

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: GIANT CEMENT COMPANY
 2. STATE: SC
 3. CITY: HARLEYVILLE EPA SCD003351699 REGION: 4
 4. EP ID: 200 DEVICE NAME: KILN NO. 4 SYSTEM TYPE: CEMENT KILN APC SYSTEM: FF

5. Type: CONTROLLED
 6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS
 7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc
Chlorine	200C1R1	ND	9.07e-3 ppmv 7%O2	4.28e-3 lbs/hr	CC7%O2
Chlorine	200C1R2	ND	8.23e-4 ppmv 7%O2	3.66e-4 lbs/hr	CC7%O2
Chlorine	200C1R3	ND	1.09e-2 ppmv 7%O2	4.55e-3 lbs/hr	CC7%O2
Chlorine	200C1R4	ND	1.14e-2 ppmv 7%O2	4.51e-3 lbs/hr	CC7%O2
HCl	200C1R1		1.65e+1 ppmv 7%O2	4.02e+0 lbs/hr	CC7%O2
HCl	200C1R2		1.53e+1 ppmv 7%O2	3.51e+0 lbs/hr	CC7%O2
HCl	200C1R3		2.40e+1 ppmv 7%O2	5.19e+0 lbs/hr	CC7%O2
HCl	200C1R4		1.68e+1 ppmv 7%O2	3.43e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc
Antimony	200C1R1	ND	1.88e+2 ug/dscm 7%O2	3.01e-2 lbs/hr	CC7%O2
Antimony	200C1R2	ND	2.83e+2 ug/dscm 7%O2	4.27e-2 lbs/hr	CC7%O2
Antimony	200C1R3	ND	3.00e+2 ug/dscm 7%O2	4.28e-2 lbs/hr	CC7%O2
Antimony	200C1R4	ND	3.49e+2 ug/dscm 7%O2	4.71e-2 lbs/hr	CC7%O2
Arsenic	200C1R1	ND	3.76e+1 ug/dscm 7%O2	6.03e-3 lbs/hr	CC7%O2
Arsenic	200C1R2	ND	5.65e+1 ug/dscm 7%O2	8.54e-3 lbs/hr	CC7%O2
Arsenic	200C1R3	ND	6.00e+1 ug/dscm 7%O2	8.56e-3 lbs/hr	CC7%O2
Arsenic	200C1R4	ND	6.36e+1 ug/dscm 7%O2	8.58e-3 lbs/hr	CC7%O2
Barium	200C1R1	ND	1.66e+3 ug/dscm 7%O2	2.67e-1 lbs/hr	CC7%O2
Barium	200C1R2		2.49e+3 ug/dscm 7%O2	3.76e-1 lbs/hr	CC7%O2
Barium	200C1R3		3.13e+3 ug/dscm 7%O2	4.46e-1 lbs/hr	CC7%O2
Barium	200C1R4		1.47e+3 ug/dscm 7%O2	1.98e-1 lbs/hr	CC7%O2
Beryllium	200C1R1	ND	3.76e+0 ug/dscm 7%O2	6.03e-4 lbs/hr	CC7%O2
Beryllium	200C1R2	ND	5.65e+0 ug/dscm 7%O2	8.54e-4 lbs/hr	CC7%O2
Beryllium	200C1R3	ND	6.00e+0 ug/dscm 7%O2	8.56e-4 lbs/hr	CC7%O2
Beryllium	200C1R4	ND	6.36e+0 ug/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
Cadmium	200C1R1	ND	3.76e+0 ug/dscm 7%O2	6.03e-4 lbs/hr	CC7%O2
Cadmium	200C1R2		1.42e+1 ug/dscm 7%O2	2.14e-3 lbs/hr	CC7%O2
Cadmium	200C1R3	ND	6.00e+0 ug/dscm 7%O2	8.56e-4 lbs/hr	CC7%O2
Cadmium	200C1R4	ND	6.36e+0 ug/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
Chromium	200C1R1	ND	1.88e+1 ug/dscm 7%O2	3.01e-3 lbs/hr	CC7%O2
Chromium	200C1R2	ND	2.81e+1 ug/dscm 7%O2	4.24e-3 lbs/hr	CC7%O2
Chromium	200C1R3	ND	3.00e+1 ug/dscm 7%O2	4.28e-3 lbs/hr	CC7%O2
Chromium	200C1R4	ND	3.18e+1 ug/dscm 7%O2	4.29e-3 lbs/hr	CC7%O2
Lead	200C1R1	ND	3.76e+1 ug/dscm 7%O2	6.03e-3 lbs/hr	CC7%O2
Lead	200C1R2	ND	5.65e+1 ug/dscm 7%O2	8.54e-3 lbs/hr	CC7%O2
Lead	200C1R3	ND	6.00e+1 ug/dscm 7%O2	8.56e-3 lbs/hr	CC7%O2
Lead	200C1R4	ND	6.36e+1 ug/dscm 7%O2	8.58e-3 lbs/hr	CC7%O2
Mercury	200C1R1		1.23e+1 ug/dscm 7%O2	1.98e-3 lbs/hr	CC7%O2
Mercury	200C1R2		3.22e+0 ug/dscm 7%O2	4.87e-4 lbs/hr	CC7%O2
Mercury	200C1R3		7.79e+0 ug/dscm 7%O2	1.11e-3 lbs/hr	CC7%O2
Mercury	200C1R4		2.10e+1 ug/dscm 7%O2	2.83e-3 lbs/hr	CC7%O2
Nickel	200C1R1	ND	1.88e+1 ug/dscm 7%O2	3.01e-3 lbs/hr	CC7%O2
Nickel	200C1R2	ND	2.83e+1 ug/dscm 7%O2	4.27e-3 lbs/hr	CC7%O2
Nickel	200C1R3	ND	3.00e+1 ug/dscm 7%O2	4.28e-3 lbs/hr	CC7%O2
Nickel	200C1R4	ND	3.49e+1 ug/dscm 7%O2	4.71e-3 lbs/hr	CC7%O2
Selenium	200C1R1	ND	3.76e+1 ug/dscm 7%O2	6.03e-3 lbs/hr	CC7%O2
Selenium	200C1R2	ND	5.65e+1 ug/dscm 7%O2	8.54e-3 lbs/hr	CC7%O2
Selenium	200C1R3	ND	6.00e+1 ug/dscm 7%O2	8.56e-3 lbs/hr	CC7%O2
Selenium	200C1R4	ND	6.99e+1 ug/dscm 7%O2	9.43e-3 lbs/hr	CC7%O2
Silver	200C1R1	ND	3.76e+0 ug/dscm 7%O2	6.03e-4 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: GIANT CEMENT COMPANY

2. STATE: SC

3. CITY: HARLEYVILLE

EPA SCD003351699

REGION: 4

4. EP ID: 200 DEVICE NAME: KILN NO. 4

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

Silver	200C1R2	ND	5.65e+0	ug/dscm	7%O2	8.54e-4	lbs/hr	CC7%O2
Silver	200C1R3	ND	6.00e+0	ug/dscm	7%O2	8.56e-4	lbs/hr	CC7%O2
Silver	200C1R4	ND	6.99e+0	ug/dscm	7%O2	9.43e-4	lbs/hr	CC7%O2
Thallium	200C1R1	ND	1.88e+2	ug/dscm	7%O2	3.01e-2	lbs/hr	CC7%O2
Thallium	200C1R2	ND	2.83e+2	ug/dscm	7%O2	4.27e-2	lbs/hr	CC7%O2
Thallium	200C1R3	ND	3.00e+2	ug/dscm	7%O2	4.28e-2	lbs/hr	CC7%O2
Thallium	200C1R4	ND	3.49e+2	ug/dscm	7%O2	4.71e-2	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
Particulate	200C1R1	1.07e-2	gr/dscf	7%O2	3.85e+0	lbs/hr	7%O2
Particulate	200C1R3	1.37e-2	gr/dscf	7%O2	4.61e+0	lbs/hr	7%O2
Particulate	200C1R4	1.62e-2	gr/dscf	7%O2	4.73e+0	lbs/hr	7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: GIANT CEMENT COMPANY

2. STATE: SC

3. CITY: HARLEYVILLE

EPA ID: SCD003351699

REGION: 4

4. EP ID: 201 DEVICE NAME: KILN NO. 5

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

5. Type: CONTROLLED

6. Description: EMISSIONS

Process Group: WET KILN

Location: STACK

Phase: GAS

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc
Chlorine	201C1R1	ND	5.53e-3	ppmv 7%O2	2.55e-3 lbs/hr	CC7%O2
Chlorine	201C1R2	ND	4.95e-3	ppmv 7%O2	2.63e-3 lbs/hr	CC7%O2
Chlorine	201C1R3	ND	5.46e-3	ppmv 7%O2	2.52e-3 lbs/hr	CC7%O2
Chlorine	201C1R4	ND	4.69e-3	ppmv 7%O2	2.32e-3 lbs/hr	CC7%O2
HCl	201C1R1		2.49e+1	ppmv 7%O2	5.92e+0 lbs/hr	CC7%O2
HCl	201C1R2		2.04e+1	ppmv 7%O2	5.58e+0 lbs/hr	CC7%O2
HCl	201C1R3		1.66e+1	ppmv 7%O2	3.93e+0 lbs/hr	CC7%O2
HCl	201C1R4		1.86e+1	ppmv 7%O2	4.74e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc
Antimony	201C1R1	ND	5.06e+2	ug/dscm 7%O2	7.94e-2 lbs/hr	CC7%O2
Antimony	201C1R2	ND	1.99e+2	ug/dscm 7%O2	3.60e-2 lbs/hr	CC7%O2
Antimony	201C1R3	ND	2.38e+2	ug/dscm 7%O2	3.73e-2 lbs/hr	CC7%O2
Antimony	201C1R4	ND	3.10e+2	ug/dscm 7%O2	5.22e-2 lbs/hr	CC7%O2
Arsenic	201C1R1	ND	1.01e+2	ug/dscm 7%O2	1.59e-2 lbs/hr	CC7%O2
Arsenic	201C1R2	ND	3.98e+1	ug/dscm 7%O2	7.20e-3 lbs/hr	CC7%O2
Arsenic	201C1R3	ND	4.76e+1	ug/dscm 7%O2	7.47e-3 lbs/hr	CC7%O2
Arsenic	201C1R4	ND	4.37e+1	ug/dscm 7%O2	7.35e-3 lbs/hr	CC7%O2
Barium	201C1R1		1.22e+5	ug/dscm 7%O2	1.91e+1 lbs/hr	CC7%O2
Barium	201C1R2		6.86e+2	ug/dscm 7%O2	1.24e-1 lbs/hr	CC7%O2
Barium	201C1R3		8.16e+2	ug/dscm 7%O2	1.28e-1 lbs/hr	CC7%O2
Barium	201C1R4		2.18e+1	ug/dscm 7%O2	3.66e-3 lbs/hr	CC7%O2
Beryllium	201C1R1	ND	1.01e+1	ug/dscm 7%O2	1.59e-3 lbs/hr	CC7%O2
Beryllium	201C1R2	ND	3.98e+0	ug/dscm 7%O2	7.20e-4 lbs/hr	CC7%O2
Beryllium	201C1R3	ND	4.76e+0	ug/dscm 7%O2	7.47e-4 lbs/hr	CC7%O2
Beryllium	201C1R4	ND	4.37e+0	ug/dscm 7%O2	7.35e-4 lbs/hr	CC7%O2
Cadmium	201C1R1	ND	1.01e+1	ug/dscm 7%O2	1.59e-3 lbs/hr	CC7%O2
Cadmium	201C1R2	ND	3.98e+0	ug/dscm 7%O2	7.20e-4 lbs/hr	CC7%O2
Cadmium	201C1R3	ND	4.76e+0	ug/dscm 7%O2	7.47e-4 lbs/hr	CC7%O2
Cadmium	201C1R4	ND	4.37e+0	ug/dscm 7%O2	7.35e-4 lbs/hr	CC7%O2
Chromium	201C1R1	ND	5.06e+2	ug/dscm 7%O2	7.94e-2 lbs/hr	CC7%O2
Chromium	201C1R2	ND	1.99e+1	ug/dscm 7%O2	3.60e-3 lbs/hr	CC7%O2
Chromium	201C1R3	ND	2.38e+1	ug/dscm 7%O2	3.73e-3 lbs/hr	CC7%O2
Chromium	201C1R4	ND	2.19e+1	ug/dscm 7%O2	3.68e-3 lbs/hr	CC7%O2
Lead	201C1R1		3.54e+3	ug/dscm 7%O2	5.56e-1 lbs/hr	CC7%O2
Lead	201C1R2	ND	3.98e+1	ug/dscm 7%O2	7.20e-3 lbs/hr	CC7%O2
Lead	201C1R3	ND	4.76e+1	ug/dscm 7%O2	7.47e-3 lbs/hr	CC7%O2
Lead	201C1R4	ND	4.37e+1	ug/dscm 7%O2	7.35e-3 lbs/hr	CC7%O2
Mercury	201C1R1		1.08e+0	ug/dscm 7%O2	1.69e-4 lbs/hr	CC7%O2
Mercury	201C1R2		1.54e+1	ug/dscm 7%O2	2.78e-3 lbs/hr	CC7%O2
Mercury	201C1R3		3.20e+0	ug/dscm 7%O2	5.01e-4 lbs/hr	CC7%O2
Mercury	201C1R4		2.11e+0	ug/dscm 7%O2	3.55e-4 lbs/hr	CC7%O2
Nickel	201C1R1	ND	5.06e+2	ug/dscm 7%O2	7.94e-2 lbs/hr	CC7%O2
Nickel	201C1R2	ND	1.99e+1	ug/dscm 7%O2	3.60e-3 lbs/hr	CC7%O2
Nickel	201C1R3	ND	2.38e+1	ug/dscm 7%O2	3.73e-3 lbs/hr	CC7%O2
Nickel	201C1R4	ND	3.10e+1	ug/dscm 7%O2	5.22e-3 lbs/hr	CC7%O2
Selenium	201C1R1	ND	1.01e+2	ug/dscm 7%O2	1.59e-2 lbs/hr	CC7%O2
Selenium	201C1R2	ND	3.98e+1	ug/dscm 7%O2	7.20e-3 lbs/hr	CC7%O2
Selenium	201C1R3	ND	4.76e+1	ug/dscm 7%O2	7.47e-3 lbs/hr	CC7%O2
Selenium	201C1R4	ND	6.18e+1	ug/dscm 7%O2	1.04e-2 lbs/hr	CC7%O2
Silver	201C1R1	ND	1.01e+1	ug/dscm 7%O2	1.59e-3 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: GIANT CEMENT COMPANY

2. STATE: SC

3. CITY: HARLEYVILLE

EPA ID: SCD003351699

REGION: 4

4. EP ID: 201 DEVICE NAME: KILN NO. 5

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

Silver	201C1R2	ND	3.98e+0	ug/dscm	7%O2	7.20e-4	lbs/hr	CC7%O2
Silver	201C1R3	ND	4.76e+0	ug/dscm	7%O2	7.47e-4	lbs/hr	CC7%O2
Silver	201C1R4	ND	6.18e+0	ug/dscm	7%O2	1.04e-3	lbs/hr	CC7%O2
Thallium	201C1R1	ND	5.06e+2	ug/dscm	7%O2	7.94e-2	lbs/hr	CC7%O2
Thallium	201C1R2	ND	1.99e+2	ug/dscm	7%O2	3.60e-2	lbs/hr	CC7%O2
Thallium	201C1R3	ND	2.38e+2	ug/dscm	7%O2	3.73e-2	lbs/hr	CC7%O2
Thallium	201C1R4	ND	3.10e+2	ug/dscm	7%O2	5.22e-2	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate		Calc
Particulate	201C1R1	1.08e-2	gr/dscf	7%O2	4.24e+0	lbs/hr	7%O2
Particulate	201C1R2	7.66e-3	gr/dscf	7%O2	3.30e+0	lbs/hr	7%O2
Particulate	201C1R3	1.52e-2	gr/dscf	7%O2	5.16e+0	lbs/hr	7%O2
Particulate	201C1R4	1.09e-1	gr/dscf	7%O2	4.26e+1	lbs/hr	7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HEARTLAND CEMENT COMPANY
 2. STATE: KS
 3. CITY: INDEPENDENCE
 4. EP ID: 202 DEVICE NAME: KILN NO. 1

EPA ID: KSD980739999
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

REGION: 7

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: DRY KILN Location: STACK Phase: GAS

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	202C1R1	ND 1.82e-1 ppmv 7%O2	1.57e-1 lbs/hr	CC7%O2
Chlorine	202C1R2	ND 1.96e-1 ppmv 7%O2	1.50e-1 lbs/hr	CC7%O2
Chlorine	202C1R3	2.34e-1 ppmv 7%O2	1.82e-1 lbs/hr	CC7%O2
Chlorine	202C2R1	ND 3.37e-1 ppmv 7%O2	2.51e-1 lbs/hr	CC7%O2
Chlorine	202C2R2	3.62e-1 ppmv 7%O2	2.70e-1 lbs/hr	CC7%O2
Chlorine	202C2R3	ND 2.87e-1 ppmv 7%O2	2.28e-1 lbs/hr	CC7%O2
HCl	202C1R1	2.16e+0 ppmv 7%O2	9.63e-1 lbs/hr	CC7%O2
HCl	202C1R2	ND 8.63e-1 ppmv 7%O2	3.40e-1 lbs/hr	CC7%O2
HCl	202C1R3	ND 7.69e-1 ppmv 7%O2	3.08e-1 lbs/hr	CC7%O2
HCl	202C2R1	3.19e+1 ppmv 7%O2	1.22e+1 lbs/hr	CC7%O2
HCl	202C2R2	4.59e+1 ppmv 7%O2	1.76e+1 lbs/hr	CC7%O2
HCl	202C2R3	1.37e+1 ppmv 7%O2	5.59e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Antimony	202C2R1	ND 3.07e+0 ug/dscm 7%O2	7.78e-4 lbs/hr	CC7%O2
Antimony	202C2R2	ND 3.64e+0 ug/dscm 7%O2	9.24e-4 lbs/hr	CC7%O2
Antimony	202C2R3	ND 3.64e+0 ug/dscm 7%O2	9.83e-4 lbs/hr	CC7%O2
Arsenic	202C2R1	ND 1.81e+0 ug/dscm 7%O2	4.59e-4 lbs/hr	CC7%O2
Arsenic	202C2R2	ND 2.14e+0 ug/dscm 7%O2	5.42e-4 lbs/hr	CC7%O2
Arsenic	202C2R3	ND 2.14e+0 ug/dscm 7%O2	5.78e-4 lbs/hr	CC7%O2
Barium	202C2R1	8.39e+0 ug/dscm 7%O2	2.13e-3 lbs/hr	CC7%O2
Barium	202C2R2	8.11e+0 ug/dscm 7%O2	2.06e-3 lbs/hr	CC7%O2
Barium	202C2R3	1.11e+1 ug/dscm 7%O2	3.01e-3 lbs/hr	CC7%O2
Beryllium	202C2R1	ND 3.22e-1 ug/dscm 7%O2	8.16e-5 lbs/hr	CC7%O2
Beryllium	202C2R2	ND 3.82e-1 ug/dscm 7%O2	9.70e-5 lbs/hr	CC7%O2
Beryllium	202C2R3	ND 3.84e-1 ug/dscm 7%O2	1.04e-4 lbs/hr	CC7%O2
Cadmium	202C2R1	1.80e+1 ug/dscm 7%O2	4.56e-3 lbs/hr	CC7%O2
Cadmium	202C2R2	1.86e+1 ug/dscm 7%O2	4.72e-3 lbs/hr	CC7%O2
Cadmium	202C2R3	2.09e+1 ug/dscm 7%O2	5.64e-3 lbs/hr	CC7%O2
Chromium	202C2R1	2.33e+1 ug/dscm 7%O2	5.91e-3 lbs/hr	CC7%O2
Chromium	202C2R2	2.33e+1 ug/dscm 7%O2	5.92e-3 lbs/hr	CC7%O2
Chromium	202C2R3	2.39e+1 ug/dscm 7%O2	6.45e-3 lbs/hr	CC7%O2
Chromium (Hex)	202C2R1	4.01e+0 ug/dscm 7%O2	1.02e-3 lbs/hr	CC7%O2
Chromium (Hex)	202C2R2	2.98e+0 ug/dscm 7%O2	7.58e-4 lbs/hr	CC7%O2
Chromium (Hex)	202C2R3	3.12e+0 ug/dscm 7%O2	8.44e-4 lbs/hr	CC7%O2
Lead	202C2R1	9.58e+1 ug/dscm 7%O2	2.43e-2 lbs/hr	CC7%O2
Lead	202C2R2	8.05e+1 ug/dscm 7%O2	2.04e-2 lbs/hr	CC7%O2
Lead	202C2R3	9.34e+1 ug/dscm 7%O2	2.52e-2 lbs/hr	CC7%O2
Mercury	202C2R1	1.80e+1 ug/dscm 7%O2	4.56e-3 lbs/hr	CC7%O2
Mercury	202C2R2	2.06e+1 ug/dscm 7%O2	5.22e-3 lbs/hr	CC7%O2
Mercury	202C2R3	2.21e+1 ug/dscm 7%O2	5.96e-3 lbs/hr	CC7%O2
Silver	202C2R1	7.05e-1 ug/dscm 7%O2	1.79e-4 lbs/hr	CC7%O2
Silver	202C2R2	6.43e-1 ug/dscm 7%O2	1.63e-4 lbs/hr	CC7%O2
Silver	202C2R3	ND 6.45e-1 ug/dscm 7%O2	1.74e-4 lbs/hr	CC7%O2
Thallium	202C2R1	ND 1.81e+0 ug/dscm 7%O2	4.59e-4 lbs/hr	CC7%O2
Thallium	202C2R2	ND 2.14e+0 ug/dscm 7%O2	5.42e-4 lbs/hr	CC7%O2
Thallium	202C2R3	ND 2.14e+0 ug/dscm 7%O2	5.78e-4 lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
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SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HEARTLAND CEMENT COMPANY
 2. STATE: KS
 3. CITY: INDEPENDENCE
 4. EP ID: 202 DEVICE NAME: KILN NO. 1

EPA ID: KSD980739999
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

REGION: 7

Particulate	202C1R1	2.49e-2	gr/dscf	7%O2	1.68e+1	lbs/hr	7%O2
Particulate	202C1R2	2.18e-2	gr/dscf	7%O2	1.30e+1	lbs/hr	7%O2
Particulate	202C1R3	1.95e-2	gr/dscf	7%O2	1.19e+1	lbs/hr	7%O2
Particulate	202C2R1	2.60e-2	gr/dscf	7%O2	1.51e+1	lbs/hr	CC7%O2
Particulate	202C2R2	2.51e-2	gr/dscf	7%O2	1.47e+1	lbs/hr	7%O2
Particulate	202C2R3	4.22e-2	gr/dscf	7%O2	2.67e+1	lbs/hr	7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.

2. STATE: MO

3. CITY: CLARKSVILLE

EPA MOD029729688

REGION: 7

4. EP ID: 204 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

5. Type: CONTROLLED

6. Description: EMISSIONS

Process Group: WET KILN

Location: STACK

Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc
4D 2378	204C2R1	ND	3.10e-2	ng/dscm 7%O2	3.47e-8 lbs/hr	CE7%O2
4D 2378	204C2R2	ND	1.34e-1	ng/dscm 7%O2	1.53e-7 lbs/hr	CE7%O2
4D 2378	204C2R3	ND	2.96e-2	ng/dscm 7%O2	3.41e-8 lbs/hr	CE7%O2
4D 2378	204C3R1		9.16e-2	ng/dscm 7%O2	1.07e-7 lbs/hr	CE7%O2
4D 2378	204C3R2	ND	6.30e-2	ng/dscm 7%O2	7.68e-8 lbs/hr	CE7%O2
4D 2378	204C3R3	ND	8.34e-2	ng/dscm 7%O2	9.22e-8 lbs/hr	CE7%O2
4F 2378	204C2R1		3.83e-1	ng/dscm 7%O2	4.29e-7 lbs/hr	CE7%O2
4F 2378	204C2R2		7.48e-1	ng/dscm 7%O2	8.49e-7 lbs/hr	CE7%O2
4F 2378	204C2R3		8.47e-1	ng/dscm 7%O2	9.75e-7 lbs/hr	CE7%O2
4F 2378	204C3R1		5.72e+0	ng/dscm 7%O2	6.72e-6 lbs/hr	CE7%O2
4F 2378	204C3R2		2.47e+0	ng/dscm 7%O2	3.01e-6 lbs/hr	CE7%O2
4F 2378	204C3R3		1.89e+0	ng/dscm 7%O2	2.09e-6 lbs/hr	CE7%O2
5D 12378	204C2R1	ND	2.12e-1	ng/dscm 7%O2	2.38e-7 lbs/hr	CE7%O2
5D 12378	204C2R2		6.37e-2	ng/dscm 7%O2	7.24e-8 lbs/hr	CE7%O2
5D 12378	204C2R3		9.82e-1	ng/dscm 7%O2	1.13e-6 lbs/hr	CE7%O2
5D 12378	204C3R1		5.18e-1	ng/dscm 7%O2	6.08e-7 lbs/hr	CE7%O2
5D 12378	204C3R2		1.89e-1	ng/dscm 7%O2	2.30e-7 lbs/hr	CE7%O2
5D 12378	204C3R3		2.94e-1	ng/dscm 7%O2	3.25e-7 lbs/hr	CE7%O2
5F 12378	204C2R1	ND	1.39e-1	ng/dscm 7%O2	1.56e-7 lbs/hr	CE7%O2
5F 12378	204C2R2	ND	1.97e-1	ng/dscm 7%O2	2.24e-7 lbs/hr	CE7%O2
5F 12378	204C2R3		8.54e-2	ng/dscm 7%O2	9.83e-8 lbs/hr	CE7%O2
5F 12378	204C3R1		4.42e-1	ng/dscm 7%O2	5.19e-7 lbs/hr	CE7%O2
5F 12378	204C3R2		1.77e-1	ng/dscm 7%O2	2.16e-7 lbs/hr	CE7%O2
5F 12378	204C3R3		1.75e-1	ng/dscm 7%O2	1.94e-7 lbs/hr	CE7%O2
5F 23478	204C2R1		6.43e-2	ng/dscm 7%O2	7.19e-8 lbs/hr	CE7%O2
5F 23478	204C2R2		1.01e-1	ng/dscm 7%O2	1.15e-7 lbs/hr	CE7%O2
5F 23478	204C2R3		8.90e-2	ng/dscm 7%O2	1.02e-7 lbs/hr	CE7%O2
5F 23478	204C3R1		9.62e-1	ng/dscm 7%O2	1.13e-6 lbs/hr	CE7%O2
5F 23478	204C3R2		3.91e-1	ng/dscm 7%O2	4.77e-7 lbs/hr	CE7%O2
5F 23478	204C3R3		3.35e-1	ng/dscm 7%O2	3.71e-7 lbs/hr	CE7%O2
6D 123478	204C2R1	ND	1.33e-1	ng/dscm 7%O2	1.49e-7 lbs/hr	CE7%O2
6D 123478	204C2R2		8.56e-2	ng/dscm 7%O2	9.72e-8 lbs/hr	CE7%O2
6D 123478	204C2R3		1.18e-1	ng/dscm 7%O2	1.35e-7 lbs/hr	CE7%O2
6D 123478	204C3R1		9.60e-1	ng/dscm 7%O2	1.13e-6 lbs/hr	CE7%O2
6D 123478	204C3R2		3.23e-1	ng/dscm 7%O2	3.93e-7 lbs/hr	CE7%O2
6D 123478	204C3R3		4.54e-1	ng/dscm 7%O2	5.02e-7 lbs/hr	CE7%O2
6D 123678	204C2R1	ND	1.24e-1	ng/dscm 7%O2	1.39e-7 lbs/hr	CE7%O2
6D 123678	204C2R2	ND	1.39e-1	ng/dscm 7%O2	1.58e-7 lbs/hr	CE7%O2
6D 123678	204C2R3	ND	1.53e-1	ng/dscm 7%O2	1.77e-7 lbs/hr	CE7%O2
6D 123678	204C3R1		6.11e-1	ng/dscm 7%O2	7.16e-7 lbs/hr	CE7%O2
6D 123678	204C3R2		1.70e-1	ng/dscm 7%O2	2.07e-7 lbs/hr	CE7%O2
6D 123678	204C3R3		2.60e-1	ng/dscm 7%O2	2.88e-7 lbs/hr	CE7%O2
6D 123789	204C2R1	ND	1.20e-1	ng/dscm 7%O2	1.35e-7 lbs/hr	CE7%O2
6D 123789	204C2R2	ND	1.35e-1	ng/dscm 7%O2	1.53e-7 lbs/hr	CE7%O2
6D 123789	204C2R3		1.65e-1	ng/dscm 7%O2	1.90e-7 lbs/hr	CE7%O2
6D 123789	204C3R1		7.61e-1	ng/dscm 7%O2	8.93e-7 lbs/hr	CE7%O2
6D 123789	204C3R2		4.27e-1	ng/dscm 7%O2	5.21e-7 lbs/hr	CE7%O2
6D 123789	204C3R3		3.97e-1	ng/dscm 7%O2	4.39e-7 lbs/hr	CE7%O2
6F 123478	204C2R1	ND	5.05e-2	ng/dscm 7%O2	5.65e-8 lbs/hr	CE7%O2
6F 123478	204C2R2	ND	1.14e-1	ng/dscm 7%O2	1.30e-7 lbs/hr	CE7%O2
6F 123478	204C2R3	ND	1.09e-1	ng/dscm 7%O2	1.25e-7 lbs/hr	CE7%O2
6F 123478	204C3R1		2.94e-1	ng/dscm 7%O2	3.45e-7 lbs/hr	CE7%O2
6F 123478	204C3R2		1.29e-1	ng/dscm 7%O2	1.57e-7 lbs/hr	CE7%O2
6F 123478	204C3R3		1.27e-1	ng/dscm 7%O2	1.40e-7 lbs/hr	CE7%O2
6F 123678	204C2R1	ND	4.45e-2	ng/dscm 7%O2	4.98e-8 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: MO
 3. CITY: CLARKSVILLE
 4. EP ID: 204 DEVICE NAME: KILN NO. 1

EPA ID: MOD029729688
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 7

6F 123678	204C2R2	ND	1.01e-1	ng/dscm 7%O2	1.15e-7	lbs/hr	CE7%O2
6F 123678	204C2R3	ND	9.62e-2	ng/dscm 7%O2	1.11e-7	lbs/hr	CE7%O2
6F 123678	204C3R1		1.32e-1	ng/dscm 7%O2	1.54e-7	lbs/hr	CE7%O2
6F 123678	204C3R2		5.19e-2	ng/dscm 7%O2	6.33e-8	lbs/hr	CE7%O2
6F 123678	204C3R3		4.74e-2	ng/dscm 7%O2	5.24e-8	lbs/hr	CE7%O2
6F 123789	204C2R1	ND	5.20e-2	ng/dscm 7%O2	5.82e-8	lbs/hr	CE7%O2
6F 123789	204C2R2	ND	1.18e-1	ng/dscm 7%O2	1.34e-7	lbs/hr	CE7%O2
6F 123789	204C2R3	ND	1.12e-1	ng/dscm 7%O2	1.29e-7	lbs/hr	CE7%O2
6F 123789	204C3R1		8.15e-2	ng/dscm 7%O2	9.56e-8	lbs/hr	CE7%O2
6F 123789	204C3R2	ND	8.91e-2	ng/dscm 7%O2	1.09e-7	lbs/hr	CE7%O2
6F 123789	204C3R3	ND	8.01e-2	ng/dscm 7%O2	8.86e-8	lbs/hr	CE7%O2
6F 234678	204C2R1	ND	6.19e-2	ng/dscm 7%O2	6.93e-8	lbs/hr	CE7%O2
6F 234678	204C2R2	ND	1.41e-1	ng/dscm 7%O2	1.60e-7	lbs/hr	CE7%O2
6F 234678	204C2R3	ND	1.34e-1	ng/dscm 7%O2	1.54e-7	lbs/hr	CE7%O2
6F 234678	204C3R1	ND	5.39e-1	ng/dscm 7%O2	6.33e-7	lbs/hr	CE7%O2
6F 234678	204C3R2	ND	1.06e-1	ng/dscm 7%O2	1.29e-7	lbs/hr	CE7%O2
6F 234678	204C3R3	ND	9.56e-2	ng/dscm 7%O2	1.06e-7	lbs/hr	CE7%O2
7D 1234678	204C2R1		1.03e-1	ng/dscm 7%O2	1.16e-7	lbs/hr	CE7%O2
7D 1234678	204C2R2		1.23e-1	ng/dscm 7%O2	1.40e-7	lbs/hr	CE7%O2
7D 1234678	204C2R3		1.44e-1	ng/dscm 7%O2	1.65e-7	lbs/hr	CE7%O2
7D 1234678	204C3R1		2.30e+0	ng/dscm 7%O2	2.69e-6	lbs/hr	CE7%O2
7D 1234678	204C3R2		7.67e-1	ng/dscm 7%O2	9.35e-7	lbs/hr	CE7%O2
7D 1234678	204C3R3		8.07e-1	ng/dscm 7%O2	8.93e-7	lbs/hr	CE7%O2
7F 1234678	204C2R1	ND	1.01e-1	ng/dscm 7%O2	1.13e-7	lbs/hr	CE7%O2
7F 1234678	204C2R2		1.06e-1	ng/dscm 7%O2	1.20e-7	lbs/hr	CE7%O2
7F 1234678	204C2R3	ND	2.59e-1	ng/dscm 7%O2	2.98e-7	lbs/hr	CE7%O2
7F 1234678	204C3R1		1.03e-2	ng/dscm 7%O2	1.21e-8	lbs/hr	CE7%O2
7F 1234678	204C3R2		5.50e-2	ng/dscm 7%O2	6.71e-8	lbs/hr	CE7%O2
7F 1234678	204C3R3		4.01e-2	ng/dscm 7%O2	4.43e-8	lbs/hr	CE7%O2
7F 1234789	204C2R1	ND	1.22e-1	ng/dscm 7%O2	1.36e-7	lbs/hr	CE7%O2
7F 1234789	204C2R2		4.35e-2	ng/dscm 7%O2	4.94e-8	lbs/hr	CE7%O2
7F 1234789	204C2R3	ND	3.12e-1	ng/dscm 7%O2	3.60e-7	lbs/hr	CE7%O2
7F 1234789	204C3R1	ND	9.11e-2	ng/dscm 7%O2	1.07e-7	lbs/hr	CE7%O2
7F 1234789	204C3R2	ND	1.53e-1	ng/dscm 7%O2	1.86e-7	lbs/hr	CE7%O2
7F 1234789	204C3R3	ND	1.41e-1	ng/dscm 7%O2	1.56e-7	lbs/hr	CE7%O2
8D	204C2R1		3.77e-2	ng/dscm 7%O2	4.22e-8	lbs/hr	CE7%O2
8D	204C2R2	ND	4.11e-2	ng/dscm 7%O2	4.67e-8	lbs/hr	CE7%O2
8D	204C2R3		1.22e-1	ng/dscm 7%O2	1.41e-7	lbs/hr	CE7%O2
8D	204C3R1		1.43e-1	ng/dscm 7%O2	1.67e-7	lbs/hr	CE7%O2
8D	204C3R2		5.91e-2	ng/dscm 7%O2	7.21e-8	lbs/hr	CE7%O2
8D	204C3R3		2.79e-1	ng/dscm 7%O2	3.08e-7	lbs/hr	CE7%O2
8F	204C2R1		2.29e-2	ng/dscm 7%O2	2.56e-8	lbs/hr	CE7%O2
8F	204C2R2	ND	4.00e-2	ng/dscm 7%O2	4.55e-8	lbs/hr	CE7%O2
8F	204C2R3	ND	1.10e-1	ng/dscm 7%O2	1.26e-7	lbs/hr	CE7%O2
8F	204C3R1	ND	1.33e-2	ng/dscm 7%O2	1.56e-8	lbs/hr	CE7%O2
8F	204C3R2	ND	2.39e-2	ng/dscm 7%O2	2.91e-8	lbs/hr	CE7%O2
8F	204C3R3	ND	2.00e-2	ng/dscm 7%O2	2.22e-8	lbs/hr	CE7%O2
TEQ	204C2R1		2.76e-1	ng/dscm 7%O2	3.09e-7	lbs/hr	CCET
TEQ	204C2R2		3.88e-1	ng/dscm 7%O2	4.40e-7	lbs/hr	CCET
TEQ	204C2R3		7.50e-1	ng/dscm 7%O2	8.63e-7	lbs/hr	CCET
TEQ	204C3R1		1.79e+0	ng/dscm 7%O2	2.10e-6	lbs/hr	CCET
TEQ	204C3R2		7.48e-1	ng/dscm 7%O2	9.12e-7	lbs/hr	CCET
TEQ	204C3R3		7.52e-1	ng/dscm 7%O2	8.32e-7	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID		Concentration	Mass Rate	Calc
Chlorine	204C2R1	ND	9.55e-3 ppmv 7%O2	3.14e-2 lbs/hr	CC7%O2
Chlorine	204C2R2	ND	1.06e-2 ppmv 7%O2	3.53e-2 lbs/hr	CC7%O2
Chlorine	204C2R3	ND	1.29e-2 ppmv 7%O2	4.36e-2 lbs/hr	CC7%O2
HCl	204C2R1	ND	5.69e-2 ppmv 7%O2	9.63e-2 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.

2. STATE: MO

3. CITY: CLARKSVILLE

EPA MOD029729688

REGION: 7

4. EP ID: 204 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

HCl	204C2R2	ND	5.97e-2	ppmv	7%O2	1.03e-1	lbs/hr	CC7%O2
HCl	204C2R3	ND	7.68e-2	ppmv	7%O2	1.34e-1	lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID		Concentration		Mass Rate	Calc	
Antimony	204C1R1	ND	1.44e+0	ug/dscm	7%O2	1.48e-3 lbs/hr	CC7%O2
Antimony	204C1R2	ND	1.65e+0	ug/dscm	7%O2	1.48e-3 lbs/hr	CC7%O2
Antimony	204C1R3	ND	1.79e+0	ug/dscm	7%O2	1.50e-3 lbs/hr	CC7%O2
Arsenic	204C1R1		2.40e+0	ug/dscm	7%O2	2.47e-3 lbs/hr	CC7%O2
Arsenic	204C1R2	ND	9.66e-1	ug/dscm	7%O2	8.69e-4 lbs/hr	CC7%O2
Arsenic	204C1R3	ND	1.05e+0	ug/dscm	7%O2	8.84e-4 lbs/hr	CC7%O2
Barium	204C1R1		6.13e+1	ug/dscm	7%O2	6.31e-2 lbs/hr	CC7%O2
Barium	204C1R2		7.59e+1	ug/dscm	7%O2	6.83e-2 lbs/hr	CC7%O2
Barium	204C1R3		4.16e+1	ug/dscm	7%O2	3.50e-2 lbs/hr	CC7%O2
Beryllium	204C1R1		7.89e-1	ug/dscm	7%O2	8.14e-4 lbs/hr	CC7%O2
Beryllium	204C1R2		8.36e-1	ug/dscm	7%O2	7.52e-4 lbs/hr	CC7%O2
Beryllium	204C1R3		5.69e-1	ug/dscm	7%O2	4.78e-4 lbs/hr	CC7%O2
Cadmium	204C1R1		5.41e+1	ug/dscm	7%O2	5.57e-2 lbs/hr	CC7%O2
Cadmium	204C1R2		5.22e+1	ug/dscm	7%O2	4.70e-2 lbs/hr	CC7%O2
Cadmium	204C1R3		3.30e+1	ug/dscm	7%O2	2.77e-2 lbs/hr	CC7%O2
Chromium	204C1R1		2.68e+0	ug/dscm	7%O2	2.76e-3 lbs/hr	CC7%O2
Chromium	204C1R2	ND	2.90e+0	ug/dscm	7%O2	2.61e-3 lbs/hr	CC7%O2
Chromium	204C1R3	ND	1.58e+0	ug/dscm	7%O2	1.33e-3 lbs/hr	CC7%O2
Chromium (Hex)	204C1R1		8.62e-2	ug/dscm	7%O2	8.88e-5 lbs/hr	CC7%O2
Chromium (Hex)	204C1R2		1.01e-1	ug/dscm	7%O2	9.06e-5 lbs/hr	CC7%O2
Chromium (Hex)	204C1R3		2.71e-1	ug/dscm	7%O2	2.28e-4 lbs/hr	CC7%O2
Lead	204C1R1		7.27e+2	ug/dscm	7%O2	7.49e-1 lbs/hr	CC7%O2
Lead	204C1R2		4.22e+2	ug/dscm	7%O2	3.79e-1 lbs/hr	CC7%O2
Lead	204C1R3		2.29e+2	ug/dscm	7%O2	1.92e-1 lbs/hr	CC7%O2
Mercury	204C1R1		1.74e+1	ug/dscm	7%O2	1.80e-2 lbs/hr	CC7%O2
Mercury	204C1R2		2.38e+1	ug/dscm	7%O2	2.14e-2 lbs/hr	CC7%O2
Mercury	204C1R3		1.54e+1	ug/dscm	7%O2	1.29e-2 lbs/hr	CC7%O2
Silver	204C1R1	ND	2.52e-1	ug/dscm	7%O2	2.60e-4 lbs/hr	CC7%O2
Silver	204C1R2	ND	2.90e+0	ug/dscm	7%O2	2.61e-3 lbs/hr	CC7%O2
Silver	204C1R3		2.96e+0	ug/dscm	7%O2	2.49e-3 lbs/hr	CC7%O2
Thallium	204C1R1		6.72e+0	ug/dscm	7%O2	6.92e-3 lbs/hr	CC7%O2
Thallium	204C1R2		6.00e+0	ug/dscm	7%O2	5.39e-3 lbs/hr	CC7%O2
Thallium	204C1R3		3.36e+0	ug/dscm	7%O2	2.82e-3 lbs/hr	CC7%O2

7. Category: PAH

Analysis:

8. Substance	9. Run ID		Concentration		Mass Rate	Calc	
Acenaphthene	204C3R1		2.31e+4	ng/dscm	7%O2	2.71e-2 lbs/hr	CC7%O2
Acenaphthene	204C3R2		3.29e+4	ng/dscm	7%O2	4.00e-2 lbs/hr	CC7%O2
Acenaphthene	204C3R3		3.39e+4	ng/dscm	7%O2	3.75e-2 lbs/hr	CC7%O2
Acenaphthene	204C4R1		5.09e+4	ng/dscm	7%O2	5.61e-2 lbs/hr	CC7%O2
Acenaphthene	204C4R2		5.42e+4	ng/dscm	7%O2	5.86e-2 lbs/hr	CC7%O2
Acenaphthene	204C4R3		4.76e+4	ng/dscm	7%O2	4.55e-2 lbs/hr	CC7%O2
Acenaphthylene	204C3R1	2	1.61e+5	ng/dscm	7%O2	1.88e-1 lbs/hr	CC7%O2
Acenaphthylene	204C3R2	2	2.09e+5	ng/dscm	7%O2	2.55e-1 lbs/hr	CC7%O2
Acenaphthylene	204C3R3	2	2.25e+5	ng/dscm	7%O2	2.48e-1 lbs/hr	CC7%O2
Acenaphthylene	204C4R1	2	3.39e+5	ng/dscm	7%O2	3.74e-1 lbs/hr	CC7%O2
Acenaphthylene	204C4R2	2	3.43e+5	ng/dscm	7%O2	3.70e-1 lbs/hr	CC7%O2
Acenaphthylene	204C4R3	2	3.49e+5	ng/dscm	7%O2	3.34e-1 lbs/hr	CC7%O2
Anthracene	204C3R1	2	3.89e+4	ng/dscm	7%O2	4.56e-2 lbs/hr	CC7%O2
Anthracene	204C3R2	2	6.81e+4	ng/dscm	7%O2	8.29e-2 lbs/hr	CC7%O2
Anthracene	204C3R3	2	8.09e+4	ng/dscm	7%O2	8.94e-2 lbs/hr	CC7%O2
Anthracene	204C4R1		1.19e+5	ng/dscm	7%O2	1.31e-1 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.

2. STATE: MO

3. CITY: CLARKSVILLE

EPA ID: MOD029729688

REGION: 7

4. EP ID: 204 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Anthracene	204C4R2		1.37e+5	ng/dscm	7%O2	1.48e-1	lbs/hr	CC7%O2
Anthracene	204C4R3		1.43e+5	ng/dscm	7%O2	1.37e-1	lbs/hr	CC7%O2
Benzo(a)anthracene	204C3R1		1.80e+4	ng/dscm	7%O2	2.11e-2	lbs/hr	CC7%O2
Benzo(a)anthracene	204C3R2		3.05e+4	ng/dscm	7%O2	3.72e-2	lbs/hr	CC7%O2
Benzo(a)anthracene	204C3R3		3.47e+4	ng/dscm	7%O2	3.83e-2	lbs/hr	CC7%O2
Benzo(a)anthracene	204C4R1		6.31e+4	ng/dscm	7%O2	6.95e-2	lbs/hr	CC7%O2
Benzo(a)anthracene	204C4R2		7.22e+4	ng/dscm	7%O2	7.80e-2	lbs/hr	CC7%O2
Benzo(a)anthracene	204C4R3		5.71e+4	ng/dscm	7%O2	5.47e-2	lbs/hr	CC7%O2
Benzo(a)pyrene	204C3R1		3.89e+3	ng/dscm	7%O2	4.56e-3	lbs/hr	CC7%O2
Benzo(a)pyrene	204C3R2		1.22e+4	ng/dscm	7%O2	1.49e-2	lbs/hr	CC7%O2
Benzo(a)pyrene	204C3R3		1.54e+4	ng/dscm	7%O2	1.70e-2	lbs/hr	CC7%O2
Benzo(a)pyrene	204C4R1		3.39e+4	ng/dscm	7%O2	3.74e-2	lbs/hr	CC7%O2
Benzo(a)pyrene	204C4R2		3.43e+4	ng/dscm	7%O2	3.70e-2	lbs/hr	CC7%O2
Benzo(a)pyrene	204C4R3		2.95e+4	ng/dscm	7%O2	2.82e-2	lbs/hr	CC7%O2
Benzo(b)fluoranthene	204C3R1		1.17e+4	ng/dscm	7%O2	1.37e-2	lbs/hr	CC7%O2
Benzo(b)fluoranthene	204C4R2		4.28e+4	ng/dscm	7%O2	4.63e-2	lbs/hr	CC7%O2
Benzo(g,h,i)perylene	204C3R1		1.22e+3	ng/dscm	7%O2	1.43e-3	lbs/hr	CC7%O2
Benzo(g,h,i)perylene	204C4R1		1.81e+4	ng/dscm	7%O2	1.99e-2	lbs/hr	CC7%O2
Benzo(g,h,i)perylene	204C4R2		1.48e+4	ng/dscm	7%O2	1.60e-2	lbs/hr	CC7%O2
Benzo(g,h,i)perylene	204C4R3		7.62e+3	ng/dscm	7%O2	7.29e-3	lbs/hr	CC7%O2
Chrysene	204C3R1	2	3.16e+4	ng/dscm	7%O2	3.71e-2	lbs/hr	CC7%O2
Chrysene	204C3R2	2	5.40e+4	ng/dscm	7%O2	6.58e-2	lbs/hr	CC7%O2
Chrysene	204C3R3		6.68e+4	ng/dscm	7%O2	7.37e-2	lbs/hr	CC7%O2
Chrysene	204C4R1		1.14e+5	ng/dscm	7%O2	1.26e-1	lbs/hr	CC7%O2
Chrysene	204C4R2		1.24e+5	ng/dscm	7%O2	1.34e-1	lbs/hr	CC7%O2
Chrysene	204C4R3		1.02e+5	ng/dscm	7%O2	9.80e-2	lbs/hr	CC7%O2
Dibenz(a,h)anthracene	204C3R1		1.22e+3	ng/dscm	7%O2	1.43e-3	lbs/hr	CC7%O2
Dibenz(a,h)anthracene	204C4R1		6.22e+3	ng/dscm	7%O2	6.85e-3	lbs/hr	CC7%O2
Dibenz(a,h)anthracene	204C4R3		5.71e+3	ng/dscm	7%O2	5.47e-3	lbs/hr	CC7%O2
Fluoranthene	204C3R1	2	6.15e+4	ng/dscm	7%O2	7.21e-2	lbs/hr	CC7%O2
Fluoranthene	204C3R2	2	8.28e+4	ng/dscm	7%O2	1.01e-1	lbs/hr	CC7%O2
Fluoranthene	204C3R3	2	1.06e+5	ng/dscm	7%O2	1.17e-1	lbs/hr	CC7%O2
Fluoranthene	204C4R1		1.35e+5	ng/dscm	7%O2	1.49e-1	lbs/hr	CC7%O2
Fluoranthene	204C4R2	2	1.53e+5	ng/dscm	7%O2	1.65e-1	lbs/hr	CC7%O2
Fluoranthene	204C4R3	2	1.44e+5	ng/dscm	7%O2	1.38e-1	lbs/hr	CC7%O2
Fluorene	204C3R1	2	5.11e+4	ng/dscm	7%O2	5.99e-2	lbs/hr	CC7%O2
Fluorene	204C3R2	2	9.16e+4	ng/dscm	7%O2	1.12e-1	lbs/hr	CC7%O2
Fluorene	204C3R3	2	2.09e+5	ng/dscm	7%O2	2.31e-1	lbs/hr	CC7%O2
Fluorene	204C4R1		3.96e+5	ng/dscm	7%O2	4.36e-1	lbs/hr	CC7%O2
Fluorene	204C4R2	2	4.00e+5	ng/dscm	7%O2	4.32e-1	lbs/hr	CC7%O2
Fluorene	204C4R3	2	3.81e+5	ng/dscm	7%O2	3.64e-1	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C3R1		1.46e+3	ng/dscm	7%O2	1.71e-3	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C3R2		1.64e+3	ng/dscm	7%O2	2.00e-3	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C3R3		2.09e+3	ng/dscm	7%O2	2.31e-3	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C4R1		7.63e+3	ng/dscm	7%O2	8.41e-3	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C4R2		7.14e+3	ng/dscm	7%O2	7.71e-3	lbs/hr	CC7%O2
Indeno(1,2,3-cd)pyrene	204C4R3		6.66e+3	ng/dscm	7%O2	6.38e-3	lbs/hr	CC7%O2
Naphthalene	204C3R1	2	3.41e+5	ng/dscm	7%O2	3.99e-1	lbs/hr	CC7%O2
Naphthalene	204C3R2	2	3.52e+5	ng/dscm	7%O2	4.29e-1	lbs/hr	CC7%O2
Naphthalene	204C3R3	2	4.18e+5	ng/dscm	7%O2	4.61e-1	lbs/hr	CC7%O2
Naphthalene	204C4R1		3.96e+5	ng/dscm	7%O2	4.36e-1	lbs/hr	CC7%O2
Naphthalene	204C4R2		4.02e+5	ng/dscm	7%O2	4.34e-1	lbs/hr	CC7%O2
Naphthalene	204C4R3		4.44e+5	ng/dscm	7%O2	4.25e-1	lbs/hr	CC7%O2
Phenanthrene	204C3R1	2	1.94e+5	ng/dscm	7%O2	2.27e-1	lbs/hr	CC7%O2
Phenanthrene	204C3R2	2	2.36e+5	ng/dscm	7%O2	2.88e-1	lbs/hr	CC7%O2
Phenanthrene	204C3R3	2	2.61e+5	ng/dscm	7%O2	2.88e-1	lbs/hr	CC7%O2
Phenanthrene	204C4R1	2	3.41e+5	ng/dscm	7%O2	3.76e-1	lbs/hr	CC7%O2
Phenanthrene	204C4R2	2	4.01e+5	ng/dscm	7%O2	4.34e-1	lbs/hr	CC7%O2
Phenanthrene	204C4R3	2	3.83e+5	ng/dscm	7%O2	3.66e-1	lbs/hr	CC7%O2
Pyrene	204C3R1		3.41e+4	ng/dscm	7%O2	3.99e-2	lbs/hr	CC7%O2
Pyrene	204C3R2		7.05e+4	ng/dscm	7%O2	8.58e-2	lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: MO
 3. CITY: CLARKSVILLE
 4. EP ID: 204

DEVICE NAME: KILN NO. 1

EPA ID: MOD029729688
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 7

Pyrene	204C3R3	2	8.09e+4	ng/dscm	7%O2	8.94e-2	lbs/hr	CC7%O2
Pyrene	204C4R1		1.27e+4	ng/dscm	7%O2	1.40e-2	lbs/hr	CC7%O2
Pyrene	204C4R2		1.46e+4	ng/dscm	7%O2	1.57e-2	lbs/hr	CC7%O2
Pyrene	204C4R3		1.36e+5	ng/dscm	7%O2	1.31e-1	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
Particulate	204C1R1	3.01e-2	gr/dscf	7%O2	6.93e+1	lbs/hr	7%O2
Particulate	204C1R2	2.39e-2	gr/dscf	7%O2	4.82e+1	lbs/hr	7%O2
Particulate	204C1R3	3.16e-2	gr/dscf	7%O2	5.38e+1	lbs/hr	7%O2

7. Category: SVOC

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc		
2,4,5-Trichlorophenol	204C3R1	2	1.05e+4	ng/dscm	7%O2	1.23e-2	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C3R1		2.88e+4	ng/dscm	7%O2	3.37e-2	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C3R2	2	4.83e+4	ng/dscm	7%O2	5.88e-2	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C3R3		7.44e+4	ng/dscm	7%O2	8.21e-2	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C4R1		1.02e+5	ng/dscm	7%O2	1.13e-1	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C4R2		1.28e+5	ng/dscm	7%O2	1.38e-1	lbs/hr	CC7%O2
2,4-Dimethylphenol	204C4R3		1.19e+5	ng/dscm	7%O2	1.13e-1	lbs/hr	CC7%O2
2-Chlorophenol	204C3R1		1.87e+4	ng/dscm	7%O2	2.19e-2	lbs/hr	CC7%O2
2-Chlorophenol	204C3R2		1.46e+4	ng/dscm	7%O2	1.77e-2	lbs/hr	CC7%O2
2-Chlorophenol	204C3R3		1.94e+4	ng/dscm	7%O2	2.15e-2	lbs/hr	CC7%O2
2-Methylnaphthalene	204C3R1	2	3.16e+5	ng/dscm	7%O2	3.71e-1	lbs/hr	CC7%O2
2-Methylnaphthalene	204C3R2	2	3.76e+5	ng/dscm	7%O2	4.58e-1	lbs/hr	CC7%O2
2-Methylnaphthalene	204C3R3	2	4.70e+5	ng/dscm	7%O2	5.19e-1	lbs/hr	CC7%O2
2-Methylnaphthalene	204C4R1	2	4.81e+5	ng/dscm	7%O2	5.29e-1	lbs/hr	CC7%O2
2-Methylnaphthalene	204C4R2	2	4.85e+5	ng/dscm	7%O2	5.25e-1	lbs/hr	CC7%O2
2-Methylnaphthalene	204C4R3	2	5.08e+5	ng/dscm	7%O2	4.86e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C3R1	2	1.31e+5	ng/dscm	7%O2	1.53e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C3R2	2	1.02e+5	ng/dscm	7%O2	1.24e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C3R3	2	2.21e+5	ng/dscm	7%O2	2.44e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C4R1	2	2.61e+5	ng/dscm	7%O2	2.87e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C4R2	2	2.79e+5	ng/dscm	7%O2	3.02e-1	lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	204C4R3	2	2.66e+5	ng/dscm	7%O2	2.54e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C3R1	2	2.84e+5	ng/dscm	7%O2	3.33e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C3R2	2	1.89e+5	ng/dscm	7%O2	2.30e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C3R3	2	3.03e+5	ng/dscm	7%O2	3.35e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C4R1	2	5.04e+5	ng/dscm	7%O2	5.55e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C4R2	2	5.30e+5	ng/dscm	7%O2	5.73e-1	lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	204C4R3	2	5.34e+5	ng/dscm	7%O2	5.11e-1	lbs/hr	CC7%O2
Acetophenone	204C3R1		5.88e+4	ng/dscm	7%O2	6.89e-2	lbs/hr	CC7%O2
Acetophenone	204C3R2		5.45e+4	ng/dscm	7%O2	6.64e-2	lbs/hr	CC7%O2
Acetophenone	204C3R3		7.28e+4	ng/dscm	7%O2	8.04e-2	lbs/hr	CC7%O2
Acetophenone	204C4R1		7.62e+4	ng/dscm	7%O2	8.39e-2	lbs/hr	CC7%O2
Acetophenone	204C4R2		8.08e+4	ng/dscm	7%O2	8.73e-2	lbs/hr	CC7%O2
Acetophenone	204C4R3		8.42e+4	ng/dscm	7%O2	8.06e-2	lbs/hr	CC7%O2
Benzoic acid	204C3R1	2	2.76e+5	ng/dscm	7%O2	3.24e-1	lbs/hr	CC7%O2
Benzoic acid	204C3R2	2	7.99e+4	ng/dscm	7%O2	9.73e-2	lbs/hr	CC7%O2
Benzoic acid	204C3R3		4.12e+5	ng/dscm	7%O2	4.55e-1	lbs/hr	CC7%O2
Benzoic acid	204C4R1	2	2.15e+5	ng/dscm	7%O2	2.36e-1	lbs/hr	CC7%O2
Benzoic acid	204C4R2	2	2.20e+5	ng/dscm	7%O2	2.38e-1	lbs/hr	CC7%O2
Benzoic acid	204C4R3	2	3.74e+3	ng/dscm	7%O2	3.58e-3	lbs/hr	CC7%O2
Benzyl alcohol	204C3R1		3.72e+4	ng/dscm	7%O2	4.35e-2	lbs/hr	CC7%O2
Benzyl alcohol	204C3R2		3.70e+4	ng/dscm	7%O2	4.50e-2	lbs/hr	CC7%O2
Benzyl alcohol	204C3R3		5.25e+4	ng/dscm	7%O2	5.80e-2	lbs/hr	CC7%O2
Benzyl alcohol	204C4R1		2.70e+4	ng/dscm	7%O2	2.98e-2	lbs/hr	CC7%O2
Benzyl alcohol	204C4R2		3.05e+4	ng/dscm	7%O2	3.29e-2	lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: MO
 3. CITY: CLARKSVILLE
 4. EP ID: 204 DEVICE NAME: KILN NO. 1

EPA MOD029729688
 SYSTEM TYPE: CEMENT KILN

REGION: 7
 APC SYSTEM: ESP

Benzyl alcohol	204C4R3		2.54e+4	ng/dscm	7%O2	2.43e-2	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	204C3R2		1.87e+4	ng/dscm	7%O2	2.28e-2	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	204C4R2		4.00e+3	ng/dscm	7%O2	4.32e-3	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	204C4R3		5.39e+3	ng/dscm	7%O2	5.16e-3	lbs/hr	CC7%O2
Butylbenzylphthalate	204C3R1		2.12e+4	ng/dscm	7%O2	2.48e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	204C3R2		2.58e+4	ng/dscm	7%O2	3.15e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	204C3R3		3.13e+4	ng/dscm	7%O2	3.46e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	204C4R1		2.77e+4	ng/dscm	7%O2	3.05e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	204C4R2		3.14e+4	ng/dscm	7%O2	3.39e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	204C4R3		3.17e+4	ng/dscm	7%O2	3.04e-2	lbs/hr	CC7%O2
Carbazole	204C3R1		1.29e+4	ng/dscm	7%O2	1.51e-2	lbs/hr	CC7%O2
Carbazole	204C3R2		2.15e+4	ng/dscm	7%O2	2.62e-2	lbs/hr	CC7%O2
Carbazole	204C3R3		2.32e+4	ng/dscm	7%O2	2.57e-2	lbs/hr	CC7%O2
Carbazole	204C4R1		4.56e+4	ng/dscm	7%O2	5.02e-2	lbs/hr	CC7%O2
Carbazole	204C4R2		5.13e+4	ng/dscm	7%O2	5.54e-2	lbs/hr	CC7%O2
Carbazole	204C4R3		5.78e+4	ng/dscm	7%O2	5.53e-2	lbs/hr	CC7%O2
Dibenzofuran	204C3R1	2	1.14e+5	ng/dscm	7%O2	1.34e-1	lbs/hr	CC7%O2
Dibenzofuran	204C3R2	2	1.41e+5	ng/dscm	7%O2	1.72e-1	lbs/hr	CC7%O2
Dibenzofuran	204C3R3	2	1.62e+5	ng/dscm	7%O2	1.79e-1	lbs/hr	CC7%O2
Dibenzofuran	204C4R1	2	1.58e+5	ng/dscm	7%O2	1.74e-1	lbs/hr	CC7%O2
Dibenzofuran	204C4R2	2	1.63e+5	ng/dscm	7%O2	1.76e-1	lbs/hr	CC7%O2
Dibenzofuran	204C4R3	2	1.68e+5	ng/dscm	7%O2	1.61e-1	lbs/hr	CC7%O2
Ethylbenzene	204C3R1		6.93e+5	ng/dscm	7%O2	8.12e-1	lbs/hr	CC7%O2
Ethylbenzene	204C3R2		6.07e+4	ng/dscm	7%O2	7.39e-2	lbs/hr	CC7%O2
Ethylbenzene	204C4R1		4.97e+5	ng/dscm	7%O2	5.48e-1	lbs/hr	CC7%O2
Ethylbenzene	204C4R2		4.51e+4	ng/dscm	7%O2	4.88e-2	lbs/hr	CC7%O2
Ethylbenzene	204C4R3		5.35e+5	ng/dscm	7%O2	5.12e-1	lbs/hr	CC7%O2
Phenol	204C3R1	2	1.21e+6	ng/dscm	7%O2	1.42e+0	lbs/hr	CC7%O2
Phenol	204C3R2	2	7.28e+5	ng/dscm	7%O2	8.87e-1	lbs/hr	CC7%O2
Phenol	204C3R3	2	1.61e+6	ng/dscm	7%O2	1.78e+0	lbs/hr	CC7%O2
Phenol	204C4R1	2	1.71e+6	ng/dscm	7%O2	1.88e+0	lbs/hr	CC7%O2
Phenol	204C4R2	2	1.57e+6	ng/dscm	7%O2	1.70e+0	lbs/hr	CC7%O2
Phenol	204C4R3	2	1.44e+6	ng/dscm	7%O2	1.37e+0	lbs/hr	CC7%O2
Pyridine	204C3R1		7.56e+4	ng/dscm	7%O2	8.86e-2	lbs/hr	CC7%O2
Pyridine	204C3R2		6.15e+4	ng/dscm	7%O2	7.49e-2	lbs/hr	CC7%O2
Pyridine	204C3R3		1.13e+5	ng/dscm	7%O2	1.24e-1	lbs/hr	CC7%O2
Pyridine	204C4R1		9.52e+4	ng/dscm	7%O2	1.05e-1	lbs/hr	CC7%O2
Pyridine	204C4R2		8.69e+4	ng/dscm	7%O2	9.40e-2	lbs/hr	CC7%O2
Pyridine	204C4R3		7.96e+4	ng/dscm	7%O2	7.61e-2	lbs/hr	CC7%O2

7. Category: VOC

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
1,2-Dichloroethane	204C3R2	1.08e+4 ng/dscm 7%O2	1.32e-2 lbs/hr	CC7%O2
2-Picoline	204C3R1	6.58e+3 ng/dscm 7%O2	7.71e-3 lbs/hr	CC7%O2
2-Picoline	204C3R2	1.92e+4 ng/dscm 7%O2	2.34e-2 lbs/hr	CC7%O2
2-Picoline	204C3R3	1.36e+4 ng/dscm 7%O2	1.51e-2 lbs/hr	CC7%O2
2-Picoline	204C4R1	4.92e+4 ng/dscm 7%O2	5.42e-2 lbs/hr	CC7%O2
2-Picoline	204C4R2	4.33e+4 ng/dscm 7%O2	4.68e-2 lbs/hr	CC7%O2
2-Picoline	204C4R3	3.88e+4 ng/dscm 7%O2	3.71e-2 lbs/hr	CC7%O2
Acetone	204C3R2	3.97e+4 ng/dscm 7%O2	4.84e-2 lbs/hr	CC7%O2
Acetone	204C4R1	2.45e+4 ng/dscm 7%O2	2.70e-2 lbs/hr	CC7%O2
Benzene	204C3R1	1.29e+6 ng/dscm 7%O2	1.51e+0 lbs/hr	CC7%O2
Benzene	204C3R2	7.27e+5 ng/dscm 7%O2	8.85e-1 lbs/hr	CC7%O2
Benzene	204C3R3	9.09e+4 ng/dscm 7%O2	1.00e-1 lbs/hr	CC7%O2
Benzene	204C4R1	7.87e+5 ng/dscm 7%O2	8.67e-1 lbs/hr	CC7%O2
Benzene	204C4R2	5.40e+5 ng/dscm 7%O2	5.83e-1 lbs/hr	CC7%O2
Benzene	204C4R3	7.49e+5 ng/dscm 7%O2	7.17e-1 lbs/hr	CC7%O2
Carbon disulfide	204C3R1	8.48e+5 ng/dscm 7%O2	9.94e-1 lbs/hr	CC7%O2
Carbon disulfide	204C3R2	1.15e+6 ng/dscm 7%O2	1.40e+0 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.

2. STATE: MO

3. CITY: CLARKSVILLE

EPA ID: MOD029729688

REGION: 7

4. EP ID: 204 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Carbon disulfide	204C3R3	2.95e+4	ng/dscm	7%O2	3.26e-2	lbs/hr	CC7%O2
Carbon disulfide	204C4R1	1.63e+6	ng/dscm	7%O2	1.79e+0	lbs/hr	CC7%O2
Carbon disulfide	204C4R2	9.30e+5	ng/dscm	7%O2	1.00e+0	lbs/hr	CC7%O2
Carbon disulfide	204C4R3	1.31e+6	ng/dscm	7%O2	1.25e+0	lbs/hr	CC7%O2
Chloromethane	204C3R1	1.23e+5	ng/dscm	7%O2	1.44e-1	lbs/hr	CC7%O2
Chloromethane	204C3R2	3.88e+5	ng/dscm	7%O2	4.73e-1	lbs/hr	CC7%O2
Chloromethane	204C3R3	1.07e+4	ng/dscm	7%O2	1.18e-2	lbs/hr	CC7%O2
Chloromethane	204C4R1	2.18e+5	ng/dscm	7%O2	2.40e-1	lbs/hr	CC7%O2
Chloromethane	204C4R2	6.85e+5	ng/dscm	7%O2	7.41e-1	lbs/hr	CC7%O2
Chloromethane	204C4R3	2.60e+5	ng/dscm	7%O2	2.48e-1	lbs/hr	CC7%O2
Methyl Ethyl Ketone	204C3R1	1.81e+4	ng/dscm	7%O2	2.12e-2	lbs/hr	CC7%O2
Methyl Ethyl Ketone	204C3R2	3.43e+4	ng/dscm	7%O2	4.17e-2	lbs/hr	CC7%O2
Methyl Ethyl Ketone	204C4R1	8.53e+4	ng/dscm	7%O2	9.40e-2	lbs/hr	CC7%O2
Methyl Ethyl Ketone	204C4R2	1.53e+4	ng/dscm	7%O2	1.65e-2	lbs/hr	CC7%O2
Methyl Ethyl Ketone	204C4R3	2.85e+4	ng/dscm	7%O2	2.72e-2	lbs/hr	CC7%O2
Methylene Chloride	204C3R3	8.92e+4	ng/dscm	7%O2	9.85e-2	lbs/hr	CC7%O2
Methylene Chloride	204C4R1	3.52e+5	ng/dscm	7%O2	3.88e-1	lbs/hr	CC7%O2
Styrene	204C3R1	2.81e+5	ng/dscm	7%O2	3.29e-1	lbs/hr	CC7%O2
Styrene	204C3R2	9.73e+4	ng/dscm	7%O2	1.18e-1	lbs/hr	CC7%O2
Styrene	204C4R1	2.34e+5	ng/dscm	7%O2	2.57e-1	lbs/hr	CC7%O2
Styrene	204C4R2	1.68e+4	ng/dscm	7%O2	1.82e-2	lbs/hr	CC7%O2
Styrene	204C4R3	1.05e+6	ng/dscm	7%O2	1.00e+0	lbs/hr	CC7%O2
Toluene	204C3R1	1.12e+6	ng/dscm	7%O2	1.31e+0	lbs/hr	CC7%O2
Toluene	204C3R2	5.68e+5	ng/dscm	7%O2	6.92e-1	lbs/hr	CC7%O2
Toluene	204C3R3	3.14e+4	ng/dscm	7%O2	3.46e-2	lbs/hr	CC7%O2
Toluene	204C4R1	3.93e+5	ng/dscm	7%O2	4.33e-1	lbs/hr	CC7%O2
Toluene	204C4R2	1.95e+5	ng/dscm	7%O2	2.11e-1	lbs/hr	CC7%O2
Toluene	204C4R3	8.99e+5	ng/dscm	7%O2	8.60e-1	lbs/hr	CC7%O2
Total Xylene	204C3R1	4.21e+5	ng/dscm	7%O2	4.93e-1	lbs/hr	CC7%O2
Total Xylene	204C3R2	1.69e+5	ng/dscm	7%O2	2.05e-1	lbs/hr	CC7%O2
Total Xylene	204C4R1	8.02e+5	ng/dscm	7%O2	8.83e-1	lbs/hr	CC7%O2
Total Xylene	204C4R2	1.18e+5	ng/dscm	7%O2	1.27e-1	lbs/hr	CC7%O2
Total Xylene	204C4R3	1.63e+6	ng/dscm	7%O2	1.56e+0	lbs/hr	CC7%O2
Vinyl Chloride	204C3R2	3.80e+2	ng/dscm	7%O2	4.63e-4	lbs/hr	CC7%O2
Vinyl Chloride	204C3R3	1.20e+2	ng/dscm	7%O2	1.32e-4	lbs/hr	CC7%O2
Vinyl Chloride	204C4R1	2.32e+3	ng/dscm	7%O2	2.56e-3	lbs/hr	CC7%O2
Vinyl Chloride	204C4R2	7.08e+3	ng/dscm	7%O2	7.65e-3	lbs/hr	CC7%O2
Vinyl Chloride	204C4R3	3.23e+3	ng/dscm	7%O2	3.09e-3	lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: MS
 3. CITY: ARTESIA
 4. EP ID: 203 DEVICE NAME: KILN NO. 1

EPA ID: MSD077655876
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 4

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
4D 2378	203C1R1	1.11e-1 ng/dscm 7%O2	4.06e-8 lbs/hr	CE7%O2
4D 2378	203C1R2	3.51e-1 ng/dscm 7%O2	1.35e-7 lbs/hr	CE7%O2
4D 2378	203C1R3	2.88e-1 ng/dscm 7%O2	1.04e-7 lbs/hr	CE7%O2
4F 2378	203C1R1	8.42e-1 ng/dscm 7%O2	3.07e-7 lbs/hr	CE7%O2
4F 2378	203C1R2	5.05e+0 ng/dscm 7%O2	1.94e-6 lbs/hr	CE7%O2
4F 2378	203C1R3	3.24e+0 ng/dscm 7%O2	1.16e-6 lbs/hr	CE7%O2
5D 12378	203C1R1	3.35e-1 ng/dscm 7%O2	1.22e-7 lbs/hr	CE7%O2
5D 12378	203C1R2	1.43e+0 ng/dscm 7%O2	5.52e-7 lbs/hr	CE7%O2
5D 12378	203C1R3	9.28e-1 ng/dscm 7%O2	3.34e-7 lbs/hr	CE7%O2
5F 12378	203C1R1	6.05e-1 ng/dscm 7%O2	2.21e-7 lbs/hr	CE7%O2
5F 12378	203C1R2	3.27e+0 ng/dscm 7%O2	1.26e-6 lbs/hr	CE7%O2
5F 12378	203C1R3	1.95e+0 ng/dscm 7%O2	7.02e-7 lbs/hr	CE7%O2
5F 23478	203C1R1	1.60e+0 ng/dscm 7%O2	5.84e-7 lbs/hr	CE7%O2
5F 23478	203C1R2	6.56e+0 ng/dscm 7%O2	2.53e-6 lbs/hr	CE7%O2
5F 23478	203C1R3	4.65e+0 ng/dscm 7%O2	1.67e-6 lbs/hr	CE7%O2
6D 123478	203C1R1	7.48e-1 ng/dscm 7%O2	2.73e-7 lbs/hr	CE7%O2
6D 123478	203C1R2	1.89e+0 ng/dscm 7%O2	7.27e-7 lbs/hr	CE7%O2
6D 123478	203C1R3	1.34e+0 ng/dscm 7%O2	4.84e-7 lbs/hr	CE7%O2
6D 123678	203C1R1	1.60e+0 ng/dscm 7%O2	5.85e-7 lbs/hr	CE7%O2
6D 123678	203C1R2	3.33e+0 ng/dscm 7%O2	1.28e-6 lbs/hr	CE7%O2
6D 123678	203C1R3	2.95e+0 ng/dscm 7%O2	1.06e-6 lbs/hr	CE7%O2
6D 123789	203C1R1	1.42e+0 ng/dscm 7%O2	5.16e-7 lbs/hr	CE7%O2
6D 123789	203C1R2	4.71e+0 ng/dscm 7%O2	1.81e-6 lbs/hr	CE7%O2
6D 123789	203C1R3	4.93e+0 ng/dscm 7%O2	1.77e-6 lbs/hr	CE7%O2
6F 123478	203C1R1	1.10e+0 ng/dscm 7%O2	4.02e-7 lbs/hr	CE7%O2
6F 123478	203C1R2	6.05e+0 ng/dscm 7%O2	2.33e-6 lbs/hr	CE7%O2
6F 123478	203C1R3	4.46e+0 ng/dscm 7%O2	1.60e-6 lbs/hr	CE7%O2
6F 123678	203C1R1	6.28e-1 ng/dscm 7%O2	2.29e-7 lbs/hr	CE7%O2
6F 123678	203C1R2	3.01e+0 ng/dscm 7%O2	1.16e-6 lbs/hr	CE7%O2
6F 123678	203C1R3	2.20e+0 ng/dscm 7%O2	7.90e-7 lbs/hr	CE7%O2
6F 123789	203C1R1	1.23e-1 ng/dscm 7%O2	4.49e-8 lbs/hr	CE7%O2
6F 123789	203C1R2	9.80e-1 ng/dscm 7%O2	3.77e-7 lbs/hr	CE7%O2
6F 123789	203C1R3	6.99e-1 ng/dscm 7%O2	2.51e-7 lbs/hr	CE7%O2
6F 234678	203C1R1	1.07e+0 ng/dscm 7%O2	3.91e-7 lbs/hr	CE7%O2
6F 234678	203C1R2	4.48e+0 ng/dscm 7%O2	1.73e-6 lbs/hr	CE7%O2
6F 234678	203C1R3	2.80e+0 ng/dscm 7%O2	1.01e-6 lbs/hr	CE7%O2
7D 1234678	203C1R1	7.61e+0 ng/dscm 7%O2	2.77e-6 lbs/hr	CE7%O2
7D 1234678	203C1R2	1.37e+1 ng/dscm 7%O2	5.26e-6 lbs/hr	CE7%O2
7D 1234678	203C1R3	1.36e+1 ng/dscm 7%O2	4.88e-6 lbs/hr	CE7%O2
7F 1234678	203C1R1	5.06e-1 ng/dscm 7%O2	1.85e-7 lbs/hr	CE7%O2
7F 1234678	203C1R2	2.82e+0 ng/dscm 7%O2	1.09e-6 lbs/hr	CE7%O2
7F 1234678	203C1R3	2.09e+0 ng/dscm 7%O2	7.51e-7 lbs/hr	CE7%O2
7F 1234789	203C1R1	1.57e-1 ng/dscm 7%O2	5.72e-8 lbs/hr	CE7%O2
7F 1234789	203C1R2	7.02e-1 ng/dscm 7%O2	2.70e-7 lbs/hr	CE7%O2
7F 1234789	203C1R3	6.05e-1 ng/dscm 7%O2	2.17e-7 lbs/hr	CE7%O2
8D	203C1R1	7.95e-1 ng/dscm 7%O2	2.90e-7 lbs/hr	CE7%O2
8D	203C1R2	1.95e+0 ng/dscm 7%O2	7.51e-7 lbs/hr	CE7%O2
8D	203C1R3	1.70e+0 ng/dscm 7%O2	6.12e-7 lbs/hr	CE7%O2
8F	203C1R1	5.90e-2 ng/dscm 7%O2	2.15e-8 lbs/hr	CE7%O2
8F	203C1R2	3.94e-1 ng/dscm 7%O2	1.52e-7 lbs/hr	CE7%O2
8F	203C1R3	3.55e-1 ng/dscm 7%O2	1.28e-7 lbs/hr	CE7%O2
TEQ	203C1R1	1.95e+0 ng/dscm 7%O2	7.10e-7 lbs/hr	CCET
TEQ	203C1R2	7.64e+0 ng/dscm 7%O2	2.94e-6 lbs/hr	CCET

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: MS
 3. CITY: ARTESIA
 4. EP ID: 203

DEVICE NAME: KILN NO. 1

EPA ID: MSD077655876
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 4

TEQ	203C1R3	5.60e+0	ng/dscm	7%O2	2.01e-6	lbs/hr	CCET
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7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
Chlorine	203C1R1	7.61e-1	ppmv	7%O2	8.15e-1	lbs/hr	CC7%O2
Chlorine	203C1R2	8.27e+0	ppmv	7%O2	9.35e+0	lbs/hr	CC7%O2
Chlorine	203C1R3	ND	6.53e-1	ppmv	6.90e-1	lbs/hr	CC7%O2
HCl	203C1R1	1.25e+2	ppmv	7%O2	6.90e+1	lbs/hr	CC7%O2
HCl	203C1R2	1.12e+2	ppmv	7%O2	6.53e+1	lbs/hr	CC7%O2
HCl	203C1R3	9.51e+1	ppmv	7%O2	5.17e+1	lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
Antimony	203C1R1	ND	1.15e+1	ug/dscm	4.18e-3	lbs/hr	CC7%O2
Antimony	203C1R2	ND	1.13e+1	ug/dscm	4.35e-3	lbs/hr	CC7%O2
Antimony	203C1R3	ND	1.20e+1	ug/dscm	4.32e-3	lbs/hr	CC7%O2
Arsenic	203C1R1		1.37e+0	ug/dscm	4.99e-4	lbs/hr	CC7%O2
Arsenic	203C1R2		1.12e+1	ug/dscm	4.30e-3	lbs/hr	CC7%O2
Arsenic	203C1R3		1.12e+0	ug/dscm	4.01e-4	lbs/hr	CC7%O2
Barium	203C1R1		6.75e+0	ug/dscm	2.46e-3	lbs/hr	CC7%O2
Barium	203C1R2		4.50e+0	ug/dscm	1.73e-3	lbs/hr	CC7%O2
Barium	203C1R3		9.86e+0	ug/dscm	3.54e-3	lbs/hr	CC7%O2
Beryllium	203C1R1	ND	1.15e-1	ug/dscm	4.20e-5	lbs/hr	CC7%O2
Beryllium	203C1R2	ND	1.14e-1	ug/dscm	4.40e-5	lbs/hr	CC7%O2
Beryllium	203C1R3	ND	1.20e-1	ug/dscm	4.30e-5	lbs/hr	CC7%O2
Cadmium	203C1R1		3.47e+1	ug/dscm	1.26e-2	lbs/hr	CC7%O2
Cadmium	203C1R2		4.71e+1	ug/dscm	1.81e-2	lbs/hr	CC7%O2
Cadmium	203C1R3		4.11e+1	ug/dscm	1.48e-2	lbs/hr	CC7%O2
Chromium	203C1R1		1.15e+1	ug/dscm	4.20e-3	lbs/hr	CC7%O2
Chromium	203C1R2		1.94e+1	ug/dscm	7.47e-3	lbs/hr	CC7%O2
Chromium	203C1R3		1.43e+1	ug/dscm	5.15e-3	lbs/hr	CC7%O2
Lead	203C1R1		3.86e+2	ug/dscm	1.41e-1	lbs/hr	CC7%O2
Lead	203C1R2		5.66e+2	ug/dscm	2.18e-1	lbs/hr	CC7%O2
Lead	203C1R3		5.10e+2	ug/dscm	1.83e-1	lbs/hr	CC7%O2
Mercury	203C1R1	ND	5.97e+0	ug/dscm	2.18e-3	lbs/hr	CC7%O2
Mercury	203C1R2	ND	5.89e+0	ug/dscm	2.26e-3	lbs/hr	CC7%O2
Mercury	203C1R3	ND	6.25e+0	ug/dscm	2.25e-3	lbs/hr	CC7%O2
Silver	203C1R1		1.80e+0	ug/dscm	6.56e-4	lbs/hr	CC7%O2
Silver	203C1R2	ND	4.53e+1	ug/dscm	1.74e-2	lbs/hr	CC7%O2
Silver	203C1R3	ND	4.81e+1	ug/dscm	1.73e-2	lbs/hr	CC7%O2
Thallium	203C1R1		1.66e+1	ug/dscm	6.04e-3	lbs/hr	CC7%O2
Thallium	203C1R2		7.25e+0	ug/dscm	2.79e-3	lbs/hr	CC7%O2
Thallium	203C1R3		2.07e+1	ug/dscm	7.45e-3	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
Particulate	203C1R1	1.37e-2	gr/dscf	7%O2	1.14e+1	lbs/hr	7%O2
Particulate	203C1R2	1.73e-2	gr/dscf	7%O2	1.52e+1	lbs/hr	7%O2
Particulate	203C1R3	1.06e-2	gr/dscf	7%O2	8.69e+0	lbs/hr	7%O2

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc	
CO	203C1R1	2.73e+2	ppmv	7%O2	1.16e+2	lbs/hr	CE

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.

2. STATE: MS

3. CITY: ARTESIA

EPA ID: MSD077655876

REGION: 4

4. EP ID: 203 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

CO	203C1R2	2.70e+2	ppmv 7%O2	1.21e+2	lbs/hr	CE
CO	203C1R3	2.91e+2	ppmv 7%O2	1.22e+2	lbs/hr	CE
CO(MHRA)	203C1R1	3.12e+2	ppmv 7%O2	1.32e+2	lbs/hr	CE
CO(MHRA)	203C1R2	2.76e+2	ppmv 7%O2	1.23e+2	lbs/hr	CE
CO(MHRA)	203C1R3	3.12e+2	ppmv 7%O2	1.30e+2	lbs/hr	CE
THC	203C1R1	1.86e+1	ppmv 7%O2	1.24e+1	lbs/hr	CE
THC	203C1R2	1.84e+1	ppmv 7%O2	1.29e+1	lbs/hr	CE
THC	203C1R3	1.85e+1	ppmv 7%O2	1.21e+1	lbs/hr	CE
THC(MHRA)	203C1R1	1.98e+1	ppmv 7%O2	1.32e+1	lbs/hr	CE
THC(MHRA)	203C1R2	1.85e+1	ppmv 7%O2	1.30e+1	lbs/hr	CE
THC(MHRA)	203C1R3	1.90e+1	ppmv 7%O2	1.25e+1	lbs/hr	CE

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: SC
 3. CITY: HOLLY HILL
 4. EP ID: 205 DEVICE NAME: KILN NO. 1

EPA ID: SCD003368891
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 4

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
TEQ	205C3R1	2.35e-2 ng/dscm 7%O2	8.30e-9 lbs/hr	CC7%O2
TEQ	205C3R2	1.52e-2 ng/dscm 7%O2	5.37e-9 lbs/hr	CC7%O2
TEQ	205C3R3	3.19e-2 ng/dscm 7%O2	1.07e-8 lbs/hr	CC7%O2
TEQ	205C4R1	4.93e-2 ng/dscm 7%O2	1.79e-8 lbs/hr	CC7%O2
TEQ	205C4R2	1.73e-1 ng/dscm 7%O2	5.85e-8 lbs/hr	CC7%O2
TEQ	205C4R3	3.70e-1 ng/dscm 7%O2	1.27e-7 lbs/hr	CC7%O2
Total PCDD/PCDF	205C3R1	1.24e+1 ng/dscm 7%O2	4.39e-6 lbs/hr	CE
Total PCDD/PCDF	205C3R2	6.40e+0 ng/dscm 7%O2	2.27e-6 lbs/hr	CE
Total PCDD/PCDF	205C3R3	5.60e+0 ng/dscm 7%O2	1.89e-6 lbs/hr	CE
Total PCDD/PCDF	205C4R1	6.10e+1 ng/dscm 7%O2	2.22e-5 lbs/hr	CE
Total PCDD/PCDF	205C4R2	1.98e+2 ng/dscm 7%O2	6.68e-5 lbs/hr	CE
Total PCDD/PCDF	205C4R3	1.42e+2 ng/dscm 7%O2	4.88e-5 lbs/hr	CE

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	205C1R1	ND 2.05e-1 ppmv 7%O2	2.07e-1 lbs/hr	CC7%O2
Chlorine	205C1R2	ND 2.25e-1 ppmv 7%O2	2.44e-1 lbs/hr	CC7%O2
Chlorine	205C1R3	ND 1.65e-1 ppmv 7%O2	1.75e-1 lbs/hr	CC7%O2
HCl	205C1R1	1.30e+1 ppmv 7%O2	6.78e+0 lbs/hr	CC7%O2
HCl	205C1R2	1.56e+1 ppmv 7%O2	8.70e+0 lbs/hr	CC7%O2
HCl	205C1R3	1.99e+1 ppmv 7%O2	1.08e+1 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Antimony	205C1R1	4.84e+0 ug/dscm 7%O2	1.66e-3 lbs/hr	CC7%O2
Antimony	205C1R2	5.32e+0 ug/dscm 7%O2	1.96e-3 lbs/hr	CC7%O2
Antimony	205C1R3	4.56e+0 ug/dscm 7%O2	1.64e-3 lbs/hr	CC7%O2
Arsenic	205C1R1	ND 1.16e+0 ug/dscm 7%O2	3.97e-4 lbs/hr	CC7%O2
Arsenic	205C1R2	2.28e+0 ug/dscm 7%O2	8.40e-4 lbs/hr	CC7%O2
Arsenic	205C1R3	2.09e+0 ug/dscm 7%O2	7.52e-4 lbs/hr	CC7%O2
Barium	205C1R1	1.89e+1 ug/dscm 7%O2	6.49e-3 lbs/hr	CC7%O2
Barium	205C1R2	6.94e+1 ug/dscm 7%O2	2.56e-2 lbs/hr	CC7%O2
Barium	205C1R3	3.40e+1 ug/dscm 7%O2	1.22e-2 lbs/hr	CC7%O2
Beryllium	205C1R1	1.18e+0 ug/dscm 7%O2	4.06e-4 lbs/hr	CC7%O2
Beryllium	205C1R2	2.46e+0 ug/dscm 7%O2	9.06e-4 lbs/hr	CC7%O2
Beryllium	205C1R3	2.68e+0 ug/dscm 7%O2	9.63e-4 lbs/hr	CC7%O2
Cadmium	205C1R1	4.95e+1 ug/dscm 7%O2	1.70e-2 lbs/hr	CC7%O2
Cadmium	205C1R2	1.31e+2 ug/dscm 7%O2	4.82e-2 lbs/hr	CC7%O2
Cadmium	205C1R3	1.60e+2 ug/dscm 7%O2	5.74e-2 lbs/hr	CC7%O2
Chromium	205C1R1	5.77e+0 ug/dscm 7%O2	1.98e-3 lbs/hr	CC7%O2
Chromium	205C1R2	1.26e+1 ug/dscm 7%O2	4.65e-3 lbs/hr	CC7%O2
Chromium	205C1R3	1.06e+1 ug/dscm 7%O2	3.80e-3 lbs/hr	CC7%O2
Chromium (Hex)	205C1R1	3.21e+0 ug/dscm 7%O2	1.10e-3 lbs/hr	CC7%O2
Chromium (Hex)	205C1R2	1.05e+0 ug/dscm 7%O2	3.85e-4 lbs/hr	CC7%O2
Chromium (Hex)	205C1R3	1.32e+0 ug/dscm 7%O2	4.76e-4 lbs/hr	CC7%O2
Lead	205C1R1	5.11e+2 ug/dscm 7%O2	1.75e-1 lbs/hr	CC7%O2
Lead	205C1R2	1.30e+3 ug/dscm 7%O2	4.80e-1 lbs/hr	CC7%O2
Lead	205C1R3	1.35e+3 ug/dscm 7%O2	4.87e-1 lbs/hr	CC7%O2
Mercury	205C1R1	2.95e+1 ug/dscm 7%O2	1.01e-2 lbs/hr	CC7%O2
Mercury	205C1R2	3.72e+1 ug/dscm 7%O2	1.37e-2 lbs/hr	CC7%O2
Mercury	205C1R3	2.26e+1 ug/dscm 7%O2	8.12e-3 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: SC
 3. CITY: HOLLY HILL
 4. EP ID: 205 DEVICE NAME: KILN NO. 1

EPA ID: SCD003368891
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 4

Nickel	205C1R1	4.64e+0	ug/dscm	7%O2	1.59e-3	lbs/hr	CC7%O2	
Nickel	205C1R2	7.57e+0	ug/dscm	7%O2	2.79e-3	lbs/hr	CC7%O2	
Nickel	205C1R3	4.99e+0	ug/dscm	7%O2	1.80e-3	lbs/hr	CC7%O2	
Selenium	205C1R1	1.15e+1	ug/dscm	7%O2	3.96e-3	lbs/hr	CC7%O2	
Selenium	205C1R2	2.81e+1	ug/dscm	7%O2	1.03e-2	lbs/hr	CC7%O2	
Selenium	205C1R3	2.56e+1	ug/dscm	7%O2	9.21e-3	lbs/hr	CC7%O2	
Silver	205C1R1	ND	3.47e-1	ug/dscm	7%O2	1.19e-4	lbs/hr	CC7%O2
Silver	205C1R2	7.30e-1	ug/dscm	7%O2	2.69e-4	lbs/hr	CC7%O2	
Silver	205C1R3	6.19e-1	ug/dscm	7%O2	2.23e-4	lbs/hr	CC7%O2	
Thallium	205C1R1	1.04e+1	ug/dscm	7%O2	3.58e-3	lbs/hr	CC7%O2	
Thallium	205C1R2	5.18e+0	ug/dscm	7%O2	1.91e-3	lbs/hr	CC7%O2	
Thallium	205C1R3	5.77e+0	ug/dscm	7%O2	2.07e-3	lbs/hr	CC7%O2	

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	205C1R1	4.47e-2 gr/dscf 7%O2	3.14e+1 lbs/hr	7%O2
Particulate	205C1R2	4.63e-2 gr/dscf 7%O2	3.69e+1 lbs/hr	7%O2
Particulate	205C1R3	5.84e-2 gr/dscf 7%O2	4.33e+1 lbs/hr	7%O2

7. Category: SVOC

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
1,2,4-Trichlorobenzene	205C2R1	ND 8.30e+3 ng/dscm 7%O2	3.02e-3 lbs/hr	CC7%O2
1,2,4-Trichlorobenzene	205C2R2	ND 8.20e+3 ng/dscm 7%O2	2.56e-3 lbs/hr	CC7%O2
1,2,4-Trichlorobenzene	205C2R3	ND 8.10e+3 ng/dscm 7%O2	2.78e-3 lbs/hr	CC7%O2

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	205C1	1.32e+2 ppmv 7%O2	5.48e+1 lbs/hr	CE7%O2
CO	205C2	1.75e+2 ppmv 7%O2	6.88e+1 lbs/hr	CE7%O2
CO	205C3	1.67e+2 ppmv 7%O2	6.77e+1 lbs/hr	CE7%O2
CO	205C4	1.64e+2 ppmv 7%O2	6.65e+1 lbs/hr	CE7%O2
THC	205C1	2.63e+1 ppmv 7%O2	1.72e+1 lbs/hr	CE7%O2
THC	205C2	2.59e+1 ppmv 7%O2	1.60e+1 lbs/hr	CE7%O2
THC	205C3	1.83e+1 ppmv 7%O2	1.16e+1 lbs/hr	CE7%O2
THC	205C4	1.93e+1 ppmv 7%O2	1.23e+1 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: SC
 3. CITY: HOLLY HILL
 4. EP ID: 206 DEVICE NAME: KILN NO. 2

EPA ID: SCD003368891
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 4

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
TEQ	206C3R2	2.01e+0 ng/dscm 7%O2	1.05e-6 lbs/hr	CC7%O2
TEQ	206C3R3	2.51e+0 ng/dscm 7%O2	1.26e-6 lbs/hr	CC7%O2
TEQ	206C4R1	5.51e-2 ng/dscm 7%O2	2.88e-8 lbs/hr	CC7%O2
TEQ	206C4R2	2.53e-2 ng/dscm 7%O2	1.29e-8 lbs/hr	CC7%O2
Total PCDD/PCDF	206C3R2	3.17e+2 ng/dscm 7%O2	1.66e-4 lbs/hr	CE
Total PCDD/PCDF	206C3R3	4.09e+2 ng/dscm 7%O2	2.06e-4 lbs/hr	CE
Total PCDD/PCDF	206C4R1	3.30e+0 ng/dscm 7%O2	1.73e-6 lbs/hr	CE
Total PCDD/PCDF	206C4R2	2.20e+0 ng/dscm 7%O2	1.13e-6 lbs/hr	CE

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	206C1R1	5.83e-1 ppmv 7%O2	9.11e-1 lbs/hr	CC7%O2
Chlorine	206C1R2	ND 4.11e-2 ppmv 7%O2	6.36e-2 lbs/hr	CC7%O2
Chlorine	206C1R3	ND 3.90e-2 ppmv 7%O2	6.04e-2 lbs/hr	CC7%O2
HCl	206C1R1	1.47e+2 ppmv 7%O2	1.18e+2 lbs/hr	CC7%O2
HCl	206C1R2	1.51e+1 ppmv 7%O2	1.20e+1 lbs/hr	CC7%O2
HCl	206C1R3	8.03e+1 ppmv 7%O2	6.41e+1 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Antimony	206C1R1	1.60e+0 ug/dscm 7%O2	8.49e-4 lbs/hr	CC7%O2
Antimony	206C1R2	2.03e+0 ug/dscm 7%O2	1.06e-3 lbs/hr	CC7%O2
Antimony	206C1R3	ND 1.66e+0 ug/dscm 7%O2	8.77e-4 lbs/hr	CC7%O2
Arsenic	206C1R1	ND 9.08e-1 ug/dscm 7%O2	4.83e-4 lbs/hr	CC7%O2
Arsenic	206C1R2	ND 9.61e-1 ug/dscm 7%O2	5.05e-4 lbs/hr	CC7%O2
Arsenic	206C1R3	ND 9.79e-1 ug/dscm 7%O2	5.16e-4 lbs/hr	CC7%O2
Barium	206C1R1	1.09e+1 ug/dscm 7%O2	5.82e-3 lbs/hr	CC7%O2
Barium	206C1R2	1.18e+1 ug/dscm 7%O2	6.21e-3 lbs/hr	CC7%O2
Barium	206C1R3	9.45e+0 ug/dscm 7%O2	4.98e-3 lbs/hr	CC7%O2
Beryllium	206C1R1	5.85e-1 ug/dscm 7%O2	3.11e-4 lbs/hr	CC7%O2
Beryllium	206C1R2	7.34e-1 ug/dscm 7%O2	3.86e-4 lbs/hr	CC7%O2
Beryllium	206C1R3	6.32e-1 ug/dscm 7%O2	3.33e-4 lbs/hr	CC7%O2
Cadmium	206C1R1	1.90e+1 ug/dscm 7%O2	1.01e-2 lbs/hr	CC7%O2
Cadmium	206C1R2	2.32e+1 ug/dscm 7%O2	1.22e-2 lbs/hr	CC7%O2
Cadmium	206C1R3	1.96e+1 ug/dscm 7%O2	1.03e-2 lbs/hr	CC7%O2
Chromium	206C1R1	5.09e+0 ug/dscm 7%O2	2.70e-3 lbs/hr	CC7%O2
Chromium	206C1R2	5.62e+0 ug/dscm 7%O2	2.95e-3 lbs/hr	CC7%O2
Chromium	206C1R3	5.29e+0 ug/dscm 7%O2	2.79e-3 lbs/hr	CC7%O2
Chromium (Hex)	206C1R1	ND 1.95e+0 ug/dscm 7%O2	1.04e-3 lbs/hr	CC7%O2
Chromium (Hex)	206C1R2	ND 2.02e+0 ug/dscm 7%O2	1.06e-3 lbs/hr	CC7%O2
Chromium (Hex)	206C1R3	ND 1.91e+0 ug/dscm 7%O2	1.01e-3 lbs/hr	CC7%O2
Lead	206C1R1	2.11e+2 ug/dscm 7%O2	1.12e-1 lbs/hr	CC7%O2
Lead	206C1R2	2.94e+2 ug/dscm 7%O2	1.55e-1 lbs/hr	CC7%O2
Lead	206C1R3	2.52e+2 ug/dscm 7%O2	1.33e-1 lbs/hr	CC7%O2
Mercury	206C1R1	1.29e+1 ug/dscm 7%O2	6.88e-3 lbs/hr	CC7%O2
Mercury	206C1R2	2.30e+1 ug/dscm 7%O2	1.21e-2 lbs/hr	CC7%O2
Mercury	206C1R3	1.63e+1 ug/dscm 7%O2	8.57e-3 lbs/hr	CC7%O2
Nickel	206C1R1	2.65e+0 ug/dscm 7%O2	1.41e-3 lbs/hr	CC7%O2
Nickel	206C1R2	1.07e+0 ug/dscm 7%O2	5.60e-4 lbs/hr	CC7%O2
Nickel	206C1R3	2.49e+0 ug/dscm 7%O2	1.31e-3 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: HOLNAM INC.
 2. STATE: SC
 3. CITY: HOLLY HILL
 4. EP ID: 206 DEVICE NAME: KILN NO. 2

EPA SCD003368891

REGION: 4

SYSTEM TYPE: CEMENT KILN APC SYSTEM: ESP

Selenium	206C1R1	2.46e+0 ug/dscm 7%O2	1.31e-3 lbs/hr	CC7%O2
Selenium	206C1R2	1.25e+0 ug/dscm 7%O2	6.57e-4 lbs/hr	CC7%O2
Selenium	206C1R3	ND 9.79e-1 ug/dscm 7%O2	5.16e-4 lbs/hr	CC7%O2
Silver	206C1R1	6.22e-1 ug/dscm 7%O2	3.31e-4 lbs/hr	CC7%O2
Silver	206C1R2	8.52e-1 ug/dscm 7%O2	4.48e-4 lbs/hr	CC7%O2
Silver	206C1R3	7.95e-1 ug/dscm 7%O2	4.19e-4 lbs/hr	CC7%O2
Thallium	206C1R1	6.40e+0 ug/dscm 7%O2	3.40e-3 lbs/hr	CC7%O2
Thallium	206C1R2	4.80e+0 ug/dscm 7%O2	2.52e-3 lbs/hr	CC7%O2
Thallium	206C1R3	5.24e+0 ug/dscm 7%O2	2.76e-3 lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	206C1R1	2.91e-2 gr/dscf 7%O2	3.64e+1 lbs/hr	7%O2
Particulate	206C1R2	2.40e-2 gr/dscf 7%O2	2.86e+1 lbs/hr	7%O2
Particulate	206C1R3	1.48e-2 gr/dscf 7%O2	1.75e+1 lbs/hr	7%O2

7. Category: SVOC

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
1,2,4-Trichlorobenzene	206C2R1	ND 6.41e+3 ng/dscm 7%O2	2.62e-3 lbs/hr	CC7%O2
1,2,4-Trichlorobenzene	206C2R2	ND 6.38e+3 ng/dscm 7%O2	2.61e-3 lbs/hr	CC7%O2
1,2,4-Trichlorobenzene	206C2R3	ND 6.39e+3 ng/dscm 7%O2	2.62e-3 lbs/hr	CC7%O2

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	206C1	1.54e+2 ppmv 7%O2	9.48e+1 lbs/hr	CE7%O2
CO	206C2	1.53e+2 ppmv 7%O2	7.25e+1 lbs/hr	CE7%O2
CO	206C3	1.63e+2 ppmv 7%O2	9.77e+1 lbs/hr	CE7%O2
CO	206C4	1.15e+2 ppmv 7%O2	6.92e+1 lbs/hr	CE7%O2
THC	206C1	1.44e+1 ppmv 7%O2	1.39e+1 lbs/hr	CE7%O2
THC	206C2	1.58e+1 ppmv 7%O2	1.18e+1 lbs/hr	CE7%O2
THC	206C3	1.41e+1 ppmv 7%O2	1.33e+1 lbs/hr	CE7%O2
THC	206C4	4.00e+0 ppmv 7%O2	3.78e+0 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 207 DEVICE NAME: KILN NO. 1

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

REGION: 3
 APC SYSTEM: MC/ESP

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc
4D 2378	207C1R1	ND	8.06e-3	ng/dscm 7%O2	7.82e-10 lbs/hr	CE7%O2
4D 2378	207C1R2	ND	6.51e-3	ng/dscm 7%O2	7.21e-10 lbs/hr	CE7%O2
4D 2378	207C1R3	ND	5.89e-3	ng/dscm 7%O2	6.30e-10 lbs/hr	CE7%O2
4D Other	207C1R1		1.09e+0	ng/dscm 7%O2	1.06e-7 lbs/hr	OCE
4D Other	207C1R2		6.87e-1	ng/dscm 7%O2	7.61e-8 lbs/hr	OCE
4D Other	207C1R3		8.73e-1	ng/dscm 7%O2	9.34e-8 lbs/hr	OCE
4D Total	207C1R1		1.10e+0	ng/dscm 7%O2	1.07e-7 lbs/hr	CE7%O2
4D Total	207C1R2		6.93e-1	ng/dscm 7%O2	7.68e-8 lbs/hr	CE7%O2
4D Total	207C1R3		8.79e-1	ng/dscm 7%O2	9.41e-8 lbs/hr	CE7%O2
4F 2378	207C1R1		2.96e-3	ng/dscm 7%O2	2.88e-10 lbs/hr	CE7%O2
4F 2378	207C1R2		2.23e-3	ng/dscm 7%O2	2.47e-10 lbs/hr	CE7%O2
4F 2378	207C1R3	ND	2.93e-3	ng/dscm 7%O2	3.14e-10 lbs/hr	CE7%O2
4F Other	207C1R1		7.63e-2	ng/dscm 7%O2	7.40e-9 lbs/hr	OCE
4F Other	207C1R2		6.16e-2	ng/dscm 7%O2	6.83e-9 lbs/hr	OCE
4F Other	207C1R3		6.44e-2	ng/dscm 7%O2	6.89e-9 lbs/hr	OCE
4F Total	207C1R1		7.92e-2	ng/dscm 7%O2	7.69e-9 lbs/hr	CE7%O2
4F Total	207C1R2		6.38e-2	ng/dscm 7%O2	7.07e-9 lbs/hr	CE7%O2
4F Total	207C1R3		6.73e-2	ng/dscm 7%O2	7.20e-9 lbs/hr	CE7%O2
5D 12378	207C1R1	ND	4.49e-3	ng/dscm 7%O2	4.35e-10 lbs/hr	CE7%O2
5D 12378	207C1R2	ND	2.42e-3	ng/dscm 7%O2	2.68e-10 lbs/hr	CE7%O2
5D 12378	207C1R3	ND	3.19e-3	ng/dscm 7%O2	3.42e-10 lbs/hr	CE7%O2
5D Other	207C1R1		4.77e-1	ng/dscm 7%O2	4.63e-8 lbs/hr	OCE
5D Other	207C1R2		3.14e-1	ng/dscm 7%O2	3.48e-8 lbs/hr	OCE
5D Other	207C1R3		5.85e-1	ng/dscm 7%O2	6.26e-8 lbs/hr	OCE
5D Total	207C1R1		4.82e-1	ng/dscm 7%O2	4.68e-8 lbs/hr	CE7%O2
5D Total	207C1R2		3.17e-1	ng/dscm 7%O2	3.51e-8 lbs/hr	CE7%O2
5D Total	207C1R3		5.89e-1	ng/dscm 7%O2	6.30e-8 lbs/hr	CE7%O2
5F 12378	207C1R1		2.57e-3	ng/dscm 7%O2	2.49e-10 lbs/hr	CE7%O2
5F 12378	207C1R2		4.56e-3	ng/dscm 7%O2	5.06e-10 lbs/hr	CE7%O2
5F 12378	207C1R3	ND	8.82e-4	ng/dscm 7%O2	9.43e-11 lbs/hr	CE7%O2
5F 23478	207C1R1		2.06e-3	ng/dscm 7%O2	2.00e-10 lbs/hr	CE7%O2
5F 23478	207C1R2		6.06e-3	ng/dscm 7%O2	6.71e-10 lbs/hr	CE7%O2
5F 23478	207C1R3		4.46e-3	ng/dscm 7%O2	4.77e-10 lbs/hr	CE7%O2
5F Other	207C1R1		2.69e-2	ng/dscm 7%O2	2.61e-9 lbs/hr	OCE
5F Other	207C1R2		3.60e-2	ng/dscm 7%O2	3.99e-9 lbs/hr	OCE
5F Other	207C1R3		2.32e-2	ng/dscm 7%O2	2.48e-9 lbs/hr	OCE
5F Total	207C1R1		3.16e-2	ng/dscm 7%O2	3.06e-9 lbs/hr	CE7%O2
5F Total	207C1R2		4.66e-2	ng/dscm 7%O2	5.17e-9 lbs/hr	CE7%O2
5F Total	207C1R3		2.85e-2	ng/dscm 7%O2	3.05e-9 lbs/hr	CE7%O2
6D 123478	207C1R1		4.57e-3	ng/dscm 7%O2	4.43e-10 lbs/hr	CE7%O2
6D 123478	207C1R2	ND	5.58e-3	ng/dscm 7%O2	6.19e-10 lbs/hr	CE7%O2
6D 123478	207C1R3	ND	3.43e-3	ng/dscm 7%O2	3.67e-10 lbs/hr	CE7%O2
6D 123678	207C1R1		1.14e-2	ng/dscm 7%O2	1.11e-9 lbs/hr	CE7%O2
6D 123678	207C1R2		1.15e-2	ng/dscm 7%O2	1.27e-9 lbs/hr	CE7%O2
6D 123678	207C1R3		2.48e-2	ng/dscm 7%O2	2.66e-9 lbs/hr	CE7%O2
6D 123789	207C1R1		5.54e-3	ng/dscm 7%O2	5.38e-10 lbs/hr	CE7%O2
6D 123789	207C1R2		7.43e-3	ng/dscm 7%O2	8.23e-10 lbs/hr	CE7%O2
6D 123789	207C1R3	ND	1.27e-2	ng/dscm 7%O2	1.36e-9 lbs/hr	CE7%O2
6D Other	207C1R1		3.44e-1	ng/dscm 7%O2	3.34e-8 lbs/hr	OCE
6D Other	207C1R2		3.17e-1	ng/dscm 7%O2	3.51e-8 lbs/hr	OCE
6D Other	207C1R3		7.38e-1	ng/dscm 7%O2	7.89e-8 lbs/hr	OCE
6D Total	207C1R1		3.66e-1	ng/dscm 7%O2	3.55e-8 lbs/hr	CE7%O2
6D Total	207C1R2		3.42e-1	ng/dscm 7%O2	3.79e-8 lbs/hr	CE7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 207 DEVICE NAME: KILN NO. 1

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: MC/ESP

REGION: 3

6D Total	207C1R3	7.79e-1	ng/dscm 7%O2	8.33e-8	lbs/hr	CE7%O2
6F 123478	207C1R1	ND	3.43e-3 ng/dscm 7%O2	3.33e-10	lbs/hr	CE7%O2
6F 123478	207C1R2	ND	6.06e-3 ng/dscm 7%O2	6.71e-10	lbs/hr	CE7%O2
6F 123478	207C1R3	ND	1.03e-3 ng/dscm 7%O2	1.10e-10	lbs/hr	CE7%O2
6F 123678	207C1R1	ND	1.81e-3 ng/dscm 7%O2	1.76e-10	lbs/hr	CE7%O2
6F 123678	207C1R2	ND	4.61e-3 ng/dscm 7%O2	5.11e-10	lbs/hr	CE7%O2
6F 123678	207C1R3	ND	9.32e-4 ng/dscm 7%O2	9.97e-11	lbs/hr	CE7%O2
6F 123789	207C1R1	ND	1.76e-3 ng/dscm 7%O2	1.71e-10	lbs/hr	CE7%O2
6F 123789	207C1R2	ND	4.66e-3 ng/dscm 7%O2	5.17e-10	lbs/hr	CE7%O2
6F 123789	207C1R3	ND	1.03e-3 ng/dscm 7%O2	1.10e-10	lbs/hr	CE7%O2
6F 234678	207C1R1	ND	1.96e-3 ng/dscm 7%O2	1.91e-10	lbs/hr	CE7%O2
6F 234678	207C1R2	ND	8.38e-4 ng/dscm 7%O2	9.28e-11	lbs/hr	CE7%O2
6F 234678	207C1R3	ND	3.43e-4 ng/dscm 7%O2	3.67e-11	lbs/hr	CE7%O2
6F Other	207C1R1		-4.90e-3 ng/dscm 7%O2	-4.75e-10	lbs/hr	OCE
6F Other	207C1R2		4.35e-3 ng/dscm 7%O2	4.82e-10	lbs/hr	OCE
6F Other	207C1R3		7.99e-3 ng/dscm 7%O2	8.55e-10	lbs/hr	OCE
6F Total	207C1R1		4.07e-3 ng/dscm 7%O2	3.95e-10	lbs/hr	CE7%O2
6F Total	207C1R2		2.05e-2 ng/dscm 7%O2	2.27e-9	lbs/hr	CE7%O2
6F Total	207C1R3		1.13e-2 ng/dscm 7%O2	1.21e-9	lbs/hr	CE7%O2
7D 1234678	207C1R1		4.02e-2 ng/dscm 7%O2	3.90e-9	lbs/hr	CE7%O2
7D 1234678	207C1R2		5.58e-2 ng/dscm 7%O2	6.19e-9	lbs/hr	CE7%O2
7D 1234678	207C1R3		1.32e-1 ng/dscm 7%O2	1.42e-8	lbs/hr	CE7%O2
7D Other	207C1R1		4.04e-2 ng/dscm 7%O2	3.92e-9	lbs/hr	OCE
7D Other	207C1R2		5.11e-2 ng/dscm 7%O2	5.66e-9	lbs/hr	OCE
7D Other	207C1R3		1.18e-1 ng/dscm 7%O2	1.26e-8	lbs/hr	OCE
7D Total	207C1R1		8.06e-2 ng/dscm 7%O2	7.82e-9	lbs/hr	CE7%O2
7D Total	207C1R2		1.07e-1 ng/dscm 7%O2	1.19e-8	lbs/hr	CE7%O2
7D Total	207C1R3		2.50e-1 ng/dscm 7%O2	2.67e-8	lbs/hr	CE7%O2
7F 1234678	207C1R1		7.04e-3 ng/dscm 7%O2	6.83e-10	lbs/hr	CE7%O2
7F 1234678	207C1R2		1.35e-2 ng/dscm 7%O2	1.49e-9	lbs/hr	CE7%O2
7F 1234678	207C1R3		7.34e-3 ng/dscm 7%O2	7.85e-10	lbs/hr	CE7%O2
7F 1234789	207C1R1	ND	3.38e-3 ng/dscm 7%O2	3.28e-10	lbs/hr	CE7%O2
7F 1234789	207C1R2	ND	3.86e-3 ng/dscm 7%O2	4.28e-10	lbs/hr	CE7%O2
7F 1234789	207C1R3	ND	2.98e-3 ng/dscm 7%O2	3.19e-10	lbs/hr	CE7%O2
7F Other	207C1R1		-4.68e-3 ng/dscm 7%O2	-4.54e-10	lbs/hr	OCE
7F Other	207C1R2		-3.22e-3 ng/dscm 7%O2	-3.56e-10	lbs/hr	OCE
7F Other	207C1R3		-3.17e-4 ng/dscm 7%O2	-3.39e-11	lbs/hr	OCE
7F Total	207C1R1		5.73e-3 ng/dscm 7%O2	5.56e-10	lbs/hr	CE7%O2
7F Total	207C1R2		1.41e-2 ng/dscm 7%O2	1.57e-9	lbs/hr	CE7%O2
7F Total	207C1R3		1.00e-2 ng/dscm 7%O2	1.07e-9	lbs/hr	CE7%O2
8D	207C1R1	ND	4.38e-1 ng/dscm 7%O2	4.25e-8	lbs/hr	CE7%O2
8D	207C1R2	ND	4.36e-1 ng/dscm 7%O2	4.84e-8	lbs/hr	CE7%O2
8D	207C1R3		4.91e-2 ng/dscm 7%O2	5.25e-9	lbs/hr	CE7%O2
8F	207C1R1		7.04e-3 ng/dscm 7%O2	6.83e-10	lbs/hr	CE7%O2
8F	207C1R2		6.06e-3 ng/dscm 7%O2	6.71e-10	lbs/hr	CE7%O2
8F	207C1R3		4.41e-3 ng/dscm 7%O2	4.72e-10	lbs/hr	CE7%O2
TEQ	207C1R1		1.58e-2 ng/dscm 7%O2	1.53e-9	lbs/hr	CCET
TEQ	207C1R2		1.64e-2 ng/dscm 7%O2	1.82e-9	lbs/hr	CCET
TEQ	207C1R3		1.60e-2 ng/dscm 7%O2	1.71e-9	lbs/hr	CCET
Total PCDD/PCDF	207C1R1		2.60e+0 ng/dscm 7%O2	2.52e-7	lbs/hr	CCET
Total PCDD/PCDF	207C1R2		2.05e+0 ng/dscm 7%O2	2.27e-7	lbs/hr	CCET
Total PCDD/PCDF	207C1R3		2.67e+0 ng/dscm 7%O2	2.85e-7	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	207C1R1	5.85e-1 ppmv 7%O2	1.67e-1 lbs/hr	CE7%O2
Chlorine	207C1R2	3.12e-1 ppmv 7%O2	1.02e-1 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 207 DEVICE NAME: KILN NO. 1

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

REGION: 3
 APC SYSTEM: MC/ESP

Chlorine	207C1R3	2.75e-1	ppmv 7%O2	8.64e-2	lbs/hr	CE7%O2
Chlorine	207C1R4	2.69e-1	ppmv 7%O2	8.19e-2	lbs/hr	CE7%O2
HCl	207C1R1	3.35e+0	ppmv 7%O2	4.68e-1	lbs/hr	7%O2
HCl	207C1R2	4.69e+0	ppmv 7%O2	7.53e-1	lbs/hr	7%O2
HCl	207C1R3	4.08e+0	ppmv 7%O2	6.29e-1	lbs/hr	7%O2
HCl	207C1R4	4.60e+0	ppmv 7%O2	6.97e-1	lbs/hr	7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Antimony	207C1R1	8.56e-1 ug/dscm 7%O2	8.70e-5 lbs/hr	7%O2
Antimony	207C1R2	ND 7.65e-1 ug/dscm 7%O2	8.45e-5 lbs/hr	7%O2
Antimony	207C1R3	7.02e-1 ug/dscm 7%O2	7.89e-5 lbs/hr	7%O2
Antimony	207C1R4	7.65e-1 ug/dscm 7%O2	7.93e-5 lbs/hr	7%O2
Antimony	207C2R1	ND 7.39e-1 ug/dscm 7%O2	8.04e-5 lbs/hr	7%O2
Antimony	207C2R2	ND 6.80e-1 ug/dscm 7%O2	7.91e-5 lbs/hr	7%O2
Antimony	207C2R3	ND 6.51e-1 ug/dscm 7%O2	7.62e-5 lbs/hr	7%O2
Antimony	207C2R4	ND 7.66e-1 ug/dscm 7%O2	8.03e-5 lbs/hr	7%O2
Antimony	207C2R5	ND 6.04e-1 ug/dscm 7%O2	7.56e-5 lbs/hr	7%O2
Antimony	207C2R6	ND 6.16e-1 ug/dscm 7%O2	7.54e-5 lbs/hr	7%O2
Arsenic	207C1R1	ND 7.84e-1 ug/dscm 7%O2	7.98e-5 lbs/hr	7%O2
Arsenic	207C1R2	ND 7.65e-1 ug/dscm 7%O2	8.45e-5 lbs/hr	7%O2
Arsenic	207C1R3	ND 7.02e-1 ug/dscm 7%O2	7.89e-5 lbs/hr	7%O2
Arsenic	207C1R4	7.65e-1 ug/dscm 7%O2	7.93e-5 lbs/hr	7%O2
Arsenic	207C2R1	ND 7.39e-1 ug/dscm 7%O2	8.04e-5 lbs/hr	7%O2
Arsenic	207C2R2	ND 6.80e-1 ug/dscm 7%O2	7.91e-5 lbs/hr	7%O2
Arsenic	207C2R3	ND 6.51e-1 ug/dscm 7%O2	7.62e-5 lbs/hr	7%O2
Arsenic	207C2R4	ND 7.66e-1 ug/dscm 7%O2	8.03e-5 lbs/hr	7%O2
Arsenic	207C2R5	ND 6.04e-1 ug/dscm 7%O2	7.56e-5 lbs/hr	7%O2
Arsenic	207C2R6	ND 6.16e-1 ug/dscm 7%O2	7.54e-5 lbs/hr	7%O2
Barium	207C1R1	4.29e+1 ug/dscm 7%O2	4.35e-3 lbs/hr	7%O2
Barium	207C1R2	4.14e+1 ug/dscm 7%O2	4.58e-3 lbs/hr	7%O2
Barium	207C1R3	4.62e+1 ug/dscm 7%O2	5.17e-3 lbs/hr	7%O2
Barium	207C1R4	4.57e+1 ug/dscm 7%O2	4.74e-3 lbs/hr	7%O2
Beryllium	207C1R1	ND 7.84e-2 ug/dscm 7%O2	7.98e-6 lbs/hr	7%O2
Beryllium	207C1R2	ND 7.65e-2 ug/dscm 7%O2	8.45e-6 lbs/hr	7%O2
Beryllium	207C1R3	ND 7.02e-2 ug/dscm 7%O2	7.89e-6 lbs/hr	7%O2
Beryllium	207C1R4	7.65e-2 ug/dscm 7%O2	7.93e-6 lbs/hr	7%O2
Beryllium	207C2R1	ND 7.38e-2 ug/dscm 7%O2	8.04e-6 lbs/hr	7%O2
Beryllium	207C2R2	ND 6.80e-2 ug/dscm 7%O2	7.91e-6 lbs/hr	7%O2
Beryllium	207C2R3	ND 6.51e-2 ug/dscm 7%O2	7.62e-6 lbs/hr	7%O2
Beryllium	207C2R4	ND 7.66e-2 ug/dscm 7%O2	8.03e-6 lbs/hr	7%O2
Beryllium	207C2R5	ND 6.04e-2 ug/dscm 7%O2	7.56e-6 lbs/hr	7%O2
Beryllium	207C2R6	ND 6.16e-2 ug/dscm 7%O2	7.54e-6 lbs/hr	7%O2
Cadmium	207C1R1	4.40e+2 ug/dscm 7%O2	4.48e-2 lbs/hr	7%O2
Cadmium	207C1R2	1.99e+2 ug/dscm 7%O2	2.20e-2 lbs/hr	7%O2
Cadmium	207C1R3	2.05e+2 ug/dscm 7%O2	2.30e-2 lbs/hr	7%O2
Cadmium	207C1R4	1.33e+2 ug/dscm 7%O2	1.38e-2 lbs/hr	7%O2
Cadmium	207C2R1	4.16e+2 ug/dscm 7%O2	4.54e-2 lbs/hr	7%O2
Cadmium	207C2R2	1.68e+2 ug/dscm 7%O2	1.95e-2 lbs/hr	7%O2
Cadmium	207C2R3	4.63e+1 ug/dscm 7%O2	5.41e-3 lbs/hr	7%O2
Cadmium	207C2R4	4.62e+1 ug/dscm 7%O2	4.85e-3 lbs/hr	7%O2
Cadmium	207C2R5	8.70e+1 ug/dscm 7%O2	1.09e-2 lbs/hr	7%O2
Cadmium	207C2R6	1.07e+2 ug/dscm 7%O2	1.31e-2 lbs/hr	7%O2
Chromium	207C1R1	1.59e+2 ug/dscm 7%O2	1.61e-2 lbs/hr	7%O2
Chromium	207C1R2	7.48e+0 ug/dscm 7%O2	8.28e-4 lbs/hr	7%O2
Chromium	207C1R3	1.11e+1 ug/dscm 7%O2	1.25e-3 lbs/hr	7%O2
Chromium	207C1R4	4.62e+1 ug/dscm 7%O2	4.80e-3 lbs/hr	7%O2
Chromium	207C2R1	7.29e+0 ug/dscm 7%O2	7.93e-4 lbs/hr	7%O2
Chromium	207C2R2	6.88e+0 ug/dscm 7%O2	8.00e-4 lbs/hr	7%O2
Chromium	207C2R3	7.17e+0 ug/dscm 7%O2	8.39e-4 lbs/hr	7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 207 DEVICE NAME: KILN NO. 1

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: MC/ESP

REGION: 3

Chromium	207C2R4	4.75e+0 ug/dscm 7%O2	4.98e-4 lbs/hr	7%O2
Chromium	207C2R5	2.93e+2 ug/dscm 7%O2	3.67e-2 lbs/hr	7%O2
Chromium	207C2R6	4.62e+0 ug/dscm 7%O2	5.64e-4 lbs/hr	7%O2
Chromium (Hex)	207C1R1	1.40e+0 ug/dscm 7%O2	1.38e-4 lbs/hr	7%O2
Chromium (Hex)	207C1R2	1.53e+0 ug/dscm 7%O2	1.68e-4 lbs/hr	7%O2
Chromium (Hex)	207C1R3	1.49e+0 ug/dscm 7%O2	1.62e-4 lbs/hr	7%O2
Chromium (Hex)	207C1R4	2.25e+0 ug/dscm 7%O2	2.48e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R1	1.53e+0 ug/dscm 7%O2	1.70e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R2	1.78e+0 ug/dscm 7%O2	2.08e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R3	1.77e+0 ug/dscm 7%O2	2.02e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R4	1.20e+0 ug/dscm 7%O2	1.26e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R5	1.14e+0 ug/dscm 7%O2	1.41e-4 lbs/hr	7%O2
Chromium (Hex)	207C2R6	1.54e+0 ug/dscm 7%O2	2.04e-4 lbs/hr	7%O2
Lead	207C1R1	2.85e+2 ug/dscm 7%O2	2.91e-2 lbs/hr	7%O2
Lead	207C1R2	3.09e+2 ug/dscm 7%O2	3.42e-2 lbs/hr	7%O2
Lead	207C1R3	2.77e+2 ug/dscm 7%O2	3.11e-2 lbs/hr	7%O2
Lead	207C1R4	1.79e+2 ug/dscm 7%O2	1.86e-2 lbs/hr	7%O2
Lead	207C2R1	2.20e+2 ug/dscm 7%O2	2.30e-2 lbs/hr	7%O2
Lead	207C2R2	1.12e+2 ug/dscm 7%O2	1.30e-2 lbs/hr	7%O2
Lead	207C2R3	5.00e+1 ug/dscm 7%O2	5.85e-3 lbs/hr	7%O2
Lead	207C2R4	3.43e+1 ug/dscm 7%O2	3.59e-3 lbs/hr	7%O2
Lead	207C2R5	1.56e+2 ug/dscm 7%O2	1.95e-2 lbs/hr	7%O2
Lead	207C2R6	1.04e+2 ug/dscm 7%O2	1.27e-2 lbs/hr	7%O2
Mercury	207C1R1	1.26e+1 ug/dscm 7%O2	1.28e-3 lbs/hr	7%O2
Mercury	207C1R2	2.19e+1 ug/dscm 7%O2	2.42e-3 lbs/hr	7%O2
Mercury	207C1R3	1.93e+1 ug/dscm 7%O2	2.17e-3 lbs/hr	7%O2
Mercury	207C1R4	1.41e+1 ug/dscm 7%O2	1.46e-3 lbs/hr	7%O2
Nickel	207C1R1	9.86e+1 ug/dscm 7%O2	1.00e-2 lbs/hr	7%O2
Nickel	207C1R2	4.69e+0 ug/dscm 7%O2	5.19e-4 lbs/hr	7%O2
Nickel	207C1R3	6.47e+0 ug/dscm 7%O2	7.26e-4 lbs/hr	7%O2
Nickel	207C1R4	9.37e+1 ug/dscm 7%O2	9.74e-3 lbs/hr	7%O2
Silver	207C1R1	1.78e+0 ug/dscm 7%O2	1.81e-4 lbs/hr	7%O2
Silver	207C1R2	1.15e+0 ug/dscm 7%O2	1.28e-4 lbs/hr	7%O2
Silver	207C1R3	1.30e+0 ug/dscm 7%O2	1.46e-4 lbs/hr	7%O2
Silver	207C1R4	8.55e-1 ug/dscm 7%O2	8.88e-5 lbs/hr	7%O2
Thallium	207C1R1	4.40e-1 ug/dscm 7%O2	4.47e-5 lbs/hr	7%O2
Thallium	207C1R2	4.06e-1 ug/dscm 7%O2	4.48e-5 lbs/hr	7%O2
Thallium	207C1R3	3.51e-1 ug/dscm 7%O2	3.94e-5 lbs/hr	7%O2
Thallium	207C1R4	ND 7.65e-1 ug/dscm 7%O2	7.93e-5 lbs/hr	7%O2
Thallium	207C2R1	ND 7.39e-1 ug/dscm 7%O2	8.04e-5 lbs/hr	7%O2
Thallium	207C2R2	6.95e-1 ug/dscm 7%O2	8.07e-5 lbs/hr	7%O2
Thallium	207C2R3	5.15e-1 ug/dscm 7%O2	6.02e-5 lbs/hr	7%O2
Thallium	207C2R4	7.66e-1 ug/dscm 7%O2	8.03e-5 lbs/hr	7%O2
Thallium	207C2R5	4.35e-1 ug/dscm 7%O2	5.44e-5 lbs/hr	7%O2
Thallium	207C2R6	5.05e-1 ug/dscm 7%O2	6.18e-5 lbs/hr	7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	207C1R1	2.81e-2 gr/dscf 7%O2	6.08e+0 lbs/hr	7%O2
Particulate	207C1R2	2.56e-2 gr/dscf 7%O2	6.81e+0 lbs/hr	7%O2
Particulate	207C1R3	2.63e-2 gr/dscf 7%O2	6.30e+0 lbs/hr	7%O2
Particulate	207C1R4	3.24e-2 gr/dscf 7%O2	7.32e+0 lbs/hr	7%O2
Particulate	207C2R1	2.37e-2 gr/dscf 7%O2	5.74e+0 lbs/hr	7%O2
Particulate	207C2R2	2.22e-2 gr/dscf 7%O2	5.53e+0 lbs/hr	7%O2
Particulate	207C2R3	1.90e-2 gr/dscf 7%O2	4.66e+0 lbs/hr	7%O2
Particulate	207C2R4	1.01e-2 gr/dscf 7%O2	2.34e+0 lbs/hr	7%O2
Particulate	207C2R5	1.76e-2 gr/dscf 7%O2	4.63e+0 lbs/hr	7%O2
Particulate	207C2R6	1.67e-2 gr/dscf 7%O2	4.48e+0 lbs/hr	7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 207 DEVICE NAME: KILN NO. 1

EPA ID: PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: MC/ESP

REGION: 3

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	207C1R1	2.70e+1 ppmv 7%O2	3.04e+0 lbs/hr	CE
CO	207C1R2	2.60e+1 ppmv 7%O2	3.35e+0 lbs/hr	CE
CO	207C1R3	2.50e+1 ppmv 7%O2	3.11e+0 lbs/hr	CE
CO	207C1R4	2.60e+1 ppmv 7%O2	3.12e+0 lbs/hr	CE
CO	207C2R1	2.80e+1 ppmv 7%O2	3.54e+0 lbs/hr	CE
CO	207C2R2	2.30e+1 ppmv 7%O2	3.05e+0 lbs/hr	CE
CO	207C2R3	2.10e+1 ppmv 7%O2	2.76e+0 lbs/hr	CE
CO	207C2R4	2.60e+1 ppmv 7%O2	3.14e+0 lbs/hr	CE
CO	207C2R5	2.70e+1 ppmv 7%O2	3.81e+0 lbs/hr	CE
CO	207C2R6	2.50e+1 ppmv 7%O2	3.61e+0 lbs/hr	CE
CO(MHRA)	207C1R1	3.90e+1 ppmv 7%O2	4.40e+0 lbs/hr	CE
CO(MHRA)	207C1R2	3.20e+1 ppmv 7%O2	4.12e+0 lbs/hr	CE
CO(MHRA)	207C1R3	2.80e+1 ppmv 7%O2	3.48e+0 lbs/hr	CE
CO(MHRA)	207C1R4	3.60e+1 ppmv 7%O2	4.32e+0 lbs/hr	CE
CO(MHRA)	207C2R1	2.90e+1 ppmv 7%O2	3.66e+0 lbs/hr	CE
CO(MHRA)	207C2R2	2.80e+1 ppmv 7%O2	3.72e+0 lbs/hr	CE
CO(MHRA)	207C2R3	2.30e+1 ppmv 7%O2	3.02e+0 lbs/hr	CE
CO(MHRA)	207C2R4	3.90e+1 ppmv 7%O2	4.71e+0 lbs/hr	CE
CO(MHRA)	207C2R5	3.70e+1 ppmv 7%O2	5.22e+0 lbs/hr	CE
CO(MHRA)	207C2R6	3.20e+1 ppmv 7%O2	4.62e+0 lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 208 DEVICE NAME: KILN NO. 2

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 3

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration			Mass Rate	Calc
4D 2378	208C1R1	ND	3.14e-4	ng/dscm 7%O2	1.17e-10 lbs/hr	CE7%O2
4D 2378	208C1R2	ND	3.90e-4	ng/dscm 7%O2	1.50e-10 lbs/hr	CE7%O2
4D 2378	208C1R3	ND	1.53e-4	ng/dscm 7%O2	5.85e-11 lbs/hr	CE7%O2
4D Other	208C1R1		8.77e-2	ng/dscm 7%O2	3.26e-8 lbs/hr	OCE
4D Other	208C1R2		1.46e-1	ng/dscm 7%O2	5.61e-8 lbs/hr	OCE
4D Other	208C1R3		1.12e-1	ng/dscm 7%O2	4.30e-8 lbs/hr	OCE
4D Total	208C1R1		8.80e-2	ng/dscm 7%O2	3.28e-8 lbs/hr	CE7%O2
4D Total	208C1R2		1.46e-1	ng/dscm 7%O2	5.63e-8 lbs/hr	CE7%O2
4D Total	208C1R3		1.12e-1	ng/dscm 7%O2	4.30e-8 lbs/hr	CE7%O2
4F 2378	208C1R1		1.22e-3	ng/dscm 7%O2	4.55e-10 lbs/hr	CE7%O2
4F 2378	208C1R2		3.08e-3	ng/dscm 7%O2	1.19e-9 lbs/hr	CE7%O2
4F 2378	208C1R3	ND	6.90e-4	ng/dscm 7%O2	2.64e-10 lbs/hr	CE7%O2
4F Other	208C1R1		1.02e-2	ng/dscm 7%O2	3.80e-9 lbs/hr	OCE
4F Other	208C1R2		2.12e-2	ng/dscm 7%O2	8.17e-9 lbs/hr	OCE
4F Other	208C1R3		5.04e-3	ng/dscm 7%O2	1.93e-9 lbs/hr	OCE
4F Total	208C1R1		1.14e-2	ng/dscm 7%O2	4.25e-9 lbs/hr	CE7%O2
4F Total	208C1R2		2.43e-2	ng/dscm 7%O2	9.36e-9 lbs/hr	CE7%O2
4F Total	208C1R3		5.73e-3	ng/dscm 7%O2	2.19e-9 lbs/hr	CE7%O2
5D 12378	208C1R1		1.14e-3	ng/dscm 7%O2	4.25e-10 lbs/hr	CE7%O2
5D 12378	208C1R2	ND	5.47e-4	ng/dscm 7%O2	2.11e-10 lbs/hr	CE7%O2
5D 12378	208C1R3	ND	1.15e-4	ng/dscm 7%O2	4.39e-11 lbs/hr	CE7%O2
5D Other	208C1R1		5.40e-2	ng/dscm 7%O2	2.01e-8 lbs/hr	OCE
5D Other	208C1R2		7.38e-2	ng/dscm 7%O2	2.84e-8 lbs/hr	OCE
5D Other	208C1R3		4.95e-2	ng/dscm 7%O2	1.90e-8 lbs/hr	OCE
5D Total	208C1R1		5.51e-2	ng/dscm 7%O2	2.05e-8 lbs/hr	CE7%O2
5D Total	208C1R2		7.43e-2	ng/dscm 7%O2	2.86e-8 lbs/hr	CE7%O2
5D Total	208C1R3		4.96e-2	ng/dscm 7%O2	1.90e-8 lbs/hr	CE7%O2
5F 12378	208C1R1		2.87e-3	ng/dscm 7%O2	1.07e-9 lbs/hr	CE7%O2
5F 12378	208C1R2		2.15e-3	ng/dscm 7%O2	8.28e-10 lbs/hr	CE7%O2
5F 12378	208C1R3	ND	2.67e-4	ng/dscm 7%O2	1.02e-10 lbs/hr	CE7%O2
5F 23478	208C1R1		3.66e-3	ng/dscm 7%O2	1.36e-9 lbs/hr	CE7%O2
5F 23478	208C1R2		3.65e-3	ng/dscm 7%O2	1.40e-9 lbs/hr	CE7%O2
5F 23478	208C1R3		2.91e-3	ng/dscm 7%O2	1.11e-9 lbs/hr	CE7%O2
5F Other	208C1R1		2.14e-2	ng/dscm 7%O2	7.96e-9 lbs/hr	OCE
5F Other	208C1R2		1.76e-2	ng/dscm 7%O2	6.77e-9 lbs/hr	OCE
5F Other	208C1R3		7.16e-3	ng/dscm 7%O2	2.74e-9 lbs/hr	OCE
5F Total	208C1R1		2.79e-2	ng/dscm 7%O2	1.04e-8 lbs/hr	CE7%O2
5F Total	208C1R2		2.34e-2	ng/dscm 7%O2	9.00e-9 lbs/hr	CE7%O2
5F Total	208C1R3		1.03e-2	ng/dscm 7%O2	3.95e-9 lbs/hr	CE7%O2
6D 123478	208C1R1		1.34e-3	ng/dscm 7%O2	4.98e-10 lbs/hr	CE7%O2
6D 123478	208C1R2		8.60e-4	ng/dscm 7%O2	3.31e-10 lbs/hr	CE7%O2
6D 123478	208C1R3	ND	3.44e-4	ng/dscm 7%O2	1.32e-10 lbs/hr	CE7%O2
6D 123678	208C1R1		3.34e-3	ng/dscm 7%O2	1.24e-9 lbs/hr	CE7%O2
6D 123678	208C1R2		2.66e-3	ng/dscm 7%O2	1.03e-9 lbs/hr	CE7%O2
6D 123678	208C1R3		1.64e-3	ng/dscm 7%O2	6.29e-10 lbs/hr	CE7%O2
6D 123789	208C1R1		2.36e-3	ng/dscm 7%O2	8.80e-10 lbs/hr	CE7%O2
6D 123789	208C1R2		9.77e-4	ng/dscm 7%O2	3.76e-10 lbs/hr	CE7%O2
6D 123789	208C1R3	ND	2.30e-4	ng/dscm 7%O2	8.79e-11 lbs/hr	CE7%O2
6D Other	208C1R1		5.90e-2	ng/dscm 7%O2	2.20e-8 lbs/hr	OCE
6D Other	208C1R2		6.09e-2	ng/dscm 7%O2	2.35e-8 lbs/hr	OCE
6D Other	208C1R3		4.27e-2	ng/dscm 7%O2	1.63e-8 lbs/hr	OCE
6D Total	208C1R1		6.61e-2	ng/dscm 7%O2	2.46e-8 lbs/hr	CE7%O2
6D Total	208C1R2		6.54e-2	ng/dscm 7%O2	2.52e-8 lbs/hr	CE7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 208 DEVICE NAME: KILN NO. 2

EPA ID: PAD002389559
 SYSTEM TYPE: CEMENT KILN

REGION: 3
 APC SYSTEM: ESP

6D Total	208C1R3		4.49e-2	ng/dscm	7%O2	1.72e-8	lbs/hr	CE7%O2
6F 123478	208C1R1		3.59e-3	ng/dscm	7%O2	1.34e-9	lbs/hr	CE7%O2
6F 123478	208C1R2	ND	1.49e-3	ng/dscm	7%O2	5.73e-10	lbs/hr	CE7%O2
6F 123478	208C1R3		2.07e-3	ng/dscm	7%O2	7.91e-10	lbs/hr	CE7%O2
6F 123678	208C1R1	ND	3.07e-3	ng/dscm	7%O2	1.14e-9	lbs/hr	CE7%O2
6F 123678	208C1R2	ND	1.64e-3	ng/dscm	7%O2	6.33e-10	lbs/hr	CE7%O2
6F 123678	208C1R3	ND	1.19e-3	ng/dscm	7%O2	4.54e-10	lbs/hr	CE7%O2
6F 123789	208C1R1		1.06e-3	ng/dscm	7%O2	3.95e-10	lbs/hr	CE7%O2
6F 123789	208C1R2	ND	7.43e-4	ng/dscm	7%O2	2.86e-10	lbs/hr	CE7%O2
6F 123789	208C1R3	ND	2.67e-4	ng/dscm	7%O2	1.02e-10	lbs/hr	CE7%O2
6F 234678	208C1R1	ND	2.77e-4	ng/dscm	7%O2	1.03e-10	lbs/hr	CE7%O2
6F 234678	208C1R2	ND	1.56e-4	ng/dscm	7%O2	6.02e-11	lbs/hr	CE7%O2
6F 234678	208C1R3	ND	3.82e-4	ng/dscm	7%O2	1.46e-10	lbs/hr	CE7%O2
6F Other	208C1R1		9.73e-3	ng/dscm	7%O2	3.62e-9	lbs/hr	OCE
6F Other	208C1R2		3.80e-3	ng/dscm	7%O2	1.46e-9	lbs/hr	OCE
6F Other	208C1R3		2.21e-3	ng/dscm	7%O2	8.45e-10	lbs/hr	OCE
6F Total	208C1R1		1.77e-2	ng/dscm	7%O2	6.60e-9	lbs/hr	CE7%O2
6F Total	208C1R2		7.83e-3	ng/dscm	7%O2	3.02e-9	lbs/hr	CE7%O2
6F Total	208C1R3		6.11e-3	ng/dscm	7%O2	2.34e-9	lbs/hr	CE7%O2
7D 1234678	208C1R1		5.11e-2	ng/dscm	7%O2	1.90e-8	lbs/hr	CE7%O2
7D 1234678	208C1R2		4.30e-2	ng/dscm	7%O2	1.66e-8	lbs/hr	CE7%O2
7D 1234678	208C1R3		3.70e-2	ng/dscm	7%O2	1.42e-8	lbs/hr	CE7%O2
7D Other	208C1R1		3.54e-2	ng/dscm	7%O2	1.32e-8	lbs/hr	OCE
7D Other	208C1R2		4.30e-2	ng/dscm	7%O2	1.66e-8	lbs/hr	OCE
7D Other	208C1R3		2.79e-2	ng/dscm	7%O2	1.07e-8	lbs/hr	OCE
7D Total	208C1R1		8.65e-2	ng/dscm	7%O2	3.22e-8	lbs/hr	CE7%O2
7D Total	208C1R2		8.60e-2	ng/dscm	7%O2	3.31e-8	lbs/hr	CE7%O2
7D Total	208C1R3		6.49e-2	ng/dscm	7%O2	2.48e-8	lbs/hr	CE7%O2
7F 1234678	208C1R1		1.06e-2	ng/dscm	7%O2	3.95e-9	lbs/hr	CE7%O2
7F 1234678	208C1R2		3.67e-3	ng/dscm	7%O2	1.41e-9	lbs/hr	CE7%O2
7F 1234678	208C1R3		3.13e-3	ng/dscm	7%O2	1.20e-9	lbs/hr	CE7%O2
7F 1234789	208C1R1	ND	7.08e-4	ng/dscm	7%O2	2.64e-10	lbs/hr	CE7%O2
7F 1234789	208C1R2	ND	2.43e-3	ng/dscm	7%O2	9.36e-10	lbs/hr	CE7%O2
7F 1234789	208C1R3	ND	2.67e-3	ng/dscm	7%O2	1.02e-9	lbs/hr	CE7%O2
7F Other	208C1R1		-7.08e-4	ng/dscm	7%O2	-2.64e-10	lbs/hr	OCE
7F Other	208C1R2		1.64e-4	ng/dscm	7%O2	6.30e-11	lbs/hr	OCE
7F Other	208C1R3		-2.67e-3	ng/dscm	7%O2	-1.02e-9	lbs/hr	OCE
7F Total	208C1R1		1.06e-2	ng/dscm	7%O2	3.95e-9	lbs/hr	CE7%O2
7F Total	208C1R2		6.26e-3	ng/dscm	7%O2	2.41e-9	lbs/hr	CE7%O2
7F Total	208C1R3		3.13e-3	ng/dscm	7%O2	1.20e-9	lbs/hr	CE7%O2
8D	208C1R1		2.99e-1	ng/dscm	7%O2	1.11e-7	lbs/hr	CE7%O2
8D	208C1R2		3.65e-1	ng/dscm	7%O2	1.40e-7	lbs/hr	CE7%O2
8D	208C1R3		2.79e-1	ng/dscm	7%O2	1.07e-7	lbs/hr	CE7%O2
8F	208C1R1		3.14e-3	ng/dscm	7%O2	1.17e-9	lbs/hr	CE7%O2
8F	208C1R2		2.45e-3	ng/dscm	7%O2	9.45e-10	lbs/hr	CE7%O2
8F	208C1R3		2.39e-3	ng/dscm	7%O2	9.13e-10	lbs/hr	CE7%O2
TEQ	208C1R1		5.41e-3	ng/dscm	7%O2	2.02e-9	lbs/hr	CCET
TEQ	208C1R2		4.61e-3	ng/dscm	7%O2	1.78e-9	lbs/hr	CCET
TEQ	208C1R3		3.07e-3	ng/dscm	7%O2	1.17e-9	lbs/hr	CCET
Total PCDD/PCDF	208C1R1		6.66e-1	ng/dscm	7%O2	2.48e-7	lbs/hr	CCET
Total PCDD/PCDF	208C1R2		8.01e-1	ng/dscm	7%O2	3.08e-7	lbs/hr	CCET
Total PCDD/PCDF	208C1R3		5.79e-1	ng/dscm	7%O2	2.21e-7	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	208C1R1	2.88e-1 ppmv 7%O2	3.15e-1 lbs/hr	CE7%O2
Chlorine	208C1R2	2.25e-1 ppmv 7%O2	2.54e-1 lbs/hr	CE7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 208 DEVICE NAME: KILN NO. 2

EPA PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 3

Chlorine	208C1R3	2.41e-1	ppmv 7%O2	2.72e-1	lbs/hr	CE7%O2
Chlorine	208C1R4	1.96e-1	ppmv 7%O2	2.21e-1	lbs/hr	CE7%O2
HCl	208C1R1	4.49e+0	ppmv 7%O2	2.61e+0	lbs/hr	7%O2
HCl	208C1R2	2.46e+0	ppmv 7%O2	1.50e+0	lbs/hr	7%O2
HCl	208C1R3	3.43e+0	ppmv 7%O2	1.99e+0	lbs/hr	7%O2
HCl	208C1R4	5.80e+0	ppmv 7%O2	3.40e+0	lbs/hr	7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc
Antimony	208C1R1	ND	6.31e-1 ug/dscm 7%O2	2.35e-4 lbs/hr	CE7%O2
Antimony	208C1R2	ND	6.43e-1 ug/dscm 7%O2	2.48e-4 lbs/hr	CE7%O2
Antimony	208C1R3	ND	6.35e-1 ug/dscm 7%O2	2.43e-4 lbs/hr	CE7%O2
Antimony	208C1R4	ND	6.21e-1 ug/dscm 7%O2	2.38e-4 lbs/hr	CE7%O2
Antimony	208C2R1	ND	6.68e-1 ug/dscm 7%O2	2.34e-4 lbs/hr	CE7%O2
Antimony	208C2R2	ND	6.19e-1 ug/dscm 7%O2	2.32e-4 lbs/hr	CE7%O2
Antimony	208C2R3		6.17e-1 ug/dscm 7%O2	2.15e-4 lbs/hr	CE7%O2
Antimony	208C2R4		5.63e-1 ug/dscm 7%O2	2.14e-4 lbs/hr	CE7%O2
Antimony	208C2R5		9.79e-1 ug/dscm 7%O2	3.83e-4 lbs/hr	CE7%O2
Antimony	208C2R6	ND	6.61e-1 ug/dscm 7%O2	2.48e-4 lbs/hr	CE7%O2
Arsenic	208C1R1	ND	6.31e-1 ug/dscm 7%O2	2.35e-4 lbs/hr	CE7%O2
Arsenic	208C1R2	ND	6.43e-1 ug/dscm 7%O2	2.48e-4 lbs/hr	CE7%O2
Arsenic	208C1R3	ND	6.35e-1 ug/dscm 7%O2	2.43e-4 lbs/hr	CE7%O2
Arsenic	208C1R4	ND	6.21e-1 ug/dscm 7%O2	2.38e-4 lbs/hr	CE7%O2
Arsenic	208C2R1	ND	6.68e-1 ug/dscm 7%O2	2.34e-4 lbs/hr	CE7%O2
Arsenic	208C2R2	ND	6.19e-1 ug/dscm 7%O2	2.32e-4 lbs/hr	CE7%O2
Arsenic	208C2R3	ND	6.65e-1 ug/dscm 7%O2	2.31e-4 lbs/hr	CE7%O2
Arsenic	208C2R4	ND	6.06e-1 ug/dscm 7%O2	2.30e-4 lbs/hr	CE7%O2
Arsenic	208C2R5	ND	6.08e-1 ug/dscm 7%O2	2.38e-4 lbs/hr	CE7%O2
Arsenic	208C2R6	ND	6.61e-1 ug/dscm 7%O2	2.48e-4 lbs/hr	CE7%O2
Barium	208C1R1		2.34e+1 ug/dscm 7%O2	8.70e-3 lbs/hr	CE7%O2
Barium	208C1R2		1.74e+1 ug/dscm 7%O2	6.69e-3 lbs/hr	CE7%O2
Barium	208C1R3		1.40e+1 ug/dscm 7%O2	5.36e-3 lbs/hr	CE7%O2
Barium	208C1R4		1.39e+1 ug/dscm 7%O2	5.34e-3 lbs/hr	CE7%O2
Beryllium	208C1R1	ND	6.31e-2 ug/dscm 7%O2	2.35e-5 lbs/hr	CE7%O2
Beryllium	208C1R2	ND	6.43e-2 ug/dscm 7%O2	2.48e-5 lbs/hr	CE7%O2
Beryllium	208C1R3	ND	6.35e-2 ug/dscm 7%O2	2.43e-5 lbs/hr	CE7%O2
Beryllium	208C1R4	ND	6.21e-2 ug/dscm 7%O2	2.38e-5 lbs/hr	CE7%O2
Beryllium	208C2R1	ND	6.68e-2 ug/dscm 7%O2	2.34e-5 lbs/hr	CE7%O2
Beryllium	208C2R2	ND	6.19e-2 ug/dscm 7%O2	2.32e-5 lbs/hr	CE7%O2
Beryllium	208C2R3	ND	6.65e-2 ug/dscm 7%O2	2.31e-5 lbs/hr	CE7%O2
Beryllium	208C2R4	ND	6.06e-2 ug/dscm 7%O2	2.30e-5 lbs/hr	CE7%O2
Beryllium	208C2R5	ND	6.08e-2 ug/dscm 7%O2	2.38e-5 lbs/hr	CE7%O2
Beryllium	208C2R6	ND	6.61e-2 ug/dscm 7%O2	2.48e-5 lbs/hr	CE7%O2
Cadmium	208C1R1		2.87e+1 ug/dscm 7%O2	1.07e-2 lbs/hr	CE7%O2
Cadmium	208C1R2		3.16e+1 ug/dscm 7%O2	1.22e-2 lbs/hr	CE7%O2
Cadmium	208C1R3		2.63e+1 ug/dscm 7%O2	1.00e-2 lbs/hr	CE7%O2
Cadmium	208C1R4		3.54e+1 ug/dscm 7%O2	1.36e-2 lbs/hr	CE7%O2
Cadmium	208C2R1		2.86e+1 ug/dscm 7%O2	1.00e-2 lbs/hr	CE7%O2
Cadmium	208C2R2		1.86e+1 ug/dscm 7%O2	6.95e-3 lbs/hr	CE7%O2
Cadmium	208C2R3		2.43e+1 ug/dscm 7%O2	8.44e-3 lbs/hr	CE7%O2
Cadmium	208C2R4		1.43e+1 ug/dscm 7%O2	5.43e-3 lbs/hr	CE7%O2
Cadmium	208C2R5		1.18e+1 ug/dscm 7%O2	4.63e-3 lbs/hr	CE7%O2
Cadmium	208C2R6		1.35e+1 ug/dscm 7%O2	5.05e-3 lbs/hr	CE7%O2
Chromium	208C1R1		9.00e+0 ug/dscm 7%O2	3.35e-3 lbs/hr	CE7%O2
Chromium	208C1R2		8.72e+0 ug/dscm 7%O2	3.36e-3 lbs/hr	CE7%O2
Chromium	208C1R3		6.78e+0 ug/dscm 7%O2	2.59e-3 lbs/hr	CE7%O2
Chromium	208C1R4		9.64e+0 ug/dscm 7%O2	3.69e-3 lbs/hr	CE7%O2
Chromium	208C2R1		2.41e+1 ug/dscm 7%O2	8.45e-3 lbs/hr	CE7%O2
Chromium	208C2R2		4.91e+0 ug/dscm 7%O2	1.84e-3 lbs/hr	CE7%O2
Chromium	208C2R3		1.34e+1 ug/dscm 7%O2	4.64e-3 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 208 DEVICE NAME: KILN NO. 2

EPA ID: PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 3

Chromium	208C2R4	7.14e+0	ug/dscm	7%O2	2.71e-3	lbs/hr	CE7%O2	
Chromium	208C2R5	1.22e+1	ug/dscm	7%O2	4.76e-3	lbs/hr	CE7%O2	
Chromium	208C2R6	1.22e+1	ug/dscm	7%O2	4.56e-3	lbs/hr	CE7%O2	
Chromium (Hex)	208C1R1	9.25e-1	ug/dscm	7%O2	3.34e-4	lbs/hr	7%O2	
Chromium (Hex)	208C1R2	1.20e+0	ug/dscm	7%O2	4.47e-4	lbs/hr	7%O2	
Chromium (Hex)	208C1R3	8.33e-1	ug/dscm	7%O2	3.30e-4	lbs/hr	7%O2	
Chromium (Hex)	208C1R4	9.26e-1	ug/dscm	7%O2	3.53e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R1	1.48e+0	ug/dscm	7%O2	5.11e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R2	8.97e-1	ug/dscm	7%O2	3.27e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R3	1.55e+0	ug/dscm	7%O2	5.29e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R4	1.97e+0	ug/dscm	7%O2	7.53e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R5	1.51e+0	ug/dscm	7%O2	5.85e-4	lbs/hr	7%O2	
Chromium (Hex)	208C2R6	2.13e+0	ug/dscm	7%O2	8.29e-4	lbs/hr	7%O2	
Lead	208C1R1	5.01e+1	ug/dscm	7%O2	1.87e-2	lbs/hr	CE7%O2	
Lead	208C1R2	4.11e+1	ug/dscm	7%O2	1.58e-2	lbs/hr	CE7%O2	
Lead	208C1R3	7.28e+1	ug/dscm	7%O2	2.79e-2	lbs/hr	CE7%O2	
Lead	208C1R4	1.06e+2	ug/dscm	7%O2	4.06e-2	lbs/hr	CE7%O2	
Lead	208C2R1	8.85e+1	ug/dscm	7%O2	3.10e-2	lbs/hr	CE7%O2	
Lead	208C2R2	6.85e+1	ug/dscm	7%O2	2.56e-2	lbs/hr	CE7%O2	
Lead	208C2R3	8.95e+1	ug/dscm	7%O2	3.11e-2	lbs/hr	CE7%O2	
Lead	208C2R4	6.59e+1	ug/dscm	7%O2	2.50e-2	lbs/hr	CE7%O2	
Lead	208C2R5	4.93e+1	ug/dscm	7%O2	1.93e-2	lbs/hr	CE7%O2	
Lead	208C2R6	4.88e+1	ug/dscm	7%O2	1.83e-2	lbs/hr	CE7%O2	
Mercury	208C1R1	ND	1.19e+1	ug/dscm	7%O2	4.45e-3	lbs/hr	CE7%O2
Mercury	208C1R2	2.12e+1	ug/dscm	7%O2	8.18e-3	lbs/hr	CE7%O2	
Mercury	208C1R3	2.00e+1	ug/dscm	7%O2	7.64e-3	lbs/hr	CE7%O2	
Mercury	208C1R4	2.50e+1	ug/dscm	7%O2	9.59e-3	lbs/hr	CE7%O2	
Nickel	208C1R1	8.30e+0	ug/dscm	7%O2	3.09e-3	lbs/hr	CE7%O2	
Nickel	208C1R2	5.31e+0	ug/dscm	7%O2	2.04e-3	lbs/hr	CE7%O2	
Nickel	208C1R3	4.18e+0	ug/dscm	7%O2	1.60e-3	lbs/hr	CE7%O2	
Nickel	208C1R4	5.93e+0	ug/dscm	7%O2	2.27e-3	lbs/hr	CE7%O2	
Silver	208C1R1	3.42e-1	ug/dscm	7%O2	1.27e-4	lbs/hr	CE7%O2	
Silver	208C1R2	3.74e-1	ug/dscm	7%O2	1.44e-4	lbs/hr	CE7%O2	
Silver	208C1R3	4.63e-1	ug/dscm	7%O2	1.77e-4	lbs/hr	CE7%O2	
Silver	208C1R4	4.23e-1	ug/dscm	7%O2	1.62e-4	lbs/hr	CE7%O2	
Thallium	208C1R1	ND	6.31e-1	ug/dscm	7%O2	2.35e-4	lbs/hr	CE7%O2
Thallium	208C1R2	ND	6.43e-1	ug/dscm	7%O2	2.48e-4	lbs/hr	CE7%O2
Thallium	208C1R3	ND	6.35e-1	ug/dscm	7%O2	2.43e-4	lbs/hr	CE7%O2
Thallium	208C1R4	ND	6.21e-1	ug/dscm	7%O2	2.38e-4	lbs/hr	CE7%O2
Thallium	208C2R1	ND	6.68e-1	ug/dscm	7%O2	2.34e-4	lbs/hr	CE7%O2
Thallium	208C2R2	ND	6.19e-1	ug/dscm	7%O2	2.32e-4	lbs/hr	CE7%O2
Thallium	208C2R3	ND	6.65e-1	ug/dscm	7%O2	2.31e-4	lbs/hr	CE7%O2
Thallium	208C2R4	ND	6.06e-1	ug/dscm	7%O2	2.30e-4	lbs/hr	CE7%O2
Thallium	208C2R5	ND	6.08e-1	ug/dscm	7%O2	2.38e-4	lbs/hr	CE7%O2
Thallium	208C2R6	ND	6.61e-1	ug/dscm	7%O2	2.48e-4	lbs/hr	CE7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	208C1R1	1.24e-2 gr/dscf 7%O2	1.06e+1 lbs/hr	CE7%O2
Particulate	208C1R2	1.39e-2 gr/dscf 7%O2	1.22e+1 lbs/hr	CE7%O2
Particulate	208C1R3	1.53e-2 gr/dscf 7%O2	1.34e+1 lbs/hr	CE7%O2
Particulate	208C1R4	1.38e-2 gr/dscf 7%O2	1.21e+1 lbs/hr	CE7%O2
Particulate	208C2R1	1.51e-2 gr/dscf 7%O2	1.21e+1 lbs/hr	CE7%O2
Particulate	208C2R2	1.07e-2 gr/dscf 7%O2	9.19e+0 lbs/hr	CE7%O2
Particulate	208C2R3	2.53e-2 gr/dscf 7%O2	2.01e+1 lbs/hr	CE7%O2
Particulate	208C2R4	1.47e-2 gr/dscf 7%O2	1.28e+1 lbs/hr	CE7%O2
Particulate	208C2R5	1.21e-2 gr/dscf 7%O2	1.09e+1 lbs/hr	CE7%O2
Particulate	208C2R6	1.61e-2 gr/dscf 7%O2	1.38e+1 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: KEYSTONE CEMENT COMPANY
 2. STATE: PA
 3. CITY: BATH
 4. EP ID: 208 DEVICE NAME: KILN NO. 2

EPA ID: PAD002389559
 SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

REGION: 3

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	208C1R1	4.70e+1 ppmv 7%O2	2.03e+1 lbs/hr	CE
CO	208C1R2	4.70e+1 ppmv 7%O2	2.10e+1 lbs/hr	CE
CO	208C1R3	4.50e+1 ppmv 7%O2	2.00e+1 lbs/hr	CE
CO	208C1R4	5.00e+1 ppmv 7%O2	2.23e+1 lbs/hr	CE
CO	208C2R1	4.80e+1 ppmv 7%O2	1.95e+1 lbs/hr	CE
CO	208C2R2	4.90e+1 ppmv 7%O2	2.13e+1 lbs/hr	CE
CO	208C2R3	4.80e+1 ppmv 7%O2	1.94e+1 lbs/hr	CE
CO	208C2R4	4.40e+1 ppmv 7%O2	1.94e+1 lbs/hr	CE
CO	208C2R5	5.20e+1 ppmv 7%O2	2.36e+1 lbs/hr	CE
CO	208C2R6	5.70e+1 ppmv 7%O2	2.48e+1 lbs/hr	CE
CO(MHRA)	208C1R1	4.80e+1 ppmv 7%O2	2.08e+1 lbs/hr	CE
CO(MHRA)	208C1R2	5.10e+1 ppmv 7%O2	2.28e+1 lbs/hr	CE
CO(MHRA)	208C1R3	4.80e+1 ppmv 7%O2	2.13e+1 lbs/hr	CE
CO(MHRA)	208C1R4	5.20e+1 ppmv 7%O2	2.31e+1 lbs/hr	CE
CO(MHRA)	208C2R1	6.20e+1 ppmv 7%O2	2.52e+1 lbs/hr	CE
CO(MHRA)	208C2R2	5.40e+1 ppmv 7%O2	2.35e+1 lbs/hr	CE
CO(MHRA)	208C2R3	4.90e+1 ppmv 7%O2	1.98e+1 lbs/hr	CE
CO(MHRA)	208C2R4	4.90e+1 ppmv 7%O2	2.16e+1 lbs/hr	CE
CO(MHRA)	208C2R5	5.20e+1 ppmv 7%O2	2.36e+1 lbs/hr	CE
CO(MHRA)	208C2R6	5.70e+1 ppmv 7%O2	2.48e+1 lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: AL
 3. CITY: DEMOPOLIS
 4. EP ID: 321 DEVICE NAME: KILN NO. 1
 EPA ID: ALD067119966
 SYSTEM TYPE: CEMENT KILN
 REGION: 4
 APC SYSTEM: ESP

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: DRY KILN Location: STACK-MAIN Phase: GAS

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	321C1R1	3.64e+0 ppmv 7%O2	2.62e+0 lbs/hr	CC7%O2
Chlorine	321C1R2	1.75e+0 ppmv 7%O2	1.30e+0 lbs/hr	CC7%O2
Chlorine	321C1R3	2.56e+0 ppmv 7%O2	1.87e+0 lbs/hr	CC7%O2
HCl	321C1R1	4.70e+0 ppmv 7%O2	1.74e+0 lbs/hr	CC7%O2
HCl	321C1R2	3.41e+0 ppmv 7%O2	1.30e+0 lbs/hr	CC7%O2
HCl	321C1R3	4.45e+0 ppmv 7%O2	1.68e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Arsenic	321C1R4	8.48e-1 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Arsenic	321C1R5	2.59e+0 ug/dscm 7%O2	6.61e-4 lbs/hr	CC7%O2
Arsenic	321C1R6	8.31e-1 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Beryllium	321C1R4	1.70e-1 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Beryllium	321C1R5	2.59e-1 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Beryllium	321C1R6	2.49e-1 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Cadmium	321C1R4	1.70e+0 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Cadmium	321C1R5	3.45e+0 ug/dscm 7%O2	8.82e-4 lbs/hr	CC7%O2
Cadmium	321C1R6	8.31e-1 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Chromium	321C1R4	3.39e+0 ug/dscm 7%O2	8.82e-4 lbs/hr	CC7%O2
Chromium	321C1R5	1.55e+1 ug/dscm 7%O2	3.97e-3 lbs/hr	CC7%O2
Chromium	321C1R6	1.66e+0 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Chromium (Hex)	321C1R4	1.10e+1 ug/dscm 7%O2	2.87e-3 lbs/hr	CC7%O2
Chromium (Hex)	321C1R5	6.03e+0 ug/dscm 7%O2	1.54e-3 lbs/hr	CC7%O2
Chromium (Hex)	321C1R6	5.81e+0 ug/dscm 7%O2	1.54e-3 lbs/hr	CC7%O2
Lead	321C1R4	3.39e+0 ug/dscm 7%O2	8.82e-4 lbs/hr	CC7%O2
Lead	321C1R5	1.90e+1 ug/dscm 7%O2	4.85e-3 lbs/hr	CC7%O2
Lead	321C1R6	5.81e+0 ug/dscm 7%O2	1.54e-3 lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	321C1R4	3.50e-2 gr/dscf 7%O2	2.09e+1 lbs/hr	CE7%O2
Particulate	321C1R5	4.90e-1 gr/dscf 7%O2	2.87e+2 lbs/hr	CE7%O2
Particulate	321C1R6	1.05e-1 gr/dscf 7%O2	6.39e+1 lbs/hr	CE7%O2

6. Description: EMISSIONS Process Group: DRY KILN Location: STACK-BYPASS Phase: GAS

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	321C1R1	1.19e+0 ppmv 7%O2	8.82e-2 lbs/hr	CC7%O2
Chlorine	321C1R2	9.23e-1 ppmv 7%O2	8.82e-2 lbs/hr	CC7%O2
Chlorine	321C1R3	8.18e-2 ppmv 7%O2	8.82e-3 lbs/hr	CC7%O2
HCl	321C1R1	1.74e-1 ppmv 7%O2	6.61e-3 lbs/hr	CC7%O2
HCl	321C1R2	1.79e-1 ppmv 7%O2	8.82e-3 lbs/hr	CC7%O2
HCl	321C1R3	1.99e-1 ppmv 7%O2	1.10e-2 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Arsenic	321C1R4	2.62e+0 ug/dscm 7%O2	1.10e-4 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: AL
 3. CITY: DEMOPOLIS
 4. EP ID: 321 DEVICE NAME: KILN NO. 1

EPA ALD067119966 REGION: 4
 SYSTEM TYPE: CEMENT KILN APC SYSTEM: ESP

Arsenic	321C1R5	1.35e+0 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Arsenic	321C1R6	1.22e+0 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Beryllium	321C1R4	2.09e-1 ug/dscm 7%O2	8.82e-6 lbs/hr	CC7%O2
Beryllium	321C1R5	2.70e-1 ug/dscm 7%O2	8.82e-6 lbs/hr	CC7%O2
Beryllium	321C1R6	6.08e-1 ug/dscm 7%O2	2.20e-5 lbs/hr	CC7%O2
Cadmium	321C1R4	5.23e+0 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Cadmium	321C1R5	6.75e+0 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Cadmium	321C1R6	1.22e+0 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Chromium	321C1R4	1.57e+0 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Chromium	321C1R5	6.75e+0 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Chromium	321C1R6	6.08e+0 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Chromium (Hex)	321C1R4	1.05e+1 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Chromium (Hex)	321C1R5	1.35e+1 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Chromium (Hex)	321C1R6	6.08e+0 ug/dscm 7%O2	2.20e-4 lbs/hr	CC7%O2
Lead	321C1R4	2.72e+2 ug/dscm 7%O2	1.15e-2 lbs/hr	CC7%O2
Lead	321C1R5	5.40e+2 ug/dscm 7%O2	1.76e-2 lbs/hr	CC7%O2
Lead	321C1R6	4.25e+1 ug/dscm 7%O2	1.54e-3 lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	321C1R4	6.22e-2 gr/dscf 7%O2	6.01e+0 lbs/hr	CE7%O2
Particulate	321C1R5	2.80e-1 gr/dscf 7%O2	2.10e+1 lbs/hr	CE7%O2
Particulate	321C1R6	7.00e-2 gr/dscf 7%O2	5.82e+0 lbs/hr	CE7%O2

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	321C1R1	2.50e+1 ppmv 7%O2	7.30e-1 lbs/hr	CE
CO	321C1R2	2.26e+1 ppmv 7%O2	8.54e-1 lbs/hr	CE
CO	321C1R3	2.36e+1 ppmv 7%O2	1.01e+0 lbs/hr	CE
CO	321C1R4	2.08e+1 ppmv 7%O2	1.02e+0 lbs/hr	CE
CO	321C1R5	2.06e+1 ppmv 7%O2	7.83e-1 lbs/hr	CE
CO	321C1R6	2.29e+1 ppmv 7%O2	9.66e-1 lbs/hr	CE
CO(MHRA)	321C1R1	3.97e+1 ppmv 7%O2	1.16e+0 lbs/hr	CE
CO(MHRA)	321C1R2	3.49e+1 ppmv 7%O2	1.32e+0 lbs/hr	CE
CO(MHRA)	321C1R3	6.08e+1 ppmv 7%O2	2.59e+0 lbs/hr	CE
CO(MHRA)	321C1R4	3.45e+1 ppmv 7%O2	1.69e+0 lbs/hr	CE
CO(MHRA)	321C1R5	3.11e+1 ppmv 7%O2	1.18e+0 lbs/hr	CE
CO(MHRA)	321C1R6	3.22e+1 ppmv 7%O2	1.36e+0 lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE

2. STATE: KS

3. CITY: FREDONIA

EPA ID: KSD007148034

REGION: 7

4. EP ID: 322 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

5. Type: CONTROLLED

6. Description: EMISSIONS

Process Group: WET KILN

Location: STACK

Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
4D 2378	322C1R1	2.07e-1 ng/dscm 7%O2	3.54e-8 lbs/hr	CE7%O2
4D 2378	322C1R2	1.18e-1 ng/dscm 7%O2	2.09e-8 lbs/hr	CE7%O2
4D 2378	322C1R3	2.97e-2 ng/dscm 7%O2	5.18e-9 lbs/hr	CE7%O2
4D Other	322C1R1	2.11e+2 ng/dscm 7%O2	3.60e-5 lbs/hr	OCE
4D Other	322C1R2	1.43e+2 ng/dscm 7%O2	2.52e-5 lbs/hr	OCE
4D Other	322C1R3	1.49e+2 ng/dscm 7%O2	2.59e-5 lbs/hr	OCE
4D Total	322C1R1	2.11e+2 ng/dscm 7%O2	3.61e-5 lbs/hr	CE7%O2
4D Total	322C1R2	1.43e+2 ng/dscm 7%O2	2.52e-5 lbs/hr	CE7%O2
4D Total	322C1R3	1.49e+2 ng/dscm 7%O2	2.59e-5 lbs/hr	CE7%O2
4F 2378	322C1R1	1.51e+0 ng/dscm 7%O2	2.58e-7 lbs/hr	CE7%O2
4F 2378	322C1R2	9.14e-1 ng/dscm 7%O2	1.61e-7 lbs/hr	CE7%O2
4F 2378	322C1R3	7.09e-1 ng/dscm 7%O2	1.24e-7 lbs/hr	CE7%O2
4F Other	322C1R1	9.38e+1 ng/dscm 7%O2	1.61e-5 lbs/hr	OCE
4F Other	322C1R2	6.24e+1 ng/dscm 7%O2	1.10e-5 lbs/hr	OCE
4F Other	322C1R3	4.92e+1 ng/dscm 7%O2	8.57e-6 lbs/hr	OCE
4F Total	322C1R1	9.53e+1 ng/dscm 7%O2	1.63e-5 lbs/hr	CE7%O2
4F Total	322C1R2	6.33e+1 ng/dscm 7%O2	1.12e-5 lbs/hr	CE7%O2
4F Total	322C1R3	4.99e+1 ng/dscm 7%O2	8.69e-6 lbs/hr	CE7%O2
5D 12378	322C1R1	1.42e+0 ng/dscm 7%O2	2.42e-7 lbs/hr	CE7%O2
5D 12378	322C1R2	7.58e-1 ng/dscm 7%O2	1.34e-7 lbs/hr	CE7%O2
5D 12378	322C1R3	8.46e-1 ng/dscm 7%O2	1.48e-7 lbs/hr	CE7%O2
5D Other	322C1R1	3.02e+2 ng/dscm 7%O2	5.17e-5 lbs/hr	OCE
5D Other	322C1R2	1.78e+2 ng/dscm 7%O2	3.15e-5 lbs/hr	OCE
5D Other	322C1R3	2.19e+2 ng/dscm 7%O2	3.82e-5 lbs/hr	OCE
5D Total	322C1R1	3.04e+2 ng/dscm 7%O2	5.19e-5 lbs/hr	CE7%O2
5D Total	322C1R2	1.79e+2 ng/dscm 7%O2	3.16e-5 lbs/hr	CE7%O2
5D Total	322C1R3	2.20e+2 ng/dscm 7%O2	3.84e-5 lbs/hr	CE7%O2
5F 12378	322C1R1	1.93e+0 ng/dscm 7%O2	3.31e-7 lbs/hr	CE7%O2
5F 12378	322C1R2	1.02e+0 ng/dscm 7%O2	1.81e-7 lbs/hr	CE7%O2
5F 12378	322C1R3	9.15e-1 ng/dscm 7%O2	1.59e-7 lbs/hr	CE7%O2
5F 23478	322C1R1	5.55e+0 ng/dscm 7%O2	9.50e-7 lbs/hr	CE7%O2
5F 23478	322C1R2	2.43e+0 ng/dscm 7%O2	4.29e-7 lbs/hr	CE7%O2
5F 23478	322C1R3	2.22e+0 ng/dscm 7%O2	3.87e-7 lbs/hr	CE7%O2
5F Other	322C1R1	4.33e+1 ng/dscm 7%O2	7.41e-6 lbs/hr	OCE
5F Other	322C1R2	2.26e+1 ng/dscm 7%O2	3.99e-6 lbs/hr	OCE
5F Other	322C1R3	2.07e+1 ng/dscm 7%O2	3.60e-6 lbs/hr	OCE
5F Total	322C1R1	5.08e+1 ng/dscm 7%O2	8.69e-6 lbs/hr	CE7%O2
5F Total	322C1R2	2.61e+1 ng/dscm 7%O2	4.60e-6 lbs/hr	CE7%O2
5F Total	322C1R3	2.38e+1 ng/dscm 7%O2	4.15e-6 lbs/hr	CE7%O2
6D 123478	322C1R1	2.54e+0 ng/dscm 7%O2	4.35e-7 lbs/hr	CE7%O2
6D 123478	322C1R2	9.80e-1 ng/dscm 7%O2	1.73e-7 lbs/hr	CE7%O2
6D 123478	322C1R3	1.26e+0 ng/dscm 7%O2	2.19e-7 lbs/hr	CE7%O2
6D 123678	322C1R1	3.80e+0 ng/dscm 7%O2	6.50e-7 lbs/hr	CE7%O2
6D 123678	322C1R2	1.49e+0 ng/dscm 7%O2	2.64e-7 lbs/hr	CE7%O2
6D 123678	322C1R3	2.08e+0 ng/dscm 7%O2	3.63e-7 lbs/hr	CE7%O2
6D 123789	322C1R1	2.79e+0 ng/dscm 7%O2	4.77e-7 lbs/hr	CE7%O2
6D 123789	322C1R2	1.23e+0 ng/dscm 7%O2	2.16e-7 lbs/hr	CE7%O2
6D 123789	322C1R3	1.44e+0 ng/dscm 7%O2	2.51e-7 lbs/hr	CE7%O2
6D Other	322C1R1	3.01e+2 ng/dscm 7%O2	5.15e-5 lbs/hr	OCE
6D Other	322C1R2	1.76e+2 ng/dscm 7%O2	3.11e-5 lbs/hr	OCE
6D Other	322C1R3	2.86e+2 ng/dscm 7%O2	4.98e-5 lbs/hr	OCE
6D Total	322C1R1	3.10e+2 ng/dscm 7%O2	5.31e-5 lbs/hr	CE7%O2
6D Total	322C1R2	1.80e+2 ng/dscm 7%O2	3.17e-5 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE

2. STATE: KS

3. CITY: FREDONIA

EPA ID: KSD007148034

REGION: 7

4. EP ID: 322 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

6D Total	322C1R3	2.91e+2	ng/dscm 7%O2	5.06e-5	lbs/hr	CE7%O2
6F 123478	322C1R1	3.35e+0	ng/dscm 7%O2	5.73e-7	lbs/hr	CE7%O2
6F 123478	322C1R2	1.14e+0	ng/dscm 7%O2	2.01e-7	lbs/hr	CE7%O2
6F 123478	322C1R3	1.78e+0	ng/dscm 7%O2	3.11e-7	lbs/hr	CE7%O2
6F 123678	322C1R1	1.37e+0	ng/dscm 7%O2	2.35e-7	lbs/hr	CE7%O2
6F 123678	322C1R2	4.90e-1	ng/dscm 7%O2	8.66e-8	lbs/hr	CE7%O2
6F 123678	322C1R3	5.95e-1	ng/dscm 7%O2	1.04e-7	lbs/hr	CE7%O2
6F 123789	322C1R1	2.47e-1	ng/dscm 7%O2	4.23e-8	lbs/hr	CE7%O2
6F 123789	322C1R2	7.35e-2	ng/dscm 7%O2	1.30e-8	lbs/hr	CE7%O2
6F 123789	322C1R3	9.84e-2	ng/dscm 7%O2	1.71e-8	lbs/hr	CE7%O2
6F 234678	322C1R1	2.83e+0	ng/dscm 7%O2	4.85e-7	lbs/hr	CE7%O2
6F 234678	322C1R2	9.58e-1	ng/dscm 7%O2	1.69e-7	lbs/hr	CE7%O2
6F 234678	322C1R3	1.17e+0	ng/dscm 7%O2	2.03e-7	lbs/hr	CE7%O2
6F Other	322C1R1	1.05e+1	ng/dscm 7%O2	1.80e-6	lbs/hr	OCE
6F Other	322C1R2	4.16e+0	ng/dscm 7%O2	7.35e-7	lbs/hr	OCE
6F Other	322C1R3	5.05e+0	ng/dscm 7%O2	8.80e-7	lbs/hr	OCE
6F Total	322C1R1	1.83e+1	ng/dscm 7%O2	3.14e-6	lbs/hr	CE7%O2
6F Total	322C1R2	6.82e+0	ng/dscm 7%O2	1.20e-6	lbs/hr	CE7%O2
6F Total	322C1R3	8.69e+0	ng/dscm 7%O2	1.52e-6	lbs/hr	CE7%O2
7D 1234678	322C1R1	2.43e+1	ng/dscm 7%O2	4.15e-6	lbs/hr	CE7%O2
7D 1234678	322C1R2	9.38e+0	ng/dscm 7%O2	1.66e-6	lbs/hr	CE7%O2
7D 1234678	322C1R3	1.43e+1	ng/dscm 7%O2	2.49e-6	lbs/hr	CE7%O2
7D Other	322C1R1	4.14e+1	ng/dscm 7%O2	7.08e-6	lbs/hr	OCE
7D Other	322C1R2	1.65e+1	ng/dscm 7%O2	2.91e-6	lbs/hr	OCE
7D Other	322C1R3	2.60e+1	ng/dscm 7%O2	4.53e-6	lbs/hr	OCE
7D Total	322C1R1	6.57e+1	ng/dscm 7%O2	1.12e-5	lbs/hr	CE7%O2
7D Total	322C1R2	2.58e+1	ng/dscm 7%O2	4.56e-6	lbs/hr	CE7%O2
7D Total	322C1R3	4.03e+1	ng/dscm 7%O2	7.02e-6	lbs/hr	CE7%O2
7F 1234678	322C1R1	1.24e+0	ng/dscm 7%O2	2.12e-7	lbs/hr	CE7%O2
7F 1234678	322C1R2	4.23e-1	ng/dscm 7%O2	7.48e-8	lbs/hr	CE7%O2
7F 1234678	322C1R3	6.41e-1	ng/dscm 7%O2	1.12e-7	lbs/hr	CE7%O2
7F 1234789	322C1R1	3.15e-1	ng/dscm 7%O2	5.39e-8	lbs/hr	CE7%O2
7F 1234789	322C1R2	1.00e-1	ng/dscm 7%O2	1.77e-8	lbs/hr	CE7%O2
7F 1234789	322C1R3	1.14e-1	ng/dscm 7%O2	1.99e-8	lbs/hr	CE7%O2
7F Other	322C1R1	1.26e+0	ng/dscm 7%O2	2.15e-7	lbs/hr	OCE
7F Other	322C1R2	4.12e-1	ng/dscm 7%O2	7.28e-8	lbs/hr	OCE
7F Other	322C1R3	3.89e-1	ng/dscm 7%O2	6.78e-8	lbs/hr	OCE
7F Total	322C1R1	2.81e+0	ng/dscm 7%O2	4.81e-7	lbs/hr	CE7%O2
7F Total	322C1R2	9.36e-1	ng/dscm 7%O2	1.65e-7	lbs/hr	CE7%O2
7F Total	322C1R3	1.14e+0	ng/dscm 7%O2	1.99e-7	lbs/hr	CE7%O2
8D	322C1R1	7.33e+0	ng/dscm 7%O2	1.25e-6	lbs/hr	CE7%O2
8D	322C1R2	2.74e+0	ng/dscm 7%O2	4.84e-7	lbs/hr	CE7%O2
8D	322C1R3	4.55e+0	ng/dscm 7%O2	7.93e-7	lbs/hr	CE7%O2
8F	322C1R1	3.15e-1	ng/dscm 7%O2	5.39e-8	lbs/hr	CE7%O2
8F	322C1R2	1.00e-1	ng/dscm 7%O2	1.77e-8	lbs/hr	CE7%O2
8F	322C1R3	1.35e-1	ng/dscm 7%O2	2.35e-8	lbs/hr	CE7%O2
TEQ	322C1R1	5.90e+0	ng/dscm 7%O2	1.01e-6	lbs/hr	CCET
TEQ	322C1R2	2.59e+0	ng/dscm 7%O2	4.58e-7	lbs/hr	CCET
TEQ	322C1R3	2.68e+0	ng/dscm 7%O2	4.66e-7	lbs/hr	CCET
Total PCDD/PCDF	322C1R1	1.07e+3	ng/dscm 7%O2	1.82e-4	lbs/hr	CCET
Total PCDD/PCDF	322C1R2	6.27e+2	ng/dscm 7%O2	1.11e-4	lbs/hr	CCET
Total PCDD/PCDF	322C1R3	7.88e+2	ng/dscm 7%O2	1.37e-4	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	322C1R1	4.69e-1 ppmv 7%O2	2.36e-1 lbs/hr	CC7%O2
Chlorine	322C1R2	2.04e-1 ppmv 7%O2	1.06e-1 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: KS
 3. CITY: FREDONIA
 4. EP ID: 322 DEVICE NAME: KILN NO. 1
 EPA ID: KSD007148034
 SYSTEM TYPE: CEMENT KILN
 APC SYSTEM: ESP
 REGION: 7

Chlorine	322C1R3	1.46e-1	ppmv 7%O2	7.50e-2	lbs/hr	CC7%O2
HCl	322C1R1	1.74e+1	ppmv 7%O2	4.52e+0	lbs/hr	CC7%O2
HCl	322C1R2	2.71e+1	ppmv 7%O2	7.24e+0	lbs/hr	CC7%O2
HCl	322C1R3	2.16e+1	ppmv 7%O2	5.68e+0	lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
Arsenic	322C1R4	3.70e+0	ug/dscm 7%O2	6.61e-4	lbs/hr	CC7%O2
Arsenic	322C1R5	8.62e+0	ug/dscm 7%O2	1.54e-3	lbs/hr	CC7%O2
Arsenic	322C1R6	8.63e+0	ug/dscm 7%O2	1.54e-3	lbs/hr	CC7%O2
Beryllium	322C1R4	2.47e-1	ug/dscm 7%O2	4.41e-5	lbs/hr	CC7%O2
Beryllium	322C1R5	2.46e-1	ug/dscm 7%O2	4.41e-5	lbs/hr	CC7%O2
Beryllium	322C1R6	2.47e-1	ug/dscm 7%O2	4.41e-5	lbs/hr	CC7%O2
Cadmium	322C1R4	8.64e+0	ug/dscm 7%O2	1.54e-3	lbs/hr	CC7%O2
Cadmium	322C1R5	1.11e+1	ug/dscm 7%O2	1.98e-3	lbs/hr	CC7%O2
Cadmium	322C1R6	1.60e+1	ug/dscm 7%O2	2.87e-3	lbs/hr	CC7%O2
Chromium	322C1R4	7.41e+0	ug/dscm 7%O2	1.32e-3	lbs/hr	CC7%O2
Chromium	322C1R5	1.11e+1	ug/dscm 7%O2	1.98e-3	lbs/hr	CC7%O2
Chromium	322C1R6	1.36e+1	ug/dscm 7%O2	2.43e-3	lbs/hr	CC7%O2
Chromium (Hex)	322C1R4	3.70e+0	ug/dscm 7%O2	6.61e-4	lbs/hr	CC7%O2
Chromium (Hex)	322C1R5	6.16e+0	ug/dscm 7%O2	1.10e-3	lbs/hr	CC7%O2
Chromium (Hex)	322C1R6	3.70e+0	ug/dscm 7%O2	6.61e-4	lbs/hr	CC7%O2
Lead	322C1R4	1.26e+2	ug/dscm 7%O2	2.25e-2	lbs/hr	CC7%O2
Lead	322C1R5	1.38e+2	ug/dscm 7%O2	2.47e-2	lbs/hr	CC7%O2
Lead	322C1R6	1.53e+2	ug/dscm 7%O2	2.73e-2	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
Particulate	322C1R1	3.30e-2	gr/dscf 7%O2	1.29e+1	lbs/hr	CE
Particulate	322C1R2	1.30e-2	gr/dscf 7%O2	5.26e+0	lbs/hr	CE
Particulate	322C1R3	1.10e-2	gr/dscf 7%O2	4.39e+0	lbs/hr	CE

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
CO	322C1R1	3.59e+2	ppmv 7%O2	7.13e+1	lbs/hr	CE
CO	322C1R2	5.47e+2	ppmv 7%O2	1.12e+2	lbs/hr	CE
CO	322C1R3	4.16e+2	ppmv 7%O2	8.42e+1	lbs/hr	CE
CO	322C1R4	3.62e+2	ppmv 7%O2	7.52e+1	lbs/hr	CE
CO	322C1R5	1.74e+2	ppmv 7%O2	3.62e+1	lbs/hr	CE
CO	322C1R6	3.27e+2	ppmv 7%O2	6.80e+1	lbs/hr	CE
CO(MHRA)	322C1R1	7.48e+2	ppmv 7%O2	1.49e+2	lbs/hr	CE
CO(MHRA)	322C1R2	7.51e+2	ppmv 7%O2	1.54e+2	lbs/hr	CE
CO(MHRA)	322C1R3	8.50e+2	ppmv 7%O2	1.72e+2	lbs/hr	CE
CO(MHRA)	322C1R4	5.00e+2	ppmv 7%O2	1.04e+2	lbs/hr	CE
CO(MHRA)	322C1R5	2.76e+2	ppmv 7%O2	5.75e+1	lbs/hr	CE
CO(MHRA)	322C1R6	4.36e+2	ppmv 7%O2	9.07e+1	lbs/hr	CE
THC	322C1R3	4.90e+0	ppmv 7%O2	1.56e+0	lbs/hr	CE
THC	322C1R4	7.60e+0	ppmv 7%O2	2.48e+0	lbs/hr	CE
THC	322C1R5	5.60e+0	ppmv 7%O2	1.83e+0	lbs/hr	CE
THC	322C1R6	8.00e+0	ppmv 7%O2	2.61e+0	lbs/hr	CE
THC(MHRA)	322C1R3	5.60e+0	ppmv 7%O2	1.78e+0	lbs/hr	CE
THC(MHRA)	322C1R4	8.30e+0	ppmv 7%O2	2.71e+0	lbs/hr	CE
THC(MHRA)	322C1R5	6.50e+0	ppmv 7%O2	2.13e+0	lbs/hr	CE
THC(MHRA)	322C1R6	9.20e+0	ppmv 7%O2	3.01e+0	lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
2. STATE: KS
3. CITY: FREDONIA
4. EP ID: 322 DEVICE NAME: KILN NO. 1

EPA ID: KSD007148034
SYSTEM TYPE: CEMENT KILN
APC SYSTEM: ESP

REGION: 7

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: KS
 3. CITY: FREDONIA
 4. EP ID: 323 DEVICE NAME: KILN NO. 2
 EPA ID: KSD007148034
 SYSTEM TYPE: CEMENT KILN
 APC SYSTEM: ESP
 REGION: 7

5. Type: CONTROLLED
 6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS
 7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
4D 2378	323C1R2	0.00e+0	0.00e+0	
4D 2378	323C1R3	2.88e-1 ng/dscm 7%O2	6.22e-8 lbs/hr	CE7%O2
4D 2378	323C1R4	0.00e+0	0.00e+0	
4D Other	323C1R2	3.22e+1 ng/dscm 7%O2	6.68e-6 lbs/hr	OCE
4D Other	323C1R3	9.57e+1 ng/dscm 7%O2	2.06e-5 lbs/hr	OCE
4D Other	323C1R4	3.58e+1 ng/dscm 7%O2	7.79e-6 lbs/hr	OCE
4D Total	323C1R2	3.22e+1 ng/dscm 7%O2	6.68e-6 lbs/hr	CE7%O2
4D Total	323C1R3	9.60e+1 ng/dscm 7%O2	2.07e-5 lbs/hr	CE7%O2
4D Total	323C1R4	3.58e+1 ng/dscm 7%O2	7.79e-6 lbs/hr	CE7%O2
4F 2378	323C1R2	7.39e-1 ng/dscm 7%O2	1.54e-7 lbs/hr	CE7%O2
4F 2378	323C1R3	1.97e+0 ng/dscm 7%O2	4.24e-7 lbs/hr	CE7%O2
4F 2378	323C1R4	7.66e-1 ng/dscm 7%O2	1.67e-7 lbs/hr	CE7%O2
4F Other	323C1R2	4.76e+1 ng/dscm 7%O2	9.90e-6 lbs/hr	OCE
4F Other	323C1R3	1.15e+2 ng/dscm 7%O2	2.48e-5 lbs/hr	OCE
4F Other	323C1R4	3.93e+1 ng/dscm 7%O2	8.57e-6 lbs/hr	OCE
4F Total	323C1R2	4.84e+1 ng/dscm 7%O2	1.01e-5 lbs/hr	CE7%O2
4F Total	323C1R3	1.17e+2 ng/dscm 7%O2	2.52e-5 lbs/hr	CE7%O2
4F Total	323C1R4	4.01e+1 ng/dscm 7%O2	8.74e-6 lbs/hr	CE7%O2
5D 12378	323C1R2	4.37e-1 ng/dscm 7%O2	9.08e-8 lbs/hr	CE7%O2
5D 12378	323C1R3	1.39e+0 ng/dscm 7%O2	3.00e-7 lbs/hr	CE7%O2
5D 12378	323C1R4	4.85e-1 ng/dscm 7%O2	1.06e-7 lbs/hr	CE7%O2
5D Other	323C1R2	4.53e+1 ng/dscm 7%O2	9.41e-6 lbs/hr	OCE
5D Other	323C1R3	1.63e+2 ng/dscm 7%O2	3.50e-5 lbs/hr	OCE
5D Other	323C1R4	4.68e+1 ng/dscm 7%O2	1.02e-5 lbs/hr	OCE
5D Total	323C1R2	4.57e+1 ng/dscm 7%O2	9.50e-6 lbs/hr	CE7%O2
5D Total	323C1R3	1.64e+2 ng/dscm 7%O2	3.53e-5 lbs/hr	CE7%O2
5D Total	323C1R4	4.73e+1 ng/dscm 7%O2	1.03e-5 lbs/hr	CE7%O2
5F 12378	323C1R2	1.18e+0 ng/dscm 7%O2	2.44e-7 lbs/hr	CE7%O2
5F 12378	323C1R3	3.51e+0 ng/dscm 7%O2	7.58e-7 lbs/hr	CE7%O2
5F 12378	323C1R4	9.96e-1 ng/dscm 7%O2	2.17e-7 lbs/hr	CE7%O2
5F 23478	323C1R2	3.70e+0 ng/dscm 7%O2	7.68e-7 lbs/hr	CE7%O2
5F 23478	323C1R3	8.89e+0 ng/dscm 7%O2	1.92e-6 lbs/hr	CE7%O2
5F 23478	323C1R4	2.53e+0 ng/dscm 7%O2	5.51e-7 lbs/hr	CE7%O2
5F Other	323C1R2	3.71e+1 ng/dscm 7%O2	7.72e-6 lbs/hr	OCE
5F Other	323C1R3	8.23e+1 ng/dscm 7%O2	1.77e-5 lbs/hr	OCE
5F Other	323C1R4	2.48e+1 ng/dscm 7%O2	5.41e-6 lbs/hr	OCE
5F Total	323C1R2	4.20e+1 ng/dscm 7%O2	8.73e-6 lbs/hr	CE7%O2
5F Total	323C1R3	9.47e+1 ng/dscm 7%O2	2.04e-5 lbs/hr	CE7%O2
5F Total	323C1R4	2.84e+1 ng/dscm 7%O2	6.18e-6 lbs/hr	CE7%O2
6D 123478	323C1R2	8.40e-1 ng/dscm 7%O2	1.75e-7 lbs/hr	CE7%O2
6D 123478	323C1R3	1.97e+0 ng/dscm 7%O2	4.24e-7 lbs/hr	CE7%O2
6D 123478	323C1R4	6.39e-1 ng/dscm 7%O2	1.39e-7 lbs/hr	CE7%O2
6D 123678	323C1R2	1.65e+0 ng/dscm 7%O2	3.42e-7 lbs/hr	CE7%O2
6D 123678	323C1R3	3.72e+0 ng/dscm 7%O2	8.03e-7 lbs/hr	CE7%O2
6D 123678	323C1R4	1.10e+0 ng/dscm 7%O2	2.39e-7 lbs/hr	CE7%O2
6D 123789	323C1R2	8.40e-1 ng/dscm 7%O2	1.75e-7 lbs/hr	CE7%O2
6D 123789	323C1R3	2.20e+0 ng/dscm 7%O2	4.75e-7 lbs/hr	CE7%O2
6D 123789	323C1R4	7.15e-1 ng/dscm 7%O2	1.56e-7 lbs/hr	CE7%O2
6D Other	323C1R2	1.20e+2 ng/dscm 7%O2	2.49e-5 lbs/hr	OCE
6D Other	323C1R3	3.44e+2 ng/dscm 7%O2	7.41e-5 lbs/hr	OCE
6D Other	323C1R4	9.18e+1 ng/dscm 7%O2	2.00e-5 lbs/hr	OCE
6D Total	323C1R2	1.23e+2 ng/dscm 7%O2	2.56e-5 lbs/hr	CE7%O2
6D Total	323C1R3	3.51e+2 ng/dscm 7%O2	7.58e-5 lbs/hr	CE7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE

2. STATE: KS

3. CITY: FREDONIA

EPA ID: KSD007148034

REGION: 7

4. EP ID: 323 DEVICE NAME: KILN NO. 2

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

6D Total	323C1R4	9.43e+1	ng/dscm 7%O2	2.05e-5	lbs/hr	CE7%O2
6F 123478	323C1R2	4.03e+0	ng/dscm 7%O2	8.38e-7	lbs/hr	CE7%O2
6F 123478	323C1R3	1.16e+1	ng/dscm 7%O2	2.49e-6	lbs/hr	CE7%O2
6F 123478	323C1R4	2.78e+0	ng/dscm 7%O2	6.07e-7	lbs/hr	CE7%O2
6F 123678	323C1R2	1.48e+0	ng/dscm 7%O2	3.07e-7	lbs/hr	CE7%O2
6F 123678	323C1R3	3.83e+0	ng/dscm 7%O2	8.25e-7	lbs/hr	CE7%O2
6F 123678	323C1R4	9.20e-1	ng/dscm 7%O2	2.00e-7	lbs/hr	CE7%O2
6F 123789	323C1R2	3.70e-1	ng/dscm 7%O2	7.68e-8	lbs/hr	CE7%O2
6F 123789	323C1R3	8.65e-1	ng/dscm 7%O2	1.87e-7	lbs/hr	CE7%O2
6F 123789	323C1R4	1.79e-1	ng/dscm 7%O2	3.90e-8	lbs/hr	CE7%O2
6F 234678	323C1R2	3.53e+0	ng/dscm 7%O2	7.33e-7	lbs/hr	CE7%O2
6F 234678	323C1R3	8.86e+0	ng/dscm 7%O2	1.91e-6	lbs/hr	CE7%O2
6F 234678	323C1R4	2.07e+0	ng/dscm 7%O2	4.51e-7	lbs/hr	CE7%O2
6F Other	323C1R2	1.15e+1	ng/dscm 7%O2	2.39e-6	lbs/hr	OCE
6F Other	323C1R3	2.68e+1	ng/dscm 7%O2	5.78e-6	lbs/hr	OCE
6F Other	323C1R4	6.39e+0	ng/dscm 7%O2	1.39e-6	lbs/hr	OCE
6F Total	323C1R2	2.09e+1	ng/dscm 7%O2	4.34e-6	lbs/hr	CE7%O2
6F Total	323C1R3	5.19e+1	ng/dscm 7%O2	1.12e-5	lbs/hr	CE7%O2
6F Total	323C1R4	1.23e+1	ng/dscm 7%O2	2.69e-6	lbs/hr	CE7%O2
7D 1234678	323C1R2	8.87e+0	ng/dscm 7%O2	1.84e-6	lbs/hr	CE7%O2
7D 1234678	323C1R3	2.03e+1	ng/dscm 7%O2	4.38e-6	lbs/hr	CE7%O2
7D 1234678	323C1R4	6.03e+0	ng/dscm 7%O2	1.31e-6	lbs/hr	CE7%O2
7D Other	323C1R2	1.55e+1	ng/dscm 7%O2	3.21e-6	lbs/hr	OCE
7D Other	323C1R3	3.27e+1	ng/dscm 7%O2	7.04e-6	lbs/hr	OCE
7D Other	323C1R4	9.84e+0	ng/dscm 7%O2	2.14e-6	lbs/hr	OCE
7D Total	323C1R2	2.43e+1	ng/dscm 7%O2	5.06e-6	lbs/hr	CE7%O2
7D Total	323C1R3	5.30e+1	ng/dscm 7%O2	1.14e-5	lbs/hr	CE7%O2
7D Total	323C1R4	1.59e+1	ng/dscm 7%O2	3.46e-6	lbs/hr	CE7%O2
7F 1234678	323C1R2	2.18e+0	ng/dscm 7%O2	4.54e-7	lbs/hr	CE7%O2
7F 1234678	323C1R3	5.09e+0	ng/dscm 7%O2	1.10e-6	lbs/hr	CE7%O2
7F 1234678	323C1R4	1.48e+0	ng/dscm 7%O2	3.23e-7	lbs/hr	CE7%O2
7F 1234789	323C1R2	8.40e-1	ng/dscm 7%O2	1.75e-7	lbs/hr	CE7%O2
7F 1234789	323C1R3	1.99e+0	ng/dscm 7%O2	4.30e-7	lbs/hr	CE7%O2
7F 1234789	323C1R4	4.34e-1	ng/dscm 7%O2	9.46e-8	lbs/hr	CE7%O2
7F Other	323C1R2	2.32e+0	ng/dscm 7%O2	4.82e-7	lbs/hr	OCE
7F Other	323C1R3	5.48e+0	ng/dscm 7%O2	1.18e-6	lbs/hr	OCE
7F Other	323C1R4	1.30e+0	ng/dscm 7%O2	2.84e-7	lbs/hr	OCE
7F Total	323C1R2	5.34e+0	ng/dscm 7%O2	1.11e-6	lbs/hr	CE7%O2
7F Total	323C1R3	1.26e+1	ng/dscm 7%O2	2.71e-6	lbs/hr	CE7%O2
7F Total	323C1R4	3.22e+0	ng/dscm 7%O2	7.01e-7	lbs/hr	CE7%O2
8D	323C1R2	3.43e+0	ng/dscm 7%O2	7.12e-7	lbs/hr	CE7%O2
8D	323C1R3	7.24e+0	ng/dscm 7%O2	1.56e-6	lbs/hr	CE7%O2
8D	323C1R4	2.73e+0	ng/dscm 7%O2	5.95e-7	lbs/hr	CE7%O2
8F	323C1R2	5.04e-1	ng/dscm 7%O2	1.05e-7	lbs/hr	CE7%O2
8F	323C1R3	1.47e+0	ng/dscm 7%O2	3.17e-7	lbs/hr	CE7%O2
8F	323C1R4	1.69e-1	ng/dscm 7%O2	3.67e-8	lbs/hr	CE7%O2
TEQ	323C1R2	3.60e+0	ng/dscm 7%O2	7.47e-7	lbs/hr	CCET
TEQ	323C1R3	9.39e+0	ng/dscm 7%O2	2.02e-6	lbs/hr	CCET
TEQ	323C1R4	2.56e+0	ng/dscm 7%O2	5.57e-7	lbs/hr	CCET
Total PCDD/PCDF	323C1R2	3.46e+2	ng/dscm 7%O2	7.19e-5	lbs/hr	CCET
Total PCDD/PCDF	323C1R3	9.49e+2	ng/dscm 7%O2	2.05e-4	lbs/hr	CCET
Total PCDD/PCDF	323C1R4	2.80e+2	ng/dscm 7%O2	6.10e-5	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	323C1R1	8.47e-2 ppmv 7%O2	5.51e-2 lbs/hr	CC7%O2
Chlorine	323C1R2	2.20e-1 ppmv 7%O2	1.34e-1 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: KS
 3. CITY: FREDONIA
 4. EP ID: 323 DEVICE NAME: KILN NO. 2
 EPA ID: KSD007148034
 SYSTEM TYPE: CEMENT KILN
 APC SYSTEM: ESP
 REGION: 7

Chlorine	323C1R3	4.53e-2	ppmv 7%O2	2.87e-2	lbs/hr	CC7%O2
HCl	323C1R1	1.01e+2	ppmv 7%O2	3.38e+1	lbs/hr	CC7%O2
HCl	323C1R2	8.27e+1	ppmv 7%O2	2.60e+1	lbs/hr	CC7%O2
HCl	323C1R3	3.13e+1	ppmv 7%O2	1.02e+1	lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
Arsenic	323C1R4	1.11e+1	ug/dscm 7%O2	2.43e-3	lbs/hr	CC7%O2
Arsenic	323C1R5	1.22e+1	ug/dscm 7%O2	2.65e-3	lbs/hr	CC7%O2
Arsenic	323C1R6	4.17e+1	ug/dscm 7%O2	9.04e-3	lbs/hr	CC7%O2
Beryllium	323C1R4	1.01e+0	ug/dscm 7%O2	2.20e-4	lbs/hr	CC7%O2
Beryllium	323C1R5	1.01e+0	ug/dscm 7%O2	2.20e-4	lbs/hr	CC7%O2
Beryllium	323C1R6	1.02e+0	ug/dscm 7%O2	2.20e-4	lbs/hr	CC7%O2
Cadmium	323C1R4	2.33e+1	ug/dscm 7%O2	5.07e-3	lbs/hr	CC7%O2
Cadmium	323C1R5	4.46e+1	ug/dscm 7%O2	9.70e-3	lbs/hr	CC7%O2
Cadmium	323C1R6	9.97e+1	ug/dscm 7%O2	2.16e-2	lbs/hr	CC7%O2
Chromium	323C1R4	2.33e+1	ug/dscm 7%O2	5.07e-3	lbs/hr	CC7%O2
Chromium	323C1R5	3.04e+1	ug/dscm 7%O2	6.61e-3	lbs/hr	CC7%O2
Chromium	323C1R6	5.49e+1	ug/dscm 7%O2	1.19e-2	lbs/hr	CC7%O2
Chromium (Hex)	323C1R6	1.02e-1	ug/dscm 7%O2	2.20e-5	lbs/hr	CC7%O2
Chromium (Hex)	323C1R7	2.11e-1	ug/dscm 7%O2	4.41e-5	lbs/hr	CC7%O2
Lead	323C1R4	8.41e+2	ug/dscm 7%O2	1.83e-1	lbs/hr	CC7%O2
Lead	323C1R5	6.69e+2	ug/dscm 7%O2	1.46e-1	lbs/hr	CC7%O2
Lead	323C1R6	1.24e+3	ug/dscm 7%O2	2.69e-1	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
Particulate	323C1R1	3.30e-2	gr/dscf 7%O2	1.67e+1	lbs/hr	CE
Particulate	323C1R2	2.80e-2	gr/dscf 7%O2	1.33e+1	lbs/hr	CE
Particulate	323C1R3	5.00e-3	gr/dscf 7%O2	2.47e+0	lbs/hr	CE

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration		Mass Rate	Calc	
CO	323C1R1	3.64e+2	ppmv 7%O2	9.36e+1	lbs/hr	CE
CO	323C1R2	2.44e+2	ppmv 7%O2	5.89e+1	lbs/hr	CE
CO	323C1R3	4.06e+2	ppmv 7%O2	1.02e+2	lbs/hr	CE
CO	323C1R4	1.80e+2	ppmv 7%O2	4.55e+1	lbs/hr	CE
CO	323C1R5	8.60e+1	ppmv 7%O2	2.18e+1	lbs/hr	CE
CO	323C1R6	6.82e+2	ppmv 7%O2	1.72e+2	lbs/hr	CE
CO(MHRA)	323C1R1	6.21e+2	ppmv 7%O2	1.60e+2	lbs/hr	CE
CO(MHRA)	323C1R2	5.73e+2	ppmv 7%O2	1.38e+2	lbs/hr	CE
CO(MHRA)	323C1R3	8.78e+2	ppmv 7%O2	2.20e+2	lbs/hr	CE
CO(MHRA)	323C1R4	3.84e+2	ppmv 7%O2	9.72e+1	lbs/hr	CE
CO(MHRA)	323C1R5	1.25e+2	ppmv 7%O2	3.16e+1	lbs/hr	CE
CO(MHRA)	323C1R6	1.06e+3	ppmv 7%O2	2.68e+2	lbs/hr	CE
CO(MHRA)	323C1R7	1.20e+3	ppmv 7%O2	2.92e+2	lbs/hr	CE
THC	323C1R1	2.60e+0	ppmv 7%O2	1.05e+0	lbs/hr	CE
THC	323C1R2	9.80e+0	ppmv 7%O2	3.72e+0	lbs/hr	CE
THC	323C1R3	9.10e+0	ppmv 7%O2	3.58e+0	lbs/hr	CE
THC	323C1R4	6.50e+0	ppmv 7%O2	2.58e+0	lbs/hr	CE
THC	323C1R5	9.30e+0	ppmv 7%O2	3.70e+0	lbs/hr	CE
THC	323C1R6	1.15e+1	ppmv 7%O2	4.56e+0	lbs/hr	CE
THC(MHRA)	323C1R1	1.00e+1	ppmv 7%O2	4.04e+0	lbs/hr	CE
THC(MHRA)	323C1R2	1.06e+1	ppmv 7%O2	4.02e+0	lbs/hr	CE
THC(MHRA)	323C1R3	1.05e+1	ppmv 7%O2	4.13e+0	lbs/hr	CE
THC(MHRA)	323C1R4	8.60e+0	ppmv 7%O2	3.42e+0	lbs/hr	CE

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: KS
 3. CITY: FREDONIA
 4. EP ID: 323 DEVICE NAME: KILN NO. 2

EPA ID: KSD007148034

REGION: 7

SYSTEM TYPE: CEMENT KILN APC SYSTEM: ESP

THC(MHRA)	323C1R5	1.00e+1	ppmv 7%O2	3.98e+0	lbs/hr	CE
THC(MHRA)	323C1R6	1.34e+1	ppmv 7%O2	5.31e+0	lbs/hr	CE
THC(MHRA)	323C1R7	1.05e+1	ppmv 7%O2	4.02e+0	lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: MI
 3. CITY: ALPENA EPA MID005379607 REGION: 5
 4. EP ID: 320 DEVICE NAME: KILN NO. 23 SYSTEM TYPE: CEMENT KILN APC SYSTEM: FF

5. Type: CONTROLLED
 6. Description: EMISSIONS Process Group: DRY KILN Location: STACK Phase: GAS
 7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
4D 2378	320C1R1	0.00e+0	0.00e+0	
4D 2378	320C1R2	0.00e+0	0.00e+0	
4D 2378	320C1R3	0.00e+0	0.00e+0	
4D Other	320C1R1	1.92e+1 ng/dscm 7%O2	1.72e-5 lbs/hr	OCE
4D Other	320C1R2	3.17e+1 ng/dscm 7%O2	2.59e-5 lbs/hr	OCE
4D Other	320C1R3	3.82e+1 ng/dscm 7%O2	3.45e-5 lbs/hr	OCE
4D Total	320C1R1	1.92e+1 ng/dscm 7%O2	1.72e-5 lbs/hr	CE7%O2
4D Total	320C1R2	3.17e+1 ng/dscm 7%O2	2.59e-5 lbs/hr	CE7%O2
4D Total	320C1R3	3.82e+1 ng/dscm 7%O2	3.45e-5 lbs/hr	CE7%O2
4F 2378	320C1R1	5.93e-2 ng/dscm 7%O2	5.34e-8 lbs/hr	CE7%O2
4F 2378	320C1R2	0.00e+0	0.00e+0	
4F 2378	320C1R3	0.00e+0	0.00e+0	
4F Other	320C1R1	1.53e+0 ng/dscm 7%O2	1.38e-6 lbs/hr	OCE
4F Other	320C1R2	1.67e+0 ng/dscm 7%O2	1.37e-6 lbs/hr	OCE
4F Other	320C1R3	2.62e+0 ng/dscm 7%O2	2.36e-6 lbs/hr	OCE
4F Total	320C1R1	1.59e+0 ng/dscm 7%O2	1.43e-6 lbs/hr	CE7%O2
4F Total	320C1R2	1.67e+0 ng/dscm 7%O2	1.37e-6 lbs/hr	CE7%O2
4F Total	320C1R3	2.62e+0 ng/dscm 7%O2	2.36e-6 lbs/hr	CE7%O2
5D 12378	320C1R1	7.55e-2 ng/dscm 7%O2	6.80e-8 lbs/hr	CE7%O2
5D 12378	320C1R2	0.00e+0	0.00e+0	
5D 12378	320C1R3	1.08e-1 ng/dscm 7%O2	9.75e-8 lbs/hr	CE7%O2
5D Other	320C1R1	1.18e+1 ng/dscm 7%O2	1.06e-5 lbs/hr	OCE
5D Other	320C1R2	1.67e+1 ng/dscm 7%O2	1.37e-5 lbs/hr	OCE
5D Other	320C1R3	1.73e+1 ng/dscm 7%O2	1.57e-5 lbs/hr	OCE
5D Total	320C1R1	1.19e+1 ng/dscm 7%O2	1.07e-5 lbs/hr	CE7%O2
5D Total	320C1R2	1.67e+1 ng/dscm 7%O2	1.37e-5 lbs/hr	CE7%O2
5D Total	320C1R3	1.75e+1 ng/dscm 7%O2	1.58e-5 lbs/hr	CE7%O2
5F 12378	320C1R1	0.00e+0	0.00e+0	
5F 12378	320C1R2	2.16e-2 ng/dscm 7%O2	1.77e-8 lbs/hr	CE7%O2
5F 12378	320C1R3	0.00e+0	0.00e+0	
5F 23478	320C1R1	2.97e-2 ng/dscm 7%O2	2.67e-8 lbs/hr	CE7%O2
5F 23478	320C1R2	4.90e-2 ng/dscm 7%O2	4.00e-8 lbs/hr	CE7%O2
5F 23478	320C1R3	3.24e-2 ng/dscm 7%O2	2.93e-8 lbs/hr	CE7%O2
5F Other	320C1R1	1.65e-1 ng/dscm 7%O2	1.48e-7 lbs/hr	OCE
5F Other	320C1R2	2.75e-1 ng/dscm 7%O2	2.25e-7 lbs/hr	OCE
5F Other	320C1R3	4.25e-1 ng/dscm 7%O2	3.83e-7 lbs/hr	OCE
5F Total	320C1R1	1.94e-1 ng/dscm 7%O2	1.75e-7 lbs/hr	CE7%O2
5F Total	320C1R2	3.46e-1 ng/dscm 7%O2	2.82e-7 lbs/hr	CE7%O2
5F Total	320C1R3	4.57e-1 ng/dscm 7%O2	4.13e-7 lbs/hr	CE7%O2
6D 123478	320C1R1	6.47e-2 ng/dscm 7%O2	5.83e-8 lbs/hr	CE7%O2
6D 123478	320C1R2	4.90e-2 ng/dscm 7%O2	4.00e-8 lbs/hr	CE7%O2
6D 123478	320C1R3	1.41e-1 ng/dscm 7%O2	1.28e-7 lbs/hr	CE7%O2
6D 123678	320C1R1	5.93e-2 ng/dscm 7%O2	5.34e-8 lbs/hr	CE7%O2
6D 123678	320C1R2	6.34e-2 ng/dscm 7%O2	5.18e-8 lbs/hr	CE7%O2
6D 123678	320C1R3	1.99e-1 ng/dscm 7%O2	1.80e-7 lbs/hr	CE7%O2
6D 123789	320C1R1	4.32e-2 ng/dscm 7%O2	3.88e-8 lbs/hr	CE7%O2
6D 123789	320C1R2	0.00e+0	0.00e+0	
6D 123789	320C1R3	1.16e-1 ng/dscm 7%O2	1.05e-7 lbs/hr	CE7%O2
6D Other	320C1R1	3.22e+1 ng/dscm 7%O2	2.90e-5 lbs/hr	OCE
6D Other	320C1R2	5.75e+1 ng/dscm 7%O2	4.70e-5 lbs/hr	OCE
6D Other	320C1R3	7.02e+1 ng/dscm 7%O2	6.34e-5 lbs/hr	OCE
6D Total	320C1R1	3.24e+1 ng/dscm 7%O2	2.91e-5 lbs/hr	CE7%O2
6D Total	320C1R2	5.76e+1 ng/dscm 7%O2	4.71e-5 lbs/hr	CE7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE

2. STATE: MI

3. CITY: ALPENA

4. EP ID: 320 DEVICE NAME: KILN NO. 23

EPA ID: MID005379607

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: FF

REGION: 5

6D Total	320C1R3	7.06e+1	ng/dscm 7%O2	6.38e-5	lbs/hr	CE7%O2
6F 123478	320C1R1	0.00e+0		0.00e+0		
6F 123678	320C1R1	0.00e+0		0.00e+0		
6F 123789	320C1R1	0.00e+0		0.00e+0		
6F 234678	320C1R1	0.00e+0		0.00e+0		
6F Other	320C1R1	8.90e-2	ng/dscm 7%O2	8.01e-8	lbs/hr	CCE
6F Total	320C1R1	8.90e-2	ng/dscm 7%O2	8.01e-8	lbs/hr	CE7%O2
6F Total	320C1R2	1.33e-1	ng/dscm 7%O2	1.08e-7	lbs/hr	CE7%O2
7D 1234678	320C1R1	8.63e-1	ng/dscm 7%O2	7.77e-7	lbs/hr	CE7%O2
7D 1234678	320C1R2	9.80e-1	ng/dscm 7%O2	8.00e-7	lbs/hr	CE7%O2
7D 1234678	320C1R3	1.54e+0	ng/dscm 7%O2	1.39e-6	lbs/hr	CE7%O2
7D Other	320C1R1	5.39e-1	ng/dscm 7%O2	4.86e-7	lbs/hr	CCE
7D Other	320C1R2	5.19e-1	ng/dscm 7%O2	4.24e-7	lbs/hr	CCE
7D Other	320C1R3	1.21e+0	ng/dscm 7%O2	1.09e-6	lbs/hr	CCE
7D Total	320C1R1	1.40e+0	ng/dscm 7%O2	1.26e-6	lbs/hr	CE7%O2
7D Total	320C1R2	1.50e+0	ng/dscm 7%O2	1.22e-6	lbs/hr	CE7%O2
7D Total	320C1R3	2.74e+0	ng/dscm 7%O2	2.48e-6	lbs/hr	CE7%O2
7F 1234678	320C1R1	0.00e+0		0.00e+0		
7F 1234678	320C1R2	8.64e-2	ng/dscm 7%O2	7.06e-8	lbs/hr	CE7%O2
7F 1234789	320C1R2	2.54e-2	ng/dscm 7%O2	2.07e-8	lbs/hr	CE7%O2
7F Other	320C1R2	5.76e-4	ng/dscm 7%O2	4.71e-10	lbs/hr	CCE
7F Total	320C1R2	1.12e-1	ng/dscm 7%O2	9.18e-8	lbs/hr	CE7%O2
8D	320C1R1	5.13e-1	ng/dscm 7%O2	4.61e-7	lbs/hr	CE7%O2
8D	320C1R2	1.61e+0	ng/dscm 7%O2	1.32e-6	lbs/hr	CE7%O2
8D	320C1R3	1.12e+0	ng/dscm 7%O2	1.01e-6	lbs/hr	CE7%O2
8F	320C1R2	5.19e-2	ng/dscm 7%O2	4.24e-8	lbs/hr	CE7%O2
TEQ	320C1R1	8.44e-2	ng/dscm 7%O2	7.60e-8	lbs/hr	CCET
TEQ	320C1R2	4.94e-2	ng/dscm 7%O2	4.03e-8	lbs/hr	CCET
TEQ	320C1R3	1.32e-1	ng/dscm 7%O2	1.20e-7	lbs/hr	CCET
Total PCDD/PCDF	320C1R1	6.72e+1	ng/dscm 7%O2	6.05e-5	lbs/hr	CCET
Total PCDD/PCDF	320C1R2	1.11e+2	ng/dscm 7%O2	9.11e-5	lbs/hr	CCET
Total PCDD/PCDF	320C1R3	1.33e+2	ng/dscm 7%O2	1.20e-4	lbs/hr	CCET

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	320C1R2	3.21e+0 ppmv 7%O2	7.71e+0 lbs/hr	CC7%O2
Chlorine	320C1R3	9.40e-1 ppmv 7%O2	2.49e+0 lbs/hr	CC7%O2
HCl	320C1R1	3.49e+0 ppmv 7%O2	4.75e+0 lbs/hr	CC7%O2
HCl	320C1R2	2.82e+0 ppmv 7%O2	3.48e+0 lbs/hr	CC7%O2
HCl	320C1R3	2.53e+0 ppmv 7%O2	3.45e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Arsenic	320C1R4	9.78e-1 ug/dscm 7%O2	7.72e-4 lbs/hr	CC7%O2
Arsenic	320C1R5	3.30e-1 ug/dscm 7%O2	2.87e-4 lbs/hr	CC7%O2
Arsenic	320C1R6	7.95e-1 ug/dscm 7%O2	7.28e-4 lbs/hr	CC7%O2
Beryllium	320C1R4	3.35e-1 ug/dscm 7%O2	2.65e-4 lbs/hr	CC7%O2
Beryllium	320C1R5	2.28e-1 ug/dscm 7%O2	1.98e-4 lbs/hr	CC7%O2
Beryllium	320C1R6	2.89e-1 ug/dscm 7%O2	2.65e-4 lbs/hr	CC7%O2
Cadmium	320C1R4	2.63e+0 ug/dscm 7%O2	2.07e-3 lbs/hr	CC7%O2
Cadmium	320C1R5	2.03e-1 ug/dscm 7%O2	1.76e-4 lbs/hr	CC7%O2
Cadmium	320C1R6	1.93e-1 ug/dscm 7%O2	1.76e-4 lbs/hr	CC7%O2
Chromium	320C1R4	1.76e+0 ug/dscm 7%O2	1.39e-3 lbs/hr	CC7%O2
Chromium	320C1R5	2.00e+0 ug/dscm 7%O2	1.74e-3 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: MI
 3. CITY: ALPENA
 4. EP ID: 320 DEVICE NAME: KILN NO. 23
 EPA ID: MID005379607
 SYSTEM TYPE: CEMENT KILN
 APC SYSTEM: FF
 REGION: 5

Chromium	320C1R6	1.71e+0	ug/dscm 7%O2	1.57e-3	lbs/hr	CC7%O2
Chromium (Hex)	320C1R4	1.12e-1	ug/dscm 7%O2	8.82e-5	lbs/hr	CC7%O2
Chromium (Hex)	320C1R5	1.52e-1	ug/dscm 7%O2	1.32e-4	lbs/hr	CC7%O2
Chromium (Hex)	320C1R6	9.64e-2	ug/dscm 7%O2	8.82e-5	lbs/hr	CC7%O2
Lead	320C1R4	3.88e+0	ug/dscm 7%O2	3.06e-3	lbs/hr	CC7%O2
Lead	320C1R5	1.90e+0	ug/dscm 7%O2	1.65e-3	lbs/hr	CC7%O2
Lead	320C1R6	2.02e+0	ug/dscm 7%O2	1.85e-3	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	320C1R1	6.00e-3 gr/dscf 7%O2	1.24e+1 lbs/hr	CE
Particulate	320C1R2	3.00e-3 gr/dscf 7%O2	5.61e+0 lbs/hr	CE
Particulate	320C1R3	1.00e-3 gr/dscf 7%O2	2.07e+0 lbs/hr	CE

7. Category: THC & CO

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
CO	320C1R1	1.36e+3 ppmv 7%O2	1.43e+3 lbs/hr	CE
CO	320C1R2	1.50e+3 ppmv 7%O2	1.42e+3 lbs/hr	CE
CO	320C1R3	1.71e+3 ppmv 7%O2	1.79e+3 lbs/hr	CE
CO	320C1R4	1.62e+3 ppmv 7%O2	1.48e+3 lbs/hr	CE
CO	320C1R5	1.51e+3 ppmv 7%O2	1.53e+3 lbs/hr	CE
CO	320C1R6	1.37e+3 ppmv 7%O2	1.46e+3 lbs/hr	CE
CO(MHRA)	320C1R1	1.97e+3 ppmv 7%O2	2.06e+3 lbs/hr	CE
CO(MHRA)	320C1R2	2.12e+3 ppmv 7%O2	2.01e+3 lbs/hr	CE
CO(MHRA)	320C1R3	2.10e+3 ppmv 7%O2	2.20e+3 lbs/hr	CE
CO(MHRA)	320C1R4	2.08e+3 ppmv 7%O2	1.91e+3 lbs/hr	CE
CO(MHRA)	320C1R5	2.09e+3 ppmv 7%O2	2.12e+3 lbs/hr	CE
CO(MHRA)	320C1R6	2.07e+3 ppmv 7%O2	2.20e+3 lbs/hr	CE
THC	320C1R1	6.10e+1 ppmv 7%O2	1.00e+2 lbs/hr	CE
THC	320C1R2	6.60e+1 ppmv 7%O2	9.84e+1 lbs/hr	CE
THC	320C1R3	7.80e+1 ppmv 7%O2	1.29e+2 lbs/hr	CE
THC	320C1R4	7.90e+1 ppmv 7%O2	1.14e+2 lbs/hr	CE
THC	320C1R5	6.50e+1 ppmv 7%O2	1.03e+2 lbs/hr	CE
THC	320C1R6	6.70e+1 ppmv 7%O2	1.12e+2 lbs/hr	CE
THC(MHRA)	320C1R1	9.80e+1 ppmv 7%O2	1.61e+2 lbs/hr	CE
THC(MHRA)	320C1R2	1.01e+2 ppmv 7%O2	1.51e+2 lbs/hr	CE
THC(MHRA)	320C1R3	1.01e+2 ppmv 7%O2	1.66e+2 lbs/hr	CE
THC(MHRA)	320C1R4	1.01e+2 ppmv 7%O2	1.46e+2 lbs/hr	CE
THC(MHRA)	320C1R5	1.00e+2 ppmv 7%O2	1.59e+2 lbs/hr	CE
THC(MHRA)	320C1R6	9.90e+1 ppmv 7%O2	1.66e+2 lbs/hr	CE

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LAFARGE
 2. STATE: OH
 3. CITY: PAULDING
 4. EP ID: 302 DEVICE NAME: KILN NO. 2 EPA ID: OHD005048947 REGION: 5
 SYSTEM TYPE: CEMENT KILN APC SYSTEM: ESP

5. Type: CONTROLLED

6. Description: EMISSIONS Process Group: WET KILN Location: STACK Phase: GAS

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	302C1R1	5.13e-1 ppmv 7%O2	2.91e-1 lbs/hr	CC7%O2
Chlorine	302C1R2	9.57e-2 ppmv 7%O2	5.51e-2 lbs/hr	CC7%O2
Chlorine	302C1R3	4.68e-1 ppmv 7%O2	2.69e-1 lbs/hr	CC7%O2
HCl	302C1R1	9.97e+0 ppmv 7%O2	2.91e+0 lbs/hr	CC7%O2
HCl	302C1R2	9.70e+0 ppmv 7%O2	2.88e+0 lbs/hr	CC7%O2
HCl	302C1R3	8.87e+0 ppmv 7%O2	2.62e+0 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Arsenic	302C1R4	2.39e+0 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Arsenic	302C1R5	5.83e+0 ug/dscm 7%O2	1.10e-3 lbs/hr	CC7%O2
Arsenic	302C1R6	2.43e+0 ug/dscm 7%O2	4.41e-4 lbs/hr	CC7%O2
Beryllium	302C1R4	3.58e-1 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Beryllium	302C1R5	5.83e-1 ug/dscm 7%O2	1.10e-4 lbs/hr	CC7%O2
Beryllium	302C1R6	3.64e-1 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Cadmium	302C1R4	5.61e+1 ug/dscm 7%O2	1.04e-2 lbs/hr	CC7%O2
Cadmium	302C1R5	1.40e+2 ug/dscm 7%O2	2.65e-2 lbs/hr	CC7%O2
Cadmium	302C1R6	1.02e+2 ug/dscm 7%O2	1.85e-2 lbs/hr	CC7%O2
Chromium	302C1R4	1.08e+1 ug/dscm 7%O2	1.98e-3 lbs/hr	CC7%O2
Chromium	302C1R5	2.33e+1 ug/dscm 7%O2	4.41e-3 lbs/hr	CC7%O2
Chromium	302C1R6	1.21e+1 ug/dscm 7%O2	2.20e-3 lbs/hr	CC7%O2
Chromium (Hex)	302C1R4	3.58e-1 ug/dscm 7%O2	6.61e-5 lbs/hr	CC7%O2
Chromium (Hex)	302C1R5	2.33e-1 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Chromium (Hex)	302C1R6	2.43e-1 ug/dscm 7%O2	4.41e-5 lbs/hr	CC7%O2
Lead	302C1R4	6.21e+2 ug/dscm 7%O2	1.15e-1 lbs/hr	CC7%O2
Lead	302C1R5	2.89e+3 ug/dscm 7%O2	5.47e-1 lbs/hr	CC7%O2
Lead	302C1R6	7.77e+2 ug/dscm 7%O2	1.41e-1 lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	302C1R4	2.00e-2 gr/dscf 7%O2	8.45e+0 lbs/hr	CE7%O2
Particulate	302C1R5	6.00e-2 gr/dscf 7%O2	2.60e+1 lbs/hr	CE7%O2
Particulate	302C1R6	2.07e-2 gr/dscf 7%O2	8.61e+0 lbs/hr	CE7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA ID: IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

5. Type: CONTROLLED

6. Description: EMISSIONS

Process Group: WET KILN

Location: STACK

Phase: GAS

7. Category: Dioxin & Furan

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
TEQ	304C1R1	3.18e+0 ng/dscm 7%O2	1.66e-6 lbs/hr	CE
TEQ	304C1R2	3.45e+0 ng/dscm 7%O2	1.76e-6 lbs/hr	CE
TEQ	304C1R3	4.23e+0 ng/dscm 7%O2	2.22e-6 lbs/hr	CE
TEQ	304C3R1	1.75e-1 ng/dscm 7%O2	9.13e-8 lbs/hr	CE
TEQ	304C3R2	1.40e-1 ng/dscm 7%O2	7.24e-8 lbs/hr	CE
TEQ	304C3R3	9.30e-2 ng/dscm 7%O2	4.56e-8 lbs/hr	CE
Total PCDD/PCDF	304C1R1	6.59e+2 ng/dscm 7%O2	3.45e-4 lbs/hr	CE
Total PCDD/PCDF	304C1R2	7.70e+2 ng/dscm 7%O2	3.92e-4 lbs/hr	CE
Total PCDD/PCDF	304C1R3	8.39e+2 ng/dscm 7%O2	4.41e-4 lbs/hr	CE

7. Category: Halogens

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Chlorine	304C2R1	ND 1.08e-3 ppmv 7%O2	1.81e-3 lbs/hr	CC7%O2
Chlorine	304C2R2	ND 4.30e-3 ppmv 7%O2	7.45e-3 lbs/hr	CC7%O2
Chlorine	304C2R3	ND 7.42e-3 ppmv 7%O2	1.13e-2 lbs/hr	CC7%O2
HCl	304C2R1	2.21e-1 ppmv 7%O2	1.90e-1 lbs/hr	CC7%O2
HCl	304C2R2	5.94e-1 ppmv 7%O2	5.29e-1 lbs/hr	CC7%O2
HCl	304C2R3	3.43e-1 ppmv 7%O2	2.69e-1 lbs/hr	CC7%O2

7. Category: Metals

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Antimony	304C1R1	ND 1.21e+0 ug/dscm 7%O2	6.33e-4 lbs/hr	CC7%O2
Antimony	304C1R2	2.17e+0 ug/dscm 7%O2	1.10e-3 lbs/hr	CC7%O2
Antimony	304C1R3	2.82e+0 ug/dscm 7%O2	1.48e-3 lbs/hr	CC7%O2
Arsenic	304C1R1	1.99e+0 ug/dscm 7%O2	1.04e-3 lbs/hr	CC7%O2
Arsenic	304C1R2	2.36e+0 ug/dscm 7%O2	1.20e-3 lbs/hr	CC7%O2
Arsenic	304C1R3	3.45e+0 ug/dscm 7%O2	1.81e-3 lbs/hr	CC7%O2
Barium	304C1R1	6.98e+0 ug/dscm 7%O2	3.65e-3 lbs/hr	CC7%O2
Barium	304C1R2	7.24e+0 ug/dscm 7%O2	3.68e-3 lbs/hr	CC7%O2
Barium	304C1R3	2.24e+1 ug/dscm 7%O2	1.17e-2 lbs/hr	CC7%O2
Beryllium	304C1R1	5.57e-1 ug/dscm 7%O2	2.91e-4 lbs/hr	CC7%O2
Beryllium	304C1R2	5.76e-1 ug/dscm 7%O2	2.93e-4 lbs/hr	CC7%O2
Beryllium	304C1R3	1.00e+0 ug/dscm 7%O2	5.27e-4 lbs/hr	CC7%O2
Cadmium	304C1R1	6.87e+1 ug/dscm 7%O2	3.59e-2 lbs/hr	CC7%O2
Cadmium	304C1R2	7.38e+1 ug/dscm 7%O2	3.76e-2 lbs/hr	CC7%O2
Cadmium	304C1R3	1.97e+2 ug/dscm 7%O2	1.04e-1 lbs/hr	CC7%O2
Chromium	304C1R1	9.87e+1 ug/dscm 7%O2	5.16e-2 lbs/hr	CC7%O2
Chromium	304C1R2	2.24e+1 ug/dscm 7%O2	1.14e-2 lbs/hr	CC7%O2
Chromium	304C1R3	3.30e+1 ug/dscm 7%O2	1.73e-2 lbs/hr	CC7%O2
Chromium (Hex)	304C2R1	ND 8.95e-2 ug/dscm 7%O2	5.09e-5 lbs/hr	CC7%O2
Chromium (Hex)	304C2R2	ND 8.72e-2 ug/dscm 7%O2	5.14e-5 lbs/hr	CC7%O2
Chromium (Hex)	304C2R3	ND 9.26e-2 ug/dscm 7%O2	4.81e-5 lbs/hr	CC7%O2
Lead	304C1R1	4.67e+2 ug/dscm 7%O2	2.44e-1 lbs/hr	CC7%O2
Lead	304C1R2	5.43e+2 ug/dscm 7%O2	2.76e-1 lbs/hr	CC7%O2
Lead	304C1R3	4.49e+2 ug/dscm 7%O2	2.35e-1 lbs/hr	CC7%O2
Mercury	304C1R1	4.52e+1 ug/dscm 7%O2	2.37e-2 lbs/hr	CC7%O2
Mercury	304C1R2	5.23e+1 ug/dscm 7%O2	2.66e-2 lbs/hr	CC7%O2
Mercury	304C1R3	2.83e+1 ug/dscm 7%O2	1.48e-2 lbs/hr	CC7%O2
Silver	304C1R1	3.53e+1 ug/dscm 7%O2	1.84e-2 lbs/hr	CC7%O2
Silver	304C1R2	7.60e+1 ug/dscm 7%O2	3.87e-2 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA ID: IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Silver	304C1R3	1.17e+1	ug/dscm 7%O2	6.14e-3	lbs/hr	CC7%O2
Thallium	304C1R1	7.55e-1	ug/dscm 7%O2	3.95e-4	lbs/hr	CC7%O2
Thallium	304C1R2	1.34e+0	ug/dscm 7%O2	6.81e-4	lbs/hr	CC7%O2
Thallium	304C1R3	2.17e+0	ug/dscm 7%O2	1.14e-3	lbs/hr	CC7%O2

7. Category: PAH

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Acenaphthene	304C3R1	5.71e+2 ng/dscm 7%O2	2.98e-4 lbs/hr	CC7%O2
Acenaphthene	304C3R3	8.68e+2 ng/dscm 7%O2	4.25e-4 lbs/hr	CC7%O2
Acenaphthene	304C4R1	1.07e+3 ng/dscm 7%O2	4.74e-4 lbs/hr	CC7%O2
Acenaphthene	304C4R2	1.10e+3 ng/dscm 7%O2	5.71e-4 lbs/hr	CC7%O2
Acenaphthene	304C4R3	1.22e+3 ng/dscm 7%O2	5.51e-4 lbs/hr	CC7%O2
Acenaphthylene	304C3R1	8.00e+3 ng/dscm 7%O2	4.17e-3 lbs/hr	CC7%O2
Acenaphthylene	304C3R2	8.02e+3 ng/dscm 7%O2	4.14e-3 lbs/hr	CC7%O2
Acenaphthylene	304C3R3	6.66e+3 ng/dscm 7%O2	3.27e-3 lbs/hr	CC7%O2
Acenaphthylene	304C4R1	1.79e+4 ng/dscm 7%O2	7.93e-3 lbs/hr	CC7%O2
Acenaphthylene	304C4R2	2.53e+4 ng/dscm 7%O2	1.31e-2 lbs/hr	CC7%O2
Acenaphthylene	304C4R3	2.44e+4 ng/dscm 7%O2	1.10e-2 lbs/hr	CC7%O2
Anthracene	304C3R1	1.71e+3 ng/dscm 7%O2	8.93e-4 lbs/hr	CC7%O2
Anthracene	304C3R2	1.66e+3 ng/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
Anthracene	304C3R3	2.32e+3 ng/dscm 7%O2	1.14e-3 lbs/hr	CC7%O2
Anthracene	304C4R1	3.20e+3 ng/dscm 7%O2	1.42e-3 lbs/hr	CC7%O2
Anthracene	304C4R2	5.77e+3 ng/dscm 7%O2	3.00e-3 lbs/hr	CC7%O2
Anthracene	304C4R3	7.32e+3 ng/dscm 7%O2	3.30e-3 lbs/hr	CC7%O2
Benzo(a)anthracene	304C4R1	1.07e+3 ng/dscm 7%O2	4.74e-4 lbs/hr	CC7%O2
Benzo(a)anthracene	304C4R2	1.65e+3 ng/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
Benzo(a)anthracene	304C4R3	1.83e+3 ng/dscm 7%O2	8.25e-4 lbs/hr	CC7%O2
Benzo(b)fluoranthene	304C3R2	8.28e+2 ng/dscm 7%O2	4.28e-4 lbs/hr	CC7%O2
Benzo(b)fluoranthene	304C4R1	1.07e+3 ng/dscm 7%O2	4.74e-4 lbs/hr	CC7%O2
Benzo(b)fluoranthene	304C4R2	1.65e+3 ng/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
Benzo(b)fluoranthene	304C4R3	1.53e+3 ng/dscm 7%O2	6.88e-4 lbs/hr	CC7%O2
Chrysene	304C3R1	8.59e+2 ng/dscm 7%O2	4.48e-4 lbs/hr	CC7%O2
Chrysene	304C3R2	1.94e+3 ng/dscm 7%O2	1.00e-3 lbs/hr	CC7%O2
Chrysene	304C3R3	1.45e+3 ng/dscm 7%O2	7.10e-4 lbs/hr	CC7%O2
Chrysene	304C4R1	2.40e+3 ng/dscm 7%O2	1.06e-3 lbs/hr	CC7%O2
Chrysene	304C4R2	3.57e+3 ng/dscm 7%O2	1.86e-3 lbs/hr	CC7%O2
Chrysene	304C4R3	3.66e+3 ng/dscm 7%O2	1.65e-3 lbs/hr	CC7%O2
Fluoranthene	304C3R1	3.28e+3 ng/dscm 7%O2	1.71e-3 lbs/hr	CC7%O2
Fluoranthene	304C3R2	4.15e+3 ng/dscm 7%O2	2.14e-3 lbs/hr	CC7%O2
Fluoranthene	304C3R3	3.77e+3 ng/dscm 7%O2	1.85e-3 lbs/hr	CC7%O2
Fluoranthene	304C4R1	6.40e+3 ng/dscm 7%O2	2.84e-3 lbs/hr	CC7%O2
Fluoranthene	304C4R2	9.89e+3 ng/dscm 7%O2	5.14e-3 lbs/hr	CC7%O2
Fluoranthene	304C4R3	1.01e+4 ng/dscm 7%O2	4.54e-3 lbs/hr	CC7%O2
Fluorene	304C3R1	2.00e+3 ng/dscm 7%O2	1.04e-3 lbs/hr	CC7%O2
Fluorene	304C3R2	3.04e+3 ng/dscm 7%O2	1.57e-3 lbs/hr	CC7%O2
Fluorene	304C3R3	2.03e+3 ng/dscm 7%O2	9.94e-4 lbs/hr	CC7%O2
Fluorene	304C4R1	3.20e+3 ng/dscm 7%O2	1.42e-3 lbs/hr	CC7%O2
Fluorene	304C4R2	4.40e+3 ng/dscm 7%O2	2.29e-3 lbs/hr	CC7%O2
Fluorene	304C4R3	4.88e+3 ng/dscm 7%O2	2.20e-3 lbs/hr	CC7%O2
Naphthalene	304C3R1	8.57e+4 ng/dscm 7%O2	4.47e-2 lbs/hr	CC7%O2
Naphthalene	304C3R2	1.38e+5 ng/dscm 7%O2	7.12e-2 lbs/hr	CC7%O2
Naphthalene	304C3R3	8.69e+4 ng/dscm 7%O2	4.26e-2 lbs/hr	CC7%O2
Naphthalene	304C4R1	8.00e+4 ng/dscm 7%O2	3.55e-2 lbs/hr	CC7%O2
Naphthalene	304C4R2	9.07e+4 ng/dscm 7%O2	4.71e-2 lbs/hr	CC7%O2
Naphthalene	304C4R3	1.25e+5 ng/dscm 7%O2	5.64e-2 lbs/hr	CC7%O2
Phenanthrene	304C3R1	2.40e+4 ng/dscm 7%O2	1.25e-2 lbs/hr	CC7%O2
Phenanthrene	304C3R2	3.04e+4 ng/dscm 7%O2	1.57e-2 lbs/hr	CC7%O2
Phenanthrene	304C3R3	2.64e+4 ng/dscm 7%O2	1.29e-2 lbs/hr	CC7%O2
Phenanthrene	304C4R1	4.00e+4 ng/dscm 7%O2	1.78e-2 lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Phenanthrene	304C4R2	5.77e+4	ng/dscm	7%O2	3.00e-2	lbs/hr	CC7%O2
Phenanthrene	304C4R3	5.80e+4	ng/dscm	7%O2	2.61e-2	lbs/hr	CC7%O2
Pyrene	304C3R1	1.71e+3	ng/dscm	7%O2	8.93e-4	lbs/hr	CC7%O2
Pyrene	304C3R2	3.32e+3	ng/dscm	7%O2	1.72e-3	lbs/hr	CC7%O2
Pyrene	304C3R3	2.90e+3	ng/dscm	7%O2	1.42e-3	lbs/hr	CC7%O2
Pyrene	304C4R1	4.53e+3	ng/dscm	7%O2	2.01e-3	lbs/hr	CC7%O2
Pyrene	304C4R2	7.42e+3	ng/dscm	7%O2	3.86e-3	lbs/hr	CC7%O2
Pyrene	304C4R3	6.71e+3	ng/dscm	7%O2	3.03e-3	lbs/hr	CC7%O2

7. Category: Particulate

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
Particulate	304C1R1	6.39e-2 gr/dscf 7%O2	7.65e+1 lbs/hr	CC7%O2
Particulate	304C1R2	4.87e-2 gr/dscf 7%O2	5.67e+1 lbs/hr	CC7%O2
Particulate	304C1R3	5.87e-2 gr/dscf 7%O2	7.05e+1 lbs/hr	CC7%O2

7. Category: SVOC

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
1,4-Naphthaquinone	304C4R1	1.87e+3 ng/dscm 7%O2	8.29e-4 lbs/hr	CC7%O2
1,4-Naphthaquinone	304C4R2	1.65e+3 ng/dscm 7%O2	8.58e-4 lbs/hr	CC7%O2
1-Chloronaphthalene	304C3R1	1.14e+3 ng/dscm 7%O2	5.95e-4 lbs/hr	CC7%O2
1-Chloronaphthalene	304C4R3	1.22e+3 ng/dscm 7%O2	5.51e-4 lbs/hr	CC7%O2
2,4,6-Trichlorophenol	304C4R1	2.67e+3 ng/dscm 7%O2	1.18e-3 lbs/hr	CC7%O2
2,4,6-Trichlorophenol	304C4R2	3.02e+3 ng/dscm 7%O2	1.57e-3 lbs/hr	CC7%O2
2,4,6-Trichlorophenol	304C4R3	3.05e+3 ng/dscm 7%O2	1.38e-3 lbs/hr	CC7%O2
2,4-Dichlorophenol	304C4R1	3.73e+3 ng/dscm 7%O2	1.66e-3 lbs/hr	CC7%O2
2,4-Dichlorophenol	304C4R2	3.30e+3 ng/dscm 7%O2	1.72e-3 lbs/hr	CC7%O2
2,4-Dichlorophenol	304C4R3	3.66e+3 ng/dscm 7%O2	1.65e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C3R1	2.86e+3 ng/dscm 7%O2	1.49e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C3R2	2.77e+3 ng/dscm 7%O2	1.43e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C3R3	2.90e+3 ng/dscm 7%O2	1.42e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C4R1	7.47e+3 ng/dscm 7%O2	3.32e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C4R2	6.32e+3 ng/dscm 7%O2	3.29e-3 lbs/hr	CC7%O2
2-Chlorophenol	304C4R3	8.24e+3 ng/dscm 7%O2	3.71e-3 lbs/hr	CC7%O2
2-Methylnaphthalene	304C3R1	2.09e+4 ng/dscm 7%O2	1.09e-2 lbs/hr	CC7%O2
2-Methylnaphthalene	304C3R2	1.69e+4 ng/dscm 7%O2	8.71e-3 lbs/hr	CC7%O2
2-Methylnaphthalene	304C3R3	1.94e+4 ng/dscm 7%O2	9.51e-3 lbs/hr	CC7%O2
2-Methylnaphthalene	304C4R1	1.95e+4 ng/dscm 7%O2	8.64e-3 lbs/hr	CC7%O2
2-Methylnaphthalene	304C4R2	1.81e+4 ng/dscm 7%O2	9.43e-3 lbs/hr	CC7%O2
2-Methylnaphthalene	304C4R3	3.35e+4 ng/dscm 7%O2	1.51e-2 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C3R1	8.19e+3 ng/dscm 7%O2	4.27e-3 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C3R2	8.78e+3 ng/dscm 7%O2	4.53e-3 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C3R3	7.38e+3 ng/dscm 7%O2	3.62e-3 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C4R1	1.37e+4 ng/dscm 7%O2	6.09e-3 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C4R2	1.25e+4 ng/dscm 7%O2	6.49e-3 lbs/hr	CC7%O2
2-Methylphenol (o-Cresol)	304C4R3	1.76e+4 ng/dscm 7%O2	7.94e-3 lbs/hr	CC7%O2
2-Nitrophenol	304C3R1	2.86e+3 ng/dscm 7%O2	1.49e-3 lbs/hr	CC7%O2
2-Nitrophenol	304C3R3	4.06e+3 ng/dscm 7%O2	1.99e-3 lbs/hr	CC7%O2
3-Methylphenol (m-Cresol)	304C4R2	1.35e+4 ng/dscm 7%O2	7.04e-3 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C3R1	1.78e+4 ng/dscm 7%O2	9.28e-3 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C3R2	1.82e+4 ng/dscm 7%O2	9.38e-3 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C3R3	1.69e+4 ng/dscm 7%O2	8.27e-3 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C4R1	2.90e+4 ng/dscm 7%O2	1.29e-2 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C4R2	1.46e+4 ng/dscm 7%O2	7.57e-3 lbs/hr	CC7%O2
4-Methylphenol (p-Cresol)	304C4R3	3.52e+4 ng/dscm 7%O2	1.59e-2 lbs/hr	CC7%O2
Acetophenone	304C3R1	1.67e+4 ng/dscm 7%O2	8.72e-3 lbs/hr	CC7%O2
Acetophenone	304C3R2	2.05e+4 ng/dscm 7%O2	1.06e-2 lbs/hr	CC7%O2
Acetophenone	304C3R3	1.62e+4 ng/dscm 7%O2	7.95e-3 lbs/hr	CC7%O2

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Acetophenone	304C4R1	2.16e+4	ng/dscm	7%O2	9.59e-3	lbs/hr	CC7%O2
Acetophenone	304C4R2	2.34e+4	ng/dscm	7%O2	1.21e-2	lbs/hr	CC7%O2
Acetophenone	304C4R3	2.26e+4	ng/dscm	7%O2	1.02e-2	lbs/hr	CC7%O2
Benzoic acid	304C3R1	4.29e+4	ng/dscm	7%O2	2.23e-2	lbs/hr	CC7%O2
Benzoic acid	304C3R2	1.44e+5	ng/dscm	7%O2	7.42e-2	lbs/hr	CC7%O2
Benzoic acid	304C3R3	1.38e+5	ng/dscm	7%O2	6.78e-2	lbs/hr	CC7%O2
Benzoic acid	304C4R1	1.08e+5	ng/dscm	7%O2	4.80e-2	lbs/hr	CC7%O2
Benzoic acid	304C4R2	3.58e+4	ng/dscm	7%O2	1.86e-2	lbs/hr	CC7%O2
Benzoic acid	304C4R3	3.37e+4	ng/dscm	7%O2	1.52e-2	lbs/hr	CC7%O2
Benzyl alcohol	304C3R1	4.91e+3	ng/dscm	7%O2	2.56e-3	lbs/hr	CC7%O2
Benzyl alcohol	304C3R2	3.53e+3	ng/dscm	7%O2	1.82e-3	lbs/hr	CC7%O2
Benzyl alcohol	304C3R3	5.60e+3	ng/dscm	7%O2	2.74e-3	lbs/hr	CC7%O2
Benzyl alcohol	304C4R1	5.37e+3	ng/dscm	7%O2	2.39e-3	lbs/hr	CC7%O2
Benzyl alcohol	304C4R2	2.47e+3	ng/dscm	7%O2	1.29e-3	lbs/hr	CC7%O2
Benzyl alcohol	304C4R3	7.40e+3	ng/dscm	7%O2	3.34e-3	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C3R1	1.14e+3	ng/dscm	7%O2	5.95e-4	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C3R2	3.04e+3	ng/dscm	7%O2	1.57e-3	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C3R3	1.74e+3	ng/dscm	7%O2	8.51e-4	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C4R1	1.34e+3	ng/dscm	7%O2	5.93e-4	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C4R2	1.92e+3	ng/dscm	7%O2	1.00e-3	lbs/hr	CC7%O2
bis(2-ethylexyl) Phthalate	304C4R3	2.14e+3	ng/dscm	7%O2	9.63e-4	lbs/hr	CC7%O2
Butylbenzylphthalate	304C3R1	2.17e+4	ng/dscm	7%O2	1.13e-2	lbs/hr	CC7%O2
Butylbenzylphthalate	304C4R1	1.87e+2	ng/dscm	7%O2	8.31e-5	lbs/hr	CE7%O2
Carbazole	304C3R1	8.59e+2	ng/dscm	7%O2	4.48e-4	lbs/hr	CC7%O2
Carbazole	304C3R2	2.21e+2	ng/dscm	7%O2	1.14e-4	lbs/hr	CE7%O2
Carbazole	304C3R3	8.68e+2	ng/dscm	7%O2	4.25e-4	lbs/hr	CC7%O2
Carbazole	304C4R1	1.60e+3	ng/dscm	7%O2	7.10e-4	lbs/hr	CC7%O2
Carbazole	304C4R2	1.92e+3	ng/dscm	7%O2	1.00e-3	lbs/hr	CC7%O2
Carbazole	304C4R3	2.14e+3	ng/dscm	7%O2	9.63e-4	lbs/hr	CC7%O2
di-n-Butyl Phthalate	304C3R1	2.17e+4	ng/dscm	7%O2	1.13e-2	lbs/hr	CC7%O2
di-n-Octyl Phthalate	304C3R2	5.55e+2	ng/dscm	7%O2	2.87e-4	lbs/hr	CC7%O2
di-n-Octyl Phthalate	304C3R3	1.45e+3	ng/dscm	7%O2	7.10e-4	lbs/hr	CC7%O2
Dibenzofuran	304C3R1	2.66e+4	ng/dscm	7%O2	1.38e-2	lbs/hr	CC7%O2
Dibenzofuran	304C3R2	2.68e+4	ng/dscm	7%O2	1.39e-2	lbs/hr	CC7%O2
Dibenzofuran	304C3R3	2.78e+4	ng/dscm	7%O2	1.36e-2	lbs/hr	CC7%O2
Dibenzofuran	304C4R1	4.27e+4	ng/dscm	7%O2	1.89e-2	lbs/hr	CC7%O2
Dibenzofuran	304C4R2	5.22e+4	ng/dscm	7%O2	2.71e-2	lbs/hr	CC7%O2
Dibenzofuran	304C4R3	5.80e+4	ng/dscm	7%O2	2.61e-2	lbs/hr	CC7%O2
Diphenylamine	304C3R3	1.74e+3	ng/dscm	7%O2	8.51e-4	lbs/hr	CC7%O2
Ethylbenzene	304C3R1	2.70e+4	ng/dscm	7%O2	1.41e-2	lbs/hr	CC7%O2
Ethylbenzene	304C3R2	3.60e+4	ng/dscm	7%O2	1.86e-2	lbs/hr	CC7%O2
Ethylbenzene	304C3R3	2.90e+4	ng/dscm	7%O2	1.42e-2	lbs/hr	CC7%O2
Ethylbenzene	304C4R1	4.52e+4	ng/dscm	7%O2	2.01e-2	lbs/hr	CC7%O2
Ethylbenzene	304C4R2	5.21e+4	ng/dscm	7%O2	2.71e-2	lbs/hr	CC7%O2
Ethylbenzene	304C4R3	4.69e+4	ng/dscm	7%O2	2.12e-2	lbs/hr	CC7%O2
Phenol	304C3R1	1.86e+5	ng/dscm	7%O2	9.70e-2	lbs/hr	CC7%O2
Phenol	304C3R2	1.73e+5	ng/dscm	7%O2	8.92e-2	lbs/hr	CC7%O2
Phenol	304C3R3	2.06e+5	ng/dscm	7%O2	1.01e-1	lbs/hr	CC7%O2
Phenol	304C4R1	3.46e+5	ng/dscm	7%O2	1.53e-1	lbs/hr	CC7%O2
Phenol	304C4R2	3.09e+5	ng/dscm	7%O2	1.61e-1	lbs/hr	CC7%O2
Phenol	304C4R3	3.77e+5	ng/dscm	7%O2	1.70e-1	lbs/hr	CC7%O2
Pyridine	304C3R1	5.97e+4	ng/dscm	7%O2	3.11e-2	lbs/hr	CC7%O2
Pyridine	304C3R2	5.28e+4	ng/dscm	7%O2	2.73e-2	lbs/hr	CC7%O2
Pyridine	304C3R3	3.59e+4	ng/dscm	7%O2	1.76e-2	lbs/hr	CC7%O2
Pyridine	304C4R1	1.11e+5	ng/dscm	7%O2	4.94e-2	lbs/hr	CC7%O2
Pyridine	304C4R2	1.05e+5	ng/dscm	7%O2	5.44e-2	lbs/hr	CC7%O2
Pyridine	304C4R3	1.19e+5	ng/dscm	7%O2	5.38e-2	lbs/hr	CC7%O2

US EPA ARCHIVE DOCUMENT

SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

7. Category: VOC

Analysis:

8. Substance	9. Run ID	Concentration	Mass Rate	Calc
2-Picoline	304C3R1	5.26e+3 ng/dscm 7%O2	2.74e-3 lbs/hr	CC7%O2
2-Picoline	304C3R2	4.58e+3 ng/dscm 7%O2	2.37e-3 lbs/hr	CC7%O2
2-Picoline	304C3R3	3.73e+3 ng/dscm 7%O2	1.83e-3 lbs/hr	CC7%O2
2-Picoline	304C4R1	7.67e+3 ng/dscm 7%O2	3.41e-3 lbs/hr	CC7%O2
2-Picoline	304C4R2	7.07e+3 ng/dscm 7%O2	3.68e-3 lbs/hr	CC7%O2
2-Picoline	304C4R3	1.07e+4 ng/dscm 7%O2	4.82e-3 lbs/hr	CC7%O2
Acetone	304C3R2	1.85e+4 ng/dscm 7%O2	9.55e-3 lbs/hr	CC7%O2
Acetone	304C3R3	2.34e+4 ng/dscm 7%O2	1.14e-2 lbs/hr	CC7%O2
Acetone	304C4R1	2.16e+4 ng/dscm 7%O2	9.61e-3 lbs/hr	CC7%O2
Acetone	304C4R2	1.77e+4 ng/dscm 7%O2	9.19e-3 lbs/hr	CC7%O2
Acetone	304C4R3	4.63e+4 ng/dscm 7%O2	2.09e-2 lbs/hr	CC7%O2
Benzene	304C3R1	5.03e+5 ng/dscm 7%O2	2.62e-1 lbs/hr	CC7%O2
Benzene	304C3R2	1.61e+6 ng/dscm 7%O2	8.30e-1 lbs/hr	CC7%O2
Benzene	304C3R3	1.72e+6 ng/dscm 7%O2	8.45e-1 lbs/hr	CC7%O2
Benzene	304C4R1	1.68e+6 ng/dscm 7%O2	7.44e-1 lbs/hr	CC7%O2
Benzene	304C4R2	1.57e+6 ng/dscm 7%O2	8.14e-1 lbs/hr	CC7%O2
Benzene	304C4R3	2.26e+6 ng/dscm 7%O2	1.02e+0 lbs/hr	CC7%O2
Bromodichloromethane	304C3R1	1.74e+3 ng/dscm 7%O2	9.04e-4 lbs/hr	CC7%O2
Bromomethane	304C3R1	2.88e+3 ng/dscm 7%O2	1.50e-3 lbs/hr	CC7%O2
Carbon disulfide	304C3R1	1.61e+5 ng/dscm 7%O2	8.40e-2 lbs/hr	CC7%O2
Carbon disulfide	304C3R2	2.91e+5 ng/dscm 7%O2	1.51e-1 lbs/hr	CC7%O2
Carbon disulfide	304C3R3	2.52e+5 ng/dscm 7%O2	1.23e-1 lbs/hr	CC7%O2
Carbon disulfide	304C4R1	2.40e+5 ng/dscm 7%O2	1.07e-1 lbs/hr	CC7%O2
Carbon disulfide	304C4R2	1.93e+5 ng/dscm 7%O2	1.01e-1 lbs/hr	CC7%O2
Carbon disulfide	304C4R3	2.21e+5 ng/dscm 7%O2	9.96e-2 lbs/hr	CC7%O2
Methyl Ethyl Ketone	304C3R1	9.14e+3 ng/dscm 7%O2	4.76e-3 lbs/hr	CC7%O2
Methyl Ethyl Ketone	304C4R2	3.15e+4 ng/dscm 7%O2	1.64e-2 lbs/hr	CC7%O2
Methylene Chloride	304C3R1	8.29e+3 ng/dscm 7%O2	4.32e-3 lbs/hr	CC7%O2
Methylene Chloride	304C3R2	2.04e+5 ng/dscm 7%O2	1.05e-1 lbs/hr	CC7%O2
Methylene Chloride	304C3R3	2.27e+4 ng/dscm 7%O2	1.11e-2 lbs/hr	CC7%O2
Methylene Chloride	304C4R1	2.78e+4 ng/dscm 7%O2	1.24e-2 lbs/hr	CC7%O2
Methylene Chloride	304C4R2	2.49e+4 ng/dscm 7%O2	1.29e-2 lbs/hr	CC7%O2
Methylene Chloride	304C4R3	1.65e+4 ng/dscm 7%O2	7.45e-3 lbs/hr	CC7%O2
Styrene	304C3R1	7.04e+4 ng/dscm 7%O2	3.67e-2 lbs/hr	CC7%O2
Styrene	304C3R2	9.06e+4 ng/dscm 7%O2	4.68e-2 lbs/hr	CC7%O2
Styrene	304C3R3	5.02e+4 ng/dscm 7%O2	2.46e-2 lbs/hr	CC7%O2
Styrene	304C4R1	1.52e+5 ng/dscm 7%O2	6.74e-2 lbs/hr	CC7%O2
Styrene	304C4R2	2.20e+5 ng/dscm 7%O2	1.14e-1 lbs/hr	CC7%O2
Styrene	304C4R3	2.34e+5 ng/dscm 7%O2	1.06e-1 lbs/hr	CC7%O2
Tetrachloroethene	304C4R1	4.60e+4 ng/dscm 7%O2	2.04e-2 lbs/hr	CC7%O2
Tetrachloroethene	304C4R2	3.33e+4 ng/dscm 7%O2	1.73e-2 lbs/hr	CC7%O2
Toluene	304C3R1	1.19e+5 ng/dscm 7%O2	6.19e-2 lbs/hr	CC7%O2
Toluene	304C3R2	3.39e+5 ng/dscm 7%O2	1.75e-1 lbs/hr	CC7%O2
Toluene	304C3R3	3.35e+5 ng/dscm 7%O2	1.64e-1 lbs/hr	CC7%O2
Toluene	304C4R1	3.40e+5 ng/dscm 7%O2	1.51e-1 lbs/hr	CC7%O2
Toluene	304C4R2	4.01e+5 ng/dscm 7%O2	2.09e-1 lbs/hr	CC7%O2
Toluene	304C4R3	4.51e+5 ng/dscm 7%O2	2.03e-1 lbs/hr	CC7%O2
Total TIC	304C3R1	8.49e+5 ng/dscm 7%O2	4.42e-1 lbs/hr	CC7%O2
Total TIC	304C3R2	9.72e+5 ng/dscm 7%O2	5.02e-1 lbs/hr	CC7%O2
Total TIC	304C3R3	9.42e+5 ng/dscm 7%O2	4.62e-1 lbs/hr	CC7%O2
Total TIC	304C4R1	9.43e+5 ng/dscm 7%O2	4.19e-1 lbs/hr	CC7%O2
Total TIC	304C4R2	1.17e+6 ng/dscm 7%O2	6.07e-1 lbs/hr	CC7%O2
Total TIC	304C4R3	1.58e+6 ng/dscm 7%O2	7.12e-1 lbs/hr	CC7%O2
Total Xylene	304C3R1	8.52e+4 ng/dscm 7%O2	4.44e-2 lbs/hr	CC7%O2
Total Xylene	304C3R2	1.07e+5 ng/dscm 7%O2	5.55e-2 lbs/hr	CC7%O2
Total Xylene	304C3R3	1.16e+5 ng/dscm 7%O2	5.68e-2 lbs/hr	CC7%O2
Total Xylene	304C4R1	1.14e+5 ng/dscm 7%O2	5.06e-2 lbs/hr	CC7%O2

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SECTION 7: EMISSIONS ANALYSES

1. COMPANY: LONE STAR INDUSTRIES, INC.

2. STATE: IN

3. CITY: GREENCASTLE

EPA ID: IND006419212

REGION: 5

4. EP ID: 304 DEVICE NAME: KILN NO. 1

SYSTEM TYPE: CEMENT KILN

APC SYSTEM: ESP

Total Xylene	304C4R2	1.37e+5	ng/dscm	7%O2	7.11e-2	lbs/hr	CC7%O2
Total Xylene	304C4R3	1.53e+5	ng/dscm	7%O2	6.89e-2	lbs/hr	CC7%O2
Trichlorofluoromethane	304C3R2	6.99e+4	ng/dscm	7%O2	3.61e-2	lbs/hr	CC7%O2
Vinyl Chloride	304C3R1	3.55e+3	ng/dscm	7%O2	1.85e-3	lbs/hr	CC7%O2