UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Emission Standards Division
Minerals and Inorganic Chemicals Group, MD-13
Research Triangle Park, NC 27711 USA

TO: JOHN REYNOLDS

COMPANY/OFFICE: FL DEP

DATE:	TEL. NUMBER	FAX NUMBER
12/27/00	850 921 9536	850 922 6979

FROM: Joseph Wood, P.E. FAX NUMBER: (919) 541-5600
EMAIL: wood.joe@epa.gov TEL. NUMBER: (919) 541-5446

REMARKS

VARIOUS PAGES FROM OUR DATA ANALYSIS MEMO FOR PORTLAND CEMENT KILNS, INDICATING BE DATA. IF YOU NEED TO REFERENCE THIS, IT'S FROM DOCKET NO. A-92-53, DOCKET ITEM II-B-62.

RESEARCH TRIANGLE INSTITUTE

Center for Environmental Analysis

February 21, 1996

TO: Joseph Wood, ESD/MICG (MD-13)
U. S. Environmental Protection Agency
Research Triangle Park, NC 27711

FROM: Elizabeth Heath EAH

SUBJECT: Emissions of Particulate Matter, Metals, Hydrogen Chloride, and Total Hydrocarbons from Cement Kilns

REFERENCE: Information Gathering and Analysis for the Portland Cement Manufacturing Industry NESHAP
EPA Contract 68-D1-0118
ESD Project 91/44
RTI Project 6173-137

Summary

The EPA requested a comparison of emissions of selected compounds from cement kilns that burn and do not burn hazardous waste. The compounds included metals (exclusive of mercury), hydrogen chloride (HCl), particulate matter (PM), and total hydrocarbons (THC). In this memo, kilns that burn hazardous waste will be referred to as "HW" kilns while those that do not burn hazardous waste will be referred to as "NHW" kilns. The purpose of the comparison was to determine: (1) for purposes of estimating the percentage of kilns that could be affected by the MACT standards (that are under consideration), whether the NHW and HW data overlapped and could be combined into a single data set, and (2) the estimated percentage of kilns that could be affected by the MACT standards that are under consideration for emissions of PM, HCl, and THC.

Discussion

Emissions Data Extraction

Emissions data for HW kilns were obtained from references 1 through 5, while emissions data for NHW kilns were obtained from references 1, 5, and 6 through 21. Emissions data were averaged per kiln per testing condition.

Many of the emissions listed in the references were converted to appropriate units, [µg/dscm (for metals), gr/dscf (for PM), and ppmv (for HCl and THC)], at 68°F and 7 percent oxygen. Many references provided concentrations in the correct units based on a standard temperature other than 68°F. When the standard temperature could not be determined from the reference, it was assumed that standard temperature was 68°F. Appendix A describes how emissions were extracted from references 2 through 22. (Emissions data were taken directly from reference 1.) Several reports contained emissions data that could not be converted to the appropriate unit at 68°F and 7 percent oxygen; these reports are listed in Appendix B with an explanation of why the data were not used.

Treatment of non-detected emissions data

The treatment of non-detected (ND) data depended on how many

measurements at a test site (per kiln per testing condition) were ND. Typically three emissions measurements were conducted per test condition per kiln. If all three measurements were ND, the data were excluded. If one of three measurements was detected, half of the ND concentrations were averaged with the detected concentration. When only one measurement was made, only detected values were used.

Emissions data

Average emissions (per kiln per testing condition) for PM, metals, THC as propane, and HCl are contained in Appendix C for NHW kilns and in Appendix D for HW kilns. The data are plotted in Figures 1 through 12 (on pages 10 to 22). A listing of the figures is provided below.

Figure number	Average emissions for NHW and HW kilns
1	antimony
2	arsenic
3	beryllium
4	cadmium
5	chromium
6	lead
7	manganese
8	nickel
9	selenium
10(a)	electrostatic precipitator-controlled PM
10(b)	fabric filter-controlled PM
11	hydrogen chloride
12	THC as propane

Antimony average emissions

Table 1 lists the minimum, maximum, average, and standard deviation of the HW antimony data. There were no NHW emissions data. As shown in Figure 1, approximately 92 percent of the HW data were below 10 µg/dscm. (The value of 10 µg/dscm was determined visually from Figure 1.) The 13 HW emission points ranged from 0.2 µg/dscm to 38 µg/dscm and averaged to 5.1 µg/dscm.

Table 1. Antimony emissions for HW cement kilns

	NHW kilns	HW kilns
minimum (µg/dscm)	--	0.2
maximum (µg/dscm)	--	38
average (µg/dscm)	--	5.1
standard deviation of the data	--	10
number of points*	--	13
percent of data exceeding: 10 µg/dscm**	--	8

*The number of averages (determined per kiln per test condition) is listed.
**Value visually determined from a plot of the HW data points.

Arsenic average emissions

Table 2 lists the minimum, maximum, average, and standard deviation of the arsenic data. As shown in Figure 2, approximately 88 percent of the NHW data and 83 percent of the HW data were below 5 μg/dscm. (The value of 5 μg/dscm was determined visually from Figure 2.) The 8 NHW emission points ranged from 0.2 μg/dscm to 10 μg/dscm while the 23 HW emission points ranged from 0.4 μg/dscm to 30 μg/dscm.

Table 2. Arsenic emissions for cement kilns

	NHW kilns	HW kilns
minimum (μg/dscm)	0.2	0.4
maximum (μg/dscm)	10	30
average (μg/dscm)	2.6	4.7
standard deviation of the data	3.1	7.7
number of points*	8	23
percent of data exceeding: 5 μg/dscm**	12	17

*The number of averages (determined per kiln per test condition) is listed.
**Value visually determined from a plot of the NHW and HW data points.

Beryllium average emissions

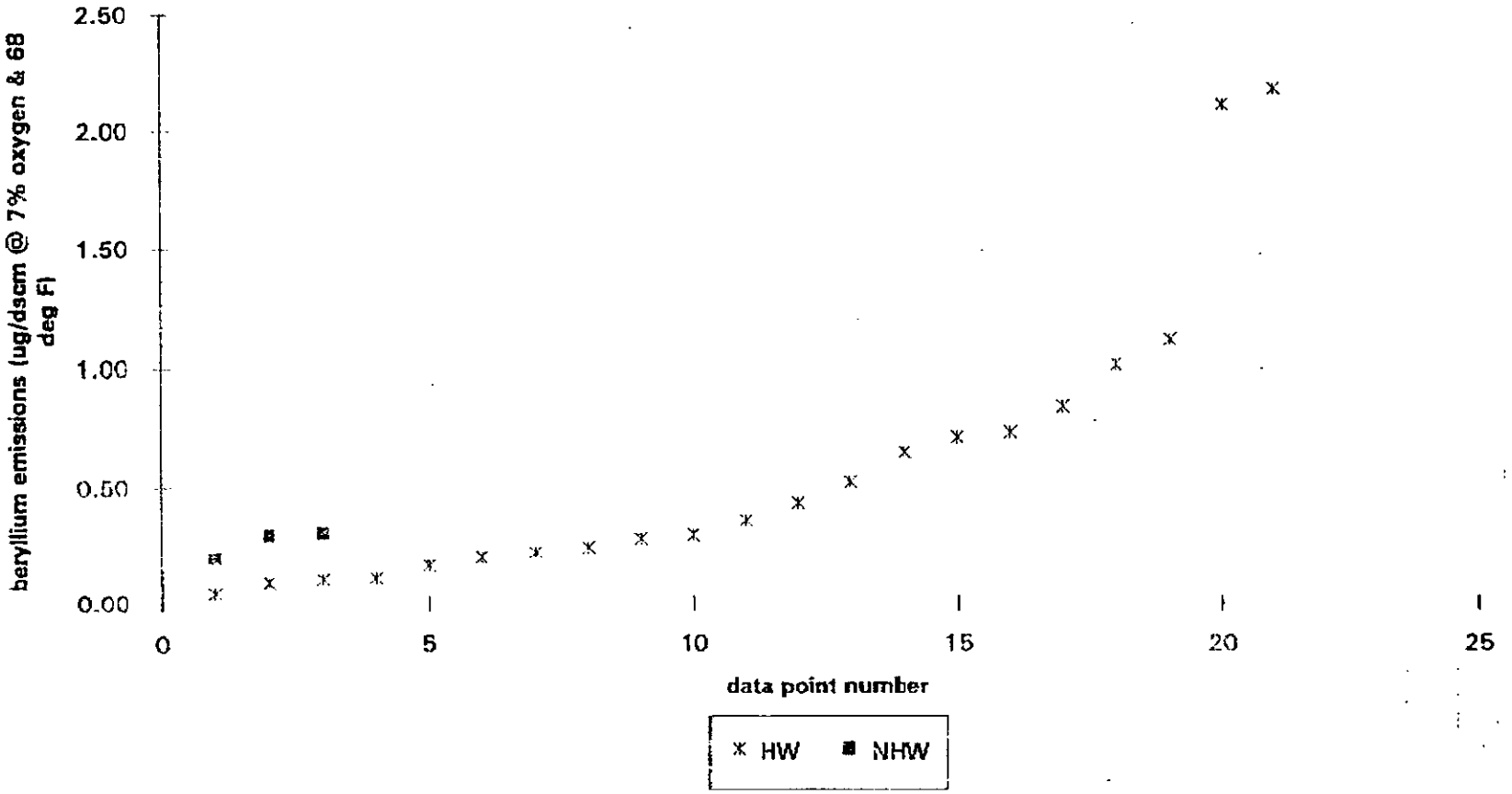
Table 3 lists the minimum, maximum, average, and standard deviation of the beryllium data. There were only three NHW beryllium data points. As shown in Figure 3, all of the NHW data and approximately 81 percent of the HW data were below 1 μg/dscm. (The value of 1 μg/dscm was determined visually from Figure 3.) The 3 NHW emission points were 0.2 μg/dscm, 0.30 μg/dscm, and 0.31 μg/dscm while the 21 HW emission points ranged from 0.05 μg/dscm to 2.2 μg/dscm.

Table 3. Beryllium emissions for cement kilns

	NHW kilns	HW kilns
minimum (μg/dscm)	0.2	0.05
maximum (μg/dscm)	0.31	2.2
average (μg/dscm)	0.27	0.59
standard deviation of the data	0.06	0.6
number of points*	3	21
percent of data exceeding: 1 μg/dscm**	0	19

*The number of averages (determined per kiln per test condition) is listed.
**Value visually determined from a plot of the NHW and HW data points.

Figure 3. Beryllium emissions from cement kilns



Reynolds, John

From: Wood.Joe@epamail.epa.gov
Sent: Wednesday, December 27, 2000 4:35 PM
To: Reynolds, John
Subject: Be data for cement kilns

John, surprisingly, the data memo I was thinking of was right where I thought it would be, and I am faxing you the requested info as I write this. let me know if you have any questions.
Joe Wood

Reynolds, John

From: Kahn, Joseph
Sent: Tuesday, December 26, 2000 11:38 AM
To: Reynolds, John
Cc: Linero, Alvaro
Subject: Beryllium Data for Cement Mfg.

John,

Last month Al asked me to contact Joe Wood at EPA to obtain EPA's data on beryllium emissions from portland cement plants. I called Joe Wood the week before Thanksgiving and spoke with him about the request. He said that the data is available as part of the docket for the cement MACT rule, and he was supposed to call me back within a week or two to advise me of the docket numbers and the procedure for obtaining the docket information. So far I haven't heard from him. Per Al's request, I am passing this information on to you so that you can follow up to get this information. Joe Wood's phone is 919-541-5446 and his e-mail address is wood.joe@epa.gov.

-Joe

6/99
PM - surrogate for metals

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

PROJECT 263-00-09

FAX TRANSMITTAL FORM

TO: Al Linero

FAX NO.

FROM: John Koogler

DATE: 12/1/00 SENT BY:

The text being transmitted consist s of _____ page(s) PLUS this one. If you do not receive all of the pages or if there are difficulties with this transmission, please call (352) 377-5822.

REMARKS:

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 - FAX/377-7158

KA 263-00-09

December 1, 2000

VIA FAX AND MAIL (305-372-6954)

Mr. Frank Delgado
Metropolitan Dade County
Environmental Resources Management
33 SW 2nd Avenue
Miami, FL 33130-1540

Subject:: Air Emission Measurements
Miami Cement Plant
1200 NW 137th Avenue
Permit No. 0250014-002-AC

Dear Mr. Delgado:

Koogler & Associates is scheduled to conduct emission measurements for VOC, CO, NOx, SO_2 and metals at the subject facility on December 21 and 22, 2000. The test crew will arrive on site each day at 7:00 a.m.

VOC, CO, NOx, SO_2 and metals emissions measurements will be conducted in accordance with EPA Methods 25A, 10, 7E, 6C and 29 as described in 40 CFR 60, Appendix A.

If you have any questions concerning this schedule, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:wa

C: Mr. A. Linero, FDEP
Mr. M. Vardeman, Rinker

FOWLER WHITE
ATTORNEYS AT LAW
ESTABLISHED 1943

November 30, 2000

VIA U.S. MAIL AND TELECOPY

Mr. A.A. Linero, P.E.
Administrator
New Source Review Section
Florida Department of Environmental Protection
Twin Towers Office Building, MS 5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

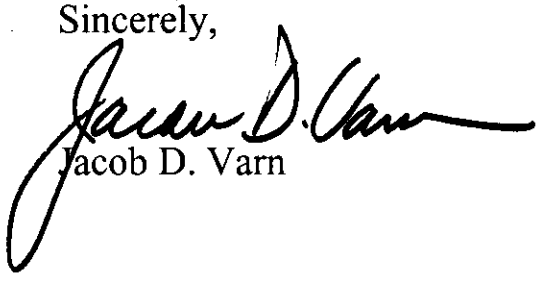
Re: DEP File No. 0250014-002-AC
CSR Rinker Materials Corporation
Miami Cement Plant
Modernization Project Permit Extension

Dear Mr. Linero:

We represent CSR Rinker Materials Corporation. On September 7, 2000, Mr. Steven C. Cullen, P.E., Koogler and Associates, on behalf of CSR Rinker Materials Corporation ("CSR") filed a request with the Department to extend the expiration date on the referenced permit until March 31, 2002, to be consistent with the Compliance Plan of the Proposed Title V Permit No. 0250014-003-AV. It is our understanding that pursuant to Section 120.60, F.S., the Department must take action on CSR's requested modification on or before December 6, 2000. The purpose of this letter is to waive CSR's right to have a decision made on or before December 6, 2000, and extend the Department's time for making a decision on CSR's request until January 8, 2001.

We trust that you will deem this letter to be an adequate waiver. If it is not, please advise us immediately. Should you have any question or care to discuss this matter, please call.

Sincerely,



Jacob D. Varn

cc: Steve Cullen
Mike Vardaman
Scott Benyon