf
PM	INC	332C1	WS		0.114	0.133	0.097	Out: > 0.08 gr/dscf
PM	INC	727C2	GC/C/FF		0.157	0.216	0.100	Out: > 0.08 gr/dscf
PM	INC	702C9	QT/S/C		0.188	0.189	0.186	Out: > 0.08 gr/dscf
PM	INC	707C9	QT/WS		1.901	5.590	0.029	Out: > 0.08 gr/dscf

TABLE 4-4. PM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	CK	315C2	FF		0.001	0.001	0.000	MACT source (FF, A/C=1.8)
PM	CK	315C1	FF		0.001	0.001	0.001	Source already in MACT pool
PM	CK	317C3	FF		0.002	0.004	0.001	Out: HW not burned
PM	CK	317C1	FF		0.002	0.003	0.002	In: MACT EU (FF, A/C=1.3)
PM	CK	317C2	FF		0.003	0.004	0.003	In: MACT EU (FF)
PM	CK	320C1	FF		0.003	0.006	0.001	Out: MACT (FF, A/C=2.3)
PM	CK	404C2	ESP		0.004	0.005	0.004	Out: Not MACT
PM	CK	404C1	ESP		0.007	0.018	0.004	Out: Not MACT
PM	CK	318C2	ESP		0.010	0.011	0.008	Out: Not MACT
PM	CK	30151	FF		0.011	0.017	0.003	In: MACT EU (FF, A/C=1.5)
PM	CK	316C1	FF		0.011	0.012	0.010	In: MACT EU (FF, A/C=1.2)
PM	CK	316C2	FF		0.012	0.013	0.012	In: MACT EU (FF, A/C=1.2)
PM	CK	200C1	FF		0.014	0.016	0.011	Out: MACT (FF), High A/C
PM	CK	203C1	ESP		0.014	0.017	0.011	Out: Not MACT
PM	CK	208C1	ESP		0.014	0.015	0.012	Out: Not MACT
PM	CK	208C2	ESP		0.016	0.025	0.011	Out: Not MACT
PM	CK	306C1	MC/FF		0.016	0.023	0.012	In: MACT EU (FF, A/C=1.8)
PM	CK	207C2	MC/ESP		0.018	0.024	0.010	Out: Not MACT
PM	CK	406C1	ESP		0.019	0.026	0.015	Out: Not MACT
PM	CK	322C1	ESP		0.019	0.033	0.011	Out: Not MACT
PM	CK	308C1	ESP		0.021	0.024	0.016	Out: Not MACT
PM	CK	323C1	ESP		0.022	0.033	0.005	Out: Not MACT
PM	CK	202C1	FF		0.022	0.025	0.020	In: MACT EU (FF, A/C=1.9)
PM	CK	309C2	MC/ESP		0.023	0.035	0.013	Out: Not MACT
PM	CK	206C1	ESP		0.023	0.029	0.015	Out: Not MACT
PM	CK	303C1	QC/FF		0.023	0.025	0.021	Out: MACT (FF, A/C=2.2)
PM	CK	335C1	ESP		0.023	0.033	0.017	Out: Not MACT
PM	CK	303C2	QC/FF		0.024	0.026	0.023	Out: MACT (FF, A/C=2.3)
PM	CK	309C1	MC/ESP		0.026	0.029	0.022	Out: Not MACT
PM	CK	207C1	MC/ESP		0.028	0.032	0.026	Out: Not MACT
PM	CK	204C1	ESP		0.028	0.032	0.024	Out: Not MACT
PM	CK	202C2	FF		0.031	0.042	0.025	In: MACT EU (FF, A/C=1.9)
PM	CK	403C2	ESP		0.031	0.039	0.016	Out: Not MACT
PM	CK	402C1	ESP		0.033	0.049	0.022	Out: Not MACT

TABLE 4-4. PM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	CK	302C1	ESP		0.034	0.060	0.020	Out: Not MACT
PM	CK	405C1	ESP		0.035	0.065	0.016	Out: Not MACT
PM	CK	403C1	ESP		0.035	0.049	0.025	Out: Not MACT
PM	CK	201C1	FF		0.036	0.109	0.008	Out: > 0.08 gr/dscf
PM	CK	319C1	ESP		0.037	0.040	0.034	Out: Not MACT
PM	CK	30141	FF		0.039	0.053	0.029	In: MACT EU (FF, A/C=1.2)
PM	CK	30143	FF		0.041	0.046	0.031	In: MACT EU (FF, A/C=0.9)
PM	CK	401C4	ESP		0.041	0.051	0.030	Out: Not MACT
PM	CK	401C1	ESP		0.048	0.061	0.038	Out: Not MACT
PM	CK	401C3	ESP		0.049	0.053	0.042	Out: Not MACT
PM	CK	30153	FF		0.050	0.078	0.004	In: MACT EU (FF, A/C=1.6)
PM	CK	205C1	ESP		0.050	0.058	0.045	Out: Not MACT
PM	CK	304C1	ESP		0.057	0.064	0.049	Out: Not MACT
PM	CK	305C1	ESP		0.064	0.072	0.053	Out: Not MACT
PM	CK	300C1	ESP		0.071	0.083	0.057	Out: Not MACT, > 0.08 gr/dscf
PM	CK	305C3	ESP		0.074	0.075	0.072	Out: Not MACT
PM	CK	401C5	ESP		0.077	0.105	0.063	Out: Not MACT, > 0.08 gr/dscf
PM	CK	305C2	ESP		0.080	0.086	0.075	Out: Not MACT, > 0.08 gr/dscf
PM	CK	402C5	ESP		0.085	0.119	0.064	Out: Not MACT, > 0.08 gr/dscf
PM	CK	321C1	ESP		0.210	0.490	0.035	Out: Not MACT, > 0.08 gr/dscf

TABLE 4-5. PM, LWAKs, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	LWAK	225C1	FF		0.000	0.001	0.000	MACT source (FF, A/C=1.5)
PM	LWAK	227C1	FF		0.001	0.002	0.001	Out: MACT (FF, A/C=2.8)
PM	LWAK	226C1	FF		0.002	0.004	0.001	In: MACT EU (FF, A/C=)
PM	LWAK	223C1	FF		0.004	0.008	0.002	In: MACT EU (FF, A/C=1.2)
PM	LWAK	224C1	FF		0.005	0.009	0.002	In: MACT EU (FF, A/C=1.5)
PM	LWAK	311C1	FF		0.006	0.007	0.004	Out: MACT (FF, A/C=1.9)
PM	LWAK	307C4	FF/VS		0.007	0.008	0.006	Out: MACT (FF, A/C=4.2)
PM	LWAK	313C1	FF		0.007	0.008	0.006	In: MACT EU (FF, A/C=1.4)
PM	LWAK	307C1	FF/VS		0.008	0.012	0.006	Out: MACT (FF, High A/C, A/C=4.3)
PM	LWAK	336C1	FF		0.009	0.011	0.007	In: MACT EU (FF, A/C=?)
PM	LWAK	312C1	FF		0.010	0.018	0.005	In: MACT EU (FF, A/C=1.8)
PM	LWAK	307C2	FF/VS		0.010	0.016	0.006	Out: MACT (FF, High A/C, A/C=4.4)
PM	LWAK	310C1	FF		0.018	0.026	0.013	Out: MACT (FF, High A/C, A/C=3.6)
PM	LWAK	307C3	FF/VS		0.022	0.014	0.013	Out: MACT (FF, High A/C, A/C=4.4)
PM	LWAK	314C1	FF		0.022	0.029	0.012	In: MACT EU (FF, A/C=1.4)

TABLE 4-6. MERCURY, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	SRE (%)	Comments
Mercury	INC	221C5	SS/PT/VS	51.1	0.1	0.1	0.0	99.90	MACT source (WS w/ MTEC of 5.1e1)
Mercury	INC	221C3	SS/PT/VS	35.2	0.1	0.2	0.0	99.70	In: MACT EU (WS)
Mercury	INC	216C7	HES/WS		0.3	0.3	0.2		Out: No MTEC
Mercury	INC	346C1	C/QC/VS/PT/DM		0.4	0.7	0.2		Out: No MTEC
Mercury	INC	347C4	C/QC/VS/S/DM		0.5	0.5	0.5		Out: No MTEC
Mercury	INC	824C1	QT/VS/PT/DM	5.1	0.8	1.0	0.6	84.95	In: MACT EU (WS)
Mercury	INC	341C2	DA/DI/FF/HEPA/CA	18.5	0.9	1.0	0.9	94.93	Out: Not MACT
Mercury	INC	216C5	HES/WS		1.0	1.7	0.1		Out: No MTEC
Mercury	INC	503C1	HTHE/ LTHE/ FF		1.2	1.5	0.8		Out: No MTEC
Mercury	INC	341C1	DA/DI/FF/HEPA/CA	8.6	1.3	2.2	0.9	84.26	Out: Not MACT
Mercury	INC	354C1	QC/AS/VS/DM/IWS	1861.7	1.4	3.4	0.6	99.92	Out: MACT (WS), High MTEC
Mercury	INC	725C1	WS/QT		1.7	1.8	1.5		Out: No MTEC
Mercury	INC	353C1	QC/VS/DM/ESP		2.5	5.3	1.1		Out: No MTEC
Mercury	INC	209C1	WHB/FF/VQ/PT/DM	234.1	2.5	2.6	2.5	98.91	Out: MACT (WS), High MTEC
Mercury	INC	705C1	QT/VS/ESP/PT	0.1	2.8	6.1	0.4	-4963.30	Out: MACT (WS), MB problem
Mercury	INC	500C1	QC/VS/KOV/DM	106.1	2.9	3.4	2.3	97.29	Out: MACT (WS), High MTEC
Mercury	INC	209C2	WHB/FF/VQ/PT/DM	253.8	3.1	4.5	0.3	98.76	Out: MACT (WS), High MTEC
Mercury	INC	347C2	C/QC/VS/S/DM		3.4	3.4	3.4		Out: No MTEC
Mercury	INC	334C2	WS/ESP/PT	37.8	4.0	6.4	1.8	89.43	In: MACT EU (WS)
Mercury	INC	347C1	C/QC/VS/S/DM		4.1	11.3	1.5		Out: No MTEC
Mercury	INC	221C1	SS/PT/VS	8.5	4.3	5.8	1.9	48.99	In: MACT EU (WS)
Mercury	INC	330C1	QT/WS/DM	0.1	4.6	4.7	4.5	-6107.24	In: MACT EU (WS)
Mercury	INC	700C1	SD/RJS/VS/WS	9.4	4.7	6.0	3.6	50.34	In: MACT EU (WS)
Mercury	INC	807C3	C/WHB/VQ/PT/HS/DM	0.7	5.3	6.8	3.4	-638.81	In: MACT EU (WS)
Mercury	INC	330C2	QT/WS/DM	0.2	5.8	8.3	3.2	-2980.36	In: MACT EU (WS)
Mercury	INC	342C1	WHB/QC/S/VS/DM		6.2	7.7	4.4		Out: No MTEC
Mercury	INC	353C2	QC/VS/DM/ESP		6.5	7.9	5.4		Out: No MTEC
Mercury	INC	340C1	WHB/ESP/WS	182.6	7.6	9.4	5.7	95.85	Out: MACT (WS), High MTEC
Mercury	INC	334C1	WS/ESP/PT	296.9	9.9	16.0	7.3	96.68	Out: MACT (WS), High MTEC
Mercury	INC	807C1	C/WHB/VQ/PT/HS/DM	14.3	10.7	20.1	1.2	24.89	In: MACT EU (WS)
Mercury	INC	340C2	WHB/ESP/WS	135.7	12.3	13.9	10.1	90.92	Out: MACT (WS), High MTEC
Mercury	INC	347C3	C/QC/VS/S/DM		16.1	22.4	12.0		Out: No MTEC
Mercury	INC	807C2	C/WHB/VQ/PT/HS/DM	1.8	17.9	18.4	17.5	-894.48	Out: MACT (WS), MB problem

TABLE 4-6. MERCURY, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	SRE (%)	Comments
Mercury	INC	221C4	SS/PT/VS	15.4	19.2	34.7	7.3	-24.26	In: MACT EU (WS)
Mercury	INC	705C2	QT/VS/ESP/PT	9.3	19.3	30.1	3.8	-107.56	Out: MACT (WS), MB problem
Mercury	INC	400C1	SD/FF	27680.5	19.4	26.4	15.7	99.93	Out: MACT (FC), High MTEC
Mercury	INC	325C7	SD/FF/WS/IWS	52.1	25.2	43.2	11.4	51.72	Out: MACT (WS), High MTEC
Mercury	INC	325C6	SD/FF/WS/IWS	95.8	27.1	30.3	22.0	71.67	Out: MACT (WS), High MTEC
Mercury	INC	221C2	SS/PT/VS	30.2	27.2	50.0	10.7	9.64	In: MACT EU (WS)
Mercury	INC	338C1	QC/FF/SS/C/HES/DM		27.7	43.3	8.2		Out: No MTEC
Mercury	INC	325C5	SD/FF/WS/IWS	263.1	30.1	44.8	19.8	88.56	Out: MACT (WS), High MTEC
Mercury	INC	214C3	IWS	3357.9	31.7	46.5	22.5	99.06	Out: MACT (WS), High MTEC
Mercury	INC	331C1	PT/IWS		38.8	52.3	18.6		Out: No MTEC
Mercury	INC	503C2	HTHE/ LTHE/ FF		42.9	94.0	4.6		Out: No MTEC
Mercury	INC	325C4	SD/FF/WS/IWS	60.1	44.4	65.6	8.4	26.17	Out: MACT (WS), Poor D/O/M (CO - 325C6/5)
Mercury	INC	216C6	HES/WS		44.6	106.3	11.9		Out: No MTEC
Mercury	INC	902C1	QT/VS/PT	32.3	47.7	54.4	42.1	-47.88	In: MACT EU (WS)
Mercury	INC	214C2	IWS	70348.9	48.8	90.3	19.2	99.93	Out: MACT (WS), High MTEC
Mercury	INC	338C2	QC/FF/SS/C/HES/DM		89.6	103.3	75.9		Out: No MTEC
Mercury	INC	806C2	C/VS		117.8	146.2	84.5		Out: No MTEC
Mercury	INC	806C1	C/VS		172.6	195.5	129.5		Out: No MTEC
Mercury	INC	325C3	SD/FF/WS/IWS		177.8	517.2	6.6		Out: No MTEC
Mercury	INC	337C1	WHB/DA/DI/FF	69.7	188.1	278.8	146.5	-170.11	Out: MACT (FC), MB problem
Mercury	INC	216C3	HES/WS		261.0	679.9	37.5		Out: No MTEC
Mercury	INC	327C2	SD/FF/WS/ESP	75.6	394.5	570.1	285.4	-421.63	Out: MACT (WS), MB problem
Mercury	INC	214C1	IWS		481.6	784.0	128.8		Out: No MTEC
Mercury	INC	327C3	SD/FF/WS/ESP	123.3	1121.5	2396.7	154.1	-809.79	Out: MACT (WS), MB problem
Mercury	INC	504C1	VS/C	2146.1	1322.7	2342.9	77.8	38.37	Out: MACT (WS), High MTEC
Mercury	INC	327C1	SD/FF/WS/ESP	477.4	1360.7	2067.9	563.9	-185.04	Out: MACT (WS), MB problem

TABLE 4-7. MERCURY, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	CK	303C1	QC/FF	0	3	4	3	98.42	Out: HW not burned
Mercury	CK	404C1	ESP	28	4	7	2	89.73	MACT source (FC w/ MTEC of 2.8e1)
Mercury	CK	305C3	ESP	129872	5	7	4	100.00	Out: MB problem
Mercury	CK	201C1	FF		5	15	1		Out: No MTEC
Mercury	CK	203C1	ESP	10	6	6	6	85.58	In: MACT EU (FC)
Mercury	CK	406C1	ESP	108	8	16	5	93.43	In: MACT EU (FC)
Mercury	CK	200C1	FF		11	21	3		Out: No MTEC
Mercury	CK	305C1	ESP	29	16	18	13	92.88	Out: MACT (FC), High MTEC
Mercury	CK	207C1	MC/ESP	6	17	22	13	84.16	In: MACT EU (FC)
Mercury	CK	206C1	ESP	19	17	23	13	99.92	In: MACT EU (FC)
Mercury	CK	204C1	ESP	5	19	24	15	82.06	In: MACT EU (FC)
Mercury	CK	402C1	ESP	118	19	38	8	99.81	Out: MACT (FC), High MTEC
Mercury	CK	208C1	ESP	6	20	25	12	81.30	In: MACT EU (FC)
Mercury	CK	202C2	FF	7	20	22	18	64.43	In: MACT EU (FC)
Mercury	CK	405C1	ESP	153	21	26	12	87.72	Out: MACT (FC), High MTEC
Mercury	CK	205C1	ESP	10	30	37	23	48.91	In: MACT EU (FC)
Mercury	CK	401C5	ESP	47	36	50	19	37.73	Out: MACT (FC), High MTEC
Mercury	CK	304C1	ESP	9	42	52	28	56.53	In: MACT EU (FC)
Mercury	CK	309C1	MC/ESP	88	43	54	36	71.80	Out: MACT (FC), High MTEC
Mercury	CK	402C4	ESP	33	51	70	39	-12.77	Out: MACT (FC), High MTEC
Mercury	CK	319C1	ESP	5	56	59	53	25.49	In: MACT EU (FC)
Mercury	CK	335C1	ESP	25813	60	100	39	99.77	Out: MACT (FC), High MTEC
Mercury	CK	303C3	QC/FF	53	92	172	48	75.75	Out: MACT (FC), High MTEC
Mercury	CK	30152	FF	240	106	143	117	84.52	Out: MACT (FC), High MTEC
Mercury	CK	30142	FF	240	128	139	69	81.27	Out: MACT (FC), High MTEC
Mercury	CK	401C1	ESP	545	148	382	44	73.36	Out: MACT (FC), High MTEC
Mercury	CK	403C1	ESP	62	1014	1598	719	-1237.61	Out: MB problem, DL measurement
Mercury	CK	306C1	MC/FF	3339	2988	4574	1048	22.11	Out: MACT (FC), High MTEC

TABLE 4-8. MERCURY, LWAKs, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	LWAK	313C1	FF	17	0	1	0	99.24	MACT source (FC w/ MTEC of 1.7e1)
Mercury	LWAK	225C1	FF	3	5	6	3	67.38	In: MACT EU (FC)
Mercury	LWAK	312C1	FF	12	9	10	8	79.49	In: MACT EU (FC)
Mercury	LWAK	310C1	FF	11	15	20	11	60.35	In: MACT EU (FC)
Mercury	LWAK	311C1	FF	24	15	19	11	73.76	Out: MACT (FC), High MTEC
Mercury	LWAK	224C1	FF	10	16	19	14	44.80	In: MACT EU (FC)
Mercury	LWAK	227C1	FF	10	17	19	16	73.24	In: MACT EU (FC)
Mercury	LWAK	314C1	FF	63	22	25	16	80.74	Out: MACT (FC), High MTEC
Mercury	LWAK	223C1	FF	17	32	34	30	30.66	In: MACT EU (FC)
Mercury	LWAK	307C1	FF/VS	2328	422	456	324	82.57	Out: MACT (FC), High MTEC
Mercury	LWAK	307C3	FF/VS	1991	472	511	431	77.15	Out: MACT (FC), High MTEC
Mercury	LWAK	307C4	FF/VS	2212	493	511	472	78.50	Out: MACT (FC), High MTEC
Mercury	LWAK	307C2	FF/VS	2142	561	760	403	74.69	Out: MACT (FC), High MTEC

TABLE 4-9. SVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	325C3	SD/FF/WS/IWS		1	2	1	Out: No MTEC
SVM	INC	712C1	NONE	0	2	2	2	Out: MB problem, Sub. > 75%
SVM	INC	354C1	QC/AS/VS/DM/IWS	48776	3	3	2	MACT source (VS/IWS w/ MTEC of 4.9e4) (FF as ET)
SVM	INC	712C2	NONE	1	3	4	2	Out: MB problem, Sub. > 75%
SVM	INC	222C5	WHB/SD/ESP/Q/PBS		3	6	2	Out: No MTEC
SVM	INC	500C1	QC/VS/KOV/DM	168	4	5	2	Out: Not MACT
SVM	INC	347C4	C/QC/VS/S/DM		4	4	4	Out: No MTEC
SVM	INC	340C1	WHB/ESP/WS	5795	6	7	4	Out: Not MACT
SVM	INC	209C2	WHB/FF/VQ/PT/DM	188533	7	8	6	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	341C2	DA/DI/FF/HEPA/CA	495	10	11	10	In: MACT EU (ET VS/IWS)
SVM	INC	209C1	WHB/FF/VQ/PT/DM	129450	11	19	6	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	353C1	QC/VS/DM/ESP		11	12	9	Out: No MTEC
SVM	INC	347C1	C/QC/VS/S/DM		12	13	9	Out: No MTEC
SVM	INC	347C3	C/QC/VS/S/DM		13	20	8	Out: No MTEC
SVM	INC	221C2	SS/PT/VS	4666	13	23	3	Out: Not MACT (VS)
SVM	INC	340C2	WHB/ESP/WS	3786	13	20	9	Out: Not MACT (ESP)
SVM	INC	347C2	C/QC/VS/S/DM		14	14	14	Out: No MTEC
SVM	INC	341C1	DA/DI/FF/HEPA/CA	403	17	24	10	In: MACT EU (ET VS/IWS)
SVM	INC	342C1	WHB/QC/S/VS/DM		21	30	13	Out: No MTEC
SVM	INC	221C3	SS/PT/VS	2077	22	31	9	Out: Not MACT (VS)
SVM	INC	348C1	QC/AS/IWS	904	23	54	7	Out: Not MACT
SVM	INC	327C2	SD/FF/WS/ESP	3798	23	55	7	In: MACT EU (ET VS/IWS)
SVM	INC	344C2	QC/VS/PT/DM		24	39	16	Out: No MTEC
SVM	INC	902C1	QT/VS/PT	240	24	25	23	Out: Not MACT (VS)
SVM	INC	327C1	SD/FF/WS/ESP	11148	25	37	16	In: MACT EU (ET VS/IWS)
SVM	INC	229C1	WHB/ACS/HCS/CS	89	25	27	23	Out: Not MACT
SVM	INC	229C3	WHB/ACS/HCS/CS	1	27	31	23	Out: MACT (ET VS), MB problem, Sub. > 85%, DL measurement
SVM	INC	338C1	QC/FF/SS/C/HES/DM		28	31	24	Out: No MTEC
SVM	INC	221C5	SS/PT/VS	1290	29	39	23	Out: Not MACT (VS)
SVM	INC	338C2	QC/FF/SS/C/HES/DM		31	34	28	Out: No MTEC
SVM	INC	229C2	WHB/ACS/HCS/CS	125	35	42	25	Out: Not MACT
SVM	INC	327C3	SD/FF/WS/ESP	10366	37	57	21	In: MACT EU (ET VS/IWS)
SVM	INC	725C1	WS/QT		37	44	29	Out: No MTEC
SVM	INC	349C3	QC/FF/QC/PT	532412	39	44	37	Out: MACT (ET VS/IWS), High MTEC

TABLE 4-9. SVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	INC	824C1	QT/VS/PT/DM	375	42	63	14	Out: Not MACT (VS)
SVM	INC	221C4	SS/PT/VS	443	44	71	23	Out: Not MACT (VS)
SVM	INC	504C1	VS/C	14632	44	75	24	Out: Not MACT (VS)
SVM	INC	807C3	C/WHB/VQ/PT/HS/DM	48240	56	77	40	Out: Not MACT (ET VS)
SVM	INC	325C7	SD/FF/WS/IWS	10716	58	140	13	In: MACT EU (ET VS/IWS)
SVM	INC	229C5	WHB/ACS/HCS/CS	1	64	71	57	Out: Not MACT (ET VS), MB problem
SVM	INC	229C6	WHB/ACS/HCS/CS	0	71	76	66	Out: MACT (ET VS), MB problem, Sub. > 91%, DL measurement
SVM	INC	346C1	C/QC/VS/PT/DM		89	114	63	Out: No MTEC
SVM	INC	325C4	SD/FF/WS/IWS	4884	91	163	54	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	337C1	WHB/DA/DI/FF	45856	94	148	63	In: MACT EU (ET VS/IWS)
SVM	INC	221C1	SS/PT/VS	163	101	122	78	Out: Not MACT
SVM	INC	216C3	HES/WS		103	178	58	Out: No MTEC
SVM	INC	705C1	QT/VS/ESP/PT	0	116	163	66	Out: MACT (ESP), MB problem
SVM	INC	214C1	IWS		201	384	75	Out: No MTEC
SVM	INC	353C2	QC/VS/DM/ESP		210	335	128	Out: No MTEC
SVM	INC	325C6	SD/FF/WS/IWS	5805	225	472	91	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	359C4	WHB/FF/S		227	263	175	Out: No MTEC
SVM	INC	330C2	QT/WS/DM	358	244	253	235	Out: Not MACT
SVM	INC	325C5	SD/FF/WS/IWS	4360	245	366	115	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	807C1	C/WHB/VQ/PT/HS/DM	174720	262	370	206	Out: Not MACT (ET VS), High MTEC
SVM	INC	705C2	QT/VS/ESP/PT	153	301	484	199	Out: MACT (ESP), MB problem
SVM	INC	807C2	C/WHB/VQ/PT/HS/DM	230683	312	429	233	Out: Not MACT (ET VS), High MTEC
SVM	INC	359C5	WHB/FF/S		332	522	191	Out: No MTEC
SVM	INC	330C1	QT/WS/DM	108	418	494	324	Out: Not MACT, MB problem
SVM	INC	806C2	C/VS		461	496	391	Out: No MTEC
SVM	INC	324C1	?		537	1532	95	Out: No MTEC
SVM	INC	806C1	C/VS		591	726	444	Out: No MTEC
SVM	INC	400C1	SD/FF	2538985	656	813	407	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	214C2	IWS	151644	689	905	328	Out: Not MACT (ET VS), High MTEC
SVM	INC	503C1	HTHE/ LTHE/ FF	302756	721	722	719	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	216C7	HES/WS		826	1076	404	Out: No MTEC
SVM	INC	324C4	?		838	2108	121	Out: No MTEC
SVM	INC	809C1	VS	20803	865	991	766	Out: Not MACT (VS)
SVM	INC	810C1	Q/VS/PBS	56371	882	1095	522	Out: Not MACT (VS), High MTEC

TABLE 4-9. SVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	503C2	HTHE/ LTHE/ FF	68334	911	1220	694	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	359C6	WHB/FF/S		993	1402	547	Out: No MTEC
SVM	INC	214C3	IWS	343542	1000	1322	446	Out: Not MACT (VS), High MTEC
SVM	INC	216C5	HES/WS		1021	1279	778	Out: No MTEC
SVM	INC	216C6	HES/WS		1045	1279	771	Out: No MTEC
SVM	INC	915C1	QC/VS/C		1284	1582	1043	Out: No MTEC
SVM	INC	502C1	WHB/QC/PBC/VS/ES		1509	2247	1016	Out: No MTEC
SVM	INC	334C2	WS/ESP/PT	566	1706	2575	952	Out: MACT (ESP), MB problem
SVM	INC	810C2	Q/VS/PBS	653523	1777	2041	1399	Out: Not MACT (VS), High MTEC
SVM	INC	324C2	?		3040	18083	158	Out: No MTEC
SVM	INC	331C1	PT/IWS		3465	4705	1992	Out: No MTEC
SVM	INC	334C1	WS/ESP/PT	122029	7964	13516	3413	Out: MACT (WS/ESP), High MTEC
SVM	INC	324C3	?		8262	53289	152	Out: No MTEC
SVM	INC	809C2	VS	205717	19769	23051	16802	Out: Not MACT (VS), High MTEC
SVM	INC	700C1	SD/RJS/VS/WS	222057	29350	37804	24633	Out: Not MACT (VS), High MTEC
SVM	INC	905C1	QT/VS/AS/CS	13398	29761	39956	23066	Out: Not MACT (VS), MB problem

TABLE 4-10. SVM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	CK	320C1	FF	33453	4	7	2	MACT source (FF, A/C=2.1, w/ MTEC of 3.6e4)
SVM	CK	316C2	FF	65771	6	8	4	Source already in MACT pool
SVM	CK	316C1	FF	83491	6	7	6	Out: MACT (FF, A/C=1.2), High MTEC
SVM	CK	30142	FF	76266	9	12	6	Out: MACT (FF, A/C=1.3), High MTEC
SVM	CK	321C1	ESP	207029	11	22	5	Out: Not MACT
SVM	CK	303C1	QC/FF	13000	13	14	12	In: MACT EU (FF, A/C=2.2)
SVM	CK	30152	FF	76266	15	29	4	Out: MACT (FF, A/C=1.6), High MTEC
SVM	CK	306C1	MC/FF	48726	17	24	10	Out: MACT (FF, A/C=1.8), High MTEC
SVM	CK	315C2	FF	157511	18	27	14	Out: MACT (FF), High MTEC
SVM	CK	315C1	FF	163256	21	34	14	Out: MACT (FF, A/C=1.6), High MTEC
SVM	CK	317C1	FF	42728	28	30	27	Out: MACT (FF, A/C=1.3), High MTEC
SVM	CK	317C3	FF	0	29	29	29	In: MACT EU (FF, A/C=1.5)
SVM	CK	317C2	FF	42189	29	30	28	Out: MACT (FF, A/C=1.1), High MTEC
SVM	CK	403C1	ESP	127283	30	34	25	Out: Not MACT
SVM	CK	303C3	QC/FF	26096	33	38	22	In: MACT EU (FF, A/C=2.4)
SVM	CK	404C1	ESP	60982	57	68	49	Out: Not MACT
SVM	CK	200C1	FF	26905	62	71	41	Out: MACT (FF, A/C=4), High A/C
SVM	CK	208C2	ESP	15158	87	117	61	Out: Not MACT
SVM	CK	308C1	ESP	27457	93	107	83	Out: Not MACT
SVM	CK	208C1	ESP	30942	98	141	73	Out: Not MACT
SVM	CK	202C2	FF	185075	109	114	99	Out: MACT (FF, A/C=1.5), High MTEC
SVM	CK	318C2	ESP	113263	140	164	127	Out: Not MACT
SVM	CK	322C1	ESP	137960	151	169	135	Out: Not MACT
SVM	CK	207C2	MC/ESP	49680	258	636	80	Out: Not MACT
SVM	CK	206C1	ESP	164386	273	318	230	Out: Not MACT
SVM	CK	401C1	ESP	74007	382	704	219	Out: Not MACT
SVM	CK	204C1	ESP	212177	505	781	262	Out: Not MACT
SVM	CK	207C1	MC/ESP	82353	507	726	312	Out: Not MACT
SVM	CK	203C1	ESP	158786	528	613	421	Out: Not MACT
SVM	CK	309C1	MC/ESP	81002	543	748	299	Out: Not MACT
SVM	CK	304C1	ESP	140000	599	646	535	Out: Not MACT
SVM	CK	406C1	ESP	121721	662	932	437	Out: Not MACT, DL measurement
SVM	CK	319C1	ESP	220000	678	1148	261	Out: Not MACT
SVM	CK	335C1	ESP	75279	752	933	629	Out: Not MACT

TABLE 4-10. SVM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	CK	402C1	ESP	207994	815	1313	381	Out: Not MACT, DL measurement
SVM	CK	305C3	ESP	67136	897	1154	631	Out: Not MACT
SVM	CK	201C1	FF	172743	924	3554	44	Out: MACT (FF), High MTEC
SVM	CK	323C1	ESP	145718	973	1340	713	Out: Not MACT
SVM	CK	205C1	ESP	139789	1169	1512	560	Out: Not MACT
SVM	CK	405C1	ESP	77813	1170	1912	896	Out: Not MACT
SVM	CK	305C1	ESP	152835	1322	1698	1022	Out: Not MACT, DL measurement
SVM	CK	302C1	ESP	369251	1529	3030	677	Out: Not MACT
SVM	CK	401C5	ESP	148756	1966	4237	623	Out: Not MACT
SVM	CK	300C2	ESP	455411	2345	4865	702	Out: Not MACT
SVM	CK	402C4	ESP	45400	6047	6651	5512	Out: Not MACT

TABLE 4-11. SVM, LWAKs, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	LWAK	225C1	FF	270004	1	1	1	MACT source (FF, A/C=1.5, w/ MTEC of 2.7e5)
SVM	LWAK	307C4	FF/VS	53860	4	6	3	Out: Not MACT (FF/VS, A/C=4.2)
SVM	LWAK	224C1	FF	14691	4	5	3	In: MACT EU (FF, A/C=1.5)
SVM	LWAK	307C3	FF/VS	56984	4	7	2	Out: MACT (FF/VS, A/C = 4.4), High MTEC
SVM	LWAK	223C1	FF	731989	5	6	4	Out: MACT (FF, A/C=1.2), High MTEC
SVM	LWAK	307C2	FF/VS	51156	7	12	5	Out: MACT (FF/VS, A/C = 4.4)
SVM	LWAK	307C1	FF/VS	55659	10	15	7	Out: MACT (FF/VS, A/C = 4.3), High MTEC
SVM	LWAK	227C1	FF	23904	31	60	12	Out: MACT (FF, A/C=2.8), High A/C
SVM	LWAK	312C1	FF	457634	403	622	163	Out: MACT (FF, A/C=1.8), High MTEC
SVM	LWAK	310C1	FF	289	495	884	265	Out: MACT (FF, A/C=3.6), MB problem (low SRE)
SVM	LWAK	311C1	FF	374691	516	923	179	Out: MACT (FF, A/C=1.9), High MTEC
SVM	LWAK	313C1	FF	687282	663	1290	250	Out: MACT (FF, A/C=1.4), High MTEC
SVM	LWAK	314C1	FF	686565	1667	1835	1514	Out: MACT (FF, A/C=1.4), High MTEC

TABLE 4-12. LVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	INC	500C1	QC/VS/KOV/DM	1029	4	4	3	MACT source (VS w/ MTEC of 1.0e3) (Any PM control as ET)
LVM	INC	348C1	QC/AS/IWS	6238	4	5	3	Out: High MTEC
LVM	INC	342C1	WHB/QC/S/VS/DM		4	7	2	Out: No MTEC
LVM	INC	344C1	QC/VS/PT/DM		4	5	4	Out: No MTEC
LVM	INC	351C1	GC/C/FF		6	9	5	Out: No MTEC
LVM	INC	806C2	C/VS		7	10	6	Out: No MTEC
LVM	INC	325C3	SD/FF/WS/IWS		7	8	6	Out: No MTEC
LVM	INC	347C1	C/QC/VS/S/DM		7	9	5	Out: No MTEC
LVM	INC	351C2	GC/C/FF		8	9	4	Out: No MTEC
LVM	INC	341C2	DA/DI/FF/HEPA/CA	1210	8	8	8	Out: High MTEC
LVM	INC	347C2	C/QC/VS/S/DM		8	8	8	Out: No MTEC
LVM	INC	806C1	C/VS		9	11	7	Out: No MTEC
LVM	INC	902C1	QT/VS/PT	1439	10	10	9	Out: MACT (VS), High MTEC
LVM	INC	354C1	QC/AS/VS/DM/IWS	26731	10	10	10	Out: MACT (VS), High MTEC
LVM	INC	712C2	NONE	3	11	14	8	Out: Not MACT
LVM	INC	341C1	DA/DI/FF/HEPA/CA	725	11	18	8	In: MACT EU (FF)
LVM	INC	340C2	WHB/ESP/WS	27853	11	12	10	Out: MACT (ET VS), High MTEC
LVM	INC	325C4	SD/FF/WS/IWS	5672	13	14	11	Out: MACT (IWS), High MTEC
LVM	INC	209C2	WHB/FF/VQ/PT/DM	248537	14	19	10	Out: MACT (ET VS), High MTEC
LVM	INC	346C1	C/QC/VS/PT/DM		15	30	5	Out: No MTEC
LVM	INC	347C4	C/QC/VS/S/DM		17	17	17	Out: No MTEC
LVM	INC	351C3	GC/C/FF		17	19	15	Out: No MTEC
LVM	INC	221C2	SS/PT/VS	1042	18	29	9	In: MACT EU (VS)
LVM	INC	327C3	SD/FF/WS/ESP	7559	20	22	18	Out: MACT (ET VS), High MTEC
LVM	INC	327C2	SD/FF/WS/ESP	4589	23	34	16	Out: MACT (ET IWS), High MTEC
LVM	INC	221C3	SS/PT/VS	12504	28	41	7	Out: MACT (VS), High MTEC
LVM	INC	705C1	QT/VS/ESP/PT	1	28	38	22	Out: MACT (VS), MB problem
LVM	INC	353C1	QC/VS/DM/ESP		29	34	19	Out: No MTEC
LVM	INC	347C3	C/QC/VS/S/DM		31	60	11	Out: No MTEC
LVM	INC	209C1	WHB/FF/VQ/PT/DM	215385	31	38	23	Out: MACT (ET VS), High MTEC
LVM	INC	325C6	SD/FF/WS/IWS	7344	34	38	32	Out: MACT (IWS), High MTEC
LVM	INC	214C3	IWS	88167	34	51	20	Out: MACT (IWS), High MTEC
LVM	INC	327C1	SD/FF/WS/ESP	66578	38	42	32	Out: MACT (ET VS), High MTEC
LVM	INC	330C2	QT/WS/DM	50	40	43	37	Out: Not MACT

TABLE 4-12. LVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	INC	229C1	WHB/ACS/HCS/CS	699	41	48	37	In: MACT EU (ET VS)
LVM	INC	216C6	HES/WS		47	53	36	Out: No MTEC
LVM	INC	325C5	SD/FF/WS/IWS	3204	48	64	39	Out: MACT (IWS), High MTEC
LVM	INC	331C1	PT/IWS		50	64	31	Out: No MTEC
LVM	INC	725C1	WS/QT		51	62	43	Out: No MTEC
LVM	INC	216C5	HES/WS		51	59	38	Out: No MTEC
LVM	INC	221C1	SS/PT/VS	118	53	77	38	In: MACT EU (VS)
LVM	INC	807C3	C/WHB/VQ/PT/HS/DM	271671	56	65	50	Out: Not MACT
LVM	INC	712C1	NONE	1	56	103	30	Out: Not MACT
LVM	INC	214C2	IWS	57412	59	87	24	Out: MACT (IWS), High MTEC
LVM	INC	229C2	WHB/ACS/HCS/CS	1407	60	79	51	Out: MACT (VS), High MTEC
LVM	INC	330C1	QT/WS/DM	12	63	67	55	Out: Not MACT
LVM	INC	502C1	WHB/QC/PBC/VS/ES	58	65	85	34	Out: MACT (VS), MB problem (low SRE)
LVM	INC	229C6	WHB/ACS/HCS/CS	804	66	81	51	In: MACT EU (ET VS)
LVM	INC	229C3	WHB/ACS/HCS/CS	251	68	72	64	In: MACT EU (ET VS)
LVM	INC	338C2	QC/FF/SS/C/HES/DM		72	81	63	Out: No MTEC
LVM	INC	229C5	WHB/ACS/HCS/CS	588	77	80	75	In: MACT EU (ET VS)
LVM	INC	338C1	QC/FF/SS/C/HES/DM		97	148	64	Out: No MTEC
LVM	INC	324C1	?		98	164	53	Out: No MTEC
LVM	INC	325C7	SD/FF/WS/IWS	3868	101	212	27	Out: MACT (IWS), High MTEC
LVM	INC	400C1	SD/FF	622484	102	126	70	Out: MACT (ET VS), High MTEC
LVM	INC	324C2	?		112	208	42	Out: No MTEC
LVM	INC	324C3	?		115	176	49	Out: No MTEC
LVM	INC	216C7	HES/WS		121	135	97	Out: No MTEC
LVM	INC	824C1	QT/VS/PT/DM	8552	122	146	109	Out: MACT (VS), High MTEC
LVM	INC	221C5	SS/PT/VS	9805	135	162	94	Out: MACT (VS), High MTEC
LVM	INC	221C4	SS/PT/VS	501	145	333	45	In: MACT EU (VS)
LVM	INC	340C1	WHB/ESP/WS	35259	147	422	9	Out: MACT (ET VS), High MTEC
LVM	INC	504C1	VS/C	73631	157	300	19	Out: MACT (VS), High MTEC
LVM	INC	905C1	QT/VS/AS/CS	6832	181	197	162	Out: MACT (VS), High MTEC
LVM	INC	807C1	C/WHB/VQ/PT/HS/DM	239157	193	281	55	Out: Not MACT
LVM	INC	324C4	?		194	527	47	Out: No MTEC
LVM	INC	344C2	QC/VS/PT/DM		198	335	129	Out: No MTEC
LVM	INC	807C2	C/WHB/VQ/PT/HS/DM	367262	209	318	92	Out: Not MACT

TABLE 4-12. LVM, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	INC	503C2	HTHE/ LTHE/ FF	538274	246	308	175	Out: MACT (ET VS), High MTEC
LVM	INC	337C1	WHB/DA/DI/FF	4247	261	431	167	Out: MACT (ET VS), MB problem
LVM	INC	216C3	HES/WS		269	362	157	Out: No MTEC
LVM	INC	705C2	QT/VS/ESP/PT	797	301	491	199	Out: MACT (IWS), MB problem (low SRE)
LVM	INC	810C1	Q/VS/PBS	55023	321	457	146	Out: MACT (VS), High MTEC
LVM	INC	214C1	IWS		339	460	198	Out: No MTEC
LVM	INC	353C2	QC/VS/DM/ESP		353	960	38	Out: No MTEC
LVM	INC	809C1	VS	56047	397	469	353	Out: MACT (VS), High MTEC
LVM	INC	334C2	WS/ESP/PT	6827	451	566	205	Out: MACT (ET IWS), High MTEC
LVM	INC	915C4	QC/VS/C		612	898	446	Out: No MTEC
LVM	INC	503C1	HTHE/ LTHE/ FF	194079	634	752	548	Out: MACT (ET VS), High MTEC
LVM	INC	700C1	SD/RJS/VS/WS	6851	721	789	668	Out: MACT (VS), High MTEC
LVM	INC	334C1	WS/ESP/PT	21901	820	2101	204	Out: MACT (ET IWS), High MTEC
LVM	INC	810C2	Q/VS/PBS	2250207	836	921	758	Out: MACT (VS), High MTEC
LVM	INC	915C1	QC/VS/C		873	1037	728	Out: No MTEC
LVM	INC	359C4	WHB/FF/S		1064	1855	345	Out: No MTEC
LVM	INC	809C2	VS	1332199	7224	7976	6552	Out: MACT (VS), High MTEC
LVM	INC	359C5	WHB/FF/S		10971	13042	8641	Out: No MTEC
LVM	INC	359C6	WHB/FF/S		132678	157456	96750	Out: No MTEC

TABLE 4-13. LVM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	CK	320C1	FF	25210	4	5	3	MACT source (FF, A/C=2.3, w/ MTEC of 2.5e4)
LVM	CK	316C2	FF	44108	5	6	4	Out: MACT (FF, A/C=1.2), High MTEC
LVM	CK	204C1	ESP	143982	6	7	5	Out: Not MACT (ESP)
LVM	CK	308C1	ESP	29513	7	9	5	Out: Not MACT (ESP)
LVM	CK	206C1	ESP	205763	9	9	8	Out: Not MACT (ESP)
LVM	CK	315C1	FF	258174	9	12	3	Out: MACT (FF), High MTEC
LVM	CK	309C1	MC/ESP	106203	9	19	5	Out: Not MACT (ESP)
LVM	CK	208C1	ESP	15357	10	11	8	Out: Not MACT (ESP)
LVM	CK	303C3	QC/FF	25232	10	22	4	In: MACT EU (FF, A/C=2.4)
LVM	CK	335C1	ESP	39270	11	11	11	Out: Not MACT (ESP)
LVM	CK	315C2	FF	247408	11	11	11	Out: MACT (FF), High MTEC
LVM	CK	316C1	FF	65167	11	14	9	Out: MACT (FF), High MTEC
LVM	CK	321C1	ESP	83779	11	24	4	Out: Not MACT (ESP)
LVM	CK	306C1	MC/FF	231592	13	15	12	Out: MACT (FF), High MTEC
LVM	CK	208C2	ESP	7115	14	26	6	Out: Not MACT (ESP)
LVM	CK	30142	FF	23371	16	19	14	In: MACT EU (FF, A/C=1.3)
LVM	CK	30152	FF	23371	17	22	13	In: MACT EU (FF, A/C=?)
LVM	CK	205C1	ESP	171391	19	23	13	Out: Not MACT (ESP)
LVM	CK	318C2	ESP	15678	19	23	16	Out: Not MACT (ESP)
LVM	CK	305C3	ESP	44058	20	21	20	Out: Not MACT (ESP)
LVM	CK	317C1	FF	39252	23	25	23	Out: MACT (FF), High MTEC
LVM	CK	317C3	FF	0	23	24	24	In: MACT EU (FF, A/C=1.5)
LVM	CK	317C2	FF	35645	24	24	23	Out: MACT (FF), High MTEC
LVM	CK	322C1	ESP	173846	24	29	16	Out: MACT (ESP), High MTEC
LVM	CK	303C1	QC/FF	5610	25	39	18	In: MACT EU (FF, A/C=2.3)
LVM	CK	401C5	ESP	15312	27	52	8	Out: Not MACT (ESP, SCA=243)
LVM	CK	302C1	ESP	264797	27	43	19	Out: Not MACT (ESP)
LVM	CK	202C2	FF	120729	29	30	29	Out: MACT (FF), High MTEC
LVM	CK	203C1	ESP	47698	31	42	25	Out: Not MACT (ESP, SCA=220)
LVM	CK	403C1	ESP	66049	34	37	32	Out: Not MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	305C1	ESP	86477	38	43	34	Out: Not MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	402C4	ESP	16212	50	59	40	Out: Not MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	207C2	MC/ESP	15408	55	294	6	Out: Not MACT (ESP, SCA=?)
LVM	CK	304C1	ESP	170000	57	102	27	Out: Not MACT (ESP)

TABLE 4-13. LVM, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	CK	207C1	MC/ESP	16590	57	160	9	Out: Not MACT (ESP, SCA=?)
LVM	CK	319C1	ESP	15400	60	73	44	Out: Not MACT (ESP)
LVM	CK	300C2	ESP	492419	102	197	38	Out: Not MACT (ESP)
LVM	CK	323C1	ESP	154346	127	244	62	Out: Not MACT (ESP)
LVM	CK	404C1	ESP	167319	130	170	97	Out: Not MACT (ESP)
LVM	CK	402C1	ESP	199783	162	167	155	Out: Not MACT (ESP)
LVM	CK	401C1	ESP	30735	173	182	162	Out: Not MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	406C1	ESP	105475	184	191	180	Out: Not MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	405C1	ESP	176599	304	351	267	Out: Not MACT (ESP), High MTEC, DL measurement
LVM	CK	200C1	FF	354752	367	451	248	Out: Not MACT (FF), High MTEC, DL measurement
LVM	CK	201C1	FF	295437	520	1124	263	Out: MACT (FF), High MTEC, DL measurement

TABLE 4-14. LVM, LWAKs, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	LWAK	225C1	FF	20344	10	12	9	Source already in MACT pool
LVM	LWAK	224C1	FF	36730	22	30	17	MACT source (FF, A/C=1.5, w/ MTEC of 3.7e4)
LVM	LWAK	227C1	FF	6911	25	37	18	Source already in MACT pool
LVM	LWAK	223C1	FF	33422	34	37	30	In: MACT EU (FF, A/C=1.2)
LVM	LWAK	312C1	FF	46190	37	54	22	Out: MAC (FF, A/C=1.8), High MTEC
LVM	LWAK	311C1	FF	40635	41	52	36	Out: MACT EU (FF, A/C=1.9), High MTEC
LVM	LWAK	310C1	FF	166	60	88	31	Out: MACT (FF, A/C=3.6), High A/C
LVM	LWAK	307C1	FF/VS	54494	67	174	30	Out: MACT (FF, A/C=4.3), High A/C
LVM	LWAK	307C3	FF/VS	49464	122	164	81	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	307C4	FF/VS	52192	145	308	61	Out: MACT (FF, A/C=4.2), High A/C
LVM	LWAK	307C2	FF/VS	50080	206	743	13	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	314C1	FF	49552	227	317	162	Out: MACT (FF, A/C=1.4), High MTEC
LVM	LWAK	313C1	FF	66835	289	329	245	Out: MACT (FF, A/C=1.4), High MTEC

TABLE 4-15. TOTAL CHLORINE, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	347C2	C/QC/VS/S/DM		0.1	0.1	0.1		Out: No MTEC
Tot Cl	INC	358C2	QC/VS/C/CT/S/DM	1.11E+07	0.2	0.2	0.2	100.00	MACT source (VS/S MTEC of 1.1e7)
Tot Cl	INC	338C1	QC/FF/SS/C/HES/DM		0.2	0.3	0.2		Out: No MTEC
Tot Cl	INC	342C2	WHB/QC/S/VS/DM	7.00E+00	0.3	0.3	0.2	-5230.59	In: MACT EU (WS)
Tot Cl	INC	706C3	QT/HS/C	1.73E+07	0.3	0.3	0.3	100.00	Out: High MTEC
Tot Cl	INC	338C2	QC/FF/SS/C/HES/DM		0.3	0.3	0.3		Out: No MTEC
Tot Cl	INC	808C2	QT/PBS/ESP	2.09E+07	0.3	0.7	0.1	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	706C1	QT/HS/C	1.56E+07	0.4	0.5	0.2	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	354C3	QC/AS/VS/DM/IWS	1.41E+07	0.4	0.4	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	222C1	WHB/SD/ESP/Q/PBS		0.4	0.5	0.3		Out: No MTEC
Tot Cl	INC	337C2	WHB/DA/DI/FF	9.59E+04	0.4	0.5	0.3	99.37	Out: Not MACT
Tot Cl	INC	728C1	QT/PT/VS	1.83E+07	0.4	0.8	0.0	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	347C1	C/QC/VS/S/DM		0.5	1.6	0.1		Out: No MTEC
Tot Cl	INC	600C1	WHB/QC/PT/IWS	3.05E+07	0.6	0.9	0.4	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	707C7	QT/WS		0.6	0.7	0.6		Out: No MTEC
Tot Cl	INC	358C3	QC/VS/C/CT/S/DM	4.22E+07	0.6	0.8	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	327C2	SD/FF/WS/ESP		0.6	0.8	0.5		Out: No MTEC
Tot Cl	INC	808C1	QT/PBS/ESP	2.58E+07	0.7	1.1	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C1	C/VS/AS	9.09E+05	0.8	0.9	0.8	99.87	In: MACT EU (WS)
Tot Cl	INC	346C1	C/QC/VS/PT/DM		0.9	1.0	0.8		Out: No MTEC
Tot Cl	INC	348C1	QC/AS/IWS	9.85E+07	0.9	1.1	0.6	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C2	C/VS/AS	1.70E+05	0.9	1.0	0.8	99.21	In: MACT EU (WS)
Tot Cl	INC	706C2	QT/HS/C	1.73E+07	1.0	1.4	0.2	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	708C3	WS/ESP	5.52E+07	1.0	2.3	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	214C3	IWS	5.05E+07	1.0	1.3	0.7	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	344C2	QC/VS/PT/DM		1.1	2.2	0.1		Out: No MTEC
Tot Cl	INC	711C3	C/VS/AS	7.78E+05	1.1	1.2	1.0	99.80	In: MACT EU (WS)
Tot Cl	INC	701C2	VS/PT		1.1	2.3	0.4		Out: No MTEC
Tot Cl	INC	344C1	QC/VS/PT/DM		1.3	1.3	1.2		Out: No MTEC
Tot Cl	INC	354C4	QC/AS/VS/DM/IWS		1.3	2.2	0.6		Out: No MTEC
Tot Cl	INC	708C2	WS/ESP	6.22E+07	1.4	2.6	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	500C4	QC/VS/KOV/DM	1.54E+07	1.4	2.4	0.9	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	325C4	SD/FF/WS/IWS	1.19E+07	1.4	3.2	0.3	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	708C1	WS/ESP	8.72E+07	1.4	2.7	0.8	100.00	Out: MACT (WS), High MTEC

TABLE 4-15. TOTAL CHLORINE, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	807C1	C/WHB/VQ/PT/HS/DM		1.6	1.9	1.2		Out: No MTEC
Tot Cl	INC	327C3	SD/FF/WS/ESP		1.7	3.3	0.5		Out: No MTEC
Tot Cl	INC	707C1	QT/WS		1.7	3.7	0.6		Out: No MTEC
Tot Cl	INC	347C3	C/QC/VS/S/DM		1.8	3.9	0.1		Out: No MTEC
Tot Cl	INC	359C2	WHB/FF/S	2.24E+07	1.8	2.1	1.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	341C2	DA/DI/FF/HEPA/CA	2.62E+06	1.8	2.1	1.5	99.90	Out: Not MACT
Tot Cl	INC	600C2	WHB/QC/PT/IWS	4.91E+07	1.8	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	325C8	SD/FF/WS/IWS		1.8	4.9	0.1		Out: No MTEC
Tot Cl	INC	222C6	WHB/SD/ESP/Q/PBS	2.84E+07	1.9	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	222C3	WHB/SD/ESP/Q/PBS		1.9	2.2	1.4		Out: No MTEC
Tot Cl	INC	214C1	IWS	2.42E+07	1.9	2.0	1.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	500C3	QC/VS/KOV/DM	1.85E+07	2.2	3.6	1.2	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	359C3	WHB/FF/S	1.60E+07	2.3	4.4	0.7	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	214C2	IWS	2.82E+07	2.3	3.0	2.0	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	354C2	QC/AS/VS/DM/IWS	3.33E+06	2.4	2.5	2.1	99.99	In: MACT EU (WS)
Tot Cl	INC	824C1	QT/VS/PT/DM	4.91E+06	2.4	2.7	1.8	99.93	In: MACT EU (WS)
Tot Cl	INC	209C4	WHB/FF/VQ/PT/DM	1.13E+07	2.8	3.9	0.6	99.96	Out: MACT (WS), High MTEC
Tot Cl	INC	707A2	QT/WS	7.75E+06	2.9	3.7	2.3	99.94	In: MACT EU (WS)
Tot Cl	INC	807C2	C/WHB/VQ/PT/HS/DM		3.2	3.7	2.6		Out: No MTEC
Tot Cl	INC	325C5	SD/FF/WS/IWS	1.71E+06	3.4	5.0	1.7	99.71	In: MACT EU (WS)
Tot Cl	INC	807C3	C/WHB/VQ/PT/HS/DM		3.5	3.7	3.1		Out: No MTEC
Tot Cl	INC	359C1	WHB/FF/S	2.25E+07	3.5	7.0	1.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	222C2	WHB/SD/ESP/Q/PBS		4.0	4.4	3.3		Out: No MTEC
Tot Cl	INC	825C1	CCS/QC/ESP	3.45E+07	4.0	8.4	2.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	700C2	SD/RJS/VS/WS	1.74E+06	4.2	5.2	3.5	99.65	In: MACT EU (WS)
Tot Cl	INC	359C4	WHB/FF/S	7.19E+06	4.3	5.7	0.0	99.91	In: MACT EU (WS)
Tot Cl	INC	358C1	QC/VS/C/CT/S/DM	4.68E+07	4.3	11.3	0.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	209C7	WHB/FF/VQ/PT/DM	3.36E+07	4.3	5.6	3.7	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C8	WHB/FF/VQ/PT/DM	4.81E+07	4.4	6.7	1.9	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	707C8	QT/WS		4.6	12.3	0.7		Out: No MTEC
Tot Cl	INC	902C1	QT/VS/PT	3.92E+07	4.6	6.1	2.6	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C5	WHB/FF/VQ/PT/DM	2.72E+07	4.7	6.5	3.3	99.97	Out: MACT (WS), High MTEC
Tot Cl	INC	347C4	C/QC/VS/S/DM		4.9	4.9	4.9		Out: No MTEC
Tot Cl	INC	504C1	VS/C	6.38E+04	5.1	11.4	0.1	89.37	In: MACT EU (WS)

TABLE 4-15. TOTAL CHLORINE, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	229C3	WHB/ACS/HCS/CS	1.93E+08	5.5	7.0	4.1	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	359C5	WHB/FF/S	7.32E+06	5.6	7.0	3.6	99.89	In: MACT EU (WS)
Tot Cl	INC	209C6	WHB/FF/VQ/PT/DM	3.65E+07	5.8	6.3	5.2	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	714C4	WS	4.65E+06	6.2	7.6	3.8	99.80	In: MACT EU (WS)
Tot Cl	INC	325C6	SD/FF/WS/IWS	3.27E+06	6.4	12.8	0.3	99.71	In: MACT EU (WS)
Tot Cl	INC	341C1	DA/DI/FF/HEPA/CA	8.92E+05	6.8	17.9	1.1	98.89	Out: Not MACT
Tot Cl	INC	707A1	QT/WS		7.2	8.2	5.8		Out: No MTEC
Tot Cl	INC	701C3	VS/PT		7.2	8.0	5.9		Out: No MTEC
Tot Cl	INC	357C1	QC/VS/PT/IWS	1.05E+07	7.5	10.3	5.0	99.90	In: MACT EU (WS)
Tot Cl	INC	707C9	QT/WS	8.17E+06	7.6	13.0	4.0	99.87	In: MACT EU (WS)
Tot Cl	INC	354C1	QC/AS/VS/DM/IWS	3.51E+06	7.7	11.4	4.3	99.97	In: MACT EU (WS)
Tot Cl	INC	707C2	QT/WS	6.48E+06	7.9	10.2	3.5	99.82	In: MACT EU (WS)
Tot Cl	INC	329C1	PT/IWS	2.00E+07	8.3	15.4	3.2	99.94	In: MACT (WS), High MTEC
Tot Cl	INC	358C4	QC/VS/C/CT/S/DM	4.39E+07	9.1	9.6	8.2	99.97	Out: MACT (WS), High MTEC
Tot Cl	INC	705C2	QT/VS/ESP/PT		9.2	10.1	8.0		Out: No MTEC
Tot Cl	INC	327C1	SD/FF/WS/ESP		9.7	12.2	7.6		Out: No MTEC
Tot Cl	INC	216C7	HES/WS		9.7	11.4	8.5		Out: No MTEC
Tot Cl	INC	805C1	QT/QS/VS/ES/PBS	3.47E+06	10.0	15.0	7.4	99.58	In: MACT EU (WS)
Tot Cl	INC	216C2	HES/WS		10.4	11.5	8.6		Out: No MTEC
Tot Cl	INC	221C3	PT		11.4	13.0	8.4		Out: No MTEC
Tot Cl	INC	339C1	AT/PT/RJS/ESP	3.56E+07	11.5	46.2	0.2	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	707C4	QT/WS	9.03E+06	11.8	13.2	10.7	99.81	In: MACT EU (WS)
Tot Cl	INC	705C1	QT/VS/ESP/PT		12.3	19.7	5.5		Out: No MTEC
Tot Cl	INC	334C1	WS/ESP/PT	4.18E+06	13.0	17.4	8.5	99.55	In: MACT EU (WS)
Tot Cl	INC	707C3	QT/WS	1.09E+07	13.0	20.4	9.2	99.83	In: MACT EU (WS)
Tot Cl	INC	340C1	WHB/ESP/WS	4.45E+06	14.0	18.9	10.3	99.54	In: MACT EU (WS)
Tot Cl	INC	221C2	PT		14.7	16.7	13.5		Out: No MTEC
Tot Cl	INC	210C1	FF/S	1.99E+07	15.7	27.7	5.9	99.89	Out: MACT (WS), High MTEC
Tot Cl	INC	221C1	PT		16.5	19.8	10.9		Out: No MTEC
Tot Cl	INC	209C1	WHB/FF/VQ/PT/DM	3.86E+07	16.6	24.6	6.5	99.94	Out: MACT (WS), High MTEC
Tot Cl	INC	502C1	WHB/QC/PBC/VS/ES	9.62E+06	19.7	35.5	1.4	99.70	In: MACT EU (WS)
Tot Cl	INC	334C2	WS/ESP/PT	9.39E+06	21.7	28.5	17.2	99.66	In: MACT EU (WS)
Tot Cl	INC	340C2	WHB/ESP/WS	2.37E+06	22.4	26.4	18.4	98.62	In: MACT EU (WS)
Tot Cl	INC	701C1	VS/PT		26.1	27.7	24.5		Out: No MTEC

TABLE 4-15. TOTAL CHLORINE, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	INC	713C1	VS/PT	1.22E+05	26.9	28.4	24.5	67.93	In: MACT EU (WS)
Tot Cl	INC	500C1	QC/VS/KOV/DM	2.61E+06	28.9	51.2	1.0	98.39	In: MACT EU (WS)
Tot Cl	INC	700C1	SD/RJS/VS/WS	3.19E+06	29.6	46.4	18.8	98.65	In: MACT EU (WS)
Tot Cl	INC	714C3	WS	6.38E+06	32.0	38.7	23.6	99.27	In: MACT EU (WS)
Tot Cl	INC	359C6	WHB/FF/S	6.27E+06	32.6	34.9	29.2	99.24	In: MACT EU (WS)
Tot Cl	INC	221C4	PT		34.2	39.7	24.5		Out: No MTEC
Tot Cl	INC	209C3	WHB/FF/VQ/PT/DM	1.04E+07	35.3	42.0	30.8	99.50	In: MACT EU (WS)
Tot Cl	INC	211C1	FF/S	2.55E+07	37.7	48.3	27.9	99.78	Out: MACT (WS), High MTEC
Tot Cl	INC	325C7	SD/FF/WS/IWS	8.71E+06	39.3	101.1	4.0	99.34	In: MACT EU (WS)
Tot Cl	INC	221C5	PT		39.7	42.9	38.1		Out: No MTEC
Tot Cl	INC	906C2	QT/PT	4.82E+06	44.1	64.4	16.0	98.67	In: MACT EU (WS)
Tot Cl	INC	806C1	C/VS		45.3	47.0	43.6		Out: No MTEC
Tot Cl	INC	333C1	SD/FF	8.57E+06	48.6	59.1	33.7	99.17	Out: Not MACT
Tot Cl	INC	806C2	C/VS	9.51E+02	52.2	72.7	33.1	-4147.19	In: MACT EU (WS)
Tot Cl	INC	210C2	FF/S	1.81E+07	54.1	62.8	45.0	99.56	Out: MACT (WS), High MTEC
Tot Cl	INC	229C6	WHB/ACS/HCS/CS	2.17E+08	54.4	56.0	52.8	99.96	Out: MACT (WS), High MTEC
Tot Cl	INC	330C1	QT/WS/DM		55.8	77.2	31.9		Out: No MTEC
Tot Cl	INC	333C2	SD/FF	1.31E+07	59.0	83.0	20.1	99.35	Out: Not MACT
Tot Cl	INC	332C1	WS	3.84E+07	64.8	86.1	36.3	99.75	Out: MACT (WS), High MTEC
Tot Cl	INC	714C2	WS	7.34E+06	70.3	81.4	63.7	98.61	In: MACT EU (WS)
Tot Cl	INC	714C1	WS	1.04E+07	70.4	76.3	67.0	99.01	In: MACT EU (WS)
Tot Cl	INC	725C1	WS/QT		75.2	95.1	65.1		Out: No MTEC
Tot Cl	INC	229C5	WHB/ACS/HCS/CS	2.58E+08	96.8	108.6	85.1	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	337C1	WHB/DA/DI/FF		99.3	111.4	91.4		Out: No MTEC, Not MACT
Tot Cl	INC	229C1	WHB/ACS/HCS/CS	1.54E+08	102.0	126.4	78.1	99.90	Out: MACT (WS), High MTEC
Tot Cl	INC	209C2	WHB/FF/VQ/PT/DM	4.04E+07	106.5	142.9	78.4	99.62	Out: MACT (WS), High MTEC
Tot Cl	INC	212C1	FF/S	3.31E+07	133.9	249.6	64.2	99.41	Out: MACT (WS), High MTEC
Tot Cl	INC	906C1	QT/PT	6.22E+07	134.3	143.7	117.3	99.69	Out: MACT (WS), High MTEC
Tot Cl	INC	714C5	WS	1.27E+07	135.6	212.2	94.2	98.44	Out: MACT (WS), Poor D/O/M (714C4)
Tot Cl	INC	500C2	QC/VS/KOV/DM	1.26E+07	139.3	343.2	2.2	98.39	Out: MACT (WS), Poor D/O/M (500C4)
Tot Cl	INC	906C3	QT/PT	5.27E+07	159.4	179.6	126.7	99.56	Out: MACT (WS), High MTEC
Tot Cl	INC	229C4	WHB/ACS/HCS/CS	1.86E+08	159.8	271.4	48.2	99.87	Out: MACT (WS), High MTEC
Tot Cl	INC	324C4	?		163.2	668.6	2.9		Out: No MTEC, Unknown APCS
Tot Cl	INC	704C1	NONE	9.45E+07	163.7	178.1	155.5	99.75	Out: MACT (WS), High MTEC

TABLE 4-15. TOTAL CHLORINE, INCINERATORS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	INC	725C2	WS/QT		164.7	177.6	140.2		Out: No MTEC
Tot Cl	INC	906C5	QT/PT	7.94E+07	188.3	205.1	172.0	99.65	Out: MACT (WS), High MTEC
Tot Cl	INC	324C3	?		192.6	622.8	4.2		Out: No MTEC
Tot Cl	INC	324C1	?		200.9	550.4	7.5		Out: No MTEC
Tot Cl	INC	704C2	NONE	1.14E+08	214.3	274.3	167.2	99.73	Out: Not MACT
Tot Cl	INC	324C2	?		215.1	560.2	7.8		Out: No MTEC
Tot Cl	INC	229C2	WHB/ACS/HCS/CS	1.96E+08	218.1	318.4	154.4	99.84	Out: MACT (WS), High MTEC
Tot Cl	INC	914C1	?	1.77E+07	227.1	273.4	202.3	98.13	Out: Unknown APCS
Tot Cl	INC	906C4	QT/PT	6.57E+07	252.7	344.8	175.5	99.44	Out: MACT (WS), High MTEC
Tot Cl	INC	703C1	WHB	5.41E+05	325.5	376.4	247.8	12.48	Out: Not MACT
Tot Cl	INC	710C3	QT/OS/C/S	4.52E+07	346.8	353.9	341.5	98.88	Out: MACT (WS), High MTEC
Tot Cl	INC	710C1	QT/OS/C/S	6.52E+07	355.5	381.7	306.3	99.21	Out: MACT (WS), High MTEC
Tot Cl	INC	703C2	WHB	4.87E+05	378.1	445.2	260.7	-13.00	Out: Not MACT
Tot Cl	INC	710C2	QT/OS/C/S	4.91E+07	439.6	483.1	382.8	98.70	Out: MACT (WS), High MTEC
Tot Cl	INC	784C1	NONE		1012.3	1061.3	963.5		Out: No MTEC, Not MACT
Tot Cl	INC	784C2	NONE		1067.9	1119.8	974.5		Out: No MTEC, Not MACT

TABLE 4-16. TOTAL CHLORINE, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	CK	204C2	ESP	1623198	0.1	0.1	0.1	99.99	MACT source (FC w/ MTEC of 1.6e6)
Tot Cl	CK	304C2	ESP		0.4	0.6	0.2		Out: No MTEC
Tot Cl	CK	30141	FF	1173310	0.4	0.6	0.3	99.96	In: MACT EU (FC)
Tot Cl	CK	403C1	ESP	1600315	0.7	1.6	0.2	99.95	In: MACT EU (FC)
Tot Cl	CK	30151	FF	1173310	0.7	1.0	0.3	99.93	In: MACT EU (FC)
Tot Cl	CK	403C2	ESP	2145033	0.9	1.1	0.8	99.95	Out: MACT (FC), High MTEC
Tot Cl	CK	315C1	FF	474426	1.4	1.7	1.1	99.71	In: MACT EU (FC)
Tot Cl	CK	202C1	FF	300489	1.7	2.5	1.2	99.77	In: MACT EU (FC)
Tot Cl	CK	303C1	QC/FF	0	2.0	3.1	1.2	98.99	In: MACT EU (FC)
Tot Cl	CK	315C2	FF	390116	2.7	2.8	2.6	99.38	In: MACT EU (FC)
Tot Cl	CK	317C1	FF	123778	2.9	3.5	2.2	98.58	In: MACT EU (FC)
Tot Cl	CK	306C1	MC/FF	738535	2.9	3.9	2.3	99.46	In: MACT EU (FC)
Tot Cl	CK	405C1	ESP	1643118	3.2	4.0	2.6	99.81	Out: MACT (FC), High MTEC
Tot Cl	CK	317C2	FF	258946	3.7	5.6	2.2	99.11	In: MACT EU (FC)
Tot Cl	CK	208C1	ESP	425585	4.5	6.2	2.9	98.96	In: MACT EU (FC)
Tot Cl	CK	207C1	MC/ESP	736365	4.9	5.3	4.5	99.26	In: MACT EU (FC)
Tot Cl	CK	308C1	ESP	778873	5.6	6.3	4.4	99.19	In: MACT EU (FC)
Tot Cl	CK	320C1	FF	334170	5.9	9.2	3.9	98.08	In: MACT EU (FC)
Tot Cl	CK	317C3	FF	0	7.0	7.8	6.0	94.79	In: MACT EU (FC)
Tot Cl	CK	321C1	ESP	1123822	9.5	12.0	6.9	99.10	In: MACT EU (FC)
Tot Cl	CK	302C1	ESP	2187394	10.2	11.0	9.8	99.36	Out: MACT (FC), High MTEC
Tot Cl	CK	401C5	ESP	1858356	10.4	14.9	6.9	99.37	Out: MACT (FC), High MTEC
Tot Cl	CK	205C1	ESP	546972	16.6	20.2	13.5	96.05	In: MACT EU (FC)
Tot Cl	CK	200C1	FF	3238628	18.2	24.1	15.3	99.19	Out: MACT (FC), High MTEC
Tot Cl	CK	201C1	FF	3019743	20.1	24.9	16.6	99.04	Out: MACT (FC), High MTEC
Tot Cl	CK	402C1	ESP	2789198	21.6	41.9	6.7	99.05	Out: MACT (FC), High MTEC
Tot Cl	CK	402C4	ESP	2824189	22.0	31.7	14.2	99.07	Out: MACT (FC), High MTEC
Tot Cl	CK	316C2	FF	440198	22.2	25.0	20.5	96.03	In: MACT EU (FC)
Tot Cl	CK	322C1	ESP	3069875	22.6	27.5	18.4	98.96	Out: MACT (FC), High MTEC
Tot Cl	CK	319C2	ESP		27.1	29.2	25.6		Out: No MTEC
Tot Cl	CK	305C3	ESP	472114	28.4	30.2	25.9	93.10	In: MACT EU (FC)
Tot Cl	CK	202C2	FF	853544	31.1	46.6	14.2	97.73	In: MACT EU (FC)
Tot Cl	CK	300C1	ESP	2214874	33.8	43.7	23.8	97.81	Out: MACT (FC), High MTEC
Tot Cl	CK	316C1	FF	695311	35.1	36.9	33.5	95.34	In: MACT EU (FC)

TABLE 4-16. TOTAL CHLORINE, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	CK	309C1	MC/ESP	1025758	35.7	44.1	24.1	95.23	In: MACT EU (FC)
Tot Cl	CK	303C2	QC/FF	1257091	36.0	96.8	5.3	96.71	In: MACT EU (FC)
Tot Cl	CK	401C1	ESP	3673829	36.2	47.4	22.4	98.76	Out: MACT (FC), High MTEC
Tot Cl	CK	319C8	ESP	197381	42.4	42.4	42.4	84.36	In: MACT EU (FC)
Tot Cl	CK	319C7	ESP		42.5	53.5	31.4		Out: No MTEC
Tot Cl	CK	406C1	ESP	823050	42.8	121.9	4.6	96.41	In: MACT EU (FC)
Tot Cl	CK	318C2	ESP		50.6	62.5	42.5		Out: No MTEC
Tot Cl	CK	319C4	ESP		51.1	57.2	39.3		Out: No MTEC
Tot Cl	CK	318C1	ESP	739756	51.3	63.9	41.7	91.71	In: MACT EU (FC)
Tot Cl	CK	404C2	ESP	2085052	56.8	66.5	49.6	96.89	Out: MACT (FC), High MTEC
Tot Cl	CK	309C2	MC/ESP	1003736	57.0	83.5	31.6	92.27	In: MACT EU (FC)
Tot Cl	CK	323C1	ESP	3649388	71.9	101.1	31.4	97.19	Out: MACT (FC), High MTEC
Tot Cl	CK	404C1	ESP	1646409	76.6	105.7	20.5	94.75	Out: MACT (FC), High MTEC
Tot Cl	CK	206C1	ESP	983390	81.2	148.2	15.1	89.09	In: MACT EU (FC)
Tot Cl	CK	203C1	ESP	1334596	117.2	128.7	96.4	87.29	In: MACT EU (FC)
Tot Cl	CK	335C1	ESP	644562	121.9	150.9	102.6	77.97	In: MACT EU (FC)
Tot Cl	CK	305C1	ESP	1237797	157.2	185.6	105.9	94.79	In: MACT EU (FC)
Tot Cl	CK	319C6	ESP	829955	220.8	227.2	220.0	61.27	In: MACT EU (FC)

TABLE 4-17. TOTAL CHLORINE, LWAKs, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	LWAK	307C3	FF/VS	7699496	13	15	11	99.75	Source already in MACT pool
Tot Cl	LWAK	307C2	FF/VS	13945545	26	33	20	99.73	MACT source (VS w/ MTEC of 1.4e7)
Tot Cl	LWAK	224C1	FF	853320	29	83	2	95.12	Out: MB problem
Tot Cl	LWAK	307C4	FF/VS	12158726	31	38	26	99.63	Source already in MACT pool
Tot Cl	LWAK	307C1	FF/VS	3309746	42	95	22	98.17	Source already in MACT pool
Tot Cl	LWAK	225C1	FF	838545	641	753	567	-10.55	Out: Not MACT
Tot Cl	LWAK	314C1	FF	1539260	853	921	815	33.74	Out: Not MACT
Tot Cl	LWAK	310C1	FF	765771	1199	1235	1160	-68.03	Out: Not MACT
Tot Cl	LWAK	312C1	FF	1907626	1241	1342	1071	18.59	Out: Not MACT
Tot Cl	LWAK	311C1	FF	901527	1258	1353	1185	-47.23	Out: Not MACT
Tot Cl	LWAK	227C1	FF	676245	1347	1522	1000	-71.64	Out: Not MACT
Tot Cl	LWAK	313C1	FF	2095927	1509	1573	1420	7.81	Out: Not MACT
Tot Cl	LWAK	223C1	FF	2395327	2079	2317	1755	-25.75	Out: Not MACT

TABLE 4-18. SUMMARY OF MACT FLOOR FOR NEW SOURCES
(BASED ON STATISTICAL EVALUATION OF MACT EU)

HAP	Units	Incinerators		Cement Kilns		LWA Kilns	
		Stnd	Design	Stnd	Design	Stnd	Design
PCDD/PCDF	TEQ ng/dscm	40	20	8	4.7	8	4.7
Mercury	µg/dscm	130	58	82	58	72	36
Semi Volatile Metals	µg/dscm	270	120	57	34	5.2	4
Low Volatile Metals	µg/dscm	260	110	44	26	55	36
Particulate Matter	gr/dscf	0.039	0.017	0.065	0.032	0.054	0.025
Total Chlorine	ppmv	280	96	630	270	62	36
CO	ppmv	120	52	n/a	n/a	270	120
HC	ppmv	12	6.1	m : 20*	m : 10	14	6.5
				b : 6.7 or CO 100	b : 5.1 or CO 100		

m : cement kiln main stack
b : cement kiln bypass stack
* : Based on current RCRA standard

SECTION 5

BEYOND-THE-FLOOR CONTROL OPTIONS

Techniques for achieving beyond-the-floor (B-T-F) control levels are discussed, including factors affecting the applicability of different B-T-F control techniques to the different source categories, documented (or expected) control performance, and factors that affect performance. This discussion is intended to support the technical achievability of various B-T-F stack gas emissions levels that are described in the preamble to this proposed rule. All of the air pollution control technologies discussed are described in detail in the accompanying *Technical Support Document for HWC MACT Standards, Volume I: Description of Source Categories*.

5.1 PCDD/PCDF

5.1.1 Incinerators

PCDD/PCDF can be controlled through both:

- Minimizing formation by conducting "good operating practices" such as maintaining combustion efficiency and controlling PM air pollution control device temperature, or using PCDD/PCDF formation inhibitors.

- Using air pollution control equipment for either the destruction or removal of PCDD/PCDF with techniques such as carbon adsorption or catalytic oxidation.

5.1.1.1 Good Operating Practices

"Good operating practices" (GOP) involve flue gas PM control device temperature control (less than 400°F) to minimize the catalytic PCDD/PCDF formation process and good combustion practices to limit potential precursor trace organics formation (maintaining low CO and HC combustion gas levels). Many hazardous waste combustors, as well medical and municipal waste combustors, have demonstrated that TEQ levels of less than 0.5 ng/dscm can be achieved with the use of GOPs.

5.1.1.2 Carbon Injection

Carbon injection has been demonstrated for the control of PCDD/PCDF, as well as heavy metals (mercury in particular) and other organics, on full-scale MWCs, MWIs, and one U.S. HWI to-date. The potential effectiveness of carbon injection depends on many factors, although maybe most importantly carbon injection rate, carbon type, and flue gas temperature at the point of injection or at the downstream carbon capturing PM air pollution control device. Additionally, using FFs for carbon capture may result in better performance compared with ESPs because FFs provide for more intimate contacting of the flue gas with the injected carbon. With a fabric filter, the flue gas is forced through the carbon-laden filter cake; whereas with an ESP, the flue gas flows between the particulate collection plates.

Carbon injection control for PCDD/PCDF on MWC, MWI, and HWIs is summarized in Table 5-1. PCDD/PCDF emissions levels less than 0.1 TEQ ng/dscm have been demonstrated on many MWC, MWI, and HWIs, with some as low as 0.004 TEQ ng/dscm, using carbon based control techniques. Capture efficiencies are almost always greater than 95%, with most greater than 99%. Additionally, for cases in which lower than 95% removal was achieved, stack gas outlet emissions levels were below 0.2 TEQ ng/dscm; thus the lower removal efficiencies may be due to the low levels already present in the flue gas, as well as sampling and analytical detection limitations.

Carbon can be injected into existing "dry" air pollution control systems directly upstream of dry PM removal devices (e.g., FFs or ESPs), which operate above the flue gas saturation level. Injection of carbon can be performed in the duct or integrated into existing acid gas control spray dryer or dry injection chambers. The carbon is caught in the PM control device. However, the integration of carbon injection directly into existing "wet" air pollution control systems has not been demonstrated on any waste combustion facility. Potential options for the direct use of carbon in existing wet systems may include:

- Injection of carbon upstream of a wet scrubber, and subsequent capture in the scrubber. For effective control, this would require that the flue gas temperature at the point of injection be below 425°F (to avoid carbon fires), but above the saturation temperature. Flue gas moisture acts to saturate carbon and reduce its capture effectiveness. Thus, additional flue gas cooling systems may be required.

- Addition of carbon directly to the wet scrubbing solution. Performance when carbon is injected into a saturated gas is not know; it may not be effective due to plugging of the pores by moisture. Additionally, it may cause operational problems in certain types of scrubbers that use packing and gas distribution materials.

The more likely, and effective, methods for the use of carbon injection on existing wet systems include:

- Adding a dry PM collector to the wet system upstream of the existing wet scrubber. The dry PM collector would be used to capture the injected carbon. This may be preferable in cases where a waste heat boiler is being utilized since flue gas cooling to the dry PM APCD may already be taking place.

- Reheating the flue gas leaving the wet scrubber above the dew point, and using carbon beds discussed below, or carbon injection with a new dry PM collector as discussed above.

5.1.1.3 Carbon Bed

To-date, there have been limited full-scale applications of carbon beds to incineration units compared with carbon injection. These demonstrations have been confined to European incinerators; there has been no usage in the United States. Typically, well designed and operated carbon beds provide improved PCDD/PCDF control performance compared with carbon injection, with PCDD/PCDF control levels expected to be consistently greater than 99%, as shown in Table 5-2.

For existing dry PM and acid control systems, carbon beds can be placed directly downstream of the existing PM and acid gas control system. For wet systems, the carbon bed must placed downstream of the control system since if placed upstream, dirty flue gas containing PM and acid gases would quickly contaminate the bed. However, if placed downstream of a wet scrubber, flue gas reheat is required to increase the saturated flue gas temperature from the scrubber system to a temperature above the gas dewpoint. As discussed above for carbon injection, condensed moisture affects the carbon capture efficiency, thus the gas must be safely above the saturation temperature before entering the carbon bed.

5.1.1.4 Catalytic Oxidation

Catalytic oxidation techniques have also been demonstrated to control PCDD/PCDF (Fouhy, 1992; Hagenmaier et al., 1991; Ok et al., 1993; Hiraoka et al., 1990). Effective catalysts include those used for reducing NO_x through the selective catalytic reduction technique. These catalysts are made of metals such as vanadium and tungsten oxides on a platinum oxide based substrate. The catalytic oxidation of PCDD/PCDF has been shown to occur in a temperature range of about 480 to 660°F. PCDD/PCDF destruction efficiencies of from 95 to 98% have been demonstrated on full scale European MWCs, with controlled levels below 0.1 TEQ ng/dscm (Boos et al., 1992). The catalyst needs to be positioned where the flue gas has already been cleaned of metals, PM, and acid gases; these types of constituents will foul and contaminate the catalyst, leading to catalyst deactivation. Thus, catalysts are applied to dry APCSs downstream of the existing APCS; flue gas reheat may be required to boost the temperature to that required for effective catalytic control performance. For wet systems, because of the required application downstream of the scrubber system, flue gas reheat is mandatory.

5.1.1.5 Inhibitors

Certain compounds have been demonstrated to inhibit PCDD/PCDF formation. These include sulfur, ammonia, and other proprietary mixtures. The inhibitors may function as both a catalyst poison for the low temperature catalytic formation reaction, and also to eliminate PCDD/PCDF precursors that form prior to the catalytic temperature range. Demonstrations to date include:

- Naikwadi and Karasek (1994) and Horler and Clements (1994) report that the use of a patented inhibitor formulation reduced PCDD/PCDF stack gas emissions on an MWC by

85%; the ultimate goal is to achieve a level of 0.1 ng/dscm.

- Full scale testing on an MWC has shown that the addition of sulfur containing coal to the waste stream acted to reduce PCDD/PCDF levels by 90% (Lindbauer et al., 1992).

- Studies on the co-combustion of coal with plastics and bark have shown very low PCDD/PCDF levels (below 0.1 ng/dscm) (Frankenhaeuser et al., 1993).

These inhibitors can be applied directly to the waste, or injected into the flue gas at appropriate locations.

5.1.2 Cement Kilns

5.1.2.1 Carbon Injection

Although to-date, carbon injection has not been applied to full-scale cement kiln processes, performance discussed above for incinerators is assumed to apply cement kilns. There are two limitations of the direct application of carbon injection to cement kilns that must be considered:

- Treatment and disposal of used carbon. If the carbon is captured along with the cement kiln dust (CKD), the carbon/CKD mixture may not be suitable for recycle back into the kiln without treatment for carbon containing mercury and organics due to:

  - Cement kiln internal cycle build-up of mercury (re-release and recapture of mercury).

  - Recycle of CKD/carbon to the cold end of the kiln, as is typically done with CKD alone, may lead to increased HC emissions due to the addition of volatile organic activated carbon.

  The kiln may need to reduce or eliminate CKD recycle, thus increasing its solid waste generation. Additionally, the carbon/CKD mixture may be a hazardous waste due to its elevated mercury and organics content. Additional research is required to evaluate the leaching characteristics and devolatilization characteristics of a CKD and carbon-mercury-organics mixture in order to determine the most appropriate carbon and CKD mixture disposal option.

  The addition of a separate PM collector for injected carbon, downstream of the primary CKD collector may avoid many of these problems (at the added expense of a new PM collector). The captured carbon could then either be wasted or treated to remove mercury and either burned in the primary flame of the kiln or reused. CKD recycle would be unaffected.

- For effective mercury control with activated carbon, the flue gas temperature needs to be below 400°F (also to avoid carbon fires). Most hazardous waste burning cement kilns currently operate with an air pollution control system temperature above this level. However, Table 5-3 summarizes cement kilns that have demonstrated APCS operation at temperatures less than 400°F during trial burn compliance tests. This includes ESPs and FFs and wet and dry kiln arrangements. Note that the successful operation of FFs on wet kilns in the temperature range of 300 to 400°F is discussed in greater detail below in the beyond-the-floor discussion for PM control.

Additionally, Lafarge Fredonia, Medusa, and Ash Grove Foreman have modified their operation since the trial burn compliance tests to operate less than 400°F. CKs will likely need to operate at APCS temperatures less than 400°F to meet PCDD/PCDF B-T-F levels. Note that limited research has shown that going below 350°F provides little increase in carbon mercury capture efficiency; this may also be applicable to PCDD/PCDF. Also, going below 400°F for existing PM control devices that are currently operating above this level may lead to corrosion problems since the existing PM control is not designed for this temperature (it may have insufficient insulation, and dust handling problems may occur).

5.1.2.2 Carbon Beds

Carbon bed application and performance discussed above is also applicable to cement kilns. Note that carbon beds have not yet been applied to any full scale cement kilns, hazardous waste, or non-hazardous waste burning devices such as MWIs or MWCs in the United States.

5.1.2.3 Catalytic Oxidizers

Catalytic oxidizer application and performance discussed above for incinerators is also applicable to cement kilns. As mentioned, primary requirements are a flue gas temperature in the range of 400 to 600°F and a very clean flue gas to minimize catalyst fouling and deactivation.

5.1.2.4 Inhibitors

Inhibitor application and performance discussed above for incinerators may also be generally applicable to cement kilns.

5.1.2.5 APCD Temperature Control

Recent modifications of PM control device temperature below 400°F (e.g., Medusa, Lafarge, and Ash Grove hazardous waste burning cement kilns) have reduced levels to below 0.5 TEQ ng/dscm. The Ash Grove CK at Chanute KS was emitting at 1.7 TEQ ng/dscm with an APCD temperature of 425°F; a temperature reduction to 375°F reduced the PCDD/PCDF levels to less than 0.05 TEQ ng/dscm. At the Medusa CK plant, a PM APCD temperature reduction from over 600°F to 400°F resulted in a reduction in PCDD/PCDF from over 3 TEQ ng/dscm to below 0.5 TEQ ng/dscm. The feasibility of low temperature operation, in particular FFs on wet type kilns, is discussed in detail in the following section of PM beyond-the-floor control.

5.1.3 <u>Light Weight Aggregate Kilns</u>

PCDD/PCDF control methods discussed above for cement kilns are also generally applicable to light weight aggregate kilns.

5.2 MERCURY

Mercury emission from all source categories of hazardous waste burners can be controlled by one or both of the following techniques:

- Feedrate control of mercury (in waste, supplemental fuels, or raw materials). Feedrate control performance, applicability, and feasibility is not discussed since for the achievability of B-T-F levels, it is not required.

- Mercury air pollution control devices such as carbon adsorption (with duct injection or carbon beds), sodium sulfide injection, selenium filters, or wet scrubbing. These control techniques are discussed in detail in the following.

5.2.1 Incinerators

5.2.1.1 Carbon Injection

Carbon injection, as discussed above for PCDD/PCDF control, is also effective at controlling mercury. On full-scale MWC, MWI, and HWI applications, with typical carbon injection rates of from 40 to 400 mg/dscm flue gas, mercury control efficiencies are greater than 80%, and are typically above 90%, with many greater than 95%, as shown in Table 5-4. Table 5-5 summarizes carbon injection (and carbon bed) mercury control performance on all available combustion facilities (including European and U.S. applications). Individual run data is not given; instead ranges and/or test condition averages are provided. Figure 5-1 shows the effect of carbon injection feedrate on mercury control performance for all facilities listed in Table 5-4 with carbon injection feedrate (by test condition when available). Table 5-5 summarizes carbon injection control performance, by individual run, at three U.S. MWCs (Marion Co., Stainislaus Co., and Camden Co.) and two U.S. MWIs. Figures 5-2 through 5-4 summarize the effect of carbon injection rate on control performance at the Camden and Stainislaus facilities. Figure 5-5 summarizes control performance from the use of an activated carbon known as "Sorbalit" produced by Joy.

For improved mercury control performance with carbon injection, a combination of low injection temperature, high carbon injection rate, and specialized carbon (such as sulfur impregnated) may be required to achieve removal efficiencies consistently higher than 95%. Additionally, the injection of carbon in a dry form, as opposed to mixing it in with a spray drying solution, has been shown to provide improved mercury capture performance.

5.2.1.2 Carbon Beds

Carbon beds discussed above for PCDD/PCDF control are also effective at controlling mercury. Demonstrated mercury control levels can be typically greater than 99%.

5.2.1.3 Wet Scrubbers

Wet scrubbers have in some cases been shown to control mercury since certain forms of mercury (chlorinated salts in particular) are soluble in the wet scrubbing solution. However, mercury control efficiency is usually inconsistent and low in comparison to the use of the carbon adsorption techniques discussed above. Some mercury scrubbers rely on the reaction of mercury with chemicals such as sodium hypochlorite or with a chelating agent and cupric chloride, to form water-soluble species of mercury which can be removed in conventional wet scrubbers. 90-95% mercury removal has been demonstrated (Brna, 1991). Treatment of contaminated scrubber blowdown liquid is the primary problem.

5.2.1.4 Selenium Coated Filter

In selenium filters, mercury reacts with selenium to form HgSe on the filter surface. This method has been used in Europe on MWCs, and has demonstrated greater than 90% mercury control (Lindquist, 1991; Brna, 1991). Its primary limitation is that the flue gas must be kept below 140°F for the filter to effectively remove mercury, which in most cases is very close to the flue gas saturation/condensation temperature. Additionally, the flue gas must be clean of PM to avoid filter blinding or poisoning, and disposal of the spent material

5.2.1.5 Sodium Sulfide Injection

Sodium sulfide is added directly to the spray dryer injection system. Mercury sulfide, a highly stable solid reaction product, is formed and collected in a PM control device. It has been demonstrated on MWCs in Europe, Canada, and one in the U.S. 50 to 90% mercury control efficiency has been achieved (White et al., 1991; Andersson and Weimer, 1991). Problems with its use include the potential release of hydrogen sulfide fumes from bags of sodium sulfide as they are opened, disposal of the secondary waste, and generation of mercury sulfide with is a fine particulate and difficult to capture.

5.2.2 Cement Kilns

In general, the same techniques for mercury control discussed above for incinerators apply as well to cement kilns, with the associated problems for carbon injection as discussed above for PCDD/PCDF control.

5.2.3 Light Weight Aggregate Kilns

In general the same techniques for mercury control discussed above for cement kilns applied as well to LWAKs.

5.3 PARTICULATE MATTER

Beyond-the-floor particulate matter (PM) emissions levels are achieved through use of efficient PM air pollution control devices.

5.3.1 Incinerators

PM emissions from incinerators can be controlled with devices including wet scrubbers (venturi, and other novel types such as free-jet, collision, and ionizing types), fabric filters, and electrostatic precipitators (ESPs). Although certain wet scrubbing techniques such as high energy venturis and novel condensation, free-jet and collision scrubbers have been demonstrated to achieve low PM emissions levels (less than 0.005 gr/dscf), in general, fabric filters and ESPs provide superior PM control performance.

For well designed and operated fabric filters (air-to-cloth ratio less than 2 acfm/ft^2) with a typical woven fiber glass bag, emissions control levels below 0.010 gr/dscf are typical for HWI, MWC, and MWIs (Davis et al., 1990; EER, 1994). For improved fiber glass or nomex felt and tri-loft fabrics, less than 0.005 gr/dscf has been demonstrated. For high performance teflon membrane fabrics, levels below 0.0010 gr/dscf have been achieved. With the use of optimum fabric cleaning cycle, and regular bag replacement and maintenance schedule, these levels are achievable on a continuous basis.

ESPs are not typically used on incinerators. However, well designed ESPs with specific collection areas greater than 500 ft^2/kacfm, can routinely obtain levels less than 0.010 gr/dscf as demonstrated on HWI and MWCs. For state-of-the art equipment, levels less than 0.0050 are achievable (EER, 1994). Existing equipment retrofits such as modification of rapping cycle and frequency, addition of advanced power systems controls (e.g., intermittent energization or pulse energization techniques), modification of internal plate and electrode geometry to allow for high voltage potentials, flue gas conditioning (addition of water or reagents such as sulfur trioxide or ammonia to condition particulate matter for lower resistivity), improving gas distribution within ESP, and increasing plate size of ESP, have also been demonstrated to achieve levels less than 0.010 gr/dscf (EER, 1994).

For improved PM control from existing "wet" air pollution control systems, the addition of a wet ESP or ionizing wet scrubber (IWS) may be preferred because they could be added directly to the tail end of the existing control system train. Wet ESPs and multi-stage IWSs have demonstrated performance of less than 0.005 gr/dscf. The addition of a fabric filter or dry ESP to the back end of a wet system would require flue gas reheat due to the requirement of operation at temperature above the flue gas dewpoint. The preferred placement prior to the wet control device(s) may require additional flue gas cooling systems as well as facility modifications including equipment and ducting tear-out and replacement.

5.3.2 Cement Kilns

FFs and ESPs can be used for PM emissions control on both wet- and dry-process cement kilns. Wet kilns typically use ESPs; however, FFs can also be used. Wet kilns have historically not used FF for a variety of reasons. When wet-process kilns were first developed, fabrics suitable for relatively high temperature operation were not available. There is also concern about the high moisture content of wet kiln flue gas and high PM alkali and chloride content resulting in blinding and plugging of filter bags. Additionally, the high moisture content of wet kiln flue gases improves operation of ESPs primarily by reducing the resistivity of the collected PM.

However, high temperature fabrics are now readily available, and fabric filters have extensive experience in conjunction with spray dryers for acid gas control successfully operating at temperatures as low as 50°F above saturation conditions. Three wet process cement kilns in the U.S. currently use fabric filters: Dragon Cement in Thomaston ME, Giant Cement in Harleyville SC (burns hazardous wastes), and Holnam in Dundee MI. Discussions with these facilities indicate that the use of fabric filters on wet cement kilns is technically feasible; no operational difficulties have been encountered at this time (Behan, 1994). It has been found that with fabric filters on wet cement kiln processes, the higher moisture actually reduces dust handling problems, and that the anticipated increased dust agglomeration forces would be expected to reduce dust penetration of the fabric thus resulting in a potential filtration efficiency improvement compared with operation on dry process kilns (EER, 1994).

Additionally note that these fabric filters on wet kilns all operate in the gas temperature range of 300 to 400°F, within the temperature range that is amenable to carbon injection if required, and is out of the catalytic PCDD/PCDF formation range (about 450 to 700°F as discussed in previous sections in more detail). Also note that the moisture content of wet kiln flue gas typically ranges from 30 to 40% by weight. The dewpoint (the flue gas temperature at which water vapor condensation would start to occur) of wet kiln flue gases conservatively ranges from 170 to 190°F, depending upon the exact moisture content, as well as other flue gas characteristics such as SO_3 content. A wet kiln fabric filter operating at 300 to 400°F would be at least 100°F above the saturation level. Implying the increased moisture content of wet kilns is not believed to pose a problem for operation of a fabric filter in the flue gas temperature range of 300 to 400°F, as has been demonstrated on the three operating wet kilns described above.

As shown in Section 3, FF performance on hazardous waste burning cement kilns, ranges from 0.07 to 0.0010 gr/dscf; however, more than half of the facilities have condition averages which are below the 0.015 level. As discussed above for incinerators, newly designed FF systems for cement kilns have been demonstrated to perform consistently below 0.005 gr/dscf, with some as low as 0.001 gr/dscf (using Goretex fabric). With retrofitting to modern fabrics (such as a heavy woven fiberglass), existing FFs should also be able to consistently achieve less than 0.0050 gr/dscf. Technology transfer from hazardous waste burning LWAKs and incinerators, as well as coal burning utility plants and MWC and MWIs would also indicate the feasibility of achieving a 0.015 gr/dscf level.

ESPs have been historically preferred to FFs in the cement kiln industry due to reliability and ease of operation and control and maintenance. Also, ESPs catch dust in stages allowing for the recycle of dust caught in the first few fields, and wasting of alkali-concentrated dust in the latter fields. Well designed and operated hazardous waste burning cement kiln ESPs have demonstrated to be capable of achieving levels less than 0.015 gr/dscf (5 different kilns), with some less than 0.005 gr/dscf (2 different kilns). With new ESPs, levels consistently less than 0.005 gr/dscf are readily achievable, while retrofit upgrades on existing ESPs (with techniques such as humidification, plate area increases, control system upgrades, etc.) may in many cases also be feasible for achieving a level of 0.015 gr/dscf, as discussed above for incinerators.

Additionally, a FF may also cost-effectively retrofitted onto an existing ESP housing for additional control of PM (Rowland et al., 1993). FF bags are added to the tail end of an existing ESP housing. The use of a Goretex fabric bag reduced the PM level to below 0.0020 gr/dscf. This technique has also been proposed by EPRI for PM control on coal fired boilers with existing ESPs (known as the "COHPAC" system) (Harrison et al., 1994). EPRI has demonstrated enhanced PM capture on the fabric due to electrically charged PM allowing for the use of high air-to-cloth ratios (greater than 10 ft/min).

5.3.3 Light Weight Aggregate Kilns

PM control techniques discussed above for cement kilns and incinerators directly apply to LWAKs. Note that FFs are currently used on all hazardous waste burning LWAKs. As discussed in Section 3, 60% of the LWAK condition averages are less than 0.007 gr/dscf, with about 30% less than 0.003 gr/dscf. However, ESPs or wet scrubbers could also be used if required.

5.4 LOW VOLATILE METALS

Particulate matter emissions control techniques discussed above are also directly appropriate for the control of LVM, as well as feedrate control of LVM in feedstreams.

5.5 SEMI VOLATILE METALS

Particulate matter emissions control techniques discussed above are also appropriate for the control of SVM emissions, since like LVM, typically some SVM is contained in entrained flue gas particulate matter. However, for SVM, which typically vaporize in the combustion chamber and recondense onto small sized particulate matter in the air pollution control device, technologies which are effective at capturing fine particulate matter (such as fabric filters) are typically the most efficient for SVM control.

5.6 TOTAL CHLORINE

Beyond-the-floor total chlorine ($HCl + Cl_2$) emissions levels on hazardous waste burning source categories can be accomplished by:

- Reduction of feed chlorine levels (in either waste, supplement fuels, or raw materials).

- Use of chlorine control systems such as wet and/or dry scrubbing systems.

5.6.1 Incinerators

Both wet and dry scrubbing systems can be used for control of chlorine emissions from

HWIs. Wet scrubbing systems, which rely on absorption of acid gases in a liquid scrubbing solution, come in many different designs and types, including venturi scrubbers, free jet scrubbers, collision scrubbers, ionizing wet scrubbers, packed beds, tray types, and spray scrubbers. The packed-bed type typically provides the highest level of chlorine control due to effective liquid/gas contacting; although, venturi scrubbers, probably considered the poorest type for acid gas control, typically demonstrate greater than 90% control. Properly designed and operated packed bed wet scrubber systems on HWIs provide typically greater than 99.9% control and less than 25 ppmv outlet emissions levels, as discussed in Section 3. Ionizing wet scrubbers may even have greater performance. Wet scrubbers with alkaline caustic scrubber solution will provide both HCl and Cl_2 gas control since Cl_2 gas is absorbed in alkaline solutions (Cl_2 is absorbed very poorly in neutral and basic solutions). The primary disadvantage of wet scrubbing compared with dry scrubbing is the generation of a secondary waste stream scrubber liquid blowdown that may require additional treatment and handling prior to final disposal.

Dry and semi-dry scrubbers are typically not as efficient as wet scrubbers for chlorine control. However, based on limited performance on HWIs, and comprehensive operation on MWIs, MWCs, and utility boilers, dry and semi-dry scrubbing systems can regularly achieve performance levels of greater than 90% control efficiency and less than 25 ppmv outlet emissions. In many cases, greater than 99% control efficiency has been demonstrated with dry scrubbing systems.

5.6.2 Cement Kilns

Chlorine gases generated during hazardous waste combustion in cement kilns are controlled to a great degree due to the use of limestone which is a required element in the cement making process. In the kiln, limestone is converted to lime, creating a highly alkaline environment where chlorine is controlled in a similar manner to that in dry scrubbers (the cement kiln itself can be considered as a huge dry scrubber). Control efficiency of chlorine in cement kilns, as discussed in Section 3, is typically greater than 90% About 50% of cement kilns are already controlling HCl below 25 ppmv. Thus, traditionally, cement kilns have not required the use of add-on chlorine air pollution control devices.

Improvement in chlorine control efficiency, especially in dry process cement kilns, may possibly be achieved by injection of water into flue gas stream to increase flue gas moisture content (increased flue gas moisture leads to more efficient absorption of chlorine). Operation of the air pollution control device (FF or ESP) at lower temperature (closer to saturation) may also help chlorine retention. Current systems remove entrained raw material lime at temperatures in the 400 to 700°F range; lower temperature operation may provide for more efficient lime/chlorine reaction. The addition of supplemental dry scrubbing caustic (e.g., through duct injection) would not be expected to help to increase chlorine control since kiln raw material limestone is already in abundance. Although, injection of fine powder caustic may be more effective than the entrained coarse raw material limestone since it may allow for more efficient chlorine gas contact and reaction.

In any case, if either modification of the kiln air pollution control operation or additional dry scrubbing is not effective at improving chlorine control, conventional wet scrubbers such as spray of tray-type scrubbers could also be used. There has been limited use of wet scrubbers on cement kilns to date; for example, the "Passmaquody" System which uses slurried cement kiln dust in a wet scrubber arrangement for acid gas control. There is no available data on effectiveness of this scrubber on HCl control, however the system has demonstrated very good control of SO_2 (Passmaquody, 1995). Potential problems with the application of wet scrubbers to cement kilns include scaling and cementitous build-up from CaS due to inefficient PM removal device operation and scrubber liquor blowdown treatment requirement difficulties due to highly soluble sulfates and chlorine and the removal of suspended and dissolved solids (Penta, 1994). However, wet scrubbers are used on lime kilns, which are similar in process functions to cement kilns.

5.6.3 Light Weight Aggregate Kilns

Wet and dry scrubbing control techniques discussed for incinerators are also equally applicable to light weight aggregate kilns for chlorine control. Dry scrubbing is being used at some hazardous waste burning LWAKs (Solite Carolina and Florida facilities). Control efficiency and outlet Cl emissions levels are unclear due to conflicting trial burn results. However, performance similar to that on MWC, MWI, and HWIs would be expected (typically greater than 90% control). One potential problem with the application of dry scrubbing to LWAKs is the contamination of the LWAK dust caught in the primary PM control device (FF for all hazardous waste burning LWAKs) with the dry sorbent. This may affect the kilns ability to recycle captured dust back into the kiln or mix the dust in with the final light weight aggregate product, both practices which are current utilized with the captured dust. The addition of dry scrubbing may force the kiln to add a separate additional FF (like that for carbon) dedicated to capturing the dry sorbent (and possible carbon if necessary) or dispose of the mixed sorbent and fly ash in an acceptable manner (e.g., landfill).

A venturi scrubber (VS) is currently used at one hazardous waste burning LWAK (Norlite facility). It is located downstream of a FF; thus the VS's function is to control acid gases and volatilized metals that pass through the FF. The VS has demonstrated HCl control efficiency of greater than 99% and outlet HCl emissions of 10 to 90 ppmv. No operational problems of applying wet scrubbing to LWAKs have been found. More efficient packed bed, tray type, or spray tower scrubbers have not been demonstrated. However, there are no apparent technical limitations as to why these could not be applied if increased removal efficiency is required.

5.7 HYDROCARBONS

5.7.1 Incinerators

Control of HC emissions from incinerators can be achieved through:

- Good combustion practices such as:
  - -- Provide adequate excess oxygen to combustion zone. Avoid overcharging the waste combustion chamber which may lead to incomplete combustion or organics

and release of unburned material.

-- Provide thorough mixing between air, and waste, and supplemental fuel. Poor mixing may create conditions of insufficient residence time at temperature and cold or oxygen deficient regions.

-- Blend and homogenize wastes to avoid combustion spikes. Spikes and dips in feed compositions may create regions of cold and/or oxygen deficient gases.

- Use of afterburner or catalyst to burn-out incompletely combusted organics that escape the primary combustion zone.

5.7.2 Cement Kilns

5.7.2.1 Bypass Stack

Combustion modifications discussed above for incinerators (including maintaining adequate oxygen, residence time, and temperature levels) may act to reduce HC generated in the cement kiln supplemental fossil fuel and hazardous waste fuel firing locations. Bypass stack HC measurements are direct indicators of the quality and efficiency of fuel and waste combustion. Thus main flame burner modifications and upgrades, and operation at increased excess air levels should help reduce bypass stack HC levels.

5.7.2.2 Main Stack

Modification discussed above for bypass stack control may help reduce HC main stack gas levels. However, cement kilns may have elevated HC main stack gas levels due to "counter-current" kiln operation; organics contained in the raw materials desorb and volatilize at low temperatures, and are carried out un-burned with the counter-current flue gas. Thus, combustion modifications such as those described above may not be sufficient to adequately reduce HC stack gas levels. A variety of techniques may be used to reduce stack gas HC emissions levels that are related to raw materials organics devolatilization, including:

- Use of a precalciner without a preheater. A flash precalciner at the cold feed end of the kiln is used to achieve an exiting flue gas temperature that is high enough to burn out organics (greater than 1500°F). This technique has been demonstrated on two non hazardous waste burning cement kilns, with results of less than 1 ppm HC in the main stack gas (Wood, 1994). Disadvantages to the use of this technique include:

    -- Large energy requirement penalty which is incurred for achieving a 1500°F flue gas temperature at the precalciner exit. About 75% additional heat input per unit of clinker output is required compared to a conventional arrangement. However, if some of the energy of the 1500°F flue gas is recovered in a boiler in the form of either useful process steam or electricity, this set-up may become more cost effective.

-- High cost (equipment, labor, and kiln down-time) for precalciner vessel and associated equipment required for retrofitting the precalciner into the existing kiln and air pollution control system.

- Use of a raw materials roaster/dryer. A separate thermal unit is used to drive off organics from the raw feed materials prior to introduction into the cement kiln system. The unit would have a flue gas emission stack independent from the primary cement kiln. The unit may still have HC emissions, however they would not have the potential to mix with chlorine in hazardous wastes and react to form chlorinated hydrocarbons. A dryer used at one kiln to reduce feed material moisture (from 5 to 1%) has HC emissions ranging from 13-340 ppmv depending on the feed shale kerogen content (Wood, 1994).

- Use of raw materials with low organics content. About 8% of hazardous waste burning cement kilns have HC levels below 5 ppmv. Thus it is possible to achieve this level with currently used raw materials. Organics in raw materials are believed to be primarily from the shale kerogen component and limestone, which has a porous structure allowing for organics deposits.

- Use of a thermal or catalytic afterburner. A thermal afterburner would require a large amount of auxiliary fuel to reheat the kiln exit flue gas to temperatures (greater than 1500°F) required for organics burnout. Also use of thermal afterburner may add problems of increased NO_x emissions and introduce systems engineering integration problems with existing equipment. Catalytic afterburner would need to be positioned downstream of primary PM removal device due to catalyst fouling, thus would require substantial flue gas reheat from PM control device temperature of less than 400°F to the typical catalytic reaction temperature of 1000°F.

5.7.3 Light Weight Aggregate Kilns

HC levels from LWAKs, like cement kilns, may potentially be related to combustion zone conditions as well as raw materials organics desorption. However, LWAK raw materials do not typically contain significant quantities of organics. Therefore, maintenance of adequate combustion conditions (excess air, temperature, mixing, and residence time) should provide adequate HC control for most LWAKs. Note that unlike cement kilns, LWAKs must operate at relatively high excess air levels to produce a high-quality product. If this is not effective, then techniques discussed above for cement kilns would also be applicable to LWAKs.

5.8 CARBON MONOXIDE

5.8.1 Incinerators

Techniques discussed above for HC control are equally applicable for the control of CO.

5.8.2 Cement Kilns

5.8.2.1 Bypass Stack

CO generated from combustion in cement kilns can be reduced by the above mentioned combustion modifications for HC control. By-pass stack CO levels are indicative, like HC, of the amount of combustion generated CO. Note that CKs (prior to air inleakage) are typically operated very close to stoichiometric fuel to ratio in order to maintain high kiln temperatures and to minimize fuel requirements; thus it may be disadvantageous for CKs to lower their CO levels if the majority of CO in the bypass is due to low excess air firing conditions.

5.8.2.2 Main Stack

Unlike HC, CO main stack gas levels in cement kilns may not be dominated by raw materials organics desorption at low temperature; instead due to the limestone calcination process and decomposition of CO_2 into CO due to elevated temperatures and moisture and metal catalysts in the CK. Thus, for cement kilns, not all of the control techniques for HC may apply for CO control. Catalytic oxidizer or thermal afterburner may be required to reduce main stack CO levels.

5.8.3 <u>Light Weight Aggregate Kilns</u>

CO emissions level from LWAKs are related to combustion zone quality. Thus, similar control procedures discussed above for HC are applicable to the control of CO.

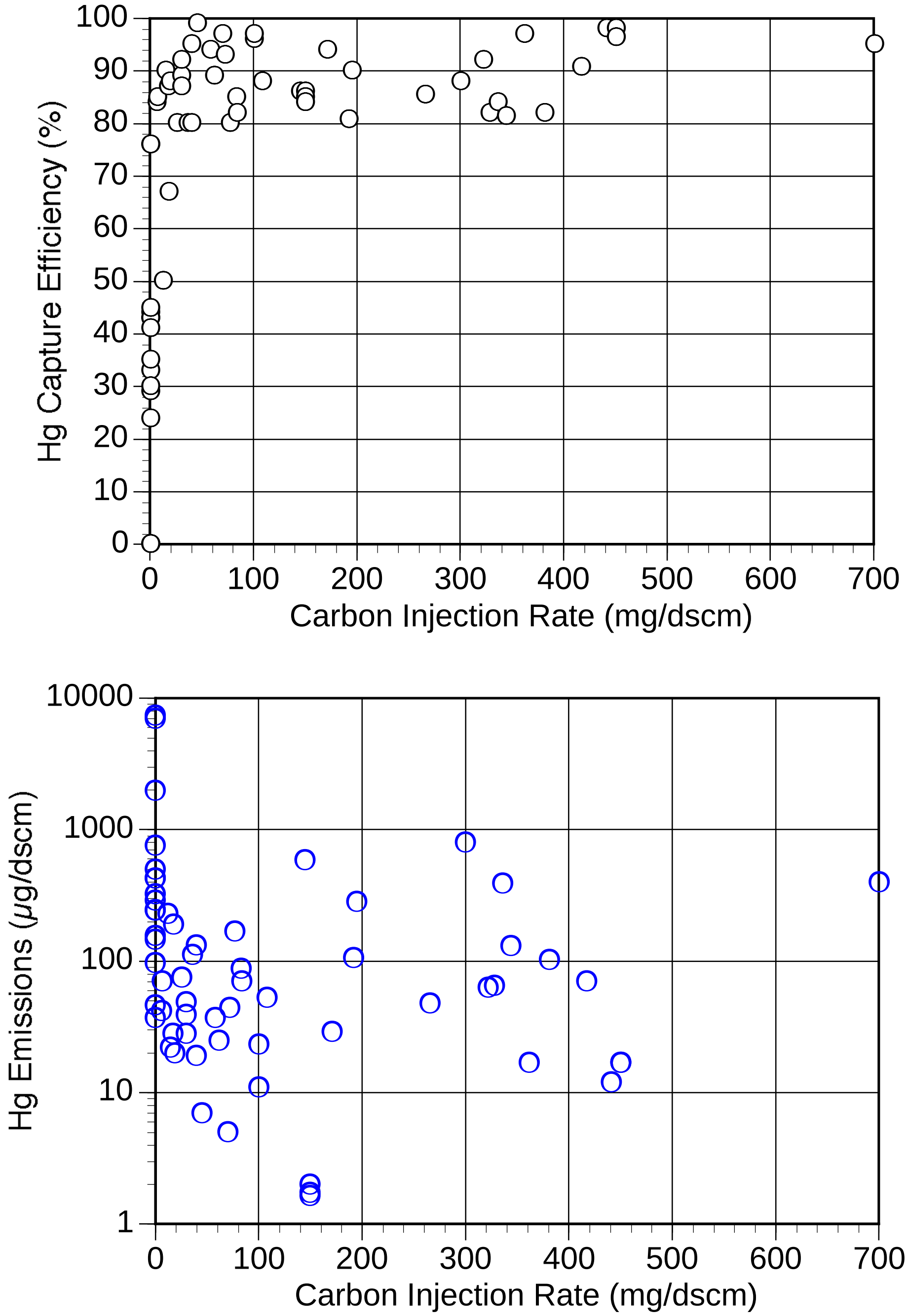

Figure 5-1. Mercury control with carbon injection (summary of test conditions shown in Table 5-4).

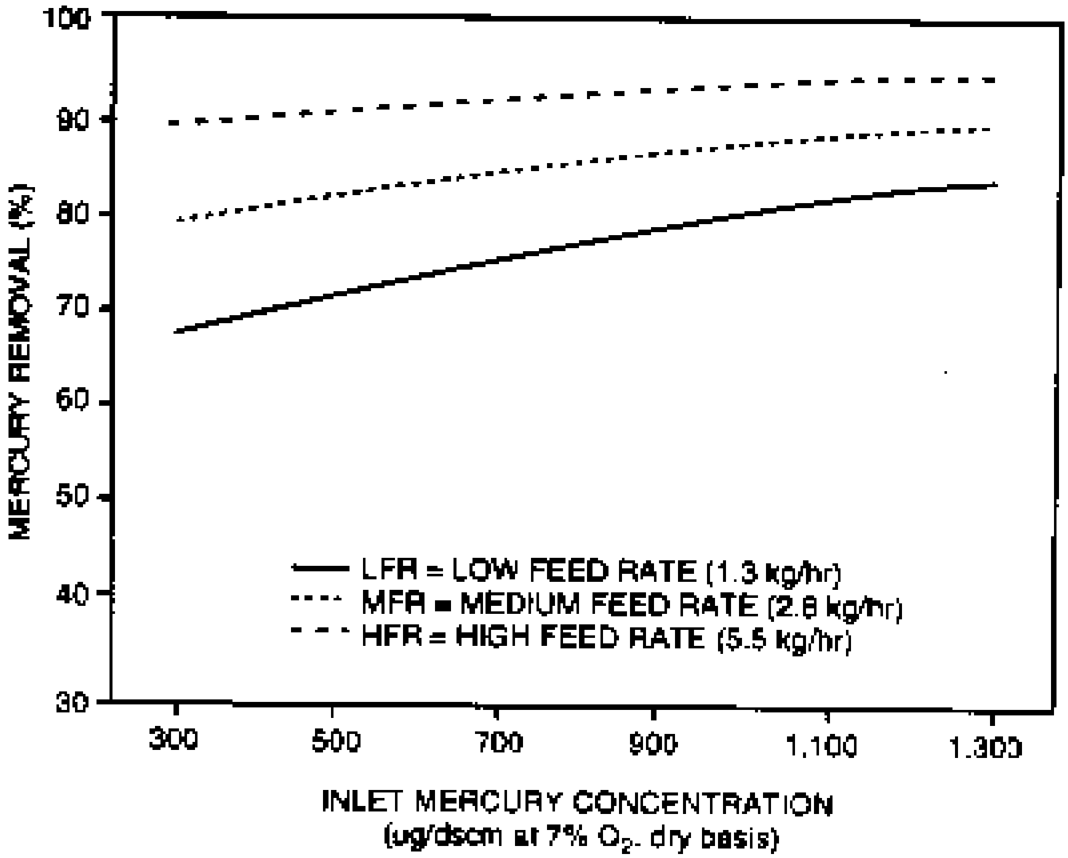

Figure 5-2. Mercury control with carbon injection from Stanislaus Co. MWC (White, 1991).

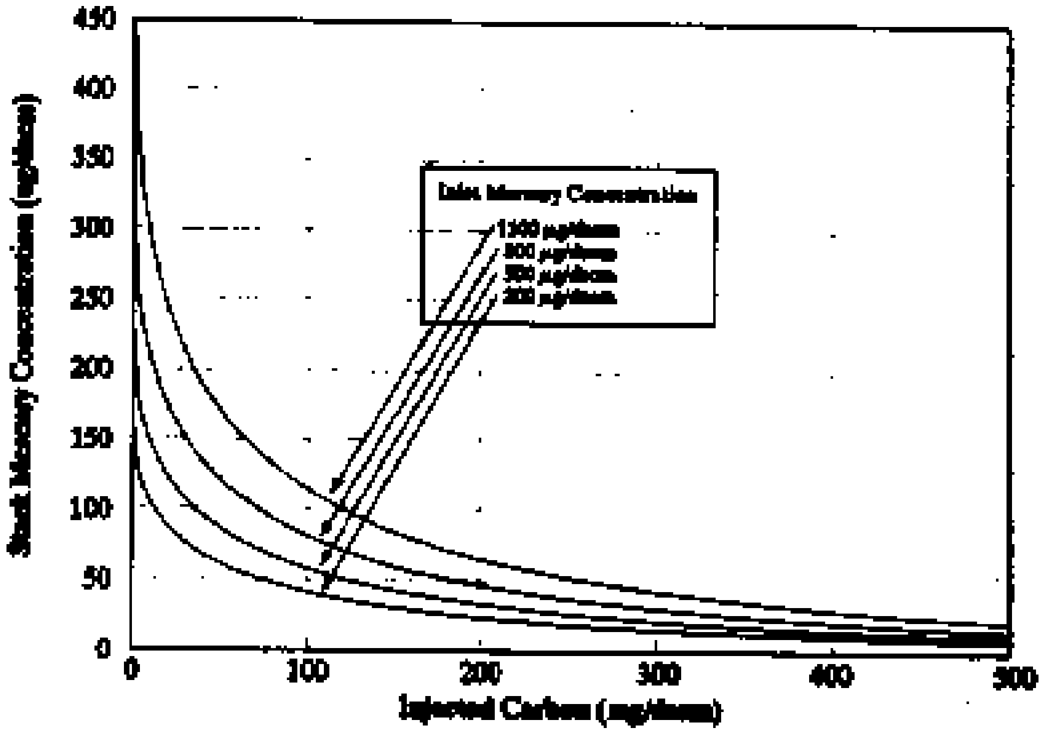

Figure 5-3. Mercury control with carbon injection from Camden Co. MWC (Kilgroe et al., 1993).

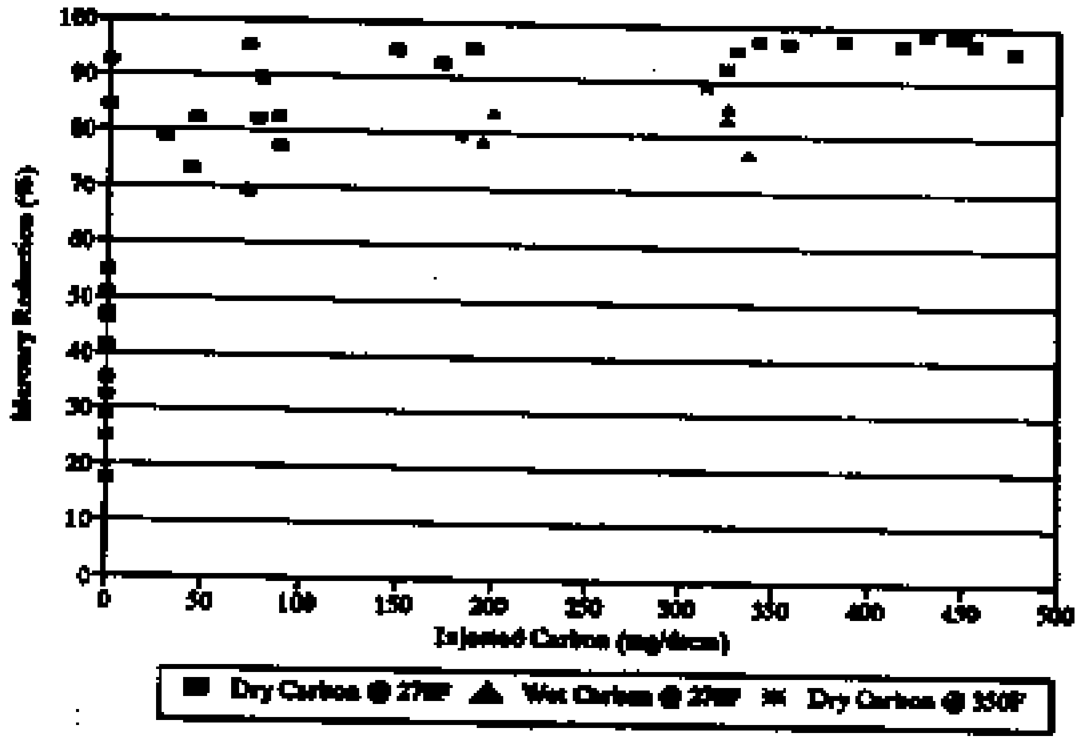

Figure 5-4. Mercury control with carbon injection from Camden Co. MWC (Kilgroe et al., 1993).

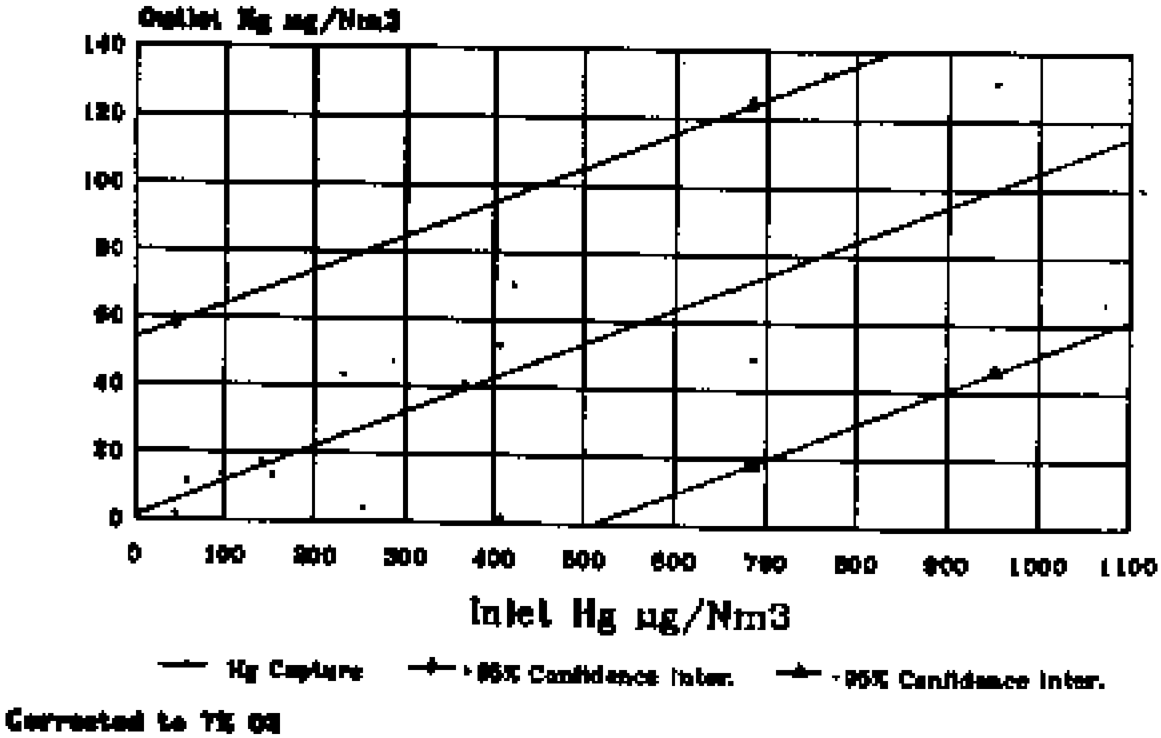

Figure 5-5. Mercury control with carbon injection (Joy/Niro Sorbalit data) (Licata, 1994).

TABLE 5-1. ACTIVATED CARBON INJECTION PCDD/PCDF PERFORMANCE

Vendor	Facility Type	Location	APCD	Injection Rate* (mg/dscm)	Temp (°F)	PCDD/PCDF** UC (ng/dscm)	PCDD/PCDF** C (ng/dscm)	PCDD/PCDF** CE (%)	Reference
Deutche Babcock	MWC	Camden Co.	SD/ESP	0	270	250	50	80.0	Kilgroe et al. (1993)
				360		250	5	98.0	
	MWC	Fall Recycling, PA	SD/FF				3 [0.015]		Petti et al. (1995)
INTEREL	MWI	Bronx	DI/FF	> 0	250-300	[16]	[0.016]	99.9	Politi et al. (1993)
	MWI	Morristown	SD/FF	0	285	[2-4]	[0.4-2]	47.3	Hyland et al. (1993)
				[2.5]		[1-4]	[0.05]	90.0	
	MWI	Borgess (Facility A)	DI/FF	0	310	237	132	44.3	Durkee and Eddinger (1992)
				134		411	16	96.1	
				334		416	6	98.6	
	MWI	Facility M	SD/FF	0	280	192	32	83.3	Durkee and Eddinger (1992)
				200		199	3.3	98.3	
	HWI	WTI (Liverpool, OH)	SD/ESP	0	320		50-240		WTI (1993)
				> 0			8-23 [0.1]		
Dravo (Sorbalit)	HWI	Schoeiche/Berlin	SD/FF	> 0	320	[1.7]	[0.02]	98.8	Blumbach and Nethe (1992)
Dravo (Sorbalit)	HWI	Schweinfurt	SD/FF	> 0		[12]	[0.085]	99.3	Blumbach and Nethe (1992)
						[6.79]	[0.06]	99.1	
Joy/Niro	HWI	Sakab, Swe.	SD/FF	[0]	295	[21]	[7.3]	65.0	Christiansen and Brown (1992)
				[0]		[7]	[2.2]	69.0	
				[4.5]		[2]	[0.014]	99.3	
				[7.5]		[2.8]	[0.027]	99.0	
				[9]		[6.1]	[0.07]	98.9	
				[9]		[2.7]	[0.06]	97.8	
				[13]		[1]	[0.03]	97.0	
				[13]		[1.8]	[0.02]	98.9	
Joy/Nitro	HWI	Biebesheim, Ger.	SD/FF	0	248	[0.15]	[< 0.03]	> 80	Schoner (1992)
				50		[0.2]	[< 0.03]	> 80	

TABLE 5-1. ACTIVATED CARBON INJECTION PCDD/PCDF PERFORMANCE

Vendor	Facility Type	Location	APCD	Injection Rate* (mg/dscm)	Temp (°F)	PCDD/PCDF** UC (ng/dscm)	PCDD/PCDF** C (ng/dscm)	PCDD/PCDF** CE (%)	Reference
				500		[0.14]	[< 0.03]	> 80	
				5000		[0.12]	[< 0.03]	> 80	
Joy/Niro	HWI	Sakab, Swe.	SD/FF	[4]	300	[2.5]	[0.06]	97.6	Feldt (1991)
				[4.5]		[2.0]	[0.003]	99.8	
				[6]		[1.4]	[0.025]	98.2	
				[7.5]		[1.7]	[0.004]	99.8	
				[7.5]		[3.3]	[0.008]	99.8	
Lurgi	HWI		DI/FF	250-400		[9.3]	[0.09]	99.0	Knoche et al. (1991)
						[1.9]	[0.06]	97.0	
Joy/Niro	MWC	Zurich, Swit.	SD/ESP	0	284	306 [7.7]	77 [1.9]	74.8	Brown and Felsvang (1991)
				18		223 [7.5]	33 [0.8]	85.2	
				0	248	277 [6.9]	69 [1.8]	75.1	
				59		455 [6]	5 [0.09]	98.9	
Joy/Niro	MWC	Amager	SD/FF	0	284	132 [2.8]	2.1 [0.08]	98.4	Brown and Felsvang (1991)
				6		283 [4.8]	1.2 [0.008]	99.6	
				17		276 [8.3]	2.4 [0.05]	99.1	
				58		201 [4]	1.1 [0.035]	99.5	
				0	261	254 [7.7]	1.3 [0.005]	99.5	
				19		154 [5]	0.4 [0.002]	99.7	
				70		154 [4.5]	0.7 [0.002]	99.5	
Joy/Niro	MWC	Kassel	SD/FF	0	275	380 [9.5]	151 [3.46]	60.0	Brown and Felsvang (1991)
				19		134 [3.21]	12 [0.19]	91.0	
				19		238 [5.1]	8 [0.15]	96.6	
				47		298 [5.5]	9 [0.13]	97.0	
				105		359 [5.94]	7 [0.07]	98.1	
Procedair	MWC	Quebec City	SD/FF		280		[0.06]		Procedair (1994)
Lurgi	MWC		DI/FF	250-450		[2.96]	[0.068]	97.7	Knoche et al. (1991)

TABLE 5-1. ACTIVATED CARBON INJECTION PCDD/PCDF PERFORMANCE

Vendor	Facility Type	Location	APCD	Injection Rate* (mg/dscm)	Temp (°F)	PCDD/PCDF** UC (ng/dscm)	PCDD/PCDF** C (ng/dscm)	PCDD/PCDF** CE (%)	Reference
						[2.37]	[0.06]	96.6	
Lurgi	MWC		DI/FF	250-450		[8.12]	[0.12]	96.5	Knoche et al. (1991)
Lurgi	MWC		DI/FF	250-450		[3.26] [2.48]	[0.0105] [0.009]	99.7 99.6	Knoche et al. (1991)
Dravo (Sorbalit)	MWC	Geiselbullach	DI/FF	> 0	390	[2.2]	[< 0.1]	> 95	Nethe (1990)
Dravo (Sorbalit)	MWC	Berlin-Ruhleben	DI/FF	> 0		300	2.5	99.2	Wilken and Beyer (1990)
Dravo (Sorbalit)	MWC	Wurzburg	DI/FF	> 0		[9] [10.7]	[0.02] [0.06]	99.6 99.4	Blumbach and Nethe (1992)
Dravo (Sorbalit)	MWC	KWU Siemens	DI/FF			[0.2]	[0.017]	92.0	Blumbach and Nethe (1992)
Rheinische Kalkst.	MWC	Nordhein-Westfalen	DI/FF	> 0		[6] [4]	[0.011] [0.02]	99.8	Morun and Schwarzkopf (1992)
Teller	MWI	Skovde	DI/FF	[0] [0.2] [2]	276	5.7 21.3 9.2	2.5 0.2 0.6	56.1 99.1 93.5	Teller et al. (1990)

Notes:

C: Controlled emissions (measured downstream of carbon location)
CE: Control efficiency
DI : Dry injection
ESP :Electrostatic precipitator
FF: Fabric filter

HWI: Hazardous waste incinerator
MWC: Municipal waste combustor
MWI: Medical waste combustor
SD : Spray dryer
UC: Uncontrolled emissions (measured upstream of carbon location)

*: Numbers in [ ] are given in lb/hr not mg/dscm
**: Numbers in [ ] are given in TEQ not total PCDD/PCDF

TABLE 5-2. ACTIVATED CARBON BED PCDD/PCDF PERFORMANCE

Vendor	Facility Type	Location	APCD	Injection Rate* (mg/dscm)	Temp (°F)	PCDD/PCDF** UC (ng/dscm)	PCDD/PCDF** C (ng/dscm)	PCDD/PCDF** CE (%)	Reference
Lentjes	MWC		FB	na	266	93 [2.5]	1.7 [0.03]	98.0	Kassebohm and Streng (1993)
Steinmuller/Hugo	MWC	Hamburg-Stapelfield	FB	na	284	130	0.1	99.8	Shamekhi et al. (1990)
Steinmuller/Hugo	HWI	Herten	FB	na	248	50	0.05 [0.001]	99.9	Hartenstein (1993)
Steinmuller/Hugo		Fligern	FB	na			[0.02-0.06]		
SGP-VA	HWI	Vienna	FB	na	230	291 [4.3]	4 [0.05]	98.6	Clarke (1991)
Lurgi			CFB	na		[6]	[0.01]	99.8	Knoche et al. (1991)
Lurgi			FB	na		100 [3]	1.2 [0.025]	98.8	Knoche et al. (1991)

Notes:

C: Controlled emissions (measured downstream of carbon location)
CFB: Circulating fluid bed
CE: Control efficiency
FB: Fixed bed

HWI: Hazardous waste incinerator
MWC: Municipal waste combustor
MWI: Medical waste combustor
UC: Uncontrolled emissions (measured upstream of carbon location)

*: Numbers in [ ] are given in lb/hr not mg/dscm
**: Numbers in [ ] are given in TEQ not total PCDD/PCDF

TABLE 5-3. HAZARDOUS WASTE BURNING CEMENT KILNS WITH APCD TEMPERATURES LESS THAN 400°F

EPA ID No.	Facility	Kiln Type	APCD	APCD Temp (°F)
406	Ash Grove Louisville	D	ESP	350
303	Lonestar Cape Girardeau	D	ESP	200-300
321	Lafarge Demopolis	D	ESP	240-270
405	Ash Grove Louisville	D	ESP	240-270
301	Essroc Dorado	D	FF	200-400
317	Southdown Kosmos	D	FF	220-320
315	Southdown Fairborn	D	FF	320-420
207/208	Keystone Bath	W	ESP	400
402	Ash Grove Chanute	W	ESP	280-480
401	Ash Grove Chanute	W	ESP	300-450
203	Holnam Artesia	W	ESP	350-420
404	Ash Grove Foreman	W	ESP	360-500
228	Ash Grove Foreman	W	ESP	380-500

D: Dry process kiln
W: Wet process kiln

TABLE 5-4. ACTIVATED CARBON MERCURY PERFORMANCE

Location	Facility Type	APCD	Hg Control			Reference
			Inlet Conc (µg/dscm)	Control (%)		
				w/out AC	w/ AC	
Camden, NJ	MWC	SD/ESP	400	40	90	Kilgroe et al. (1993)
Marion, OR	MWC	SD/FF	690-900	36	90	Richman et al. (1993)
Stainislaus, CA	MWC	SD/FF	1000		80	White et al. (1992)
Fall Recycling, PA	MWC	SD/FF	400		93	Petti et al. (1994)
NJ	MWI	SD/FF	2000	30	90	Blizard and Tidona (1992)
Bronx, NY	MWI	DI/FF	16500		99.2	Politi et al. (1993)
Burnaby, BC	MWC	DI/FF	300-430		92-96	Guest (1993)
Biebesheim, Germany	HWI	SD/ESP	70	-15	80-90	Christiansen and Brown (1992)
Hamburgh, Germany	MWC	Fixed bed (2-stage)	60-105		95	Shamekhi et al. (1990)
Berlin, Germany	HWI	DI/FF	180-260		88-99	Blumbach and Nethe (1992)
Wurzburg, Germany	MWC	Fluidized bed	350		93	Blumbach and Nethe (1992)
Schweinfurt, Germany	HWI	SD/FF	40-765		80-94	Blumbach and Nethe (1992)
Herten, Germany	HWI	Fixed bed (5-stage)	2000		99.9	Hartenstein (1992)
Kassel, Germany	MWC	SD/FF	200-300	30	80	Brown and Felsvang (1991)
Amager, Denmark	MWC	SD/FF	200-600	43	87	Brown and Felsvang (1991)
Zurich, Switzerland	MWC	SD/ESP	400-540	30	80	Donnelly and Felsvang (1989)
Sakab, Sweden	HWI	SD/FF	10-400		84-96	Christiansen and Brown (1992)
Skovde, Sweden	MWI	DI/FF	300-11000		90-99.8	Gaige and Halil (1992)
	Coal Boiler	SD/FF	5	96	> 99	Gleiser and Felsvang (1993)
	HWI	SD/FF	3400-5400		99.9	Morun and Schwarzkopf (1992)
	MWC	SD/FF	40-90		80	Morun and Schwarzkopf (1992)
	MWI	DI/FF	6600	0	96	Durkee and Eddinger (1992)

AC: Activated carbon
APCD: Air pollution control device
DI: Dry injection
ESP: Electrostatic precipitator
FF: Fabric filter

HWI: Hazardous waste incinerator
MWC: Municipal solid waste incinerator
MWI: Medical waste incinerator
SD: Spray dryer

TABLE 5-5. SUMMARY OF CARBON INJECTION PERFORMANCE FOR MERCURY CONTROL ON MWC AND MWIS (BY INDIVIDUAL RUN)

Facility	Cond. No.	Carbon Type	APCD Temp (°F)	Carbon Feedrate (mg/dscm)	Descr.	Hg Inlet (µg/dscm)	Hg Outlet (µg/dscm)	Cntrl. Eff. (%)
Marion Co. MWC	1	AC	300	51		424	56	86.8
Marion Co. MWC	1	AC	300	51		403	81	79.9
Marion Co. MWC	1	AC	300	51		551	126	77.1
Marion Co. MWC	1	AC	300	51		495	69	86.1
Marion Co. MWC	1	AC	300	51		2853	131	95.4
Marion Co. MWC	1	AC	300	51		741	140	81.1
Marion Co. MWC	1	AC	300	51		785	186	76.3
Marion Co. MWC	1	AC	300	51		621	119	80.8
Marion Co. MWC	1	AC	300	51		697	134	80.8
Marion Co. MWC	1	AC	300	51		1888	114	94.0
Marion Co. MWC	1	AC	300	51		2548	147	94.2
Marion Co. MWC	2	AC	300	102		1013	130	87.2
Marion Co. MWC	2	AC	300	102		967	108	88.8
Marion Co. MWC	2	AC	300	102		1625	127	92.2
Marion Co. MWC	2	AC	300	102		1762	154	91.3
Marion Co. MWC	3	Ads A	300	102		405	50	87.7
Marion Co. MWC	3	Ads A	300	102		480	100	79.2
Marion Co. MWC	3	Ads A	300	102		330	102	69.1
Marion Co. MWC	3	Ads A	300	102		392	38	90.3
Marion Co. MWC	3	Ads A	300	102		362	38	89.5
Marion Co. MWC	3	Ads A	300	102		392	58	85.2
Marion Co. MWC	3	Ads A	300	102		715	68	90.5
Marion Co. MWC	3	Ads A	300	102		2700	57	97.9
Marion Co. MWC	3	Ads A	300	102		550	54	90.2
Marion Co. MWC	3	Ads A	300	102		530	27	94.9
Marion Co. MWC	3	Ads A	300	102		470	24	94.9
Marion Co. MWC	3	Ads A	300	102		1360	17	98.8
Marion Co. MWC	3	Ads A	300	102		936	32	96.6
Marion Co. MWC	3	Ads B	300	102		1246	130	89.6
Marion Co. MWC	3	Ads B	300	102		2695	460	82.9
Marion Co. MWC	3	Ads B	300	102		615	80	87.0
Marion Co. MWC	3	Ads B	300	102		934	98	89.5
Marion Co. MWC	3	Ads B	300	102		117	10	91.5
Marion Co. MWC	3	Ads B	300	102		508	97	80.9
Marion Co. MWC	3	Ads B	300	102		560	38	93.2
Stainislaus Co. MWC	1	Coal	280	18	Econ. out.	568	157	72.4
Stainislaus Co. MWC	1	Coal	280	18	Econ. out.	434	139	68.0
Stainislaus Co. MWC	1	Coal	280	18	Econ. out.	501	77	84.6
Stainislaus Co. MWC	2	Coal	280	72	Econ. out.	556	68	87.8
Stainislaus Co. MWC	2	Coal	280	72	Econ. out.	641	71	88.9
Stainislaus Co. MWC	2	Coal	280	72	Econ. out.	498	41	91.8
Stainislaus Co. MWC	6	Coal	280	72	SD in.	973	17	98.3
Stainislaus Co. MWC	6	Coal	280	72	SD in.	744	65	91.3

TABLE 5-5. SUMMARY OF CARBON INJECTION PERFORMANCE FOR MERCURY CONTROL ON MWC AND MWIS (BY INDIVIDUAL RUN)

Facility	Cond. No.	Carbon Type	APCD Temp (°F)	Carbon Feedrate (mg/dscm)	Descr.	Hg Inlet (µg/dscm)	Hg Outlet (µg/dscm)	Cntrl. Eff. (%)
Stainislaus Co. MWC	7	Coal	290	18	SD in.	342	178	48.0
Stainislaus Co. MWC	7	Coal	290	18	SD in.	437	191	56.3
Stainislaus Co. MWC	8	Coal	280	36	SD in.	507	132	74.0
Stainislaus Co. MWC	8	Coal	280	36	SD in.	333	92	72.4
Stainislaus Co. MWC	8	Coal	280	36	SD in.	478	38	92.1
Stainislaus Co. MWC	9	Lignite	275	18	SD in.	553	132	76.1
Stainislaus Co. MWC	9	Lignite	275	18	SD in.	564	61	89.2
Stainislaus Co. MWC	9	Lignite	275	18	SD in.	615	100	83.7
Stainislaus Co. MWC	10	Lignite	290	72	SD in.	1140	55	95.2
Stainislaus Co. MWC	10	Lignite	290	72	SD in.	568	34	94.0
Stainislaus Co. MWC	10	Lignite	290	72	SD in.	649	37	94.3
Stainislaus Co. MWC	10	Lignite	290	72	SD in.	786	42	94.7
Stainislaus Co. MWC	11	Coal	280	18	SD in.	571	151	73.6
Stainislaus Co. MWC	11	Coal	280	18	SD in.	489	143	70.8
Stainislaus Co. MWC	11	Coal	280	18	SD in.	694	372	46.4
Stainislaus Co. MWC	12	Coal	290	18	SD in.	1276	528	58.6
Stainislaus Co. MWC	12	Coal	290	18	SD in.	456	80	82.5
Stainislaus Co. MWC	12	Coal	290	18	SD in.	303	193	36.3
Stainislaus Co. MWC	13	Wood	280	18	SD in.	690	201	70.9
Stainislaus Co. MWC	13	Wood	280	18	SD in.	769	260	66.2
Stainislaus Co. MWC	14	Wood	280	36	SD in.	369	74	79.9
Stainislaus Co. MWC	14	Wood	280	36	SD in.	447	90	79.9
Stainislaus Co. MWC	14	Wood	280	36	SD in.	1250	246	80.3
Stainislaus Co. MWC	15	Coal	280	72	Lime slurry	456	77	83.1
Stainislaus Co. MWC	15	Coal	280	72	Lime slurry	464	29	93.8
Stainislaus Co. MWC	15	Coal	280	72	Lime slurry	460	53	88.5
Stainislaus Co. MWC	16	Coal	280	72	Lime slurry	560	19	96.6
Stainislaus Co. MWC	16	Coal	280	72	Lime slurry	452	53	88.3
Stainislaus Co. MWC	16	Coal	280	72	Lime slurry	397	21	94.7
Camden Co. MWC	B2	FGD	270	75	Dry	972	296	69.5
Camden Co. MWC	B2	FGD	270	75	Dry	593	63	89.4
Camden Co. MWC	B2	FGD	270	75	Dry	835	149	82.2
Camden Co. MWC	B3	PC-100	270	83	Dry	593	134	77.4
Camden Co. MWC	B3	PC-100	270	83	Dry	639	29	95.5
Camden Co. MWC	B3	PC-100	270	83	Dry	586	102	82.6
Camden Co. MWC	B4	PC-100	280	450	Dry	491	21	95.7
Camden Co. MWC	B4	PC-100	280	450	Dry	440	14	96.8
Camden Co. MWC	B4	PC-100	280	450	Dry	512	17	96.7
Camden Co. MWC	B5	FGD	270	440	Dry	680	9	98.7
Camden Co. MWC	B5	FGD	270	440	Dry	820	13	98.4
Camden Co. MWC	B5	FGD	270	440	Dry	644	12	98.1
Camden Co. MWC	B7	FGD	350	320	Dry	964	107	88.9
Camden Co. MWC	B7	FGD	350	320	Dry	506	22	95.7

TABLE 5-5. SUMMARY OF CARBON INJECTION PERFORMANCE FOR MERCURY CONTROL ON MWC AND MWIS (BY INDIVIDUAL RUN)

Facility	Cond. No.	Carbon Type	APCD Temp (°F)	Carbon Feedrate (mg/dscm)	Descr.	Hg Inlet (µg/dscm)	Hg Outlet (µg/dscm)	Cntrl. Eff. (%)
Camden Co. MWC	B7	FGD	350	320	Dry	778	59	92.4
Camden Co. MWC	B8	FGD	264	171	Dry	545	40	92.7
Camden Co. MWC	B8	FGD	264	171	Dry	455	23	94.9
Camden Co. MWC	B8	FGD	264	171	Dry	525	24	95.4
Camden Co. MWC	B9	FGD	266	40	Dry	485	78	83.9
Camden Co. MWC	B9	FGD	266	40	Dry	957	82	91.4
Camden Co. MWC	B9	FGD	266	40	Dry	463	73	84.2
Camden Co. MWC	B11	FGD	271	362	Dry	626	20	96.8
Camden Co. MWC	B11	FGD	271	362	Dry	635	16	97.5
Camden Co. MWC	B11	FGD	271	362	Dry	664	16	97.6
Camden Co. MWC	B12	FGD	271	328	Slurry	299	50	83.3
Camden Co. MWC	B12	FGD	271	328	Slurry	521	77	85.2
Camden Co. MWC	B12	FGD	271	328	Slurry	300	69	77.0
Camden Co. MWC	B13	FGD	264	192	Slurry	382	78	79.6
Camden Co. MWC	B13	FGD	264	192	Slurry	377	81	78.5
Camden Co. MWC	B13	FGD	264	192	Slurry	974	158	83.8
Camden Co. MWC	A2	FGD	265	344	Slurry	302	55	81.8
Camden Co. MWC	A2	FGD	265	344	Slurry	403	78	80.6
Camden Co. MWC	A2	FGD	265	344	Slurry	1412	261	81.5
Camden Co. MWC	A3	FGD	278	381	Slurry	530	43	91.9
Camden Co. MWC	A3	FGD	278	381	Slurry	458	108	76.4
Camden Co. MWC	A3	FGD	278	381	Slurry	690	156	77.4
Camden Co. MWC	A4	FGD	284	417	Slurry	643	49	92.4
Camden Co. MWC	A4	FGD	284	417	Slurry	816	90	89.0
Camden Co. MWC	A5	FGD	283	266	Slurry	335	40	88.1
Camden Co. MWC	A5	FGD	283	266	Slurry	294	51	82.7
Camden Co. MWC	A5	FGD	283	266	Slurry	364	52	85.7
Morristown MWI	1			2.6 lb/hr	DSI/FF	664	516	22.3
Morristown MWI	1			2.6 lb/hr	DSI/FF	2240	159.0	92.9
Morristown MWI	1			2.6 lb/hr	DSI/FF	3070	332.0	89.2
Borgess MWI	1			?	SD/FF	5750	690	88.0
Borgess MWI	1			?	SD/FF	8180	983	88.0
Borgess MWI	1			?	SD/FF	9190	490	94.7
Borgess MWI	1			?	SD/FF	7370	103	98.6
Borgess MWI	1			?	SD/FF	13200	307	97.7

SECTION 6

FLOOR ACHIEVABILITY

6.1 SIMULTANEOUS ACHIEVABILITY

As shown in greater detail in the *Technical Support Document for HWC MACT Standards, Volume V: Engineering Costs*, 6 out of the 80 existing incinerators in the database currently meet the MACT 6% floor for all HAPs, based on the trial burn stack gas emissions data. For cement kilns, 5 out of 45 simultaneously meet the 6% floors, while 3 out of 12 light weight aggregate kilns simultaneously meet the 6% floors. For the remaining facilities, the following generic add-on control systems with the appropriate MTEC limitations, based on the definition of MACT control in Section 3, may be used for simultaneously achieving the different HAP MACT floors.

6.1.1 Incinerators

Two types of air pollution control systems (both of which are currently used on many of the hazardous waste incinerators) can be used to meet the floor for all HAPs:

- Hybrid wet/dry system -- This type of system uses flue gas cooling to below 400°F to avoid PCDD/PCDF formation (but remaining above the saturation temperature), followed by primary PM, LVM, and SVM removal in a fabric filter. Wet scrubbing (including additional gas cooling to below saturation) follows for acid gas (HCl/Cl_2) control.

- Wet system -- This type of system uses flue gas quenching to saturation conditions followed by primary PM, LVM, and SVM control in wet ESPs or high efficiency wet scrubbers. A packed bed scrubber is used if additional acid gas control is required. An alternative to this would be the use of quench followed by multiple stages of ionizing wet scrubbing (IWSs use a combination of electrostatic precipitation for efficient removal of PM and packed beds for highly efficient removal of acid gases).

Both of these system types are subject to the following MACT hazardous waste feedrate MTEC limitations:

- Hg -- 51 µg/dscm
- SVM -- $4.9x10^4$ µg/dscm
- LVM -- $6.2x10^3$ µg/dscm
- Chlorine -- $1.7x10^7$ µg/dscm

For operation with higher feedrate MTEC levels, additional beyond-the-floor control techniques may be required (e.g., for mercury control the use of carbon adsorption techniques, for LVM control the use of fabric filter with high performance fabrics such as Goretex).

6.1.2 Cement Kilns

To meet the MACT floor level for all HAPs, an air pollution control system with the following characteristics is required (based on the definition of MACT control in Section 3): fabric filter with an air-to-cloth ratio of less than 2 acfm/ft^2 with operation below 400°F (to limit PCDD/PCDF formation), in conjunction with the following hazardous waste feedrate control MTEC limitations:

- Hg -- 28 µg/dscm
- SVM -- 8.4x10^4 µg/dscm
- LVM -- 1.4x10^5 µg/dscm
- Chlorine -- 1.6x10^6 µg/dscm

As discussed for incinerators, for operation with higher feedrate MTEC levels, additional beyond-the-floor control techniques may be required (e.g., for mercury control the use of carbon adsorption techniques, for LVM control the use of fabric filter with high performance fabrics such as Goretex).

6.1.3 Light Weight Aggregate Kilns

To meet the MACT floor level for all HAPs, an air pollution control system with the following characteristics is required: fabric filter with an air-to-cloth ratio of less than 1.5 acfm/ft^2 with operation below 400°F, with the following hazardous waste feedrate MTEC limitations:

- Hg -- 17 µg/dscm
- SVM -- 2.7x10^5 µg/dscm
- LVM -- 4.6x10^4 µg/dscm
- Chlorine -- 1.6x10^6 (or 1.4x10^7 if using a wet scrubber)

The fabric filter design parameters correspond to the most stringent MACT design for PM, SVM, and LVM control. It is assumed that the chlorine floor can be met without any add-on control if the chlorine feedrate MTEC is kept below 6.6x10^6.

Again, as for incinerators and CKs, for the use of higher feedrate MTEC levels, additional beyond-the-floor control techniques may be required (e.g., for mercury control the use of carbon adsorption techniques, for LVM control the use of fabric filter with high performance fabrics such as Goretex, for chlorine control the use of wet or dry scrubbing techniques).

6.2 CONSIDERATION OF THE EFFECT OF FEEDSTREAMS OTHER THAN HAZARDOUS WASTE

The use of MACT control, summarized above and described in Section 3, may not be sufficient to enable all cement or light-weight aggregate kilns to achieve the floor levels for HAPs where hazardous waste feedrate (MTEC) is part of MACT control (i.e., Hg, SVM, LVM, HCl/Cl_2). This is due to two reasons.

- Hazardous waste as well as other feedstreams (e.g., raw materials, fossil fuels) contribute to emissions of HAPs for these sources. Given that the procedure for identifying the MACT floor levels accounts for the contribution from hazardous waste and other feedstreams only for sources in the expanded universe (i.e., sources using MACT control), sources outside the EU with higher non-hazardous waste feedstream contributions of HAPs may not be able to achieve the floor levels using floor controls.

- Certain facilities use the MACT control equipment (i.e., FF, ESP, VS, etc.) but have higher MTEC than the MACT pool facilities; these facilities were not included in the MACT expanded universe and were not used to set the MACT floor. If these facilities do not achieve equivalent or better system removal efficiencies (SRE) than those in the MACT pool with the highest MTECs, then projection of these non-MACT EU facilities emissions based on MTEC feedrate may not be below the highest emitter in the MACT EU. This is described in more detail below.

To identify kilns that may not be able to meet the floor levels using floor controls (and to identify (higher) levels that such kilns could achieve using floor controls), the following analysis is used:

- It is assumed that there is a direct relationship between the feedstream feedrate of the HAPs influenced by feedrate control (metals and chlorine) and the corresponding stack gas emissions levels. For each HAP, the feedrate fractions that are contained in each of the different feedstreams (raw materials, hazardous waste, and supplemental fossil fuels) are used to proportion the total stack gas emissions into levels that are attributable to each of the feedstreams (e.g., if the raw materials chlorine feedrate contributed 30% to the total feedrate of chlorine, then 30% of the total chlorine stack gas emissions is estimated attributable to the raw materials).

- For facility conditions using MACT control (i.e., those in the MACT pool and expanded universe), stack gas emissions levels are proportioned by the individual feedstream fractions of each HAP, as discussed above. Note that these conditions by definition are currently meeting the MACT floor since they are directly considered in its determination.

- For facilities not using MACT, the following adjustment procedures are used to estimate emissions from the facility assuming it were to adopt MACT control procedures.

    -- <u>Hazardous waste feedrate MTEC higher than the MACT-defining level</u> -- When the hazardous waste MTEC is higher than the MACT defining level, the stack gas emissions level that is attributable to the hazardous waste is adjusted to the MACT defining hazardous waste MTEC maximum level, again using the assumption of a direct relationship between feedrate and stack gas emissions levels. For example, consider the case where the hazardous waste MACT-defining MTEC level is 2, and the source condition has an MTEC level of 4; the emissions concentration that is attributable to the hazardous waste would be reduced by 50%.

-- Facility does not utilize MACT add-on air pollution control device -- Stack gas emission levels are estimated if the facility does not use the MACT defining add-on control technology (e.g., estimates would be made for cement kilns for SVMs which use ESPs since FF is the MACT add-on control device). The estimated emissions level is determined as the feedrate MTEC multiplied by the penetration (one minus the SRE) demonstrated by facilities using the MACT add-on control technology. Note that the feedrate MTECs are adjusted to the MACT defining hazardous waste allowable levels when required like discussed above. The MACT SRE that is used is determined from the SREs from all facilities in the source category universe utilizing the MACT add-on control technology. System penetrations (one minus the SRE) are shown as a function of the MTEC feedrate level for the MACT pool and EU facilities for SVM and LVM from CKs and LWAKs in Figures 6-9 through 6-12. For conditions with MTECs above the MACT defining level, the SRE of the source in the MACT EU with the highest MTEC is used for the emissions projection; for conditions with MTECs below the MACT level, the SRE of the MACT EU facility with the closest and higher MTEC is used. For mercury and chlorine, which for the most part are not controlled by any add-on flue gas MACT control equipment, SRE plots are not required (note that one LWAK uses a wet venturi scrubber). Note that the projected emissions levels are only considered when they are lower than the actual emissions level (i.e., the use of improved MACT add-on control technology must result in reduced emissions levels compared with the actual levels using non-MACT control).

When the hazardous waste fuel is reduced based on MACT MTEC limiting requirements, additional supplemental conventional fuel must be fired to make up for the energy content lost when reducing the hazardous waste feed. Assuming that the hazardous waste and conventional fuels have similar energy content, a one-to-one replacement is assumed. The emissions levels related to the use of the substituted conventional fuels are estimated based on the HAP composition of the supplemental conventional fuel, and added to the total stack gas emissions level.

The resulting projected and adjusted emissions levels for all test conditions are shown in "bar charts" in Figures 6-1 through 6-4 for cement kilns (Hg, SVM, LVM, and total chlorine, respectively) and in Figures 6-5 through 6-8 for LWAKs (Hg, SVM, LVM, and total chlorine respectively). They show, for each condition in the entire universe, stack gas emissions levels and proportions attributable to the different feedstreams (hazardous waste fuels, raw materials, primary conventional fuels, and supplemental conventional fuels). The group on the left part of the charts include those facilities in the MACT pool and EU which use MACT control and thus for which no adjustments are required. The facilities in the right group are non-MACT sources. They do not use MACT control, and thus require adjustments as described above. The type of adjustment that is used for each of the source conditions is shown along the x-axis: “MP” signifies that an adjusted MTEC level was used, “TP” signifies that an estimate based on the use of MACT add-on control equipment was made.

For cement kilns, comparison of the actual or projected stack gas emission levels with the 6% MACT floor design levels for existing sources leads to the following conclusions:

- For mercury, all but one of the sources have actual or projected stack gas emissions levels that are lower than the floor design level of 81 μg/dscm. One facility (source condition 306) has mercury emissions attributable to raw materials at a level of almost 400 μg/dscm. For this source, mercury was detected in the raw materials at a level of 0.7 mg/kg. There was no apparent spiking of the raw materials with mercury. This facility appears to have unusually high levels of mercury in the raw materials compared with the other kilns. Recent conversion with this facility has indicated that the normal day-to-day operating mercury feedrates are in fact much lower (by an order or magnitude) than that reported in the trial burn report.

- For SVMs, all but four of the sources have actual or projected stack gas emissions levels below the floor design level of 34 μg/dscm. Two of these four facilities (sources 202 and 201, emitting at 60 and 450 μg/dscm respectively) are believed to use the appropriate MACT add-on control equipment of FF, but are not included in the MACT expanded universe since they have MTECs higher than the MACT defining limit. Thus, technology projection for these conditions is not appropriate. The adjustment based on a reduction in hazardous waste feedrate is not sufficient to lower the emissions levels to the MACT floor design level because these two facilities are operating with system removal efficiencies that are lower than those demonstrated by the MACT pool and expanded universe facilities. For example, source 201C1 has an actual emission level of 900 μg/dscm with an MTEC about twice as high as the MACT defining level. The resulting MTEC projection to about 450 μg/dscm is higher than the MACT floor design level; the MACT level is based on MACT pool and EU sources which demonstrated much higher SREs in comparison to source 201C1. Additionally, two other facilities (sources 406 and 309), which require both technology and feedrate MTEC projections, are estimated to emit at levels slightly higher than the floor (36 and 38 compared with the floor level of 34 μg/dscm) due to raw materials contributions.

- For LVMs, all sources have actual or projected emissions levels that are lower than the floor design level of 67 μg/dscm.

- For total chlorine, all sources have actual or projected emissions levels that are below 75 ppmv, which is significantly below the floor design level of 270 ppmv.

For light weight aggregate kilns, comparison of actual or projected stack gas emission levels with the 6% MACT floor design levels for existing sources includes:

- For mercury, all sources have actual or projected emissions levels below the MACT design floor level of 36 μg/dscm.

- For SVMs, three of the sources have actual or projected emissions levels that are above the MACT floor design standard of 7.5 μg/dscm. Source 301 has an emissions level of 10 μg/dscm, which is slightly higher than the design standard; this is due to raw materials contributions that are higher than those in the MACT pool and EU. Sources 313 and 314 have projected levels of 300 and almost 700 μg/dscm respectively. For these sources, contributions from both hazardous waste as well as raw materials are responsible for the emissions being higher than the MACT floor design level. These sources are believed to use the MACT add-on control equipment (FF with the appropriate design considerations), but are not included in the MACT EU due to the use of SVM feedrates higher than the MACT defining limit. Emissions projections based on hazardous waste feed reductions are not sufficient to bring the facilities to the MACT floor since their SREs are lower in comparison with those in the MACT pool and EU.

- For LVMs, all except one source has actual or projected emissions levels that are below the MACT design level of 230 μg/dscm. Source 313 has a level of about 240 μg/dscm, which is slightly higher than the floor level. This is due to raw materials contributions that are slightly higher than those in the MACT pool and EU.

- For total chlorine, a couple of sources have estimated emission levels that are attributable to raw materials ranging from 200 to almost 600 ppmv. These levels are suspect since they are on the same order of chlorine levels that are typically generated from the combustion of materials such as municipal and medical waste, which might be expected to have higher concentrations of chlorine compared with LWAK raw materials. In any case, all actual or projected emissions levels are below the total chlorine MACT floor design level of 1,400 ppmv.

Thus, for both cement and light weight aggregate kilns for HAPs with emissions levels related to feedrate control, the use of floor control measures is estimated to be sufficient for most of existing facilities to meet the MACT floor design level without the additional control of HAPs from feedstreams other than the hazardous waste. Raw materials and conventional fuels are not predicted to be a problem for compliance with any of the MACT floors. The primary concern is the achievability of the CK and LWAK SVM floor standards. For SVM for both CK and LWAKs, feedrate MTEC projections based on the MACT defining MTEC were not sufficient in a couple of cases to reduce emissions levels below the floor from facilities that appear to be using MACT add-on control equipment.

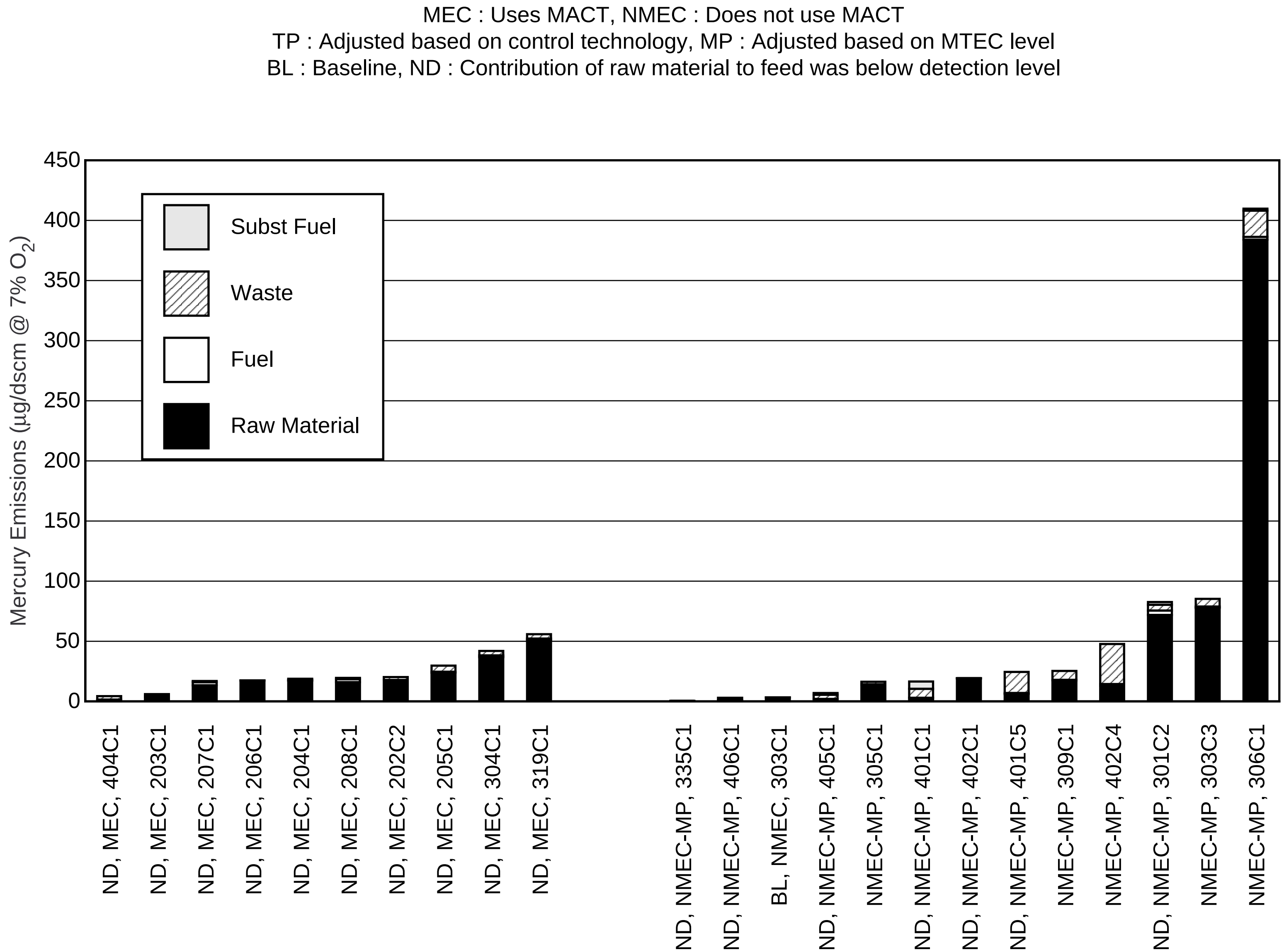

Figure 6-1. Contribution of feedstreams to emissions levels, Mercury, Cement Kilns, 6% Floor Analysis.

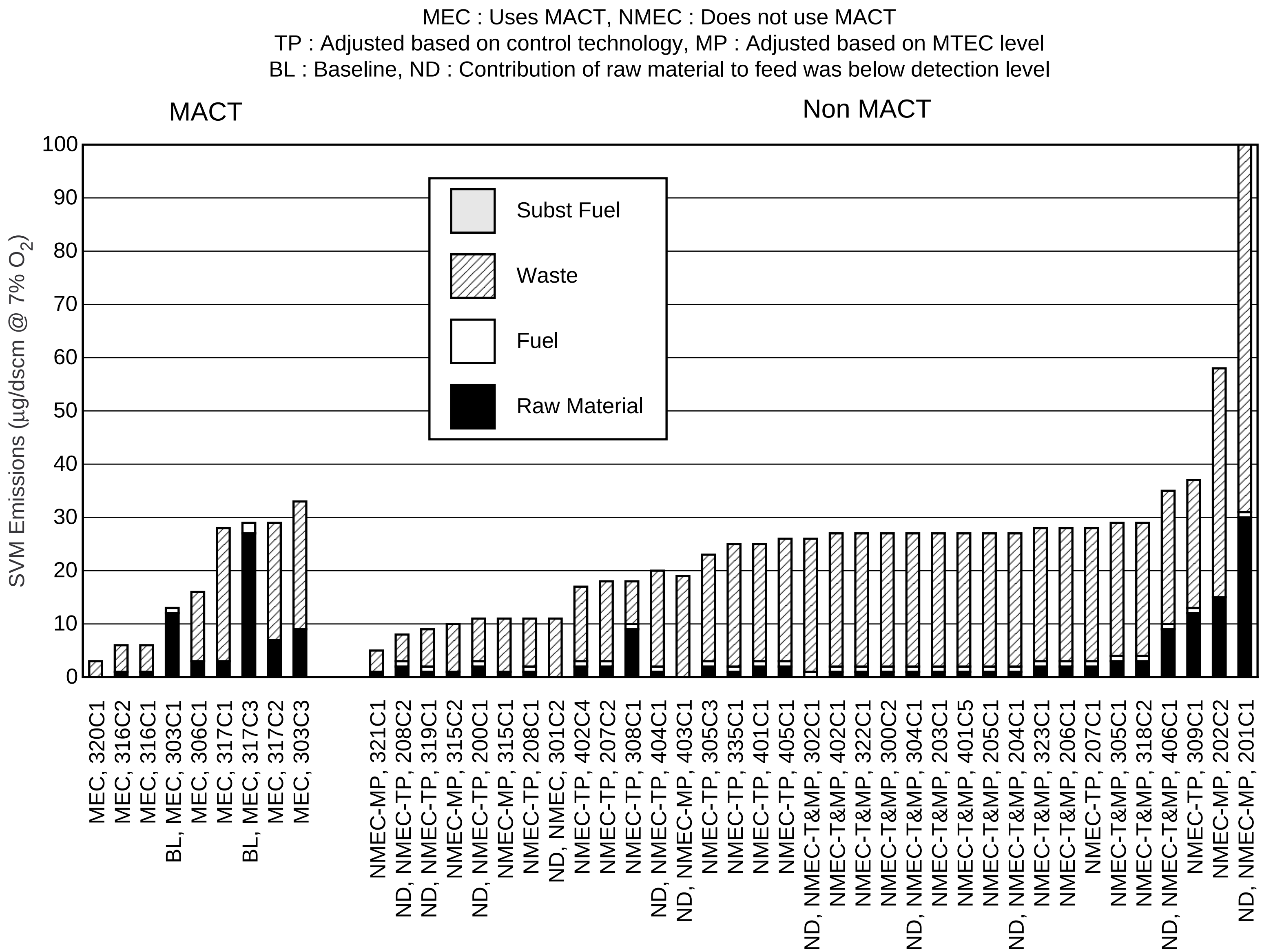

Figure 6-2. Contribution of feedstreams to emissions levels, SVM, Cement Kilns, 6% Floor Analysis.

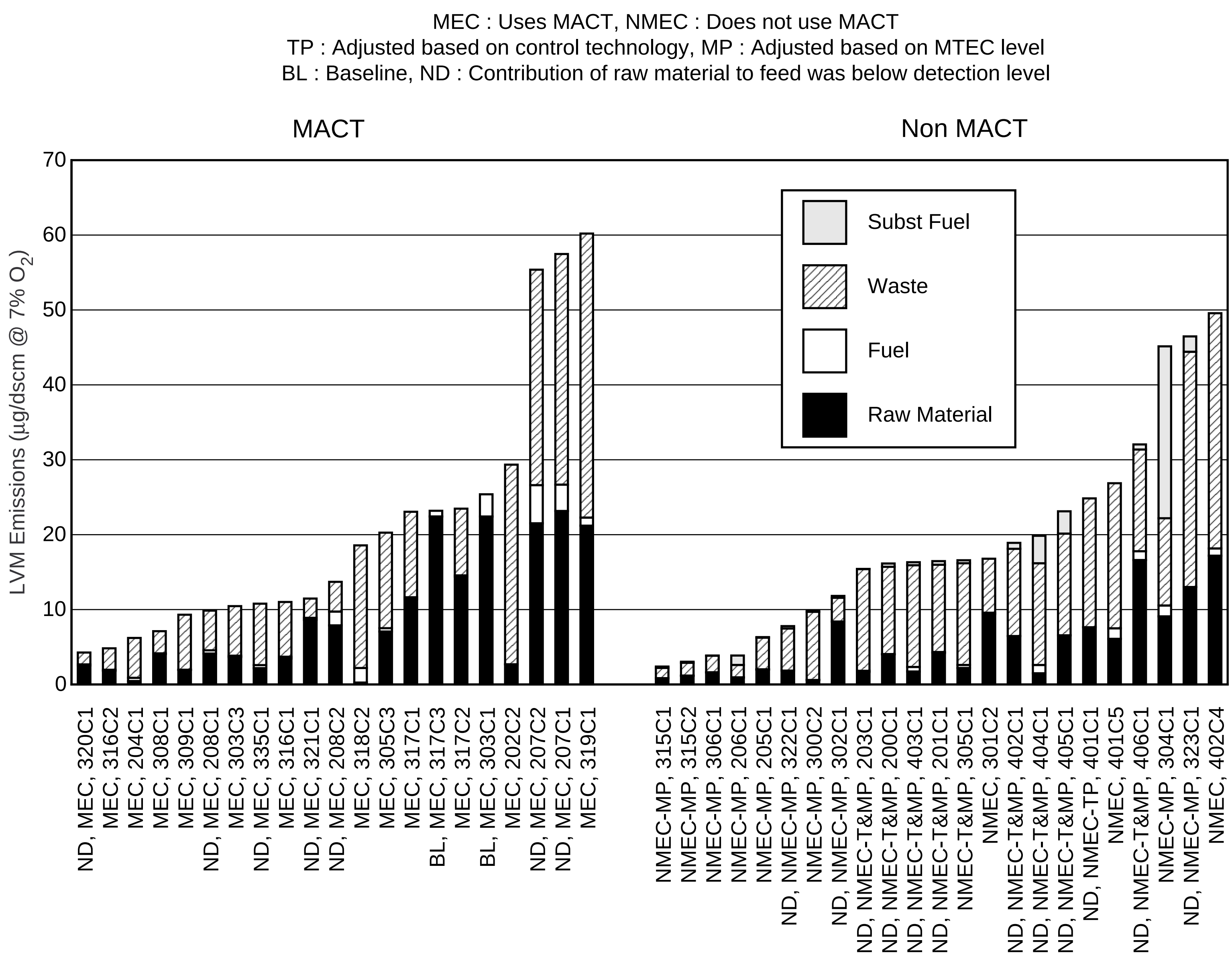

Figure 6-3. Contribution of feedstreams to emissions levels, LVM, Cement Kilns, 6% Floor Analysis.

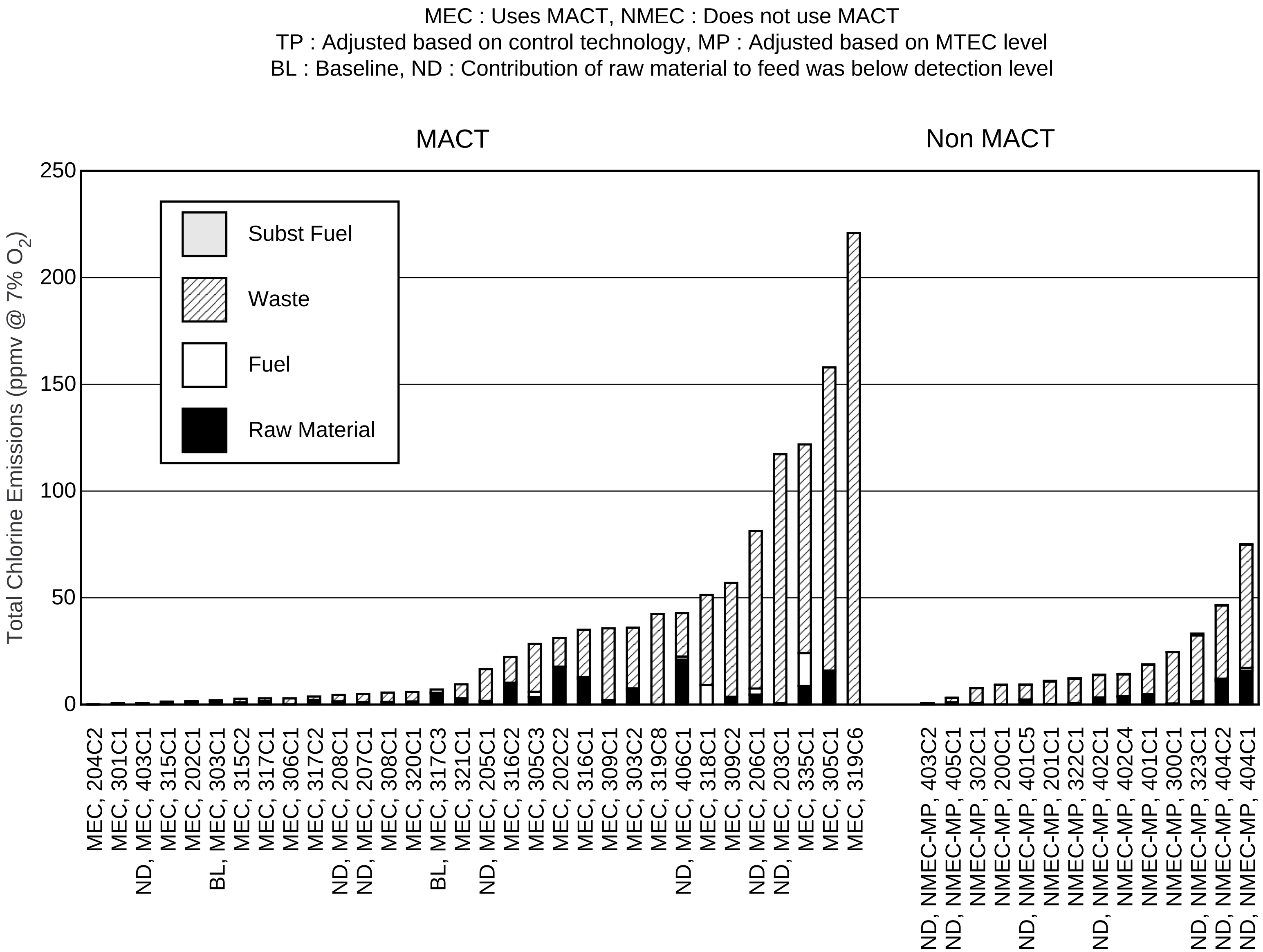

Figure 6-4. Contribution of feedstreams to emissions levels, Total Chlorine, Cement Kilns, 6% Floor Analysis.

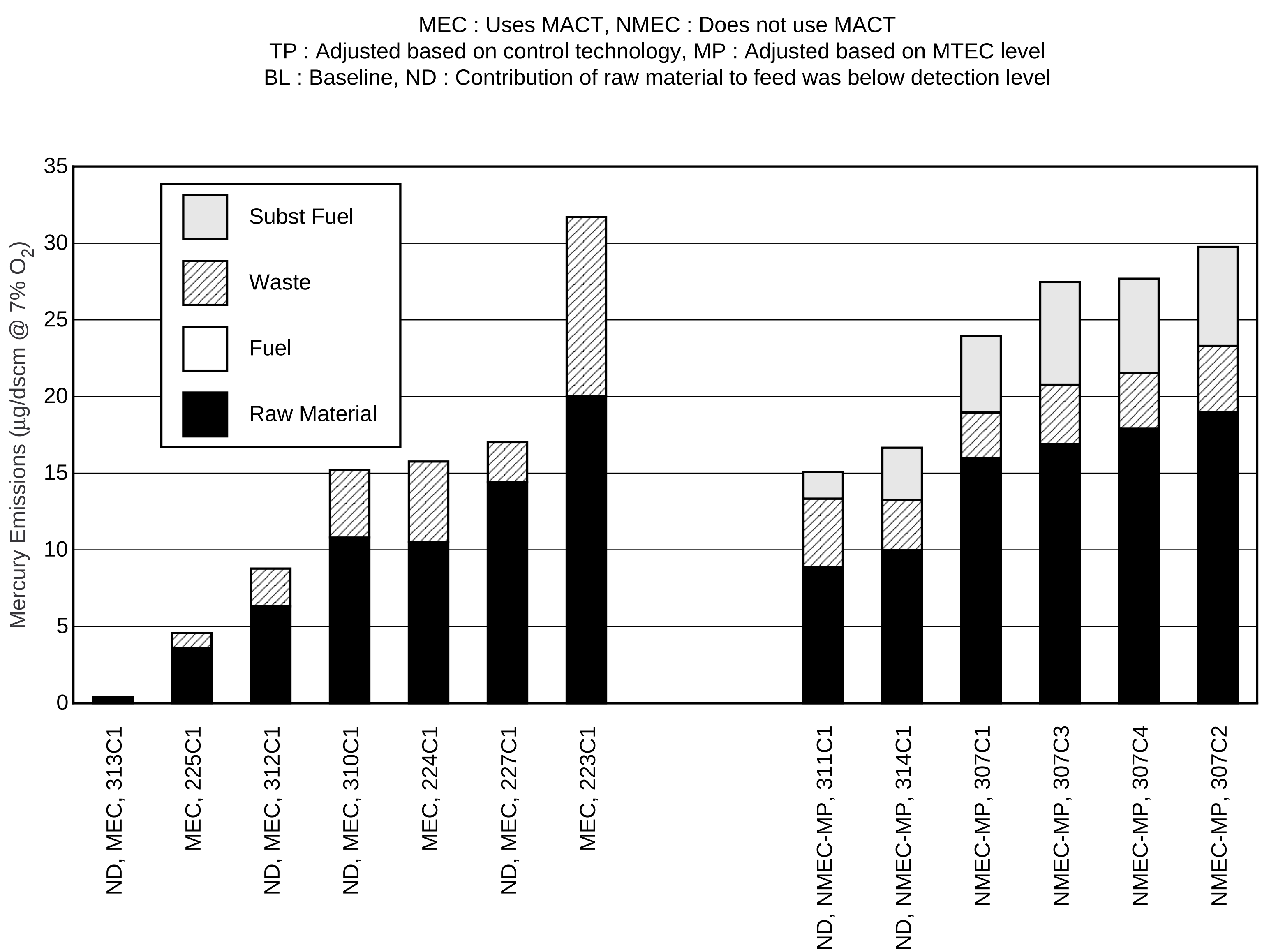

Figure 6-5. Contribution of feedstreams to emissions levels, Mercury, LWAKs, 6% Floor Analysis.

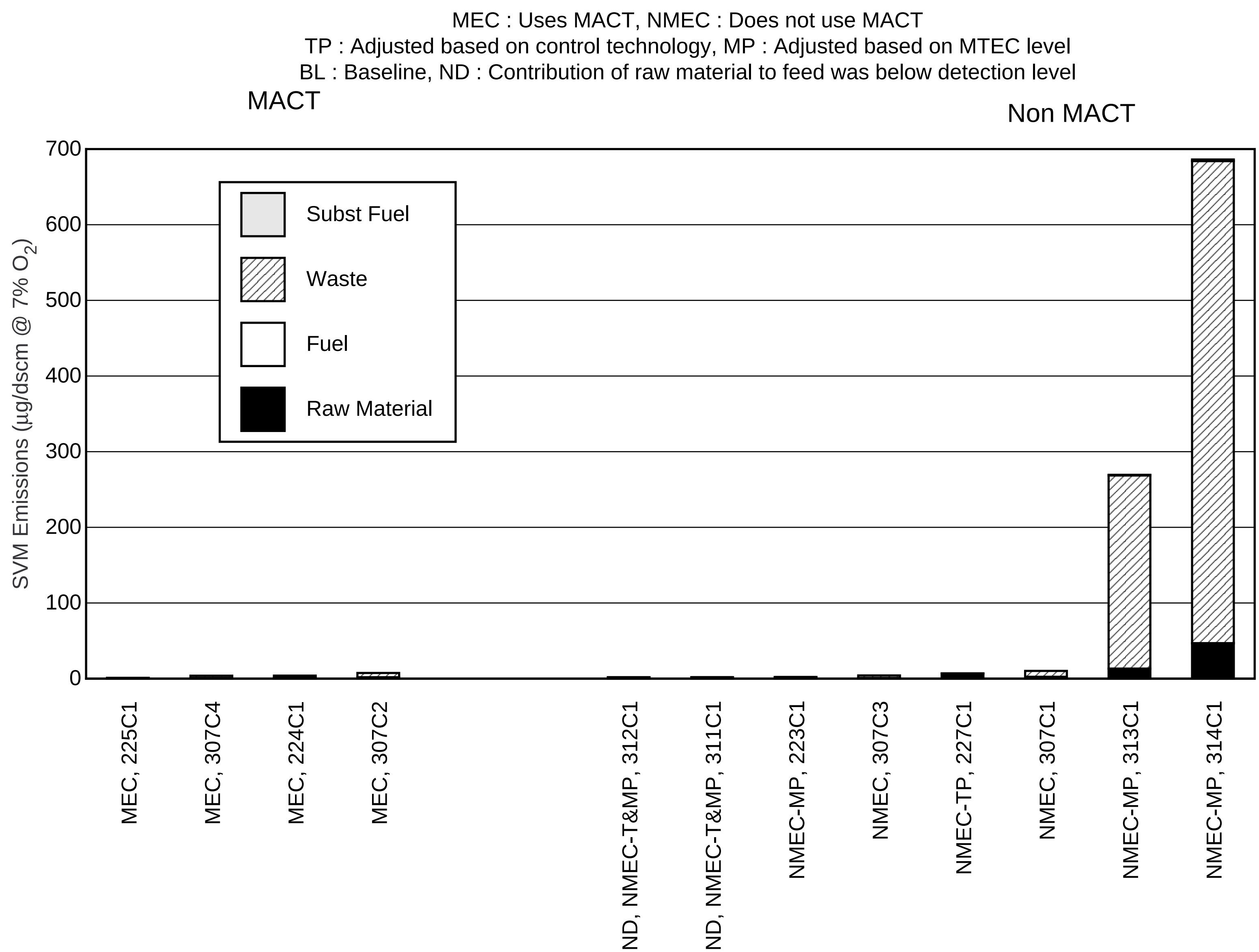

Figure 6-6. Contribution of feedstreams to emissions levels, SVM, LWAKs, 6% Floor Analysis.

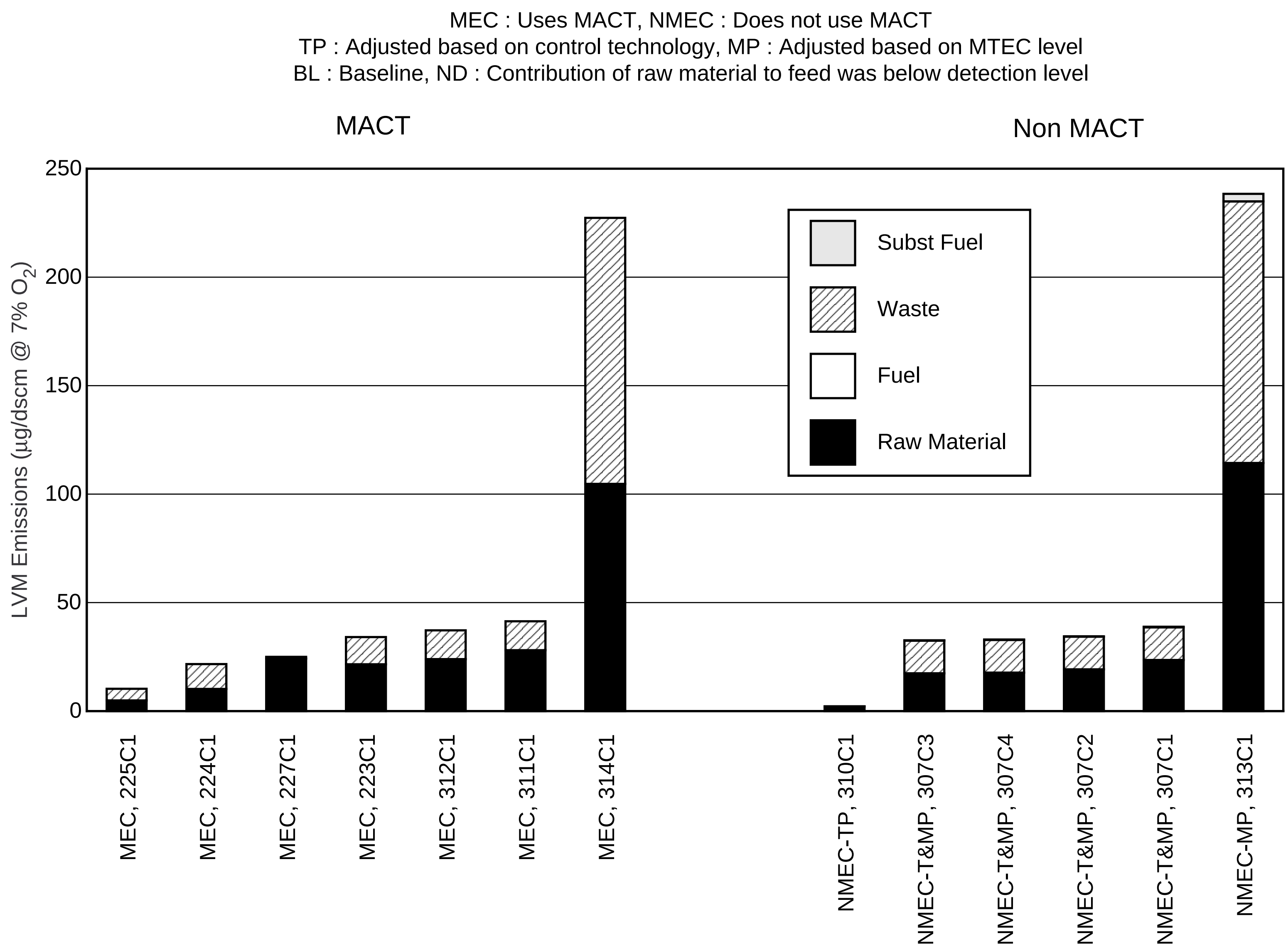

Figure 6-7. Contribution of feedstreams to emissions levels, LVM, LWAKs, 6% Floor Analysis.

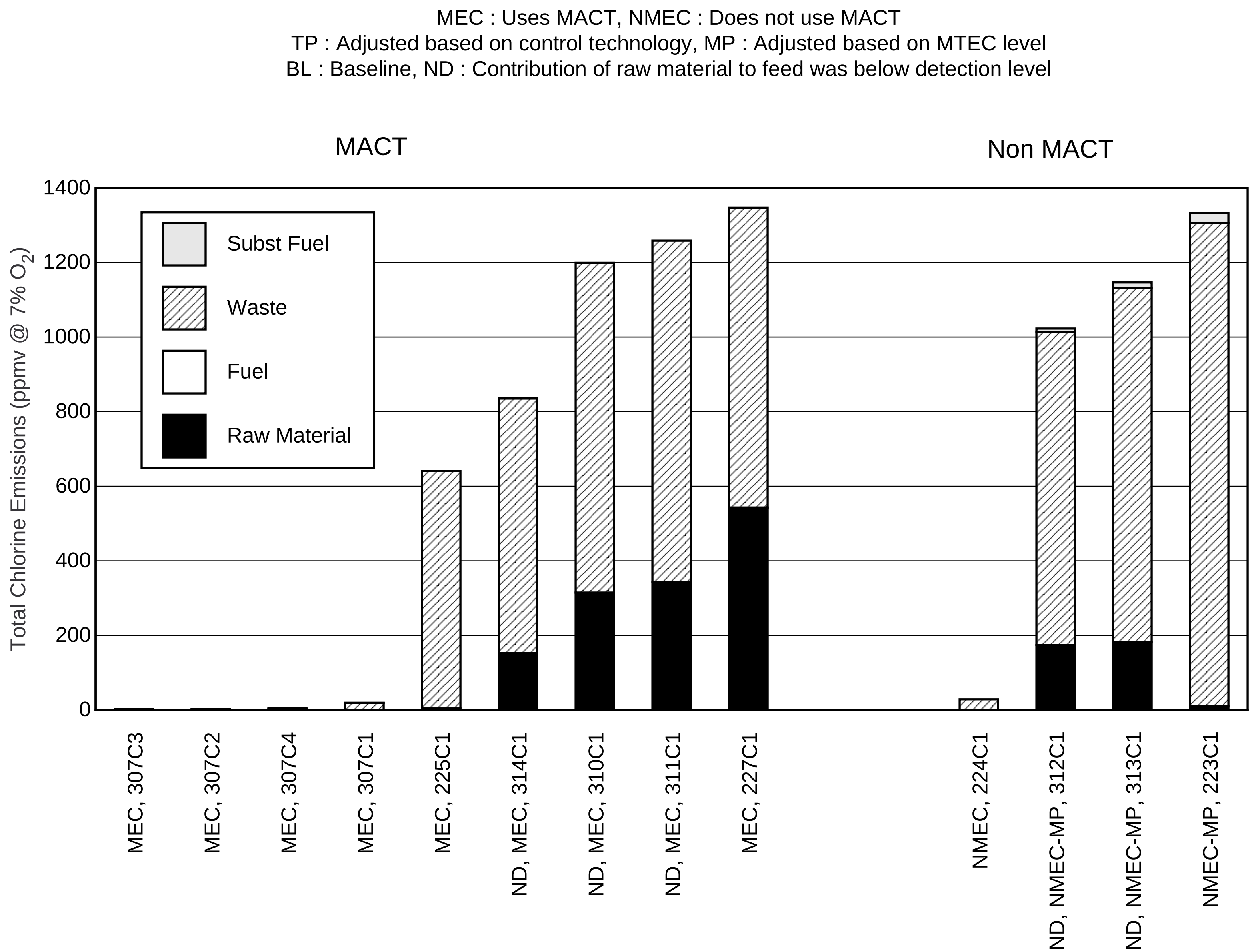

Figure 6-8. Contribution of feedstreams to emissions levels, Total Chlorine, LWAKs, 6% Floor Analysis.

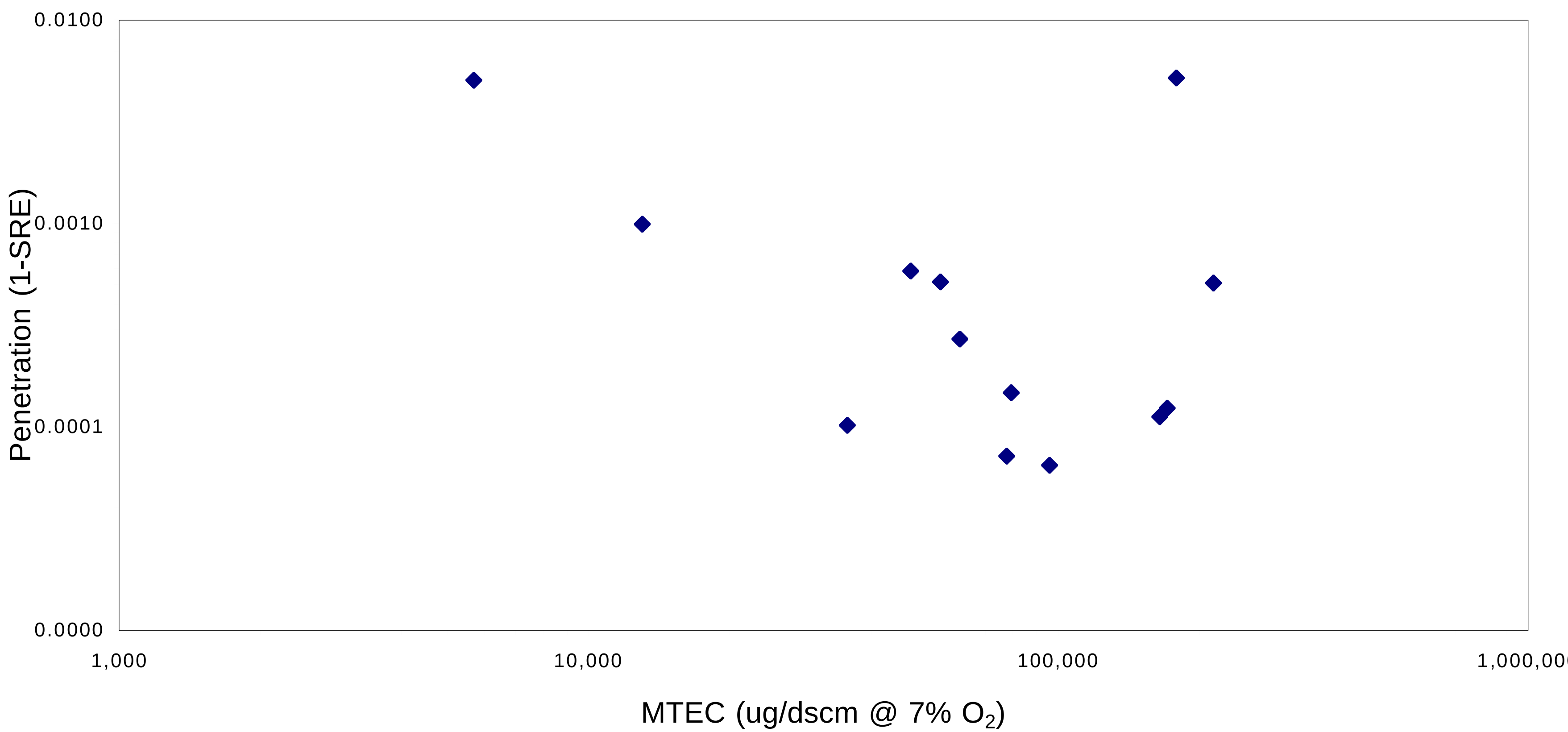

Figure 6-9. Penetration vs maximum theoretical emission concentration for 6% database MACT add-on control data (SVM; Cement Kilns)

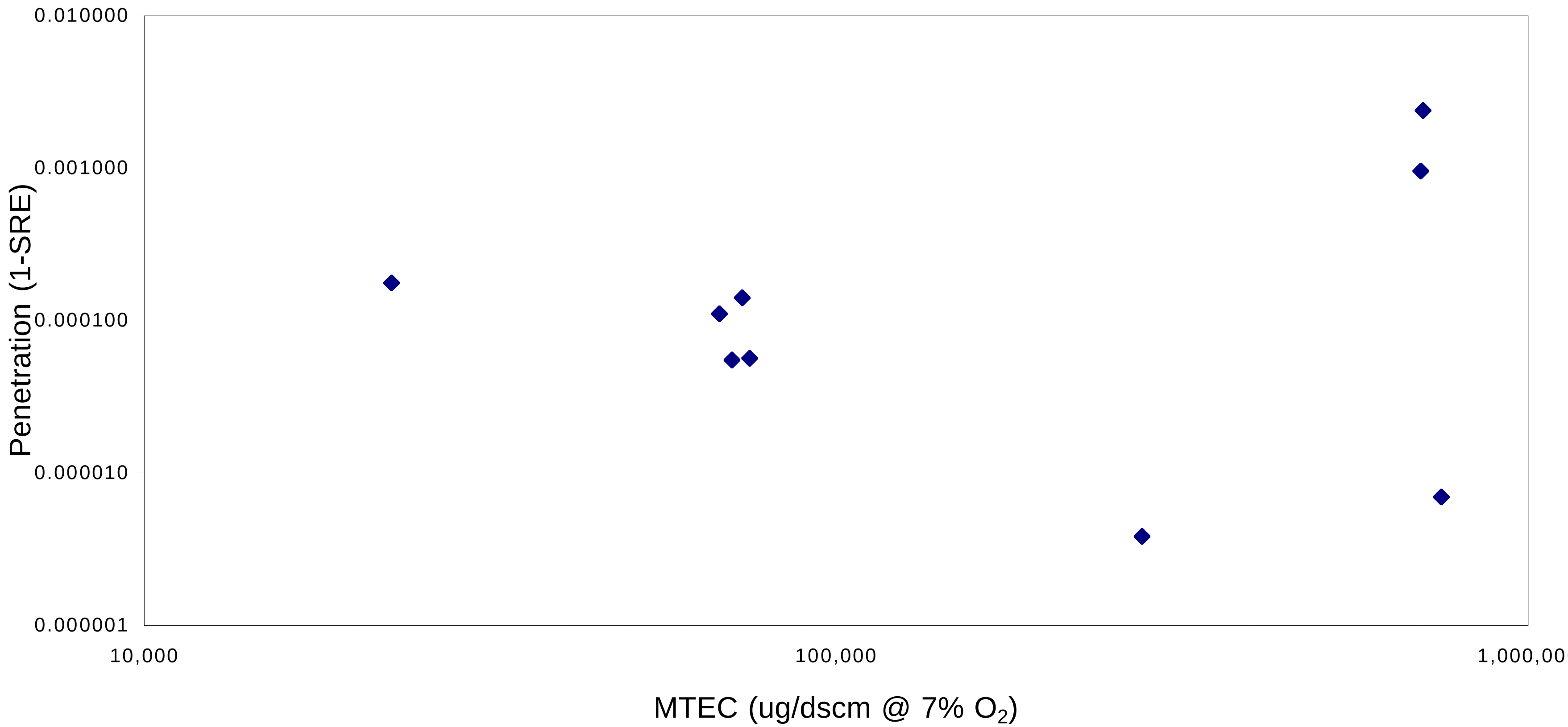

Figure 6-10. Penetration vs maximum theoretical emission concentration for 6% database MACT add-on control data (SVM; LWA Kilns)

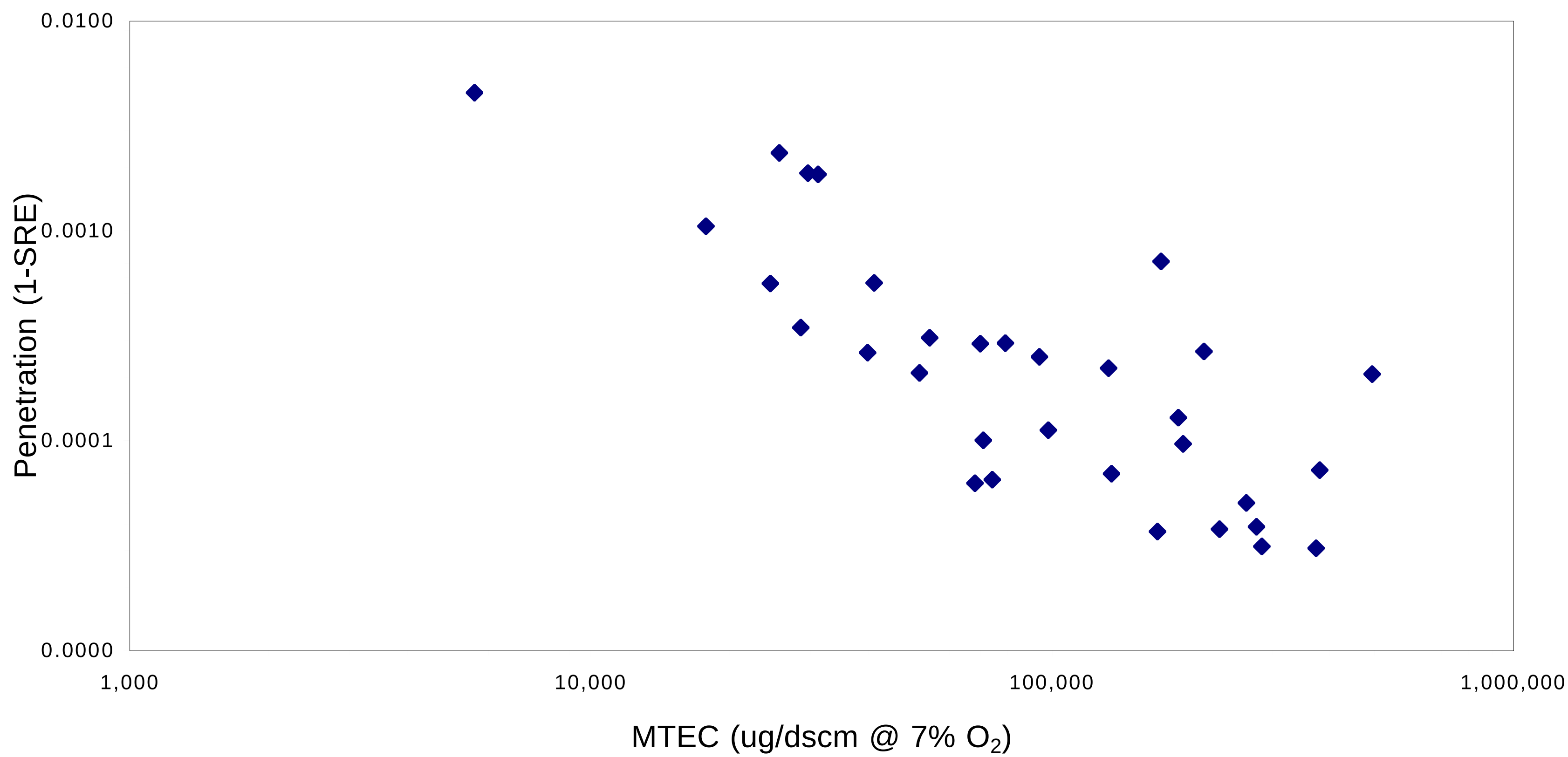

Figure 6-11. Penetration vs maximum theoretical emission concentration for 6% database MACT add-on control data (LVM; Cement Kilns)

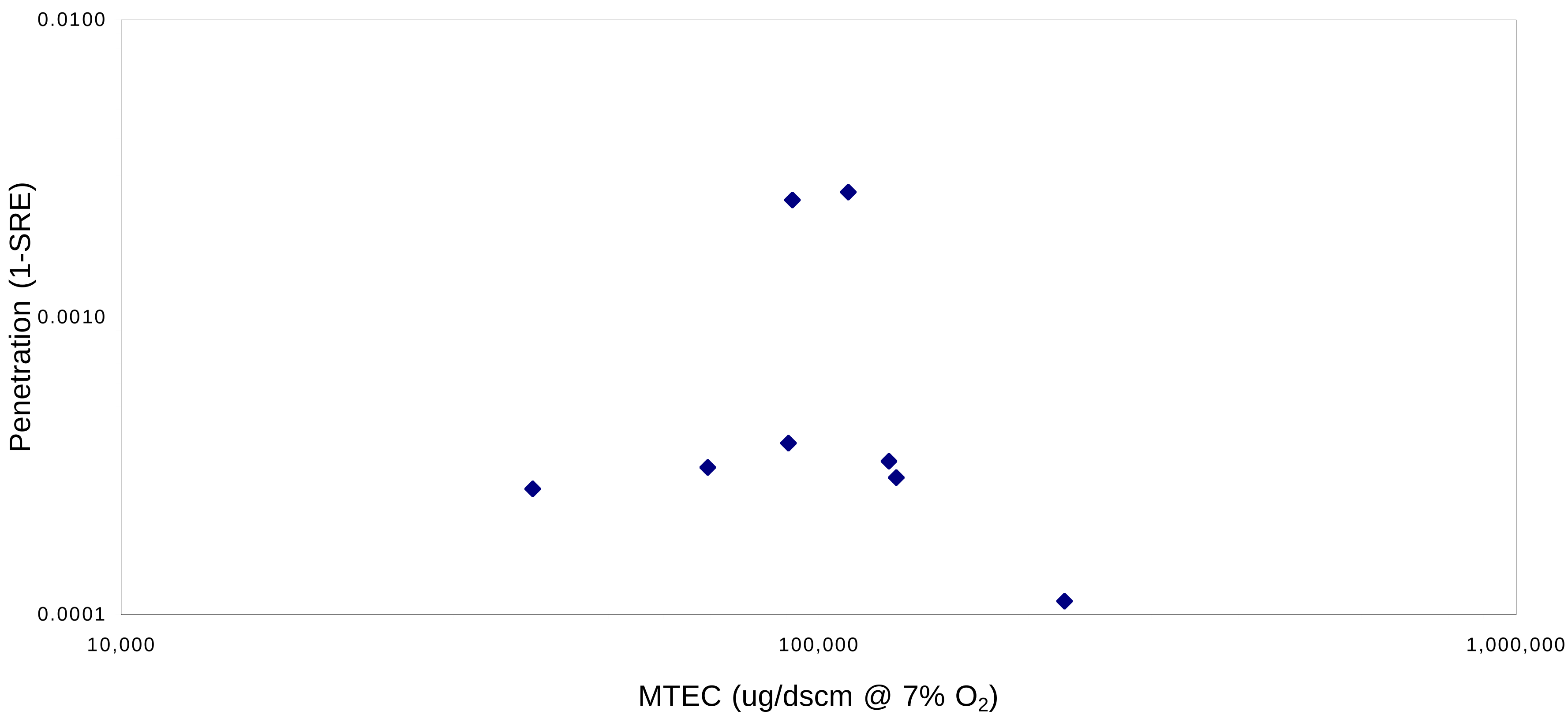

Figure 6-12. Penetration vs maximum theoretical emission concentration for 6% database MACT add-on control data (LVM; LWA Kilns)

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APPENDIX A

FLOOR DETERMINATIONS USING "12% FLOOR" PROCEDURE

MACT floor levels for existing sources are discussed using the "12% Floor" procedure (as opposed to the "6% Floor" approach presented in Section 3 of the main report) for each of the HAP (or HAP surrogate) and source category combinations. The "12% Floor" procedure is identical to the 6% procedure in all steps except:

- The MACT pool of best performing sources is based on the top 12% (or 5 if less than 30 sources in the entire universe) as opposed to the 6% Floor approach for which the MACT pool is based on the top 6% (or 3 if less than 30 sources). This potentially affects the definition of MACT (which is based on the control techniques used by the sources in the MACT pool), and the MACT EU (which is selected based on the definition of MACT).

- The statistical analysis of the MACT EU is different. For the proposed 6% Floor approach used in Section 3, the MACT standard is based on the highest emitting source in the MACT EU taking into consideration expected variability within test conditions. For the 12% Floor procedure, the MACT standard is based on the "average" source in the entire MACT EU with the consideration of variability, using a delta-lognormal methodology, discussed in more detail in Appendix C "Statistical Analysis of Hazardous Air Pollutant Concentrations from Hazardous Waste Combustors". The average level is the "design" value at which the facility needs to operate to meet the standard 99% of the time (similar to that used for the 6% Floor approach).

The discussions in the following include for each combination:

- Summary tables of all test condition stack gas emissions data from the HWC database presented in the accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base*.

- Identification of the best-performing MACT pool sources, the range of emissions levels of the best performing sources, MACT technologies used by the best performing technologies (used to define MACT), and discussion of "equivalent technologies" used to expand the definition of MACT if appropriate.

- Identification of the MACT expanded universe (EU) facilities based on the definition of MACT.

- The existing source MACT design and standard level based on the statistical analysis of the MACT EU population of source test conditions.

For a discussion of the HAP control techniques used by the existing sources and the range of emission levels for the entire source category see Section 3 of the main report.

The summary ranking tables for each of the HAP and source category combinations are used to define the MACT pool, determine the expanded universe, and screen out conditions. The tables contain the following columns of information for each test condition (row entry) from left to right across the table (similar to that used in Section 3 of the main report):

- "Subst" -- Defines the HAP of interest ("PM" stands for particulate matter, "TEQ" stands for PCDD/PCDF TEQ, "SVM" for semi-volatile metals, "LVM" for low volatility metals, "TOT CL" for total chlorine, "CO" for carbon monoxide, and "HC" for total hydrocarbons).

- "Syst Type" -- Defines the source category type ("INC" for incinerators, "CK" for cement kilns, and "LWAK" for light weight aggregate kilns).

- "EPA Cond ID" -- Defines the test condition identification number corresponding to the ID number used in the EPA HWC database. The first three digits identify the combustion source emitting point (each emitting source must have its own stack), followed by the test condition ID number (e.g., "C2" stands for test condition number 2). The test condition ID is required since some facility emitting points have a number of different test conditions for the same HAP. Three digit ID numbers for the source emitting points are cross referenced to facility name and locations in Appendix E.

- "APCS" -- Identifies the devices used in the air pollution control system. An acronyms list for the various devices is provided in Appendix D in accompanying *Technical Support Document for HWC MACT Standards, Volume II: HWC Emissions Data Base.*

- For PCDD/PCDF only, "APCS Class" -- Identifies the type of air pollution control system used. A "w" stands for wet, "d" for dry, or w/d" for wet/dry.

- For PCDD/PCDF only, "PM APCD Temp" -- This identifies the flue gas temperature at the primary PM APCD. It is used for PCDD/PCDF to define MACT.

- For total chlorine, and metals (SVM, LVM, and mercury), "MTEC" -- MTEC is used to define MACT and determine the MACT EU. The MTECs shown consider that contributed by hazardous waste only, and do not include that from the raw materials or supplemental fuels. MTECs are used in the MACT process; the calculation of MTEC is described in detail in Section 2 of this volume.

- "Stack Gas Conc" -- Stack gas emissions concentrations of the HAP of interest for the test condition. Average ("Avg") of all the individual runs (usually three) in test condition, as well as the maximum ("Max") and minimum ("Min") of the individual run levels are provided. Note that the test conditions are ranked, lowest to highest, by condition average.

- "Comments" -- Identifies for each test condition the following:

  -- "MACT source" -- Used if the condition is one of the best-performing MACT sources (in MACT pool), and is used to define MACT. The HAP control method used by the condition follows in the parenthesis.

  -- "Already MACT source" -- Used if a condition of the same facility has already been included in the MACT pool.

  -- "In" -- Used if the condition is considered as part of MACT expanded universe. The reason is included in the parenthesis.

  -- "Out" -- Used if the condition is not considered as part of the MACT EU. Reasons are given following. For example, "Not MACT" signifies that the condition does not use MACT technology; "Poor MB" signifies that the condition has a poor mass balance; "HW not burned" signifies that this is a baseline condition where hazardous wastes are not burned; "DL measurement" is used when the measurement level of the stack gas is at the analytical detection limit.

A.1 PCDD/PCDF TEQ

A.1.1 Incinerators

The MACT EU determination is similar to that presented in Section 3 using the 6% Floor. Table A-1 presents the evaluation of the MACT pool and EU. The statistical analysis of the MACT EU provides a design level of 0.12 TEQ ng/dscm and a standard of 0.25 TEQ ng/dscm.

A.1.2 Cement Kilns

The MACT EU determination is similar to that presented in Section 3 using the 6% Floor. Table A-2 presents the evaluation of the MACT pool and EU. The statistical analysis of the MACT EU provides a design level of 0.14 TEQ ng/dscm and a standard of 0.23 TEQ ng/dscm.

A.1.3 Light Weight Aggregate Kilns

The MACT floor, as explained in Section 3, is similar to that for cement kilns presented above.

A.2 PARTICULATE MATTER

A.2.1 Incinerators

Table A-3 summarizes all particulate matter (PM) test condition data from HWIs, ranked by condition average. The MACT pool is comprised of 11 sources. All MACT sources control PM to less than 0.002 gr/dscf on average. MACT is defined by the use of a variety of different PM control devices, including VSs (by themselves), FFs, ESPs, and IWSs. The MACT EU contains sources with test condition averages up to 0.08 gr/dscf. Statistical analysis of the MACT EU provided a floor design level of 0.012 gr/dscf, with a corresponding standard level of 0.024 gr/dscf. Over 50% of all existing facilities meet this standard.

A.2.2 Cement Kilns

Table A-4 summarizes all PM test condition data from CKs, ranked by condition average. The MACT pool consists of 5 sources. These sources have emissions levels below 0.01 gr/dscf on average. MACT is defined as the use of either the use of FFs with air-to-cloth ratio less than 2.3 or an ESP with an SCA of less than 434. The MACT EU contains conditions with average levels up to 0.05. Statistical analysis of the EU provides a MACT design level of 0.024 and a MACT standard of 0.043. However, as discussed in Section 3, a MACT floor level of 0.03 gr/dscf based on CK New Source Performance Standards, not the statistically-derived limit discussed above, is chosen to represent the MACT floor level. This level is achievable by about 60% of the existing hazardous waste burning CKs.

A.2.3 Light Weight Aggregate Kilns

Table A-5 summarizes all PM test condition data from LWAKs, ranked by condition average. The MACT pool consists of 5 sources. These sources have emissions levels below 0.007 gr/dscf on average. MACT is defined as the use of FFs for PM control with an air-to-cloth ratio of less than 2.8 acfm/ft^2, or the use of FFs with air-to-cloth ratio of less than 4 in conjunction with venturi scrubbing. The MACT EU contains conditions with average levels up to 0.02 gr/dscf. Statistical analysis of the EU provides a MACT design level of 0.006 gr/dscf and a corresponding MACT standard of 0.012 gr/dscf.

A.3 MERCURY

A.3.1 Incinerators

Table A-6 summarizes all mercury test condition data from HWIs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have condition average emissions levels of less than 1.4 µg/dscm. The sources use both feedrate control only and feedrate control with wet scrubbing. MACT is defined as either feedrate control with an MTEC less than 19 µg/dscm, or a wet scrubber with a feedrate control MTEC less than $1.8x10^3$. The floor design level is determined to be 5.6 µg/dscm, with a corresponding standard level of 13 µg/dscm. About 40% of conditions in the entire HWI universe currently meet this design level using feedrate with or without mercury emissions control devices (wet scrubbers).

A.3.2 Cement Kilns

Table A-7 summarizes all mercury test condition data from CKs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels of less than 17 µg/dscm. MACT is defined as feedrate control with a hazardous waste MTEC less than 108 µg/dscm. The floor design level is determined to be 21 µg/dscm, with a corresponding standard level of 32 µg/dscm. About 50% of conditions in the entire CK universe currently meet this design level.

A.3.3 Light Weight Aggregate Kilns

Table A-8 summarizes all mercury test condition data from LWAKs, ranked by condition average. Similar to CKs discussed above, the top 5 MACT pool sources utilize feedrate control. These MACT pool sources have condition average emissions levels below 15 µg/dscm. MACT is defined based on feedrate control used by the highest MACT pool source. The MACT feedrate control MTEC level is 24 µg/dscm. The MACT floor design is determined to be 17 µg/dscm, while the associated MACT standard is 32 µg/dscm. About 50% of the facilities currently meet this design level.

A.4 SEMI VOLATILE METALS

A.4.1 Incinerators

Table A-9 summarizes all SVM test condition data from HWIs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 10 µg/dscm. These sources, defining MACT, use:

- VS with an MTEC of 1.7×10^{2} µg/dscm (based on source 500C1). Any PM control device is considered as equivalent technology.

- ESP and WS combination with an MTEC of 5.8×10^{3} µg/dscm (based on source 340C1).

- VS and IWS with an MTEC of 4.9×10^{4} µg/dscm (based on source 354C1). FF as equivalent technology.

- FF and WS with an MTEC of 1.9x105 µg/dscm (based on source 209C2).

The floor design level is determined to be 22 µg/dscm, with a corresponding standard level of 53 µg/dscm. About 25% of conditions in the entire existing source universe currently meet this design level.

A.4.2 Cement Kilns

Table A-10 summarizes all SVM test condition data from CKs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 13 µg/dscm. MACT is defined as either a FF with an air-to-cloth ratio of less than 2.3 acfm/ft^2 and MTEC of less than 8.4×10^{4} µg/dscm, or an ESP with an SCA of less than 420 and an MTEC of less than $2.1x10^5$ µg/dscm. The MACT floor design level is determined to be 92 µg/dscm, with a corresponding standard level of 240 µg/dscm. About 44% of conditions in the entire universe currently meet this design level.

A.4.3 Light Weight Aggregate Kilns

Table A-11 summarizes all SVM test condition data from LWAKs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 30 µg/dscm. MACT is defined as the use of either an FF with air-to-cloth ratio less than 2.8 acfm/ft^2 and an MTEC of less than $2.7x10^5$ µg/dscm or a combination of FF and VS with the FF at an air-to-cloth ratio less than 4.4 and an MTEC less than $5.7x10^4$. The MACT floor design level is determined to be 36 µg/dscm, with a corresponding standard level of 57 µg/dscm. About 60% of conditions in the entire existing source universe currently meet this design level.

A.5 LOW VOLATILE METALS

A.5.1 Incinerators

Table A-12 summarizes all LVM test condition data from HWIs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 10 µg/dscm. These sources, defining MACT, use:

- VS with an MTEC of $1.4x10^3$ µg/dscm (based on source 500C1). Any PM control device is considered as equivalent technology.

- IWS with an MTEC of $6.2x10^3$ µg/dscm (based on source 348C1). FF is considered as equivalent technology.

- VS and IWS with an MTEC of $2.7x10^4$ µg/dscm (based on source 354C1). FF or ESP is considered as equivalent technology.

The floor design level is determined to be 28 µg/dscm, with a corresponding standard level of 61 µg/dscm. About 30% of conditions in the entire existing source universe currently meet this design level.

A.5.2 Cement Kilns

Table A-13 summarizes all LVM test condition data from CKs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 9 µg/dscm. MACT is defined as either a FF with an air-to-cloth ratio of less than 2.3 acfm/ft^2 and a MTEC of less than $4.4x10^4$ µg/dscm or an ESP with a specific collection area (SCA) greater than 350 ft^2/kacfm with an MTEC less than $2x10^5$ µg/dscm. The floor design level is determined to be 19 µg/dscm, with a corresponding standard level of 46 µg/dscm. Over 40% of conditions in the entire existing source universe currently meet this design level.

A.5.3 Light Weight Aggregate Kilns

Table A-14 summarizes all LVM test condition data from LWAKs, ranked by condition average. The MACT pool is comprised of the top 5 sources. These sources have average emissions levels less than 60 μg/dscm. MACT is defined as a FF with air-to-cloth ratio less than 3.6 acfm/ft^2 and an MTEC of less than 4.6x10^4 μg/dscm. The floor design level is determined to be 36 μg/dscm, with a corresponding standard level of 57 μg/dscm. Over half of the conditions in the entire existing source universe currently meet this design level.

A.6 TOTAL CHLORINE ($HCl + Cl_2$)

A.6.1 Incinerators

Table A-15 summarizes all total chlorine test condition data from HWIs, ranked by condition average. The top 6 MACT pool sources use wet scrubbers for chlorine control. This includes combinations of venturi and packed bed scrubbing, and hydrosonic scrubbing by itself. These MACT pool sources have condition average emissions levels below 0.4 ppmv. MACT is defined based on feedrate control used by the highest MACT pool source in combination with wet scrubbing. The MACT feedrate control MTEC level is 2.1x10^7 μg/dscm. The MACT floor design level is determined to be 8.6 ppmv, while the associated MACT standard is 23 ppmv. About 50% of all test conditions in the entire source category universe meet this design level.

A.6.2 Cement Kilns

Table A-16 summarizes all total chlorine test condition data from CKs, ranked by condition average. MACT for chlorine control in CKs is defined by chlorine feedrate control. The top 5 MACT pool sources have condition average emissions levels below 1.4 ppmv. MACT is defined based on the a chlorine feedrate MTEC of 2.2x10^6 μg/dscm. The MACT floor design level is determined to be 11 ppmv, while the associated MACT standard is 25 ppmv. About 40% of all existing source test conditions meet this design level.

A.6.3 Light Weight Aggregate Kilns

Table A-17 summarizes all total chlorine test condition data from LWAKs, ranked by condition average. The top 5 MACT pool sources use a combination of feedrate control and wet venturi scrubber as well as feedrate control alone for chlorine control. These MACT pool sources have condition average emissions levels below 1,241 ppmv. MACT is defined as either the use of wet scrubbing with a feedrate control MTEC of 1.4x10^7 or feedrate control alone with an MTEC level of 1.9x10^6 μg/dscm. The MACT floor design level is determined to be 1,300 ppmv, while the associated MACT standard is 1,800 ppmv. About 90% of all test conditions meet this design level.

A.7 TRACE ORGANIC SURROGATES

The discussion in Section 3 for CO and HC floors for the 6% analysis applies also to the 12% analysis.

A.8 SUMMARY OF 12% FLOOR LEVELS

A summary of the MACT floor design and standard levels determined based on a statistical evaluation of the MACT EU for existing sources for the 12% analysis is given in Table A-18.

TABLE A-1. PCDD/PCDF TEQ, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	INC	347C2	C/QC/VS/S/DM	w	163	0.00	0.00	0.00	MACT source (wet APCS)
D/F TEQ	INC	347C1	C/QC/VS/S/DM	w	163	0.01	0.01	0.00	Source already in MACT pool
D/F TEQ	INC	902C1	QT/VS/PT	w		0.01	0.01	0.01	MACT source (wet APCS)
D/F TEQ	INC	354C2	QC/AS/VS/DM/IWS	w		0.01	0.02	0.01	MACT source (wet APCS)
D/F TEQ	INC	706C3	QT/HS/C	w		0.01	0.01	0.01	MACT source (wet APCS)
D/F TEQ	INC	222C8	WHB/SD/ESP/Q/PBS	w/d		0.02	0.02	0.01	MACT source (dry APCS w/ ACI)
D/F TEQ	INC	502C1	WHB/QC/PBC/VS/ES	w		0.02	0.02	0.01	In: MACT EU (wet APCS)
D/F TEQ	INC	222C9	WHB/SD/ESP/Q/PBS	w/d		0.02	0.06	0.01	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	347C3	C/QC/VS/S/DM	w	164	0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	706C2	QT/HS/C	w		0.03	0.03	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	500C1	QC/VS/KOV/DM	w	192	0.03	0.03	0.03	In: MACT EU (wet APCS)
D/F TEQ	INC	222C7	WHB/SD/ESP/Q/PBS	w/d	383	0.03	0.04	0.02	In: MACT EU (dry w/ ACI)
D/F TEQ	INC	347C4	C/QC/VS/S/DM	w	161	0.04	0.04	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	500C3	QC/VS/KOV/DM	w	191	0.04	0.05	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	331C1	PT/IWS	w		0.06	0.11	0.02	In: MACT EU (wet APCS)
D/F TEQ	INC	222C5	WHB/SD/ESP/Q/PBS	w/d	383	0.07	0.10	0.04	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	222C6	WHB/SD/ESP/Q/PBS	w/d	359	0.07	0.08	0.06	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	214C1	IWS	w	105	0.10	0.19	0.04	In: MACT EU (wet APCS)
D/F TEQ	INC	221C4	SS/PT/VS	w		0.10	0.10	0.10	In: MACT EU (wet APCS)
D/F TEQ	INC	346C1	C/QC/VS/PT/DM	w	178	0.13	0.14	0.11	In: MACT EU (wet APCS)
D/F TEQ	INC	808C1	QT/PBS/ESP	w		0.15	0.18	0.13	In: MACT EU (wet APCS)
D/F TEQ	INC	1001C1	?	?		0.16	0.28	0.07	Out: Unknown APCS
D/F TEQ	INC	725C1	WS/QT	w		0.17	0.25	0.06	In: MACT EU (wet APCS)
D/F TEQ	INC	353C2	QC/VS/DM/ESP	w		0.17	0.27	0.12	In: MACT EU (wet APCS)
D/F TEQ	INC	221C2	SS/PT/VS	w		0.20	0.20	0.20	In: MACT EU (wet APCS)
D/F TEQ	INC	222C4	WHB/SD/ESP/Q/PBS	w/d	381	0.22	0.45	0.15	In: MACT EU (dry APCS w/ ACI)
D/F TEQ	INC	915C2	QC/VS/C	w		0.24	0.32	0.18	In: MACT EU (wet APCS)
D/F TEQ	INC	807C3	C/WHB/VQ/PT/HS/DM	w		0.25	0.35	0.19	In: MACT EU (wet APCS)
D/F TEQ	INC	221C1	SS/PT/VS	w		0.39	0.39	0.39	In: MACT EU (wet APCS)
D/F TEQ	INC	807C2	C/WHB/VQ/PT/HS/DM	w		0.40	0.60	0.16	In: MACT EU (wet APCS)
D/F TEQ	INC	807C1	C/WHB/VQ/PT/HS/DM	w		0.56	0.99	0.28	In: MACT EU (wet APCS)
D/F TEQ	INC	221C3	SS/PT/VS	w		0.63	0.63	0.63	In: MACT EU (wet APCS)
D/F TEQ	INC	915C3	QC/VS/C	w		0.68	0.84	0.57	In: MACT EU (wet APCS)
D/F TEQ	INC	334C1	WS/ESP/PT	w		0.69	1.23	0.34	In: MACT EU (wet APCS)

TABLE A-1. PCDD/PCDF TEQ, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm)			Comments
						Avg	Max	Min	
D/F TEQ	INC	327C4	SD/FF/WS/ESP	w/d	400	0.76	0.95	0.57	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	221C5	SS/PT/VS	w		0.78	0.78	0.78	In: MACT EU (wet APCS)
D/F TEQ	INC	222C2	WHB/SD/ESP/Q/PBS	w/d	384	1.21	1.70	0.82	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	327C5	SD/FF/WS/ESP	w/d	460	1.31	2.00	0.90	Out: Not MACT
D/F TEQ	INC	325C9	SD/FF/WS/IWS	w/d	430	2.02	2.30	1.75	Out: Not MACT
D/F TEQ	INC	325A2	SD/FF/WS/IWS	w/d	460	2.13	2.20	2.00	Out: Not MACT
D/F TEQ	INC	222C3	WHB/SD/ESP/Q/PBS	w/d	379	2.22	2.62	1.50	In: MACT EU (dry APCS < 400°F)
D/F TEQ	INC	325C8	SD/FF/WS/IWS	w/d	460	2.26	2.43	2.16	Out: Not MACT
D/F TEQ	INC	325A1	SD/FF/WS/IWS	w/d	460	2.37	2.50	2.30	Out: Not MACT
D/F TEQ	INC	334C2	WS/ESP/PT	w		3.48	4.53	2.97	In: MACT EU (wet APCS)
D/F TEQ	INC	222C1	WHB/SD/ESP/Q/PBS	w/d	411	3.61	4.86	1.88	Out: Not MACT
D/F TEQ	INC	914C1	?	?		4.39	4.39	4.39	Out: Unknown ACPS
D/F TEQ	INC	229C1	WHB/ACS/HCS/CS	w	500	4.51	11.18	1.05	In: MACT EU (wet APCS)
D/F TEQ	INC	229C2	WHB/ACS/HCS/CS	w	500	8.02	11.19	3.14	In: MACT EU (wet APCS)
D/F TEQ	INC	327C3	SD/FF/WS/ESP	w/d	457	8.50	10.90	7.15	Out: Not MACT
D/F TEQ	INC	327C2	SD/FF/WS/ESP	w/d	450	18.36	22.86	13.34	Out: Not MACT
D/F TEQ	INC	327C1	SD/FF/WS/ESP	w/d	450	20.10	27.50	10.99	Out: Not MACT
D/F TEQ	INC	330C1	QT/WS/DM	w		33.47	76.46	9.45	In: MACT EU (wet APCS)
D/F TEQ	INC	330C2	QT/WS/DM	w		38.54	73.22	3.85	In: MACT EU (wet APCS)

TABLE A-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	CK	208C1	ESP	d	409	0.00	0.01	0.00	MACT source (409°F)
D/F TEQ	CK	207C1	MC/ESP	d	418	0.02	0.02	0.02	MACT source (418°F)
D/F TEQ	CK	205C3	ESP	d	470	0.02	0.03	0.02	Out: HW not burned
D/F TEQ	CK	315C2	FF	d	403	0.02	0.02	0.02	MACT source (403°F)
D/F TEQ	LWAK	336C2	FF	d	400	0.04	0.04	0.04	MACT source (400°F)
D/F TEQ	CK	401C4	ESP	d	296	0.04	0.05	0.03	MACT source (296°F)
D/F TEQ	CK	315C1	FF	d	341	0.04	0.04	0.04	In: MACT EU
D/F TEQ	CK	402C3	ESP	d	276	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	206C4	ESP	d	530	0.04	0.06	0.03	Out: HW not burned
D/F TEQ	LWAK	336C1	FF	d	400	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	401C3	ESP	d	379	0.04	0.05	0.04	In: MACT EU
D/F TEQ	CK	316C2	FF	d	492	0.05	0.07	0.03	Out: High APCD temperature
D/F TEQ	CK	401C5	ESP	d	365	0.05	0.06	0.03	In: MACT EU
D/F TEQ	CK	322C53	ESP	d	374	0.05	0.05	0.05	In: MACT EU
D/F TEQ	CK	323C52	ESP	d	351	0.05	0.05	0.05	Out: HW not burned
D/F TEQ	CK	306C1	MC/FF	d	547	0.05	0.06	0.05	Out: High APCD temperature
D/F TEQ	CK	319C52	ESP	d	497	0.06	0.09	0.04	Out: High APCD temperature
D/F TEQ	CK	323C50	ESP	d	360	0.07	0.17	0.04	In: MACT EU
D/F TEQ	CK	322C54	ESP	d	455	0.09	0.09	0.08	Out: HW not burned
D/F TEQ	CK	320C1	FF	d	484	0.09	0.13	0.05	Out: High APCD temperature
D/F TEQ	CK	228C4	ESP	d	381	0.12	0.21	0.07	In: MACT EU
D/F TEQ	CK	319C51	ESP	d	568	0.13	0.20	0.05	Out: High APCD temperature
D/F TEQ	CK	402C4	ESP	d	350	0.13	0.15	0.11	In: MACT EU
D/F TEQ	CK	304C3	ESP	d	417	0.14	0.18	0.09	Out: HW not burned
D/F TEQ	CK	319C9	ESP	d	426	0.16	0.20	0.11	Out: High APCD temperature
D/F TEQ	CK	405C1	ESP	d	256	0.17	0.28	0.10	In: MACT EU
D/F TEQ	CK	205C4	ESP	d	470	0.20	0.37	0.05	Out: High APCD temperature
D/F TEQ	CK	319B1	ESP	d	462	0.34	0.48	0.24	Out: High APCD temperature
D/F TEQ	CK	228C3	ESP	d	459	0.37	0.57	0.21	Out: High APCD temperature
D/F TEQ	CK	322C52	ESP	d	415	0.45	0.45	0.45	In: MACT EU
D/F TEQ	CK	204C2	ESP	d	597	0.47	0.75	0.28	Out: High APCD temperature
D/F TEQ	CK	406C1	ESP	d	352	0.50	0.95	0.30	In: MACT EU
D/F TEQ	CK	316C1	FF	d	507	0.58	1.54	0.09	Out: High APCD temperature
D/F TEQ	CK	335C50	ESP	d	400	0.59	0.62	0.56	In: MACT EU

TABLE A-2. PCDD/PCDF TEQ, INDUSTRIAL KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	APCS Class	PM APCD Temp (°F)	Stack Gas Conc (ng/dscm) Avg	Max	Min	Comments
D/F TEQ	CK	319C54	ESP	d	518	0.60	0.61	0.60	Out: HW not burned
D/F TEQ	CK	319C53	ESP	d	499	0.62	1.11	0.32	Out: High APCD temperature
D/F TEQ	CK	323C51	ESP	d	400	0.79	0.91	0.67	In: MACT EU
D/F TEQ	CK	319C50	ESP	d	562	0.95	1.07	0.77	Out: High APCD temperature
D/F TEQ	CK	322C51	ESP	d	460	1.00	1.00	1.00	Out: High APCD temperature
D/F TEQ	CK	404C1	ESP	d	498	1.02	1.55	0.60	Out: High APCD temperature
D/F TEQ	CK	402C1	ESP	d	433	1.02	1.39	0.64	Out: High APCD temperature
D/F TEQ	CK	204C3	ESP	d	596	1.10	1.79	0.75	Out: HW not burned
D/F TEQ	CK	319C5	ESP	d	443	1.12	1.12	1.12	Out: High APCD temperature
D/F TEQ	CK	317C2	FF	d	505	1.13	1.16	1.06	Out: High APCD temperature
D/F TEQ	CK	317C3	FF	d	500	1.32	1.32	1.32	Out: High APCD temperature
D/F TEQ	CK	401C1	ESP	d	436	1.76	3.84	0.35	Out: High APCD temperature
D/F TEQ	CK	206C3	ESP	d	563	1.97	2.51	1.40	Out: High APCD temperature
D/F TEQ	CK	304C1	ESP	d	527	3.62	4.23	3.18	Out: High APCD temperature
D/F TEQ	CK	322C1	ESP	d	537	3.72	5.90	2.59	Out: High APCD temperature
D/F TEQ	CK	403C1	ESP	d	493	3.82	12.64	0.50	Out: High APCD temperature
D/F TEQ	CK	203C1	ESP	d	383	5.06	7.64	1.95	In: MACT EU
D/F TEQ	CK	323C1	ESP	d	490	5.18	9.39	2.56	Out: High APCD temperature
D/F TEQ	CK	322C50	ESP	d	500	5.60	8.37	3.64	Out: High APCD temperature
D/F TEQ	CK	319C7	ESP	d	474	5.79	5.79	5.79	Out: High APCD temperature
D/F TEQ	CK	319C6	ESP	d	527	7.54	9.35	5.74	Out: High APCD temperature
D/F TEQ	CK	300C2	ESP	d	608	10.97	13.20	6.63	Out: High APCD temperature
D/F TEQ	CK	319C2	ESP	d	593	19.71	25.83	14.70	Out: High APCD temperature
D/F TEQ	CK	335C1	ESP	d	718	32.42	50.52	21.82	Out: High APCD temperature
D/F TEQ	CK	305C3	ESP	d	741	49.46	62.26	29.67	Out: High APCD temperature
D/F TEQ	CK	309C1	MC/ESP	d	641	49.86	57.34	40.14	Out: High APCD temperature

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	APCS new act
PM	INC	500C4	QC/VS/KOV/DM		0.000	0.000	0.000	Out: Source category outlier
PM	INC	337C1	WHB/DA/DI/FF		0.000	0.001	0.000	MACT source (FF, A/C=3.8)
PM	INC	354C1	QC/AS/VS/DM/IWS		0.001	0.001	0.000	MACT source (VS/IWS)
PM	INC	350C2	WHB/HE/FF		0.001	0.001	0.000	Source already in MACT pool
PM	INC	347C4	C/QC/VS/S/DM		0.001	0.001	0.001	Out: HW not burned
PM	INC	350C6	WHB/HE/FF		0.001	0.001	0.001	Source already in MACT pool
PM	INC	209C2	WHB/FF/VQ/PT/DM		0.001	0.001	0.001	Source already in MACT pool
PM	INC	350C3	WHB/HE/FF		0.001	0.002	0.000	MACT source (FF, A/C=10.0)
PM	INC	350C9	WHB/HE/FF		0.001	0.001	0.000	Source already in MACT pool
PM	INC	350C5	WHB/HE/FF		0.001	0.001	0.001	Source already in MACT pool
PM	INC	350C4	WHB/HE/FF		0.001	0.001	0.001	Source already in MACT pool
PM	INC	209C1	WHB/FF/VQ/PT/DM		0.001	0.002	0.001	MACT source (FF, A/C=3.0)
PM	INC	354C2	QC/AS/VS/DM/IWS		0.001	0.002	0.000	Source already in MACT pool
PM	INC	327C3	SD/FF/WS/ESP		0.001	0.001	0.000	MACT source (FF, A/C=1.7)
PM	INC	350C8	WHB/HE/FF		0.001	0.001	0.001	Source already in MACT pool
PM	INC	349C3	QC/FF/QC/PT		0.001	0.001	0.001	MACT source (FF, A/C=3)
PM	INC	338C2	QC/FF/SS/C/HES/DM		0.001	0.002	0.001	MACT source (FF, A/C=?)
PM	INC	349C2	QC/FF/QC/PT		0.001	0.002	0.001	Source already in MACT pool
PM	INC	500C3	QC/VS/KOV/DM		0.001	0.002	0.001	MACT source (VS)
PM	INC	349C4	QC/FF/QC/PT		0.001	0.002	0.001	In: MACT EU (FF, A/C=2.4)
PM	INC	346C1	C/QC/VS/PT/DM		0.001	0.002	0.000	MACT source (VS)
PM	INC	222C5	WHB/SD/ESP/Q/PBS		0.001	0.003	0.001	MACT source (ESP)
PM	INC	341C2	DA/DI/FF/HEPA/CA		0.001	0.002	0.001	MACT source (FF)
PM	INC	726C2	QC/CS/DM/VS		0.001	0.002	0.001	In: MACT EU (VS)
PM	INC	338C1	QC/FF/SS/C/HES/DM		0.001	0.002	0.001	In: MACT EU (FF, A/C=?)
PM	INC	354C3	QC/AS/VS/DM/IWS		0.001	0.002	0.001	In: MACT EU (VS/IWS)
PM	INC	333C2	SD/FF		0.001	0.003	0.001	In: MACT EU (FF, A/C=9.9)
PM	INC	344C1	QC/VS/PT/DM		0.001	0.002	0.001	In: MACT EU (VS)
PM	INC	209C7	WHB/FF/VQ/PT/DM		0.002	0.002	0.001	In: MACT EU (FF, A/C=2.9)
PM	INC	350C1	WHB/HE/FF		0.002	0.003	0.001	In: MACT EU (FF, A/C=9.2)
PM	INC	222C6	WHB/SD/ESP/Q/PBS		0.002	0.002	0.002	In: MACT EU (ET VS)
PM	INC	327C2	SD/FF/WS/ESP		0.002	0.003	0.001	In: MACT EU (FF, A/C=1.6)
PM	INC	325C6	SD/FF/WS/IWS		0.002	0.002	0.001	In: MACT EU (FF, A/C=3.8)
PM	INC	348C1	QC/AS/IWS		0.002	0.003	0.001	In: MACT EU (ET VS)

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	APCS new act
PM	INC	344C2	QC/VS/PT/DM		0.002	0.002	0.002	In: MACT EU (ET VS)
PM	INC	327C1	SD/FF/WS/ESP		0.002	0.003	0.001	In: MACT EU (FF, A/C=1.7)
PM	INC	500C1	QC/VS/KOV/DM		0.002	0.003	0.001	In: MACT EU (ET VS)
PM	INC	222C3	WHB/SD/ESP/Q/PBS		0.002	0.003	0.001	In: MACT EU (ET VS)
PM	INC	333C1	SD/FF		0.002	0.005	0.000	In: MACT EU (FF, A/C=9.7)
PM	INC	703C2	WHB		0.002	0.003	0.001	Out: Not MACT
PM	INC	347C2	C/QC/VS/S/DM		0.003	0.003	0.003	Out: HW not burned
PM	INC	222C2	WHB/SD/ESP/Q/PBS		0.003	0.003	0.002	In: MACT EU (ET VS)
PM	INC	209C4	WHB/FF/VQ/PT/DM		0.003	0.004	0.000	In: MACT EU (FF, A/C=2.0)
PM	INC	341C1	DA/DI/FF/HEPA/CA		0.003	0.005	0.001	In: MACT EU (FF, A/C=?)
PM	INC	222C1	WHB/SD/ESP/Q/PBS		0.003	0.004	0.002	In: MACT EU (ET VS)
PM	INC	339C1	AT/PT/RJS/ESP		0.003	0.003	0.002	In: MACT EU (ET VS)
PM	INC	359C4	WHB/FF/S		0.003	0.003	0.003	In: MACT EU (FF, A/C=7.6)
PM	INC	714C4	WS		0.003	0.004	0.003	Out: Not MACT
PM	INC	904C2	?		0.003	0.004	0.003	Out: Unknown APCS
PM	INC	222C7	WHB/SD/ESP/Q/PBS		0.003	0.006	0.002	In: MACT EU (ET VS)
PM	INC	726C1	QC/CS/DM/VS		0.004	0.004	0.003	In: MACT EU (ET VS)
PM	INC	703C1	WHB		0.004	0.004	0.003	Out: Not MACT
PM	INC	325C4	SD/FF/WS/IWS		0.004	0.005	0.003	In: MACT EU (FF, A/C=3.8)
PM	INC	325C5	SD/FF/WS/IWS		0.004	0.004	0.003	In: MACT EU (FF, A/C=3.8)
PM	INC	342C1	WHB/QC/S/VS/DM		0.004	0.006	0.002	In: MACT EU (ET VS)
PM	INC	500C2	QC/VS/KOV/DM		0.004	0.005	0.002	In: MACT EU (ET VS)
PM	INC	914C1	?		0.004	0.004	0.004	Out: Unknown APCS
PM	INC	351C2	GC/C/FF		0.004	0.005	0.004	In: MACT EU (FF, A/C=2.8)
PM	INC	209C8	WHB/FF/VQ/PT/DM		0.005	0.008	0.003	In: MACT EU (FF, A/C=2.9)
PM	INC	600C2	WHB/QC/PT/IWS		0.005	0.006	0.004	In: MACT EU (ET VS)
PM	INC	325C7	SD/FF/WS/IWS		0.005	0.006	0.004	In: MACT EU (FF, A/C=3.8)
PM	INC	349C1	QC/FF/QC/PT		0.005	0.006	0.003	In: MACT EU (FF, A/C=3.1)
PM	INC	340C2	WHB/ESP/WS		0.005	0.007	0.004	In: MACT EU (ET VS)
PM	INC	351C1	GC/C/FF		0.005	0.007	0.004	In: MACT EU (FF, A/C=2.4)
PM	INC	714C3	WS		0.006	0.006	0.005	Out: Not MACT
PM	INC	400C1	SD/FF		0.006	0.008	0.005	In: MACT EU (FF, A/C=3.8)
PM	INC	824C1	QT/VS/PT/DM		0.006	0.007	0.006	In: MACT EU (ET VS)
PM	INC	209C5	WHB/FF/VQ/PT/DM		0.007	0.009	0.004	In: MACT EU (FF, A/C=2.9)

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	APCS new act
PM	INC	210C2	FF/S		0.007	0.013	0.003	In: MACT EU (FF, A/C=2.5)
PM	INC	340C1	WHB/ESP/WS		0.007	0.009	0.005	In: MACT EU (ET VS)
PM	INC	209C3	WHB/FF/VQ/PT/DM		0.008	0.012	0.003	In: MACT EU (FF, A/C=2.9)
PM	INC	331C1	PT/IWS		0.008	0.010	0.007	In: MACT EU (ET VS)
PM	INC	353C1	QC/VS/DM/ESP		0.008	0.011	0.005	In: MACT EU (ET VS)
PM	INC	210C1	FF/S		0.008	0.018	0.002	In: MACT EU (FF, A/C=3.4)
PM	INC	211C1	FF/S		0.009	0.011	0.004	In: MACT EU (FF, A/C=4.1)
PM	INC	359C5	WHB/FF/S		0.009	0.013	0.006	In: MACT EU (FF, A/C=7.1)
PM	INC	714C2	WS		0.009	0.011	0.008	Out: Not MACT
PM	INC	600C1	WHB/QC/PT/IWS		0.010	0.012	0.008	In: MACT EU (ET VS)
PM	INC	727C1	GC/C/FF		0.010	0.012	0.009	In: MACT EU (FF, A/C=2.2)
PM	INC	229C1	WHB/ACS/HCS/CS		0.010	0.012	0.009	In: MACT EU (ET VS)
PM	INC	808C2	QT/PBS/ESP		0.011	0.018	0.007	In: MACT EU (ET VS)
PM	INC	209C6	WHB/FF/VQ/PT/DM		0.011	0.017	0.005	In: MACT EU (FF, A/C=2.8)
PM	INC	347C3	C/QC/VS/S/DM		0.011	0.015	0.004	In: MACT EU (ET VS)
PM	INC	353C2	QC/VS/DM/ESP		0.011	0.013	0.010	In: MACT EU (ET VS)
PM	INC	347C1	C/QC/VS/S/DM		0.012	0.013	0.008	In: MACT EU (ET VS)
PM	INC	351C3	GC/C/FF		0.012	0.015	0.008	In: MACT EU (FF, A/C=2.5)
PM	INC	229C2	WHB/ACS/HCS/CS		0.012	0.013	0.012	In: MACT EU (ET VS)
PM	INC	221C5	SS/PT/VS		0.013	0.013	0.012	In: MACT EU (ET VS)
PM	INC	350C7	WHB/HE/FF		0.013	0.014	0.012	Out: APCS bypassed
PM	INC	904C1	?		0.013	0.015	0.011	Out: Unknown APCS
PM	INC	221C3	SS/PT/VS		0.013	0.019	0.003	In: MACT EU (ET VS)
PM	INC	324C3	?		0.014	0.037	0.004	Out: Unknown APCS
PM	INC	351C4	GC/C/FF		0.014	0.015	0.013	In: MACT EU (FF, A/C=3.3)
PM	INC	708C3	WS/ESP		0.014	0.017	0.012	In: MACT EU (ET VS)
PM	INC	359C1	WHB/FF/S		0.014	0.035	0.006	In: MACT EU (FF, A/C=5.5)
PM	INC	221C1	SS/PT/VS		0.014	0.016	0.012	In: MACT EU (ET VS)
PM	INC	221C2	SS/PT/VS		0.015	0.018	0.013	In: MACT EU (ET VS)
PM	INC	221C4	SS/PT/VS		0.015	0.020	0.011	In: MACT EU (ET VS)
PM	INC	707C3	QT/WS		0.015	0.020	0.010	Out: Not MACT
PM	INC	704C1	NONE		0.015	0.020	0.011	Out: Not MACT
PM	INC	708C1	WS/ESP		0.016	0.018	0.012	In: MACT EU (ET VS)
PM	INC	904C3	?		0.016	0.028	0.010	Out: Unknown APCS

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			APCS new act
					Avg	Max	Min	
PM	INC	710C1	QT/OS/C/S		0.017	0.018	0.015	Out: Not MACT
PM	INC	214C1	IWS		0.017	0.024	0.009	In: MACT EU (ET VS)
PM	INC	229C3	WHB/ACS/HCS/CS		0.017	0.020	0.015	In: MACT EU (ET VS)
PM	INC	229C4	WHB/ACS/HCS/CS		0.018	0.019	0.016	In: MACT EU (ET VS)
PM	INC	324C1	?		0.018	0.071	0.004	Out: Unknown APCS
PM	INC	214C3	IWS		0.019	0.020	0.018	In: MACT EU (ET VS)
PM	INC	359C2	WHB/FF/S		0.019	0.043	0.006	In: MACT EU (FF, A/C=5.7)
PM	INC	216C7	HES/WS		0.020	0.029	0.016	In: MACT EU (ET VS)
PM	INC	504C1	VS/C		0.021	0.039	0.013	In: MACT EU (ET VS)
PM	INC	902C1	QT/VS/PT		0.021	0.024	0.019	In: MACT EU (ET VS)
PM	INC	710C2	QT/OS/C/S		0.021	0.022	0.021	Out: Not MACT
PM	INC	725C1	WS/QT		0.022	0.029	0.016	Out: Not MACT
PM	INC	711C1	C/VS/AS		0.022	0.029	0.018	In: MACT EU (ET VS)
PM	INC	704C2	NONE		0.022	0.028	0.014	Out: Not MACT
PM	INC	712C2	NONE		0.022	0.027	0.020	Out: Not MACT
PM	INC	807C2	C/WHB/VQ/PT/HS/DM		0.022	0.026	0.019	In: MACT EU (ET VS)
PM	INC	702A3	QT/S/C		0.022	0.023	0.021	Out: Not MACT
PM	INC	212C1	FF/S		0.022	0.024	0.020	In: MACT EU (FF, A/C=4.1)
PM	INC	330C1	QT/WS/DM		0.023	0.026	0.016	Out: Not MACT
PM	INC	324C2	?		0.023	0.071	0.005	Out: Unknown APCS
PM	INC	915C3	QC/VS/C		0.024	0.037	0.015	In: MACT EU (ET VS)
PM	INC	357C1	QC/VS/PT/IWS		0.025	0.033	0.018	In: MACT EU (VS/IWS)
PM	INC	229C6	WHB/ACS/HCS/CS		0.026	0.026	0.025	In: MACT EU (ET VS)
PM	INC	354C4	QC/AS/VS/DM/IWS		0.026	0.037	0.017	In: MACT EU (VS/IWS)
PM	INC	358C2	QC/VS/C/CT/S/DM		0.026	0.029	0.025	In: MACT EU (ET VS)
PM	INC	701C2	VS/PT		0.026	0.027	0.024	In: MACT EU (ET VS)
PM	INC	359C3	WHB/FF/S		0.026	0.066	0.006	In: MACT EU (FF, A/C=5.7)
PM	INC	358C4	QC/VS/C/CT/S/DM		0.027	0.027	0.026	In: MACT EU (ET VS)
PM	INC	216C6	HES/WS		0.027	0.033	0.022	In: MACT EU (ET VS)
PM	INC	808C1	QT/PBS/ESP		0.027	0.060	0.009	In: MACT EU (ET VS)
PM	INC	503C1	HTHE/ LTHE/ FF		0.028	0.032	0.025	In: MACT EU (FF, A/C=5.5)
PM	INC	214C2	IWS		0.028	0.034	0.017	In: MACT EU (ET VS)
PM	INC	216C1	HES/WS		0.028	0.029	0.026	In: MACT EU (ET VS)
PM	INC	807C3	C/WHB/VQ/PT/HS/DM		0.028	0.039	0.022	In: MACT EU (ET VS)

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf) Avg	Max	Min	APCS new act
PM	INC	706C3	QT/HS/C		0.028	0.034	0.025	In: MACT EU (ET VS)
PM	INC	707C7	QT/WS		0.029	0.030	0.026	Out: Not MACT
PM	INC	503C2	HTHE/ LTHE/ FF		0.029	0.035	0.024	In: MACT EU (FF, A/C=5.2)
PM	INC	324C4	?		0.029	0.115	0.005	Out: > 0.08 gr/dscf, Unknown APCS
PM	INC	700C2	SD/RJS/VS/WS		0.030	0.033	0.028	In: MACT EU (ET VS)
PM	INC	806C2	C/VS		0.031	0.031	0.030	In: MACT EU (ET VS)
PM	INC	329C1	PT/IWS		0.031	0.037	0.027	In: MACT EU (ET VS)
PM	INC	229C5	WHB/ACS/HCS/CS		0.031	0.035	0.028	In: MACT EU (ET VS)
PM	INC	711C2	C/VS/AS		0.031	0.049	0.022	In: MACT EU (ET VS)
PM	INC	356C1	QC/AS/FN/S/DM		0.032	0.035	0.031	In: MACT EU (ET VS)
PM	INC	707A2	QT/WS		0.033	0.038	0.028	Out: Not MACT
PM	INC	358C1	QC/VS/C/CT/S/DM		0.033	0.036	0.031	In: MACT EU (ET VS)
PM	INC	216C5	HES/WS		0.033	0.041	0.027	In: MACT EU (ET VS)
PM	INC	701C1	VS/PT		0.033	0.038	0.028	In: MACT EU (ET VS)
PM	INC	707C2	QT/WS		0.034	0.036	0.030	Out: Not MACT
PM	INC	807C1	C/WHB/VQ/PT/HS/DM		0.034	0.049	0.022	In: MACT EU (ET VS)
PM	INC	714C5	WS		0.035	0.040	0.028	Out: Not MACT
PM	INC	502C1	WHB/QC/PBC/VS/ES		0.036	0.040	0.033	In: MACT EU (ET VS)
PM	INC	906C5	QT/PT		0.036	0.043	0.029	Out: Not MACT
PM	INC	707C4	QT/WS		0.037	0.038	0.036	Out: Not MACT
PM	INC	784C1	NONE		0.037	0.039	0.034	Out: Not MACT
PM	INC	712C1	NONE		0.038	0.067	0.023	Out: Not MACT
PM	INC	706C1	QT/HS/C		0.038	0.040	0.034	In: MACT EU (ET VS)
PM	INC	714C1	WS		0.038	0.044	0.032	Out: Not MACT
PM	INC	707C1	QT/WS		0.038	0.049	0.026	Out: Not MACT
PM	INC	705C2	QT/VS/ESP/PT		0.038	0.055	0.024	In: MACT EU (ET VS)
PM	INC	702A2	QT/S/C		0.042	0.051	0.028	Out: Not MACT
PM	INC	710C3	QT/OS/C/S		0.042	0.044	0.038	Out: Not MACT
PM	INC	358C3	QC/VS/C/CT/S/DM		0.043	0.045	0.041	In: MACT EU (VS)
PM	INC	711C3	C/VS/AS		0.043	0.045	0.039	In: MACT EU (VS)
PM	INC	705C1	QT/VS/ESP/PT		0.043	0.100	0.013	Out: > 0.08 gr/dscf
PM	INC	728C1	QT/PT/VS		0.044	0.045	0.043	In: MACT EU (VS)
PM	INC	784C2	NONE		0.044	0.047	0.042	Out: Not MACT
PM	INC	216C4	HES/WS		0.044	0.051	0.032	In: MACT EU (ET VS)

TABLE A-3. PM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			APCS new act
					Avg	Max	Min	
PM	INC	707C8	QT/WS		0.045	0.047	0.043	Out: Not MACT
PM	INC	707A1	QT/WS		0.046	0.049	0.043	Out: Not MACT
PM	INC	353C3	QC/VS/DM/ESP		0.047	0.049	0.045	In: MACT EU (ET VS)
PM	INC	702A1	QT/S/C		0.047	0.053	0.043	Out: Not MACT
PM	INC	708C2	WS/ESP		0.049	0.069	0.033	In: MACT EU (ET VS)
PM	INC	709C1	NONE		0.051	0.106	0.014	Out: > 0.08 gr/dscf
PM	INC	805C1	QT/QS/VS/ES/PBS		0.054	0.058	0.049	In: MACT EU (ET VS)
PM	INC	806C1	C/VS		0.056	0.064	0.044	In: MACT EU (ET VS)
PM	INC	700C1	SD/RJS/VS/WS		0.057	0.061	0.053	In: MACT EU (ET VS)
PM	INC	334C2	WS/ESP/PT		0.058	0.075	0.040	In: MACT EU (ET VS)
PM	INC	915C2	QC/VS/C		0.058	0.062	0.052	In: MACT EU (ET VS)
PM	INC	330C2	QT/WS/DM		0.059	0.063	0.057	Out: Not MACT
PM	INC	706C2	QT/HS/C		0.062	0.066	0.057	In: MACT EU (ET VS)
PM	INC	334C1	WS/ESP/PT		0.062	0.107	0.037	Out: > 0.08 gr/dscf
PM	INC	713C1	VS/PT		0.065	0.068	0.059	In: MACT EU (ET VS)
PM	INC	825C1	CCS/QC/ESP		0.065	0.080	0.030	Out: > 0.08 gr/dscf
PM	INC	906C1	QT/PT		0.066	0.093	0.048	Out: > 0.08 gr/dscf
PM	INC	701C3	VS/PT		0.069	0.078	0.060	In: MACT EU (ET VS)
PM	INC	915C4	QC/VS/C		0.071	0.076	0.066	In: MACT EU (ET VS)
PM	INC	702C7	QT/S/C		0.072	0.107	0.041	Out: > 0.08 gr/dscf
PM	INC	906C3	QT/PT		0.072	0.075	0.068	Out: Not MACT
PM	INC	915C1	QC/VS/C		0.076	0.078	0.074	In: MACT EU (ET VS)
PM	INC	359C6	WHB/FF/S		0.077	0.095	0.057	Out: > 0.08 gr/dscf
PM	INC	906C4	QT/PT		0.087	0.094	0.076	Out: > 0.08 gr/dscf
PM	INC	906C2	QT/PT		0.089	0.114	0.076	Out: > 0.08 gr/dscf
PM	INC	702C6	QT/S/C		0.090	0.104	0.081	Out: > 0.08 gr/dscf
PM	INC	702C8	QT/S/C		0.109	0.132	0.081	Out: > 0.08 gr/dscf
PM	INC	332C1	WS		0.114	0.133	0.097	Out: > 0.08 gr/dscf
PM	INC	727C2	GC/C/FF		0.157	0.216	0.100	Out: > 0.08 gr/dscf
PM	INC	702C9	QT/S/C		0.188	0.189	0.186	Out: > 0.08 gr/dscf
PM	INC	707C9	QT/WS		1.901	5.590	0.029	Out: > 0.08 gr/dscf

TABLE A-4. PM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			APCS
					Avg	Max	Min	
PM	CK	315C2	FF		0.001	0.001	0.000	MACT source (FF, A/C=1.8)
PM	CK	315C1	FF		0.001	0.001	0.001	Source already in MACT pool
PM	CK	317C3	FF		0.002	0.004	0.001	Out: HW not burned
PM	CK	317C1	FF		0.002	0.003	0.002	MACT source (FF, A/C=1.3)
PM	CK	317C2	FF		0.003	0.004	0.003	Source already in MACT pool
PM	CK	320C1	FF		0.003	0.006	0.001	MACT source (FF, A/C=2.3)
PM	CK	404C2	ESP		0.004	0.005	0.004	MACT source (ESP, SCA=580)
PM	CK	404C1	ESP		0.007	0.018	0.004	Source already in MACT pool
PM	CK	318C2	ESP		0.010	0.011	0.008	MACT source (ESP, SCA=434)
PM	CK	30151	FF		0.011	0.017	0.003	In: MACT EU (FF, A/C=1.5)
PM	CK	316C1	FF		0.011	0.012	0.010	In: MACT EU (FF, A/C=1.2)
PM	CK	316C2	FF		0.012	0.013	0.012	In: MACT EU (FF, A/C=1.2)
PM	CK	200C1	FF		0.014	0.016	0.011	Out: MACT (FF), High A/C (4)
PM	CK	203C1	ESP		0.014	0.017	0.011	Out: MACT (ESP), Low SCA (216)
PM	CK	208C1	ESP		0.014	0.015	0.012	In: MACT EU (ESP)
PM	CK	208C2	ESP		0.016	0.025	0.011	In: MACT EU (ESP)
PM	CK	306C1	MC/FF		0.016	0.023	0.012	In: MACT EU (FF, A/C=1.8)
PM	CK	207C2	MC/ESP		0.018	0.024	0.010	In: MACT EU (ESP)
PM	CK	406C1	ESP		0.019	0.026	0.015	Out: MACT (ESP), Low SCA (339)
PM	CK	322C1	ESP		0.019	0.033	0.011	Out: MACT (ESP), Low SCA (370)
PM	CK	308C1	ESP		0.021	0.024	0.016	In: MACT EU (ESP, SCA=858)
PM	CK	323C1	ESP		0.022	0.033	0.005	Out: MACT (ESP), Low SCA (238)
PM	CK	202C1	FF		0.022	0.025	0.020	In: MACT EU (FF, A/C=1.9)
PM	CK	309C2	MC/ESP		0.023	0.035	0.013	In: MACT EU (ESP)
PM	CK	206C1	ESP		0.023	0.029	0.015	In: MACT EU (ESP, SCA=500)
PM	CK	303C1	QC/FF		0.023	0.025	0.021	In: MACT EU (FF, A/C=2.2)
PM	CK	335C1	ESP		0.023	0.033	0.017	Out: MACT (ESP), Low SCA (420)
PM	CK	303C2	QC/FF		0.024	0.026	0.023	In: MACT EU (FF, A/C=2.3)
PM	CK	309C1	MC/ESP		0.026	0.029	0.022	In: MACT EU (ESP)
PM	CK	207C1	MC/ESP		0.028	0.032	0.026	In: MACT EU (ESP)
PM	CK	204C1	ESP		0.028	0.032	0.024	Out: MACT (ESP), Low SCA (350)
PM	CK	202C2	FF		0.031	0.042	0.025	In: MACT EU (FF, A/C=1.9)
PM	CK	403C2	ESP		0.031	0.039	0.016	Out: MACT (ESP), Low SCA (230)
PM	CK	402C1	ESP		0.033	0.049	0.022	Out: MACT (ESP), Low SCA (227)

TABLE A-4. PM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			APCS
					Avg	Max	Min	
PM	CK	302C1	ESP		0.034	0.060	0.020	Out: MACT (ESP), Low SCA (245)
PM	CK	405C1	ESP		0.035	0.065	0.016	In: MACT EU (ESP, SCA=460)
PM	CK	403C1	ESP		0.035	0.049	0.025	Out: MACT (ESP), Low SCA (520)
PM	CK	201C1	FF		0.036	0.109	0.008	Out: > 0.08 gr/dscf
PM	CK	319C1	ESP		0.037	0.040	0.034	In: MACT EU (ESP, SCA=1100)
PM	CK	30141	FF		0.039	0.053	0.029	In: MACT EU (FF, A/C=1.2)
PM	CK	30143	FF		0.041	0.046	0.031	In: MACT EU (FF, A/C=0.9)
PM	CK	401C4	ESP		0.041	0.051	0.030	Out: MACT (ESP), Low SCA (243)
PM	CK	401C1	ESP		0.048	0.061	0.038	Out: MACT (ESP), Low SCA (243)
PM	CK	401C3	ESP		0.049	0.053	0.042	Out: MACT (ESP), Low SCA (243)
PM	CK	30153	FF		0.050	0.078	0.004	In: MACT EU (FF, A/C=1.6)
PM	CK	205C1	ESP		0.050	0.058	0.045	In: MACT EU (ESP, SCA=570)
PM	CK	304C1	ESP		0.057	0.064	0.049	Out: MACT (ESP), Low SCA (350)
PM	CK	305C1	ESP		0.064	0.072	0.053	Out: MACT (ESP), Low SCA (342)
PM	CK	300C1	ESP		0.071	0.083	0.057	Out: > 0.08 gr/dscf
PM	CK	305C3	ESP		0.074	0.075	0.072	Out: MACT (ESP), Low SCA (342)
PM	CK	401C5	ESP		0.077	0.105	0.063	Out: > 0.08 gr/dscf
PM	CK	305C2	ESP		0.080	0.086	0.075	Out: > 0.08 gr/dscf
PM	CK	402C5	ESP		0.085	0.119	0.064	Out: > 0.08 gr/dscf
PM	CK	321C1	ESP		0.210	0.490	0.035	Out: > 0.08 gr/dscf

TABLE A-5. PM, LWAKs, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (gr/dscf)			Comments
					Avg	Max	Min	
PM	LWAK	225C1	FF		0.000	0.001	0.000	MACT source (FF, A/C=1.5)
PM	LWAK	227C1	FF		0.001	0.002	0.001	MACT source (FF, A/C=2.8)
PM	LWAK	226C1	FF		0.002	0.004	0.001	Source already in MACT pool
PM	LWAK	223C1	FF		0.004	0.008	0.002	Source already in MACT pool
PM	LWAK	224C1	FF		0.005	0.009	0.002	Source already in MACT pool
PM	LWAK	311C1	FF		0.006	0.007	0.004	MACT source (FF, A/C=1.9)
PM	LWAK	307C4	FF/VS		0.007	0.008	0.006	MACT source (FF/VS, A/C=4)
PM	LWAK	313C1	FF		0.007	0.008	0.006	MACT source (FF, A/C=1.4)
PM	LWAK	307C1	FF/VS		0.008	0.012	0.006	In: MACT EU (FF/VS)
PM	LWAK	336C1	FF		0.009	0.011	0.007	In: MACT EU (FF, A/C=?)
PM	LWAK	312C1	FF		0.010	0.018	0.005	In: MACT EU (FF, A/C=1.8)
PM	LWAK	307C2	FF/VS		0.010	0.016	0.006	In: MACT EU (FF/VS)
PM	LWAK	310C1	FF		0.018	0.026	0.013	Out: MACT (FF), High A/C
PM	LWAK	307C3	FF/VS		0.022	0.037	0.013	In: MACT EU (FF/VS)
PM	LWAK	314C1	FF		0.022	0.029	0.012	In: MACT EU (FF, A/C=1.4)

TABLE A-6. MERCURY, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	INC	221C5	SS/PT/VS	51.1	0.1	0.1	0.0	99.90	MACT source (WS w/ MTEC of 5.1e1)
Mercury	INC	221C3	SS/PT/VS	35.2	0.1	0.2	0.0	99.70	Source already in MACT pool
Mercury	INC	216C7	HES/WS		0.3	0.3	0.2		Out: No MTEC
Mercury	INC	346C1	C/QC/VS/PT/DM		0.4	0.7	0.2		Out: No MTEC
Mercury	INC	347C4	C/QC/VS/S/DM		0.5	0.5	0.5		Out: No MTEC
Mercury	INC	824C1	QT/VS/PT/DM	5.1	0.8	1.0	0.6	84.95	MACT source (WS w/ MTEC of 5.1e0)
Mercury	INC	341C2	DA/DI/FF/HEPA/CA	18.5	0.9	1.0	0.9	94.93	MACT source (FC w/ MTEC of 1.9e1)
Mercury	INC	216C5	HES/WS		1.0	1.7	0.1		Out: No MTEC
Mercury	INC	503C1	HTHE/ LTHE/ FF		1.2	1.5	0.8		Out: No MTEC
Mercury	INC	341C1	DA/DI/FF/HEPA/CA	8.6	1.3	2.2	0.9	84.26	MACT source (WS w/ MTEC of 9e1)
Mercury	INC	354C1	QC/AS/VS/DM/IWS	1861.7	1.4	3.4	0.6	99.92	MACT source (WS w/ MTEC of 1.8e3)
Mercury	INC	725C1	WS/QT		1.7	1.8	1.5		Out: No MTEC
Mercury	INC	353C1	QC/VS/DM/ESP		2.5	5.3	1.1		Out: No MTEC
Mercury	INC	209C1	WHB/FF/VQ/PT/DM	234.1	2.5	2.6	2.5	98.91	In: MACT EU (WS)
Mercury	INC	705C1	QT/VS/ESP/PT	0.1	2.8	6.1	0.4	-4963.30	Out: MACT (WS), MB problem
Mercury	INC	500C1	QC/VS/KOV/DM	106.1	2.9	3.4	2.3	97.29	In: MACT EU (WS)
Mercury	INC	209C2	WHB/FF/VQ/PT/DM	253.8	3.1	4.5	0.3	98.76	In: MACT EU (WS)
Mercury	INC	347C2	C/QC/VS/S/DM		3.4	3.4	3.4		Out: No MTEC
Mercury	INC	334C2	WS/ESP/PT	37.8	4.0	6.4	1.8	89.43	In: MACT EU (WS)
Mercury	INC	347C1	C/QC/VS/S/DM		4.1	11.3	1.5		Out: No MTEC
Mercury	INC	221C1	SS/PT/VS	8.5	4.3	5.8	1.9	48.99	In: MACT EU (WS)
Mercury	INC	330C1	QT/WS/DM	0.1	4.6	4.7	4.5	-6107.24	In: MACT EU (WS)
Mercury	INC	700C1	SD/RJS/VS/WS	9.4	4.7	6.0	3.6	50.34	In: MACT EU (WS)
Mercury	INC	807C3	C/WHB/VQ/PT/HS/DM	0.7	5.3	6.8	3.4	-638.81	In: MACT EU (WS)
Mercury	INC	330C2	QT/WS/DM	0.2	5.8	8.3	3.2	-2980.36	In: MACT EU (WS)
Mercury	INC	342C1	WHB/QC/S/VS/DM		6.2	7.7	4.4		Out: No MTEC
Mercury	INC	353C2	QC/VS/DM/ESP		6.5	7.9	5.4		Out: No MTEC
Mercury	INC	340C1	WHB/ESP/WS	182.6	7.6	9.4	5.7	95.85	In: MACT EU (WS)
Mercury	INC	334C1	WS/ESP/PT	296.9	9.9	16.0	7.3	96.68	In: MACT EU (WS)
Mercury	INC	807C1	C/WHB/VQ/PT/HS/DM	14.3	10.7	20.1	1.2	24.89	In: MACT EU (WS)
Mercury	INC	340C2	WHB/ESP/WS	135.7	12.3	13.9	10.1	90.92	In: MACT EU (WS)
Mercury	INC	347C3	C/QC/VS/S/DM		16.1	22.4	12.0		Out: No MTEC
Mercury	INC	807C2	C/WHB/VQ/PT/HS/DM	1.8	17.9	18.4	17.5	-894.48	Out: MACT (WS), MB problem
Mercury	INC	221C4	SS/PT/VS	15.4	19.2	34.7	7.3	-24.26	In: MACT EU (WS)

TABLE A-6. MERCURY, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	SRE (%)	Comments
Mercury	INC	705C2	QT/VS/ESP/PT	9.3	19.3	30.1	3.8	-107.56	Out: MACT (WS), MB problem
Mercury	INC	400C1	SD/FF	27680.5	19.4	26.4	15.7	99.93	Out: MACT (FC), High MTEC
Mercury	INC	325C7	SD/FF/WS/IWS	52.1	25.2	43.2	11.4	51.72	In: MACT EU (WS)
Mercury	INC	325C6	SD/FF/WS/IWS	95.8	27.1	30.3	22.0	71.67	In: MACT EU (WS)
Mercury	INC	221C2	SS/PT/VS	30.2	27.2	50.0	10.7	9.64	In: MACT EU (WS)
Mercury	INC	338C1	QC/FF/SS/C/HES/DM		27.7	43.3	8.2		Out: No MTEC
Mercury	INC	325C5	SD/FF/WS/IWS	263.1	30.1	44.8	19.8	88.56	In: MACT EU (WS)
Mercury	INC	214C3	IWS	3357.9	31.7	46.5	22.5	99.06	Out: MACT (WS), High MTEC
Mercury	INC	331C1	PT/IWS		38.8	52.3	18.6		Out: No MTEC
Mercury	INC	503C2	HTHE/ LTHE/ FF		42.9	94.0	4.6		Out: No MTEC
Mercury	INC	325C4	SD/FF/WS/IWS	60.1	44.4	65.6	8.4	26.17	Out: MACT (WS), Poor D/O/M (CO - 325C6/5)
Mercury	INC	216C6	HES/WS		44.6	106.3	11.9		Out: No MTEC
Mercury	INC	902C1	QT/VS/PT	32.3	47.7	54.4	42.1	-47.88	In: MACT EU (WS)
Mercury	INC	214C2	IWS	70348.9	48.8	90.3	19.2	99.93	Out: MACT (WS), High MTEC
Mercury	INC	338C2	QC/FF/SS/C/HES/DM		89.6	103.3	75.9		Out: No MTEC
Mercury	INC	806C2	C/VS		117.8	146.2	84.5		Out: No MTEC
Mercury	INC	806C1	C/VS		172.6	195.5	129.5		Out: No MTEC
Mercury	INC	325C3	SD/FF/WS/IWS		177.8	517.2	6.6		Out: No MTEC
Mercury	INC	337C1	WHB/DA/DI/FF	69.7	188.1	278.8	146.5	-170.11	Out: MACT (FC), MB problem
Mercury	INC	216C3	HES/WS		261.0	679.9	37.5		Out: No MTEC
Mercury	INC	327C2	SD/FF/WS/ESP	75.6	394.5	570.1	285.4	-421.63	Out: MACT (WS), MB problem
Mercury	INC	214C1	IWS		481.6	784.0	128.8		Out: No MTEC
Mercury	INC	327C3	SD/FF/WS/ESP	123.3	1121.5	2396.7	154.1	-809.79	Out: MACT (WS), MB problem
Mercury	INC	504C1	VS/C	2146.1	1322.7	2342.9	77.8	38.37	Out: MACT (WS), High MTEC
Mercury	INC	327C1	SD/FF/WS/ESP	477.4	1360.7	2067.9	563.9	-185.04	Out: MACT (WS), MB problem

TABLE A-7. MERCURY, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	CK	303C1	QC/FF	0	3	4	3	98.42	Out: HW not burned
Mercury	CK	404C1	ESP	28	4	7	2	89.73	MACT source (FC w/ MTEC of 2.8e1)
Mercury	CK	305C3	ESP	129872	5	7	4	100.00	Out: MB problem
Mercury	CK	201C1	FF		5	15	1		Out: No MTEC
Mercury	CK	203C1	ESP	10	6	6	6	85.58	MACT source (FC w/ MTEC of 1.1e1)
Mercury	CK	406C1	ESP	108	8	16	5	93.43	MACT source (FC w/ MTEC of 1.1e2)
Mercury	CK	200C1	FF		11	21	3		Out: No MTEC
Mercury	CK	305C1	ESP	29	16	18	13	92.88	MACT source (FC w/ MTEC of 2.9e1)
Mercury	CK	207C1	MC/ESP	6	17	22	13	84.16	MACT source (FC w/ MTEC of 6e0)
Mercury	CK	206C1	ESP	19	17	23	13	99.92	In: MACT EU (FC)
Mercury	CK	204C1	ESP	5	19	24	15	82.06	In: MACT EU (FC)
Mercury	CK	402C1	ESP	118	19	38	8	99.81	Out: MACT (FC), High MTEC
Mercury	CK	208C1	ESP	6	20	25	12	81.30	In: MACT EU (FC)
Mercury	CK	202C2	FF	7	20	22	18	64.43	In: MACT EU (FC)
Mercury	CK	405C1	ESP	153	21	26	12	87.72	Out: MACT (FC), High MTEC
Mercury	CK	205C1	ESP	10	30	37	23	48.91	In: MACT EU (FC)
Mercury	CK	401C5	ESP	47	36	50	19	37.73	In: MACT EU (FC)
Mercury	CK	304C1	ESP	9	42	52	28	56.53	In: MACT EU (FC)
Mercury	CK	309C1	MC/ESP	88	43	54	36	71.80	In: MACT EU (FC)
Mercury	CK	402C4	ESP	33	51	70	39	-12.77	In: MACT EU (FC)
Mercury	CK	319C1	ESP	5	56	59	53	25.49	In: MACT EU (FC)
Mercury	CK	335C1	ESP	25813	60	100	39	99.77	Out: MACT (FC), High MTEC
Mercury	CK	303C3	QC/FF	53	92	172	48	75.75	In: MACT EU (FC)
Mercury	CK	30152	FF	240	106	143	117	84.52	Out: MACT (FC), High MTEC
Mercury	CK	30142	FF	240	128	139	69	81.27	Out: MACT (FC), High MTEC
Mercury	CK	401C1	ESP	545	148	382	44	73.36	Out: MACT (FC), High MTEC
Mercury	CK	403C1	ESP	62	1014	1598	719	######	Out: MB problem, DL measurement
Mercury	CK	306C1	MC/FF	3339	2988	4574	1048	22.11	Out: MACT (FC), High MTEC

TABLE A-8. MERCURY, LWAKs, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			SRE (%)	Comments
					Avg	Max	Min		
Mercury	LWAK	313C1	FF	17	0	1	0	99.24	MACT source (FC w/ MTEC of 1.7e1)
Mercury	LWAK	225C1	FF	3	5	6	3	67.38	MACT source (FC w/ MTEC of 2.9e0)
Mercury	LWAK	312C1	FF	12	9	10	8	79.49	MACT source (FC w/ MTEC of 1.2e1)
Mercury	LWAK	310C1	FF	11	15	20	11	60.35	MACT source (FC w/ MTEC of 1.1e1)
Mercury	LWAK	311C1	FF	24	15	19	11	73.76	MACT source (FC w/ MTEC of 2.4e1)
Mercury	LWAK	224C1	FF	10	16	19	14	44.80	In: MACT EU (FC)
Mercury	LWAK	227C1	FF	10	17	19	16	73.24	In: MACT EU (FC)
Mercury	LWAK	314C1	FF	63	22	25	16	80.74	Out: MACT (FC), High MTEC
Mercury	LWAK	223C1	FF	17	32	34	30	30.66	In: MACT EU (FC)
Mercury	LWAK	307C1	FF/VS	2328	422	456	324	82.57	Out: MACT (FC), High MTEC
Mercury	LWAK	307C3	FF/VS	1991	472	511	431	77.15	Out: MACT (FC), High MTEC
Mercury	LWAK	307C4	FF/VS	2212	493	511	472	78.50	Out: MACT (FC), High MTEC
Mercury	LWAK	307C2	FF/VS	2142	561	760	403	74.69	Out: MACT (FC), High MTEC

TABLE A-9. SVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	325C3	SD/FF/WS/IWS		1	2	1	Out: No MTEC
SVM	INC	712C1	NONE	0	2	2	2	Out: MB Problem, Sub. > 75%
SVM	INC	354C1	QC/AS/VS/DM/IWS	48776	3	3	2	MACT source (VS/IWS w/ MTEC of 4.9e4) (FF as ET)
SVM	INC	712C2	NONE	1	3	4	2	Out: MB Problem, Sub. > 75%
SVM	INC	222C5	WHB/SD/ESP/Q/PBS		3	6	2	Out: No MTEC
SVM	INC	500C1	QC/VS/KOV/DM	168	4	5	2	MACT source (VS w/ MTEC of 1.7e2) (Any PM control as ET)
SVM	INC	347C4	C/QC/VS/S/DM		4	4	4	Out: No MTEC
SVM	INC	340C1	WHB/ESP/WS	5795	6	7	4	MACT source (ESP w/ MTEC of 5.8e3)
SVM	INC	209C2	WHB/FF/VQ/PT/DM	188533	7	8	6	MACT source (FF/VS w/ MTEC of 1.9e5)
SVM	INC	341C2	DA/DI/FF/HEPA/CA	495	10	11	10	MACT source (FF w/ MTEC of 5.0e2)
SVM	INC	209C1	WHB/FF/VQ/PT/DM	129450	11	19	6	In: MACT EU (FF)
SVM	INC	353C1	QC/VS/DM/ESP		11	12	9	Out: No MTEC
SVM	INC	347C1	C/QC/VS/S/DM		12	13	9	Out: No MTEC
SVM	INC	347C3	C/QC/VS/S/DM		13	20	8	Out: No MTEC
SVM	INC	221C2	SS/PT/VS	4666	13	23	3	Out: MACT (VS), High MTEC
SVM	INC	340C2	WHB/ESP/WS	3786	13	20	9	In: MACT EU (ESP)
SVM	INC	347C2	C/QC/VS/S/DM		14	14	14	Out: No MTEC
SVM	INC	341C1	DA/DI/FF/HEPA/CA	403	17	24	10	In: MACT EU (ET VS/IWS)
SVM	INC	342C1	WHB/QC/S/VS/DM		21	30	13	Out: No MTEC
SVM	INC	221C3	SS/PT/VS	2077	22	31	9	Out: MACT (VS), High MTEC
SVM	INC	348C1	QC/AS/IWS	904	23	54	7	In: MACT EU (ET ESP)
SVM	INC	327C2	SD/FF/WS/ESP	3798	23	55	7	In: MACT EU (ET VS/IWS)
SVM	INC	344C2	QC/VS/PT/DM		24	39	16	Out: No MTEC
SVM	INC	902C1	QT/VS/PT	240	24	25	23	Out: MACT (VS), High MTEC
SVM	INC	327C1	SD/FF/WS/ESP	11148	25	37	16	In: MACT EU (ET VS/IWS)
SVM	INC	229C1	WHB/ACS/HCS/CS	89	25	27	23	In: MACT EU (ET VS)
SVM	INC	229C3	WHB/ACS/HCS/CS	1	27	31	23	Out: MACT (ET VS), MB problem, Sub. > 85%, DL measurement
SVM	INC	338C1	QC/FF/SS/C/HES/DM		28	31	24	Out: No MTEC
SVM	INC	221C5	SS/PT/VS	1290	29	39	23	Out: MACT (VS), High MTEC
SVM	INC	338C2	QC/FF/SS/C/HES/DM		31	34	28	Out: No MTEC
SVM	INC	229C2	WHB/ACS/HCS/CS	125	35	42	25	In: MACT EU (ET VS)
SVM	INC	327C3	SD/FF/WS/ESP	10366	37	57	21	In: MACT EU (ET VS/IWS)
SVM	INC	725C1	WS/QT		37	44	29	Out: No MTEC
SVM	INC	349C3	QC/FF/QC/PT	532412	39	44	37	Out: MACT (ET VS/IWS), High MTEC

TABLE A-9. SVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	INC	824C1	QT/VS/PT/DM	375	42	63	14	Out: MACT (VS), High MTEC
SVM	INC	221C4	SS/PT/VS	443	44	71	23	Out: MACT (VS), High MTEC
SVM	INC	504C1	VS/C	14632	44	75	24	Out: MACT (VS), High MTEC
SVM	INC	807C3	C/WHB/VQ/PT/HS/DM	48240	56	77	40	Out: MACT (ET VS), High MTEC
SVM	INC	325C7	SD/FF/WS/IWS	10716	58	140	13	In: MACT EU (ET VS/IWS)
SVM	INC	229C5	WHB/ACS/HCS/CS	1	64	71	57	Out: MACT (ET VS), MB Problem
SVM	INC	229C6	WHB/ACS/HCS/CS	0	71	76	66	Out: MACT (ET VS), MB problem, Sub. > 91%, DL measurement
SVM	INC	346C1	C/QC/VS/PT/DM		89	114	63	Out: No MTEC
SVM	INC	325C4	SD/FF/WS/IWS	4884	91	163	54	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	337C1	WHB/DA/DI/FF	45856	94	148	63	In: MACT EU (ET VS/IWS)
SVM	INC	221C1	SS/PT/VS	163	101	122	78	In: MACT EU (VS)
SVM	INC	216C3	HES/WS		103	178	58	Out: No MTEC
SVM	INC	705C1	QT/VS/ESP/PT	0	116	163	66	Out: MACT (ESP), MB problem
SVM	INC	214C1	IWS		201	384	75	Out: No MTEC
SVM	INC	353C2	QC/VS/DM/ESP		210	335	128	Out: No MTEC
SVM	INC	325C6	SD/FF/WS/IWS	5805	225	472	91	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	359C4	WHB/FF/S		227	263	175	Out: No MTEC
SVM	INC	330C2	QT/WS/DM	358	244	253	235	Out: Not MACT
SVM	INC	325C5	SD/FF/WS/IWS	4360	245	366	115	Out: MACT (ET VS/IWS), Poor D/O/M (325C7)
SVM	INC	807C1	C/WHB/VQ/PT/HS/DM	174720	262	370	206	Out: MACT (ET VS), High MTEC
SVM	INC	705C2	QT/VS/ESP/PT	153	301	484	199	Out: MACT (ESP), MB problem
SVM	INC	807C2	C/WHB/VQ/PT/HS/DM	230683	312	429	233	Out: MACT (ET VS), High MTEC
SVM	INC	359C5	WHB/FF/S		332	522	191	Out: No MTEC
SVM	INC	330C1	QT/WS/DM	108	418	494	324	Out: Not MACT, MB problem
SVM	INC	806C2	C/VS		461	496	391	Out: No MTEC
SVM	INC	324C1	?		537	1532	95	Out: No MTEC
SVM	INC	806C1	C/VS		591	726	444	Out: No MTEC
SVM	INC	400C1	SD/FF	2538985	656	813	407	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	214C2	IWS	151644	689	905	328	Out: MACT (ET VS), High MTEC
SVM	INC	503C1	HTHE/ LTHE/ FF	302756	721	722	719	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	216C7	HES/WS		826	1076	404	Out: No MTEC
SVM	INC	324C4	?		838	2108	121	Out: No MTEC
SVM	INC	809C1	VS	20803	865	991	766	Out: MACT (VS), High MTEC
SVM	INC	810C1	Q/VS/PBS	56371	882	1095	522	Out: MACT (VS), High MTEC

TABLE A-9. SVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	INC	503C2	HTHE/ LTHE/ FF	68334	911	1220	694	In: MACT EU (FF)
SVM	INC	359C6	WHB/FF/S		993	1402	547	Out: No MTEC
SVM	INC	214C3	IWS	343542	1000	1322	446	Out: MACT (VS), High MTEC
SVM	INC	216C5	HES/WS		1021	1279	778	Out: No MTEC
SVM	INC	216C6	HES/WS		1045	1279	771	Out: No MTEC
SVM	INC	915C1	QC/VS/C		1284	1582	1043	Out: No MTEC
SVM	INC	502C1	WHB/QC/PBC/VS/ES		1509	2247	1016	Out: No MTEC
SVM	INC	334C2	WS/ESP/PT	566	1706	2575	952	Out: MACT (ESP), MB problem
SVM	INC	810C2	Q/VS/PBS	653523	1777	2041	1399	Out: MACT (VS), High MTEC
SVM	INC	324C2	?		3040	18083	158	Out: No MTEC
SVM	INC	331C1	PT/IWS		3465	4705	1992	Out: No MTEC
SVM	INC	334C1	WS/ESP/PT	122029	7964	13516	3413	Out: MACT (WS/ESP), High MTEC
SVM	INC	324C3	?		8262	53289	152	Out: No MTEC
SVM	INC	809C2	VS	205717	19769	23051	16802	Out: MACT (VS), High MTEC
SVM	INC	700C1	SD/RJS/VS/WS	222057	29350	37804	24633	Out: MACT (VS), High MTEC
SVM	INC	905C1	QT/VS/AS/CS	13398	29761	39956	23066	Out: MACT (VS), MB problem

TABLE A-10. SVM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
SVM	CK	320C1	FF	33453	4	7	2	MACT source (FF, A/C=2.1, w/ MTEC of 3.6e4)
SVM	CK	316C2	FF	65771	6	8	4	Source already in MACT pool
SVM	CK	316C1	FF	83491	6	7	6	MACT source (FF, A/C=1.2, w/ MTEC of 8.4e4)
SVM	CK	30142	FF	76266	9	12	6	MACT source (FF, A/C=1.3, w/ MTEC of 7.6e4)
SVM	CK	321C1	ESP	207029	11	22	5	MACT source (ESP, SCA=420, w/ MTEC of 2.1e5)
SVM	CK	303C1	QC/FF	13000	13	14	12	MACT source (FF, A/C=2.2, w/ MTEC of 1.3e4)
SVM	CK	30152	FF	76266	15	29	4	In: MACT EU (FF, A/C=1.6)
SVM	CK	306C1	MC/FF	48726	17	24	10	In: MACT EU (FF, A/C=1.8)
SVM	CK	315C2	FF	157511	18	27	14	In: MACT EU (FF, A/C=1.8)
SVM	CK	315C1	FF	163256	21	34	14	In: MACT EU (FF, A/C=1.6)
SVM	CK	317C1	FF	42728	28	30	27	In: MACT EU (FF, A/C=1.3)
SVM	CK	317C3	FF	0	29	29	29	In: MACT EU (FF, A/C=1.5)
SVM	CK	317C2	FF	42189	29	30	28	In: MACT EU (FF, A/C=1.1)
SVM	CK	403C1	ESP	127283	30	34	25	Out: MACT (ESP, SCA=230)
SVM	CK	303C3	QC/FF	26096	33	38	22	In: MACT EU (FF, A/C=2.4)
SVM	CK	404C1	ESP	60982	57	68	49	Out: MACT (ESP, SCA=230)
SVM	CK	200C1	FF	26905	62	71	41	Out: MACT (FF, A/C=4), High A/C
SVM	CK	208C2	ESP	15158	87	117	61	In: MACT EU (ESP)
SVM	CK	308C1	ESP	27457	93	107	83	In: MACT EU (ESP, SCA=858)
SVM	CK	208C1	ESP	30942	98	141	73	In: MACT EU (ESP)
SVM	CK	202C2	FF	185075	109	114	99	In: MACT EU (FF, A/C=1.5)
SVM	CK	318C2	ESP	113263	140	164	127	In: MACT EU (ESP, SCA=434)
SVM	CK	322C1	ESP	137960	151	169	135	Out: MACT (ESP, SCA=370)
SVM	CK	207C2	MC/ESP	49680	258	636	80	In: MACT EU (ESP)
SVM	CK	206C1	ESP	164386	273	318	230	In: MACT EU (ESP, SCA=504)
SVM	CK	401C1	ESP	74007	382	704	219	Out: MACT (ESP, SCA=240)
SVM	CK	204C1	ESP	212177	505	781	262	Out: MACT (ESP, SCA=350)
SVM	CK	207C1	MC/ESP	82353	507	726	312	In: MACT EU (ESP)
SVM	CK	203C1	ESP	158786	528	613	421	Out: MACT (ESP, SCA=216)
SVM	CK	309C1	MC/ESP	81002	543	748	299	In: MACT EU (ESP)
SVM	CK	304C1	ESP	140000	599	646	535	In: MACT EU (ESP)
SVM	CK	406C1	ESP	121721	662	932	437	Out: MACT (ESP), DL measurement
SVM	CK	319C1	ESP	22000	678	1148	261	In: MACT EU (ESP, SCA=1100)
SVM	CK	335C1	ESP	75279	752	933	629	In: MACT EU (ESP, SCA=420)

TABLE A-10. SVM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	CK	402C1	ESP	207994	815	1313	381	Out: MACT (ESP), High MTEC, DL measurement
SVM	CK	305C3	ESP	67136	897	1154	631	Out: MACT (ESP, SCA=342)
SVM	CK	201C1	FF	172743	924	3554	44	In: MACT EU (FF)
SVM	CK	323C1	ESP	145718	973	1340	713	Out: MACT (ESP, SCA=238)
SVM	CK	205C1	ESP	139789	1169	1512	560	Out: MACT (ESP, SCA=350)
SVM	CK	405C1	ESP	77813	1170	1912	896	Out: MACT (ESP, DL measurement)
SVM	CK	305C1	ESP	152835	1322	1698	1022	Out: MACT (ESP), DL measurement
SVM	CK	302C1	ESP	369251	1529	3030	677	Out: MACT (ESP, SCA=245), High MTEC
SVM	CK	401C5	ESP	148756	1966	4237	623	Out: MACT (ESP, SCA=245)
SVM	CK	300C2	ESP	455411	2345	4865	702	Out: MACT (ESP, SCA=360)
SVM	CK	402C4	ESP	45400	6047	6651	5512	Out: MACT (ESP, SCA=227)

TABLE A-11. SVM, LWAKs, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
SVM	LWAK	225C1	FF	270004	1	1	1	MACT source (FF, A/C=1.5, w/ MTEC of 2.7e5)
SVM	LWAK	307C4	FF/VS	53860	4	6	3	Source already in MACT pool
SVM	LWAK	224C1	FF	14691	4	5	3	MACT source (FF, A/C=1.5, w/ MTEC of 1.5e4)
SVM	LWAK	307C3	FF/VS	56984	4	7	2	MACT source (FF/VS, A/C = 4.4, w/ MTEC of 5.7e4)
SVM	LWAK	223C1	FF	731989	5	6	4	MACT source (FF, A/C=1.2, w/ MTEC of 7.3e5)
SVM	LWAK	307C2	FF/VS	51156	7	12	5	Source already in MACT pool
SVM	LWAK	307C1	FF/VS	55659	10	15	7	Source already in MACT pool
SVM	LWAK	227C1	FF	23904	31	60	12	MACT source (FF, A/C=2.8, w/ MTEC of 2.4e4)
SVM	LWAK	312C1	FF	457634	403	622	163	In: MACT EU (FF, A/C=1.8)
SVM	LWAK	310C1	FF	289	495	884	265	Out: MACT (FF, A/C=3.6), MB problem (low SRE)
SVM	LWAK	311C1	FF	374691	516	923	179	In: MACT EU (FF, A/C=1.9)
SVM	LWAK	313C1	FF	687282	663	1290	250	In: MACT EU (FF, A/C=1.4)
SVM	LWAK	314C1	FF	686565	1667	1835	1514	In: MACT EU (FF, A/C=1.4)

TABLE A-12. LVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	INC	500C1	QC/VS/KOV/DM	1.0E+03	4	4	3	MACT source (VS w/ MTEC of 1.0e3) (Any PM control as ET)
LVM	INC	348C1	QC/AS/IWS	6.2E+03	4	5	3	MACT source (IWS w/ MTEC of 6.2e3)
LVM	INC	342C1	WHB/QC/S/VS/DM		4	7	2	Out: No MTEC
LVM	INC	344C1	QC/VS/PT/DM		4	5	4	Out: No MTEC
LVM	INC	351C1	GC/C/FF		6	9	5	Out: No MTEC
LVM	INC	806C2	C/VS		7	10	6	Out: No MTEC
LVM	INC	325C3	SD/FF/WS/IWS		7	8	6	Out: No MTEC
LVM	INC	347C1	C/QC/VS/S/DM		7	9	5	Out: No MTEC
LVM	INC	351C2	GC/C/FF		8	9	4	Out: No MTEC
LVM	INC	341C2	DA/DI/FF/HEPA/CA	1.2E+03	8	8	8	MACT source (FF w/ MTEC of 1.2e3)
LVM	INC	347C2	C/QC/VS/S/DM		8	8	8	Out: No MTEC
LVM	INC	806C1	C/VS		9	11	7	Out: No MTEC
LVM	INC	902C1	QT/VS/PT	1.4E+03	10	10	9	MACT source (VS/PT w/ MTEC of 1.4e3)
LVM	INC	354C1	QC/AS/VS/DM/IWS	2.7E+04	10	10	10	MACT source (VS/IWS w/ MTEC of 2.7e4)
LVM	INC	712C2	NONE	2.7E+00	11	14	8	Out: Not MACT
LVM	INC	341C1	DA/DI/FF/HEPA/CA	7.3E+02	11	18	8	In: MACT EU (FF)
LVM	INC	340C2	WHB/ESP/WS	2.8E+04	11	12	10	Out: MACT (ET VS), High MTEC
LVM	INC	325C4	SD/FF/WS/IWS	5.7E+03	13	14	11	In: MACT EU (IWS)
LVM	INC	209C2	WHB/FF/VQ/PT/DM	2.5E+05	14	19	10	Out: MACT (ET VS), High MTEC
LVM	INC	346C1	C/QC/VS/PT/DM		15	30	5	Out: No MTEC
LVM	INC	347C4	C/QC/VS/S/DM		17	17	17	Out: No MTEC
LVM	INC	351C3	GC/C/FF		17	19	15	Out: No MTEC
LVM	INC	221C2	SS/PT/VS	1.0E+03	18	29	9	In: MACT EU (VS)
LVM	INC	327C3	SD/FF/WS/ESP	7.6E+03	20	22	18	In: MACT EU (FF ET)
LVM	INC	327C2	SD/FF/WS/ESP	4.6E+03	23	34	16	In: MACT EU (FF ET)
LVM	INC	221C3	SS/PT/VS	1.3E+04	28	41	7	Out: MACT (VS), High MTEC
LVM	INC	705C1	QT/VS/ESP/PT	6.5E-01	28	38	22	Out: MACT (VS), MB problem
LVM	INC	353C1	QC/VS/DM/ESP		29	34	19	Out: No MTEC
LVM	INC	347C3	C/QC/VS/S/DM		31	60	11	Out: No MTEC
LVM	INC	209C1	WHB/FF/VQ/PT/DM	2.2E+05	31	38	23	Out: MACT (ET VS), High MTEC
LVM	INC	325C6	SD/FF/WS/IWS	7.3E+03	34	38	32	In: MACT EU (FF ET)
LVM	INC	214C3	IWS	8.8E+04	34	51	20	Out: MACT (IWS), High MTEC
LVM	INC	327C1	SD/FF/WS/ESP	6.7E+04	38	42	32	Out: MACT (ET VS), High MTEC
LVM	INC	330C2	QT/WS/DM	5.0E+01	40	43	37	Out: Not MACT

TABLE A-12. LVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm) Avg	Max	Min	Comments
LVM	INC	229C1	WHB/ACS/HCS/CS	7.0E+02	41	48	37	In: MACT EU (VS ET)
LVM	INC	216C6	HES/WS		47	53	36	Out: No MTEC
LVM	INC	325C5	SD/FF/WS/IWS	3.2E+03	48	64	39	In: MACT EU (IWS)
LVM	INC	331C1	PT/IWS		50	64	31	Out: No MTEC
LVM	INC	725C1	WS/QT		51	62	43	Out: No MTEC
LVM	INC	216C5	HES/WS		51	59	38	Out: No MTEC
LVM	INC	221C1	SS/PT/VS	1.2E+02	53	77	38	In: MACT EU (VS)
LVM	INC	807C3	C/WHB/VQ/PT/HS/DM	2.7E+05	56	65	50	Out: Not MACT
LVM	INC	712C1	NONE	1.4E+00	56	103	30	Out: Not MACT
LVM	INC	214C2	IWS	5.7E+04	59	87	24	Out: MACT (IWS), High MTEC
LVM	INC	229C2	WHB/ACS/HCS/CS	1.4E+03	60	79	51	In: MACT EU (VS)
LVM	INC	330C1	QT/WS/DM	1.2E+01	63	67	55	Out: Not MACT
LVM	INC	502C1	WHB/QC/PBC/VS/ES	5.8E+01	65	85	34	Out: MACT (VS), MB problem
LVM	INC	229C6	WHB/ACS/HCS/CS	8.0E+02	66	81	51	In: MACT EU (VS ET)
LVM	INC	229C3	WHB/ACS/HCS/CS	2.5E+02	68	72	64	In: MACT EU (VS ET)
LVM	INC	338C2	QC/FF/SS/C/HES/DM		72	81	63	Out: No MTEC
LVM	INC	229C5	WHB/ACS/HCS/CS	5.9E+02	77	80	75	In: MACT EU (VS ET)
LVM	INC	338C1	QC/FF/SS/C/HES/DM		97	148	64	Out: No MTEC
LVM	INC	324C1	?		98	164	53	Out: No MTEC
LVM	INC	325C7	SD/FF/WS/IWS	3.9E+03	101	212	27	In: MACT EU (IWS)
LVM	INC	400C1	SD/FF	6.2E+05	102	126	70	Out: MACT (ET VS), High MTEC
LVM	INC	324C2	?		112	208	42	Out: No MTEC
LVM	INC	324C3	?		115	176	49	Out: No MTEC
LVM	INC	216C7	HES/WS		121	135	97	Out: No MTEC
LVM	INC	824C1	QT/VS/PT/DM	8.6E+03	122	146	109	Out: MACT (VS), High MTEC
LVM	INC	221C5	SS/PT/VS	9.8E+03	135	162	94	Out: MACT (VS), High MTEC
LVM	INC	221C4	SS/PT/VS	5.0E+02	145	333	45	In: MACT EU (VS)
LVM	INC	340C1	WHB/ESP/WS	3.5E+04	147	422	9	Out: MACT (ET VS), High MTEC
LVM	INC	504C1	VS/C	7.4E+04	157	300	19	Out: MACT (VS), High MTEC
LVM	INC	905C1	QT/VS/AS/CS	6.8E+03	181	197	162	Out: MACT (VS), High MTEC
LVM	INC	807C1	C/WHB/VQ/PT/HS/DM	2.4E+05	193	281	55	Out: Not MACT
LVM	INC	324C4	?		194	527	47	Out: No MTEC
LVM	INC	344C2	QC/VS/PT/DM		198	335	129	Out: No MTEC
LVM	INC	807C2	C/WHB/VQ/PT/HS/DM	3.7E+05	209	318	92	Out: Not MACT

TABLE A-12. LVM, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	INC	503C2	HTHE/ LTHE/ FF	5.4E+05	246	308	175	Out: MACT (ET VS), High MTEC
LVM	INC	337C1	WHB/DA/DI/FF	4.2E+03	261	431	167	Out: MACT (ET VS), MB problem
LVM	INC	216C3	HES/WS		269	362	157	Out: No MTEC
LVM	INC	705C2	QT/VS/ESP/PT	8.0E+02	301	491	199	Out: MACT (VS), MB problem
LVM	INC	810C1	Q/VS/PBS	5.5E+04	321	457	146	Out: MACT (VS), High MTEC
LVM	INC	214C1	IWS		339	460	198	Out: No MTEC
LVM	INC	353C2	QC/VS/DM/ESP		353	960	38	Out: No MTEC
LVM	INC	809C1	VS	5.6E+04	397	469	353	Out: MACT (VS), High MTEC
LVM	INC	334C2	WS/ESP/PT	6.8E+03	451	566	205	In: MACT EU (ET IWS)
LVM	INC	915C4	QC/VS/C		612	898	446	Out: No MTEC
LVM	INC	503C1	HTHE/ LTHE/ FF	1.9E+05	634	752	548	Out: MACT (ET VS), High MTEC
LVM	INC	700C1	SD/RJS/VS/WS	6.9E+03	721	789	668	Out: MACT (VS), High MTEC
LVM	INC	334C1	WS/ESP/PT	2.2E+04	820	2101	204	In: MACT EU (ET IWS)
LVM	INC	810C2	Q/VS/PBS	2.3E+06	836	921	758	Out: MACT (VS), High MTEC
LVM	INC	915C1	QC/VS/C		873	1037	728	Out: No MTEC
LVM	INC	359C4	WHB/FF/S		1064	1855	345	Out: No MTEC
LVM	INC	809C2	VS	1.3E+06	7224	7976	6552	Out: MACT (VS), High MTEC
LVM	INC	359C5	WHB/FF/S		10971	13042	8641	Out: No MTEC
LVM	INC	359C6	WHB/FF/S		132678	157456	96750	Out: No MTEC

TABLE A-13. LVM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	CK	320C1	FF	25210	4	5	3	MACT source (FF, A/C=2.3, w/ MTEC of 2.5e4)
LVM	CK	316C2	FF	44108	5	6	4	MACT source (FF, A/C=1.2, w/ MTEC of 4.4e4)
LVM	CK	204C1	ESP	143982	6	7	5	MACT source (ESP, SCA=350, w/ MTEC of 1.4e5)
LVM	CK	308C1	ESP	29513	7	9	5	MACT source (ESP, SCA=860, w/ MTEC of 3e4))
LVM	CK	206C1	ESP	205763	9	9	8	MACT source (ESP, SCA=504, w/ MTEC of 2e5))
LVM	CK	315C1	FF	258174	9	12	3	Out: MACT (FF), High MTEC
LVM	CK	309C1	MC/ESP	106203	9	19	5	In: MACT EU (ESP, SCA=?)
LVM	CK	208C1	ESP	15357	10	11	8	In: MACT EU (ESP, SCA=?)
LVM	CK	303C3	QC/FF	25232	10	22	4	In: MACT EU (FF, A/C=2.4)
LVM	CK	335C1	ESP	39270	11	11	11	In: MACT EU (ESP, SCA=420)
LVM	CK	315C2	FF	247408	11	11	11	Out: MACT (FF), High MTEC
LVM	CK	316C1	FF	65167	11	14	9	In: MACT EU (FF)
LVM	CK	321C1	ESP	83779	11	24	4	In: MACT EU (ESP, SCA=419)
LVM	CK	306C1	MC/FF	231592	13	15	12	Out: MACT (FF), High MTEC
LVM	CK	208C2	ESP	7115	14	26	6	In: MACT EU (ESP, SCA=?)
LVM	CK	30142	FF	23371	16	19	14	In: MACT EU (FF, A/C=1.3)
LVM	CK	30152	FF	23371	17	22	13	In: MACT EU (FF, A/C=?)
LVM	CK	205C1	ESP	171391	19	23	13	In: MACT EU (ESP, SCA=349)
LVM	CK	318C2	ESP	15678	19	23	16	In: MACT EU (ESP, SCA=434)
LVM	CK	305C3	ESP	44058	20	21	20	In: MACT EU (ESP, SCA=340)
LVM	CK	317C1	FF	39252	23	25	23	In: MACT EU (FF)
LVM	CK	317C3	FF	0	23	24	24	In: MACT EU (FF, A/C=1.5)
LVM	CK	317C2	FF	35645	24	24	23	In: MACT EU (FF)
LVM	CK	322C1	ESP	173846	24	29	16	In: MACT EU (ESP, SCA=370)
LVM	CK	303C1	QC/FF	5610	25	39	18	In: MACT EU (FF, A/C=2.3)
LVM	CK	401C5	ESP	15312	27	52	8	Out: MACT (ESP, SCA=243)
LVM	CK	302C1	ESP	264797	27	43	19	Out: MACT (ESP), High MTEC
LVM	CK	202C2	FF	120729	29	30	29	In: MACT EU (FF)
LVM	CK	203C1	ESP	47698	31	42	25	Out: MACT (ESP, SCA=220)
LVM	CK	403C1	ESP	66049	34	37	32	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	305C1	ESP	86477	38	43	34	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	402C4	ESP	16212	50	59	40	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	207C2	MC/ESP	15408	55	294	6	In: MACT EU (ESP, SCA=?)
LVM	CK	304C1	ESP	170000	57	102	27	In: MACT EU (ESP)

TABLE A-13. LVM, CEMENT KILNS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	CK	207C1	MC/ESP	16590	57	160	9	In: MACT EU (ESP, SCA=?)
LVM	CK	319C1	ESP	15400	60	73	44	In: MACT EU (ESP, SCA=1153)
LVM	CK	300C2	ESP	492419	102	197	38	Out: MACT (ESP, SCA=365), High MTEC
LVM	CK	323C1	ESP	154346	127	244	62	Out: MACT (ESP, SCA=238)
LVM	CK	404C1	ESP	167319	130	170	97	Out: MACT (ESP), DL measurement
LVM	CK	402C1	ESP	199783	162	167	155	Out: MACT (ESP), DL measurement
LVM	CK	401C1	ESP	30735	173	182	162	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	406C1	ESP	105475	184	191	180	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	405C1	ESP	176599	304	351	267	Out: MACT (ESP), DL measurement
LVM	CK	200C1	FF	354752	367	451	248	Out: MACT (FF), High MTEC, DL measurement
LVM	CK	201C1	FF	295437	520	1124	263	Out: MACT (FF), High MTEC, DL measurement

TABLE A-14. LVM, LWAKs, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (µg/dscm)			Comments
					Avg	Max	Min	
LVM	LWAK	225C1	FF	20344	10	12	9	Source already in MACT pool
LVM	LWAK	224C1	FF	36730	22	30	17	MACT source (FF, A/C=1.5, w/ MTEC of 3.7e4)
LVM	LWAK	227C1	FF	6911	25	37	18	Source already in MACT pool
LVM	LWAK	223C1	FF	33422	34	37	30	MACT source (FF, A/C=1.2, w/ MTEC of 3.3e4)
LVM	LWAK	312C1	FF	46190	37	54	22	MACT source (FF, A/C=1.8, w/ MTEC of 4.6e4)
LVM	LWAK	311C1	FF	40635	41	52	36	MACT source (FF, A/C=1.9, w/ MTEC of 4.1e4))
LVM	LWAK	310C1	FF	166	60	88	31	MACT source (FF, A/C=3.6, w/ MTEC of 1.7e2)
LVM	LWAK	307C1	FF/VS	54494	67	174	30	Out: MACT (FF, A/C=4.3), High A/C
LVM	LWAK	307C3	FF/VS	49464	122	164	81	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	307C4	FF/VS	52192	145	308	61	Out: MACT (FF, A/C=4.2), High A/C
LVM	LWAK	307C2	FF/VS	50080	206	743	13	Out: MACT (FF, A/C=4.4), High A/C
LVM	LWAK	314C1	FF	49552	227	317	162	In: MACT EU (FF, A/C=1.4)
LVM	LWAK	313C1	FF	66835	289	329	245	Out: MACT (FF, A/C=1.4), High MTEC

TABLE A-15. TOTAL CHLORINE, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	INC	347C2	C/QC/VS/S/DM		0.1	0.1	0.1		Out: No MTEC
Tot Cl	INC	358C2	QC/VS/C/CT/S/DM	1.11E+07	0.2	0.2	0.2	100.00	MACT pool (VS/S MTEC of 1.1e7)
Tot Cl	INC	338C1	QC/FF/SS/C/HES/DM		0.2	0.3	0.2		Out: No MTEC
Tot Cl	INC	342C2	WHB/QC/S/VS/DM	4.36E+06	0.3	0.3	0.2	99.99	MACT pool (VS/S w/ MTEC of 4.36e6)
Tot Cl	INC	706C3	QT/HS/C	1.73E+07	0.3	0.3	0.3	100.00	MACT pool (HS w/ MTEC of 1.7e7)
Tot Cl	INC	338C2	QC/FF/SS/C/HES/DM		0.3	0.3	0.3		Out: No MTEC
Tot Cl	INC	808C2	QT/PBS/ESP	2.09E+07	0.3	0.7	0.1	100.00	MACT pool (WS w/ MTEC of 2.1e7)
Tot Cl	INC	706C1	QT/HS/C	1.56E+07	0.4	0.5	0.2	100.00	MACT pool (WS w/ MTEC of 1.6e7)
Tot Cl	INC	354C3	QC/AS/VS/DM/IWS	1.41E+07	0.4	0.4	0.3	100.00	MACT pool (WS w/ MTEC of 1.4e7)
Tot Cl	INC	222C1	WHB/SD/ESP/Q/PBS		0.4	0.5	0.3		Out: No MTEC
Tot Cl	INC	337C2	WHB/DA/DI/FF	9.59E+04	0.4	0.5	0.3	99.37	Out: Not MACT
Tot Cl	INC	728C1	QT/PT/VS	1.83E+07	0.4	0.8	0.0	100.00	In: MACT EU (WS)
Tot Cl	INC	347C1	C/QC/VS/S/DM		0.5	1.6	0.1		Out: No MTEC
Tot Cl	INC	600C1	WHB/QC/PT/IWS	3.05E+07	0.6	0.9	0.4	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	707C7	QT/WS		0.6	0.7	0.6		Out: No MTEC
Tot Cl	INC	358C3	QC/VS/C/CT/S/DM	4.22E+07	0.6	0.8	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	327C2	SD/FF/WS/ESP		0.6	0.8	0.5		Out: No MTEC
Tot Cl	INC	808C1	QT/PBS/ESP	2.58E+07	0.7	1.1	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C1	C/VS/AS	9.09E+05	0.8	0.9	0.8	99.87	In: MACT EU (WS)
Tot Cl	INC	346C1	C/QC/VS/PT/DM		0.9	1.0	0.8		Out: No MTEC
Tot Cl	INC	348C1	QC/AS/IWS	9.85E+07	0.9	1.1	0.6	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	711C2	C/VS/AS	1.70E+05	0.9	1.0	0.8	99.21	In: MACT EU (WS)
Tot Cl	INC	706C2	QT/HS/C	1.73E+07	1.0	1.4	0.2	99.99	In: MACT EU (WS)
Tot Cl	INC	708C3	WS/ESP	5.52E+07	1.0	2.3	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	214C3	IWS	5.05E+07	1.0	1.3	0.7	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	344C2	QC/VS/PT/DM		1.1	2.2	0.1		Out: No MTEC
Tot Cl	INC	711C3	C/VS/AS	7.78E+05	1.1	1.2	1.0	99.80	In: MACT EU (WS)
Tot Cl	INC	701C2	VS/PT		1.1	2.3	0.4		Out: No MTEC
Tot Cl	INC	344C1	QC/VS/PT/DM		1.3	1.3	1.2		Out: No MTEC
Tot Cl	INC	354C4	QC/AS/VS/DM/IWS		1.3	2.2	0.6		Out: No MTEC
Tot Cl	INC	708C2	WS/ESP	6.22E+07	1.4	2.6	0.3	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	500C4	QC/VS/KOV/DM	1.54E+07	1.4	2.4	0.9	99.99	In: MACT EU (WS)
Tot Cl	INC	325C4	SD/FF/WS/IWS	1.19E+07	1.4	3.2	0.3	99.98	In: MACT EU (WS)
Tot Cl	INC	708C1	WS/ESP	8.72E+07	1.4	2.7	0.8	100.00	Out: MACT (WS), High MTEC

TABLE A-15. TOTAL CHLORINE, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	807C1	C/WHB/VQ/PT/HS/DM		1.6	1.9	1.2		Out: No MTEC
Tot Cl	INC	327C3	SD/FF/WS/ESP		1.7	3.3	0.5		Out: No MTEC
Tot Cl	INC	707C1	QT/WS		1.7	3.7	0.6		Out: No MTEC
Tot Cl	INC	347C3	C/QC/VS/S/DM		1.8	3.9	0.1		Out: No MTEC
Tot Cl	INC	359C2	WHB/FF/S	2.24E+07	1.8	2.1	1.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	341C2	DA/DI/FF/HEPA/CA	2.62E+06	1.8	2.1	1.5	99.90	Out: Not MACT
Tot Cl	INC	600C2	WHB/QC/PT/IWS	4.91E+07	1.8	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	325C8	SD/FF/WS/IWS		1.8	4.9	0.1		Out: No MTEC
Tot Cl	INC	222C6	WHB/SD/ESP/Q/PBS	2.84E+07	1.9	2.4	0.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	222C3	WHB/SD/ESP/Q/PBS		1.9	2.2	1.4		Out: No MTEC
Tot Cl	INC	214C1	IWS	2.42E+07	1.9	2.0	1.8	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	500C3	QC/VS/KOV/DM	1.85E+07	2.2	3.6	1.2	99.98	In: MACT EU (WS)
Tot Cl	INC	359C3	WHB/FF/S	1.60E+07	2.3	4.4	0.7	99.98	In: MACT EU (WS)
Tot Cl	INC	214C2	IWS	2.82E+07	2.3	3.0	2.0	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	354C2	QC/AS/VS/DM/IWS	3.33E+06	2.4	2.5	2.1	99.99	In: MACT EU (WS)
Tot Cl	INC	824C1	QT/VS/PT/DM	4.91E+06	2.4	2.7	1.8	99.93	In: MACT EU (WS)
Tot Cl	INC	209C4	WHB/FF/VQ/PT/DM	1.13E+07	2.8	3.9	0.6	99.96	In: MACT EU (WS)
Tot Cl	INC	707A2	QT/WS	7.75E+06	2.9	3.7	2.3	99.94	In: MACT EU (WS)
Tot Cl	INC	807C2	C/WHB/VQ/PT/HS/DM		3.2	3.7	2.6		Out: No MTEC
Tot Cl	INC	325C5	SD/FF/WS/IWS	1.71E+06	3.4	5.0	1.7	99.71	In: MACT EU (WS)
Tot Cl	INC	807C3	C/WHB/VQ/PT/HS/DM		3.5	3.7	3.1		Out: No MTEC
Tot Cl	INC	359C1	WHB/FF/S	2.25E+07	3.5	7.0	1.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	222C2	WHB/SD/ESP/Q/PBS		4.0	4.4	3.3		Out: No MTEC
Tot Cl	INC	825C1	CCS/QC/ESP	3.45E+07	4.0	8.4	2.1	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	700C2	SD/RJS/VS/WS	1.74E+06	4.2	5.2	3.5	99.65	In: MACT EU (WS)
Tot Cl	INC	359C4	WHB/FF/S	7.19E+06	4.3	5.7	0.0	99.91	In: MACT EU (WS)
Tot Cl	INC	358C1	QC/VS/C/CT/S/DM	4.68E+07	4.3	11.3	0.5	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	209C7	WHB/FF/VQ/PT/DM	3.36E+07	4.3	5.6	3.7	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C8	WHB/FF/VQ/PT/DM	4.81E+07	4.4	6.7	1.9	99.99	Out: MACT (WS), High MTEC
Tot Cl	INC	707C8	QT/WS		4.6	12.3	0.7		Out: No MTEC
Tot Cl	INC	902C1	QT/VS/PT	3.92E+07	4.6	6.1	2.6	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	209C5	WHB/FF/VQ/PT/DM	2.72E+07	4.7	6.5	3.3	99.97	Out: MACT (WS), High MTEC
Tot Cl	INC	347C4	C/QC/VS/S/DM		4.9	4.9	4.9		Out: No MTEC
Tot Cl	INC	504C1	VS/C	6.38E+04	5.1	11.4	0.1	89.37	In: MACT EU (WS)

TABLE A-15. TOTAL CHLORINE, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	229C3	WHB/ACS/HCS/CS	1.93E+08	5.5	7.0	4.1	100.00	Out: MACT (WS), High MTEC
Tot Cl	INC	359C5	WHB/FF/S	7.32E+06	5.6	7.0	3.6	99.89	In: MACT EU (WS)
Tot Cl	INC	209C6	WHB/FF/VQ/PT/DM	3.65E+07	5.8	6.3	5.2	99.98	Out: MACT (WS), High MTEC
Tot Cl	INC	714C4	WS	4.65E+06	6.2	7.6	3.8	99.80	In: MACT EU (WS)
Tot Cl	INC	325C6	SD/FF/WS/IWS	3.27E+06	6.4	12.8	0.3	99.71	In: MACT EU (WS)
Tot Cl	INC	341C1	DA/DI/FF/HEPA/CA	8.92E+05	6.8	17.9	1.1	98.89	Out: Not MACT
Tot Cl	INC	707A1	QT/WS		7.2	8.2	5.8		Out: No MTEC
Tot Cl	INC	701C3	VS/PT		7.2	8.0	5.9		Out: No MTEC
Tot Cl	INC	357C1	QC/VS/PT/IWS	1.05E+07	7.5	10.3	5.0	99.90	In: MACT EU (WS)
Tot Cl	INC	707C9	QT/WS	8.17E+06	7.6	13.0	4.0	99.87	In: MACT EU (WS)
Tot Cl	INC	354C1	QC/AS/VS/DM/IWS	3.51E+06	7.7	11.4	4.3	99.97	In: MACT EU (WS)
Tot Cl	INC	707C2	QT/WS	6.48E+06	7.9	10.2	3.5	99.82	In: MACT EU (WS)
Tot Cl	INC	329C1	PT/IWS	2.00E+07	8.3	15.4	3.2	99.94	In: MACT EU (WS)
Tot Cl	INC	358C4	QC/VS/C/CT/S/DM	4.39E+07	9.1	9.6	8.2	99.97	Out: MACT (WS), High MTEC
Tot Cl	INC	705C2	QT/VS/ESP/PT		9.2	10.1	8.0		Out: No MTEC
Tot Cl	INC	327C1	SD/FF/WS/ESP		9.7	12.2	7.6		Out: No MTEC
Tot Cl	INC	216C7	HES/WS		9.7	11.4	8.5		Out: No MTEC
Tot Cl	INC	805C1	QT/QS/VS/ES/PBS	3.47E+06	10.0	15.0	7.4	99.58	In: MACT EU (WS)
Tot Cl	INC	216C2	HES/WS		10.4	11.5	8.6		Out: No MTEC
Tot Cl	INC	221C3	PT		11.4	13.0	8.4		Out: No MTEC
Tot Cl	INC	339C1	AT/PT/RJS/ESP	3.56E+07	11.5	46.2	0.2	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	707C4	QT/WS	9.03E+06	11.8	13.2	10.7	99.81	In: MACT EU (WS)
Tot Cl	INC	705C1	QT/VS/ESP/PT		12.3	19.7	5.5		Out: No MTEC
Tot Cl	INC	334C1	WS/ESP/PT	4.18E+06	13.0	17.4	8.5	99.55	In: MACT EU (WS)
Tot Cl	INC	707C3	QT/WS	1.09E+07	13.0	20.4	9.2	99.83	In: MACT EU (WS)
Tot Cl	INC	340C1	WHB/ESP/WS	4.45E+06	14.0	18.9	10.3	99.54	In: MACT EU (WS)
Tot Cl	INC	221C2	PT		14.7	16.7	13.5		Out: No MTEC
Tot Cl	INC	210C1	FF/S	1.99E+07	15.7	27.7	5.9	99.89	In: MACT EU (WS)
Tot Cl	INC	221C1	PT		16.5	19.8	10.9		Out: No MTEC
Tot Cl	INC	209C1	WHB/FF/VQ/PT/DM	3.86E+07	16.6	24.6	6.5	99.94	Out: MACT (WS), High MTEC
Tot Cl	INC	502C1	WHB/QC/PBC/VS/ES	9.62E+06	19.7	35.5	1.4	99.70	In: MACT EU (WS)
Tot Cl	INC	334C2	WS/ESP/PT	9.39E+06	21.7	28.5	17.2	99.66	In: MACT EU (WS)
Tot Cl	INC	340C2	WHB/ESP/WS	2.37E+06	22.4	26.4	18.4	98.62	In: MACT EU (WS)
Tot Cl	INC	701C1	VS/PT		26.1	27.7	24.5		Out: No MTEC

TABLE A-15. TOTAL CHLORINE, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	INC	713C1	VS/PT	1.22E+05	26.9	28.4	24.5	67.93	In: MACT EU (WS)
Tot Cl	INC	500C1	QC/VS/KOV/DM	2.61E+06	28.9	51.2	1.0	98.39	In: MACT EU (WS)
Tot Cl	INC	700C1	SD/RJS/VS/WS	3.19E+06	29.6	46.4	18.8	98.65	In: MACT EU (WS)
Tot Cl	INC	714C3	WS	6.38E+06	32.0	38.7	23.6	99.27	In: MACT EU (WS)
Tot Cl	INC	359C6	WHB/FF/S	6.27E+06	32.6	34.9	29.2	99.24	In: MACT EU (WS)
Tot Cl	INC	221C4	PT		34.2	39.7	24.5		Out: No MTEC
Tot Cl	INC	209C3	WHB/FF/VQ/PT/DM	1.04E+07	35.3	42.0	30.8	99.50	In: MACT EU (WS)
Tot Cl	INC	211C1	FF/S	2.55E+07	37.7	48.3	27.9	99.78	Out: MACT (WS), High MTEC
Tot Cl	INC	325C7	SD/FF/WS/IWS	8.71E+06	39.3	101.1	4.0	99.34	In: MACT EU (WS)
Tot Cl	INC	221C5	PT		39.7	42.9	38.1		Out: No MTEC
Tot Cl	INC	906C2	QT/PT	4.82E+06	44.1	64.4	16.0	98.67	In: MACT EU (WS)
Tot Cl	INC	806C1	C/VS		45.3	47.0	43.6		Out: No MTEC
Tot Cl	INC	333C1	SD/FF	8.57E+06	48.6	59.1	33.7	99.17	Out: Not MACT
Tot Cl	INC	806C2	C/VS	9.51E+02	52.2	72.7	33.1	-4147.19	In: MACT EU (WS)
Tot Cl	INC	210C2	FF/S	1.81E+07	54.1	62.8	45.0	99.56	In: MACT EU (WS)
Tot Cl	INC	229C6	WHB/ACS/HCS/CS	2.17E+08	54.4	56.0	52.8	99.96	Out: MACT (WS), High MTEC
Tot Cl	INC	330C1	QT/WS/DM		55.8	77.2	31.9		Out: No MTEC
Tot Cl	INC	333C2	SD/FF	1.31E+07	59.0	83.0	20.1	99.35	Out: Not MACT
Tot Cl	INC	332C1	WS	3.84E+07	64.8	86.1	36.3	99.75	Out: MACT (WS), High MTEC
Tot Cl	INC	714C2	WS	7.34E+06	70.3	81.4	63.7	98.61	In: MACT EU (WS)
Tot Cl	INC	714C1	WS	1.04E+07	70.4	76.3	67.0	99.01	In: MACT EU (WS)
Tot Cl	INC	725C1	WS/QT		75.2	95.1	65.1		Out: No MTEC
Tot Cl	INC	229C5	WHB/ACS/HCS/CS	2.58E+08	96.8	108.6	85.1	99.95	Out: MACT (WS), High MTEC
Tot Cl	INC	337C1	WHB/DA/DI/FF		99.3	111.4	91.4		Out: No MTEC, Not MACT
Tot Cl	INC	229C1	WHB/ACS/HCS/CS	1.54E+08	102.0	126.4	78.1	99.90	Out: MACT (WS), High MTEC
Tot Cl	INC	209C2	WHB/FF/VQ/PT/DM	4.04E+07	106.5	142.9	78.4	99.62	Out: MACT (WS), High MTEC
Tot Cl	INC	212C1	FF/S	3.31E+07	133.9	249.6	64.2	99.41	Out: MACT (WS), High MTEC
Tot Cl	INC	906C1	QT/PT	6.22E+07	134.3	143.7	117.3	99.69	Out: MACT (WS), High MTEC
Tot Cl	INC	714C5	WS	1.27E+07	135.6	212.2	94.2	98.44	Out: MACT (WS), Poor D/O/M (714C4)
Tot Cl	INC	500C2	QC/VS/KOV/DM	1.26E+07	139.3	343.2	2.2	98.39	Out: MACT (WS), Poor D/O/M (500C4)
Tot Cl	INC	906C3	QT/PT	5.27E+07	159.4	179.6	126.7	99.56	Out: MACT (WS), High MTEC
Tot Cl	INC	229C4	WHB/ACS/HCS/CS	1.86E+08	159.8	271.4	48.2	99.87	Out: MACT (WS), High MTEC
Tot Cl	INC	324C4	?		163.2	668.6	2.9		Out: No MTEC, Unknown APCS
Tot Cl	INC	704C1	NONE	9.45E+07	163.7	178.1	155.5	99.75	Out: MACT (WS), High MTEC

TABLE A-15. TOTAL CHLORINE, INCINERATORS, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	INC	725C2	WS/QT		164.7	177.6	140.2		Out: No MTEC
Tot Cl	INC	906C5	QT/PT	7.94E+07	188.3	205.1	172.0	99.65	Out: MACT (WS), High MTEC
Tot Cl	INC	324C3	?		192.6	622.8	4.2		Out: No MTEC
Tot Cl	INC	324C1	?		200.9	550.4	7.5		Out: No MTEC
Tot Cl	INC	704C2	NONE	1.14E+08	214.3	274.3	167.2	99.73	Out: Not MACT
Tot Cl	INC	324C2	?		215.1	560.2	7.8		Out: No MTEC
Tot Cl	INC	229C2	WHB/ACS/HCS/CS	1.96E+08	218.1	318.4	154.4	99.84	Out: MACT (WS), High MTEC
Tot Cl	INC	914C1	?	1.77E+07	227.1	273.4	202.3	98.13	Out: Unknown APCS
Tot Cl	INC	906C4	QT/PT	6.57E+07	252.7	344.8	175.5	99.44	Out: MACT (WS), High MTEC
Tot Cl	INC	703C1	WHB	5.41E+05	325.5	376.4	247.8	12.48	Out: Not MACT
Tot Cl	INC	710C3	QT/OS/C/S	4.52E+07	346.8	353.9	341.5	98.88	Out: MACT (WS), High MTEC
Tot Cl	INC	710C1	QT/OS/C/S	6.52E+07	355.5	381.7	306.3	99.21	Out: MACT (WS), High MTEC
Tot Cl	INC	703C2	WHB	4.87E+05	378.1	445.2	260.7	-13.00	Out: Not MACT
Tot Cl	INC	710C2	QT/OS/C/S	4.91E+07	439.6	483.1	382.8	98.70	Out: MACT (WS), High MTEC
Tot Cl	INC	784C1	NONE		1012.3	1061.3	963.5		Out: No MTEC, Not MACT
Tot Cl	INC	784C2	NONE		1067.9	1119.8	974.5		Out: No MTEC, Not MACT

TABLE A-16. TOTAL CHLORINE, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	CK	204C2	ESP	1623198	0.1	0.1	0.1	99.99	MACT pool (FC w/ MTEC of 1.6e6)
Tot Cl	CK	304C2	ESP		0.4	0.6	0.2		Out: No MTEC
Tot Cl	CK	30141	FF	1173310	0.4	0.6	0.3	99.96	MACT pool (FC w/ MTEC of 1.2e6)
Tot Cl	CK	403C1	ESP	1600315	0.7	1.6	0.2	99.95	MACT pool (FC w/ MTEC of 1.6e6)
Tot Cl	CK	30151	FF	1173310	0.7	1.0	0.3	99.93	Already in MACT pool
Tot Cl	CK	403C2	ESP	2145033	0.9	1.1	0.8	99.95	MACT pool (FC w/ MTEC of 2.2e6)
Tot Cl	CK	315C1	FF	474426	1.4	1.7	1.1	99.71	MACT pool (FC w/ MTEC of 4.7e5)
Tot Cl	CK	202C1	FF	300489	1.7	2.5	1.2	99.77	In: MACT EU (FC)
Tot Cl	CK	303C1	QC/FF	0	2.0	3.1	1.2	98.99	In: MACT EU (FC)
Tot Cl	CK	315C2	FF	390116	2.7	2.8	2.6	99.38	In: MACT EU (FC)
Tot Cl	CK	317C1	FF	123778	2.9	3.5	2.2	98.58	In: MACT EU (FC)
Tot Cl	CK	306C1	MC/FF	738535	2.9	3.9	2.3	99.46	In: MACT EU (FC)
Tot Cl	CK	405C1	ESP	1643118	3.2	4.0	2.6	99.81	In: MACT EU (FC)
Tot Cl	CK	317C2	FF	258946	3.7	5.6	2.2	99.11	In: MACT EU (FC)
Tot Cl	CK	208C1	ESP	425585	4.5	6.2	2.9	98.96	In: MACT EU (FC)
Tot Cl	CK	207C1	MC/ESP	736365	4.9	5.3	4.5	99.26	In: MACT EU (FC)
Tot Cl	CK	308C1	ESP	778873	5.6	6.3	4.4	99.19	In: MACT EU (FC)
Tot Cl	CK	320C1	FF	334170	5.9	9.2	3.9	98.08	In: MACT EU (FC)
Tot Cl	CK	317C3	FF	0	7.0	7.8	6.0	94.79	In: MACT EU (FC)
Tot Cl	CK	321C1	ESP	1123822	9.5	12.0	6.9	99.10	In: MACT EU (FC)
Tot Cl	CK	302C1	ESP	2187394	10.2	11.0	9.8	99.36	Out: MACT (FC), High MTEC
Tot Cl	CK	401C5	ESP	1858356	10.4	14.9	6.9	99.37	In: MACT EU (FC)
Tot Cl	CK	205C1	ESP	546972	16.6	20.2	13.5	96.05	In: MACT EU (FC)
Tot Cl	CK	200C1	FF	3238628	18.2	24.1	15.3	99.19	Out: MACT (FC), High MTEC
Tot Cl	CK	201C1	FF	3019743	20.1	24.9	16.6	99.04	Out: MACT (FC), High MTEC
Tot Cl	CK	402C1	ESP	2789198	21.6	41.9	6.7	99.05	Out: MACT (FC), High MTEC
Tot Cl	CK	402C4	ESP	2824189	22.0	31.7	14.2	99.07	Out: MACT (FC), High MTEC
Tot Cl	CK	316C2	FF	440198	22.2	25.0	20.5	96.03	In: MACT EU (FC)
Tot Cl	CK	322C1	ESP	3069875	22.6	27.5	18.4	98.96	Out: MACT (FC), High MTEC
Tot Cl	CK	319C2	ESP		27.1	29.2	25.6		Out: No MTEC
Tot Cl	CK	305C3	ESP	472114	28.4	30.2	25.9	93.10	In: MACT EU (FC)
Tot Cl	CK	202C2	FF	853544	31.1	46.6	14.2	97.73	In: MACT EU (FC)
Tot Cl	CK	300C1	ESP	2214874	33.8	43.7	23.8	97.81	Out: MACT (FC), High MTEC
Tot Cl	CK	316C1	FF	695311	35.1	36.9	33.5	95.34	In: MACT EU (FC)

TABLE A-16. TOTAL CHLORINE, CEMENT KILNS, NEW SOURCE MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv) Avg	Max	Min	SRE (%)	Comments
Tot Cl	CK	309C1	MC/ESP	1025758	35.7	44.1	24.1	95.23	In: MACT EU (FC)
Tot Cl	CK	303C2	QC/FF	1257091	36.0	96.8	5.3	96.71	In: MACT EU (FC)
Tot Cl	CK	401C1	ESP	3673829	36.2	47.4	22.4	98.76	Out: MACT (FC), High MTEC
Tot Cl	CK	319C8	ESP	197381	42.4	42.4	42.4	84.36	In: MACT EU (FC)
Tot Cl	CK	319C7	ESP		42.5	53.5	31.4		Out: No MTEC
Tot Cl	CK	406C1	ESP	823050	42.8	121.9	4.6	96.41	In: MACT EU (FC)
Tot Cl	CK	318C2	ESP		50.6	62.5	42.5		Out: No MTEC
Tot Cl	CK	319C4	ESP		51.1	57.2	39.3		Out: No MTEC
Tot Cl	CK	318C1	ESP	739756	51.3	63.9	41.7	91.71	In: MACT EU (FC)
Tot Cl	CK	404C2	ESP	2085052	56.8	66.5	49.6	96.89	In: MACT EU (FC)
Tot Cl	CK	309C2	MC/ESP	1003736	57.0	83.5	31.6	92.27	In: MACT EU (FC)
Tot Cl	CK	323C1	ESP	3649388	71.9	101.1	31.4	97.19	Out: MACT (FC), High MTEC
Tot Cl	CK	404C1	ESP	1646409	76.6	105.7	20.5	94.75	In: MACT EU (FC)
Tot Cl	CK	206C1	ESP	983390	81.2	148.2	15.1	89.09	In: MACT EU (FC)
Tot Cl	CK	203C1	ESP	1334596	117.2	128.7	96.4	87.29	In: MACT EU (FC)
Tot Cl	CK	335C1	ESP	644562	121.9	150.9	102.6	77.97	In: MACT EU (FC)
Tot Cl	CK	305C1	ESP	1237797	157.2	185.6	105.9	94.79	In: MACT EU (FC)
Tot Cl	CK	319C6	ESP	829955	220.8	227.2	214.5	61.27	In: MACT EU (FC)

TABLE A-17. TOTAL CHLORINE, LWAKs, 12% MACT FLOOR ANALYSIS

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Stack Gas Conc (ppmv)			SRE (%)	Comments
					Avg	Max	Min		
Tot Cl	LWAK	307C3	FF/VS	7699496	13	15	11	99.75	Source already in MACT pool
Tot Cl	LWAK	307C2	FF/VS	13945545	26	33	20	99.73	MACT pool (VS w/ MTEC of 1.4e7)
Tot Cl	LWAK	224C1	FF	853320	29	83	2	95.12	Out: MB problem
Tot Cl	LWAK	307C4	FF/VS	12158726	31	38	26	99.63	Source already in MACT pool
Tot Cl	LWAK	307C1	FF/VS	3309746	42	95	22	98.17	Source already in MACT pool
Tot Cl	LWAK	225C1	FF	838545	641	753	567	-10.55	MACT pool (FC w/ MTEC of 8.4e5)
Tot Cl	LWAK	314C1	FF	1539260	853	921	815	33.74	MACT pool (FC w/ MTEC of 1.5e6)
Tot Cl	LWAK	310C1	FF	765771	1199	1235	1160	-68.03	MACT pool (FC w/ MTEC of 7.6e5)
Tot Cl	LWAK	312C1	FF	1907626	1241	1342	1071	18.59	MACT pool (FC w/ MTEC of 1.9e6)
Tot Cl	LWAK	311C1	FF	901527	1258	1353	1185	-47.23	In: MACT EU (FC)
Tot Cl	LWAK	227C1	FF	676245	1347	1522	1000	-71.64	In: MACT EU (FC)
Tot Cl	LWAK	313C1	FF	2095927	1509	1573	1420	7.81	Out: MACT (FC), High MTEC
Tot Cl	LWAK	223C1	FF	2395327	2079	2317	1755	-25.75	Out: MACT (FC), High MTEC

TABLE A-18. SUMMARY OF 12% MACT FLOOR FOR EXISTING SOURCES
(BASED ON STATISTICAL EVALUATION OF MACT EU)

HAP	Units	Incinerators		Cement Kilns		LWA Kilns	
		Stnd	Design	Stnd	Design	Stnd	Design
PCDD/PCDF	TEQ ng/dscm	0.25	0.12	0.23	0.14	0.23	0.14
Mercury	µg/dscm	13	5.6	32	21	32	17
Semi Volatile Metals	µg/dscm	53	22	240	92	61	29
Low Volatile Metals	µg/dscm	61	28	46	19	57	36
Particulate Matter	gr/dscf	0.024	0.012	0.043	0.024	0.012	0.006
Total Chlorine	ppmv	23	9	25	11	1800	1300
CO	ppmv	120	52	n/a	n/a	270	120
THC	ppmv	12	6.1	m : 20* b : 6.7 or CO 100	m : 10 b : 5.1 or CO 100	14	6.5

m : cement kiln main stack
b : cement kiln bypass stack
* : Based on current RCRA standard

APPENDIX B

ORIGINAL 6% FLOOR OPTION

In the process of arriving at the proposed MACT "6% Floor" procedure described in detail in the main body of this report for evaluating MACT for existing sources, an earlier methodology and resulting floor levels were considered; cost analysis for these floors are presented in Volume V. The rationale and procedure at arriving at these floors is described in the following. The procedure is very similar to that described above "6% Floor", with the following differences:

- Source test conditions are ranked by condition median, not by condition average, as done in the proposed 6% Floor approach.

- Full MTECs used, based on contributions from all feedstream, not just hazardous waste as done in the proposed approach.

- HCl and Cl_2 were considered separately, not combined in a total chlorine group as in the proposed approach.

- No PCDD/PCDF floor was set (only a beyond-the-level was considered).

- Cement kiln bypass CO or HC levels were not considered.

- The statistical analysis procedure to determine the floor was not used. Instead, the MACT EU set of conditions were plotted; floor levels were selected based on these plots. Floor levels were either set at the median level of the highest emitting source condition or at a level where a "break" in the EU plot occurred. Facilities emtting above this breakpoint source are not believed to be using MACT technology. Note that test condition variability was not considered (i.e., variance was not added on to the highest emitting or breakpoint source average).

- For mercury, when stack gas emissions were not available but feedrate measurements were available, feedrate MTEC converted emissions levels were used as the stack gas emissions level (assuming that all feedrate mercury partitions to the stack as emissions, which for mercury makes sense due to its high volatility).

Similar to that in Sections 3 and 4 and Appendix A for the 6% and 12% floor analyses, for each HAP and source category combination, summary tables of all test condition stack gas emissions data from the HWC database (presented in the accompanying *Technical Support Document for*

HWC MACT Standards, Volume II: HWC Emissions Data Base) are provided in Tables B-1 through B-18. Additionally, plots of all of the MACT pool and expanded universe facilities are shown in Figures B-1 through B-18. A summary of the MACT floor levels for the "Original 6% Option" are given in Table B-19.

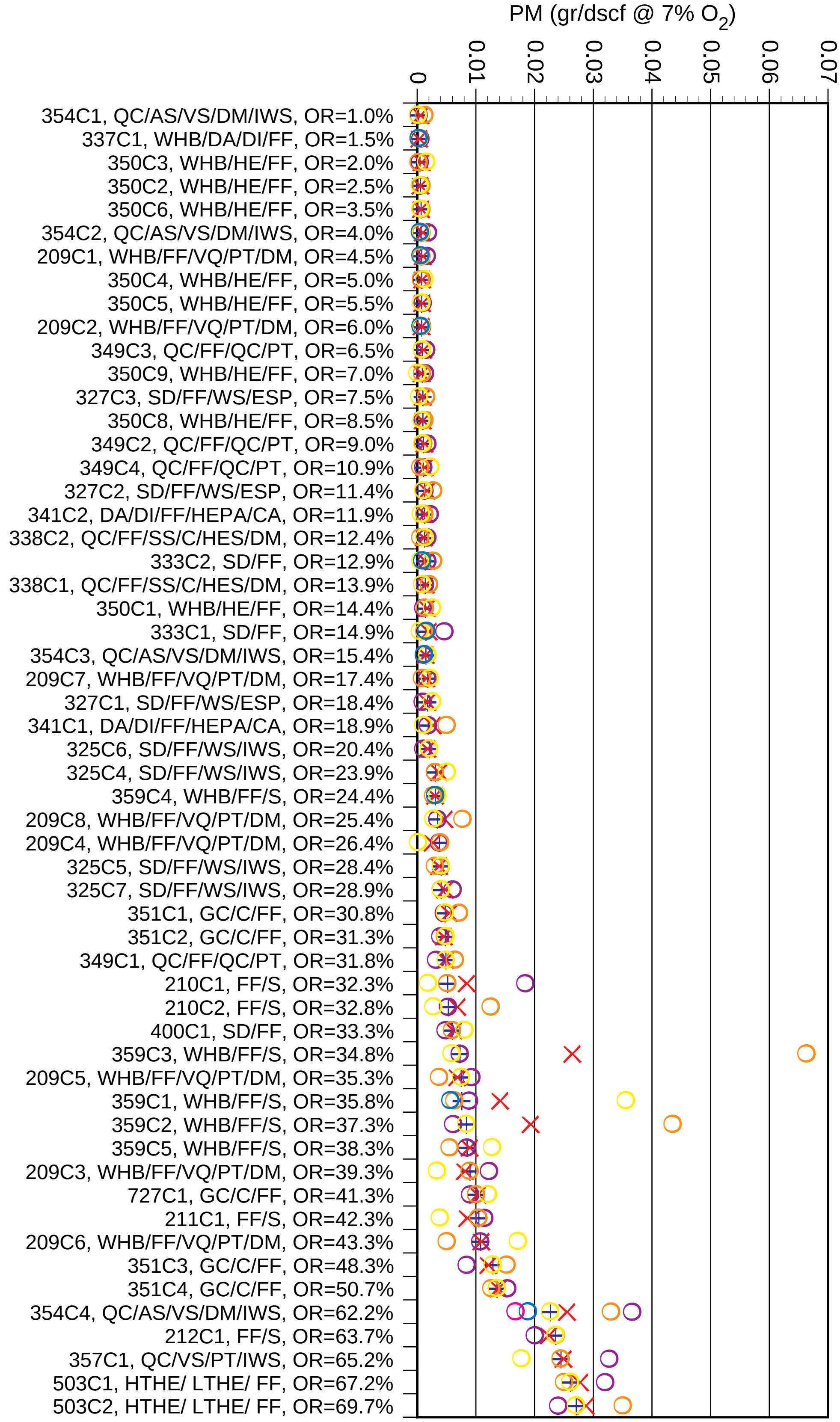

Figure B-1. PM, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

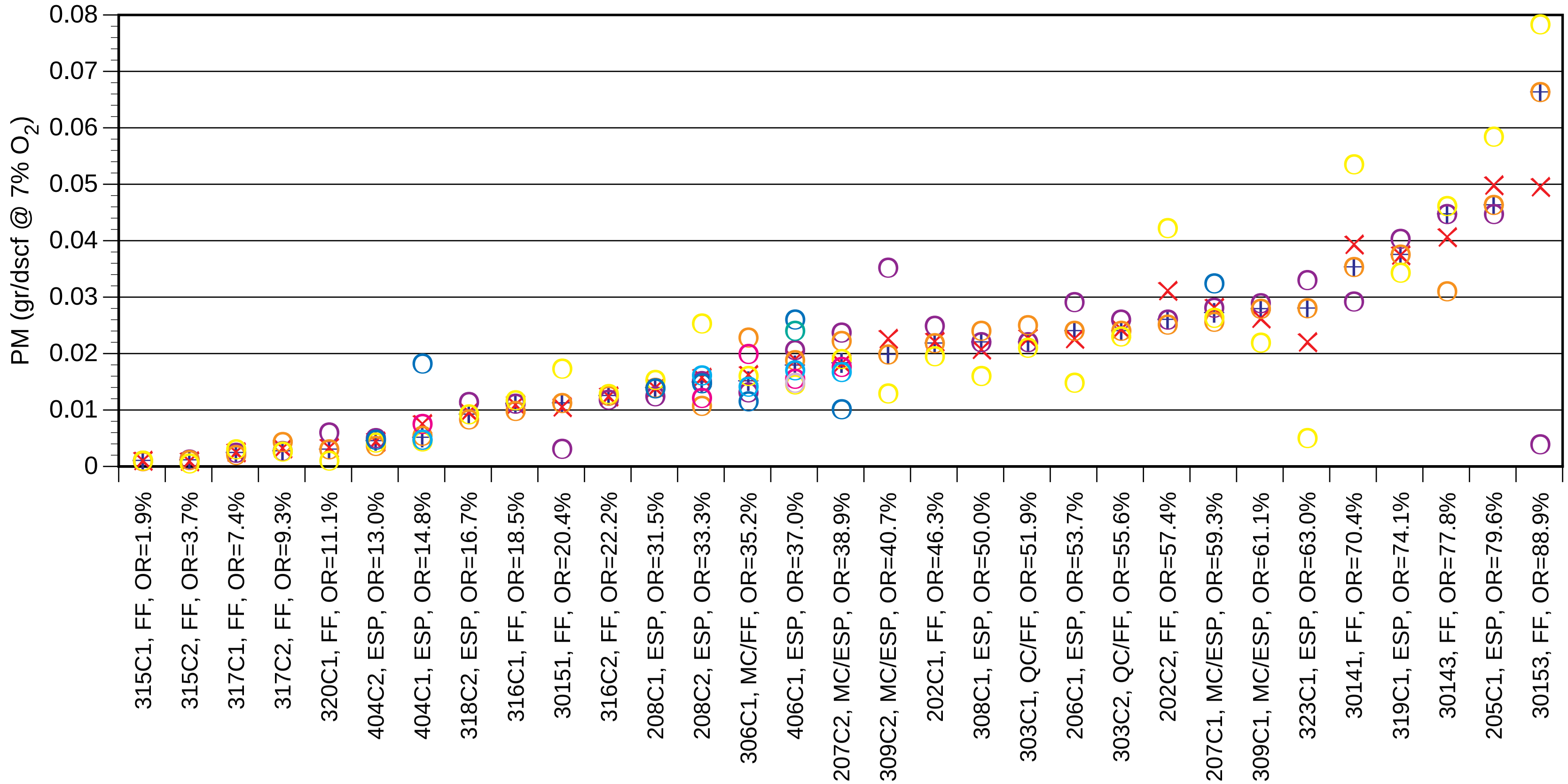

Figure B-2. PM, cement kilns, existing sources, "6% original" MACT pool and expanded universe.

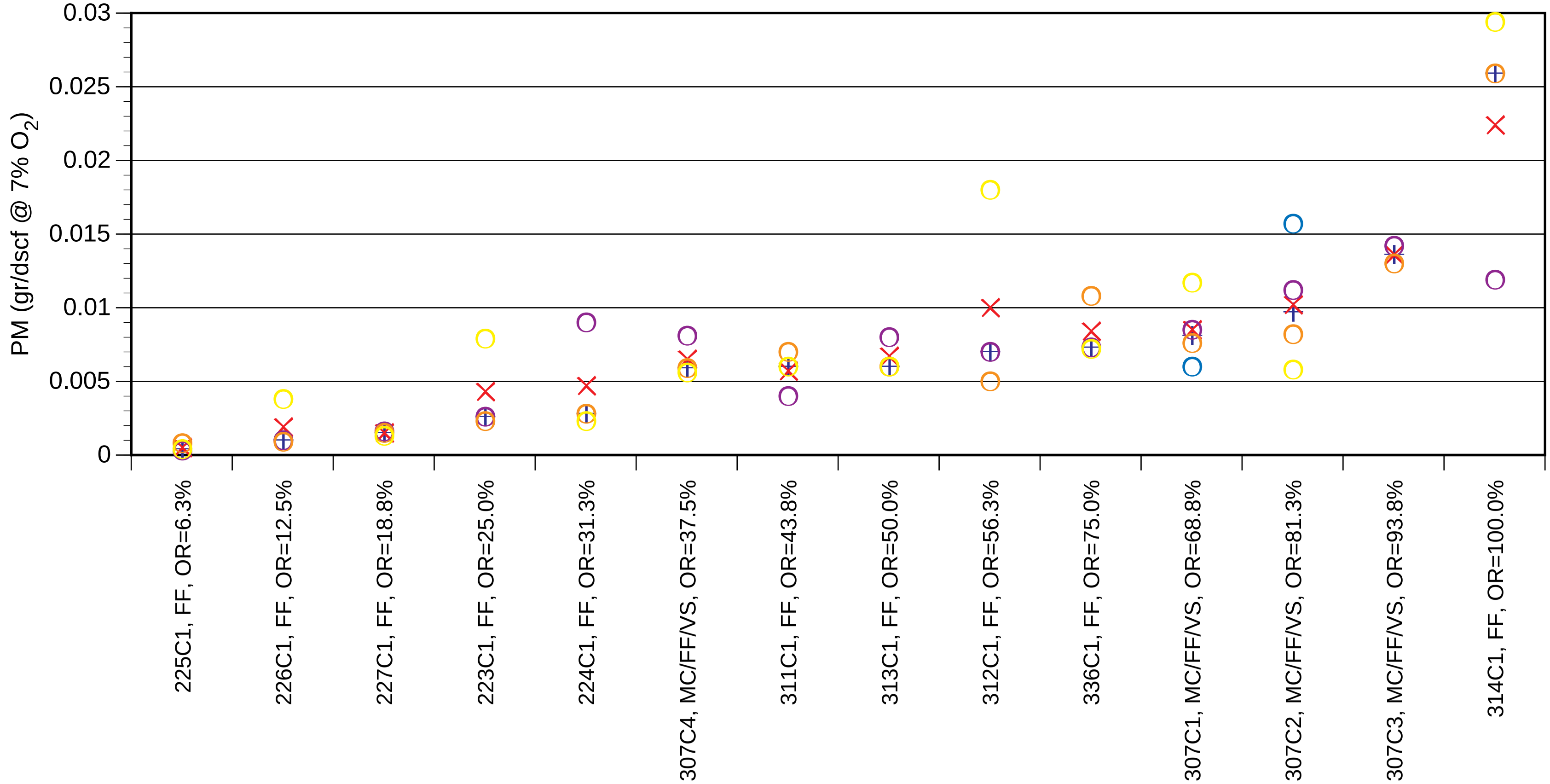

Figure B-3. PM, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

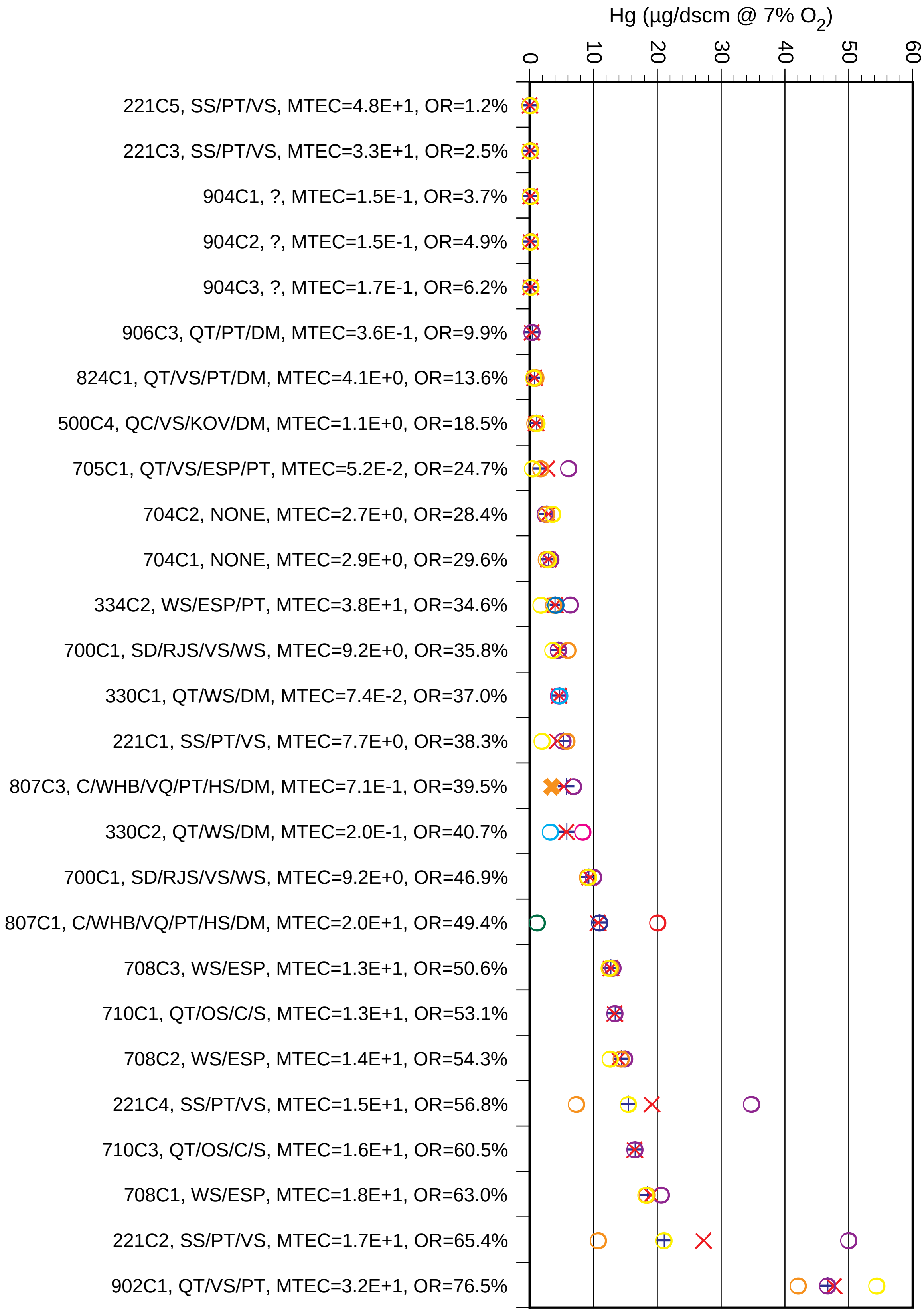

Figure B-4. Hg, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

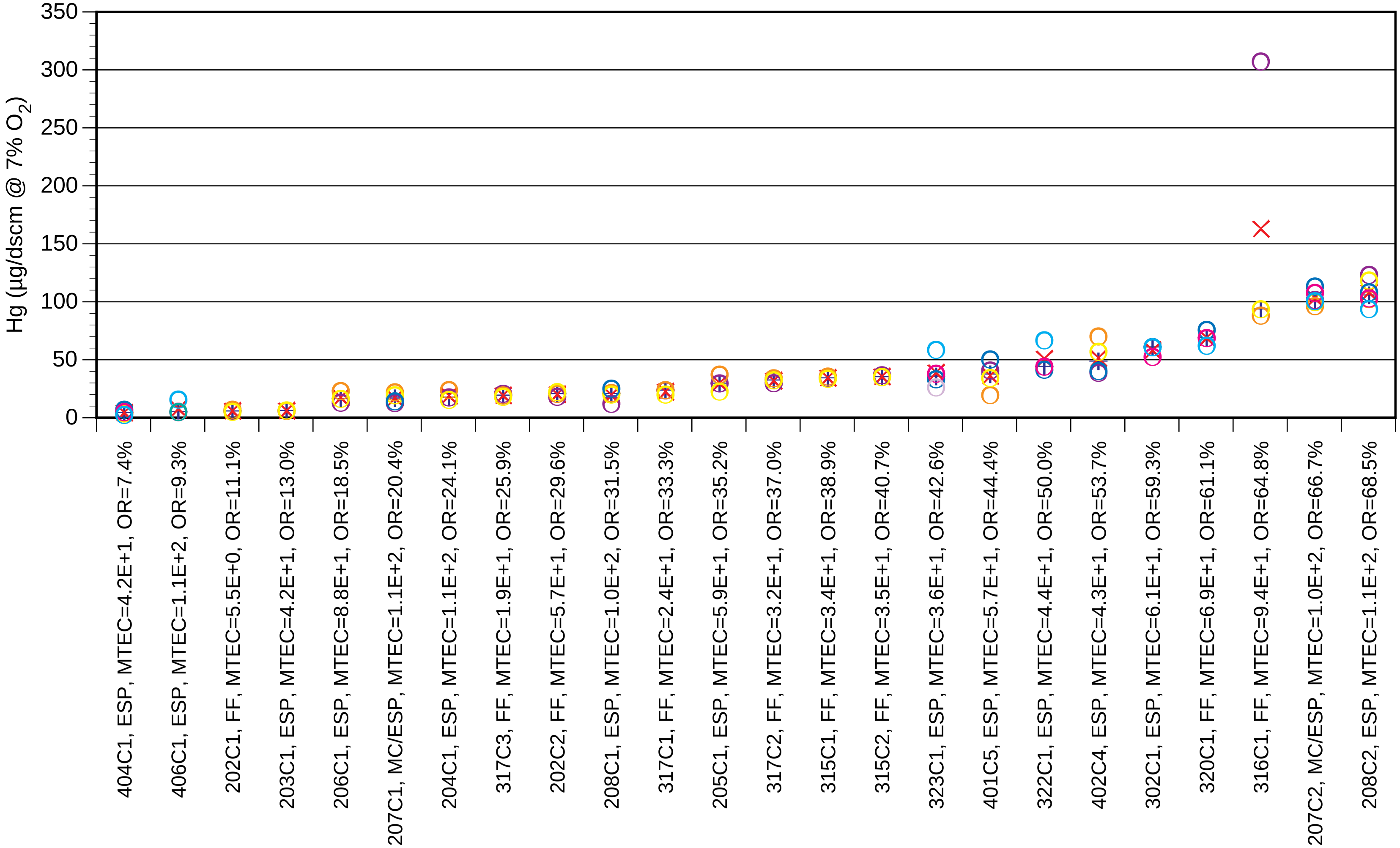

Figure B-5. Hg, cement kilns, existing sources, "6% Original" MACT pool and expanded universe.

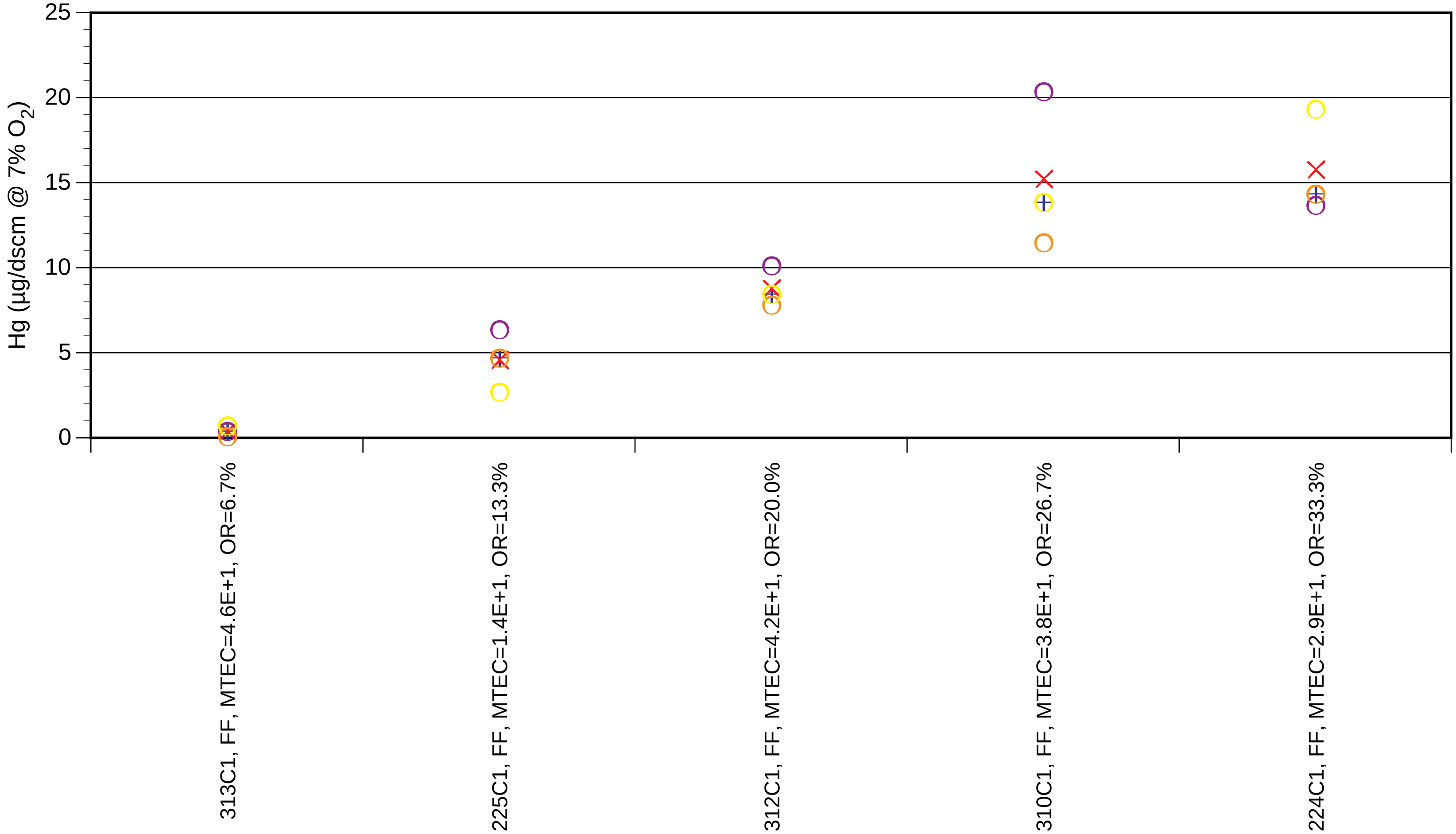

Figure B-6. Hg, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

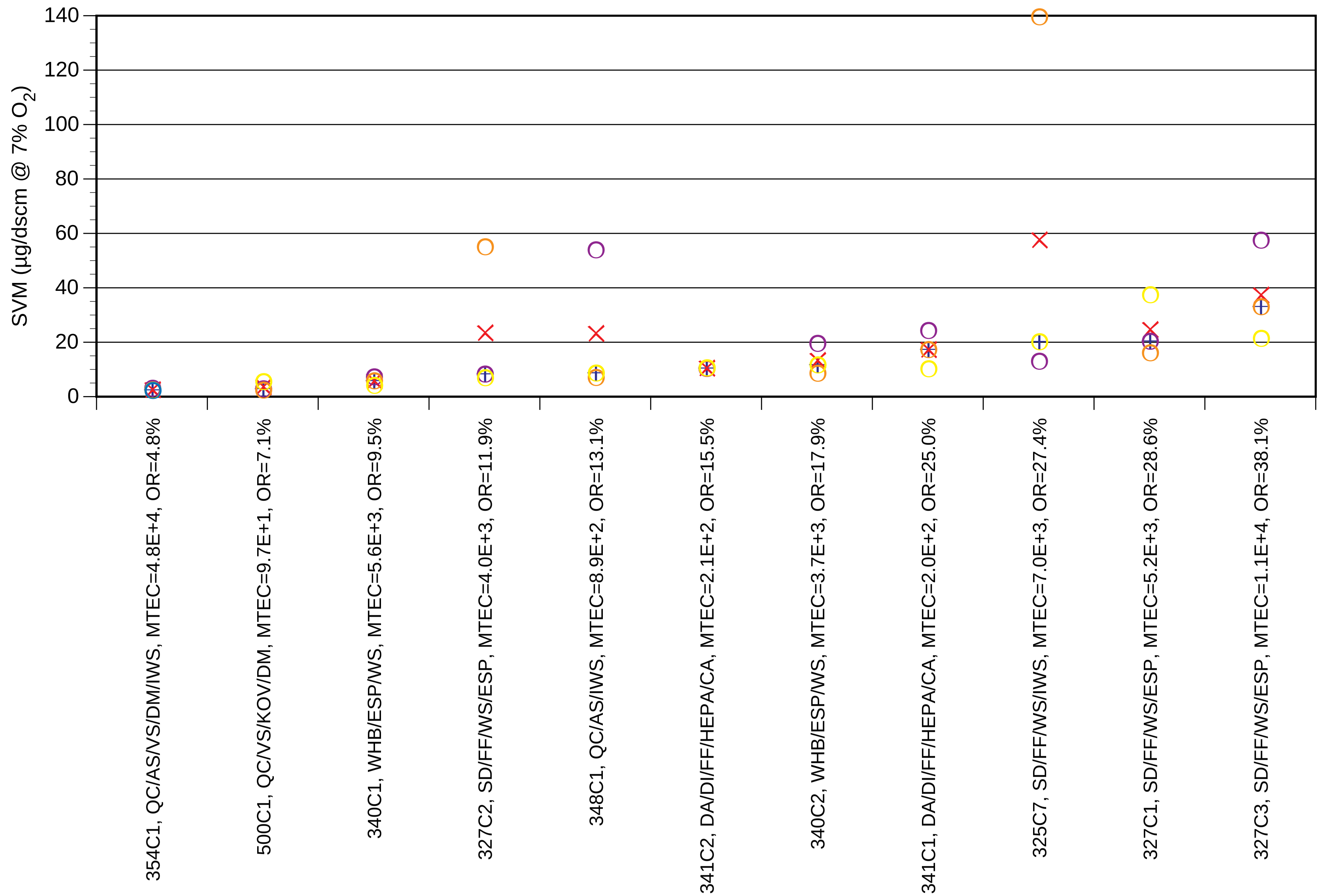

Figure B-7. SVM, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

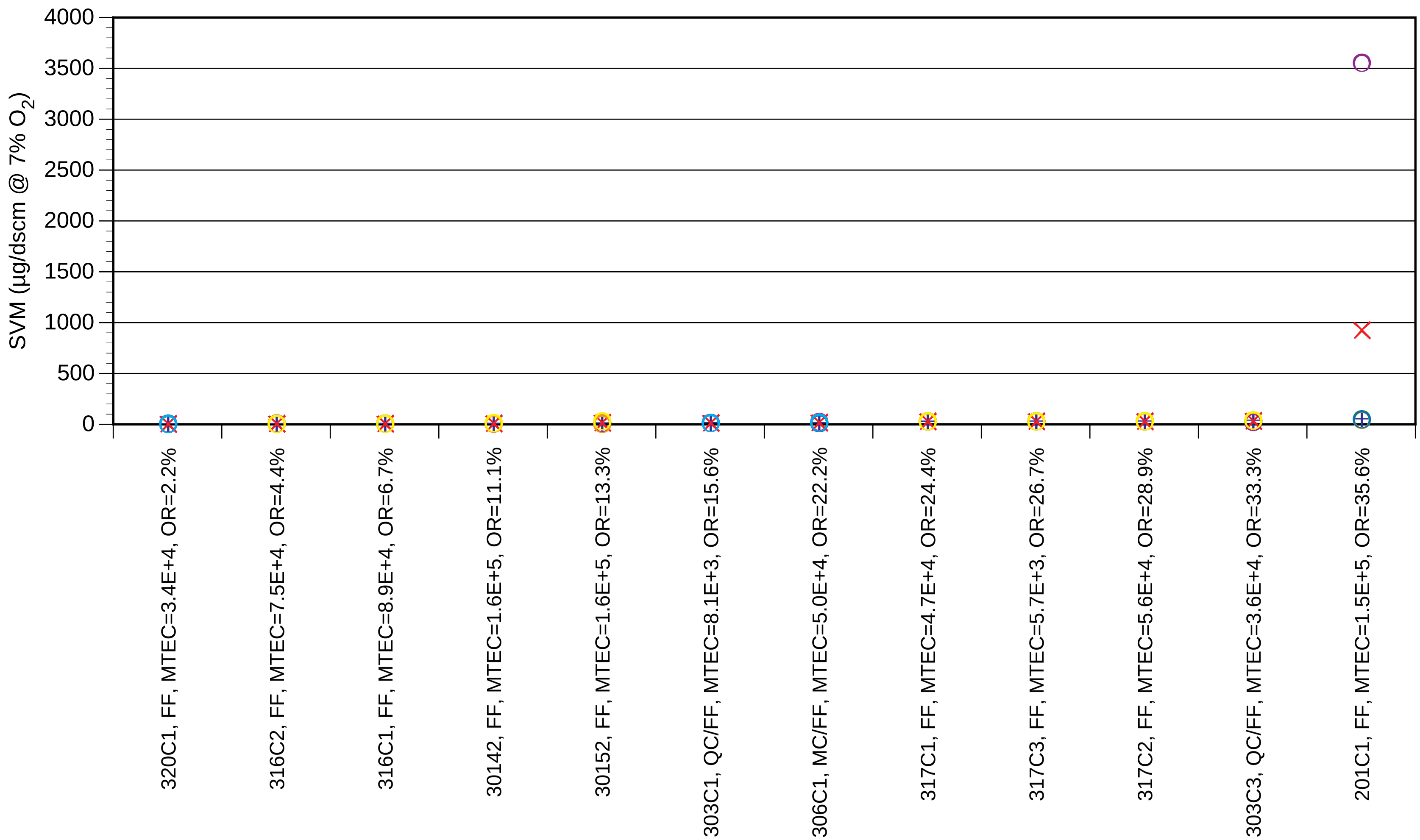

Figure B-8. SVM, cement kilns, existing sources, "6% Original" MACT pool and expanded universe.

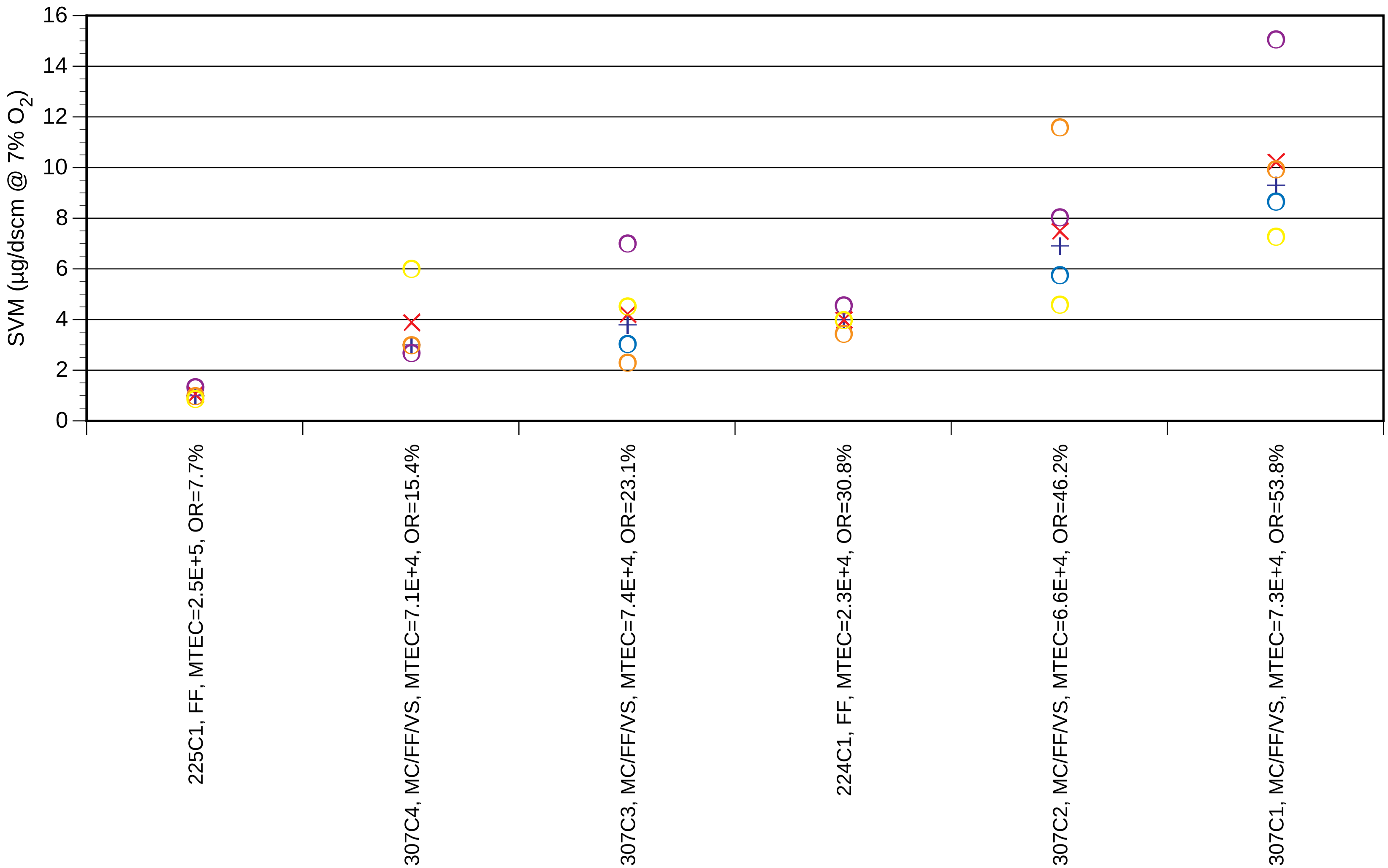

Figure B-9. SVM, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

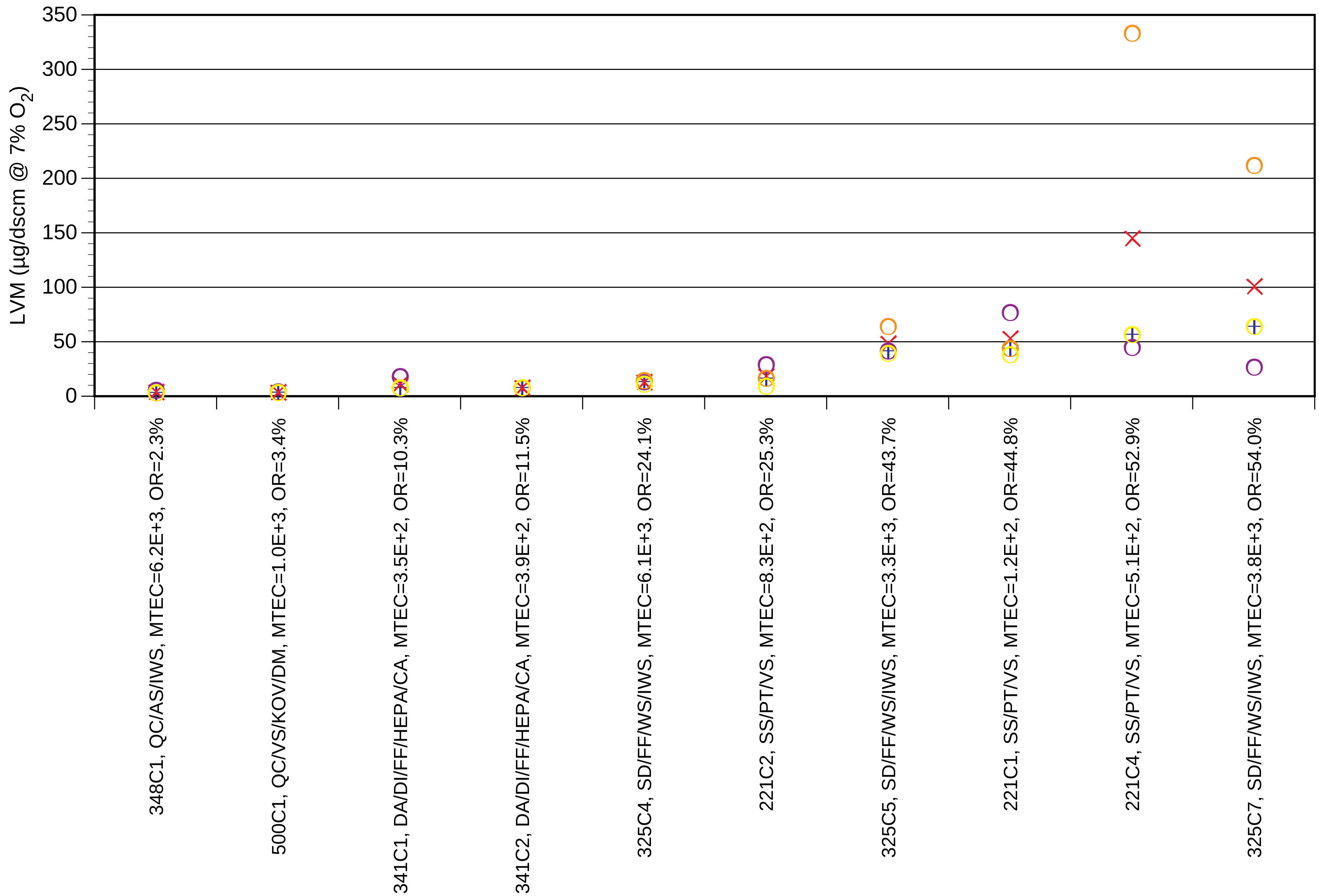

Figure B-10. LVM, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

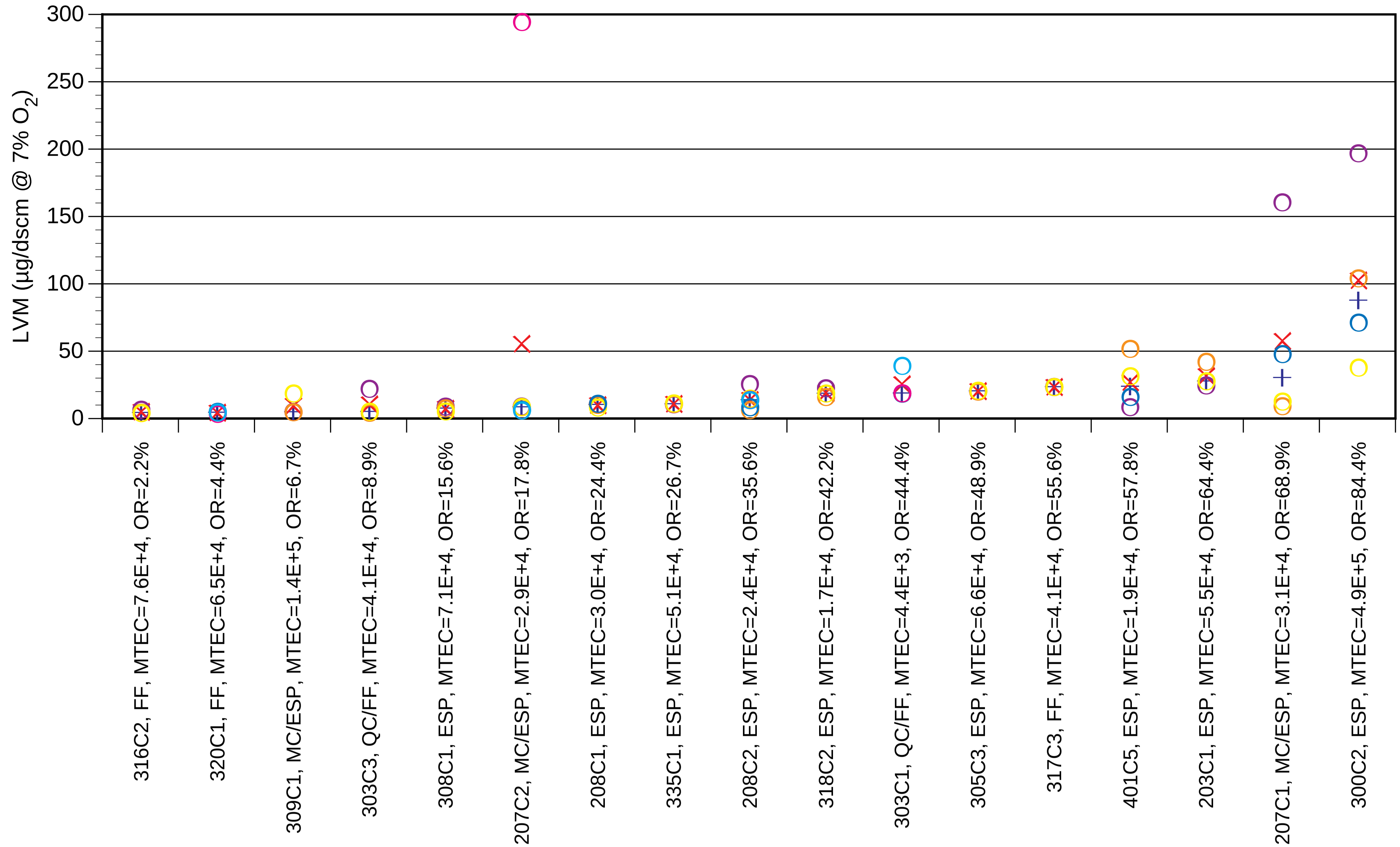

Figure B-11. LVM, cement kilns, existing sources, "6% Original" MACT pool and expanded universe.

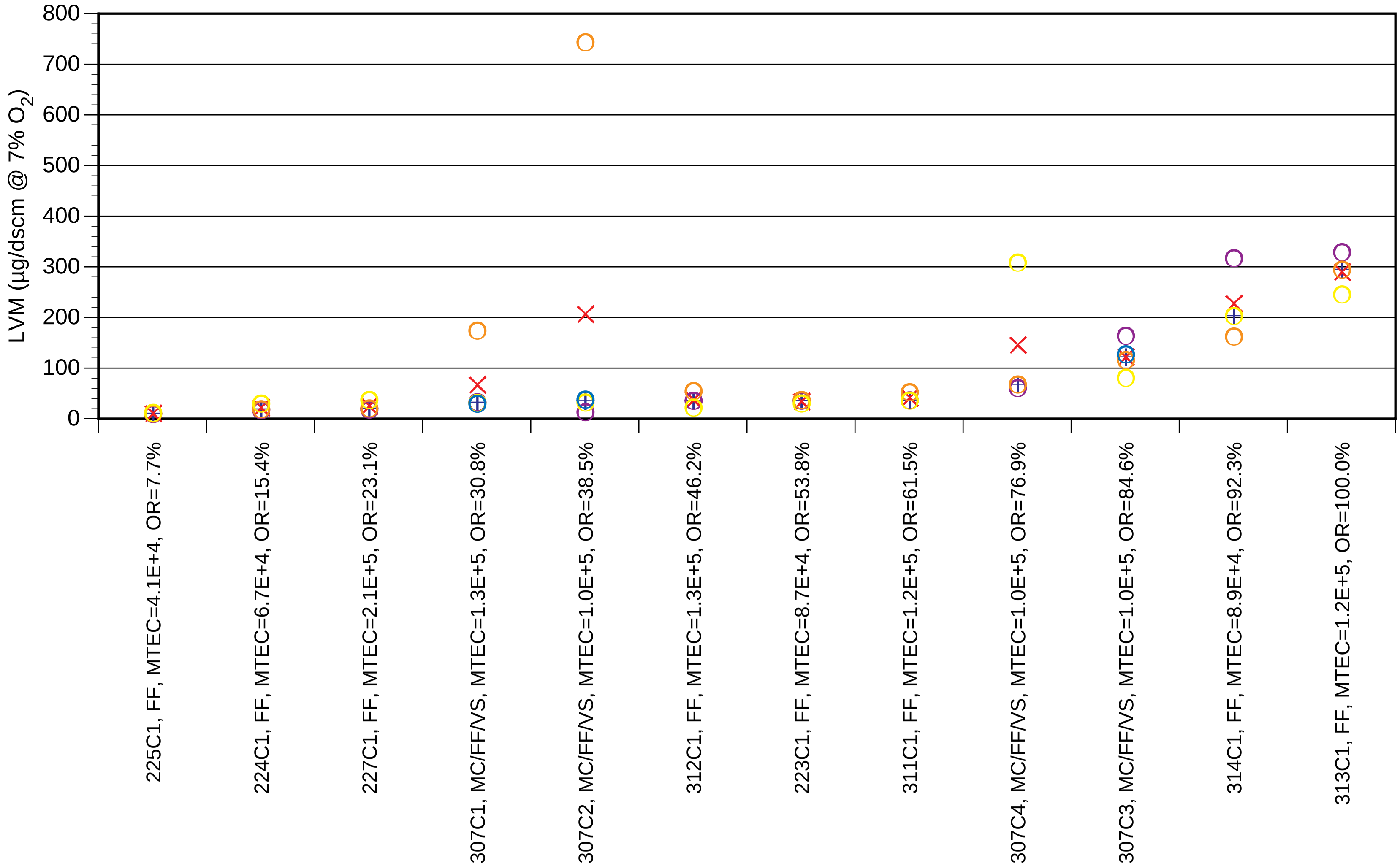

Figure B-12. LVM, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

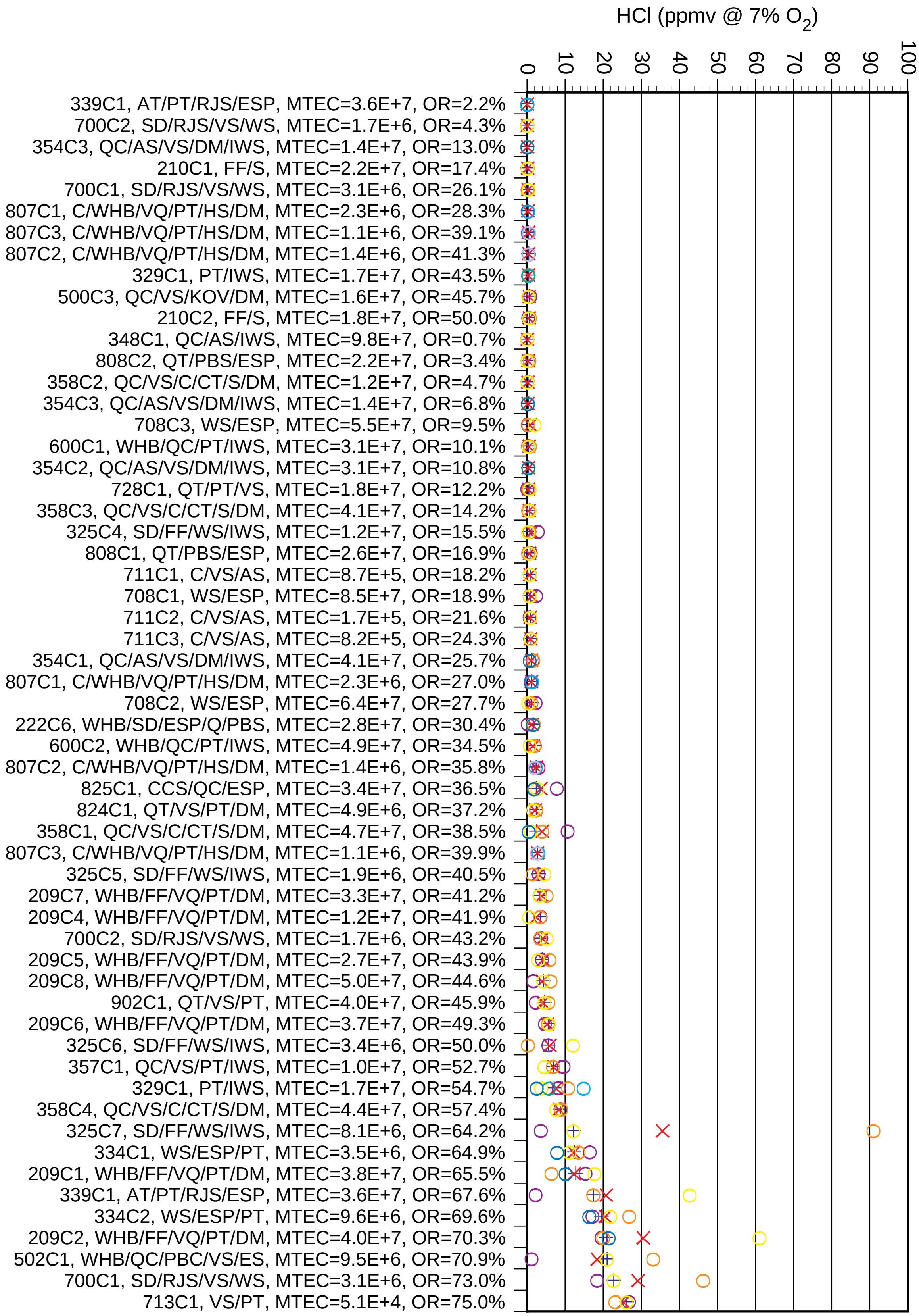

Figure B-13. HCl, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

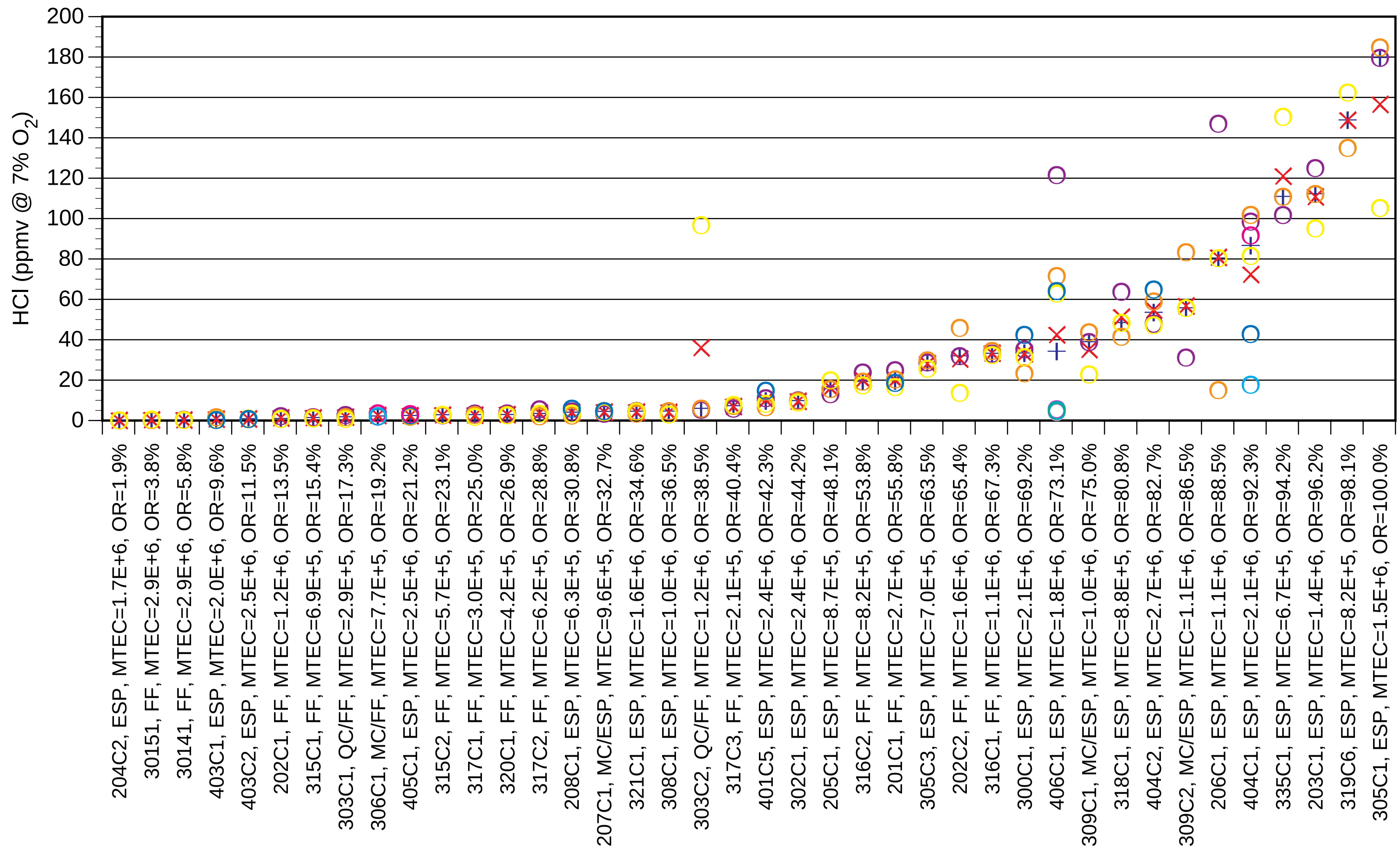

Figure B-14. HCl, cement kilns, existing sources, "6% Original" MACT pool and expanded universe.

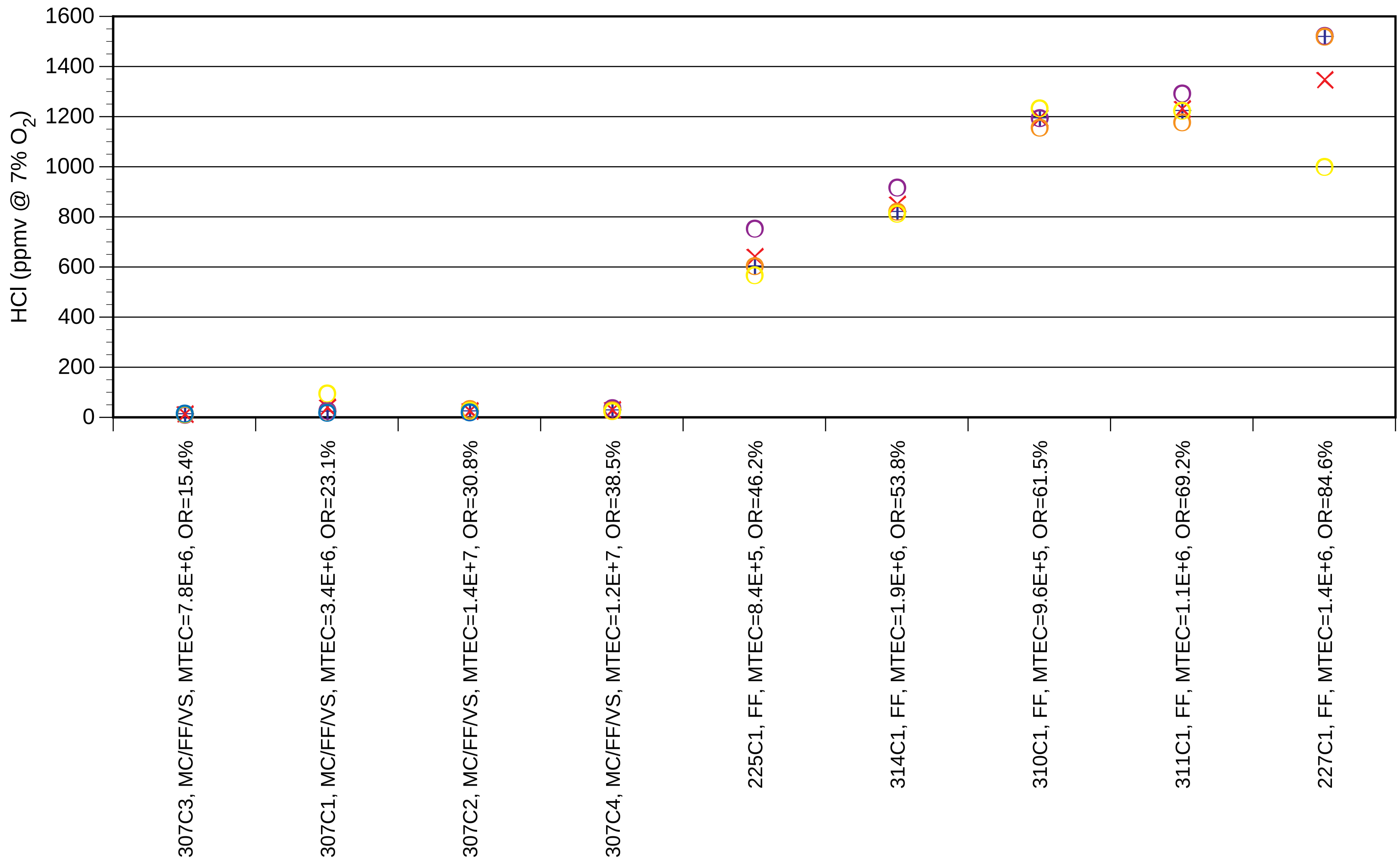

Figure B-15. HCl, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

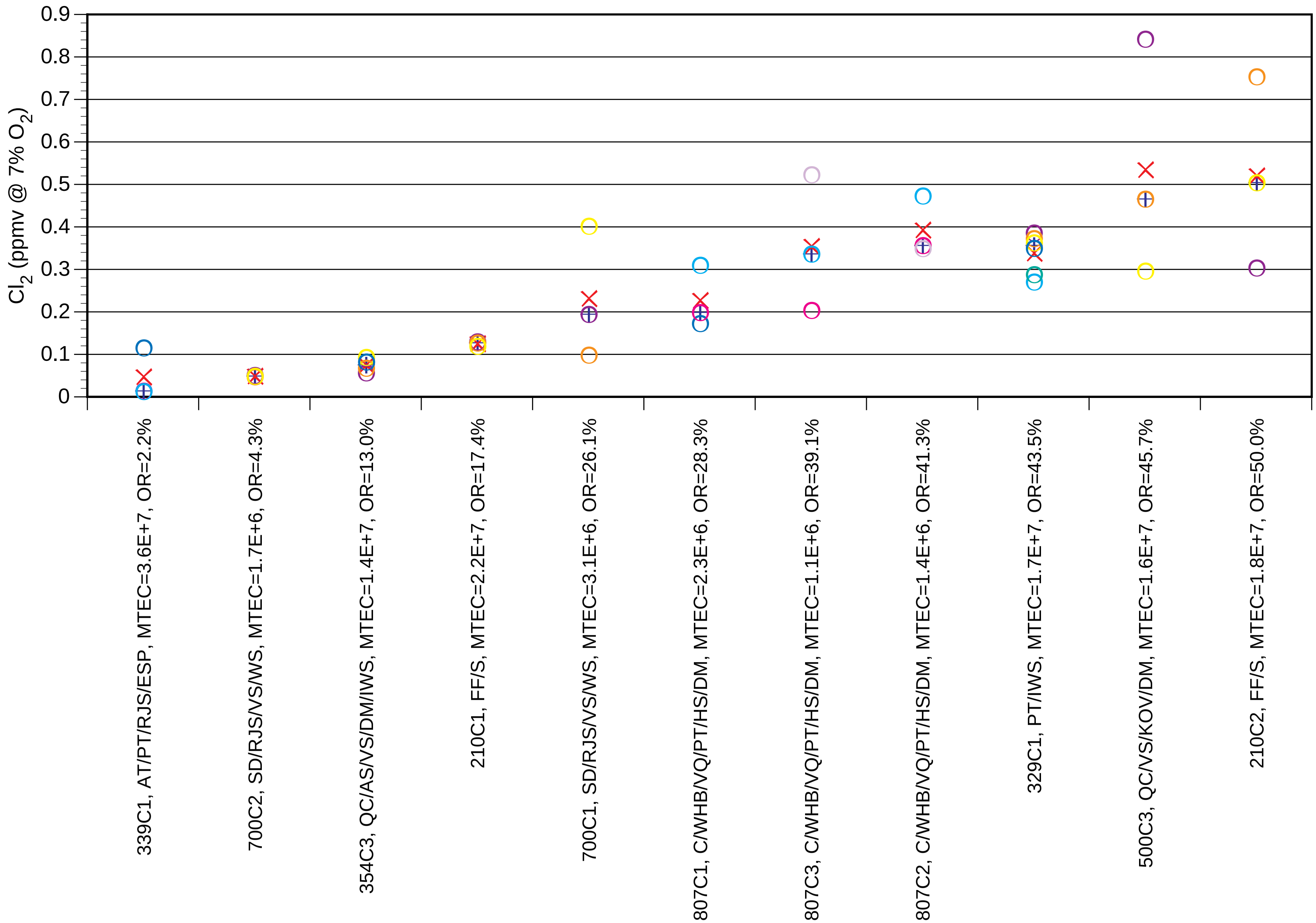

Figure B-16. Cl_2, incinerators, existing sources, "6% Original" MACT pool and expanded universe.

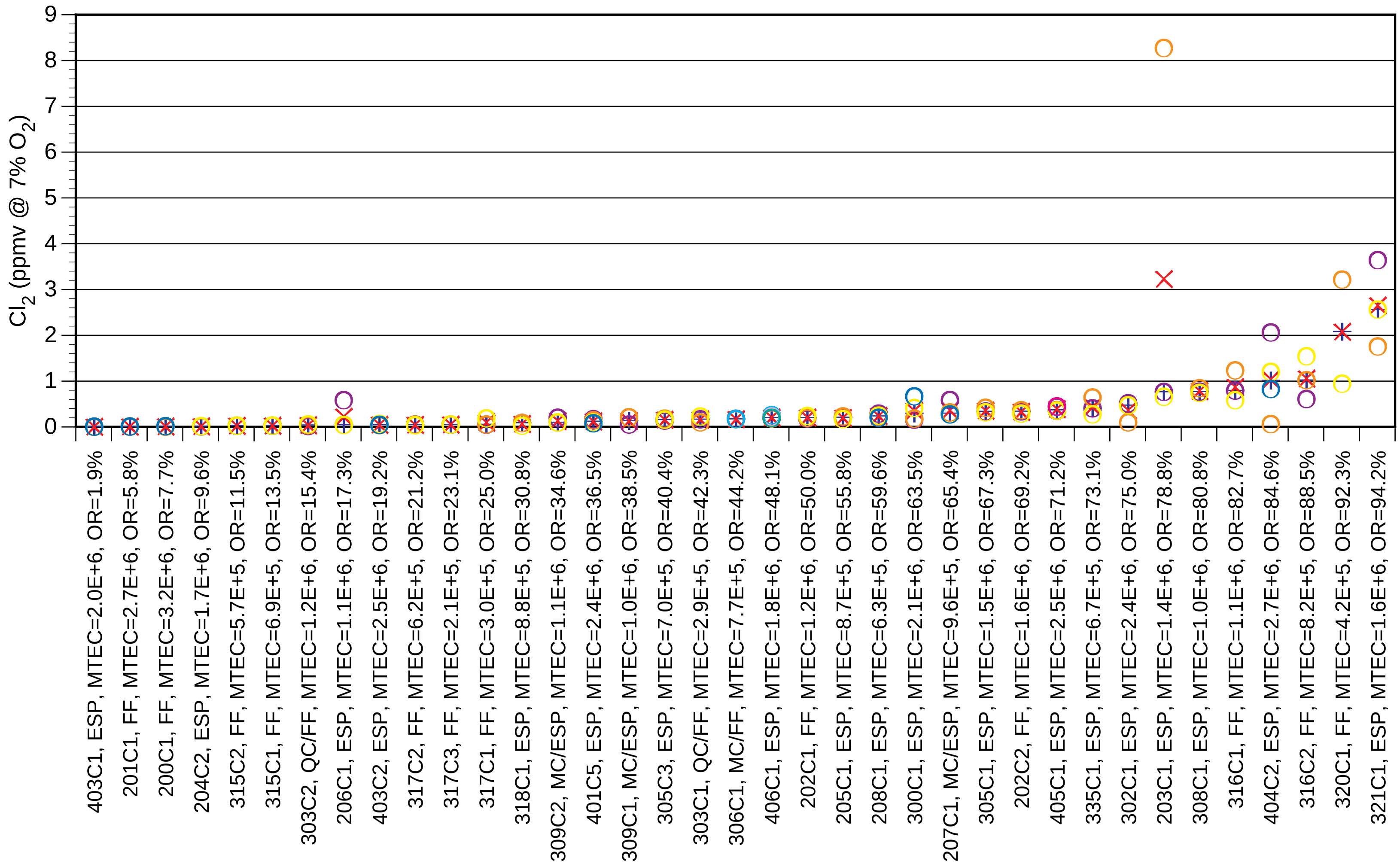

Figure B-17. Cl_2, cement kilns, existing sources, "6% Original" MACT pool and expanded universe.

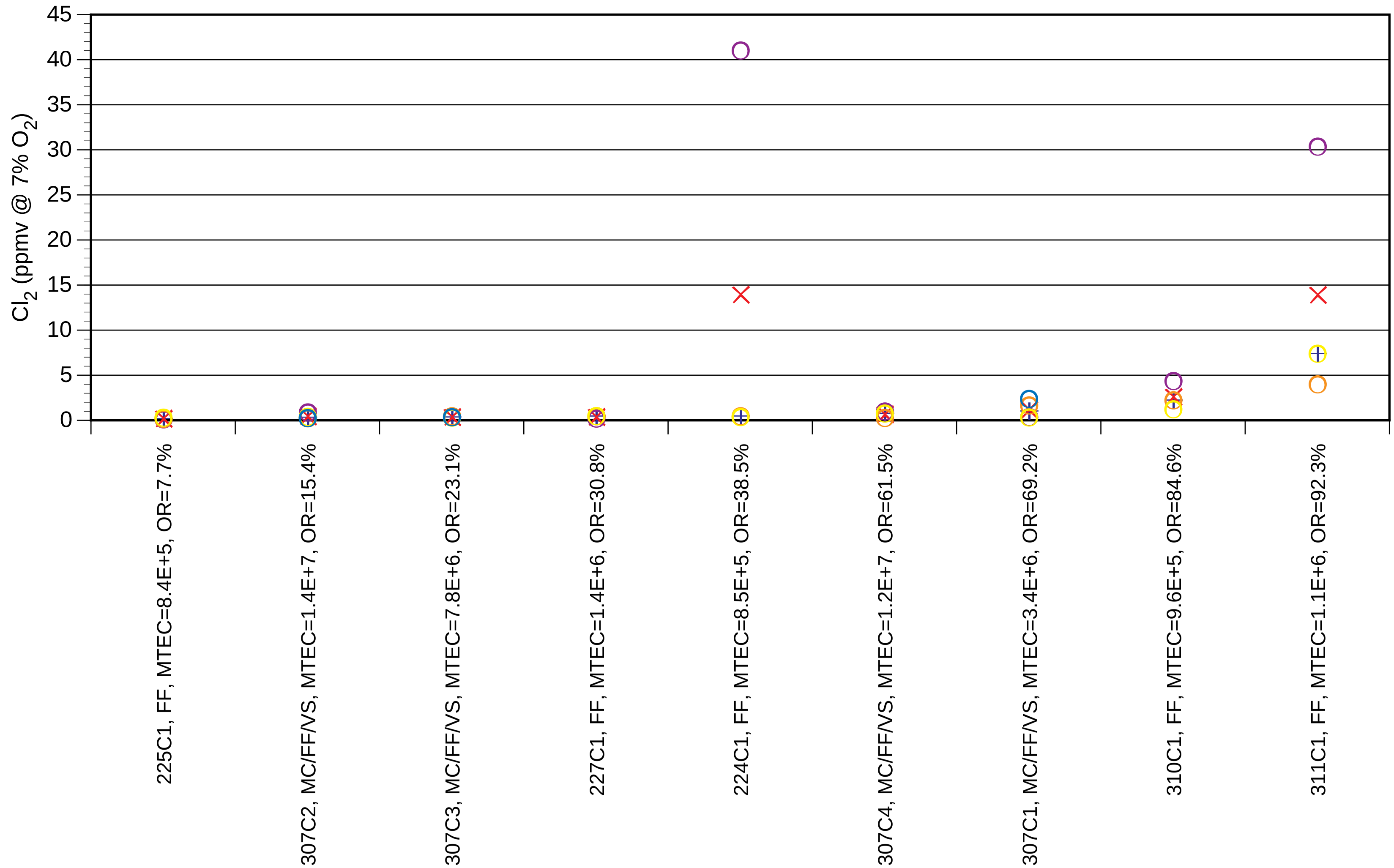

Figure B-18. Cl_2, LWAKs, existing sources, "6% Original" MACT pool and expanded universe.

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	500C4	QC/VS/KOV/DM	1.7e+0	1.8e-5	Out: Source Category Outlier
PM	INC	354C1	QC/AS/VS/DM/IWS	1.1e+1	2.0e-4	Source Already in MACT Pool, High variability
PM	INC	337C1	WHB/DA/DI/FF		2.4e-4	MACT source (FF, A/C=2.6)
PM	INC	350C3	WHB/HE/FF	1.6e-1	4.0e-4	Source Already in MACT Pool, High variability
PM	INC	350C2	WHB/HE/FF	6.5e-2	5.0e-4	MACT source (FF, A/C=6.1)
PM	INC	347C4	C/QC/VS/S/DM		5.9e-4	Out: Haz Waste not Burned
PM	INC	350C6	WHB/HE/FF	8.3e-2	6.0e-4	Source already in MACT pool
PM	INC	354C2	QC/AS/VS/DM/IWS		6.4e-4	MACT source (VS/IWS)
PM	INC	209C1	WHB/FF/VQ/PT/DM	8.6e+0	6.5e-4	MACT source (FF, A/C=2.2)
PM	INC	350C4	WHB/HE/FF	7.1e-2	7.0e-4	Source already in MACT pool
PM	INC	350C5	WHB/HE/FF	1.8e-1	7.0e-4	Source already in MACT pool
PM	INC	209C2	WHB/FF/VQ/PT/DM	1.0e+1	7.0e-4	Source already in MACT pool
PM	INC	349C3	QC/FF/QC/PT		8.0e-4	MACT source (FF, A/C=2.5)
PM	INC	350C9	WHB/HE/FF	1.0e-1	8.0e-4	In: MACT EU (FF), High variability
PM	INC	327C3	SD/FF/WS/ESP		8.9e-4	In: MACT EU (FF), High variability
PM	INC	350C8	WHB/HE/FF	1.8e-1	9.0e-4	In: MACT EU (FF, A/C=5.6)
PM	INC	500C3	QC/VS/KOV/DM	2.4e+0	9.0e-4	Out: Not MACT
PM	INC	349C2	QC/FF/QC/PT		9.5e-4	In: MACT EU (FF, A/C=2.4)
PM	INC	222C5	WHB/SD/ESP/Q/PBS		1.0e-3	Out: Not MACT
PM	INC	349C4	QC/FF/QC/PT		1.0e-3	In: MACT EU (FF, A/C=2.4)
PM	INC	348C1	QC/AS/IWS	9.5e-1	1.0e-3	Out: Not MACT
PM	INC	726C2	QC/CS/DM/VS		1.0e-3	Out: Not MACT
PM	INC	327C2	SD/FF/WS/ESP		1.2e-3	In: MACT EU (FF, A/C=1.1)
PM	INC	341C2	DA/DI/FF/HEPA/CA	2.2e-1	1.2e-3	In: MACT EU (FF/HEPA)
PM	INC	338C2	QC/FF/SS/C/HES/DM	2.9e+1	1.2e-3	In: MACT EU (FF, A/C=?)
PM	INC	333C2	SD/FF		1.3e-3	In: MACT EU (FF), High variability
PM	INC	346C1	C/QC/VS/PT/DM		1.3e-3	Out: Not MACT
PM	INC	350C1	WHB/HE/FF	1.4e-1	1.3e-3	In: MACT EU (FF, A/C=6.3)
PM	INC	338C1	QC/FF/SS/C/HES/DM	9.2e+0	1.3e-3	In: MACT EU (FF, A/C=?)
PM	INC	333C1	SD/FF		1.4e-3	In: MACT EU (FF), High variability
PM	INC	354C3	QC/AS/VS/DM/IWS	7.7e+0	1.4e-3	In: MACT EU (VS/IWS)
PM	INC	344C1	QC/VS/PT/DM		1.5e-3	Out: Not MACT

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	222C6	WHB/SD/ESP/Q/PBS	2.0e+1	1.6e-3	Out: Not MACT
PM	INC	500C1	QC/VS/KOV/DM	1.3e+0	1.6e-3	Out: Not MACT
PM	INC	209C7	WHB/FF/VQ/PT/DM	2.5e+0	1.7e-3	In: MACT EU (FF, A/C=2.0)
PM	INC	344C2	QC/VS/PT/DM		1.7e-3	Out: Not MACT
PM	INC	327C1	SD/FF/WS/ESP		1.7e-3	In: MACT EU (FF, A/C=1.2)
PM	INC	341C1	DA/DI/FF/HEPA/CA	1.4e-1	1.8e-3	In: MACT EU (FF), High variability
PM	INC	222C3	WHB/SD/ESP/Q/PBS	2.3e+1	1.8e-3	Out: Not MACT
PM	INC	703C2	WHB		2.0e-3	Out: Not MACT
PM	INC	325C6	SD/FF/WS/IWS	4.7e+1	2.0e-3	In: MACT EU (FF, A/C=3.8)
PM	INC	222C2	WHB/SD/ESP/Q/PBS	1.9e+1	2.5e-3	Out: Not MACT
PM	INC	347C2	C/QC/VS/S/DM		2.6e-3	Out: Haz Waste not Burned
PM	INC	339C1	AT/PT/RJS/ESP	1.2e+0	2.9e-3	Out: Not MACT
PM	INC	222C7	WHB/SD/ESP/Q/PBS		3.0e-3	Out: Not MACT
PM	INC	714C4	WS	2.6e-3	3.0e-3	Out: Not MACT
PM	INC	904C2	?	2.2e-3	3.0e-3	Out: Unknown APCS
PM	INC	325C4	SD/FF/WS/IWS	1.5e+1	3.0e-3	In: MACT EU (FF, A/C=3.8)
PM	INC	359C4	WHB/FF/S		3.0e-3	In: MACT EU (FF, A/C=5.4)
PM	INC	222C1	WHB/SD/ESP/Q/PBS	4.4e+0	3.0e-3	Out: Not MACT
PM	INC	209C8	WHB/FF/VQ/PT/DM	4.1e+0	3.4e-3	In: MACT EU (FF, A/C=2.0)
PM	INC	342C1	WHB/QC/S/VS/DM		3.6e-3	Out: Not MACT
PM	INC	209C4	WHB/FF/VQ/PT/DM	1.1e+0	3.7e-3	In: MACT EU (FF), High variability
PM	INC	726C1	QC/CS/DM/VS		4.0e-3	Out: Not MACT
PM	INC	703C1	WHB		4.0e-3	Out: Not MACT
PM	INC	600C2	WHB/QC/PT/IWS	2.2e-2	4.0e-3	Out: Not MACT
PM	INC	325C7	SD/FF/WS/IWS	2.3e+1	4.0e-3	In: MACT EU (FF, A/C=3.8)
PM	INC	325C5	SD/FF/WS/IWS	1.3e+1	4.0e-3	In: MACT EU (FF, A/C=3.8)
PM	INC	914C1	?		4.2e-3	Out: Unknown APCS
PM	INC	500C2	QC/VS/KOV/DM	1.2e+0	4.4e-3	Out: Not MACT
PM	INC	340C2	WHB/ESP/WS	3.9e+1	4.7e-3	Out: Not MACT
PM	INC	351C1	GC/C/FF		4.7e-3	In: MACT EU (FF, A/C=2.2)
PM	INC	351C2	GC/C/FF		4.7e-3	In: MACT EU (FF, A/C=2.8)
PM	INC	349C1	QC/FF/QC/PT		4.8e-3	In: MACT EU (FF, A/C=2.4)

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	210C1	FF/S	8.7e+1	5.1e-3	In: MACT EU (FF), High variability
PM	INC	210C2	FF/S	5.6e+0	5.2e-3	In: MACT EU (FF, A/C=1.3)
PM	INC	400C1	SD/FF		5.9e-3	In: MACT EU (FF, A/C=3.7)
PM	INC	714C3	WS	7.1e-3	6.0e-3	Out: Not MACT
PM	INC	824C1	QT/VS/PT/DM		6.4e-3	Out: Not MACT
PM	INC	359C3	WHB/FF/S	1.2e+1	7.2e-3	In: MACT EU (FF), High variability
PM	INC	209C5	WHB/FF/VQ/PT/DM	1.5e+0	7.4e-3	In: MACT EU (FF, A/C=2.0)
PM	INC	359C1	WHB/FF/S	1.3e+1	7.5e-3	In: MACT EU (FF), High variability
PM	INC	331C1	PT/IWS		8.0e-3	Out: Not MACT
PM	INC	808C2	QT/PBS/ESP	2.2e+1	8.2e-3	Out: Not MACT
PM	INC	359C2	WHB/FF/S	1.3e+1	8.3e-3	In: MACT EU (FF), High variability
PM	INC	340C1	WHB/ESP/WS	4.2e+1	8.4e-3	Out: Not MACT
PM	INC	359C5	WHB/FF/S		8.4e-3	In: MACT EU (FF, A/C=5.2)
PM	INC	353C1	QC/VS/DM/ESP		8.4e-3	Out: Not MACT
PM	INC	209C3	WHB/FF/VQ/PT/DM	1.2e+0	8.9e-3	In: MACT EU (FF, A/C=2.1)
PM	INC	324C1	?		9.0e-3	Out: Unknown APCS, High variability
PM	INC	714C2	WS	3.2e-3	9.0e-3	Out: Not MACT
PM	INC	324C3	?		9.4e-3	Out: Unknown APCS, High variability
PM	INC	727C1	GC/C/FF		1.0e-2	In: MACT EU (FF, A/C=2.1)
PM	INC	229C1	WHB/ACS/HCS/CS	8.8e-2	1.0e-2	Out: Not MACT
PM	INC	211C1	FF/S	8.9e+0	1.0e-2	In: MACT EU (FF, A/C=2.9)
PM	INC	209C6	WHB/FF/VQ/PT/DM	4.9e-1	1.1e-2	In: MACT EU (FF, A/C=2.0)
PM	INC	904C3	?	1.6e-2	1.1e-2	Out: Unknown APCS
PM	INC	353C2	QC/VS/DM/ESP		1.1e-2	Out: Not MACT
PM	INC	600C1	WHB/QC/PT/IWS		1.1e-2	Out: Not MACT
PM	INC	324C2	?		1.2e-2	Out: Unknown APCS, High variability
PM	INC	347C3	C/QC/VS/S/DM		1.2e-2	Out: Not MACT
PM	INC	229C2	WHB/ACS/HCS/CS	9.2e-2	1.2e-2	Out: Not MACT
PM	INC	221C5	SS/PT/VS		1.2e-2	Out: Not MACT
PM	INC	350C7	WHB/HE/FF	7.9e-3	1.3e-2	Out: APCS Bypassed
PM	INC	347C1	C/QC/VS/S/DM		1.3e-2	Out: Not MACT
PM	INC	708C3	WS/ESP	2.4e+0	1.3e-2	Out: Not MACT

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	351C3	GC/C/FF		1.3e-2	In: MACT EU (FF, A/C=2.2)
PM	INC	324C4	?		1.3e-2	Out: PM Emission > 0.08 gr/dscf, High variability, Unknown APCS
PM	INC	904C1	?	1.7e-2	1.3e-2	Out: Unknown APCS
PM	INC	221C4	SS/PT/VS		1.3e-2	Out: Not MACT
PM	INC	808C1	QT/PBS/ESP	3.4e+1	1.3e-2	Out: Not MACT, High variability
PM	INC	351C4	GC/C/FF		1.4e-2	In: MACT EU (FF, A/C=3.0)
PM	INC	221C2	SS/PT/VS		1.4e-2	Out: Not MACT
PM	INC	221C1	SS/PT/VS		1.5e-2	Out: Not MACT
PM	INC	704C1	NONE	6.7e-1	1.5e-2	Out: Not MACT
PM	INC	707C3	QT/WS	3.9e+0	1.5e-2	Out: Not MACT
PM	INC	216C7	HES/WS		1.6e-2	Out: Not MACT
PM	INC	221C3	SS/PT/VS		1.7e-2	Out: Not MACT, High variability
PM	INC	705C1	QT/VS/ESP/PT		1.7e-2	Out: PM Emission > 0.08 gr/dscf, High variability
PM	INC	708C1	WS/ESP	3.5e+0	1.7e-2	Out: Not MACT
PM	INC	229C3	WHB/ACS/HCS/CS		1.7e-2	Out: Not MACT
PM	INC	229C4	WHB/ACS/HCS/CS		1.8e-2	Out: Not MACT
PM	INC	710C1	QT/OS/C/S	8.5e-1	1.8e-2	Out: Not MACT
PM	INC	711C1	C/VS/AS	1.2e-2	1.8e-2	Out: Not MACT
PM	INC	504C1	VS/C	3185240597	1.8e-2	Out: Not MACT
PM	INC	214C3	IWS		1.9e-2	Out: Not MACT
PM	INC	214C1	IWS		1.9e-2	Out: Not MACT
PM	INC	915C3	QC/VS/C		1.9e-2	Out: Not MACT
PM	INC	725C1	WS/QT		2.0e-2	Out: Not MACT
PM	INC	712C2	NONE		2.0e-2	Out: Not MACT
PM	INC	902C1	QT/VS/PT	5.8e+1	2.1e-2	Out: Not MACT
PM	INC	807C2	C/WHB/VQ/PT/HS/DM	8.8e+2	2.1e-2	Out: Not MACT
PM	INC	710C2	QT/OS/C/S	9.5e-1	2.1e-2	Out: Not MACT
PM	INC	807C3	C/WHB/VQ/PT/HS/DM	7.1e+2	2.2e-2	Out: Not MACT
PM	INC	354C4	QC/AS/VS/DM/IWS	4.1e+0	2.3e-2	In: MACT EU (VS/IWS)
PM	INC	711C2	C/VS/AS	4.1e+0	2.3e-2	Out: Not MACT
PM	INC	702A3	QT/S/C		2.3e-2	Out: Not MACT
PM	INC	212C1	FF/S	1.2e+2	2.3e-2	In: MACT EU (FF, A/C=3.0)

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	712C1	NONE		2.4e-2	Out: Not MACT
PM	INC	704C2	NONE	1.1e-1	2.4e-2	Out: Not MACT
PM	INC	357C1	QC/VS/PT/IWS	1.9e+0	2.4e-2	In: MACT EU (VS/IWS)
PM	INC	358C2	QC/VS/C/CT/S/DM	8.2e+0	2.5e-2	Out: Not MACT
PM	INC	216C6	HES/WS		2.5e-2	Out: Not MACT
PM	INC	229C6	WHB/ACS/HCS/CS		2.6e-2	Out: Not MACT
PM	INC	503C1	HTHE/ LTHE/ FF		2.6e-2	In: MACT EU (FF, A/C=5.2)
PM	INC	330C1	QT/WS/DM		2.6e-2	Out: Not MACT
PM	INC	706C3	QT/HS/C	1.3e+1	2.6e-2	Out: Not MACT
PM	INC	701C2	VS/PT		2.7e-2	Out: Not MACT
PM	INC	358C4	QC/VS/C/CT/S/DM	8.1e+0	2.7e-2	Out: Not MACT
PM	INC	503C2	HTHE/ LTHE/ FF		2.7e-2	In: MACT EU (FF, A/C=4.8)
PM	INC	216C1	HES/WS		2.7e-2	Out: Not MACT
PM	INC	700C2	SD/RJS/VS/WS	5.3e-2	2.9e-2	Out: Not MACT
PM	INC	707C7	QT/WS		3.0e-2	Out: Not MACT
PM	INC	806C2	C/VS	4.4e+1	3.0e-2	Out: Not MACT
PM	INC	329C1	PT/IWS		3.0e-2	Out: Not MACT
PM	INC	807C1	C/WHB/VQ/PT/HS/DM	6.3e+2	3.1e-2	Out: Not MACT
PM	INC	356C1	QC/AS/FN/S/DM	7.5e-1	3.1e-2	Out: Not MACT
PM	INC	229C5	WHB/ACS/HCS/CS		3.1e-2	Out: Not MACT
PM	INC	216C5	HES/WS		3.2e-2	Out: Not MACT
PM	INC	707A2	QT/WS	5.9e+0	3.2e-2	Out: Not MACT
PM	INC	214C2	IWS		3.2e-2	Out: Not MACT
PM	INC	358C1	QC/VS/C/CT/S/DM	9.5e+0	3.3e-2	Out: Not MACT
PM	INC	701C1	VS/PT		3.3e-2	Out: Not MACT
PM	INC	707C2	QT/WS	3.4e+0	3.5e-2	Out: Not MACT
PM	INC	502C1	WHB/QC/PBC/VS/ES		3.5e-2	Out: Not MACT
PM	INC	906C5	QT/PT	2.2e-2	3.6e-2	Out: Not MACT
PM	INC	714C5	WS	5.1e-2	3.6e-2	Out: Not MACT
PM	INC	707C4	QT/WS	3.7e+0	3.6e-2	Out: Not MACT
PM	INC	705C2	QT/VS/ESP/PT	5797348049	3.7e-2	Out: Not MACT
PM	INC	784C1	NONE		3.8e-2	Out: Not MACT

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	714C1	WS	4.3e-2	3.8e-2	Out: Not MACT
PM	INC	706C1	QT/HS/C	1.5e+1	3.9e-2	Out: Not MACT
PM	INC	707C1	QT/WS		4.0e-2	Out: Not MACT
PM	INC	709C1	NONE		4.1e-2	Out: PM Emission > 0.08 gr/dscf, High variability
PM	INC	358C3	QC/VS/C/CT/S/DM	7.6e+0	4.3e-2	Out: Not MACT
PM	INC	728C1	QT/PT/VS	6.8e-1	4.3e-2	Out: Not MACT
PM	INC	784C2	NONE		4.4e-2	Out: Not MACT
PM	INC	702A1	QT/S/C		4.4e-2	Out: Not MACT
PM	INC	710C3	QT/OS/C/S	1.2e+0	4.4e-2	Out: Not MACT
PM	INC	711C3	C/VS/AS	2.9e+0	4.5e-2	Out: Not MACT
PM	INC	707C8	QT/WS		4.5e-2	Out: Not MACT
PM	INC	708C2	WS/ESP	2.4e+0	4.5e-2	Out: Not MACT
PM	INC	707A1	QT/WS		4.6e-2	Out: Not MACT
PM	INC	353C3	QC/VS/DM/ESP		4.6e-2	Out: Not MACT
PM	INC	702A2	QT/S/C		4.6e-2	Out: Not MACT
PM	INC	216C4	HES/WS		5.0e-2	Out: Not MACT
PM	INC	334C1	WS/ESP/PT		5.3e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	805C1	QT/QS/VS/ES/PBS	3.2e+1	5.7e-2	Out: Not MACT
PM	INC	906C1	QT/PT	1.7e-2	5.7e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	334C2	WS/ESP/PT		5.8e-2	Out: Not MACT
PM	INC	700C1	SD/RJS/VS/WS	6.8e-2	5.8e-2	Out: Not MACT
PM	INC	330C2	QT/WS/DM		5.8e-2	Out: Not MACT
PM	INC	806C1	C/VS	5.4e+1	5.9e-2	Out: Not MACT
PM	INC	915C2	QC/VS/C		6.0e-2	Out: Not MACT
PM	INC	706C2	QT/HS/C	1.4e+1	6.3e-2	Out: Not MACT
PM	INC	702C7	QT/S/C	2.3e+0	6.6e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	713C1	VS/PT	4.5e+0	6.8e-2	Out: Not MACT
PM	INC	701C3	VS/PT		7.0e-2	Out: Not MACT
PM	INC	915C4	QC/VS/C		7.0e-2	Out: Not MACT
PM	INC	906C3	QT/PT	9.9e-2	7.4e-2	Out: Not MACT
PM	INC	825C1	CCS/QC/ESP	5.2e-3	7.5e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	915C1	QC/VS/C		7.7e-2	Out: Not MACT

TABLE B-1. PM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	INC	359C6	WHB/FF/S		7.8e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	906C2	QT/PT	1.8e-1	7.8e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	707C9	QT/WS	5.2e+0	8.5e-2	Out: PM Emission > 0.08 gr/dscf, High variability
PM	INC	702C6	QT/S/C	3.8e+0	8.8e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	906C4	QT/PT	7.4e-2	9.1e-2	Out: PM Emission > 0.08 gr/dscf
PM	INC	702C8	QT/S/C	2.2e+0	1.2e-1	Out: PM Emission > 0.08 gr/dscf
PM	INC	332C1	WS		1.2e-1	Out: PM Emission > 0.08 gr/dscf
PM	INC	727C2	GC/C/FF		1.5e-1	Out: PM Emission > 0.08 gr/dscf
PM	INC	702C9	QT/S/C	2.1e+0	1.9e-1	Out: PM Emission > 0.08 gr/dscf

TABLE B-2. PM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	CK	315C1	FF		1.0e-3	MACT source (FF, A/C=1.6)
PM	CK	315C2	FF		1.1e-3	Source already in MACT pool
PM	CK	317C3	FF		1.7e-3	Out: Haz Waste not Burned
PM	CK	317C1	FF		2.4e-3	MACT source (FF, A/C=1.3)
PM	CK	317C2	FF		2.7e-3	Source already in MACT pool
PM	CK	320C1	FF		3.0e-3	MACT source (FF, A/C=2.3), High variability
PM	CK	404C2	ESP		4.5e-3	In: MACT EU (ESP, SCA=580)
PM	CK	404C1	ESP		5.1e-3	In: MACT EU (ESP, SCA=580)
PM	CK	318C2	ESP		9.2e-3	Out: Not MACT (ESP, SCA=434)
PM	CK	316C1	FF		1.1e-2	In: MACT EU (FF, A/C=1.3)
PM	CK	30151	FF		1.1e-2	In: MACT (FF), High variability
PM	CK	316C2	FF		1.2e-2	In: MACT EU (FF, A/C=1.3)
PM	CK	201C1	FF		1.3e-2	Out: PM Emission > 0.08 gr/dscf, High variability
PM	CK	322C1	ESP		1.3e-2	Out: MACT (ESP, SCA=370), Low SCA
PM	CK	203C1	ESP		1.4e-2	Out: MACT (ESP, SCA=220), Low SCA
PM	CK	200C1	FF		1.4e-2	Out: MACT (FF), High A/C
PM	CK	208C1	ESP		1.4e-2	Out: Not MACT
PM	CK	208C2	ESP		1.5e-2	Out: Not MACT
PM	CK	306C1	MC/FF		1.5e-2	In: MACT EU (FF, A/C=1.8)
PM	CK	406C1	ESP		1.8e-2	Out: Not MACT (ESP, SCA=340)
PM	CK	207C2	MC/ESP		1.8e-2	Out: Not MACT
PM	CK	309C2	MC/ESP		2.0e-2	Out: Not MACT
PM	CK	335C1	ESP		2.0e-2	Out: MACT (ESP, SCA=420), Low SCA
PM	CK	302C1	ESP		2.1e-2	Out: MACT (ESP, SCA=250), Low SCA
PM	CK	202C1	FF		2.2e-2	In: MACT EU (FF, A/C=1.5)
PM	CK	405C1	ESP		2.2e-2	Out: MACT (ESP, SCA=470), Low SCA
PM	CK	308C1	ESP		2.2e-2	In: MACT EU (ESP, SCA=860)
PM	CK	303C1	QC/FF		2.2e-2	In: MACT EU (FF, A/C=2.3)
PM	CK	206C1	ESP		2.4e-2	In: MACT EU (ESP, SCA=500)
PM	CK	303C2	QC/FF		2.4e-2	In: MACT EU (FF, A/C=2.4)
PM	CK	202C2	FF		2.6e-2	In: MACT EU (FF, A/C=1.6)
PM	CK	207C1	MC/ESP		2.7e-2	Out: Not MACT

TABLE B-2. PM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	CK	309C1	MC/ESP		2.8e-2	Out: Not MACT
PM	CK	323C1	ESP		2.8e-2	Out: MACT (ESP, SCA=240), Low SCA, High Variability
PM	CK	402C1	ESP		2.9e-2	Out: MACT (ESP, SCA=230), Low SCA
PM	CK	204C1	ESP		3.0e-2	Out: MACT (ESP, SCA=350), Low SCA
PM	CK	403C1	ESP		3.4e-2	Out: MACT (ESP, SCA=520), Poor D/O/M (older ESP)
PM	CK	30141	FF		3.5e-2	In: MACT EU (FF, A/C=1.2)
PM	CK	403C2	ESP		3.5e-2	Out: MACT (ESP, SCA=520), Poor D/O/M (older ESP)
PM	CK	319C1	ESP		3.8e-2	In: MACT EU (ESP, SCA=1200)
PM	CK	401C4	ESP		4.1e-2	Out: MACT (ESP, SCA=240), Low SCA
PM	CK	30143	FF		4.5e-2	In: MACT EU (FF, A/C=0.9)
PM	CK	205C1	ESP		4.6e-2	Out: Not MACT (ESP, SCA=349)
PM	CK	401C1	ESP		4.7e-2	Out: MACT (ESP, SCA=240), Low SCA
PM	CK	401C3	ESP		5.1e-2	Out: MACT (ESP, SCA=240), Low SCA
PM	CK	304C1	ESP		5.9e-2	Out: MACT (ESP, SCA=?), Low SCA
PM	CK	305C1	ESP		6.6e-2	Out: MACT (ESP, SCA=340), Low SCA
PM	CK	30153	FF		6.6e-2	In: MACT EU (FF), High variability
PM	CK	401C5	ESP		6.9e-2	Out: PM Emission > 0.08 gr/dscf
PM	CK	300C1	ESP		7.2e-2	Out: PM Emission > 0.08 gr/dscf
PM	CK	305C3	ESP		7.3e-2	Out: MACT (ESP, SCA=340), Low SCA
PM	CK	402C5	ESP		7.8e-2	Out: PM Emission > 0.08 gr/dscf
PM	CK	305C2	ESP		7.9e-2	Out: PM Emission > 0.08 gr/dscf
PM	CK	321C1	ESP		1.1e-1	Out: PM Emission > 0.08 gr/dscf, High variability

TABLE B-3. PM, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (gr/dscf)	Comments
PM	LWAK	225C1	FF		3.6e-4	MACT source (FF, A/C=1.3)
PM	LWAK	226C1	FF		1.0e-3	Source already in MACT pool
PM	LWAK	227C1	FF		1.5e-3	MACT source (FF, A/C=2.8)
PM	LWAK	223C1	FF		2.6e-3	Source already in MACT pool
PM	LWAK	224C1	FF		2.8e-3	Source already in MACT pool
PM	LWAK	307C4	FF/VS		5.9e-3	MACT source (FF, A/C=2.8)
PM	LWAK	313C1	FF		6.0e-3	In: MACT EU (FF, A/C=1.3)
PM	LWAK	311C1	FF		6.0e-3	In: MACT EU (FF, A/C=1.8)
PM	LWAK	312C1	FF		7.0e-3	In: MACT EU (FF, A/C=1.6)
PM	LWAK	336C1	FF		7.3e-3	In: MACT EU (FF, A/C=?)
PM	LWAK	307C1	FF/VS		8.1e-3	In: MACT EU (FF, A/C=2.9)
PM	LWAK	307C2	FF/VS		9.7e-3	In: MACT EU (FF, A/C=2.9)
PM	LWAK	307C3	FF/VS		1.4e-2	In: MACT EU (FF, A/C=3.0)
PM	LWAK	310C1	FF		1.6e-2	Out: MACT (FF), High A/C
PM	LWAK	314C1	FF		2.6e-2	In: MACT EU (FF, A/C=1.3)

TABLE B-4. MERCURY, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	INC	221C5	SS/PT/VS	4.8e+1	4.2e-2	MACT source (WS w/ MTEC of 4.8e1)
Hg	INC	221C3	SS/PT/VS	3.3e+1	1.2e-1	Source already in MACT pool
Hg	INC	904C1	?		1.5e-1	Source already in MACT pool
Hg	INC	904C2	?		1.5e-1	Source already in MACT pool
Hg	INC	904C3	?		1.7e-1	MACT source (FC w/ MTEC of 1.7e-1)
Hg	INC	216C7	HES/WS		2.5e-1	Out: No MTEC
Hg	INC	346C1	C/QC/VS/PT/DM		2.8e-1	Out: No MTEC
Hg	INC	906C3	QT/PT		3.6e-1	MACT source (WS w/ MTEC of 3.6e-1)
Hg	INC	347C4	C/QC/VS/S/DM		5.0e-1	Out: No MTEC
Hg	INC	712C2	NONE		5.4e-1	Out: MACT (FC), High MTEC
Hg	INC	824C1	QT/VS/PT/DM	4.1e+0	7.1e-1	In: MACT EU (WS)
Hg	INC	354C1	QC/AS/VS/DM/IWS	1.9e+3	8.4e-1	Out: MACT (WS), High MTEC, High variability
Hg	INC	341C1	DA/DI/FF/HEPA/CA	4.0e+0	9.3e-1	Out: MACT (FC), High MTEC
Hg	INC	341C2	DA/DI/FF/HEPA/CA	9.0e+0	9.3e-1	Out: MACT (FC), High MTEC
Hg	INC	500C4	QC/VS/KOV/DM		1.1e+0	In: MACT EU (WS)
Hg	INC	503C1	HTHE/ LTHE/ FF		1.1e+0	Out: No MTEC
Hg	INC	216C5	HES/WS		1.2e+0	Out: No MTEC, High variability
Hg	INC	725C1	WS/QT		1.6e+0	Out: No MTEC
Hg	INC	353C1	QC/VS/DM/ESP		1.7e+0	Out: No MTEC
Hg	INC	705C1	QT/VS/ESP/PT	3.5e-2	1.7e+0	In: MACT EU (WS), High variability
Hg	INC	347C1	C/QC/VS/S/DM		1.7e+0	Out: No MTEC, High variability
Hg	INC	209C1	WHB/FF/VQ/PT/DM	2.4e+2	2.5e+0	Out: MACT (WS), High MTEC
Hg	INC	704C2	NONE		2.7e+0	In: MACT EU (FC)
Hg	INC	704C1	NONE		2.9e+0	In: MACT EU (FC)
Hg	INC	500C1	QC/VS/KOV/DM	9.1e+1	3.0e+0	Out: MACT (WS), High MTEC
Hg	INC	347C2	C/QC/VS/S/DM		3.4e+0	Out: No MTEC
Hg	INC	209C2	WHB/FF/VQ/PT/DM	2.4e+2	3.9e+0	Out: MACT (WS), High MTEC, High variability
Hg	INC	334C2	WS/ESP/PT	3.8e+1	3.9e+0	In: MACT EU (WS)
Hg	INC	700C1	SD/RJS/VS/WS	9.2e+0	4.5e+0	In: MACT EU (WS)
Hg	INC	330C1	QT/WS/DM	7.4e-2	4.7e+0	In: MACT EU (WS)
Hg	INC	221C1	SS/PT/VS	7.7e+0	5.2e+0	In: MACT EU (WS)
Hg	INC	807C3	C/WHB/VQ/PT/HS/DM	7.1e-1	5.7e+0	In: MACT EU (WS)

TABLE B-4. MERCURY, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	INC	330C2	QT/WS/DM	2.0e-1	5.8e+0	In: MACT EU (WS)
Hg	INC	353C2	QC/VS/DM/ESP		6.4e+0	Out: No MTEC
Hg	INC	342C1	WHB/QC/S/VS/DM		6.7e+0	Out: No MTEC
Hg	INC	340C1	WHB/ESP/WS	1.6e+2	7.6e+0	Out: MACT (WS), High MTEC
Hg	INC	334C1	WS/ESP/PT	2.9e+2	8.0e+0	Out: MACT (WS), High MTEC
Hg	INC	700C1	SD/RJS/VS/WS		9.2e+0	In: MACT EU (WS)
Hg	INC	325C3	SD/FF/WS/IWS		9.5e+0	Out: No MTEC, High variability
Hg	INC	807C1	C/WHB/VQ/PT/HS/DM	2.0e+1	1.1e+1	In: MACT EU (WS), High variability
Hg	INC	708C3	WS/ESP		1.3e+1	In: MACT EU (WS)
Hg	INC	340C2	WHB/ESP/WS	9.7e+1	1.3e+1	Out: MACT (WS), High MTEC
Hg	INC	710C1	QT/OS/C/S		1.3e+1	In: MACT EU (WS)
Hg	INC	708C2	WS/ESP		1.4e+1	In: MACT EU (WS)
Hg	INC	347C3	C/QC/VS/S/DM		1.5e+1	Out: No MTEC
Hg	INC	221C4	SS/PT/VS	1.5e+1	1.5e+1	In: MACT EU (WS)
Hg	INC	216C6	HES/WS		1.6e+1	Out: No MTEC, High variability
Hg	INC	400C1	SD/FF	2.8e+4	1.6e+1	Out: MACT (FC), High MTEC
Hg	INC	710C3	QT/OS/C/S		1.6e+1	In: MACT EU (WS)
Hg	INC	807C2	C/WHB/VQ/PT/HS/DM	1.7e+0	1.8e+1	Out: MACT (WS), MB problem
Hg	INC	708C1	WS/ESP		1.8e+1	In: MACT EU (WS)
Hg	INC	325C7	SD/FF/WS/IWS	5.1e+1	2.1e+1	Out: MACT (WS), High MTEC
Hg	INC	221C2	SS/PT/VS	1.7e+1	2.1e+1	In: MACT EU (WS)
Hg	INC	705C2	QT/VS/ESP/PT	4.2e+0	2.4e+1	Out: MACT (WS), MB problem, High variability
Hg	INC	325C5	SD/FF/WS/IWS	2.2e+2	2.6e+1	Out: MACT (WS), High MTEC
Hg	INC	214C3	IWS	3.3e+3	2.6e+1	Out: MACT (WS), High MTEC
Hg	INC	325C6	SD/FF/WS/IWS	9.7e+1	2.9e+1	Out: MACT (WS), High MTEC
Hg	INC	503C2	HTHE/ LTHE/ FF		3.0e+1	Out: No MTEC, High variability
Hg	INC	338C1	QC/FF/SS/C/HES/DM		3.2e+1	Out: No MTEC, High variability
Hg	INC	214C2	IWS	1.9e+3	3.7e+1	Out: MACT (WS), High MTEC
Hg	INC	331C1	PT/IWS		4.5e+1	Out: MACT (WS), No MTEC
Hg	INC	902C1	QT/VS/PT	3.2e+1	4.7e+1	In: MACT EU (WS)
Hg	INC	337C2	WHB/DA/DI/FF		5.3e+1	Out: MACT (FC), High MTEC
Hg	INC	325C4	SD/FF/WS/IWS	4.8e+1	5.9e+1	Out: MACT (WS), Poor D/O/M (CO - 325C6/5), High variability

TABLE B-4. MERCURY, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	INC	216C3	HES/WS		6.6e+1	Out: No MTEC, High variability
Hg	INC	338C2	QC/FF/SS/C/HES/DM		9.0e+1	Out: No MTEC
Hg	INC	500C1	QC/VS/KOV/DM		9.1e+1	Out: MACT (WS), High MTEC
Hg	INC	710C2	QT/OS/C/S		1.0e+2	Out: MACT (WS), High MTEC
Hg	INC	332C1	WS		1.1e+2	Out: MACT (WS), High MTEC
Hg	INC	806C2	C/VS		1.2e+2	Out: No MTEC
Hg	INC	337C1	WHB/DA/DI/FF	4.6e+1	1.6e+2	Out: MACT (FC), MB problem
Hg	INC	806C1	C/VS		1.9e+2	Out: No MTEC
Hg	INC	329C1	PT/IWS		3.2e+2	Out: MACT (WS), High MTEC
Hg	INC	327C2	SD/FF/WS/ESP	4.7e+1	3.3e+2	Out: MACT (WS), MB problem
Hg	INC	214C1	IWS		5.3e+2	Out: No MTEC, High variability
Hg	INC	327C3	SD/FF/WS/ESP	9.3e+1	8.1e+2	Out: MACT (WS), High MTEC, High variability
Hg	INC	327C1	SD/FF/WS/ESP	4.4e+2	1.5e+3	Out: MACT (WS), High MTEC
Hg	INC	504C1	VS/C	3.4e+3	1.9e+3	Out: MACT (WS), High MTEC, High variability
Hg	INC	808C2	QT/PBS/ESP		2.0e+3	Out: MACT (WS), High MTEC
Hg	INC	222C1	WHB/SD/ESP/Q/PBS		1.4e+4	Out: MACT (WS), High MTEC
Hg	INC	784C2	NONE		3.2e+4	Out: MACT (FC), High MTEC
Hg	INC	784C1	NONE		3.5e+4	Out: MACT (FC), High MTEC

TABLE B-5. MERCURY, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	CK	201C1	FF		2.7e+0	Out: No MTEC, High variability
Hg	CK	303C1	QC/FF	9.8e+1	2.9e+0	Out: Haz Waste not Burned
Hg	CK	305C3	ESP	1.4e+5	4.0e+0	Out: MB problem
Hg	CK	404C1	ESP	4.2e+1	4.3e+0	MACT source (FC w/ MTEC of 4.2e1)
Hg	CK	406C1	ESP	1.1e+2	5.1e+0	MACT source (FC w/ MTEC of 1.1e2)
Hg	CK	202C1	FF	6.0e+0	5.5e+0	MACT source (FC w/ MTEC of 6.0e0)
Hg	CK	203C1	ESP	4.2e+1	6.0e+0	In: MACT EU (FC)
Hg	CK	200C1	FF		1.0e+1	Out: No MTEC, High variability
Hg	CK	402C1	ESP	1.0e+4	1.6e+1	Out: MACT EU (FC), High MTEC
Hg	CK	206C1	ESP	8.8e+1	1.6e+1	In: MACT EU (FC)
Hg	CK	207C1	MC/ESP	1.1e+2	1.7e+1	In: MACT EU (FC)
Hg	CK	305C1	ESP	2.3e+2	1.7e+1	Out: MACT EU (FC), High MTEC
Hg	CK	204C1	ESP	1.1e+2	1.7e+1	In: MACT EU (FC)
Hg	CK	317C3	FF	1.9e+1	1.9e+1	In: MACT EU (FC)
Hg	CK	405C1	ESP	1.5e+2	2.0e+1	Out: MACT EU (FC), High MTEC
Hg	CK	202C2	FF	5.7e+1	2.1e+1	In: MACT EU (FC)
Hg	CK	208C1	ESP	1.0e+2	2.1e+1	In: MACT EU (FC)
Hg	CK	317C1	FF	2.4e+1	2.4e+1	In: MACT EU (FC)
Hg	CK	205C1	ESP	5.9e+1	3.0e+1	In: MACT EU (FC)
Hg	CK	317C2	FF	3.2e+1	3.2e+1	In: MACT EU (FC)
Hg	CK	315C1	FF	3.4e+1	3.4e+1	In: MACT EU (FC)
Hg	CK	315C2	FF	3.5e+1	3.5e+1	In: MACT EU (FC)
Hg	CK	323C1	ESP	3.6e+1	3.6e+1	In: MACT EU (FC)
Hg	CK	401C5	ESP	5.7e+1	3.7e+1	In: MACT EU (FC)
Hg	CK	309C1	MC/ESP	1.5e+2	3.9e+1	Out: MACT EU (FC), High MTEC
Hg	CK	335C1	ESP	4.5e+3	4.0e+1	Out: MACT EU (FC), High MTEC
Hg	CK	322C1	ESP	4.4e+1	4.4e+1	In: MACT EU (FC)
Hg	CK	304C1	ESP		4.5e+1	Out: No MTEC
Hg	CK	402C4	ESP	4.3e+1	4.9e+1	In: MACT EU (FC)
Hg	CK	319C1	ESP		5.5e+1	Out: No MTEC
Hg	CK	303C3	QC/FF	3.8e+2	5.5e+1	Out: MACT EU (FC), High MTEC
Hg	CK	302C1	ESP	6.1e+1	6.1e+1	In: MACT EU (FC)

TABLE B-5. MERCURY, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	CK	320C1	FF	6.9e+1	6.9e+1	In: MACT EU (FC)
Hg	CK	401C1	ESP	3.5e+2	8.4e+1	Out: MACT EU (FC), High MTEC, High variability
Hg	CK	316C1	FF	9.4e+1	9.4e+1	In: MACT EU (FC)
Hg	CK	207C2	MC/ESP	1.0e+2	1.0e+2	In: MACT EU (FC)
Hg	CK	208C2	ESP	1.1e+2	1.1e+2	In: MACT EU (FC)
Hg	CK	301C2	FF	1.3e+3	1.1e+2	Out: MACT EU (FC), High MTEC
Hg	CK	301C2	FF	1.3e+3	1.2e+2	Out: MACT EU (FC), High MTEC
Hg	CK	308C1	ESP	1.7e+2	1.7e+2	Out: MACT EU (FC), High MTEC
Hg	CK	316C2	FF	1.8e+2	1.8e+2	Out: MACT EU (FC), High MTEC
Hg	CK	300C2	ESP	1.9e+2	1.9e+2	Out: MACT EU (FC), High MTEC
Hg	CK	318C1	ESP	4.4e+2	4.4e+2	Out: MACT EU (FC), High MTEC
Hg	CK	318C3	ESP	4.5e+2	4.4e+2	Out: MACT EU (FC), High MTEC
Hg	CK	318C2	ESP	6.5e+2	6.5e+2	Out: MACT EU (FC), High MTEC
Hg	CK	321C1	ESP	8.2e+2	8.2e+2	Out: MACT EU (FC), High MTEC
Hg	CK	403C1	ESP	5.9e+1	8.7e+2	Out: MB problem, DL measurement
Hg	CK	306C1	MC/FF	3.8e+3	3.5e+3	Out: MACT EU (FC), High MTEC
Hg	CK	228C4	ESP	3.7e+4	3.7e+4	Out: MACT EU (FC), High MTEC
Hg	CK	200C1	FF	4.1e+4	4.1e+4	Out: MACT EU (FC), High MTEC
Hg	CK	201C1	FF	4.2e+4	4.2e+4	Out: MACT EU (FC), High MTEC

TABLE B-6. MERCURY, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
Hg	LWAK	313C1	FF	4.6e+1	3.7e-1	MACT source (FC w/ MTEC of 4.6e1), High variability
Hg	LWAK	225C1	FF	1.4e+1	4.7e+0	MACT source (FC w/ MTEC of 1.4e1)
Hg	LWAK	312C1	FF	4.2e+1	8.4e+0	MACT source (FC w/ MTEC of 4.2e1)
Hg	LWAK	310C1	FF	3.8e+1	1.4e+1	In: MACT EU (FC)
Hg	LWAK	224C1	FF	2.9e+1	1.4e+1	In: MACT EU (FC)
Hg	LWAK	311C1	FF	6.2e+1	1.5e+1	Out: MACT (FC), High MTEC
Hg	LWAK	227C1	FF	6.3e+1	1.7e+1	Out: MACT (FC), High MTEC
Hg	LWAK	314C1	FF	8.8e+1	2.5e+1	Out: MACT (FC), High MTEC
Hg	LWAK	223C1	FF	4.5e+1	3.1e+1	In: MACT EU (FC)
Hg	LWAK	307C1	FF/VS	2.4e+3	4.5e+2	Out: MACT (FC), High MTEC
Hg	LWAK	307C3	FF/VS	2.1e+3	4.7e+2	Out: MACT (FC), High MTEC
Hg	LWAK	307C4	FF/VS	2.4e+3	5.0e+2	Out: MACT (FC), High MTEC
Hg	LWAK	307C2	FF/VS	2.2e+3	5.4e+2	Out: MACT (FC), High MTEC
Hg	LWAK	336C2	FF	6.8e+2	6.8e+2	Out: MACT (FC), High MTEC
Hg	LWAK	336C1	FF	8.0e+2	8.0e+2	Out: MACT (FC), High MTEC

TABLE B-7. SVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	INC	325C3	SD/FF/WS/IWS		1.3e+0	Out: No MTEC
SVM	INC	712C1	NONE	1.9e-1	2.2e+0	Out: MB Problem, Sub. > 75%
SVM	INC	712C2	NONE	8.3e-1	2.3e+0	Out: MB Problem, Sub. > 75%
SVM	INC	354C1	QC/AS/VS/DM/IWS	4.8e+4	2.4e+0	MACT source (VS/IWS w/ MTEC of 4.8e4) (FF as ET)
SVM	INC	222C5	WHB/SD/ESP/Q/PBS		2.8e+0	Out: No MTEC
SVM	INC	500C1	QC/VS/KOV/DM	9.7e+1	2.8e+0	MACT source (VS w/ MTEC of 9.7e1) (Any PM control as ET)
SVM	INC	347C4	C/QC/VS/S/DM		4.0e+0	Out: No MTEC
SVM	INC	340C1	WHB/ESP/WS	5.6e+3	5.8e+0	MACT source (ESP w/ MTEC of 5.6e3)
SVM	INC	209C2	WHB/FF/VQ/PT/DM	1.7e+5	7.0e+0	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	327C2	SD/FF/WS/ESP	4.0e+3	8.3e+0	In: MACT EU (ET VS/IWS), High variability
SVM	INC	348C1	QC/AS/IWS	8.9e+2	8.8e+0	In: MACT EU (ET ESP), High variability
SVM	INC	209C1	WHB/FF/VQ/PT/DM	1.3e+5	9.0e+0	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	341C2	DA/DI/FF/HEPA/CA	2.2e+2	1.0e+1	In: MACT EU (ET VS/IWS)
SVM	INC	353C1	QC/VS/DM/ESP		1.2e+1	Out: No MTEC
SVM	INC	340C2	WHB/ESP/WS	3.7e+3	1.2e+1	In: MACT EU (ESP)
SVM	INC	347C3	C/QC/VS/S/DM		1.2e+1	Out: No MTEC
SVM	INC	347C1	C/QC/VS/S/DM		1.2e+1	Out: No MTEC
SVM	INC	221C2	SS/PT/VS	3.6e+2	1.3e+1	Out: MACT (VS), High MTEC, High variability
SVM	INC	347C2	C/QC/VS/S/DM		1.4e+1	Out: No MTEC
SVM	INC	344C2	QC/VS/PT/DM		1.6e+1	Out: No MTEC
SVM	INC	341C1	DA/DI/FF/HEPA/CA	2.0e+2	1.7e+1	In: MACT EU (ET VS/IWS)
SVM	INC	342C1	WHB/QC/S/VS/DM		1.9e+1	Out: No MTEC
SVM	INC	325C7	SD/FF/WS/IWS	7.0e+3	2.0e+1	In: MACT EU (ET VS/IWS), High variability
SVM	INC	327C1	SD/FF/WS/ESP	5.2e+3	2.0e+1	In: MACT EU (ET VS/IWS)
SVM	INC	902C1	QT/VS/PT	1.6e+2	2.4e+1	Out: MACT (VS), High MTEC
SVM	INC	229C1	WHB/ACS/HCS/CS	9.2e+1	2.5e+1	Out: MACT (ET VS), High MTEC
SVM	INC	221C5	SS/PT/VS	1.4e+3	2.5e+1	Out: MACT (VS), High MTEC
SVM	INC	229C3	WHB/ACS/HCS/CS	6.2e-1	2.7e+1	Out: MACT (ET VS), MB problem, Sub. > 85%, DL measurement
SVM	INC	221C3	SS/PT/VS	2.4e+3	2.7e+1	Out: MACT (VS), High MTEC
SVM	INC	338C1	QC/FF/SS/C/HES/DM		2.8e+1	Out: No MTEC
SVM	INC	338C2	QC/FF/SS/C/HES/DM		3.2e+1	Out: No MTEC
SVM	INC	327C3	SD/FF/WS/ESP	1.1e+4	3.3e+1	In: MACT EU (ESP)

TABLE B-7. SVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	INC	221C4	SS/PT/VS	4.6e+2	3.7e+1	Out: MACT (VS), High MTEC
SVM	INC	349C3	QC/FF/QC/PT	6.0e+5	3.7e+1	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	504C1	VS/C	2.3e+4	3.9e+1	Out: MACT (VS), High MTEC
SVM	INC	229C2	WHB/ACS/HCS/CS	1.2e+2	3.9e+1	Out: MACT (ET VS), High MTEC
SVM	INC	725C1	WS/QT		3.9e+1	Out: No MTEC
SVM	INC	824C1	QT/VS/PT/DM	4.1e+2	4.8e+1	Out: MACT (VS), High MTEC
SVM	INC	807C3	C/WHB/VQ/PT/HS/DM	3.7e+4	5.2e+1	Out: MACT (ET VS), High MTEC
SVM	INC	325C4	SD/FF/WS/IWS	5.0e+3	5.6e+1	Out: MACT (ET VS/IWS), Poor D/O/M (CO - 325C7)
SVM	INC	229C5	WHB/ACS/HCS/CS	8.9e-1	6.4e+1	Out: MACT (ET VS), High MTEC
SVM	INC	216C3	HES/WS		7.1e+1	Out: No MTEC
SVM	INC	229C6	WHB/ACS/HCS/CS	4.8e-1	7.1e+1	Out: MACT (ET VS), MB problem, Sub. > 91%, DL measurement
SVM	INC	337C1	WHB/DA/DI/FF	2.0e+4	8.2e+1	In: MACT EU (ET VS/IWS)
SVM	INC	346C1	C/QC/VS/PT/DM		9.0e+1	Out: No MTEC
SVM	INC	221C1	SS/PT/VS	1.8e+2	1.0e+2	Out: MACT (VS), High MTEC
SVM	INC	325C6	SD/FF/WS/IWS	5.7e+3	1.1e+2	Out: MACT (ET VS/IWS), Poor D/O/M (CO - 325C7), High variability
SVM	INC	705C1	QT/VS/ESP/PT	8.7e-2	1.2e+2	Out: MACT (ESP), MB problem
SVM	INC	214C1	IWS		1.4e+2	Out: No MTEC, High variability
SVM	INC	353C2	QC/VS/DM/ESP		1.9e+2	Out: No MTEC
SVM	INC	807C1	C/WHB/VQ/PT/HS/DM	1.9e+5	2.1e+2	Out: MACT (ET VS), High MTEC
SVM	INC	705C2	QT/VS/ESP/PT	7.6e+1	2.2e+2	Out: MACT (ESP), MB problem
SVM	INC	359C4	WHB/FF/S		2.4e+2	Out: No MTEC
SVM	INC	330C2	QT/WS/DM	3.5e+2	2.4e+2	Out: Not MACT
SVM	INC	325C5	SD/FF/WS/IWS	4.1e+3	2.5e+2	Out: MACT (ET VS/IWS), Poor D/O/M (CO - 325C7)
SVM	INC	807C2	C/WHB/VQ/PT/HS/DM	2.4e+5	2.7e+2	Out: MACT (ET VS), High MTEC
SVM	INC	359C5	WHB/FF/S		2.8e+2	Out: No MTEC
SVM	INC	330C1	QT/WS/DM	1.2e+0	4.4e+2	Out: Not MACT, MB problem
SVM	INC	324C4	?		4.5e+2	Out: No MTEC, High variability
SVM	INC	324C1	?		4.9e+2	Out: No MTEC, High variability
SVM	INC	806C2	C/VS		4.9e+2	Out: No MTEC
SVM	INC	806C1	C/VS		6.0e+2	Out: No MTEC
SVM	INC	324C2	?		6.7e+2	Out: No MTEC, High variability
SVM	INC	503C1	HTHE/ LTHE/ FF	3.1e+5	7.2e+2	Out: MACT (ET VS/IWS), High MTEC

TABLE B-7. SVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	INC	400C1	SD/FF	2.7e+6	7.5e+2	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	503C2	HTHE/ LTHE/ FF	6.6e+4	8.2e+2	Out: MACT (ET VS/IWS), High MTEC
SVM	INC	214C2	IWS	1.9e+5	8.3e+2	Out: MACT (ET VS), High MTEC
SVM	INC	809C1	VS	2.0e+4	8.4e+2	Out: MACT (VS), High MTEC
SVM	INC	324C3	?		9.7e+2	Out: No MTEC, High variability
SVM	INC	216C7	HES/WS		1.0e+3	Out: No MTEC
SVM	INC	216C5	HES/WS		1.0e+3	Out: No MTEC
SVM	INC	810C1	Q/VS/PBS	5.6e+4	1.0e+3	Out: MACT (VS), High MTEC
SVM	INC	359C6	WHB/FF/S		1.0e+3	Out: No MTEC
SVM	INC	216C6	HES/WS		1.1e+3	Out: No MTEC
SVM	INC	915C1	QC/VS/C		1.2e+3	Out: No MTEC
SVM	INC	214C3	IWS	3.2e+5	1.2e+3	Out: MACT (VS), High MTEC
SVM	INC	502C1	WHB/QC/PBC/VS/ES		1.3e+3	Out: No MTEC
SVM	INC	334C2	WS/ESP/PT	5.8e+2	1.6e+3	Out: MACT (ESP), MB problem
SVM	INC	810C2	Q/VS/PBS	6.5e+5	1.9e+3	Out: MACT (VS), High MTEC
SVM	INC	331C1	PT/IWS		3.7e+3	Out: No MTEC
SVM	INC	334C1	WS/ESP/PT	9.0e+4	7.5e+3	Out: MACT (WS/ESP), High MTEC
SVM	INC	809C2	VS	2.0e+5	1.9e+4	Out: MACT (VS), High MTEC
SVM	INC	700C1	SD/RJS/VS/WS	2.3e+5	2.6e+4	Out: MACT (VS), High MTEC
SVM	INC	905C1	QT/VS/AS/CS	1.5e+4	2.6e+4	Out: MACT (VS), High MTEC, MB problem

TABLE B-8. SVM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	CK	320C1	FF	3.4e+4	2.2e+0	MACT source (FF, A/C=2.1, w/ MTEC of 3.4e4)
SVM	CK	316C2	FF	7.5e+4	5.1e+0	MACT source (FF, A/C=1.3, w/ MTEC of 7.5e4)
SVM	CK	316C1	FF	8.9e+4	6.2e+0	Source already in MACT pool
SVM	CK	321C1	ESP	2.3e+5	6.6e+0	Out: MB problem (SRE outlier for CK w/ ESP)
SVM	CK	30114C2	FF	8.0e+4	7.3e+0	MACT source (FF, A/C=1.2, w/ MTEC of 8.0e4)
SVM	CK	30115C2	FF	8.0e+4	1.1e+1	In: MACT EU (FF, A/C=1.2), High variability
SVM	CK	303C1	QC/FF	8.1e+3	1.3e+1	In: MACT EU (FF, A/C=2.3)
SVM	CK	315C2	FF	1.6e+5	1.4e+1	Out: MACT (FF), High MTEC
SVM	CK	315C1	FF	1.7e+5	1.5e+1	Out: MACT (FF, A/C=1.5), High MTEC
SVM	CK	306C1	MC/FF	5.0e+4	1.6e+1	In: MACT EU (FF, A/C=1.8)
SVM	CK	317C1	FF	4.7e+4	2.8e+1	In: MACT EU (FF, A/C=2.4)
SVM	CK	317C3	FF	5.7e+3	2.9e+1	In: MACT EU (FF, A/C=2.4)
SVM	CK	317C2	FF	5.6e+4	2.9e+1	In: MACT EU (FF, A/C=2.4)
SVM	CK	403C1	ESP	1.3e+5	3.0e+1	Out: Not MACT
SVM	CK	303C3	QC/FF	3.6e+4	3.7e+1	In: MACT EU (FF, A/C=2.3)
SVM	CK	201C1	FF	1.5e+5	4.8e+1	Out: MACT (FF, A/C=?), High MTEC, High variability
SVM	CK	404C1	ESP	6.1e+4	5.6e+1	Out: Not MACT
SVM	CK	200C1	FF	3.2e+4	6.8e+1	Out: MACT (FF, A/C=4), High A/C
SVM	CK	208C2	ESP	2.1e+4	8.4e+1	Out: Not MACT
SVM	CK	208C1	ESP	3.2e+4	8.9e+1	Out: Not MACT
SVM	CK	308C1	ESP	5.9e+4	9.0e+1	Out: Not MACT
SVM	CK	202C2	FF	2.2e+5	1.1e+2	Out: MACT (FF, A/C=1.5), High MTEC
SVM	CK	318C2	ESP	1.2e+5	1.3e+2	Out: Not MACT
SVM	CK	322C1	ESP	1.4e+5	1.5e+2	Out: Not MACT
SVM	CK	207C2	MC/ESP	4.9e+4	2.3e+2	Out: Not MACT, High variability
SVM	CK	206C1	ESP	1.7e+5	2.7e+2	Out: Not MACT
SVM	CK	401C1	ESP	4.8e+4	3.0e+2	Out: Not MACT
SVM	CK	204C1	ESP	2.2e+5	4.7e+2	Out: Not MACT
SVM	CK	207C1	MC/ESP	9.1e+4	4.9e+2	Out: Not MACT
SVM	CK	203C1	ESP	1.6e+5	5.5e+2	Out: Not MACT
SVM	CK	309C1	MC/ESP	1.2e+5	5.8e+2	Out: Not MACT
SVM	CK	304C1	ESP		6.2e+2	Out: No MTEC

TABLE B-8. SVM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	CK	319C1	ESP		6.2e+2	Out: No MTEC
SVM	CK	406C1	ESP	1.2e+5	6.4e+2	Out: Not MACT
SVM	CK	335C1	ESP	8.4e+4	7.0e+2	Out: Not MACT
SVM	CK	402C1	ESP	2.1e+5	7.8e+2	Out: Not MACT
SVM	CK	323C1	ESP	1.7e+5	8.6e+2	Out: Not MACT
SVM	CK	302C1	ESP	3.8e+5	8.8e+2	Out: Not MACT
SVM	CK	305C3	ESP	8.5e+4	9.1e+2	Out: Not MACT
SVM	CK	405C1	ESP	9.1e+4	9.5e+2	Out: Not MACT
SVM	CK	305C1	ESP	1.5e+5	1.2e+3	Out: Not MACT
SVM	CK	205C1	ESP	1.4e+5	1.4e+3	Out: Not MACT
SVM	CK	401C5	ESP	1.0e+5	1.5e+3	Out: Not MACT, High variability
SVM	CK	300C2	ESP	4.7e+5	1.9e+3	Out: Not MACT, High variability
SVM	CK	402C4	ESP	5.2e+4	6.0e+3	Out: Not MACT

TABLE B-9. SVM, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
SVM	LWAK	225C1	FF	2.5e+5	9.7e-1	MACT source (FF, A/C=1.3, w/ MTEC of 2.5e5)
SVM	LWAK	307C4	FF/VS	7.1e+4	3.0e+0	Source already in MACT pool
SVM	LWAK	307C3	FF/VS	7.4e+4	3.8e+0	MACT source (FF/VS, A/C=2.8, w/ MTEC of 7.4e4)
SVM	LWAK	224C1	FF	2.3e+4	4.0e+0	MACT source (FF, A/C=1.3, w/ MTEC of 2.3e4)
SVM	LWAK	223C1	FF	7.3e+5	5.6e+0	Out: MACT (FF, A/C=1), High MTEC
SVM	LWAK	307C2	FF/VS	6.6e+4	6.9e+0	In: MACT EU (FF/VS, A/C = 2.8)
SVM	LWAK	307C1	FF/VS	7.3e+4	9.3e+0	In: MACT EU (FF/VS, A/C = 2.8)
SVM	LWAK	227C1	FF	8.2e+5	2.0e+1	Out: MACT (FF, A/C=2.8), High MTEC, High variability
SVM	LWAK	310C1	FF	6.0e+3	3.4e+2	Out: MACT (FF, A/C=3.6), High A/C, MB problem (low SRE)
SVM	LWAK	312C1	FF	4.6e+5	4.2e+2	Out: MACT (FF, A/C=1.6), High MTEC
SVM	LWAK	311C1	FF	3.9e+5	4.5e+2	Out: MACT (FF, A/C=1.8), High MTEC, High variability
SVM	LWAK	313C1	FF	7.4e+5	4.5e+2	Out: MACT (FF, A/C=1.3), High MTEC, High variability
SVM	LWAK	314C1	FF	7.1e+5	1.7e+3	Out: MACT (FF, A/C=1.3), High MTEC

TABLE B-10. LVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	INC	342C1	WHB/QC/S/VS/DM		2.2784	Out: No MTEC
LVM	INC	348C1	QC/AS/IWS	6221.7	3.1521	MACT source (IWS w/ MTEC of 6.2e3)
LVM	INC	500C1	QC/VS/KOV/DM	1029.8	3.4056	MACT source (VS w/ MTEC of 1.0e3) (Any PM control as ET)
LVM	INC	344C1	QC/VS/PT/DM		4.2281	Out: No MTEC
LVM	INC	351C1	GC/C/FF		5.7031	Out: No MTEC
LVM	INC	806C2	C/VS		5.7783	Out: No MTEC
LVM	INC	347C1	C/QC/VS/S/DM		7.2713	Out: No MTEC
LVM	INC	325C3	SD/FF/WS/IWS		7.4155	Out: No MTEC
LVM	INC	341C1	DA/DI/FF/HEPA/CA	348	7.6607	MACT source (FF w/ MTEC of 3.5e2)
LVM	INC	341C2	DA/DI/FF/HEPA/CA	393	7.665	In: MACT EU (FF, A/C=1.0)
LVM	INC	347C2	C/QC/VS/S/DM		7.7694	Out: No MTEC
LVM	INC	806C1	C/VS		8.4371	Out: No MTEC
LVM	INC	351C2	GC/C/FF		9.2378	Out: No MTEC
LVM	INC	902C1	QT/VS/PT	1088.8	9.696	Out: MACT (VS), High MTEC
LVM	INC	354C1	QC/AS/VS/DM/IWS	27309	10.19	Out: MACT (VS), High MTEC
LVM	INC	712C2	NONE	2.6628	10.291	Out: Not MACT
LVM	INC	340C2	WHB/ESP/WS	31852	10.96	Out: MACT (ET VS), High MTEC
LVM	INC	340C1	WHB/ESP/WS	41070	11.994	Out: MACT (ET VS), High MTEC, High Variability
LVM	INC	346C1	C/QC/VS/PT/DM		12.466	Out: No MTEC, High variability
LVM	INC	209C2	WHB/FF/VQ/PT/DM	250352	12.885	Out: MACT (ET VS.), High MTEC
LVM	INC	325C4	SD/FF/WS/IWS	6091.2	13.105	In: MACT EU (IWS)
LVM	INC	221C2	SS/PT/VS	834.08	16.57	In: MACT EU (VS)
LVM	INC	347C4	C/QC/VS/S/DM		16.611	Out: No MTEC
LVM	INC	351C3	GC/C/FF		17.361	Out: No MTEC
LVM	INC	327C2	SD/FF/WS/ESP	4530.3	18.015	Out: MACT (ET VS), High MTEC
LVM	INC	327C3	SD/FF/WS/ESP	8518.5	21.117	Out: MACT (ET VS.), High MTEC
LVM	INC	705C1	QT/VS/ESP/PT	0.438	25.308	Out: MACT (VS), MB Problem (Emission > MACT VS MTEC)
LVM	INC	347C3	C/QC/VS/S/DM		27.18	Out: No MTEC, High variability
LVM	INC	353C1	QC/VS/DM/ESP		31.225	Out: No MTEC
LVM	INC	214C3	IWS	65177	31.83	Out: MACT (IWS), High MTEC
LVM	INC	209C1	WHB/FF/VQ/PT/DM	217672	32.188	Out: MACT (ET VS.), High MTEC
LVM	INC	325C6	SD/FF/WS/IWS	7120.2	32.783	Out: MACT (IWS), High MTEC

TABLE B-10. LVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	INC	712C1	NONE	1.3586	36.673	Out: Not MACT
LVM	INC	221C3	SS/PT/VS	13217	37.073	Out: MACT (VS), High MTEC, High variability
LVM	INC	229C1	WHB/ACS/HCS/CS	624.08	37.35	Out: Not MACT
LVM	INC	330C2	QT/WS/DM	48.73	40.07	Out: Not MACT
LVM	INC	327C1	SD/FF/WS/ESP	17158	40.617	Out: MACT (ET VS.), High MTEC
LVM	INC	325C5	SD/FF/WS/IWS	3307.3	41.396	In: MACT EU (IWS)
LVM	INC	221C1	SS/PT/VS	120.93	43.728	In: MACT EU (VS)
LVM	INC	725C1	WS/QT		47.158	Out: No MTEC
LVM	INC	216C6	HES/WS		50.699	Out: No MTEC
LVM	INC	229C2	WHB/ACS/HCS/CS	1368.5	50.882	Out: Not MACT
LVM	INC	807C3	C/WHB/VQ/PT/HS/DM	276026	53.766	Out: Not MACT
LVM	INC	216C5	HES/WS		55.603	Out: No MTEC
LVM	INC	331C1	PT/IWS		55.764	Out: No MTEC
LVM	INC	221C4	SS/PT/VS	506.22	56.654	In: MACT EU (VS), High Variability
LVM	INC	325C7	SD/FF/WS/IWS	3769.3	63.862	In: MACT EU (IWS), High variability
LVM	INC	214C2	IWS	37490	65.242	Out: MACT (IWS), High MTEC
LVM	INC	229C6	WHB/ACS/HCS/CS	802.55	66.117	Out: Not MACT
LVM	INC	330C1	QT/WS/DM	0.1596	66.746	Out: Not MACT
LVM	INC	229C3	WHB/ACS/HCS/CS	250.7	67.978	Out: Not MACT
LVM	INC	338C2	QC/FF/SS/C/HES/DM		72.025	Out: No MTEC
LVM	INC	502C1	WHB/QC/PBC/VS/ES	57.592	76.709	Out: MACT (VS), MB Problem (low SRE)
LVM	INC	229C5	WHB/ACS/HCS/CS	586.6	77.463	Out: Not MACT
LVM	INC	338C1	QC/FF/SS/C/HES/DM		79.454	Out: No MTEC
LVM	INC	324C2	?		89.9	Out: No MTEC
LVM	INC	324C3	?		100.01	Out: No MTEC
LVM	INC	324C1	?		100.71	Out: No MTEC
LVM	INC	400C1	SD/FF	654534	110.91	Out: MACT (ET VS.), High MTEC
LVM	INC	824C1	QT/VS/PT/DM	8261.2	115.52	Out: MACT (VS), High MTEC
LVM	INC	216C7	HES/WS		129.36	Out: No MTEC
LVM	INC	344C2	QC/VS/PT/DM		133.72	Out: No MTEC
LVM	INC	504C1	VS/C	118370	149.71	Out: MACT (VS), High MTEC, High variability
LVM	INC	221C5	SS/PT/VS	10237	151.01	Out: MACT (VS), High MTEC

TABLE B-10. LVM, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	INC	324C4	?		153.11	Out: No MTEC, High variability
LVM	INC	905C1	QT/VS/AS/CS	7121.2	185.14	Out: MACT (VS), High MTEC
LVM	INC	353C2	QC/VS/DM/ESP		207.53	Out: No MTEC, High variability
LVM	INC	705C2	QT/VS/ESP/PT	177.25	212.94	Out: MACT (VS), MB Problem (low SRE)
LVM	INC	807C2	C/WHB/VQ/PT/HS/DM	266	215.33	Out: Not MACT
LVM	INC	337C1	WHB/DA/DI/FF	4182.9	223.42	Out: MACT (ET VS.), MB Problem
LVM	INC	807C1	C/WHB/VQ/PT/HS/DM	240513	242.25	Out: Not MACT, High variability
LVM	INC	503C2	HTHE/ LTHE/ FF	522575	254.05	Out: MACT (ET VS), High MTEC
LVM	INC	216C3	HES/WS		286.89	Out: No MTEC
LVM	INC	214C1	IWS		358.2	Out: No MTEC
LVM	INC	810C1	Q/VS/PBS	55266	360.77	Out: MACT (VS), High MTEC
LVM	INC	809C1	VS	55733	368.72	Out: MACT (VS), High MTEC
LVM	INC	334C1	WS/ESP/PT	15136	487.51	Out: MACT (ET VS), High MTEC, High Variability
LVM	INC	915C4	QC/VS/C		491.92	Out: No MTEC
LVM	INC	334C2	WS/ESP/PT	4009.5	517.04	Out: MACT (ET VS), High MTEC
LVM	INC	503C1	HTHE/ LTHE/ FF	195714	603.34	Out: MACT (ET VS.), High MTEC
LVM	INC	700C1	SD/RJS/VS/WS	6721.8	704.62	Out: MACT (VS), High MTEC
LVM	INC	810C2	Q/VS/PBS	2E+06	828.37	Out: MACT (VS), High MTEC
LVM	INC	915C1	QC/VS/C		862.86	Out: No MTEC
LVM	INC	359C4	WHB/FF/S		993.67	Out: No MTEC, High variability
LVM	INC	809C2	VS	1E+06	7144.2	Out: MACT (VS), High MTEC
LVM	INC	359C5	WHB/FF/S		11230	Out: No MTEC
LVM	INC	359C6	WHB/FF/S		143828	Out: No MTEC

TABLE B-11. LVM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	CK	316C2	FF	75648	4.2583	MACT source (FF, A/C=1.3, w/ MTEC of 7.6e4)
LVM	CK	320C1	FF	64869	4.4541	MACT source (FF, A/C=2.3, w/ MTEC of 6.5e4)
LVM	CK	309C1	MC/ESP	135719	4.7769	MACT source (ESP w/ MTEC of 1.4e5 and SCA of ?)
LVM	CK	303C3	QC/FF	40536	5.1761	In: MACT EU (FF, A/C=2.4), High variability
LVM	CK	321C1	ESP	374229	5.7739	Out: MACT (ESP), High MTEC, High Variability
LVM	CK	204C1	ESP	166691	6.3483	Out: MACT (ESP), High MTEC
LVM	CK	308C1	ESP	71110	7.4965	In: MACT EU (ESP, SCA=860)
LVM	CK	207C2	MC/ESP	29116	8.4216	In: MACT EU (ESP, SCA=?), High Variability
LVM	CK	206C1	ESP	228008	8.5663	Out: MACT (ESP), High MTEC
LVM	CK	316C1	FF	98561	9.6483	Out: MACT (FF), High MTEC
LVM	CK	208C1	ESP	29511	10.195	In: MACT EU (ESP, SCA=?)
LVM	CK	335C1	ESP	50815	10.709	In: MACT EU (ESP, SCA=420)
LVM	CK	315C2	FF	273690	10.919	Out: MACT (FF), High MTEC
LVM	CK	315C1	FF	286321	11.454	Out: MACT (FF), High MTEC
LVM	CK	306C1	MC/FF	203453	13.23	Out: MACT (FF), High MTEC
LVM	CK	208C2	ESP	24265	13.69	In: MACT EU (ESP, SCA=?)
LVM	CK	30142	FF	54000	16.6	In: MACT EU (FF)
LVM	CK	30152	FF	54000	16.965	In: MACT EU (FF)
LVM	CK	318C2	ESP	17461	18.622	In: MACT EU (ESP, SCA=434)
LVM	CK	303C1	QC/FF	4446	18.686	In: MACT EU (FF, A/C=2.3)
LVM	CK	205C1	ESP	189352	19.888	Out: MACT (ESP), High MTEC
LVM	CK	305C3	ESP	65763	20.288	In: MACT EU (ESP, SCA=340)
LVM	CK	302C1	ESP	393265	20.587	Out: MACT (ESP), High MTEC
LVM	CK	317C1	FF	78775	22.9	In: MACT EU (FF)
LVM	CK	317C3	FF	41209	23.3	In: MACT EU (FF, A/C=1.5)
LVM	CK	401C5	ESP	19360	23.684	In: MACT EU (ESP, SCA=243), High Variability
LVM	CK	317C2	FF	91073	24	Out: MACT (FF), High MTEC
LVM	CK	322C1	ESP	178747	26.266	Out: MACT (ESP), High MTEC
LVM	CK	203C1	ESP	54510	27.598	In: MACT EU (ESP, SCA=220)
LVM	CK	202C2	FF	134238	29.473	Out: MACT (FF), High MTEC
LVM	CK	207C1	MC/ESP	30951	30.18	In: MACT EU (ESP, SCA=?), High Variability
LVM	CK	403C1	ESP	70073	32.895	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)

TABLE B-11. LVM, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	CK	305C1	ESP	105967	39.097	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	304C1	ESP		40.238	Out: No MTEC
LVM	CK	402C4	ESP	24644	49.746	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	319C1	ESP		63.515	Out: No MTEC
LVM	CK	323C1	ESP	189028	80.3	Out: MACT (ESP), High MTEC
LVM	CK	300C2	ESP	494087	87.587	In: MACT EU (ESP, SCA=370), High Variability
LVM	CK	404C1	ESP	170044	127.97	Out: MACT (ESP), High MTEC
LVM	CK	402C1	ESP	232761	163.21	Out: MACT (ESP), High MTEC
LVM	CK	401C1	ESP	30551	173.92	Out: MACT (ESP, SCA=230), Poor D/O/M (older ESP)
LVM	CK	406C1	ESP	127619	183.49	Out: MACT (ESP, SCA=340), Poor D/O/M (low SCA)
LVM	CK	405C1	ESP	192573	286.6	Out: MACT (ESP), High MTEC
LVM	CK	201C1	FF	292880	347.12	Out: MACT (FF), High MTEC
LVM	CK	200C1	FF	381528	384.55	Out: MACT (FF), High MTEC

TABLE B-12. LVM, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (µg/dscm)	Comments
LVM	LWAK	225C1	FF	41030	10.09	Source already in MACT pool
LVM	LWAK	224C1	FF	66789	18.56	MACT source (FF, A/C=1.5, w/ MTEC of 6.7e4)
LVM	LWAK	227C1	FF	208233	20.15	MACT source (FF, A/C=2.8, w/ MTEC of 2.1e5)
LVM	LWAK	307C1	FF/VS	125760	31.861	MACT source, (FF/VS w/ MTEC of 1.3e5), High variability
LVM	LWAK	307C2	FF/VS	101365	34.806	In: MACT EU (FF/VS)
LVM	LWAK	312C1	FF	125978	35.342	In: MACT EU (FF w/ A/C=1.8)
LVM	LWAK	223C1	FF	86890	35.604	In: MACT EU (FF, A/C=1.2)
LVM	LWAK	311C1	FF	124047	36.162	In: MACT EU (FF, A/C=1.9)
LVM	LWAK	310C1	FF	5829.9	59.706	Out: MACT (FF, A/C=3.6), High A/C
LVM	LWAK	307C4	FF/VS	104061	67.475	In: MACT EU (FF, A/C=4.2), High variability
LVM	LWAK	307C3	FF/VS	102667	121.42	In: MACT EU (FF, A/C=4.4)
LVM	LWAK	314C1	FF	88970	202.91	In: MACT EU (FF, A/C=1.4)
LVM	LWAK	313C1	FF	118201	294.3	In: MACT EU (FF, A/C=1.4)

TABLE B-13. HCL, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	INC	348C1	QC/AS/IWS	9.8e+7	5.6e-2	MACT source (AS/IWS w/ MTEC of 9.8e7)
HCl	INC	347C2	C/QC/VS/S/DM		7.5e-2	Out: No MTEC
HCl	INC	347C1	C/QC/VS/S/DM		7.9e-2	Out: No MTEC, High variability
HCl	INC	338C1	QC/FF/SS/C/HES/DM		1.4e-1	Out: No MTEC
HCl	INC	808C2	QT/PBS/ESP	2.2e+7	1.5e-1	MACT source (PBS/ESP w/ MTEC of 2.2e7), High variability
HCl	INC	338C2	QC/FF/SS/C/HES/DM		1.6e-1	Out: No MTEC
HCl	INC	358C2	QC/VS/C/CT/S/DM	1.2e+7	1.8e-1	MACT source (VS/WS w/ MTEC of 1.2e7), High variability
HCl	INC	222C1	WHB/SD/ESP/Q/PBS		1.9e-1	Out: No MTEC
HCl	INC	342C2	WHB/QC/S/VS/DM		2.1e-1	Out: No MTEC
HCl	INC	354C3	QC/AS/VS/DM/IWS	1.4e+7	2.1e-1	MACT source (AS/VS/IWS w/ MTEC of 1.4e7)
HCl	INC	327C2	SD/FF/WS/ESP		2.2e-1	Out: No MTEC
HCl	INC	706C3	QT/HS/C	1.7e+7	2.2e-1	Out: Not MACT
HCl	INC	903C1	VS/PT/CA/HEPA		2.2e-1	Out: No MTEC
HCl	INC	706C1	QT/HS/C	1.6e+7	2.7e-1	Out: Not MACT
HCl	INC	708C3	WS/ESP	5.5e+7	3.1e-1	In: MACT EU (WS), High variability
HCl	INC	600C1	WHB/QC/PT/IWS	3.1e+7	3.4e-1	In: MACT EU (WS)
HCl	INC	354C2	QC/AS/VS/DM/IWS	3.1e+7	3.4e-1	In: MACT EU (WS)
HCl	INC	337C2	WHB/DA/DI/FF	7.8e+4	3.5e-1	Out: Not MACT
HCl	INC	728C1	QT/PT/VS	1.8e+7	3.9e-1	In: MACT EU (WS), High varability
HCl	INC	701C2	VS/PT		4.9e-1	Out: MACT (WS), No MTEC, High variability
HCl	INC	707C7	QT/WS		5.1e-1	Out: No MTEC
HCl	INC	358C3	QC/VS/C/CT/S/DM	4.1e+7	6.3e-1	In: MACT EU (WS)
HCl	INC	327C3	SD/FF/WS/ESP		6.3e-1	Out: No MTEC, High variability
HCl	INC	325C4	SD/FF/WS/IWS	1.2e+7	6.5e-1	In: MACT EU (WS), High variability
HCl	INC	707C8	QT/WS		6.8e-1	Out: No MTEC, High variability
HCl	INC	808C1	QT/PBS/ESP	2.6e+7	6.9e-1	In: MACT EU (WS)
HCl	INC	354C4	QC/AS/VS/DM/IWS		7.2e-1	Out: No MTEC
HCl	INC	711C1	C/VS/AS	8.7e+5	7.2e-1	In: MACT EU (WS)
HCl	INC	708C1	WS/ESP	8.5e+7	7.3e-1	In: MACT EU (WS)
HCl	INC	344C2	QC/VS/PT/DM		7.5e-1	Out: No MTEC, High variability
HCl	INC	346C1	C/QC/VS/PT/DM		7.5e-1	Out: No MTEC
HCl	INC	707C1	QT/WS		7.8e-1	Out: No MTEC, High variability

TABLE B-13. HCL, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	INC	711C2	C/VS/AS	1.8e+5	8.3e-1	In: MACT EU (WS)
HCl	INC	500C4	QC/VS/KOV/DM	1.7e+7	8.6e-1	Out: Not MACT
HCl	INC	500C3	QC/VS/KOV/DM	1.6e+7	9.1e-1	Out: Not MACT
HCl	INC	214C3	IWS	5.1e+7	9.4e-1	Out: Not MACT
HCl	INC	711C3	C/VS/AS	8.2e+5	9.6e-1	In: MACT EU (WS)
HCl	INC	344C1	QC/VS/PT/DM		1.1e+0	Out: No MTEC
HCl	INC	354C1	QC/AS/VS/DM/IWS	4.1e+7	1.1e+0	In: MACT EU (WS)
HCl	INC	706C2	QT/HS/C	1.7e+7	1.1e+0	Out: Not MACT, High variability
HCl	INC	807C1	C/WHB/VQ/PT/HS/DM	2.3e+6	1.1e+0	In: MACT EU (WS)
HCl	INC	708C2	WS/ESP	6.4e+7	1.1e+0	In: MACT EU (WS), High variability
HCl	INC	341C1	DA/DI/FF/HEPA/CA	4.5e+5	1.3e+0	Out: Not MACT, High variability
HCl	INC	347C3	C/QC/VS/S/DM		1.4e+0	Out: No MTEC, High variability
HCl	INC	359C3	WHB/FF/S	1.4e+7	1.5e+0	Out: Not MACT, High variability
HCl	INC	222C6	WHB/SD/ESP/Q/PBS	2.8e+7	1.5e+0	In: MACT EU (WS), High variability
HCl	INC	359C2	WHB/FF/S	2.3e+7	1.6e+0	Out: Not MACT
HCl	INC	214C1	IWS	2.4e+7	1.6e+0	Out: Not MACT
HCl	INC	341C2	DA/DI/FF/HEPA/CA	1.0e+6	1.6e+0	Out: Not MACT
HCl	INC	214C2	IWS	2.6e+7	1.7e+0	Out: Not MACT
HCl	INC	222C3	WHB/SD/ESP/Q/PBS		1.8e+0	Out: No MTEC
HCl	INC	600C2	WHB/QC/PT/IWS	4.9e+7	2.0e+0	In: MACT EU (WS)
HCl	INC	222C2	WHB/SD/ESP/Q/PBS		2.2e+0	Out: No MTEC
HCl	INC	807C2	C/WHB/VQ/PT/HS/DM	1.4e+6	2.3e+0	In: MACT EU (WS)
HCl	INC	825C1	CCS/QC/ESP	3.4e+7	2.3e+0	In: MACT EU (WS)
HCl	INC	824C1	QT/VS/PT/DM	5.0e+6	2.3e+0	In: MACT EU (WS)
HCl	INC	707A2	QT/WS	7.3e+6	2.4e+0	Out: Not MACT
HCl	INC	358C1	QC/VS/C/CT/S/DM	4.7e+7	2.5e+0	In: MACT EU (WS), High variability
HCl	INC	359C1	WHB/FF/S	2.1e+7	2.6e+0	Out: Not MACT, High variability
HCl	INC	807C3	C/WHB/VQ/PT/HS/DM	1.1e+6	2.7e+0	In: MACT EU (WS)
HCl	INC	325C5	SD/FF/WS/IWS	1.9e+6	3.0e+0	In: MACT EU (WS)
HCl	INC	209C7	WHB/FF/VQ/PT/DM	3.4e+7	3.3e+0	In: MACT EU (WS)
HCl	INC	209C4	WHB/FF/VQ/PT/DM	1.2e+7	3.4e+0	In: MACT EU (WS), High variability
HCl	INC	725C1	WS/QT		3.4e+0	Out: No MTEC

TABLE B-13. HCL, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	INC	700C2	SD/RJS/VS/WS	1.8e+6	3.7e+0	In: MACT EU (WS)
HCl	INC	209C5	WHB/FF/VQ/PT/DM	2.7e+7	3.9e+0	In: MACT EU (WS)
HCl	INC	209C8	WHB/FF/VQ/PT/DM	5.0e+7	4.2e+0	In: MACT EU (WS)
HCl	INC	347C4	C/QC/VS/S/DM		4.4e+0	Out: No MTEC
HCl	INC	902C1	QT/VS/PT	4.0e+7	4.5e+0	In: MACT EU (WS)
HCl	INC	504C1	VS/C	8.7e+4	4.6e+0	Out: Not MACT, High variability
HCl	INC	359C4	WHB/FF/S	6.8e+6	5.0e+0	Out: Not MACT
HCl	INC	229C3	WHB/ACS/HCS/CS	1.9e+8	5.0e+0	Out: MACT (WS), High MTEC
HCl	INC	707C9	QT/WS	8.1e+6	5.1e+0	Out: Not MACT
HCl	INC	209C6	WHB/FF/VQ/PT/DM	3.7e+7	5.5e+0	In: MACT EU (WS)
HCl	INC	325C6	SD/FF/WS/IWS	3.4e+6	5.6e+0	In: MACT EU (WS), High variability
HCl	INC	359C5	WHB/FF/S	7.8e+6	5.7e+0	Out: Not MACT
HCl	INC	221C3	SS/PT/VS		6.5e+0	Out: No MTEC
HCl	INC	714C4	WS	4.8e+6	6.7e+0	Out: Not MACT
HCl	INC	357C1	QC/VS/PT/IWS	1.1e+7	6.8e+0	In: MACT EU (WS)
HCl	INC	221C2	SS/PT/VS		6.9e+0	Out: No MTEC
HCl	INC	707A1	QT/WS		6.9e+0	Out: No MTEC
HCl	INC	903C2	VS/PT/CA/HEPA		7.0e+0	Out: No MTEC
HCl	INC	329C1	PT/IWS	1.7e+7	7.0e+0	In: MACT EU (WS), High variability
HCl	INC	701C3	VS/PT		7.1e+0	Out: No MTEC
HCl	INC	725C2	WS/QT		7.4e+0	Out: No MTEC
HCl	INC	903C3	VS/PT/CA/HEPA		8.2e+0	Out: No MTEC
HCl	INC	216C7	HES/WS		8.6e+0	Out: No MTEC
HCl	INC	358C4	QC/VS/C/CT/S/DM	4.4e+7	8.8e+0	In: MACT EU (WS)
HCl	INC	707C3	QT/WS	6.7e+6	8.8e+0	Out: Not MACT
HCl	INC	705C2	QT/VS/ESP/PT		8.8e+0	Out: No MTEC
HCl	INC	327C1	SD/FF/WS/ESP		8.9e+0	Out: No MTEC
HCl	INC	707C2	QT/WS	6.5e+6	9.3e+0	Out: Not MACT
HCl	INC	221C1	SS/PT/VS		9.4e+0	Out: No MTEC
HCl	INC	216C2	HES/WS		1.0e+1	Out: No MTEC
HCl	INC	705C1	QT/VS/ESP/PT		1.1e+1	Out: No MTEC
HCl	INC	707C4	QT/WS	8.8e+6	1.1e+1	Out: Not MACT

TABLE B-13. HCL, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	INC	340C1	WHB/ESP/WS	4.0e+6	1.2e+1	Out: Not MACT
HCl	INC	325C7	SD/FF/WS/IWS	8.1e+6	1.2e+1	In: MACT EU (WS), High variability
HCl	INC	334C1	WS/ESP/PT	3.5e+6	1.2e+1	In: MACT EU (WS)
HCl	INC	209C1	WHB/FF/VQ/PT/DM	3.8e+7	1.3e+1	In: MACT EU (WS)
HCl	INC	210C1	FF/S	2.2e+7	1.3e+1	Out: Not MACT
HCl	INC	500C1	QC/VS/KOV/DM	2.7e+6	1.7e+1	Out: Not MACT, High variability
HCl	INC	339C1	AT/PT/RJS/ESP	3.6e+7	1.7e+1	In: MACT EU (WS), High variability
HCl	INC	221C5	SS/PT/VS		1.9e+1	Out: No MTEC
HCl	INC	221C4	SS/PT/VS		1.9e+1	Out: No MTEC
HCl	INC	334C2	WS/ESP/PT	9.6e+6	2.0e+1	In: MACT EU (WS)
HCl	INC	209C2	WHB/FF/VQ/PT/DM	4.0e+7	2.1e+1	In: MACT EU (WS)
HCl	INC	502C1	WHB/QC/PBC/VS/ES	9.5e+6	2.1e+1	In: MACT EU (WS), High variability
HCl	INC	340C2	WHB/ESP/WS	2.4e+6	2.1e+1	Out: Not MACT
HCl	INC	324C4	?		2.1e+1	Out: No MTEC, High variability
HCl	INC	700C1	SD/RJS/VS/WS	3.1e+6	2.3e+1	In: MACT EU (WS)
HCl	INC	211C1	FF/S	2.5e+7	2.3e+1	Out: Not MACT
HCl	INC	701C1	VS/PT		2.5e+1	Out: No MTEC
HCl	INC	713C1	VS/PT	5.1e+4	2.6e+1	In: MACT EU (WS)
HCl	INC	209C3	WHB/FF/VQ/PT/DM	1.0e+7	3.1e+1	Out: MACT (WS), Poor D/O/M (CO - 209C1/2)
HCl	INC	359C6	WHB/FF/S	6.0e+6	3.2e+1	Out: Not MACT, Poor D/O/M (CO - 359C1)
HCl	INC	714C3	WS	6.4e+6	3.2e+1	Out: Not MACT, Poor D/O/M (CO - 714C4)
HCl	INC	500C2	QC/VS/KOV/DM	1.2e+7	3.6e+1	Out: Not MACT, High variability
HCl	INC	332C1	WS	3.8e+7	3.8e+1	Out: Not MACT
HCl	INC	806C1	C/VS		4.2e+1	Out: No MTEC
HCl	INC	806C2	C/VS	6.3e+2	4.7e+1	Out: Not MACT
HCl	INC	906C2	QT/PT	4.1e+6	4.8e+1	Out: Not MACT
HCl	INC	333C1	SD/FF	8.7e+6	5.0e+1	Out: Not MACT
HCl	INC	229C6	WHB/ACS/HCS/CS	2.2e+8	5.0e+1	Out: MACT (WS), High MTEC, Poor D/O/M (CO - 229C3)
HCl	INC	330C1	QT/WS/DM	2.7e+7	5.1e+1	Out: Not MACT
HCl	INC	210C2	FF/S	1.8e+7	5.4e+1	Out: Not MACT
HCl	INC	714C2	WS	7.5e+6	6.0e+1	Out: Not MACT, Poor D/O/M (CO - 714C4)
HCl	INC	714C1	WS	1.1e+7	6.1e+1	Out: Not MACT, Poor D/O/M (CO - 714C4)

TABLE B-13. HCL, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	INC	333C2	SD/FF	1.3e+7	6.6e+1	Out: Not MACT
HCl	INC	710C1	QT/OS/C/S	6.3e+7	7.4e+1	Out: MACT (WS), Poor D/O/M
HCl	INC	710C2	QT/OS/C/S	4.9e+7	8.2e+1	Out: MACT (WS), Poor D/O/M
HCl	INC	229C5	WHB/ACS/HCS/CS	2.6e+8	8.6e+1	Out: MACT (WS), High MTEC, Poor D/O/M (CO - 229C3)
HCl	INC	212C1	FF/S	3.1e+7	8.7e+1	Out: Not MACT
HCl	INC	714C5	WS	1.2e+7	9.0e+1	Out: Not MACT, Poor D/O/M (CO - 714C4)
HCl	INC	229C1	WHB/ACS/HCS/CS	1.5e+8	9.1e+1	Out: MACT (WS), High MTEC, Poor D/O/M (CO - 229C3)
HCl	INC	324C3	?		1.0e+2	Out: No MTEC, High variability
HCl	INC	710C3	QT/OS/C/S	4.5e+7	1.1e+2	Out: MACT (WS), Poor D/O/M
HCl	INC	906C1	QT/PT	5.7e+7	1.2e+2	Out: Not MACT
HCl	INC	324C2	?		1.3e+2	Out: No MTEC, High variability
HCl	INC	229C4	WHB/ACS/HCS/CS	1.9e+8	1.3e+2	Out: MACT (WS), High MTEC, High variability, Poor D/O/M (CO - 229C3)
HCl	INC	704C1	NONE	9.1e+7	1.4e+2	Out: Not MACT
HCl	INC	906C3	QT/PT	5.2e+7	1.5e+2	Out: Not MACT
HCl	INC	229C2	WHB/ACS/HCS/CS	2.0e+8	1.6e+2	Out: MACT (WS), High MTEC, Poor D/O/M (CO - 229C3)
HCl	INC	906C5	QT/PT	7.6e+7	1.6e+2	Out: Not MACT
HCl	INC	324C1	?		1.6e+2	Out: No MTEC, High variability
HCl	INC	704C2	NONE	1.1e+8	1.7e+2	Out: Not MACT
HCl	INC	906C4	QT/PT	6.6e+7	2.0e+2	Out: Not MACT
HCl	INC	703C1	WHB	5.4e+5	2.9e+2	Out: Not MACT
HCl	INC	703C2	WHB	4.6e+5	3.6e+2	Out: Not MACT
HCl	INC	784C1	NONE		8.7e+2	Out: No MTEC
HCl	INC	784C2	NONE		9.4e+2	Out: No MTEC

TABLE B-14. HCL, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	CK	204C2	ESP	1.7e+6	6.0e-2	MACT source (FC w/ MTEC of 1.7e6)
HCl	CK	301C1	FF	1.5e+6	2.2e-1	MACT source (FC w/ MTEC of 1.5e6)
HCl	CK	301C1	FF	1.5e+6	2.2e-1	Source already in MACT pool
HCl	CK	304C2	ESP		3.4e-1	Out: No MTEC
HCl	CK	403C1	ESP	2.0e+6	4.2e-1	MACT source (FC w/ MTEC of 2.0e6), High variability
HCl	CK	403C2	ESP	2.5e+6	7.5e-1	Out: MACT (FC), High MTEC
HCl	CK	202C1	FF	1.2e+6	8.6e-1	In: MACT EU (FC)
HCl	CK	315C1	FF	6.9e+5	1.3e+0	In: MACT EU (FC)
HCl	CK	303C1	QC/FF	2.9e+5	1.7e+0	In: MACT EU (FC)
HCl	CK	306C1	MC/FF	7.8e+5	2.1e+0	In: MACT EU (FC)
HCl	CK	405C1	ESP	2.5e+6	2.3e+0	Out: MACT (FC), High MTEC
HCl	CK	315C2	FF	5.7e+5	2.7e+0	In: MACT EU (FC)
HCl	CK	317C1	FF	3.0e+5	2.8e+0	In: MACT EU (FC)
HCl	CK	320C1	FF	4.2e+5	2.8e+0	In: MACT EU (FC)
HCl	CK	317C2	FF	6.2e+5	3.3e+0	In: MACT EU (FC)
HCl	CK	208C1	ESP	6.3e+5	4.0e+0	In: MACT EU (FC)
HCl	CK	207C1	MC/ESP	9.7e+5	4.3e+0	In: MACT EU (FC)
HCl	CK	321C1	ESP	1.6e+6	4.4e+0	In: MACT EU (FC)
HCl	CK	308C1	ESP	1.0e+6	4.5e+0	In: MACT EU (FC)
HCl	CK	303C2	QC/FF	1.2e+6	5.9e+0	In: MACT EU (FC), High variability
HCl	CK	317C3	FF	2.2e+5	7.2e+0	In: MACT EU (FC)
HCl	CK	401C5	ESP	2.4e+6	9.6e+0	Out: MACT (FC), High MTEC
HCl	CK	302C1	ESP	2.4e+6	9.7e+0	Out: MACT (FC), High MTEC
HCl	CK	402C4	ESP	3.4e+6	9.7e+0	Out: MACT (FC), High MTEC
HCl	CK	205C1	ESP	8.7e+5	1.6e+1	In: MACT EU (FC)
HCl	CK	200C1	FF	3.2e+6	1.7e+1	Out: MACT (FC), High MTEC
HCl	CK	402C1	ESP	3.2e+6	1.8e+1	Out: MACT (FC), High MTEC, High variability
HCl	CK	316C2	FF	8.2e+5	1.9e+1	In: MACT EU (FC)
HCl	CK	201C1	FF	2.7e+6	1.9e+1	Out: MACT (FC), High MTEC
HCl	CK	322C1	ESP	3.0e+6	2.2e+1	Out: MACT (FC), High MTEC
HCl	CK	319C2	ESP		2.6e+1	Out: No MTEC
HCl	CK	319C7	ESP		2.7e+1	Out: No MTEC

TABLE B-14. HCL, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	CK	305C3	ESP	7.0e+5	2.9e+1	In: MACT EU (FC)
HCl	CK	202C2	FF	1.6e+6	3.2e+1	In: MACT EU (FC)
HCl	CK	316C1	FF	1.1e+6	3.3e+1	In: MACT EU (FC)
HCl	CK	300C1	ESP	2.1e+6	3.3e+1	In: MACT EU (FC)
HCl	CK	401C1	ESP	4.2e+6	3.3e+1	Out: MACT (FC), High MTEC
HCl	CK	406C1	ESP	1.8e+6	3.4e+1	In: MACT EU (FC), High variability
HCl	CK	309C1	MC/ESP	1.0e+6	3.9e+1	In: MACT EU (FC)
HCl	CK	319C8	ESP		4.1e+1	Out: No MTEC
HCl	CK	318C2	ESP		4.7e+1	Out: No MTEC
HCl	CK	318C1	ESP	8.8e+5	4.8e+1	In: MACT EU (FC)
HCl	CK	404C2	ESP	2.7e+6	5.3e+1	Out: MACT (FC), High MTEC
HCl	CK	319C4	ESP		5.4e+1	Out: No MTEC
HCl	CK	309C2	MC/ESP	1.1e+6	5.6e+1	In: MACT EU (FC)
HCl	CK	206C1	ESP	1.1e+6	8.0e+1	In: MACT EU (FC), High variability
HCl	CK	323C1	ESP	3.5e+6	8.3e+1	Out: MACT (FC), High MTEC
HCl	CK	404C1	ESP	2.1e+6	8.7e+1	In: MACT EU (FC), High variability
HCl	CK	335C1	ESP	6.7e+5	1.1e+2	In: MACT EU (FC)
HCl	CK	203C1	ESP	1.4e+6	1.1e+2	In: MACT EU (FC)
HCl	CK	319C6	ESP	8.2e+5	1.5e+2	In: MACT EU (FC)
HCl	CK	305C1	ESP	1.5e+6	1.8e+2	In: MACT EU (FC)

TABLE B-15. HCL, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
HCl	LWAK	224C1	FF	8.5e+5	9.6e-1	Out: MB problem (using lime injection?)
HCl	LWAK	307C3	FF/VS	7.8e+6	1.3e+1	Source already in MACT pool
HCl	LWAK	307C1	FF/VS	3.4e+6	2.2e+1	Source already in MACT Pool, High variability
HCl	LWAK	307C2	FF/VS	1.4e+7	2.4e+1	MACT source (VS w/ MTEC of 1.4e7)
HCl	LWAK	307C4	FF/VS	1.3e+7	2.8e+1	Source already in MACT pool
HCl	LWAK	225C1	FF	8.4e+5	6.0e+2	MACT source (FC w/ MTEC of 8.4e5)
HCl	LWAK	314C1	FF	1.9e+6	8.2e+2	MACT source (FC w/ MTEC of 1.9e6)
HCl	LWAK	310C1	FF	9.6e+5	1.2e+3	In: MACT EU (FC)
HCl	LWAK	311C1	FF	1.1e+6	1.2e+3	In: MACT EU (FC)
HCl	LWAK	312C1	FF	2.2e+6	1.3e+3	Out: MACT (FC), High MTEC
HCl	LWAK	227C1	FF	1.5e+6	1.5e+3	In: MACT EU (FC)
HCl	LWAK	313C1	FF	2.4e+6	1.5e+3	Out: MACT (FC), High MTEC
HCl	LWAK	223C1	FF	2.3e+6	2.2e+3	Out: MACT (FC), High MTEC

TABLE B-16. C12, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
Cl2	INC	339C1	AT/PT/RJS/ESP	3.6e+7	1.3e-2	MACT source (WS w/ MTEC of 3.6e7), High variability
Cl2	INC	700C2	SD/RJS/VS/WS	1.7e+6	4.8e-2	MACT source (WS w/ MTEC of 1.8e6)
Cl2	INC	338C1	QC/FF/SS/C/HES/DM		4.8e-2	Out: No MTEC
Cl2	INC	338C2	QC/FF/SS/C/HES/DM		5.0e-2	Out: No MTEC
Cl2	INC	222C1	WHB/SD/ESP/Q/PBS		7.4e-2	Out: No MTEC
Cl2	INC	354C3	QC/AS/VS/DM/IWS	1.4e+7	7.4e-2	MACT source (WS w/ MTEC of 1.4e7)
Cl2	INC	222C3	WHB/SD/ESP/Q/PBS		9.7e-2	Out: No MTEC
Cl2	INC	210C1	FF/S	2.2e+7	1.3e-1	In: MACT EU (WS)
Cl2	INC	327C3	SD/FF/WS/ESP		1.3e-1	Out: No MTEC
Cl2	INC	212C1	FF/S	3.1e+7	1.7e-1	In: MACT EU (WS)
Cl2	INC	327C2	SD/FF/WS/ESP		1.9e-1	Out: No MTEC
Cl2	INC	700C1	SD/RJS/VS/WS	3.1e+6	1.9e-1	In: MACT EU (WS)
Cl2	INC	807C1	C/WHB/VQ/PT/HS/DM	2.3e+6	2.0e-1	In: MACT EU (WS)
Cl2	INC	327C1	SD/FF/WS/ESP		2.2e-1	Out: No MTEC
Cl2	INC	222C6	WHB/SD/ESP/Q/PBS	2.8e+7	3.0e-1	In: MACT EU (WS)
Cl2	INC	333C2	SD/FF	1.3e+7	3.2e-1	Out: Not MACT, High variability
Cl2	INC	354C4	QC/AS/VS/DM/IWS		3.2e-1	Out: No MTEC, High variability
Cl2	INC	807C3	C/WHB/VQ/PT/HS/DM	1.1e+6	3.4e-1	In: MACT EU (WS)
Cl2	INC	807C2	C/WHB/VQ/PT/HS/DM	1.4e+6	3.6e-1	In: MACT EU (WS)
Cl2	INC	329C1	PT/IWS	1.7e+7	3.6e-1	In: MACT EU (WS)
Cl2	INC	500C3	QC/VS/KOV/DM	1.6e+7	4.7e-1	In: MACT EU (WS)
Cl2	INC	348C1	QC/AS/IWS	9.8e+7	5.0e-1	Out: MACT (WS), High MTEC
Cl2	INC	210C2	FF/S	1.8e+7	5.0e-1	In: MACT EU (WS)
Cl2	INC	333C1	SD/FF	8.7e+6	8.2e-1	Out: Not MACT
Cl2	INC	222C2	WHB/SD/ESP/Q/PBS		1.0e+0	Out: No MTEC
Cl2	INC	354C2	QC/AS/VS/DM/IWS	3.1e+7	1.0e+0	In: MACT EU (WS)
Cl2	INC	209C1	WHB/FF/VQ/PT/DM	3.8e+7	1.9e+0	Out: MACT (WS), High MTEC, High variability
Cl2	INC	354C1	QC/AS/VS/DM/IWS	4.1e+7	3.2e+0	Out: MACT (WS), High MTEC
Cl2	INC	221C3	SS/PT/VS		3.2e+0	Out: No MTEC
Cl2	INC	221C2	SS/PT/VS		3.5e+0	Out: No MTEC
Cl2	INC	221C1	SS/PT/VS		4.7e+0	Out: No MTEC
Cl2	INC	337C1	WHB/DA/DI/FF		5.0e+0	Out: No MTEC

TABLE B-16. C12, INCINERATORS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
Cl2	INC	805C1	QT/QS/VS/ES/PBS	3.5e+6	5.1e+0	Out: MACT (WS), DL measurement
Cl2	INC	211C1	FF/S	2.5e+7	8.1e+0	Out: MACT (WS), High MTEC, Poor D/O/M (FO - 210 and 212)
Cl2	INC	500C1	QC/VS/KOV/DM	2.7e+6	8.6e+0	Out: MACT (WS), High variability, Poor D/O/M (CO - 500C3)
Cl2	INC	221C5	SS/PT/VS		9.6e+0	Out: No MTEC
Cl2	INC	221C4	SS/PT/VS		9.6e+0	Out: No MTEC
Cl2	INC	914C1	?	1.8e+7	1.6e+1	Out: Unknown APCS
Cl2	INC	500C2	QC/VS/KOV/DM	1.2e+7	1.8e+1	Out: MACT (WS), High variability, Poor D/O/M (CO - 500C3)
Cl2	INC	332C1	WS	3.8e+7	1.9e+1	Out: MACT (WS), High MTEC
Cl2	INC	725C1	WS/QT		3.2e+1	Out: No MTEC
Cl2	INC	209C2	WHB/FF/VQ/PT/DM	4.0e+7	4.1e+1	Out: MACT (WS), High MTEC, High variability
Cl2	INC	725C2	WS/QT		8.5e+1	Out: No MTEC
Cl2	INC	710C3	QT/OS/C/S	4.5e+7	1.2e+2	Out: MACT (WS), High MTEC
Cl2	INC	710C1	QT/OS/C/S	6.3e+7	1.5e+2	Out: MACT (WS), High MTEC
Cl2	INC	710C2	QT/OS/C/S	4.9e+7	1.8e+2	Out: MACT (WS), High MTEC

TABLE B-17. C12, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
Cl2	CK	403C1	ESP	2.0e+6	1.9e-3	MACT source (FC w/ MTEC of 2.0e6)
Cl2	CK	304C2	ESP		4.3e-3	Out: No MTEC, High variability
Cl2	CK	201C1	FF	2.7e+6	5.2e-3	MACT source (FC w/ MTEC of 2.7e6)
Cl2	CK	200C1	FF	3.2e+6	1.0e-2	MACT source (FC w/ MTEC of 3.2e6), High variability
Cl2	CK	204C2	ESP	1.7e+6	1.1e-2	In: MACT EU (FC)
Cl2	CK	315C2	FF	5.7e+5	2.3e-2	In: MACT EU (FC)
Cl2	CK	315C1	FF	6.9e+5	2.5e-2	In: MACT EU (FC)
Cl2	CK	303C2	QC/FF	1.2e+6	3.5e-2	In: MACT EU (FC)
Cl2	CK	206C1	ESP	1.1e+6	4.1e-2	In: MACT EU (FC), High variability
Cl2	CK	403C2	ESP	2.5e+6	4.1e-2	In: MACT EU (FC)
Cl2	CK	317C2	FF	6.2e+5	4.7e-2	In: MACT EU (FC)
Cl2	CK	317C3	FF	2.1e+5	4.8e-2	In: MACT EU (FC)
Cl2	CK	317C1	FF	3.0e+5	5.0e-2	In: MACT EU (FC)
Cl2	CK	301C1	FF	2.9e+6	7.9e-2	In: MACT EU (FC)
Cl2	CK	318C2	ESP		8.2e-2	Out: No MTEC
Cl2	CK	318C1	ESP	8.8e+5	8.4e-2	In: MACT EU (FC)
Cl2	CK	323C1	ESP	3.5e+6	8.5e-2	Out: MACT (FC), High MTEC
Cl2	CK	309C2	MC/ESP	1.1e+6	9.4e-2	In: MACT EU (FC)
Cl2	CK	401C5	ESP	2.4e+6	1.2e-1	In: MACT EU (FC)
Cl2	CK	309C1	MC/ESP	1.0e+6	1.3e-1	In: MACT EU (FC)
Cl2	CK	305C3	ESP	7.0e+5	1.5e-1	In: MACT EU (FC)
Cl2	CK	303C1	QC/FF	2.9e+5	1.6e-1	In: MACT EU (FC)
Cl2	CK	306C1	MC/FF	7.7e+5	1.7e-1	In: MACT EU (FC)
Cl2	CK	319C4	ESP		1.7e-1	Out: No MTEC
Cl2	CK	406C1	ESP	1.8e+6	2.0e-1	In: MACT EU (FC)
Cl2	CK	202C1	FF	1.2e+6	2.0e-1	In: MACT EU (FC)
Cl2	CK	319C2	ESP		2.0e-1	Out: No MTEC
Cl2	CK	322C1	ESP	3.0e+6	2.0e-1	In: MACT EU (FC)
Cl2	CK	205C1	ESP	8.7e+5	2.0e-1	In: MACT EU (FC)
Cl2	CK	402C1	ESP	3.2e+6	2.1e-1	In: MACT EU (FC)
Cl2	CK	208C1	ESP	6.3e+5	2.3e-1	In: MACT EU (FC)
Cl2	CK	301C1	FF	2.9e+6	2.8e-1	In: MACT EU (FC), High variability

TABLE B-17. C12, CEMENT KILNS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
Cl2	CK	300C1	ESP	2.1e+6	2.9e-1	In: MACT EU (FC)
Cl2	CK	207C1	MC/ESP	9.6e+5	2.9e-1	In: MACT EU (FC)
Cl2	CK	305C1	ESP	1.5e+6	3.3e-1	In: MACT EU (FC)
Cl2	CK	202C2	FF	1.6e+6	3.4e-1	In: MACT EU (FC)
Cl2	CK	405C1	ESP	2.5e+6	3.7e-1	In: MACT EU (FC)
Cl2	CK	335C1	ESP	6.7e+5	4.0e-1	In: MACT EU (FC)
Cl2	CK	302C1	ESP	2.4e+6	4.7e-1	In: MACT EU (FC), High variability
Cl2	CK	319C8	ESP		5.6e-1	Out: No MTEC
Cl2	CK	203C1	ESP	1.4e+6	7.6e-1	In: MACT EU (FC), High variability
Cl2	CK	308C1	ESP	1.0e+6	7.7e-1	In: MACT EU (FC)
Cl2	CK	316C1	FF	1.1e+6	7.9e-1	In: MACT EU (FC)
Cl2	CK	404C2	ESP	2.7e+6	1.0e+0	In: MACT EU (FC), High variability
Cl2	CK	401C1	ESP	4.1e+6	1.0e+0	Out: MACT (FC), High MTEC, High variability
Cl2	CK	316C2	FF	8.2e+5	1.0e+0	In: MACT EU (FC)
Cl2	CK	404C1	ESP	2.1e+6	2.0e+0	Out: MACT (FC), Poor D/O/M (CO - 404C2)
Cl2	CK	320C1	FF	4.2e+5	2.1e+0	In: MACT EU (FC)
Cl2	CK	321C1	ESP	1.6e+6	2.6e+0	In: MACT EU (FC)
Cl2	CK	402C4	ESP	3.4e+6	6.8e+0	Out: MACT (FC), High MTEC, High variability, Poor D/O/M (CO - 402C1)
Cl2	CK	319C7	ESP		1.4e+1	Out: No MTEC
Cl2	CK	319C6	ESP	8.2e+5	3.6e+1	Out: MACT (FC), Source category outlier, Poor D/O/M (CO - 319C2/4/8)

TABLE B-18. C12, LWAKS, EXISTING SOURCES, 6% ORIGINAL FLOOR

Subst	Syst Type	EPA Cond ID	APCS	MTEC (µg/dscm)	Gas Conc. Median (ppmv)	Comments
Cl2	LWAK	225C1	FF	8.4e+5	1.4e-1	MACT source (FC w/ MTEC of 8.4e5)
Cl2	LWAK	307C2	FF/VS	1.4e+7	3.0e-1	MACT source (VS w/ MTEC of 1.4e7)
Cl2	LWAK	307C3	FF/VS	7.8e+6	3.3e-1	Source already in MACT pool
Cl2	LWAK	227C1	FF	1.4e+6	4.3e-1	MACT source (FC w/ MTEC of 1.4e6)
Cl2	LWAK	224C1	FF	8.5e+5	4.3e-1	In: MACT EU (FC), High variability
Cl2	LWAK	313C1	FF	2.4e+6	6.2e-1	Out: MACT (FC), High MTEC
Cl2	LWAK	223C1	FF	2.3e+6	6.3e-1	Out: MACT (FC), High MTEC
Cl2	LWAK	307C4	FF/VS	1.2e+7	7.3e-1	In: MACT EU (VS)
Cl2	LWAK	307C1	FF/VS	3.4e+6	9.9e-1	In: MACT EU (VS), High variability
Cl2	LWAK	314C1	FF	1.9e+6	1.9e+0	Out: MACT (FC), High MTEC
Cl2	LWAK	310C1	FF	9.6e+5	2.2e+0	In: MACT EU (FC)
Cl2	LWAK	311C1	FF	1.1e+6	7.4e+0	In: MACT EU (FC), High variability
Cl2	LWAK	312C1	FF	2.2e+6	8.1e+0	Out: MACT (FC), High MTEC, High variability

TABLE B-19. SUMMARY OF ORIGINAL 6% MACT FLOORS FOR EXISTING SOURCES

HAP	Units	Incinerators	Cement Kilns	LWA Kilns
PCDD/PCDF	TEQ ng/dscm	none	none	none
Mercury	µg/dscm	30	105	30
Semi Volatile Metals	µg/dscm	60	60	60
Low Volatile Metals	µg/dscm	80	80	80
Particulate Matter	gr/dscf	0.015	0.03	0.015
HCl	ppmv	25	60	1300
Chlorine gas	ppmv	1	1	2.5
CO	ppmv	100	none	100
THC	ppmv	20	20	20