Table IIA-1
ASH GROVE CEMENT COMPANY, SEATTLE PLANT
2005
IDENTIFICATION OF NON-FUGITIVE SOURCES AND CALCULATION OF EMISSION FACTORS

	ASH GROVE Seattle Plant Unit Id.	Equipment Number	PSCAA Point Number	Control Equipment Number	Plant Location	Design Capacity, acfm	Year Installed	Pollutant	Potential Emissions(1) kg/hr	Max. Design Mg/hr	Process Quantity Type	Emission Factor kg/Mg	Process Quantity Type	Process Quantity Mg/year 2002	Contaminant kg/year 2002
1	KN	41B.BF3	1	34	#1 COAL MILL	10400	1990	PM	0.202	10	Coal (wet) to Mill # 1	2.03E-02	Coal (wet) to Mill # 1	40024	812
								CO	(2)	(2)	"	(3)	"	40024	59338
								NOx	(2)	(2)	"	(3)	"	40024	63887
								SO2	(2)	(2)	"	(3)	"	40024	1382
2		41B.BF4	1	34	#2 COAL MILL	10400	1990	PM	0.202	10	Coal (wet)to Mill # 2	2.03E-02	Coal (wet)to Mill # 2	40024	812
								CO	(2)	(2)	"	(3)	"	40024	59338
								NOx	(2)	(2)	"	(3)	"	40024	63887
								SO2	(2)	(2)	"	(3)	"	40024	1382
3		413.BF1	6	15	MAIN BAGHOUSE	n/a	1990	PM	(2)	(2)	Clinker from Kiln	4.14E-02	Clinker from Kiln	647243	26796
								CO	(1)	(1)	"	(1)	"	647243	1212993
								NOx	(1)	(1)	"	(1)	"	647243	1305982
								SO2	(1)	(1)	"	(1)	"	647243	28247
4	RM	312BF1	3	22	TRANSFER TOWER 8	5320	1990	PM	0.104	268	Clay+Steel Scale+Silica + Bottom As	3.87E-04	Clay+Steel Scale+Silica + Bottom A	249183	96
5		316.BF1	21	40	FLY ASH D/C	750	1994	PM	0.015	27	Fly Ash rec'd	5.36E-04	Fly Ash rec'd	0	0
6		311.BF2	3	36	TRANSFER TOWER 3/4	4600	1990	PM	0.093	284	Limestone rec'd	3.29E-04	Limestone rec'd	756242	249
7	NotOpr 01	311.BF1	3	16	STACKER	2000	1990	PM	0.039	1021	Limestone rec'd	3.81E-05	Limestone rec'd	0	0
8		311.BF3	3	19	TRANSFER TOWER 5	3600	1990	PM	0.074	284	Limestone rec'd	2.60E-04	Limestone rec'd	756242	197
9		311BF4	3	24	331 L.S./CLAY/Bot Ash BINS	10600	1990	PM	0.206	222	Limestone+Clay +Bot Ash rec'd	9.28E-04	Limestone+Clay +Bot Ash rec'd	787865	731
10		311.BF5	3	20	TRANSFER TOWER 6	9350	1990	PM	0.182	284	Limestone+Clay + Bottom Ash rec'd	6.41E-04	Limestone+Clay + Bottom Ash rec'd	787865	505
11		41B.FN2	3	33	COAL FEEDER #2	1150	1990	PM	0.022	10	Coal (wet) used in Mill #2	2.24E-03	Coal (wet) used in Mill #2	40024	90
12		41A.BF3	3	28	COAL SILO	1300	1990	PM	0.025	181	Coal rec'd	1.39E-04	Coal rec'd	78411	11
13		41B.FN1	3	33	COAL FEEDER #1	1150	1990	PM	0.022	10	Coal (wet) used in Mill #1	2.24E-03	Coal (wet) used in Mill #1	40024	90
14		41A.BF2	3	27	TRANSFER TOWER 5	3050	1990	PM	0.059	227	Coal (wet) rec'd	2.62E-04	Coal (wet) rec'd	78411	21
15	NotOpr03	315.BF1	3	25	TRANSFER TOWER 7	2400	1990	PM	0.047	222	Total Raw Material used	2.10E-04	Limest+clay+silica+iron+FlyAsh	0	0
16		313.BF1	3	23	331 STEEL&SILICA BINS	11550	1990	PM	0.225	268	Steel Scale+Silica used	8.40E-04	Steel Scale+Silica used	217600	183
17	KF	41C.BF1	20	35	PF BIN	1250	1990	PM	0.024	16	Coal (pulverized) produced	1.49E-03	Coal (pulverized) produced	74445	111
18		411.BF1	5	31	BLEND SILOS (W)	6324	1990	PM	0.162	227	1/2 Kiln Feed produced	7.14E-04	1/2 Kiln Feed produced	483585	345
19		413.BF3	3	29	KILN FEED BLD	7600	1990	PM	0.148	207	Kiln Feed produced	7.15E-04	Kiln Feed produced	967170	691
20		317.BF1	3	30	BLEND SILOS (E)	8000	1990	PM	0.156	227	1/2 Kiln Feed produced	6.86E-04	1/2 Kiln Feed produced	483585	332
21		413.BF2	8	39	SORBENT SYS. D/C	750	1993	PM	0.015	27	Sorbent rec'd	5.36E-04	Sorbent rec'd	14	0
22	CK	419.BF1	3	32	G-COOLER	20600	1990	PM	0.401	167	Clinker, 100 % produced.	2.40E-03	Clinker, 100 % produced.	647243	1554
23	NotOpr 00	419.FN7	10	2	CLINKER SILOS -Top(SW)	3864	1968	PM	0.075	227	Clinker, 0 % prod.+rec'd.	3.31E-04	Clinker, 0 % prod.+rec'd.	0	0
24		511.BF1	3	4	CLINKER SHED ELEV.	5000	1968	PM	0.097	227	Clinker, 15 % prod.+rec'd.	4.29E-04	Clinker, 15 % prod.+rec'd.	97087	42
		511.BF5			CLINKER SHED	20000	2002	PM	0.389	227	Clinker, 15 % prod.+rec'd.	1.72E-03	Clinker, 15 % prod.+rec'd.	97087	167
25		419.FNC	10	14	CLINKER SILOS-Top(N-center)	6000	1968	PM	0.117	167	Clinker, 85 % prod.+rec'd.	6.99E-04	Clinker, 85 % prod.+rec'd.	550157	385
26		419.FN5	10	2	CLINKER SILOS-Top(S-center)	3864	1968	PM	0.075	227	Clinker, 60% prod.+ 66% Gyp rec'd.	3.31E-04	Clinker, 60% prod.+ 66% Gyp rec'd	410964	136
27		511.FN8			CLINKER SILOS-Bot(E)	1770	1968	PM	0.034	227	Clinker, 85% prod.+ 50% Gyp used	1.52E-04	Clinker, 85% prod.+ 50% Gyp used	568030	86
28		419.FN9	10	2	CLINKER SILOS-Top(SE)	3864	1968	PM	0.075	167	Clinker, 30% prod.+33% Gyp rec'd.	4.50E-04	Clinker, 30% prod.+33% Gyp rec'd.	205482	93
29		511.FN6			CLINKER SILOS BOT(W)	1770	1968	PM	0.034	227	Clinker, 40% prod.+ 50% Gyp used	1.52E-04	Clinker, 40% prod.+ 50% Gyp used	276771	42
30		419.FZ3	9	38	CLINKER SILOS-Top(NE)	5800	1990	PM	0.113	167	Clinker, 100 % prod.+rec'd.	6.76E-04	Clinker, 100 % prod.+rec'd.	647243	438
31		41G.BF1	15	41	CLINKER LOADOUT D/C	1000	1994	PM	0.019	227	Clinker, shipped	8.58E-05	Clinker, shipped	0	0
	CM	611.BF7	16	10	SS TANKS LOADING	1716	1960	PM	0.033	181	Cement, 6% prod.+rec'd.	1.84E-04	Cement, 6% prod.+rec'd.	41153	8
		610.BF2			GP2 SILO 19	4200	2002	PM	0.082	59	Cement, 47 % prod.+rec'd.	1.39E-03	Cement, 47 % prod.+rec'd.	322364	335
32		515.BF1	12	42	FM #1 MILL SWEEP D/C	20000	1994	PM	0.280	59	Cement, 50 % prod.	4.75E-03	Cement, 50 % prod.	342940	1629
33		610.BF1			GP2 TRANSFER BIN	3864	1968	PM	0.075	100	Cement, 3 % prod.+rec'd.	7.53E-04	Cement, 3 % prod.+rec'd.	20576	16
		610.BF3			GP2 SILO 17	4200	2002	PM	0.082	59	Cement, 47 % prod.+rec'd..	1.39E-03	Cement, 47 % prod.+rec'd..	322364	335
34		525.BF1	12	42	FM #2 MILL SWEEP D/C	20000	1994	PM	0.280	59	Cement, 50 % prod.	4.75E-03	Cement, 50 % prod.	342940	1629
35		611.BF2	15	7	GP2 RAIL LOAD	1770	1968	PM	0.034	145	Cement, 55 % prod.+rec'd.at GP2	2.37E-04	Cement, 55 % prod.+rec'd.at GP2	377234	90
36		611.BF4	16	8	GP1 SILO (N)	3200	1969	PM	0.062	59	Cement, 0.5 % prod.+rec'd.	1.06E-03	Cement, 0.5 % prod.+rec'd.	3429	4
	InOpr 97	940.543	19	13	PACK HOUSE	4150	1969	PM	0.081	36	Cement, 0 % prod.+rec'd.	2.23E-03	Cement, 0 % prod.+rec'd.	0	0
37		525.BF2	13	46	FM #2 SEPARATOR;	77000	1995	PM	0.599	59	Cement, 50 % prod.	1.02E-02	Cement, 50 % prod.	342940	3485
38		611.BF6	17	9	SS TANKS(Top)	6000	1999	PM	0.117	136	Cement, 20% prod.+rec'd.	8.58E-04	Cement, 20% prod.+rec'd.	41153	35
39		515.BF2	13	46	FM #1 SEPARATOR;	77000	1995	PM	0.599	59	Cement, 50 % prod.	1.02E-02	Cement, 50 % prod.	342940	3485
40	InOpr 95	940.551	19	11	PACK HOUSE, MASONRY	6200	1928	PM	0.160	36	Cement, 0 % prod.+rec'd.	4.40E-03	Cement, 0 % prod.+rec'd.	0	0
41		611.BF4	16	5	GP1 SILO (S)	4150	1969	PM	0.081	54	Cement, 0.0 % prod.+rec'd.	1.48E-03	Cement, 0.0 % prod.+rec'd.	0	0
42		611.BF1	15	7	GP2 TRUCK LOAD	1770	1968	PM	0.034	490	Cement, 40 % prod.+rec'd.at GP2	7.03E-05	Cement, 40 % prod.+rec'd.at GP2	274352	19
43		611.BF8			CEMENT DOME	6000	1999	PM	0.117	118	Cement, 6 % prod.+rec'd.	9.90E-04	Cement, 6 % prod.+rec'd.	41153	41
44					BULK BAG LOADING	500	2002	PM	0.010	9	Cement, 0.5 % prod.+rec'd.	1.07E-03	Cement, 0.5 % prod.+rec'd.	3429	4
45															
46															
47															

(1) Unless specified, potential hourly emissions are calculated at the allowable of 0.005 gr/dscf and assuming that acf = dcf since most of the dust collectors handle ambient air.
(2) Emission Factor calculated from other data discussed in the specific Point and Segment of Section IIA-1.
(3) Dependent upon coal usage, see discusson in Section IIA-1.

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Table IIA-2
ASH GROVE CEMENT COMPANY, SEATTLE PLANT
2005 FOR EMISSION STATEMENT
SUMMARY OF DATA

Ash Grove Unit	PSAPCA Point	PSAPCA Segment	Megagram 2005	Tons 2005	Pounds 2005
			PM	PM	PM
KN	1	01	27	29.537	59074
	1	02	2	1.789	3578
RM	2	01	2	2.394	4787
KF	3	01	1	1.631	3262
CK	4	01	3	3.243	6485
CM	5	01	11	12.252	24503
Total			46	51	
KN	1	01	1213	1337	2674146
	1	02	119	131	261630
RM	2	01	0	0	0
KF	3	01	0	0	0
CK	4	01	0	0	0
CM	5	01	0	0	0
Total			1332	1468	
KN	1	01	1306	1440	2879149
	1	02	128	141	281687
RM	2	01	0	0	0
KF	3	01	0	0	0
CK	4	01	0	0	0
CM	5	01	0	0	0
Total			1434	1580	
KN	1	01	28	31	62273
	1	02	3	3	6093
RM	2	01	0	0	0
KF	3	01	0	0	0
CK	4	01	0	0	0
CM	5	01	0	0	0
Total			31	34	

Table IIA-3
2005 FOR EMISSION STATEMENT
RAW MATERIAL, PRODUCTION and SHIPPING

PSAPCA KN LIMIT tons/yr	2005	DATA 2005	TONS (input)	Mg	kg	lbs
PM10	tons	Stuff				
46	51	CO	1337.1	1212.99	1212992.60	2674145.95
CO	tons	NOx	1439.6	1305.98	1305982.18	2879149.44
2353	1468	SOx	31.1	28.25	28246.85	62272.60
	lbs					
	2935776					
NOx	tons					
1846	1580					
	lbs					
	3160836					
SO2	tons					
176	34.2					
	lbs					
	68365					

POINT	MATERIAL	RECEIVED TONS (input)	RECEIVED Mg (calc)	USED TONS (input)	USED Mg (calc)	PRODUCED TONS (input)	PRODUCED Mg (calc)	SHIPPED TONS (input)	SHIPPED Mg (calc)
1	COAL	86432	78411	88237	80048				
2	CLAY	0	0	0	0				
	IRON	45443	41226	44958	40786				
	SILICA +ERI+ JHBP Chips	194372	176334	194900	176813				
	LIMESTONE	833600	756242	830054	753025				
	GYPSUM	37775	34270	39403	35747				
	FLYASH	0	0	0	0				
	BOTTOM ASH	34556	31349	34858	31623				
3	KILN FEED			1065096	966255	1066104	967170		
	HYDRATED LIME	16	14	0	0				
4	CLINKER	0	0	711433	645412	713452	647243	0	0
5	CEMENT	0	0			756041	685880	787991	714866
FM#2	FLYASH-1PM	0		0	0	0	0		

		Tons			
point 002	Total RM	1109316	cl prod.	647243	8760
point 003	Total KF	1065096	cl/hr	85.096	
point 004	Total CK	713452	emis rate kg/hr	1.13	
point 005	Total CM	756041	kg/Mg clinker	0.0133	

		PM10	PM2.5	lbs.2.5
KN	1	59074	0.077 lbs per ton clinker	54936
	1	3578	0.6 x coal pm10	2147
RM	2	4787	0.6 x RM pm10	2872
KF	3	3262	0.6 per ton KF	1957
CK	4	6485	0.6 per ton clinker	3891
CM	5	24503	0.6 per ton cement	14702

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