APPENDIX A

Emissions Estimates

P-9508-132-1
Ash Grove Cement Company, Inkom

ASH GROVE CEMENT COMPANY, INKOM PLANT; PARTICULATE EMISSIONS FROM POINT SOURCES

ID No.	Area served	Source Description	Flow Rate (b) acfm	deg. F	PM gr/dscf	Ref.	Flow Rate dscfm	Operating Hours hrs/yr	PM lb/hr	PM ton/yr	PM_{10} Fraction %	PM_{10} lb/hr	PM_{10} ton/yr
C1	KILN # 1	ESP # 1	39294	469	0.0607	a	22333	8322	11.61	50.84	85%	9.87	43.21
C2	KILN # 2	ESP # 2	39936	351	0.0757	a	26000	8322	16.87	73.91	85%	14.34	62.82
C3	DRAGS/COOLER	BAGHOUSE # 1	2800	140	0.030	c	2464	8760	0.63	2.78	85%	0.54	2.36
C4	CLINKER ELEVATOR	BAGHOUSE # 2	3992	129	0.030	c	3579	8760	0.92	4.03	85%	0.78	3.43
C5	CLINKER/SILO	BAGHOUSE # 3	3000	100	0.030	c	2829	4380	0.73	1.59	85%	0.62	1.35
C6	CLINKER RECLAIM	BAGHOUSE # 4	600	70	0.030	c	598	4380	0.15	0.34	85%	0.13	0.29
C7	FINISH MILLS #1 & # 2	BAGHOUSE # 7	7600	190	0.030	c	6174	6570	1.59	5.21	85%	1.35	4.43
C8	FINISH MILL #3	BAGHOUSE # 8	10000	190	0.030	c	8123	6570	2.09	6.86	85%	1.78	5.83
C10	BULK LOADING	BAGHOUSE # 9	1200	70	0.030	c	1195	4380	0.31	0.67	85%	0.26	0.57
C9	SILOS/PACKAGING	BAGHOUSE # 10	11000	70	0.030	c	10958	6570	2.82	9.26	85%	2.40	7.87
								TOTALS:	37.72	155.48		32.06	132.16

Notes:

(a) Hourly rate from 12/4/94 Tier II permit divided with flow rate

(b) From source test data for kiln precipitators; baghouse fan design for baghouses

(c) From previous emission estimates (100995.xls). Air Pollution Engineering Manual, 1992, p.751 would justify 0.02 gr/dscf, trhoughput rate based factors in AP-42, 5th edt., Table 11.6-4 would result in even lower emission rates.

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

				THROUGHPUT							EMISSION FACTORS							EMISSIONS			
SOURCE DESCRIPTION				HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE		NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
DRILLING, BLASTING AND DOZING																					
F	1	DRILLING		24	0	320	LIMESTONE			435,708	0.0003	0.0001	a	36%	0%	0%	0%		0.06		0.02
F	2	BLASTING		24	0	-	LIMESTONE			435,708			b		0%	0%	0%				
F	3	DOZING	D9L			191	LIMESTONE			435,708	0.0029	0.0014	c	48%					0.00		0.00
			D10N			1,955	LIMESTONE			435,708	0.0029	0.0014	c	48%					0.00		0.00
																	Totals:	-	0.06	-	0.02
LIMESTONE RECEIVING, CRUSHING AND STORAGE																					
F	4	LOADER	FEEDER	8	343	2,741	LIMESTONE	200	159	435,708	0.0002	0.0001	c	48%	0%	0%	80%	0.01	0.01	0.00	0.00
F	5	FEEDER	JAW CRUSHER	8	343	2,741	LIMESTONE	200	159	435,708	0.0007	0.0003	c	48%	50%	0%	90%	0.01	0.01	0.00	0.00
F	6	JAW CRUSHER	#1 INCLINE BELT	8	343	2,741	LIMESTONE	200	159	435,708	0.0029	0.0014	c	48%	50%	0%	90%	0.02	0.03	0.01	0.02
F	7	#1 INCLINE BELT	#2 INCLINE BELT	8	343	2,741	LIMESTONE	200	199	544,635	0.0029	0.0014	c	48%	50%	0%	60%	0.12	0.16	0.06	0.08
F	14	#2 INCLINE BELT	SCREEN #1	8	361	2,891	LIMESTONE	200	188	544,635	0.0029	0.0014	c	48%	20%	0%	90%	0.04	0.06	0.02	0.03
F	15	SCREEN #1	CROSS CTRY. BELT	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	c	48%	20%	0%	90%	0.04	0.05	0.02	0.02
F	16	SCREEN #1	HAMMER MILL	8	361	2,891	LIMESTONE	200	38	108,927	0.0007	0.0003	c	48%	20%	0%	90%	0.00	0.00	0.00	0.00
F	17	HAMMER MILL	#1 INCLINE BELT	8	361	2,891	LIMESTONE	200	38	108,927	0.0029	0.0014	c	48%	50%	0%	90%	0.01	0.01	0.00	0.00
F	18	CROSS CTRY. BELT	BELT B	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	c	48%	20%	0%	0%	0.35	0.51	0.17	0.24
F	19	BELT B	BELT C	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	c	48%	20%	0%	0%	0.35	0.51	0.17	0.24
F	20	BELT C	SILOS (3)	8	361	2,891	LIMESTONE	200	151	435,708	0.0029	0.0014	c	48%	20%	0%	90%	0.04	0.05	0.02	0.02
STOCKPILE CRUSHED ROCK:																					
F	24	CROSS CTRY. BELT	CHUTE	8	25	200	LIMESTONE	200	200	40,000	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
F	25	CHUTE	GROUND	8	25	200	LIMESTONE	200	200	40,000	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
																	Totals:	1.91	1.49	0.92	0.72
IRON ORE RECEIVING, CRUSHING AND STORAGE																					
F	4	LOADER	FEEDER	2	18	36	IRON ORE	200	194	7,000	0.0002	0.0001	c	48%	0%	0%	80%	0.01	0.00	0.00	0.00
F	5	FEEDER	JAW CRUSHER	2	18	36	IRON ORE	200	194	7,000	0.0007	0.0003	c	48%	50%	0%	90%	0.01	0.00	0.00	0.00
F	6	JAW CRUSHER	#1 INCLINE BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	50%	0%	90%	0.03	0.00	0.01	0.00
F	7	#1 INCLINE BELT	#2 INCLINE BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	50%	0%	60%	0.12	0.00	0.06	0.00
F	8	#2 INCLINE BELT	#3 INCLINE BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
F	9	#3 INCLINE BELT	SCREEN #2	2	18	36	IRON ORE	200	194	7,000	0.0313	0.0150	c	48%	20%	0%	90%	0.50	0.01	0.24	0.00
F	10	SCREEN #2	CROSS CTRY. BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
F	11	SCREEN #2	CONE CRUSHER	2	0	-	IRON ORE	200	n/a	-	0.0029	0.0014	c	48%	20%	0%	90%	-	0.00	-	-
F	12	CONE CRUSHER	#4 INCLINE BELT	2	0	-	IRON ORE	200	n/a	-	0.0029	0.0014	c	48%	20%	0%	0%	-	0.00	-	-
F	13	#4 INCLINE BELT	#2 INCLINE BELT	2	0	-	IRON ORE	200	n/a	-	0.0029	0.0014	c	48%	20%	0%	0%	-	0.00	-	-
F	14	#2 INCLINE BELT	SCREEN #1	2	18	36	IRON ORE	200	194	7,000	0.0313	0.0150	c	48%	20%	0%	90%	0.50	0.01	0.24	0.00
F	15	SCREEN #1	CROSS CTRY. BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
F	16	SCREEN #1	HAMMER MILL	2	18	36	IRON ORE	200	194	7,000	0.0007	0.0003	c	48%	20%	0%	90%	0.01	0.00	0.01	0.00
F	17	HAMMER MILL	#1 INCLINE BELT	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	50%	0%	90%	0.03	0.00	0.01	0.00
F	18	CROSS CTRY. BELT	BELT B	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.01	0.22	0.00
F	19	BELT B	BELT C	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.01	0.22	0.00
F	20	BELT C	SILOS (3)	2	18	36	IRON ORE	200	194	7,000	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
																	Totals:	2.32	0.04	1.11	0.02
SILICA RECEIVING, CRUSHING AND STORAGE																					
F	4	LOADER	FEEDER	4	55	218	SILICA	200	200	43,571	0.0002	0.0001	c	48%	0%	0%	80%	0.01	0.00	0.00	0.00
F	5	FEEDER	JAW CRUSHER	4	55	218	SILICA	200	200	43,571	0.0007	0.0003	c	48%	50%	0%	90%	0.01	0.00	0.00	0.00
F	6	JAW CRUSHER	#1 INCLINE BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	50%	0%	90%	0.03	0.00	0.01	0.00
F	7	#1 INCLINE BELT	#2 INCLINE BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	50%	0%	60%	0.12	0.01	0.06	0.01
F	8	#2 INCLINE BELT	#3 INCLINE BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.01	0.02	0.00
F	9	#3 INCLINE BELT	SCREEN #2	4	55	218	SILICA	200	200	43,571	0.0313	0.0150	c	48%	20%	0%	90%	0.50	0.05	0.24	0.03
F	10	SCREEN #2	CROSS CTRY. BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.01	0.02	0.00
F	11	SCREEN #2	CONE CRUSHER	4	55	218	SILICA	200	200	43,571	0.0007	0.0003	c	48%	20%	0%	90%	0.01	0.00	0.01	0.00
F	12	CONE CRUSHER	#4 INCLINE BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
F	13	#4 INCLINE BELT	#2 INCLINE BELT	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
F	18	CROSS CTRY. BELT	BELT B	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
F	19	BELT B	BELT C	4	55	218	SILICA	200	200	43,571	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.05	0.22	0.02
F	20	BELT C	SILOS (3)	4	104	218	SILICA	200	105	43,571	0.0029	0.0014	c	48%	20%	0%	90%	0.02	0.01	0.01	0.00
F	24	CROSS CTRY. BELT	CHUTE	8	13	100	SILICA	200	436	43,571	0.0029	0.0014	c	48%	20%	0%	0%	1.02	0.05	0.49	0.02
F	25	CHUTE	GROUND	8	13	100	SILICA	200	436	43,571	0.0029	0.0014	c	48%	20%	0%	0%	1.02	0.05	0.49	0.02

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

SOURCE DESCRIPTION			THROUGHPUT							EMISSION FACTORS							EMISSIONS			
			HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE	NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
																Totals:	4.69	0.39	2.25	0.19
GYPSUM RECEIVING, CRUSHING AND STORAGE																				
F 4	LOADER	FEEDER	3	38	114	GYPSUM	200	200	22,737	0.0002	0.0001	c	48%	0%	0%	80%	0.01	0.00	0.00	0.00
F 5	FEEDER	JAW CRUSHER	3	38	114	GYPSUM	200	200	22,737	0.0007	0.0003	c	48%	50%	0%	90%	0.01	0.00	0.00	0.00
F 6	JAW CRUSHER	#1 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	50%	0%	90%	0.03	0.00	0.01	0.00
F 7	#1 INCLINE BELT	#2 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	50%	0%	60%	0.12	0.01	0.06	0.00
F 14	#2 INCLINE BELT	SCREEN #1	3	38	114	GYPSUM	200	200	22,737	0.0313	0.0150	c	48%	20%	0%	90%	0.50	0.03	0.24	0.01
F 15	SCREEN #1	CROSS CTRY. BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	20%	0%	90%	0.05	0.00	0.02	0.00
F 16	SCREEN #1	HAMMER MILL	3	38	114	GYPSUM	200	200	22,737	0.0007	0.0003	c	48%	20%	0%	90%	0.01	0.00	0.01	0.00
F 17	HAMMER MILL	#1 INCLINE BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	50%	0%	90%	0.03	0.00	0.01	0.00
F 21	CROSS CTRY. BELT	GYPSUM BELT	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.03	0.22	0.01
F 22	GYPSUM BELT	CHUTE	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.03	0.22	0.01
F 23	CHUTE	GYPSUM BIN	3	38	114	GYPSUM	200	200	22,737	0.0029	0.0014	c	48%	20%	0%	0%	0.47	0.03	0.22	0.01
																Totals:	2.15	0.12	1.03	0.06
SILO WITHDRAWAL, CONVEYING AND RAW GRINDING																				
F 26	SILO FEEDER	FEED BELT	24	365	8,760	LIMESTONE	75	24	217,854	0.0029	0.0014	c	48%	0%	0%	90%	0.01	0.03	0.00	0.02
F 27	SILO FEEDER	FEED BELT	24	365	8,760	LIMESTONE	75	24	217,854	0.0029	0.0014	c	48%	0%	0%	90%	0.01	0.03	0.00	0.02
F 28	SILO FEEDER	FEED BELT	24	365	8,760	SILICA	75	6	43,571	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
F 29	SILO FEEDER	FEED BELT	24	365	8,760	IRON ORE	75	1	7,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 30	FEED BELT	MILL #4	24	365	8,760	LIMESTONE	75	49	435,708	0.0029	0.0014	c	48%	0%	0%	90%	0.01	0.06	0.01	0.03
			24	365	8,760	SILICA	75	6	43,571	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
			24	365	8,760	IRON ORE	75	1	7,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 31	MILL #4	SLURRY TANK	24	365	8,760	RAW MEAL	75	55	484,120	0.0029	0.0014	c	48%	0%	0%	90%	0.02	0.07	0.01	0.03
F 32	FEED BELT	MILL #3 (BACK-UP)	24	0	-	LIMESTONE	75	n/a	-	0.0029	0.0014	c	48%	0%	0%	90%	-	-	-	-
			24	0	-	SILICA	75	n/a	-	0.0029	0.0014	c	48%	0%	0%	90%	-	-	-	-
			24	0	-	IRON ORE	75	n/a	-	0.0029	0.0014	c	48%	0%	0%	90%	-	-	-	-
F 33	MILL #3	SLURRY TANK	24	0	-	RAW MEAL	75	n/a	-	0.0029	0.0014	c	48%	0%	0%	90%	-	-	-	-
																Totals:	0.05	0.21	0.02	0.10
COAL HANDLING																				
F 34	DUMP	HOPPER	24	0	-	COAL	280	280	70,000	0.0002	0.0001	c	48%	0%	0%	0%	0.1	0.01	0.03	0.00
F 35	HOPPER	BELT	24	0	-	COAL	280	280	70,000	0.0029	0.0014	c	48%	0%	0%	0%	0.8	0.10	0.39	0.05
F 36	BELT	COAL ELEVATOR	24	0	-	COAL	280	280	70,000	0.0029	0.0014	c	48%	0%	0%	0%	0.8	0.10	0.39	0.05
F 37	COAL ELEVATOR	COAL SILO	24	0	-	COAL	280	280	70,000	0.0029	0.0014	c	48%	0%	0%	0%	0.8	0.10	0.39	0.05
F 38	COAL SILO	BELT	24	347	8,322	COAL	10	8	70,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
F 39	BELT	#1 COAL MILL	24	347	8,322	COAL	10	8	70,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
F 40	COAL SILO	BELT	24	274	6,570	COAL	10	11	70,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
F 41	BELT	#2 COAL MILL	24	274	6,570	COAL	10	11	70,000	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.01	0.00	0.00
																Totals:	2.52	0.35	1.21	0.17
#1 & #2 CLINKER COOLERS AND CLINKER HANDLING SYSTEMS																				
KILN SYSTEM #1:																				
F 42	SLURRY	#1 KILN	24	347	8,322	RAW MEAL	60	26	214,283	0.0000	0.0000	d	50%	0%	0%	99%	0.00	0.00	0.00	0.00
F 43	#1 KILN	COOLER	24	347	8,322	CLINKER	20	16	135,000	0.1500	0.0300	d	20%	0%	0%	90%	0.24	1.01	0.05	0.20
F 44	COOLER	DRAG #1	24	347	8,322	CLINKER	20	16	135,000	0.1500	0.0300	d	20%	0%	0%	90%	0.24	1.01	0.05	0.20
F 45	DRAG #1	DRAG #3	24	347	8,322	CLINKER	20	16	135,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
KILN SYSTEM #2:																				
F 46	SLURRY	#2 KILN	24	347	8,322	RAW MEAL	90	32	269,837	0.0000	0.0000	d	20%	0%	0%	99%	0.00	0.00	0.00	0.00
F 47	#2 KILN	#2 COOLER	24	347	8,322	CLINKER	30	20	170,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.06	0.00	0.01
F 48	#2 COOLER	DRAG #2	24	347	8,322	CLINKER	30	20	170,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.06	0.00	0.01
F 49	DRAG #2	DRAG #3	24	347	8,322	CLINKER	30	20	170,000	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.06	0.00	0.01
F 49A	DRAG #2	AUX. DRAG	24	347	8,322	CLINKER	30	0	-	0.1500	0.0300	d	20%	0%	95%	80%	0.00	0.00	0.00	0.00
F 49B	AUX DRAG	TRACK BIN	24	347	8,322	CLINKER	30	0	-	0.1500	0.0300	d	20%	0%	95%	10%	0.00	0.00	0.00	0.00
F 49C	TRACK BIN	CRANE	24	347	8,322	CLINKER	30	0	-	0.1500	0.0300	d	20%	0%	0%	50%	0.00	0.00	0.00	0.00
CLINKER RECEIVING:																				
F 49D	RAIL CAR	TRACK BIN	24	365	8,322	CLINKER	500	250	55,000	0.1500	0.0300	d	20%	0%	0%	20%	30.00	3.30	6.00	0.66
CLINKER HANDLING:																				
F 50	DRAG #3	CLINKER ELEVATOR #1	24	347	8,322	CLINKER	50	43	360,000	0.1500	0.0750	d	50%	0%	95%	20%	0.26	1.08	0.13	0.54
F 51	CLINKER ELEVATOR #1	PLENUM BOX	24	347	8,322	CLINKER	50	13	108,000	0.1500	0.0750	d	50%	0%	95%	20%	0.08	0.32	0.04	0.16

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

				THROUGHPUT							EMISSION FACTORS							EMISSIONS			
SOURCE DESCRIPTION				HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE		NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
F	52	PLENUM BOX	BIN	24	347	8,322	CLINKER	50	13	108,000	0.5000	0.2500	d	50%	0%	95%	20%	0.26	1.08	0.13	0.54
F	53	BIN	CRANE	24	347	8,322	CLINKER	50	20	163,000	0.5000	0.2500	d	50%	0%	0%	20%	7.83	32.60	3.92	16.30
F	54	CRANE	CRANEWAY STRG.	24	347	8,322	CLINKER	50	20	163,000	0.5000	0.2500	d	50%	0%	0%	20%	7.83	32.60	3.92	16.30
F	55	CLINKER ELEVATOR #1	DRAG #4	24	347	8,322	CLINKER	50	30	252,000	0.1500	0.0750	d	50%	0%	95%	0%	0.23	0.95	0.11	0.47
F	56	DRAG #4	ELEVATOR #2	24	347	8,322	CLINKER	50	30	252,000	0.1500	0.0750	d	50%	0%	95%	0%	0.23	0.95	0.11	0.47
F	57	ELEVATOR #2	DRAG #5	24	347	8,322	CLINKER	50	6	54,000	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
F	58	DRAG #5	CLINKER SILO #1	24	347	8,322	CLINKER	50	3	21,060	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
F	59	DRAG #5	CLINKER SILO #2	24	347	8,322	CLINKER	50	3	21,060	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
F	60	DRAG #5	CLINKER SILO #3	24	347	8,322	CLINKER	50	1	11,880	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F	61	ELEVATOR #2	STACKER BELT #1	24	347	8,322	CLINKER	50	24	198,000	0.1500	0.0750	d	50%	0%	95%	0%	0.18	0.74	0.09	0.37
F	62	STACKER BELT #1	STACKER BELT #2	24	347	8,322	CLINKER	50	24	198,000	0.1500	0.0750	d	50%	0%	95%	0%	0.18	0.74	0.09	0.37
F	63	STACKER BELT #2	STACKER	24	347	8,322	CLINKER	50	24	198,000	0.1500	0.0750	d	50%	0%	95%	0%	0.18	0.74	0.09	0.37
F	64	STACKER	PILE (OPEN AREA)	24	347	8,322	CLINKER	50	24	198,000	0.5000	0.2500	d	50%	0%	95%	50%	0.30	1.24	0.15	0.62
																	Totals:	48.11	78.65	14.89	37.65
CLINKER RECLAIM																					
F	65A	STORAGE	CRANE	24	365	8,322	CLINKER	300	19	163,000	0.5000	0.2500	d	50%	0%	0%	50%	4.65	20.38	2.33	10.19
F	65	CRANE	BIN #1	24	347	8,322	CLINKER	300	7	54,333	0.5000	0.2500	d	50%	0%	0%	50%	1.63	6.79	0.82	3.40
F	66	CRANE	BIN #2	24	347	8,322	CLINKER	300	7	54,333	0.5000	0.2500	d	50%	0%	0%	50%	1.63	6.79	0.82	3.40
F	67	CRANE	BIN #3	24	347	8,322	CLINKER	300	7	54,333	0.5000	0.2500	d	50%	0%	0%	50%	1.63	6.79	0.82	3.40
F	68	GALLERY PILE	RECLAIM BELT #1	24	347	8,322	CLINKER	100	6	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
F	69	GALLERY PILE	RECLAIM BELT #1	24	347	8,322	CLINKER	100	6	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
F	70	GALLERY PILE	RECLAIM BELT #2	24	347	8,322	CLINKER	100	6	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
F	71	GALLERY PILE	RECLAIM BELT #2	24	347	8,322	CLINKER	100	6	49,500	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.02	0.00	0.01
F	72	RECLAIM BELT #1	RECLAIM BELT #2	24	347	8,322	CLINKER	100	12	99,000	0.1500	0.0750	d	50%	0%	95%	90%	0.01	0.04	0.00	0.02
F	73	RECLAIM BELT #2	RECLAIM BELT #3	24	347	8,322	CLINKER	100	12	99,000	0.1500	0.0750	d	50%	0%	95%	90%	0.01	0.04	0.00	0.02
F	74	CLINKER SILO #1	RECLAIM BELT #3	24	347	8,322	CLINKER	100	2	18,000	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
F	75	CLINKER SILO #2	RECLAIM BELT #3	24	347	8,322	CLINKER	100	2	18,000	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
F	76	CLINKER SILO #3	RECLAIM BELT #3	24	347	8,322	CLINKER	100	2	18,000	0.1500	0.0750	d	50%	0%	95%	90%	0.00	0.01	0.00	0.00
F	77	RECLAIM BELT #3	ELEVATOR #3	24	347	8,322	CLINKER	100	30	252,000	0.1500	0.0750	d	50%	0%	95%	0%	0.23	0.95	0.11	0.47
F	78	ELEVATOR #3	CLINKER BIN DRAG	24	347	8,322	CLINKER	100	30	252,000	0.1500	0.0750	d	50%	0%	95%	0%	0.23	0.95	0.11	0.47
F	79	CLINKER BIN DRAG	BIN #1	24	347	8,322	CLINKER	100	10	84,000	0.5000	0.2500	d	50%	0%	95%	0%	0.25	1.05	0.13	0.53
F	80	CLINKER BIN DRAG	BIN #2	24	347	8,322	CLINKER	100	10	84,000	0.5000	0.2500	d	50%	0%	95%	0%	0.25	1.05	0.13	0.53
F	81	CLINKER BIN DRAG	BIN #3	24	347	8,322	CLINKER	100	10	84,000	0.5000	0.2500	d	50%	0%	95%	0%	0.25	1.05	0.13	0.53
																	Totals:	10.80	45.96	5.40	22.98
CEMENT KILN DUST HANDLING																					
KILN #1 UPSET:																					
F	82	MULTICLONE	SCREW	24	5	114	CKD	8	2	229	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	83	SCREW	ELEVATOR	24	5	114	CKD	8	2	229	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	84	ELEVATOR	SCREW	24	5	114	CKD	8	2	229	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	85	SCREW	BIN	24	5	114	CKD	8	2	229	0.2700	0.1350	e	50%	0%	0%	85%	0.08	0.00	0.04	0.00
F	109	BIN	LOADER	24	5	114	CKD	8	2	229	0.2700	0.1350	e	50%	0%	0%	0%	0.54	0.03	0.27	0.02
F	92	ESP	SCREW	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	87	SCREW	BUNKER	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	0%	0%	0.14	0.28	0.07	0.14
F	88	BUNKER	LOADER	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	0%	0%	0.14	0.28	0.07	0.14
KILN #1 DUST RETURN:																					
F	82	MULTICLONE	SCREW	24	342	8,208	CKD	8	3	25,920	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.03	0.00	0.02
F	83	SCREW	ELEVATOR	24	342	8,208	CKD	8	3	25,920	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.03	0.00	0.02
F	84	ELEVATOR	SCREW	24	342	8,208	CKD	8	3	25,920	0.2700	0.1350	e	50%	0%	99%	90%	0.00	0.00	0.00	0.00
F	108	SCREW	PADDLE MIXER	24	342	8,208	CKD	8	3	25,920	0.2700	0.1350	e	50%	0%	80%	90%	0.02	0.07	0.01	0.03
F	92	PRECIPITATOR	SCREW	24	175	4,205	CKD	4	2	6,415	0.2700	0.1350	e	50%	0%	99%	90%	0.00	0.00	0.00	0.00
F	93	SCREW	ELEVATOR	24	175	4,205	CKD	4	2	6,415	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	94	ELEVATOR	SCREW	24	175	4,205	CKD	4	2	6,415	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	95	SCREW	LEACH TANK	24	175	4,205	CKD	4	2	6,415	0.2700	0.1350	e	50%	0%	0%	85%	0.06	0.13	0.03	0.06
KILN #2 UPSET:																					
F	96	MULTICLONE	SCREW	24	5	114	CKD	5	2	229	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	97	SCREW	BIN	24	5	114	CKD	5	2	229	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F	98	BIN	LOADER	24	5	114	CKD	5	2	229	0.2700	0.1350	e	50%	0%	0%	0%	0.54	0.03	0.27	0.02

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

			THROUGHPUT							EMISSION FACTORS							EMISSIONS			
SOURCE DESCRIPTION			HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE	NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
F 101	ESP	SCREW	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F 106	SCREW	BUNKER	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	0%	0%	0.14	0.28	0.07	0.14
F 107	BUNKER	LOADER	24	172	4,118	CKD	4	1	2,059	0.2700	0.1350	e	50%	0%	0%	0%	0.14	0.28	0.07	0.14
KILN #2 DUEST RETURN:																				
F 96	MULTICLONE	SCREW	24	342	8,208	CKD		3	21,760	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.03	0.00	0.01
F 99	SCREW	ELEVATOR	24	342	8,208	CKD	0	3	21,760	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.03	0.00	0.01
F 100	ELEVATOR	PADDLE MIXER	24	342	8,208	CKD	0	3	21,760	0.2700	0.1350	e	50%	0%	90%	90%	0.01	0.03	0.00	0.01
F 101	PRECIPITATOR	SCREW	24	175	4,205	CKD	20	1	5,386	0.2700	0.1350	e	50%	0%	99%	90%	0.00	0.00	0.00	0.00
F 102	SCREW	SCREW	24	175	4,205	CKD	20	1	5,386	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F 103	SCREW	ELEVATOR	24	175	4,205	CKD	20	1	5,386	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F 104	ELEVATOR	SCREW	24	175	4,205	CKD	20	1	5,386	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
F 105	SCREW	LEACH TANK	24	175	4,205	CKD	20	1	5,386	0.2700	0.1350	e	50%	0%	99%	85%	0.00	0.00	0.00	0.00
																Totals:	1.83	1.55	0.91	0.77
FINISH GRINDING AND ASSOCIATED HANDLING																				
MILL #1:																				
F 110	CLINKER BIN #1	CLINKER FEEDER	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
F 111	CLINKER FEEDER	BELT	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
F 112	GYPSUM BIN	CRANE	24	275	6,600	GYPSUM	300	1	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 112A	CRANE	GYPSUM FEEDER	24	275	6,600	GYPSUM	300	1	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 113	GYPSUM FEEDER	BELT	24	275	6,600	GYPSUM	10	1	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
F 114	BELT	MILL #1	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
			24	275	6,600	GYPSUM	10	1	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
			24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%	99%	90%	0.01	0.03	0.01	0.02
MILL #2:																				
F 115	CLINKER BIN #2	CLINKER FEEDER	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
F 116	CLINKER FEEDER	BELT	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
F 117	GYPSUM BIN	CRANE	24	275	6,600	GYPSUM	300	1	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 117A	CRANE	GYPSUM FEEDER	24	275	6,600	GYPSUM	300	1	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 118	GYPSUM FEEDER	BELT	24	275	6,600	GYPSUM	10	1	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
F 119	BELT	MILL #2	24	275	6,600	CLINKER	40	18	120,000	0.1500	0.0300	d	20%	0%	95%	90%	0.01	0.05	0.00	0.01
			24	275	6,600	GYPSUM	40	1	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
			24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%	99%	90%	0.01	0.03	0.01	0.02
F 120	MILL #1	CEMENT ELEVATOR #1	24	275	6,600	CEMENT	120	58	382,737	0.2700	0.1350	e	50%	0%	99%	90%	0.02	0.05	0.01	0.03
F 121	MILL #2	CEMENT ELEVATOR #1	24	275	6,600	CEMENT	120	58	382,737	0.2700	0.1350	e	50%	0%	99%	90%	0.02	0.05	0.01	0.03
F 122	CEMENT ELEVATOR #1	AIRSLIDE	24	275	6,600	CEMENT	240	116	765,474	0.2700	0.1350	e	50%	0%	99%	90%	0.03	0.10	0.02	0.05
F 123	AIRSLIDE	SEPARATOR	24	275	6,600	CEMENT	240	116	765,474	0.2700	0.1350	e	50%	0%	99%	90%	0.03	0.10	0.02	0.05
F 124	SEPARATOR	RETURN SCREW	24	275	6,600	CEMENT	240	39	510,316	0.2700	0.1350	e	50%	0%	99%	90%	0.01	0.07	0.01	0.02
F 125	RETURN SCREW	MILL #1	24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%	99%	90%	0.01	0.03	0.01	0.02
F 126	RETURN SCREW	MILL #2	24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%	99%	90%	0.01	0.03	0.01	0.02
F 127	SEPARATOR	AIRSLIDE	24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%		99%	0.10	0.34	0.05	0.17
F 128	AIRSLIDE	COOLER	24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%		99%	0.10	0.34	0.05	0.17
F 129	COOLER	FK PUMP	24	275	6,600	CEMENT	80	39	255,158	0.2700	0.1350	e	50%	0%		99%	0.10	0.34	0.05	0.17
MILL #3:																				
F 130	CLINKER BIN #3	CLINKER FEEDER	24	208	5,000	CLINKER	40	26	127,579	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
F 131	CLINKER FEEDER	BELT	24	208	5,000	CLINKER	40	26	127,579	0.1500	0.0300	d	20%	0%	95%	90%	0.02	0.05	0.00	0.01
F 132	ROCK BIN	ROCK FEEDER	24	208	5,000	ROCK	75	0	-	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
F 133	ROCK FEEDER	BELT	24	208	5,000	ROCK	75	0	-	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
F 134	GYPSUM BIN	CRANE	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 134A	CRANE	GYPSUM FEEDER	24	208	5,000	GYPSUM	300	2	7,579	0.0029	0.0014	c	48%	0%	0%	90%	0.00	0.00	0.00	0.00
F 135	GYPSUM FEEDER	BELT	24	208	5,000	GYPSUM	10	2	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
F 136	BELT	MILL #3	24	208	5,000	CLINKER	40	26	127,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
			24	208	5,000	ROCK	75	0	-	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
			24	208	5,000	GYPSUM	10	2	7,579	0.0029	0.0014	c	48%	0%	95%	90%	0.00	0.00	0.00	0.00
			24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	e	50%	0%	95%	90%	0.07	0.17	0.03	0.09
F 137	MILL #3	CEMENT ELEVATOR #2	24	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.26	0.05	0.13
			24	208	5,000	Masonry	120	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 138	CEMENT ELEVATOR #2	AIRSLIDE	24	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.26	0.05	0.13

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

SOURCE DESCRIPTION			THROUGHPUT							EMISSION FACTORS							EMISSIONS			
			HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE	NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
			24	208	5,000	Masonry	120	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 139	AIRSLIDE	SEPARATOR #2	24	208	5,000	CEMENT	120	77	382,737	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.26	0.05	0.13
		-	24	208	5,000	Masonry	120	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 140	SEPARATOR #2	RETURN SCREW	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	e	50%	0%	95%	90%	0.07	0.17	0.03	0.09
			24	208	5,000	Masonry	80	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 141	RETURN SCREW	MILL #3	24	208	5,000	CEMENT	80	51	255,158	0.2700	0.1350	e	50%	0%	95%	90%	0.07	0.17	0.03	0.09
			24	208	5,000	Masonry	80	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 142	SEPARATOR #2	AIRSLIDE	24	208	5,000	CEMENT	40	26	127,579	0.2700	0.1350	e	50%	0%	95%	90%	0.03	0.09	0.02	0.04
			24	208	5,000	Masonry	40	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 143	AIRSLIDE	COOLER	24	208	5,000	CEMENT	40	26	127,579	0.2700	0.1350	e	50%	0%	95%	90%	0.03	0.09	0.02	0.04
			24	208	5,000	Masonry	40	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
F 144	COOLER	FK PUMP	24	208	5,000	CEMENT	40	26	127,579	0.2700	0.1350	e	50%	0%	95%	90%	0.03	0.09	0.02	0.04
			24	208	5,000	Masonry	40	0	-	0.2700	0.1350	e	50%	0%	95%	90%	0.00	0.00	0.00	0.00
TO CEMENT SILOS FROM MILLS #1 & #2:																				
F 145	FK PUMP (MILL#1,#2)	SILO #1	24	15	375	CEMENT	80	0	-	0.2700	0.1350	e	50%	0%	99%	0%	0.00	0.00	0.00	0.00
F 146	FK PUMP (MILL#1,#2)	SILO #2	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 147	FK PUMP (MILL#1,#2)	SILO #3	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 148	FK PUMP (MILL#1,#2)	SILO #4	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 149	FK PUMP (MILL#1,#2)	SILO #5	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 150	FK PUMP (MILL#1,#2)	SILO #6	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 151	FK PUMP (MILL#1,#2)	SILO #7	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 152	FK PUMP (MILL#1,#2)	SILO #8	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 153	FK PUMP (MILL#1,#2)	SILO #9	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 154	FK PUMP (MILL#1,#2)	SILO #10	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 155	FK PUMP (MILL#1,#2)	SILO #11	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 156	FK PUMP (MILL#1,#2)	SILO #12	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 157	FK PUMP (MILL#1,#2)	SILO #13	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
F 158	FK PUMP (MILL#1,#2)	SILO #14	24	16	375	CEMENT	80	39	14,737	0.2700	0.1350	e	50%	0%	99%	0%	0.11	0.02	0.05	0.01
TO CEMENT SILOS FROM MILL #3:																				
F 159	FK PUMP (MILL #3)	SILO #1	24	15	348	Masonry	40	0	-	0.2700	0.1350	e	50%	0%	99%	0%	0.00	0.00	0.00	0.00
F 160	FK PUMP (MILL #3)	SILO #2	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	e	50%	0%	99%	0%	0.05	0.01	0.02	0.00
F 161	FK PUMP (MILL #3)	SILO #3	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	e	50%	0%	99%	0%	0.05	0.01	0.02	0.00
F 162	FK PUMP (MILL #3)	SILO #4	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	e	50%	0%	99%	0%	0.05	0.01	0.02	0.00
F 163	FK PUMP (MILL #3)	SILO #5	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	e	50%	0%	99%	0%	0.05	0.01	0.02	0.00
F 164	FK PUMP (MILL #3)	SILO #6	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 165	FK PUMP (MILL #3)	SILO #7	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 166	FK PUMP (MILL #3)	SILO #8	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 167	FK PUMP (MILL #3)	SILO #9	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 168	FK PUMP (MILL #3)	SILO #10	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 169	FK PUMP (MILL #3)	SILO #11	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 170	FK PUMP (MILL #3)	SILO #12	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
F 171	FK PUMP (MILL #3)	SILO #13	24	15	348	CEMENT	40	18	6,376	0.2700	0.1350	e	50%	0%	99%	0%	0.05	0.01	0.02	0.00
F 172	FK PUMP (MILL #3)	SILO #14	24	15	348	CEMENT	40	5	1,686	0.2700	0.1350	e	50%	0%	99%	0%	0.01	0.00	0.01	0.00
CEMENT LOADOUT																Totals:	2.93	3.79	1.43	1.77
SILO BOTTOM WITHDRAWAL SYSTEM:																				
F 173	SILO #1	SCREW #1	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 174	SILO #2	SCREW #1	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 175	SILO #3	SCREW #1	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 176	SILO #4	SCREW	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 177	SILO #5	SCREW	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 178	SCREW	SCREW #1	24	38	911	CEMENT	150	75	68,346	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.05	0.05	0.02
F 179	SCREW #1	ELEVATOR # 1	24	38	911	CEMENT	150	75	68,346	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.05	0.05	0.02
F 180	SILO #6	SCREW #2	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 181	SILO #7	SCREW #2	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 182	SILO #8	SCREW #2	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 183	SCREW #2	SCREW #4	24	23	547	CEMENT	150	75	41,008	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.03	0.05	0.01

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

SOURCE DESCRIPTION			THROUGHPUT							EMISSION FACTORS							EMISSIONS			
							MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE	NAME FROM	NAME TO	HRS /DAY	DAYS /YR	HRS /YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
F 184	SILO #12	SCREW #3	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 185	SILO #13	SCREW #3	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 186	SILO #14	SCREW #3	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 187	SCREW #3	SCREW #4	24	23	547	CEMENT	150	75	41,008	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.03	0.05	0.01
F 188	SCREW #4	ELEVATOR #1	24	46	1,094	CEMENT	150	75	82,015	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.06	0.05	0.03
F 189	SILO #9	SCREW #6	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 190	SILO #10	SCREW #6	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 191	SILO #11	SCREW #6	24	8	182	CEMENT	150	75	13,669	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.01	0.05	0.00
F 192	SCREW #6	SCREW #5	24	23	547	CEMENT	150	75	41,008	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.03	0.05	0.01
F 193	SCREW #5	ELEVATOR #1	24	23	547	CEMENT	150	75	41,008	0.2700	0.1350	e	50%	0%	95%	90%	0.10	0.03	0.05	0.01
F 194	ELEVATOR #1	DISCH. SCREW	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	90%	0.30	0.13	0.15	0.06
F 195	DISCH. SCREW	RAIL LOADOUT	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	0%	-	0.00	-	0.00
TRUCK LOADING SYSTEM:																				
F 196	DISCH. SCREW	TRANSFER SCREW	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 197	TRANSFER SCREW	SCREW	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 198	SCREW	TANK A	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 199	SCREW	TANK B	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 200	SCREW	TANK C	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 201	TANK A	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350	e	50%	0%	95%	25%	2.28	0.65	1.14	0.32
F 202	TANK B	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350	e	50%	0%	95%	25%	2.28	0.65	1.14	0.32
F 203	TANK C	TRUCK LOADOUT	24	24	1,701	CEMENT	500	225	127,579	0.2700	0.1350	e	50%	0%	95%	25%	2.28	0.65	1.14	0.32
CEMENT BACK SYSTEM:																				
F 204	SILOS 9-14	AIRSLIDE	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 205	AIRSLIDE	ELEVATOR #4	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 206	SCREW #6	AIRSLIDE	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 207	AIRSLIDE	ELEVATOR #4	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	99%	0.03	0.01	0.02	0.01
F 208	ELEVATOR #4	ELEVATOR #5	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	85%	0.45	0.19	0.23	0.10
F 209	ELEVATOR #5	AIRSLIDE	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	85%	0.45	0.19	0.23	0.10
F 210	AIRSLIDE	SCREW	24	36	2,552	CEMENT	150	225	191,368	0.2700	0.1350	e	50%	0%	95%	85%	0.45	0.19	0.23	0.10
F 211	SCREW	TANK A	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 212	SCREW	TANK B	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 213	SCREW	TANK C	24	12	851	CEMENT	150	225	63,789	0.2700	0.1350	e	50%	0%	95%	85%	0.46	0.06	0.23	0.03
F 209a	AIRSLIDE	RAIL LOADOUT	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	0%	-	-	-	-
CEMENT PACKING:																				
F 214	SCREW #1	ELEVATOR #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 215	SCREW #2	ELEVATOR #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 216	SCREW #4	ELEVATOR #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 217	SCREW #5	ELEVATOR #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 218	ELEVATOR #2	N. S. SCREW	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 219	N. S. SCREW	BIN #1	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 220	N. S. SCREW	BIN #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 221	BIN #1	PACKER # 1	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 222	BIN #2	PACKER # 2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 223	BIN #1/ PACKER #1	SPILL AIRSLIDE	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 224	BIN #2/ PACKER #2	SPILL AIRSLIDE	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 225	SPILL AIRSLIDE	ELEVATOR #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 226	ELEVATOR #2	N. S. SCREW	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 227	N. S. SCREW	BIN #1	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 228	N. S. SCREW	BIN #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 229	SILO #6	AIRSLIDE	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 230	AIRSLIDE	BIN #2	24	0	-	CEMENT	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
MASONRY PACKING:																				
F 231	SILO #1	SCREW #1	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 232	SCREW #1	ELEVATOR #2	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 233	ELEVATOR # 2	N. S. SCREW	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 234	N. S. SCREW	BIN #3	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 235	BIN #3	PACKER #3	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROCESS FUGITIVE EMISSIONS

SOURCE DESCRIPTION			THROUGHPUT							EMISSION FACTORS							EMISSIONS			
			HRS	DAYS	HRS		MAX.	AVG.		TSP	PM10		PM10	CONTROL			TSP		PM10	
CODE	NAME FROM	NAME TO	/DAY	/YR	/YR	MATERIAL	TON/H	TON/H	TON/YR	LB/TON	LB/TON	REF	FRAC.	MOIST.	CAPT.	BUILD.	LB/HR	T/YR	LB/HR	T/YR
F 236	BIN #3/PACKER #3	SPILL SCREW	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 237	SPILL SCREW	ELEVATOR #3	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
F 238	ELEVATOR #3	BIN #3	24	0	-	Masonry	150	n/a	-	0.2700	0.1350	e	50%	0%	95%	99%	-	-	-	-
																Totals:	13.55	3.50	6.78	1.75

EMISSION FACTOR REFERENCES

a SCC 3-05-020-10 for PM10, engineering judgement used for PM

b AP-42, 1/95, last paragraph of Section 11.19.2: "Emission factor estimates for stone quarry blasting---"

c AP-42, 1/95, Table 11.19.2-2 for PM10, footnote "c" for PM

d Environmental Quality Management, Inc., 1995; based upon hi-vol sampling study at Rinker Cement, FL in 1989.

e AP-42, 1/95, Table 11.12-2 for PM, engineering judgement for PM10

SOURCE SUMMARY	TSP LB/HR	TSP T/YR	PM10 LB/HR	PM10 T/YR
DRILLING, BLASTING AND DOZING	-	0.06	-	0.02
LIMESTONE RECEIVING, CRUSHING AND STORAGE	1.91	1.49	0.92	0.72
IRON ORE RECEIVING, CRUSHING AND STORAGE	2.32	0.04	1.11	0.02
SILICA RECEIVING, CRUSHING AND STORAGE	4.69	0.39	2.25	0.19
GYPSUM RECEIVING, CRUSHING AND STORAGE	2.15	0.12	1.03	0.06
SILO WITHDRAWAL, CONVEYING AND RAW GRINDING	0.05	0.21	0.02	0.10
COAL HANDLING	2.52	0.35	1.21	0.17
#1 & #2 CLINKER COOLERS AND CLINKER HANDLING SYSTEMS	48.11	78.65	14.89	37.65
CLINKER RECLAIM	10.80	45.96	5.40	22.98
CEMENT KILN DUST HANDLING	1.83	1.55	0.91	0.77
FINISH GRINDING AND ASSOCIATED HANDLING	2.93	3.79	1.43	1.77
CEMENT LOADOUT	13.55	3.50	6.78	1.75
GRAND TOTAL	90.86	136.13	35.96	66.21

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROPOSED EMISSIONS FROM STORAGE PILES

Area	Pile Num.	Pile Material	Pile Storage (Tons)	Pile Area (Acres)	Material Moisture (%)	Material Throughput (T/yr)	AVG Wind Speed (mph)	Rain Days (days/yr)	TSP Transfer Factor (lb/Ton)	TSP Wind Factor (lb per acre/day)	TSP Transfer Emissions (T/yr)	TSP Wind Emissions (T/yr)	PM_{10} Transfer Factor (lb/Ton)	PM_{10} Wind Factor (lb per acre/day)	PM_{10} Transfer Emissions (T/yr)	PM_{10} Wind Emissions (T/yr)	TSP Total Emissions (T/yr)	PM_{10} Total Emissions (T/yr)
Quarry	1	Limestone (High)	50000	2.00	8	217854	10.2	90	0.00116	3.5	0.1265	0.96	0.00041	1.7	0.04	0.4675	1.09	0.51
Quarry	2	Limestone (Low)	50000	2.00	8	217854	10.2	90	0.00116	3.5	0.1265	0.96	0.00041	1.7	0.04	0.4675	1.09	0.51
Quarry	3	Gypsum	3370	0.50	8	22737	10.2	90	0.00116	3.5	0.0132	0.24	0.00041	1.7	0.00	0.1169	0.25	0.12
Quarry	4	Iron Ore	989	0.40	2	7000	10.2	90	0.00808	3.5	0.0283	0.19	0.00283	1.7	0.01	0.0935	0.22	0.10
Plant	5	Coal	8965	1.00	5	70000	10.2	90	0.00224	3.5	0.0785	0.48	0.00078	1.7	0.03	0.2338	0.56	0.26
Quarry	6	Silica	26095	1.00	10	43571	10.2	90	0.00085	3.5	0.0185	0.48	0.00030	1.7	0.01	0.2338	0.50	0.24
Quarry	7	CKD	10000	1.00	1	4575	10.2	90	0.02134	3.5	0.0488	0.48	0.00747	1.7	0.02	0.2338	0.53	0.25
																TOTAL	4.24	2.00

REFERENCES:

AP-42 SECTION 11.2.3 (PILE TRANSFERS)
AP-42 SECTION 8.19.1 (PILE WIND EROSION)
ASSUMED NO WIND EROSION ON RAIN DAYS

ASH GROVE CEMENT COMPANY, INKOM PLANT, 1993 ROAD INPUTS

CATEGORY	MATERIAL		Number of Wheels	TRUCK WEIGHT Empty (Tons)	Loaded (Tons)	Avg (Tons)	Material Net (Tons)	Avg Speed (mph)	Material (T/yr)
RAW MATERIALS	Silica		26	18	53	35	36	8	43,571
	Iron Ore		26	18	53	35	36	8	7,000
	Gypsum		26	18	53	35	36	8	22,737
FUELS	Tires		14	7	17	12	10	8	3,050
	Coal		26	18	53	35	36	8	70,000
	Oil		10	11	25	18	14	8	9,150
ADDITIVES	Grinding Aid		18	13	40	26	28	8	191
SHIPMENTS	Cement (Bulk)		26	18	53	35	36	8	382,737
	Duracem (Bulk)		18	13	40	26	28	8	-
	Potash		18	13	40	26	28	8	12,200
	CKD		10	7	17	12	10	8	4,575
	Durapoz		10	7	17	12	10	8	-
INTERNAL TRANSFERS	High Limestone		4	30	42	36	12	8	217,854
	Low Limestone		4	30	42	36	12	8	217,854
	Gypsum		4	30	42	36	12	8	22,737
	Iron Ore		4	30	46	38	16	8	7,000
	Silica		4	30	42	36	12	8	43,571
	Quarry Rock		4	30	42	36	12	8	40,000
	Miscellaneous		4	30	33	32	3	8	
	Miscellaneous		4	30	31	31	1	8	
	Miscellaneous		4	30	31	30	1	8	
MISCELLANEOUS	Employees		4				0	8	
	Number of rain days per year	90							

ASH GROVE CEMENT COMPANY, INKOM PLANT; PROPOSED PAVED ROAD EMISSIONS SUMMARY

Segment No.	Segment Length (mi)	Paved Road Data: Surface dust (lb/mi)	Paved Road Data: Silt %	Paved Road Data: Silt Loading (oz/yd2)	Material Trips (#/yr)	Total Mileage (Mi/yr)	Rain Days (year)	Water Control %	TSP Empty Trucks lb/VMT	TSP Loaded Trucks lb/VMT	PM-10 Emissions Paved lb/VMT	Total Emissions TSP (T/yr)	Total Emissions PM10 (T/yr)
3A	0.03	1750.00	12.50	0.35	24546	700	90	50.00	1.14	2.48	0.39	0.65	0.13
3B	0.05	1750.00	12.50	0.35	30511	1452	90	50.00	1.12	2.40	0.39	1.30	0.28
3C	0.03	1750.00	12.50	0.35	17052	486	90	50.00	1.12	2.22	0.39	0.33	0.09
3D	0.02	1750.00	12.50	0.35	16747	319	90	50.00	1.13	2.22	0.39	0.22	0.06
3E	0.02	1750.00	12.50	0.35	16442	391	90	50.00	1.14	2.22	0.39	0.27	0.08
3F	0.01	1750.00	12.50	0.35	16442	235	90	50.00	1.14	2.22	0.39	0.16	0.05
3FF	0.03	1750.00	12.50	0.35	24850	828	90	50.00	1.14	2.43	0.39	0.74	0.16
3I	0.01	1750.00	12.50	0.35	305	4	90	50.00	n/a	1.13	0.39	0.00	0.00
3J	0.06	1750.00	12.50	0.35	305	17	90	50.00	n/a	1.13	0.39	0.01	0.00
3K	0.03	1750.00	12.50	0.35	305	9	90	50.00	n/a	1.13	0.39	0.00	0.00
3L	0.08	1750.00	12.50	0.35	305	25	90	50.00	n/a	1.13	0.39	0.01	0.00
3N	0.02	1750.00	12.50	0.35	1972	38	90	50.00	n/a	2.51	0.39	0.05	0.01
3R	0.03	1750.00	12.50	0.35	2982	99	90	50.00	1.02	2.06	0.39	0.08	0.02
3M	0.05	1750.00	12.50	0.35	4845	231	90	50.00	1.11	2.43	0.39	0.20	0.04
				TOTAL	157608	4832						4.04	0.93
				TOTAL (LB/HR)								13.37	3.08

ASH GROVE CEMENT COMPANY, INKOM PLANT; SUMMARY OF PROPOSED UNPAVED ROAD EMISSIONS

Segment No.	Segment Length (mi)	Silt %	Average* Vehicle Speed (mph)	Material Trips (#/yr)	Total Mileage (Mi/yr)	Rain Days (year)	Water Control %	TSP Empty Trucks lb/VMT	TSP Loaded Trucks lb/VMT	PM-10 Emissions Unpaved lb/VMT	PM-10 Emissions Unpaved lb/VMT	Total Emissions TSP (T/yr)	Total Emissions PM10 (T/yr)
1	0.25	7.10	8	2455	614	90	75	1.66	2.89	0.60	1.04	0.70	0.25
2	0.10	7.10	8	2455	245	90	75	1.66	2.89	0.60	1.04	0.28	0.10
D	0.10	7.10	8	3478	348	90	75	1.22	2.11	0.44	0.76	0.29	0.10
3P	0.20	7.10	8	2887	577	90	75	0.54	2.51	0.19	0.90	0.63	0.23
3P1	0.10	7.10	8	1972	197	90	75	n/a	2.89	n/a	1.04	0.29	0.10
3Q	0.10	7.10	8	1972	197	90	75	1.66	n/a	0.60	n/a	0.16	0.06
3O	0.07	7.10	8	1972	131	90	75	n/a	2.89	n/a	1.04	0.19	0.07
HR1	0.10	7.10	8	36309	3631	90	75	0.59	0.69	0.21	0.25	1.16	0.42
LR1	0.20	7.10	8	72618	14524	90	75	0.59	0.69	0.21	0.25	4.66	1.68
CKD	0.10	7.10	8	915	92	90	75	0.54	0.84	0.19	0.30	0.03	0.01
G1	0.10	7.10	8	798	80	90	75	1.66	2.89	0.60	1.04	0.09	0.03
G2	0.10	7.10	8	581	58	90	75	1.66	2.89	0.60	1.04	0.07	0.02
I1	0.07	7.10	8	217	15	90	75	1.66	2.89	0.60	1.04	0.02	0.01
S1	0.06	7.10	8	1005	57	90	75	1.66	2.89	0.60	1.04	0.07	0.02
3g	0.03	7.10	8	1979	112	90	75	1.09	2.89	0.39	1.04	0.16	0.06
3h	0.06	7.10	8	2481	141	90	75	0.59	2.89	n/a	1.04	0.20	0.07
3S	0.13	7.10	8	1220	69	90	75	0.59	0.84	0.21	0.30	0.02	0.01
3T	0.10	7.10	8	0	0	90	75	0.59	n/a	n/a	n/a	0.00	0.00
3U	0.17	7.10	8	798	45	90	75	0.59	2.89	n/a	1.04	0.05	0.02
			TOTAL	134093	21020						TOTAL	9.07	3.27
											lb/hr	7.77	2.80

APPENDIX B

Allowable Emissions

P-9508-132-1
Ash Grove Cement Company, Inkom

Emissions Limits [a] -- Hourly (lb/hr) and Annual[b] (T/yr)

SOURCE DESCRIPTION	PM		PM_{10}		SO_2		NO_x		VOC		CO		TOTAL LEAD		BAP		Organic HAP
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	T/yr
Kiln No. 1	11.61	50.83	9.86	43.21	24	100	144	576	5.92	25.9	234.4	937.7	0.27	1.08	8.5E-3	3.4E-2	9.9
Kiln No. 2	16.87	73.91	14.34	62.82	24	100	193	751	6.96	30.5	275.8	1103.2	0.31	1.24	1.0E-2	4.0E-2	
Baghouse No. 1 (BH1)	2.26	9.91	1.92	8.42													
Baghouse No. 2 (BH2)	1.44	0.32	1.22	0.27													
Baghouse No. 3 (BH3)	0.51	2.14	0.44	1.82													
Baghouse No. 4 (BH4)	0.32	0.61	0.27	0.52													
Baghouse No. 5 (BH5)	0.91	1.73	0.77	1.47													
Baghouse No. 6 (BH6)	0.63	2.78	0.54	2.36													
Baghouse No. 7 (BH7)	1.59	5.21	1.35	4.43													
Baghouse No. 8 (BH8)	2.09	6.86	1.78	5.83													
Baghouse No. 9 (BH9)	2.82	9.26	2.40	7.87													
Baghouse No. 10 (BH10)	0.31	0.67	0.26	0.57													
Baghouse No. 11 (BH11)			0.23	1.00													

Scientific notation is represented with E s. 1.0E-4 equals 1.0×10^{-4} or 0.0001.

[a] **As determined by a pollutant specific U.S. EPA reference method, DEQ approved alternative, or as determined by DEQ's emissions estimation methods used in this permit analysis.**

[b] **As determined by multiplying the actual or allowable (if actual is not available) pound per hour (lb/hr) emissions rate by the allowable hours per year that the process(es) operate, or by actual annual production.**

Fugitive Emissions Limits[a] -- Hourly (lb/hr) and Annual[b] (ton/yr)

Source Description	PM		PM_{10}		SO_2		NO_X		VOC		CO		TOTAL LEAD		BAP	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
Drilling, Blasting, Dozing	5.39	29.34	1.78	3.09												
Limestone Receiving, Crushing, and Storage	23.59	17.75	10.51	7.82												
Iron Ore Receiving, Crushing, and Storage	16.38	0.16	7.14	0.07												
Silica Receiving, Crushing, and Storage	10.18	2.63	4.52	1.18												
Gypsum Receiving, Crushing, and Storage	22.86	1.18	10.21	0.54												
Storage Piles	5.39	33.25	1.78	3.29												
Silo Withdrawal, Conveying, and Storage	0.42	1.48	0.19	0.68												
No. 1 & No. 2 Clinker Coolers and Clinker Handling System	33.25	16.84	7.47	6.75												
Clinker Reclaim	0.17	0.77	0.09	0.38												
Finish Grinding And Associated Handling	3.19	5.24	1.53	2.41												
Cement Loadout	15.83	4.01	7.91	2.00												
Coal Handling	5.61	0.74	1.40	0.18												
Cement Kiln Dust Handling	1.81	1.59	0.90	0.80												
Unpaved Roads	19.97	16.58	7.19	5.97												
Paved Roads	46.52	16.12	10.01	3.47												

a As determined from DEQ emissions estimation methods used in Ash Grove Cement Tier II operating permit application analysis.
b As determined by multiplying the actual or allowable (if actual is not available) pound per hour (lb/hr) emissions rate by the allowable hours per year that the process(es) operate, or by actual annual production

APPENDIX C

Comparison of Process Weight Standard (702) to Permitted Emissions Limit

P-9508-132-1
Ash Grove Cement Company, Inkom

Comparison of Hourly Particulate Matter Limit to Existing Equipment Process Weight Standard

Process Weight[1]		Existing Equipment Process Weight Standard	Process	Permitted Emission Limit
T/hr	lb/hr	lb/hr		lb/hr
		= 0.045*(lb/hr process weight)^0.6		
1	2000	4.3		
2	4000	6.5		
3	6000	8.3		
4	8000	9.9		
5	10000	11.3		
6	12000	12.6	Cement kiln dust	1.81
7	14000	13.8		
8	16000	15.0		
		= 1.12*(lb/hr process weight)^0.27		
9	18000	15.8		
10	20000	16.2		
15.4	30800	18.2	Kiln #1	11.6
19.4	38800	19.4	Kiln #2	16.9
20	40000	19.6		
30	60000	21.8		
34.8	69600	**22.7**	#1 and #2 Clinker coolers	**33.25**
40	80000	23.6		
50	100000	25.1		
60	120000	26.3	Silo withdrawal	0.42
70	140000	27.5		
77	154000	28.2	Clinker reclaim	0.17
77	154000	28.2	Finish Grinding	3.19
80	160000	28.5		
90	180000	29.4		
96	192000	29.9	Silica processing	10.2
100	200000	30.2		
200	400000	36.5	Quarried Raw Materials	23.6
200	400000	36.5	Iron ore	16.4
200	400000	36.5	Gypsum receiving	22.9
280	560000	39.9	Coal handling	5.61
500	1000000	46.7	Cement loadout	15.83

(1) The process weight rate used in the equations is the allowable hourly limit from the permit.

APPENDIX D

Response to Comments

P-9508-132-1
Ash Grove Cement Company, Inkom

October 8, 2002

STATE OF IDAHO

DEPARTMENT OF ENVIRONMENTAL QUALITY

RESPONSE TO PUBLIC COMMENTS

ON DRAFT AIR QUALITY TIER I OPERATING PERMIT

FOR ASH GROVE CEMENT COMPANY – INKOM, IDAHO

INTRODUCTION

As required by IDAPA 58.01.01. 364 (*Rules for the Control of Air Pollution in Idaho*), the Idaho Department of Environmental Quality (DEQ) provided for public comment, including offering an opportunity for a hearing, on the Tier I operating permit proposed for the Ash Grove Cement Inkom facility. Public comment packages, which included the application materials, and draft permit and technical memorandum, were made available for public review at the Pocatello Public Library, DEQ's Pocatello Regional Office, and DEQ's State Office in Boise. A copy of the proposed permit and technical memorandum was also posted on DEQ's Web site. The public comment period was provided from August 21ST through September 20, 2002, and a public hearing was held on Wednesday, September 19, 2002. Those comments regarding the air quality aspects of the draft permit are provided below with DEQ's response immediately following.

Comments to Tier I Technical Memorandum

1. **Sections 6.2.3, 6.3.3, 6.4.3, and 6.7.3 should refer to "Appendix D of the permit", not "Section J of the application".**

   The Department has made the appropriate changes to each section.

2. **Section 6.9.4. By letter dated October 6, 2000 from Mr. Richard Elkins, the test results have been accepted by the Department.**

   The Department recognizes that the test results were accepted and the appropriate changes were made to each section.

3. **Section 6.10.7. By letter dated October 6, 2000 from Mr. Richard Elkins, the test results have been accepted by the Department.**

   The Department recognizes that the test results were accepted and the appropriate changes were made to each section.

4. **Section 4 does not reflect the full permitting history for the facility. Therefore, this section should be renamed "Partial Permitting History."**

   The Department has made the change.

5. **Section 5.1.5 requires "all" reports be sent to DEQ and to EPA. This is not necessary or required by IDAPA or Part 70. Therefore, this section should be revised as follows: "All periodic reports and certifications ....to DEQ or EPA, as appropriate."**

The Department has changed the Section 5.1.5 language to reflect permit condition 2.10. The new language is as follows:

> "All periodic reports and certifications required by this permit shall be submitted within 30 days of the end of each specified reporting period to the Department. Reports, certifications, and notifications shall be submitted to the appropriate DEQ Pocatello regional office. Periodic compliance certifications required by the permit shall be submitted to EPA Region 10 within 30 days of the end of the specified reporting period."

6. **Generally, Ash Grove requests revisions to the Technical Memorandum to reflect any changes made to the Tier I permit.**

The Department has changed the technical memorandum to reflect any changes made to the permit.

GENERAL COMMENTS

1. **On June 10, 2002, IDEQ and Ash Grove executed a Consent Order. The Consent Order addresses many sources of emissions covered by the draft Tier I permit and requires Ash Grove to implement immediately numerous procedures to demonstrate compliance with applicable requirements. Certain provisions of the draft Tier I permit either conflict with the agreements represented in the Consent Order or are redundant in light of the Consent Order. Ash Grove requests that IDEQ review the Consent Order and reconcile the currently applicable conditions contained in that document with the proposed permit conditions. Examples of this situation are described in detail below in comments 37, 45, 50, and 57. Additional provisions of the draft Tier I operating permit, however, must be reconciled with the Consent Order to avoid conflict, confusion, and duplication of resources.**

   The Department has reviewed the draft Tier I operating permit and the consent order. The Department has reconciled the permit where appropriate.

2. **Throughout the draft permit, IDEQ imposes specific requirements on baghouse operation and maintenance. (See, for example, Conditions 16.6-16.9; comment 57 below) These requirements, however, are redundant in light of the approved Dust Collector Maintenance Plan implemented by IDEQ and designed through negotiation of the Consent Order. Operating parameters are established in the Plan and a process for revising those parameters, if necessary, was agreed upon by IDEQ and Ash Grove. Ash Grove requests that IDEQ review the Consent Order and reconcile the currently applicable conditions contained in that document with any proposed permit conditions.**

   The Department has not processed the comment as requested. The Department has reviewed the permit conditions 16.6 through 16.9. The permit conditions specify that the process be controlled by a baghouse, and that it is operated in accordance with the permittee's O & M manual. The permit condition 16.7 also state that the permittee install, calibrate, maintain, and operate equipment to continuously measure the pressure differential across the air pollution control equipment. These requirements do not conflict with the conditions of the consent order.

3. **Where O&M manuals are required in the draft Tier I permit (for example conditions 11.7, 12.7, 16.8) the draft reads that the monitored conditions shall remain within "both manufacturer and O&M manual" specifications. These conditions must be rewritten to provide for an alternative ("or")**

reference to manufacturer or O&M manual specifications. In most cases, the manufacturer's specification is too conservative for regular operation. The O&M manual sets forth other conditions under which the unit can run and still operate in compliance with applicable limits. In Ash Grove's case, manufacturer's specifications are substituted with parameters set forth in the approved Dust Collection Maintenance Plan. This inconsistency can be addressed by referring to the Plan in the provisions noted above and deleting the reference to any manufacturer's specifications.

The Department has processed the comment. The Department has provided for an "or" within the condition.

SPECIFIC COMMENTS

1. **Page 4, Condition 1.4. New section 1.4 "The draft Tier I operating permit (the "Draft Permit") also incorporates requirements from the pending Tier II Permit no. 005-00004.**

   The Department has noted the pending Tier II permit in Condition 1.2.

2. **Page 5, Condition 2.1, Table 2.1. Add reference to "Benzo(a)pyrene" to Parameters for Section 2.16 and "differential pressure" to Permit Limits/Standard Summary for Section 2.21.**

   The comment has not been addressed. Benzo(a)pyrene is not mentioned in Permit Condition 2.16 and differential pressure is not a requirement of Permit Condition 2.21.

3. **Page 6, Condition 2.4. Other sections of the Draft Tier I Permit prescribe specific requirements for fugitive emission control. Therefore, this section should be modified to specifically identify what portions of the facility must be inspected as part of the weekly facility wide fugitive emission inspections. Ash Grove is not seeking a substantive revision of this provision, rather Ash Grove requests that IDEQ provide a list or table identifying the portions of the facility that must be inspected. Ash Grove recommends the inspection list be composed of the source codes identified in the following tables. Table 3.1 (Inclusive), 4.1(Inclusive), 5.1(Inclusive), 6.1(Inclusive), 7.1(Inclusive), 8.1(Inclusive), 9.1 (F26, F27, F28, F29, F30, F32), 10.1 (Inclusive), 11.1(F45, F49, F50, F51, F52, F56, F62, F63, F57, 12.1, 13.1 (F110-F114, F115-F119, F120-F129, F112, F112a, F117, F117a, F134, F134a, F130-F136, F137-F144), 14.1 (F201, F202, F203), 15.1(F34, F35, F36, F38, F39, F40, F41), 16.1 (F88, F98, F106, F100, F105, F87, F108, F95), 17.1 (Inclusive), 18.1 (Inclusive).**

   All sources are potential sources of fugitive emissions. Therefore every source must be monitored weekly to ensure it is being reasonably controlled. For instance, this includes conveyor transfer points that are controlled by a baghouse. The transfer points must be inspected to ensure emissions are being captured by the baghouse. However, the permittee does not need to monitor the same source for both fugitive emissions and visible emissions. Therefore, if the permittee is required to monitor a source for visible emissions it does not need to be monitored for reasonable control of fugitive emissions. A table of sources that must be monitored for reasonable control of fugitive emissions was added as Appendix F of the permit.

4. **Page 6, Condition 2.5. Revise "No person shall allow..." to "The permittee shall not allow..."**

   The language was not changed. The facility-wide language is standard in all Tier I operating permits.

5. **Page 6, Condition 2.7. Revise "No person shall discharge..." to "The permittee shall not discharge..."**

   The language was not changed. The facility-wide language is standard in all Tier I operating permits.

6. **Page 6, Condition 2.8. See comments to Section 2.4. Ash Grove recommends the inspection list be composed of the following equipment. BH1, BH2, BH3, BH4, BH6, BH7, BH8, BH9, BH10, BH11. The dust collector maintenance plan addresses these emission points.**

   The Department has addressed the comment as requested. The permit now includes a list of sources to be inspected in Appendix G of the permit. In addition to the baghouses, those sources subject to 40 CFR 60 Subpart F – Standards of Performance for Portland Cement Plants that are limited to 10 percent opacity must be inspected for visible emissions on a weekly basis.

7. **Page 10, Condition 2.15. Revise Table 2.2 to specify Method 25 A for VOCs. For benzo(a)pyrene, Ash Grove requests the flexibility for using an alternate test method subject to DEQ approval.**

   The Department has addressed the comment as requested.

8. **Page 11, Condition 2.16. Ash Grove requests 60 days to submit compliance test reports following completion of a compliance test to be consistent with MACT requirements.**

   The language was not changed. IDAPA 58.01.01.157.04 requires written reports be submitted within 30 days of completion of the test.

9. **Page 13, Condition 2.24. Renumber this condition to 2.24. Two (2) conditions 2.24 appear in the permit.**

   The Department has renumbered the sections as appropriate.

10. **Page 14, Condition 3, Table 3.2. Delete sections "2.2, 2.3, 2.4" from Monitoring and Record keeping Requirements for Fugitive Emissions. Sections 2.2, 2.3, and 2.4 do not apply where monitoring and record keeping requirements are specified elsewhere in the Draft Tier I Permit.**

    The Department has not processed the comment as requested. Permit conditions 2.2, 2.3, and 2.4 are cited to make it clear that the requirements contained therein must be followed to ensure that fugitive emissions are reasonably controlled.

11. **Page 14, Condition 3, Table 3.2. Specify the process rate for 435,708 tons/yr limestone is on a 12 month rolling average basis.**

    The Department has processed the comment as requested.

12. **Pg 14, Condition 3.2. Delete the reference that "Annual emissions estimates assume that the total number of blasts per year, six, will yield 435,708 tons of limestone rock." This restriction of Ash Grove to six blasts a year is not an existing requirement under Tier II Permit No. 005-00004 (12/8/97). Since blasting emissions are a function of rock produced, the number of blasts per year need not be a permit condition as long as the annual production limits are not exceeded. Please see the following discussion that justifies the removal of this permit condition.**

Blasting Emission Estimate

AP-42 Section 11.9 "Western Surface Coal Mining" reports the following emission calculation for blasting of overburden. Overburden in the coal industry is that material that is not suitable for sale as coal and is typically composed of varying percentages of rock and dirt. It is not dissimilar to the quarried limestone at Ash Grove Cement's Inkom, Id, Portland cement manufacturing facility except that the quarried limestone may have less silt than overburden. In order to determine TSP and PM_{10} emissions from our blasting activities the blasting calculation in AP-42 Section 11.9 was utilized. The TSP calculation is as follows. PM_{10} can be determined by taking 52% of the TSP value.

$TSP = 0.000014*A^{1.5}$ lbs. TSP/Blast[1]

A= Blasted area in ft^2

Ash Grove's Tier I permit states that 435,078 tons/yr of limestone can be blasted. Applying the above calculation to the entire permitted quantity of rock yields the following:

435,078 tons * 0.46 yd^3/ton*27 ft^3/yd^3 = 5,403,669 ft^3 of limestone blasted

The depth of the limestone drilled is 40 ft. Applying this yields the following:

5,403,669 ft^3/40 ft = 135,092 ft^2 of limestone blasted

This is the total area of limestone that can be blasted under the current Tier I operating permit whether it is done in one blast, two blasts, or 100 blasts. Inserting this area value of blasted limestone into the TSP calculation yields the total tons of TSP that can be generated from Ash Grove's blasting operation.

$TSP = 0.000014*(135,092)^{1.5}$ = 695 lbs./yr = 0.348 t/yr
PM_{10} = 695*0.52 = 361 lbs/yr. = 0.181 t/yr

These numbers are well below those stated in the Tier I permit (including drilling and dozing activities) and are independent of the number of blasts made. Since our total blasted tons is fixed by permit, as the number of blasts increases the area footage of each blast decreases such that the overall emissions remain the same.

(1) AP-42 SECTION 11.9 WESTERN SURFACE COAL MINING, EPA, 5TH EDITION, VOLUME 1, **CHAPTER 11, MINERAL PRODUCTS INDUSTRY**

The Department has processed the comment as requested.

13. Page 17, Condition 4.8. Substitute "the previous" for "that".

The Department has processed the comment as requested.

14. Page 20, Condition 5.9. Substitute "the previous" for "that".

The Department has processed the comment as requested.

15. Page 22, Condition 6.8. Substitute "the previous" for "that".

The Department has processed the comment as requested.

16. Page 23, Condition 7, Table 7.2. Delete sections "2.2, 2.3, 2.4" from Monitoring and Record keeping Requirements for Fugitive Emissions. Sections 2.2,2.3, and 2.4 do not apply where monitoring and record keeping requirements are specified elsewhere in the Draft Tier I Permit.

The Department has not processed the comment as requested. Permit conditions 2.2, 2.3, and 2.4 are cited to make it clear that the requirements contained therein must be followed to ensure that fugitive emissions are reasonably controlled.

17. **Page 24, Condition 7.8. Substitute "the previous" for "that".**

    The Department has processed the comment as requested.

18. **Page 25, Condition 8, Table 8.2. Delete sections "2.2, 2.3, 2.4" from Monitoring and Record keeping Requirements for Fugitive Emissions. Sections 2.2,2.3, and 2.4 do not apply where monitoring and record keeping requirements are specified elsewhere in the Draft Tier I Permit.**

    The Department has not processed the comment as requested. Permit conditions 2.2, 2.3, and 2.4 are cited to make it clear that the requirements contained therein must be followed to ensure that fugitive emissions are reasonably controlled.

19. **Page 25, Condition 8, Table 8.2. Revise the Storage Pile Footprint Area for CKD to "10 acres". Ash Grove requested this change in its 1999 revised Tier I permit application, submitted to IDEQ on August 2, 1999. On page 5 of the Technical Memorandum, DEQ acknowledges receipt of the Tier I application that included this change.**

    The Department has not processed the comment as requested. As explained to Ms. Jennifer Carr-Merrill of Ash Grove Cement in 1999, the request for an increased storage pile area can not be approved without a complete application for a Tier II operating permit modification that demonstrates the modification will not cause or significantly contribute to a violation of any ambient air quality standard.

20. **Page 26, Condition 8.7. Revise the footprint area to "10 acres" and the annual material throughput to "6,008 t/yr" Ash Grove requested these changes in its 1999 revised Tier I permit application, submitted to IDEQ on August 2, 1999. DEQ acknowledged receipt of the Tier I application that included this change on page 5 of the tech memo.**

    The Department has not processed the comment as requested. As explained to Ms. Jennifer Carr-Merrill of Ash Grove Cement in 1999, the request for an increased storage pile area can not be approved without a complete application for a Tier II operating permit modification that demonstrates the modification will not cause or significantly contribute to a violation of any ambient air quality standard.

21. **Page 27, Condition 9, Table 9.2. Delete sections "2.2, 2.3, 2.4" from Monitoring and Record keeping Requirements for Fugitive Emissions. Sections 2.2, 2.3, and 2.4 do not apply where monitoring and recordkeeping requirements are specified elsewhere in the Draft Tier I Permit.**

    The Department has not processed the comment as requested. Permit conditions 2.2, 2.3, and 2.4 are cited to make it clear that the requirements contained therein must be followed to ensure that fugitive emissions are reasonably controlled.

22. **Page 28, Condition 9.7. Substitute "the previous" for "that".**

    The Department has processed the comment as requested.

23. **Page 30, Condition 10. Table 10.2 Add footnote 5 following the Permit Limit/Standard Summary for Visible Emissions, stating "See Table 10.3 for applicable averaging periods."**

    The Department has not processed the comment as requested. The revision was not made because there is not a visible emissions limit in Table 10.3.

24. **Page 31, Condition 10.1.1. Add "average, 3 one-hour tests" for the averaging period for VOCs.**

    The Department has processed the comment as requested.

25. **Page 31, Condition 10.1.2. Although no averaging period is specified in Section 10.1.2, this condition derives from Condition 2.1.3 of Tier II Permit No. 005-00004 (12/8/97), which is based on IDAPA 58.01.01.625. In effect, Section 10.1.2 establishes an averaging period for determining compliance with the 20% opacity limitation that is different than the averaging period specified in NSPS regulations and in Section 10.23 of the Draft Tier I Permit. *Compare* IDAPA 58.01.01.625 (20% opacity for no more than 3 minutes in any 60 minute period) *with* 40 C.F.R. § 60.63c (20% opacity for no more than 6 minutes in any 60 minute period). Ash Groves requests that IDEQ reconcile the two averaging periods for the purposes of the Draft Tier I Permit. Requiring Ash Grove to perform two opacity tests to demonstrate compliance with two different standards is unnecessary and unduly burdensome.**

    The Department has not processed the comment as requested. Per IDAPA 58.01.01.625.04.c, sources subject to New Source Performance Standards must calculate opacity as detailed in section 625 and as specified in 40 CFR Part 60.

26. **Page. 32, Condition 10.5.1. Revise reference to "Permit Condition 10.8" to "Permit Conditions 10.5.4, 10.5.5 and 10.10."**

    The Department has made the change as requested.

27. **Page 32, Condition 10.5.2. Ash Grove will demonstrate compliance with this permit condition by adding the total pounds of tires burned in a calendar day and dividing this by the total hours of operation per kiln for that day. The daily pounds per hour tire usage will be averaged for the previous 365 days to determine the 12-month rolling average.**

    The Department has not processed this comment. No requested change to the permit or technical analysis memorandum was given.

28. **Page 32, Condition 10.5.7. Suggest rewording this condition as follows: "Used oil and whole tire/TDF shall only be burned in a kiln when the kiln's ESP is operating."**

    The Department has processed the comment as requested.

29. **Page 32, Condition 10.5.8. Revise reference to "Permit Conditions 10.5.2 and 10.5.5" to "Permit Conditions 10.5.5 and 10.5.6."**

    The Department has revised the reference to "Permit Conditions 10.5.2, 10.5.5, and 10.5.6" because all three conditions contain either a used oil or tire-derived fuel limit that will require test burns to increase the allowable fueling rate.

30. **Page 36, Condition 10.11.1. The requirement for periodic testing of sulfur dioxide and benzo[a] pyrene is unnecessary since Ash Grove has previously demonstrated the kiln emits very small quantities of these compounds compared to the permit limits. Ash Grove requests that this requirement only be required if changes are made that likely would cause the emissions of these two compounds to increase.**

    The Department has not processed the request. Ash Grove must demonstrate initial compliance with the emission limits through testing.

31. **Page 37, Condition 10.12. Revise Section "10.12" to "10.12.1." Delete "Daily production rates" from Section 10.12.1. Add Section 10.12.2 and the following language: "The permittee shall record the daily production rates and kiln feed rates." This change is consistent with 40 C.F.R. § 60.63(a), which requires monitoring but not does specifically require a device.**

    The Department has not processed the request.

32. **Page 47, Condition 11.5 – 11.9. Delete these sections. Condition 17 of the June 10, 2002 Consent Order supercedes all of these requirements. Revise the heading for Section 11.5 to "Operating, Monitoring and Recordkeeping." Add the following language to Section 11.5: "The permittee shall operate and maintain the baghouses at the facility in accordance with the Dust Collector Maintenance Plan as required under Permit Condition 2.24." This change is consistent with Condition 17 of the June 10, 2002 Consent Order. Revise citation to section 11.5 to "Consent Order, Condition 17, 6/10/2002".**

    The Department has not processed the request. Permit conditions 11.5 through 11.9 are applicable requirements taken from PTC No. 005-00004, 01/29/99.

33. **Page 48, Condition 11.9. This condition should be deleted due to the presence of the facility-wide requirements in Condition 2.1 through 2.4.**

    The Department has not processed the request. Permit conditions 11.9 is an applicable requirement taken from PTC No. 005-00004, 01/29/99.

34. **Page 48, Condition 11.11. Delete this requirement. Ash Grove has already performed the performance testing required in this paragraph thus, it is no longer applicable.**

    The Department has processed the request.

35. **Page 48, Condition 11.12. Delete the first paragraph of this condition. Ash Grove has already performed the performance testing required in the paragraph and it is no longer applicable.**

    The Department has processed the request.

36. **Page 49, Condition 11.13. Delete this condition since the test has already been performed and the report has been submitted to the Department.**

    The Department has processed the request.

37. **Page 51, Condition 12.5 - 12.7 and 12.9. Delete these sections. Condition 17 of the June 10, 2002 Consent Order supercedes these requirements. Revise the heading for Section 12.5 to "Operating, Monitoring and Recordkeeping." Add the following language to Section 12.5: "The permittee shall operate and maintain the baghouses at the facility in accordance with the Dust Collector Maintenance Plan as required under Permit Condition 2.24." This change is consistent with Condition 17 of the June 10, 2002 Consent Order. Revise citation to Section 12.5 to "Consent Order, Condition 17, 6/10/2002."**

    The Department has not processed the request. Permit conditions 12.5 through 12.7 and 12.9 are applicable requirements taken from PTC No. 005-00004, 01/29/99.

38. **Page 51, Condition 12.7. Delete reference to the manufacturer specifications. Ranges have been established and approved in the dust collector maintenance plan. See letter from Richard Elkins dated September 5, 2002 and Appendix E of the draft permit.**

    The Department has not processed the comment as stated. The Department has provided an "or" qualifier within permit condition as requested in comment 3, of the general comments section of this document.

39. **Page 52, Condition 12.6. Acknowledge that the O & M has been developed and approved by the Department in a letter dated September 5, 2002 from Richard Elkins.**

The Department has not processed the comment as stated. The Department has acknowledged that the O&M has been developed through its transmittal of Mr. Elkins letter dated September 5, 2002.

40. **Page 52, Condition 12.10 Delete this section. The requirement should not apply to a source controlled by baghouses.**

The Department has not processed the comment as stated. The Department has not deleted the requirement. Permit Condition 12.2 requires fugitive emissions from the process to be reasonably controlled. Therefore, the permittee must record the methods used to reasonably control emissions.

41. **Page 53, Condition 12.12. Delete this section. Ash Grove has already performed the performance testing required in the paragraph, and it is no longer applicable.**

The Department has processed the request. An opacity test was conducted in August 2000 and accepted by the Department in a letter dated October 6, 2000. The Department determined that the visible emissions from BH#1, BH#2, BH#3, BH#4, BH#6, #3 reclaim belt to elevator #3, bin belt to bin, #3 elevator to bin belt and stacking belt were in compliance with the respective permitted visible emission limits during the test periods.

42. **Page 53, Condition 12.13. Delete the first paragraph of this condition. Ash Grove has already performed the performance testing required in the paragraph, and it is no longer applicable.**

The Department has processed the request.

43. **Page 55, Condition 13.1.1, Table 13.3. Baghouse 9 emissions should be 2.82, 9.26, 2.4, and 7.87 lbs/hr consistent with the January 29, 1999 PTC issued by DEQ. The 1995 Tier II permit application refers to this baghouse as ID # C9. Source description Baghouse #8. Area served Silos/Packaging. In the PTC issued December 8, 1997 this baghouse is still referenced as Source Description Baghouse #8. In the PTC issued January 29, 1999 this dust collectors Source Description was changed to Baghouse #9. Unfortunately the limits for it were transposed with those of Baghouse #10. These limits should be switched with those reported for Baghouse #10.**

The Department has processed the request.

44. **Page 55, Condition 13.1.2. Delete reference to the procedures manual, instead, reference the requirements within IDAPA 625.**

The Department has processed the comment. The language is taken from the applicable requirement contained in the Tier II operating permit. In addition, IDAPA 58.01.01.625.04.b. states that the method is described in the Procedures Manual for Air Pollution Control, Section II.

45. **Page 56, Condition 13.5. Add "attached as Appendix E. This plan specified pressure drop ranges for operation of the baghouses at the facility. The content of the Plan may only be modified with written approval of the Department. Modifications of the Plan shall not require modification of the Tier I operating permit and any approved modification of the Plan shall become a condition of this Tier I operating permit as though fully incorporated herein." This change is consistent with Condition 17 of the June 10, 2002 Consent Order. Delete "This plan shall be made available to Department representatives upon request."**

The Department has processed the comment as requested.

46. **Page 56, Condition 13.6. Add "Ash Grove shall perform corrective maintenance within 48 hours of observing any visible emissions from any baghouse stack or baghouse structure." This change is consistent with Condition 14 of the June 10, 2002 Consent Order.**

The Department has not processed the comment as requested. The requested language is already in permit condition 13.6.

47. **Page 57, Condition 14, Table 14.2. BH10 emissions should be 0.31, 0.67, 0.26, 0.57 lbs/hr and BH9 should be 2.82, 9.26, 2.40, 7.87 lbs/hr for consistency with the January 29, 1999 PTC. The 1995 Tier II permit application refers to this baghouse as ID # C10. Source description Baghouse #7. Area served Bulk Loading. In the PTC issued December 8, 1997 this baghouse is still referenced as Source Description Baghouse #7. In the PTC issued January 29, 1999 this dust collectors Source Description was changed to Baghouse #10. Unfortunately the limits for it were transposed with those of Baghouse #9. These limits should be switched with those reported for Baghouse #9 for consistency.**

The Department has processed the comment as requested.

48. **Page 58, Condition 14.1.1, Table 14.3. BH10 emissions should be 0.31, 0.67, 0.26, 0.57 lbs/hr and BH9 should be 2.82, 9.26, 2.40, 7.87 lbs/hr for consistency with the1995 Permit application and subsequent December 1997 permit.**

The Department has processed this comment as requested in item 47 above.

49. **Page 58, Condition 14.1.2. Delete reference to the procedures manual, instead, reference the requirements within IDAPA 625.**

The Department has processed the comment. The language is taken from the applicable requirement contained in the Tier II operating permit. In addition, IDAPA 58.01.01.625.04.b. states that the method is described in the Procedures Manual for Air Pollution Control, Section II.

50. **Page 59, Condition 14.5. Add "attached as Appendix E. This plan specified pressure drop ranges for operation of the baghouses at the facility. The content of the Plan may only be modified with written approval of the Department. Modifications of the Plan shall not require modification of the Tier I operating permit and any approved modification of the Plan shall become a condition of this Tier I operating permit as though fully incorporated therein." This change is consistent with Condition 17 of the June 10, 2002 Consent Order. Delete "This plan shall be made available to Department representatives upon request." Revise citation to "Consent Order, Condition 17, 6/10/02."**

The Department has processed the comment as requested.

51. **Page 59, Condition 14.6. Add "Ash Grove shall perform corrective maintenance within 48 hours of observing any visible emissions from any baghouse stack or baghouse structure." This change is consistent with Condition 14 of the June 10, 2002 Consent Order.**

The Department has not processed the comment as requested. Permit condition 14.6 contains the requested language.

52. **Page 59, Condition 14.13. Delete "the rail loadout, truck loadout, and bag filling for that month, and ...." The requirement to calculate the average hourly process rate for the rail loadout, truck loadout and bag filing is unworkable. Hourly emission estimates are based on rates greater than or equal to the rated capacity of the equipment. Monthly tracking should specify calculations for the previous month.**

The condition remains. The permittee already records the information necessary to calculate the average hourly process weight and the information is required to demonstrate compliance with Permit Condition 14.4. The monthly calculation was changed go specify using the previous months process data.

53. **Page 60, Condition 15, Table 15.2. Add under "Permit Limit/Standard Summary" "based on a 12 month rolling average" after "70,000 T/yr"**

The Department has processed the comment as stated.

54. **Page 61, Condition 15.3. Add "based on a 12-month rolling average." to the end of the sentence.**

The Department has processed the comment as stated.

55. **Page 62, Condition 16, Table 16.2. Revise reference to the Process Rate for the CKD Handling Process to "8 t/hr" and "6,008 t/yr." Ash Grove requested these changes in its 1999 renewal Tier I application.**

The Department has not processed the comment. The comment constitutes a change to an existing applicable requirement taken from a PTC. As explained to Ms. Jennifer Carr-Merrill in 1999, the request for increased throughput rates can not be approved without a complete application for a permit modification that demonstrates the modification will not cause or significantly contribute to a violation of any ambient air quality standard.

56. **Page 63, Condition 16.5. Revise the process rate to "8 t/hr" and "6,008 t/yr." Ash Grove requested these changes in its 1999 renewal Tier I application**

The Department has not processed the comment. The comment constitutes a change to an existing applicable requirement taken from a PTC. As explained to Ms. Jennifer Carr-Merrill in 1999, the request for increased throughput rates can not be approved without a complete application for a permit modification that demonstrates the modification will not cause or significantly contribute to a violation of any ambient air quality standard.

57. **Page 63, Condition 16.6 - 16.9. Delete these sections. The requirements were replaced by Condition 17 of the June 10, 2002 Consent Order. Revise the heading for these sections to "Operating, Monitoring and Recordkeeping Requirements." Add the following language to Section 16.6: "The permittee shall operate and maintain the baghouses at the facility in accordance with the Dust Collector Maintenance Plan as required under Permit Condition 2.24." This change is consistent with Condition 17 of the June 10, 2002 Consent Order. Revise citation to Section 16.6 to "Consent Order, Condition 17, 6/10/2002."**

The Department has not processed the request. Permit conditions 16.6 through 16.9 are applicable requirements taken from PTC No. 005-00004, 05/17/99.

58. **Page 64, Condition 16.8. Delete reference to the manufacturer specifications. Ranges have been established and approved in the Dust Collector Maintenance Plan. See letter from Richard Elkins dated September 5, 2002 and Appendix E of the draft permit.**

The Department has not processed the comment as stated. The Department has provided an "or" qualifier within permit condition as requested in comment 3 of the general comments section of this document.

59. **Page 65, Condition 17.3. Delete reference to a vehicle speed limit. A speed limit requirement is not necessary since emission estimates are well below permit limits. Estimates are based on average, not maximum vehicle speed.**

The Department has not processed the comment as requested.

60. **Page 67, Condition 18.3. Delete reference to a vehicle speed limit. A speed limit requirement is not necessary since emission estimates are well below permit limits. Estimates are based on average, not maximum vehicle speed.**

The Department has not processed the comment as requested. The requirement assures compliance with permit limit.

61. **Page 68, Condition 18.4. Delete this condition as it is redundant to Conditions 2.1, 2.2, 2.3, and 2.4.**

The Department has not processed the comment.

62. **Page 72, Condition 21.10. Delete "40 CFR 70.4 (b)(12)" from the citation. This provision is not applicable to Section 21.10**

The Department has not processed the comment as requested. 40 CFR 70.4(b)(12) remains in the citation for Permit Condition 21.10.

63. **Page 72, Condition 21.11. Delete "40 CFR 70.4 (b)(12)" from the citation. This provision is not applicable to Section 21.11**

The Department has not processed the comment as requested. 40 CFR 70.4(b)(12) remains in the citation for Permit Condition 21.11.

64. **Page 73, Condition 21.20(d). Revise citation to "40 CFR 70.6(c)(4)."**

The Department has not processed the comment as requested. The citation has not changed.

65. **Page 74, Condition 21.19(b). Add IDAPA 58.01.01.383.05 (minor permit modification)**

The citation is located after condition 21.19 and contains IDAPA 58.01.01.383.05.

66. **Page 74, Condition 21.20(d). Delete citation to 40CFR 70.6 (c)(4).**

The Department has not processed the comment as requested. The citation has not changed.

67. **Appendix A to the Draft Tier I Permit does not incorporate revisions to 40 CFR part 63 Subpart A amended on April 5, 2002 (67 FR 16582).**

The Department has incorporated the revisions to 40 CFR part 63 Subpart A as requested.