Table IIA-1
ASH GROVE CEMENT COMPANY, SEATTLE PLANT **1997**
IDENTIFICATION OF NON-FUGITIVE SOURCES AND CALCULATION OF EMISSION FACTORS

	ASH GROVE Seattle Plant Unit Id.	Equipment Number	Point Number	*July 1995 PSAPCA Control Equipment Number*	Plant Location	Design Capacity, acfm	Year Installed	Pollutant	Potential Emissi-ons(1) kg/hr	Process Quantity Max. Design Mg/hr	Process Quantity Type	Emission Factor kg/Mg	Process Quantity Mg/year 1997	Contaminant kg/year 1997
1	**KN**	462.040	1	34	#1 COAL MILL	10400	1990	PM	0.202	10	Coal (wet) to Mill # 1	2.03E-02	Coal (wet) to Mill # 1	35369	717
								CO	(2)	(2)	"	(3)	"	35369	57707
								NOx	(2)	(2)	"	(3)	"	35369	32856
								SO2	(2)	(2)	"	(3)	"	35369	6796
2		462.140	1	34	#2 COAL MILL	10400	1990	PM	0.202	10	Coal (wet)to Mill # 2	2.03E-02	Coal (wet)to Mill # 2	35369	717
								CO	(2)	(2)	"	(3)	"	35369	57707
								NOx	(2)	(2)	"	(3)	"	35369	32856
								SO2	(2)	(2)	"	(3)	"	35369	6796
														35369	0
3		342.030	6	15	MAIN BAGHOUSE	n/a	1990	PM	(2)	(2)	Clinker from Kiln	4.14E-02	Clinker from Kiln	618206	25594
								CO	(1)	(1)	"	(1)	"	618206	1334945
								NOx	(1)	(1)	"	(1)	"	618206	760052
								SO2	(1)	(1)	"	(1)	"	618206	157218
4	**RM**	152.061	3	22	TRANSFER TOWER 8	5320	1990	PM	0.104	268	Clay+Steel Scale+Silica rd.	3.87E-04	Clay+Steel Scale+Silica rd.	197766	76
5		340.020	21	40	FLY ASH D/C	750	1994	PM	0.015	27	Fly Ash rec'd	5.36E-04	Fly Ash rec'd	2175	1
6		141.051	3	16	TRANSFER TOWER 1	5000	1990	PM	0.097	1021	Limestone rec'd	9.53E-05	Limestone rec'd	0	0
7		161.016	3	36	TRANSFER TOWER 3/4	4800	1990	PM	0.093	284	Limestone rec'd	3.29E-04	Limestone rec'd	775712	255
8		151.015	3	18	STACKER	2000	1990	PM	0.039	1021	Limestone rec'd	3.81E-05	Limestone rec'd	775712	30
9		800.070	3	1	TRANSFER TOWER 11	2508	1979	PM	0.049	1134	Limestone rec'd	4.30E-05	Limestone rec'd	0	0
10		163.021	3	19	TRANSFER TOWER 5	3800	1990	PM	0.074	284	Limestone rec'd	2.60E-04	Limestone rec'd	775712	202
11		163.051	3	24	331L.S./CLAY BINS	10600	1990	PM	0.206	222	Limestone+Clay rec'd	9.28E-04	Limestone+Clay rec'd	881384	818
12		163.061	3	20	TRANSFER TOWER 6	9350	1990	PM	0.182	284	Limestone+Clay rec'd	6.41E-04	Limestone+Clay rec'd	881384	565
13		461.160	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	35369	79
14		212.080	3	28	COAL SILO	1300	1990	PM	0.025	181	Coal rec'd	1.39E-04	Coal rec'd	77539	11
15		461.060	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	35369	79
16		212.061	3	27	TRANSFER TOWER 5	3050	1990	PM	0.059	227	Coal (wet) rec'd	2.62E-04	Coal (wet) rec'd	77539	20
17		331.331	3	25	TRANSFER TOWER 7	2400	1990	PM	0.047	222	Total Raw Material used	2.10E-04	Limest+clay+silica+iron+FlyAsh	977179	205
18		155.050	3	23	331STEEL&SILICA BINS	11550	1990	PM	0.225	268	Steel Scale+Silica used	8.40E-04	Steel Scale+Silica used	92076	77
19	**KF**	463.110	20	35	PF BIN	1250	1990	PM	0.024	16	Coal (pulverized) produced	1.49E-03	Coal (pulverized) produced	65786	98
20		361.090	5	31	BLEND SILOS	8324	1990	PM	0.162	227	Kiln Feed produced	7.14E-04	Kiln Feed produced	943073	673
21		361.300	3	29	KILN FEED BLD	7600	1990	PM	0.148	207	Kiln Feed produced	7.15E-04	Kiln Feed produced	947249	677
22		351.031	3	30	BLEND SILOS	8000	1990	PM	0.156	227	Kiln Feed produced	6.86E-04	Kiln Feed produced	943073	647
23		772.020	8	39	SORBENT SYS. D/C	750	1993	PM	0.015	27	Sorbent rec'd	5.36E-04	Sorbent rec'd	4179	2
24	**CK**	471.070	3	32	G-COOLER	20600	1990	PM	0.401	167	Clinker, 100 % produced.	2.40E-03	Clinker, 100 % produced.	618206	1484
25		474.131	10	2	CLINKER SILOS	3864	1968	PM	0.075	227	Clinker, 85 % prod.+rec'd.	3.31E-04	Clinker, 85 % prod.+rec'd.	525475	174
26		475.030	3	4	CLINKER SHED ELEV.	5000	1968	PM	0.097	227	Clinker, 15 % prod.+rec'd.	4.29E-04	Clinker, 15 % prod.+rec'd.	92731	40
27		474.121	10	14	CLINKER SILOS	6000	1968	PM	0.117	167	Clinker, 85 % prod.+rec'd.	6.99E-04	Clinker, 85 % prod.+rec'd.	525475	368
28		474.141	10	2	CLINKER SILOS	3864	1968	PM	0.075	227	Clinker, 60 % prod.+rec'd.	3.31E-04	Clinker, 60 % prod.+rec'd.	370924	123
29		531.085			CLINKER SILOS BOT	1770	1968	PM	0.034	227	Clinker, 85 % prod.+rec'd.	1.52E-04	Clinker, 85 % prod.+rec'd.	525475	80
30		474.151	10	2	CLINKER SILOS	3864	1968	PM	0.075	167	Clinker, 30 % prod.+rec'd.	4.50E-04	Clinker, 30 % prod.+rec'd.	185462	84
31		531.080			CLINKER SILOS BOT	1770	1968	PM	0.034	227	Clinker, 40 % prod.+rec'd.	1.52E-04	Clinker, 40 % prod.+rec'd.	247282	38
32		471.156	9	38	CLINKER SILOS	5800	1990	PM	0.113	167	Clinker, 100 % prod.+rec'd.	6.76E-04	Clinker, 100 % prod.+rec'd.	618206	418
33		470.020	15	41	CLINKER LOADOUT D/C	1000	1994	PM	0.019	227	Clinker, shipped	8.58E-05	Clinker, shipped	17298	1
34	**CM**	951.623	18	10	STEEL SCALE RAIL	1716	1960	PM	0.033	45	Cement, 1 % prod.+rec'd.	7.36E-04	Cement, 1 % prod.+rec'd.	6578	5
35		681.040	14	6	GP2 SILO 19	3680	1968	PM	0.072	59	Cement, 100 % prod.+rec'd.	1.21E-03	Cement, 100 % prod.+rec'd.	657785	799
36		631.301	12	42	FM #1 MILL SWEEP D/C	20000	1994	PM	0.280	59	Cement, 50 % prod.	4.75E-03	Cement, 50 % prod.	328884	1563
37		681.030			GP2 TRANSFER BIN	3864	1968	PM	0.075	100	Cement, 3 % prod.+rec'd.	7.53E-04	Cement, 3 % prod.+rec'd.	19734	15
38		681.070	14	6	GP2 SILO 14	3680	1968	PM	0.072	59	Cement, 100 % prod.+rec'd.	1.21E-03	Cement, 100 % prod.+rec'd.	657785	799
39		641.301	12	42	FM #2 MILL SWEEP D/C	20000	1994	PM	0.280	59	Cement, 50 % prod.	4.75E-03	Cement, 50 % prod.	328884	1563
40		910.300	15	7	GP2 RAIL LOAD	1770	1968	PM	0.034	145	Cement, 55 % prod.+rec'd.	2.37E-04	Cement, 55 % prod.+rec'd.	361782	86
41		920.070	16	8	GP1 SILO 9	3200	1969	PM	0.062	59	Cement, 4 % prod.+rec'd.	1.06E-03	Cement, 4 % prod.+rec'd.	13155	14
42		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
43		641.400	13	45	FM #2 SEPARATOR;	77000	1995	PM	0.599	59	Cement, 50 % prod.	1.02E-02	Cement, 50 % prod.	328884	3342
44		951.615	17	9	STEEL SCALE TANKS	2944	1960	PM	0.057	54	Cement, 2 % prod.+rec'd.	1.05E-03	Cement, 2 % prod.+rec'd.	13156	14
45		631.400	13	45	FM #1 SEPARATOR;	77000	1995	PM	0.599	59	Cement, 50 % prod.	1.02E-02	Cement, 50 % prod.	328884	3342
46		951.619	18	10	STEEL SCALE TRUCK	1716	1960	PM	0.033	145	Cement, 1 % prod.+rec'd.	2.30E-04	Cement, 1 % prod.+rec'd.	6578	2
47		940.551	19	11	PACK HOUSE, MASONRY	8200	1928	PM	0.160	36	Cement, 0 % prod.+rec'd.	4.40E-03	Cement, 0 % prod.+rec'd.	0	0
48		920.080	16	5	GP1 SILO 5	4150	1969	PM	0.081	54	Cement, 1 % prod.+rec'd.	1.48E-03	Cement, 1 % prod.+rec'd.	6578	10
49		910.200	15	7	GP2 TRUCK LOAD	1770	1968	PM	0.034	490	Cement, 40 % prod.+rec'd.	7.03E-05	Cement, 40 % prod.+rec'd.	263114	18

(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
1997 FOR EMISSION STATEMENT
SUMMARY OF DATA

Ash Grove Unit	PSAPCA Point	PSAPCA Segment	Megagram	Tons	Pounds
			1997	1997	1997
			PM	PM	PM
KN	1	01	26	28	56424
	1	02	1	2	3162
RM	2	01	2	3	5333
KF	3	01	2	2	4626
CK	4	01	3	3	6193
CM	5	01	12	13	25508
Total			46	51	
			CO	CO	CO
KN	1	01	1335	1472	2943000
	1	02	115	127	254441
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			1450	1599	
			NOx	NOx	NOx
KN	1	01	760	838	1675600
	1	02	66	72	144866
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			826	910	
			SO2	SO2	SO2
KN	1	01	157	173	346600
	1	02	14	15	29966
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			171	188	

PSAPCA KN LIMIT tons/yr

1997

pm10
46 28

CO
2353 1472

Nox
1846 838

SO2
176 173

VOC
WA.PSD
18.6

D A T A

1997 CEMS

Stuff	TONS (input)	Mg	kg	lbs
CO	1471.50	1334.94	1334945	2943000
NOx	837.80	760.05	760052.2	1675600
SOx	173.30	157.22	157217.8	346600
VOC	17.82624	16.17	16171.97	35652.48
	LB/T	kg/Mg		
	5.33	2.422727		
	102	92.421		
EF	0.05	0.026214	0	

POINT	MATERIAL	RECEIVED TONS (input)	RECEIVED Mg	USED TONS (input)	USED Mg	PRODUCED TONS	PRODUCED Mg	SHIPPED TONS	SHIPPED Mg
1	**COAL**	85471	77539	77973	70737		0		0
2	**CLAY+Bot Ash**	116481	105672	114453	103832		0		0
	IRON	23079	20937	22844	20724		0		0
	SILICA	78436	71157	78651	71352		0		0
	LIMESTONE	855062	775712	858842	779141		0		0
	FLYASH	2398	2175	2347	2129		0		0
3	**KILN FEED**		0	1035627	939521	1039542	943073		0
	SORBENT	4607	4179	4604	4177		0		0
4	**CLINKER**		0		0	681444	618206	19067	17298
5	**CEMENT**	18	16		0	**725054**	657769	754407	684398

		Tons			
point 002	Total RM	1155110	cl prod.	618206	8760
point 003	Total KF	1035627	cl/hr	85.095	
point 004	Total CK	681444	emis rate kg/hr	1.13	
point 005	Total CM	725072	kg/Mg clinker	0.0133	
			emis fact		
			5.84E-02		

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	OPERATING PERMIT FEES							
	1997 per invoice				1998 per invoice			
Paid				total				total
facility				$0				$21,000
sources				$0				$0
air control				$18,000				
cems	4	$1500		$6,000	4			
	1996 tons	1998 fee			1997 tons	1999 fee		
PM	53	$30/Ton	$1,590		51	$35/Ton	$1,530	$1,785
SO2	171	$30/Ton	$5,130		188	$35/Ton		$6,580
NOx	959	$30/Ton	$28,770	$49,030	910	$35/Ton		$31,850
CO	1354	$10/Ton	$13,540		1599	$15/Ton		$23,985
VOC		$8/ton				$8/ton		
			total	$64,105			total	$85,200
		WA. DOE	oversite fe	$14,285		WA. DOE	oversite fe	$12,608
			TOTAL 97	$78,390			1998	$97,808
							Differ	$19,418