

October 14, 1996

Cleve Holladay  
FDER-NW District  
Mail Station 5500  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

**RECEIVED**

OCT 15 1996

BUREAU OF  
AIR REGULATION

Dear Cleve:

Enclosed are the disks for the particulate matter (PM10) and carbon monoxide (CO) modeling and analysis files for the Southdown, Inc. facility in Brooksville Florida.

There are two disks to the set, containing the following files:

DISK 1 CONTAINS ISCST3 MODELING OF SIA, AAQS, PSD CLASS 2 AND BPIP FILES:  
SIA-AQS EXE 435,023 02-20-96 ISCST3 MODELING OF SIGNIFICANT IMPACT  
ANALYSIS FOR FAAQS AND PSD CLASS 2 AREAS  
SDWN-AQS EXE 207,960 02-20-96 ISCST3 MODELING FAAQS AREA ANALYSIS  
SDWN-C2 EXE 213,860 02-20-96 ISCST3 MODELING PSD CLASS 2 AREA ANALYSIS  
BPIP-FIL EXE 45,941 02-20-96 SOUTHDOWN BUILDING DOWNWASH CALCULATIONS

DISK 2 CONTAINS MODELING AND ANALYSIS FOR THE CHASSAHOWITZKA NWR CLASS I AREA;

C1-SIA EXE 50,997 02-20-96 ISCST3 MODELING OF SIGNIFICANT IMPACT  
ANALYSIS FOR PSD CLASS 1 AREA  
24HRMXFL EXE 70,915 02-21-96 ISCST3 MODELING WITH THE MAXFILE OUTPUT  
OPTION, FOR WHEN THE PROJECT AT SOUTHDOWN  
IS SIGNIFICANT. USED TO REDUCE THE  
COMPUTATION BY LIMITING THE MODELING PERIOD  
24HR-C1 EXE 472,773 02-20-96 ISCST3 MODELING OF CLASS 1 INVENTORY SOURCES  
ON THE DAYS WHEN THE PROJECT IS SIGNIFICANT  
C1CULWKS EXE 830,483 02-21-96 LOTUS FORMAT ANALYSIS OF PROJECT CULPABILITY  
INCLUDING HIGH 50 TABLES

If I may provide any further information, clarification or more copies of these disks are required, please call.

Yours Truly

Mark Koletzke, PE  
Koogler & Associates  
(352) 377-5822  
email; kolet@nervm.nerdc.ufl.edu

THESE DISKS CONTAINS PARTICULATE MATTER (PM10) AND CARBON MONOXIDE (CO) MODELING AND ANALYSIS FILES FOR THE SOUTHDOWN, INC. FACILITY IN BROOKSVILLE FLORIDA. THE FOLLOWING ARE OUTPUT AND ANALYSIS FILES ARE IN SELF EXTRACTING FORMAT.

DISK 1 CONTAINS ISCST3 MODELING OF SIA, AAQS, PSD CLASS 2 AND BPIP FILES;

SIA-AQS	EXE	435,023	02-20-96	ISCST3 MODELING OF SIGNIFICANT IMPACT ANALYSIS FOR FAAQS AND PSD CLASS 2 AREAS
-SDWN-AQS	EXE	207,960	02-20-96	ISCST3 MODELING FAAQS AREA ANALYSIS
-SDWN-C2	EXE	213,860	02-20-96	ISCST3 MODELING PSD CLASS 2 AREA ANALYSIS
-BPIP-FIL	EXE	45,941	02-20-96	SOUTHDOWN BUILDING DOWNWASH CALCULATIONS

DISK 2 CONTAINS MODELING AND ANALYSIS FOR THE CHASSAHOWITZKA NWR CLASS I AREA;

-C1-SIA	EXE	50,997	02-20-96	ISCST3 MODELING OF SIGNIFICANT IMPACT ANALYSIS FOR PSD CLASS 1 AREA
-24HRMXFL	EXE	70,915	02-21-96	ISCST3 MODELING WITH THE MAXFILE OUTPUT OPTION, FOR WHEN THE PROJECT AT SOUTHDOWN IS SIGNIFICANT. USED TO REDUCE THE COMPUTATION BY LIMITING THE MODELING PERIOD
-24HR-C1	EXE	472,773	02-20-96	ISCST3 MODELING OF CLASS 1 INVENTORY SOURCES ON THE DAYS WHEN THE PROJECT IS SIGNIFICANT
-C1CULWKS	EXE	830,483	02-21-96	LOTUS FORMAT ANALYSIS OF PROJECT CULPABILITY INCLUDING HIGH 50 TABLES

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE FAAQS ISCST3 OUTPUT FILES, TYPE "SDWN-AQS" AND PRESS ENTER. THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES ASCII AND IN LOTUS FORMAT DESCRIBED AS FOLLOWS;

SIA-AQS.EXE CONTAINS ISCST3 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR FAAQS AND PSD CLASS 2 AREAS FOR PM10 AND CO. THERE ARE RECEPTORS AT 100 METER INTERVALS ALONG THE PROPERTY LINE, DISCRETE POLAR RECEPTORS FROM 2500 METERS TO 3000 METERS AND POLAR RECEPTORS @ 4000 5000 6000 8000 10000 15000 20000METERS. POLAR RECEPTORS ARE CENTERED AT X=0 Y=500 THE APPROXIMATE GEOMETRIC CENTER OF THE FACILITY. NO SIGNIFICANCE IS FOUND FOR CO. THE SIA MODELING FOR PM10 INDICATES THAT INCREMENT ANALYSIS IS REQUIRED. THE FOLLOWING SIA FILES ARE PROVIDED;

SIA-PM87	OUT	282,891	02-16-96	PM10 CLASS 2 AND FAAQS SIA FOR 1987
SIA-PM88	OUT	282,891	02-16-96	PM10 CLASS 2 AND FAAQS SIA FOR 1988
SIA-PM89	OUT	282,891	02-16-96	PM10 CLASS 2 AND FAAQS SIA FOR 1989
SIA-PM90	OUT	282,891	02-16-96	PM10 CLASS 2 AND FAAQS SIA FOR 1990
SIA-PM91	OUT	282,891	02-16-96	PM10 CLASS 2 AND FAAQS SIA FOR 1991
SIA-CO87	OUT	327,542	02-16-96	CO CLASS 2 AND FAAQS SIA FOR 1987
SIA-CO88	OUT	327,542	02-16-96	CO CLASS 2 AND FAAQS SIA FOR 1988
SIA-CO89	OUT	327,542	02-16-96	CO CLASS 2 AND FAAQS SIA FOR 1989
SIA-CO90	OUT	327,542	02-16-96	CO CLASS 2 AND FAAQS SIA FOR 1990
SIA-CO91	OUT	327,542	02-16-96	CO CLASS 2 AND FAAQS SIA FOR 1991

SDWN-AQS.EXE CONTAINS ISCST3 MODELING FOR THE FAAQS INVENTORY. DISCRETE RECEPTOR ARE PLACED ON THE PROPERTY AND AT RINGS CENTERED AT THE APPROXIMATE GEOGRAPHIC CENTER OF THE PROPERTY X=0 , Y=500. FROM THE SIA MODELING THE LAST SIGNIFICANT RECEPTOR RING IS @ 2500 METERS. THE 3000 METER RING IS RETAINED, ALTHOUGH, THERE ARE NO PREDICTED PROJECT SIGNIFICANT IMPACTS. THE FOLLOWING FAAQS STANDARD ANALYSIS FILES ARE PROVIDED:

AQS87	OUT	369,963	02-16-96	FAAQS MODELING FOR 1987
AQS88	OUT	369,963	02-16-96	FAAQS MODELING FOR 1988
AQS89	OUT	369,963	02-16-96	FAAQS MODELING FOR 1989
AQS90	OUT	369,963	02-16-96	FAAQS MODELING FOR 1990
AQS91	OUT	369,963	02-16-96	FAAQS MODELING FOR 1991

SDWN-C2.EXE CONTAINS ISCST3 MODELING FOR THE PSD CLASS 2 INVENTORY. DISCRETE RECEPTOR ARE PLACED ON THE PROPERTY AND AT RINGS CENTERED AT THE APPROXIMATE GEOGRAPHIC CENTER OF THE PROPERTY X=0 , Y=500. FROM THE SIA MODELING THE LAST SIGNIFICANT RECEPTOR RING IS @ 2500 METERS. THE 3000 METER RING IS RETAINED, ALTHOUGH, THERE ARE NO PREDICTED PROJECT SIGNIFICANT IMPACTS. THE FOLLOWING CLASS 2 AREA PSD INCREMENT ANALYSIS FILES ARE PROVIDED:

PSD2-87	OUT	319,029	02-15-96	PSD CLASS 2 MODELING FOR 1987
PSD2-88	OUT	319,029	02-15-96	PSD CLASS 2 MODELING FOR 1988
PSD2-89	OUT	319,029	02-15-96	PSD CLASS 2 MODELING FOR 1989
PSD2-90	OUT	319,029	02-15-96	PSD CLASS 2 MODELING FOR 1990
PSD2-91	OUT	319,029	02-15-96	PSD CLASS 2 MODELING FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-FIL.EXE. THESE BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THREE SETS OF DOWNWASH CALCULATIONS ARE MADE. THE FIRST FOR KILN1&2, CLCOOL1&2 SOURCES ANOTHER FOR B-11 THROUGH H-13 SOURCES AND A THIRD FOR L-07 THROUGH Q-17 SOURCES. BUILDING GEOMETRY IS CONSTANT FOR ALL THREE CALCULATIONS. THE FOLLOWING BPIP FILES ARE PROVIDED:

SWN-BPI	INP	2,238	01-11-96	INPUT FOR SOURCES KILN1&2, CLCOOL1&2
SDWN-BH1	INP	2,674	02-02-96	INPUT FOR SOURCES B-11 THROUGH H-13
SDWN-BH2	INP	2,674	02-02-96	INPUT FOR SOURCES L-07 THROUGH Q-17
SWN-BPI	OUT	5,836	01-11-96	OUTPUT FOR SOURCES KILN1&2 CLCOOL1&2
SDWN-BH1	OUT	12,619	02-02-96	OUTPUT FOR SOURCES B-11 THROUGH H-13
SDWN-BH2	OUT	12,619	02-02-96	OUTPUT FOR SOURCES L-07 THROUGH Q-17
SWN-BPI	SUM	118,465	01-11-96	SUMMARY FOR SOURCES KILN1&2, CLCOOL1&2
SDWN-BH1	SUM	303,743	02-02-96	SUMMARY FOR SOURCES B-11 THROUGH H-13
SDWN-BH2	SUM	306,720	02-02-96	SUMMARY FOR SOURCES L-07 THROUGH Q-17

C1-SIA.EXE CONTAINS ISCST3 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR PSD CLASS 1 AREAS FOR PM10. IN THIS MODELING AN ADDITIONAL SEVEN RECEPTORS WERE ADDED BY INTERPOLATING BETWEEN SOME OF THE 13 RECEPTORS USED IN HISTORICAL RUNS. THIS WAS DONE TO PROVIDE A CLOSER PLACEMENT OF RECEPTORS NEARER TO THE SOURCE. THE CLASS 1 SIA MODELING FOUND NO SIGNIFICANCE FOR THE ANNUAL AVERAGING PERIOD, HOWEVER, INCREMENT ANALYSIS FOR THE 24-HOUR

AVERAGING PERIOD IS INDICATED. THE FOLLOWING CLASS 1 PSD SIA FILES ARE PROVIDED:

C1SIA-87 OUT	59.076	02-16-96	CLASS 1 PSD SIA MODELING FOR 1987
C1SIA-88 OUT	59.076	02-16-96	CLASS 1 PSD SIA MODELING FOR 1988
C1SIA-89 OUT	59.076	02-16-96	CLASS 1 PSD SIA MODELING FOR 1989
C1SIA-90 OUT	59.076	02-16-96	CLASS 1 PSD SIA MODELING FOR 1990
C1SIA-91 OUT	59.076	02-16-96	CLASS 1 PSD SIA MODELING FOR 1991

THE FILE 24HRMXFL.EXE CONTAINS ISCST3 MODELING WITH THE MAXFILE OUTPUT OPTION, FOR WHEN THE PROJECT AT SOUTHDOWN IS SIGNIFICANT (IMPACT>0.27). THIS IS DONE TO REDUCE COMPUTATION BY LIMITING THE MODELING PERIOD. SINCE THE CLASS 1 INVENTORY HAS OVER 450 SOURCES, AND ISCST3EM ALLOWS A MAXIMUM OF 300 SOURCES, MODELING IS PERFORMED IN THREE SETS OF RUNS, "A", "B", & "S". RUN "A" IS THE CLASS 1 INVENTORY SOURCES A THROUGH H, RUN "B" IS THE CLASS 1 INVENTORY SOURCES I THROUGH U, AND RUN "S" IS SOUTHDOWN PSD CONTRIBUTION. THE LINE:

MAXFILE 24 ALL 0.2666 24CL1yyS.PRN  
IS USED TO CREATE A FILE CONTAINING DAYS OF SIGNIFICANT IMPACT.

THE FOLLOWING PSD CLASS 1 SOURCE FOR SOUTHDOWN ARE PROVIDED:

SOUTHDOWN PSD CLASS 1 SOURCE

C1SDWN87 OUT	49.868	02-19-96	SOUTHDOWN PSD SOURCE FOR 1987
C1SDWN88 OUT	49.868	02-19-96	SOUTHDOWN PSD SOURCE FOR 1988
C1SDWN89 OUT	49.868	02-19-96	SOUTHDOWN PSD SOURCE FOR 1989
C1SDWN90 OUT	49.868	02-19-96	SOUTHDOWN PSD SOURCE FOR 1990
C1SDWN91 OUT	49.868	02-19-96	SOUTHDOWN PSD SOURCE FOR 1991

24CLI87S PRN	16.250	02-19-96	MAXFILE OUTPUT FOR 1987
24CLI88S PRN	10.100	02-19-96	MAXFILE OUTPUT FOR 1988
24CLI89S PRN	7.066	02-19-96	MAXFILE OUTPUT FOR 1989
24CLI90S PRN	16.660	02-19-96	MAXFILE OUTPUT FOR 1990
24CLI91S PRN	16.004	02-19-96	MAXFILE OUTPUT FOR 1991

DAYRNG2 WK1	50.755	02-21-96	MAXFILE OUTPUT OF SIGNIFICANT DAYS REDUCED AND POST PROCESSED IN LOTUS FORMAT FOR THE YEARS 1987 THROUGH 1991
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DYRNG	2.666	02-19-96	DAYS OF SIGNIFICANT IMPACT REDUCED TO ISC FORMAT FOR THE YEARS 1987 THROUGH 1991
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24HR-C1.EXE CONTAINS ISCST3 MODELING OF CLASS 1 INVENTORY SOURCES ON THE DAYS WHEN THE PROJECT IS SIGNIFICANT. OUTPUT FOR BOTH SETS (A & B) FOR ALL 20 RECEPTORS FOR ALL SIGNIFICANT DAYS WILL BE SUMMED AND COMPARED WITH THE PROJECTS IMPACT FOR CULPABILITY ANALYSIS. A LINE CONTAINING:

POSTFILE 24 ALL PLOT 24PSTyyx.PRN  
IS ADDED TO CREATE THE NECESSARY OUTPUT. FOR EACH YEAR AN IDENTICAL NUMBER OF ROWS IS CREATED IN THE POSTFILE OUTPUT. THERE IS A MAXIMUM OF ABOUT 2500 ROWS IN THE POSTFILE OUTPUT. THE FOLLOWING FILES ARE PROVIDED FOR CULPABILITY ANALYSIS:

C1APSD87 OUT	177.618	02-19-96	CLASS 1 INVENTORY "A" MODELING FOR 1987
C1APSD88 OUT	177.752	02-19-96	CLASS 1 INVENTORY "A" MODELING FOR 1988
C1APSD89 OUT	177.216	02-19-96	CLASS 1 INVENTORY "A" MODELING FOR 1989

C1APSD90	OUT	177,752	02-19-96	CLASS 1 INVENTORY "A" MODELING FOR 1990
C1APSD91	OUT	177,752	02-19-96	CLASS 1 INVENTORY "A" MODELING FOR 1991
C1BPSD87	OUT	145,706	02-19-96	CLASS 1 INVENTORY "B" MODELING FOR 1987
C1BPSD88	OUT	145,840	02-19-96	CLASS 1 INVENTORY "B" MODELING FOR 1988
C1BPSD89	OUT	145,438	02-19-96	CLASS 1 INVENTORY "B" MODELING FOR 1989
C1BPSD90	OUT	145,840	02-19-96	CLASS 1 INVENTORY "B" MODELING FOR 1990
C1BPSD91	OUT	145,840	02-19-96	CLASS 1 INVENTORY "B" MODELING FOR 1991
C1SPSD87	OUT	50,822	02-19-96	SOUTHDOWN PSD SOURCE MODELING FOR 1987
C1SPSD88	OUT	50,822	02-19-96	SOUTHDOWN PSD SOURCE MODELING FOR 1988
C1SPSD89	OUT	50,554	02-19-96	SOUTHDOWN PSD SOURCE MODELING FOR 1989
C1SPSD90	OUT	50,956	02-19-96	SOUTHDOWN PSD SOURCE MODELING FOR 1990
C1SPSD91	OUT	50,956	02-19-96	SOUTHDOWN PSD SOURCE MODELING FOR 1991
24PST87A	PRN	209,921	02-19-96	CLASS 1 INVENTORY "A" POSTFILE OUTPUT 1987
24PST88A	PRN	148,041	02-19-96	CLASS 1 INVENTORY "A" POSTFILE OUTPUT 1988
24PST89A	PRN	155,321	02-19-96	CLASS 1 INVENTORY "A" POSTFILE OUTPUT 1989
24PST90A	PRN	235,401	02-19-96	CLASS 1 INVENTORY "A" POSTFILE OUTPUT 1990
24PST91A	PRN	215,381	02-19-96	CLASS 1 INVENTORY "A" POSTFILE OUTPUT 1991
24PST87B	PRN	209,921	02-19-96	CLASS 1 INVENTORY "B" POSTFILE OUTPUT 1987
24PST88B	PRN	148,041	02-19-96	CLASS 1 INVENTORY "B" POSTFILE OUTPUT 1988
24PST89B	PRN	155,321	02-19-96	CLASS 1 INVENTORY "B" POSTFILE OUTPUT 1989
24PST90B	PRN	235,401	02-19-96	CLASS 1 INVENTORY "B" POSTFILE OUTPUT 1990
24PST91B	PRN	215,381	02-19-96	CLASS 1 INVENTORY "B" POSTFILE OUTPUT 1991
24PST87S	PRN	209,921	02-19-96	SOUTHDOWN PSD SOURCE POSTFILE OUTPUT 1987
24PST88S	PRN	148,041	02-19-96	SOUTHDOWN PSD SOURCE POSTFILE OUTPUT 1988
24PST89S	PRN	155,321	02-19-96	SOUTHDOWN PSD SOURCE POSTFILE OUTPUT 1989
24PST90S	PRN	235,401	02-19-96	SOUTHDOWN PSD SOURCE POSTFILE OUTPUT 1990
24PST91S	PRN	215,381	02-19-96	SOUTHDOWN PSD SOURCE POSTFILE OUTPUT 1991

POST FILE OUTPUT IS READ INTO THE WORKSHEET FILES FOR CULPABILITY ANALYSIS. C1CULWKS.EXE CONTAINS LOTUS FORMAT ANALYSIS OF PROJECT CULPABILITY INCLUDING HIGH 50 TABLES. INVENTORIES "A" AND "B" ARE ADDED IN COLUMN "L" OF THE CULPABILITY WORKSHEET FILES. A COMPARISON IS MADE ON COLUMN "T". THE CONDITION IN COLUMN T IS 1 (YES), WHEN  $A+B > 8$  AND  $S > 0.27$ . THAT IS THE CLASS 1 INVENTORY PREDICTED IMPACT  $> 8$  AND THE SOUTHDOWN INC. PREDICTED CONTRIBUTION IS  $> 0.27$ . THE WORKSHEET FILES THAT CONTAIN COLUMN T ARE "C1-CULyy.WK1". WHERE yy IS THE YEAR OF MODELING. 87, 88, 89, 90, OR 91. IT WAS FOUND THAT NO YEAR HAS MORE THAN ONE "YES" AND THAT NO HIGH-SECOND-HIGH AT ANY CLASS 1 RECEPTORS ARE IN VIOLATION. THE HIGH 50 WORKSHEETS ARE VERSIONS OF THE CULPABILITY WORKSHEETS THAT ARE SORTED BY INVENTORY HIGH IMPACT. THERE ARE ASCII TEXT FILES THAT CONTAIN THE SAME INFORMATION AS THE HIGH 50 WORKSHEETS. THE FOLLOWING CULPABILITY ANALYSIS FILES ARE PROVIDED;

C1-CUL87	WK1	606,746	02-20-96	CLASS 1 CULPABILITY WORKSHEET FOR 1987
C1-CUL88	WK1	426,925	02-20-96	CLASS 1 CULPABILITY WORKSHEET FOR 1988
C1-CUL89	WK1	445,300	02-20-96	CLASS 1 CULPABILITY WORKSHEET FOR 1989
C1-CUL90	WK1	677,178	02-20-96	CLASS 1 CULPABILITY WORKSHEET FOR 1990
C1-CUL91	WK1	621,715	02-20-96	CLASS 1 CULPABILITY WORKSHEET FOR 1991

C1HI5087	WK1	5.300	02-21-96	HIGH 50 RECEPTOR IMPACT WORKSHEET FOR 1987
C1HI5088	WK1	5.250	02-21-96	HIGH 50 RECEPTOR IMPACT WORKSHEET FOR 1988
C1HI5089	WK1	5.271	02-21-96	HIGH 50 RECEPTOR IMPACT WORKSHEET FOR 1989
C1HI5090	WK1	5.244	02-21-96	HIGH 50 RECEPTOR IMPACT WORKSHEET FOR 1990
C1HI5091	WK1	5.256	02-21-96	HIGH 50 RECEPTOR IMPACT WORKSHEET FOR 1991
HI50-87	PRN	2.752	02-21-96	HIGH 50 RECEPTOR IMPACT ASCII TEXT FOR 1987
HI50-88	PRN	2.479	02-21-96	HIGH 50 RECEPTOR IMPACT ASCII TEXT FOR 1988
HI50-89	PRN	2.479	02-21-96	HIGH 50 RECEPTOR IMPACT ASCII TEXT FOR 1989
HI50-90	PRN	2.479	02-21-96	HIGH 50 RECEPTOR IMPACT ASCII TEXT FOR 1990
HI50-91	PRN	2.479	02-21-96	HIGH 50 RECEPTOR IMPACT ASCII TEXT FOR 1991
C1-HSH	WK1	2.019	02-20-96	SUMMARY OF THE HIGH-SECOND-HIGHS, ALL YEARS

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR ANALYSIS  
PLEASE CALL ME.

FEBRUARY 21, 1996  
MARK KOLETZKE  
KOOGLER AND ASSOCIATES  
(904) 377-5822



# Department of Environmental Protection

## DIVISION OF AIR RESOURCES MANAGEMENT

### APPLICATION FOR AIR PERMIT - LONG FORM

**RECEIVED**

FEB 22 1996

See Instructions for Form No. 62-210.900(1)

BUREAU OF AIR REGULATION

#### I. APPLICATION INFORMATION

This section of the Application for Air Permit form provides general information on the scope of this application, the purpose for which this application is being submitted, and the nature of any construction or modification activities proposed as a part of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department on diskette, this section of the Application for Air Permit must also be submitted in hard-copy.

#### Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility name, if any; and a brief reference to the facility's physical location. If known, also enter the ARMS or AIRS facility identification number. This information is intended to give a quick reference, on the first page of the application form, to the facility addressed in this application. Elsewhere in the form, numbered data fields are provided for entry of the facility data in computer-input format.

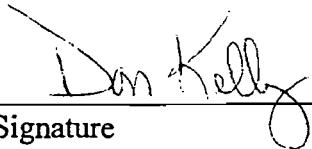
**Southdown, Inc., Brooksville Plant  
P.O. Box 6, Brooksville, Florida 34605-0006**

**ID: 0530010**

#### Application Processing Information (DEP Use)

1. Date of Receipt of Application:	2-22-96
2. Permit Number:	0530010-001-AC
3. PSD Number (if applicable):	PSD-F1-233
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Don Kelly, Plant Manager	
2. Owner/Authorized Representative or Responsible Official Mailing Address:  Organization/Firm: Southdown, Inc. Brooksville Plant Street Address: US Highway 98, NW of Brooksville City: Brooksville State: Florida Zip Code: 34605	
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (352) 796-7241 Fax: (352) 754-9836	
4. Owner/Authorized Representative or Responsible Official Statement:  <i>I, the undersigned, am the owner or authorized representative* of the facility (non-Title V source) addressed in this Application for Air Permit or the responsible official, as defined in Chapter 62-213, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. Further, I agree to operate and maintain the air pollutant emissions units and air pollution control equipment described in this application so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. If the purpose of this application is to obtain an air operation permit or operation permit revision for one or more emissions units which have undergone construction or modification, I certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>	
 _____ Signature	February 19, 1996 _____ Date

\* Attach letter of authorization if not currently on file.





**Purpose of Application and Category**

Check one (except as otherwise indicated):

**Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.
- Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: \_\_\_\_\_

- Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: \_\_\_\_\_

Operation permit to be revised: \_\_\_\_\_

- Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: \_\_\_\_\_

- Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category II: All Air Operation Permit Applications Subject to Processing Under Rule 62-210.300(2)(b), F.A.C.**

This Application for Air Permit is submitted to obtain:

- Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): \_\_\_\_\_

- Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: \_\_\_\_\_

- Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g., to address one or more newly constructed or modified emissions units.

Operation permit to be revised: \_\_\_\_\_

Reason for revision: \_\_\_\_\_

\_\_\_\_\_

**Category III: All Air Construction Permit Applications for All Facilities and Emissions Units**

This Application for Air Permit is submitted to obtain:

- Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source). **Current construction permits:**

Current operation permit number(s), if any: AC27-258569, -258570, -258571, -258572

- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): \_\_\_\_\_

- Air construction permit for one or more existing, but unpermitted, emissions units.

**Application Processing Fee**

Check one:

Attached - Amount: \$7,500

Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations:

This application is submitted to FDEP to request a change in the allowable emission rates for particulate matter (PM/PM10) from Kilns No. 1 and No. 2 and Clinker Coolers No. 1 and No. 2. The proposed PM limits for the two kilns are based on 0.2 lb/ton feed, and for the two clinker coolers are based on 0.1 lb/ton feed. This is not only consistent with the intent of the federal New Source Performance Standards (NSPS) but is also consistent with the most recent BACT determinations for other similar cement kilns in Florida. Although this will result in an increase for Kiln No. 2 PM emissions from 13.5 lbs/hr to 26.0 lbs/hr, it will also result in a decrease in PM emissions for Kiln No. 1 from 39.0 lbs/hr to 26.0 lbs/hr. The proposed limit for the two clinker coolers is 13.0 lbs/hr, each.

The existing carbon monoxide (CO) limits for Kilns No. 1 and No. 2 are extremely restrictive and provide no margin for fluctuations due to material and process variations under normal operations. The proposed limit for each kiln is 169.9 lbs/hr and is based on the most recent BACT determinations. Allowing variations in CO provides a greater control in NOx emissions.

A slight increase in the volatile organic compounds (VOCs) emission limit for Kiln No. 2 is requested from 7.4 lbs/hr to 13.0 lbs/hr.

As the proposed increases in PM and CO exceed the significant emission rates, a PSD review is required. In accordance with previous guidance from FDEP's Tallahassee office, only the information associated with the permit modification is submitted in this application.

2. Projected or Actual Date of Commencement of Construction (DD-MON-YYYY):  
01-MAY-1996

3. Projected Date of Completion of Construction (DD-MON-YYYY):  
01-OCT-1996

**Professional Engineer Certification**

1. Professional Engineer Name: <b>John B. Koogler, Ph.D., P.E.</b> Registration Number: <b>12925</b>
2. Professional Engineer Mailing Address:  Organization/Firm: <b>Koogler &amp; Associates</b> Street Address: <b>4014 NW 13th Street</b> City: <b>Gainesville</b> State: <b>FL</b> Zip Code: <b>32609</b>
3. Professional Engineer Telephone Numbers: Telephone: <b>(352) 377-5822</b> Fax: <b>(352) 377-7158</b>
4. Professional Engineer Statement:  <i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i>  <i>(1) To the best of my knowledge, there is reasonable assurance (a) that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; or (b) for any application for a Title V source air operation permit, that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application;</i>  <i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application; and</i>  <i>(3) For any application for an air construction permit for one or more proposed new or modified emissions units, the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i>  _____ Signature  _____ Date  (seal)

\* Attach any exception to certification statement.

**Application Contact**

1. Name and Title of Application Contact:

**Amarjit Singh Gill, P.E.,  
Director, Air Permitting**

2. Application Contact Mailing Address:

Organization/Firm: **Southdown, Inc.**  
Street Address: **1200 Smith Street, Suite 2400**  
City: **Houston** State: **TX** Zip Code: **77002**

3. Application Contact Telephone Numbers:

Telephone: **(713) 653-8098** Fax: **(713) 653-8567**

**Application Comment**

[Empty box for Application Comment]

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## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Name, Location, and Type

1. Facility Owner or Operator: <b>Southdown, Inc.</b>			
2. Facility Name: <b>Brooksville Plant</b>			
3. Facility Identification Number: <b>0530010</b>		[ ] Unknown	
4. Facility Location Information: Facility Street Address: <b>Highway 98, NW of Brooksville</b> City: <b>Brooksville</b> County: <b>Hernando</b> Zip Code: <b>34605</b>			
5. Facility UTM Coordinates: Zone: <b>17</b> East (km): <b>356.0</b> North (km): <b>3169.9</b>			
6. Facility Latitude/Longitude: Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
7. Governmental Facility Code: <b>0</b>	8. Facility Status Code: <b>A</b>	9. Relocatable Facility? [ ] Yes [X] No	10. Facility Major Group SIC Code: <b>32</b>
11. Facility Comment:  <b>Existing facility.</b>			

#### Facility Contact

1. Name and Title of Facility Contact: <b>Matt Stone</b>		
2. Facility Contact Mailing Address: Organization/Firm: <b>Southdown, Inc., Brooksville Plant</b> Street Address: <b>Highway 98, NW of Brooksville</b> City: <b>Brooksville</b> State: <b>Florida</b> Zip Code: <b>34605</b>		
3. Facility Contact Telephone Numbers: Telephone: <b>(352) 796-7241</b> Fax: <b>(352) 754-9836</b>		



**Facility Regulatory Classifications**

1. Small Business Stationary Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Unknown
2. Title V Source? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Synthetic Non-Title V Source? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
5. Synthetic Minor Source of Pollutants Other than HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. Major Source of Hazardous Air Pollutants (HAPs)? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Possible
7. Synthetic Minor Source of HAPs? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. One or More Emissions Units Subject to NSPS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9. One or More Emission Units Subject to NESHAP? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Title V Source by EPA Designation? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11. Facility Regulatory Classifications Comment:

## B. FACILITY REGULATIONS

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of federal, state, and local regulations applicable to the facility as a whole. (Regulations applicable to individual emissions units within the facility are addressed in Subsection III-B of the form.)

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

<b>T-V Core List</b>	
<b>Rule 62-4, FAC</b>	
<b>Rule 62-103, FAC</b>	
<b>Rule 62-210, FAC</b>	
<b>Rule 62-212, FAC</b>	
<b>Rule 62-213, FAC</b>	
<b>Rule 62-272, FAC</b>	
<b>Rule 62-275, FAC</b>	
<b>Rule 62-296, FAC</b>	
<b>Rule 62-297, FAC</b>	

### C. FACILITY POLLUTANT INFORMATION

This subsection of the Application for Air Permit form allows for the reporting of potential and estimated emissions of selected pollutants on a facility-wide basis. It must be completed for each pollutant for which the applicant proposes to establish a facility-wide emissions cap and for each pollutant for which emissions are not reported at the emissions-unit level.

**Facility Pollutant Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

NA

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

NA

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

NA

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

**Facility Pollutant Information:** Pollutant \_\_\_\_\_ of \_\_\_\_\_

NA

1. Pollutant Emitted:		
2. Estimated Emissions:		(tons/year)
3. Requested Emissions Cap:	(lb/hour)	(tons/year)
4. Basis for Emissions Cap Code:		
5. Facility Pollutant Comment:		

#### D. FACILITY SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the facility as a whole. (Supplemental information related to individual emissions units within the facility is provided in Subsection III-I of the form.) Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

##### Supplemental Requirements for All Applications

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

##### Additional Supplemental Requirements for Category I Applications Only

7. List of Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. List of Equipment/Activities Regulated under Title VI:  <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed  <input checked="" type="checkbox"/> Not Applicable

<p>9. Alternative Methods of Operation:  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>10. Alternative Modes of Operation (Emissions Trading):  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>11. Enhanced Monitoring Plan:  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>12. Risk Management Plan Verification:</p> <p><input type="checkbox"/> Plan Submitted to Implementing Agency - Verification Attached,  Document ID: _____</p> <p><input type="checkbox"/> Plan to be Submitted to Implementing Agency by Required Date</p> <p><input checked="" type="checkbox"/> Not Applicable</p>
<p>13. Compliance Report and Plan  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>
<p>14. Compliance Statement (Hard-copy Required)  <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable</p>

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

#### A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.



Emission Unit 1 of 4

**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section:  <b>No. 1 Cement Kiln</b>		
2. ARMS Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 32
6. Initial Startup Date (DD-MON-YYYY): NA		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY): NA		
8. Package Unit: NA Manufacturer: _____ Model Number: _____		
9. Generator Nameplate Rating: NA MW		
10. Incinerator Information: NA Dwell Temperature: _____ °F Dwell Time: _____ seconds Incinerator Afterburner Temperature: _____ °F		
11. Emissions Unit Comment:		

Emission Unit 1 of 4

Emissions Unit Control Equipment

A.

1. Description:  <b>Baghouse</b>
2. Control Device or Method Code: <b>016</b>

B.

1. Description: NA
2. Control Device or Method Code:

C.

1. Description: NA
2. Control Device or Method Code:

Emission Unit 1 of 4

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: <b>300</b>	mmBtu/hr
2. Maximum Incineration Rate: <b>NA</b>	lb/hr tons/day
3. Maximum Process or Throughput Rate: <b>130 tons per hour</b>	
4. Maximum Production Rate: <b>NA</b>	
5. Operating Capacity Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
<b>24 hours/day</b>	<b>7 days/week</b>
<b>52 weeks/year</b>	<b>8760 hours/year</b>

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA



**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:	
1	
2. Emission Point Type Code:	
<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit:	
NA	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
NA	
5. Discharge Type Code:	
<input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height: 150	feet
7. Exit Diameter: 13	feet
8. Exit Temperature: 285	°F
9. Actual Volumetric Flow Rate: 275,000	acfm

Emission Unit 1 of 4

10. Percent Water Vapor : NA	%
11. Maximum Dry Standard Flow Rate: NA	dscfm
12. Nonstack Emission Point Height: NA	feet
13. Emission Point UTM Coordinates: NA Zone: East (km): North (km):	
14. Emission Point Comment:	

Emission Unit 1 of 4

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):  <b>Raw material feed rate</b>	
2. Source Classification Code (SCC): <b>3-05-006-99</b>	
3. SCC Units: <b>Tons Material Processed</b>	
4. Maximum Hourly Rate: <b>130</b>	5. Maximum Annual Rate: <b>1,138,800</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>2.3</b>	
10. Segment Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	



Emission Unit 1 of 4

**Segment Description and Rate:** Segment \_\_\_\_ of \_\_\_\_

NA

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Emission Unit 1 of 4**

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   1   of   3  

1. Pollutant Emitted: <b>PM/PM10</b>			
2. Total Percent Efficiency of Control: <b>99+</b>		%	
3. Primary Control Device Code: <b>016</b>			
4. Secondary Control Device Code: <b>NA</b>			
5. Potential Emissions:	<b>26.0</b>	lb/hour	<b>113.9</b> tons/year
6. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year			
8. Emission Factor: <b>0.2 lb/ton dry feed</b> Reference: <b>BACT for FCS Kiln 2</b>			
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5			
10. Calculation of Emissions:  <p align="center"><b>See Appendix I.</b></p>			
11. Pollutant Potential/Estimated Emissions Comment:  <p><b>The 26.0 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 0.2 lb/ton.</b></p>			

Emission Unit 1 of 4

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>0.2 lb/ton dry feed</b>		
4. Equivalent Allowable Emissions:	<b>26.0</b> lb/hour	<b>113.9</b> tons/year
5. Method of Compliance: <b>EPA Method 5</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>Consistency with BACT determination for FCS Kiln 2, pursuant to Rule 62-212.400, FAC.</b>		

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**Emission Unit 1 of 4**

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   2   of   3  

1. Pollutant Emitted: <b>CO</b>		
2. Total Percent Efficiency of Control: <b>NA</b>		%
3. Primary Control Device Code: <b>NA</b>		
4. Secondary Control Device Code: <b>NA</b>		
5. Potential Emissions:	<b>169.9</b> lb/hour	<b>742.8</b> tons/year
6. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year		
8. Emission Factor: <b>1.307 lb/ton dry feed</b> Reference: <b>BACT</b>		
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5		
10. Calculation of Emissions:  <p align="center"><b>See Appendix I.</b></p>		
11. Pollutant Potential/Estimated Emissions Comment:  <p><b>The 169.9 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 1.307 lb/ton.</b></p>		

**Emission Unit 1 of 4**

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>1.307 lb/ton dry feed</b>		
4. Equivalent Allowable Emissions:	<b>169.9 lb/hour</b>	<b>742.8 tons/year</b>
5. Method of Compliance: <b>EPA Method 10</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC.</b>		

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	<b>lb/hr</b>	<b>tons/year</b>
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

Emission Unit 1 of 4

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   3   of   3  

1. Pollutant Emitted: <b>VOC</b>	
2. Total Percent Efficiency of Control: <b>NA</b>	%
3. Primary Control Device Code: <b>NA</b>	
4. Secondary Control Device Code: <b>NA</b>	
5. Potential Emissions:	<b>13.0</b> lb/hour <b>56.9</b> tons/year
6. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3                      _____ to _____ tons/year	
8. Emission Factor: <b>0.1 lb/ton dry feed</b> Reference: <b>Estimate</b>	
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	
10. Calculation of Emissions:  <p style="text-align: center;"><b>VOC = 0.1 lb/ton dry feed x 130 tph feed = 13.0 lb/hr</b>  <b>x 8760 hrs/yr x ton/2000 lbs                      =56.9 tpy</b></p>	
11. Pollutant Potential/Estimated Emissions Comment:	

Emission Unit 1 of 4

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: NA		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**B.**

1. Basis for Allowable Emissions Code: NA		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		





Emission Unit 1 of 4

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

Emission Unit 1 of 4

G. CONTINUOUS MONITOR INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:	
2. CMS Requirement:	<input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information:	
Manufacturer:	
Model Number:	Serial Number:
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Emission Unit 1 of 4

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

**Emission Unit 1 of 4**

2. Increment Consuming for Nitrogen Dioxide?      NA

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO2	lb/hour	tons/year	
NO2		tons/year	
5. PSD Comment:			

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> [   ] Not Applicable   [   ] Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable   [   ] Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable   [   ] Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable   [   ] Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID:  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

Emission Unit 1 of 4

**Additional Supplemental Requirements for Category I Applications Only**

NA

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable

14. Acid Rain Application (Hard-copy Required)  <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____  <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____  <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____  <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____  <input type="checkbox"/> Not Applicable
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III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

Type of Emissions Unit Addressed in This Section

Check one:

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.





Emissions Unit Control Equipment

A.

1. Description:  <b>Baghouse</b>
2. Control Device or Method Code: <b>016</b>

B.

1. Description: NA
2. Control Device or Method Code:

C.

1. Description: NA
2. Control Device or Method Code:

Emission Unit 2 of 4

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: <b>300</b>	mmBtu/hr
2. Maximum Incineration Rate: <b>NA</b>	lb/hr tons/day
3. Maximum Process or Throughput Rate: <b>130 tons per hour</b>	
4. Maximum Production Rate: <b>NA</b>	
5. Operating Capacity Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:		
	<b>24 hours/day</b>	<b>7 days/week</b>
	<b>52 weeks/year</b>	<b>8200 hours/year</b>

**Emission Unit 2 of 4**  
**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA
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**Emission Unit 2 of 4**

**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Page 12 and attached Report.	

**Emission Unit 2 of 4**

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:
2
2. Emission Point Type Code: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3. Descriptions of Emissions Points Comprising this Emissions Unit:  NA
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:  NA
5. Discharge Type Code: <input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W
6. Stack Height: <b>105</b> <span style="float: right;">feet</span>
7. Exit Diameter: <b>14</b> <span style="float: right;">feet</span>
8. Exit Temperature: <b>250</b> <span style="float: right;">°F</span>
9. Actual Volumetric Flow Rate: <b>300,000</b> <span style="float: right;">acfm</span>

Emission Unit 2 of 4

10. Percent Water Vapor : NA	%
11. Maximum Dry Standard Flow Rate: NA	dscfm
12. Nonstack Emission Point Height: NA	feet
13. Emission Point UTM Coordinates: NA Zone: East (km): North (km):	
14. Emission Point Comment:	

Emission Unit 2 of 4

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate:** Segment   1   of   1  

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):  <b>Raw Material Feed Rate</b>	
2. Source Classification Code (SCC): <b>3-05-006-99</b>	
3. SCC Units: <b>Tons Material Processed</b>	
4. Maximum Hourly Rate: <b>130</b>	5. Maximum Annual Rate: <b>1,066,000</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>2.3</b>	
10. Segment Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	



Emission Unit 2 of 4

Segment Description and Rate: Segment \_\_\_\_ of \_\_\_\_

NA

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**Emission Unit 2 of 4**  
**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions: Pollutant**   1   **of**   3  

1. Pollutant Emitted: <b>PM/PM10</b>	
2. Total Percent Efficiency of Control: <b>99+</b>	%
3. Primary Control Device Code: <b>016</b>	
4. Secondary Control Device Code: <b>NA</b>	
5. Potential Emissions:	<b>26.0</b> lb/hour <b>106.6</b> tons/year
6. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3                      _____ to _____ tons/year	
8. Emission Factor: <b>0.2 lb/ton dry feed</b> Reference: <b>BACT</b>	
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	
10. Calculation of Emissions:  <p style="text-align: center;"><b>See Appendix I.</b></p>	
11. Pollutant Potential/Estimated Emissions Comment:  <p><b>The 26.0 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 0.2 lb/ton.</b></p>	

**Emission Unit 2 of 4**

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>0.2 lb/ton dry feed</b>		
4. Equivalent Allowable Emissions:	<b>26.0</b> lb/hour	<b>106.6</b> tons/year
5. Method of Compliance: <b>EPA Method 5</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC.</b>		

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**Emission Unit 2 of 4**  
**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   2   of   3  

1. Pollutant Emitted: <b>CO</b>	
2. Total Percent Efficiency of Control: <b>NA</b>	%
3. Primary Control Device Code: <b>NA</b>	
4. Secondary Control Device Code: <b>NA</b>	
5. Potential Emissions:	<b>169.9 lb/hour</b> <b>696.6 tons/year</b>
6. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3                      _____ to _____ tons/year	
8. Emission Factor: <b>1.307 lb/ton dry feed</b> Reference: <b>BACT</b>	
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	
10. Calculation of Emissions:  <p style="text-align: center;"><b>See Appendix I.</b></p>	
11. Pollutant Potential/Estimated Emissions Comment:  <p><b>The 169.9 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 1.307 lb/ton.</b></p>	

**Emission Unit 2 of 4**

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>
2. Future Effective Date of Allowable Emissions: <b>NA</b>
3. Requested Allowable Emissions and Units: <b>1.307 lb/ton dry feed</b>
4. Equivalent Allowable Emissions: <b>169.9 lb/hour</b> <b>696.6 tons/year</b>
5. Method of Compliance: <b>EPA Method 10</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC.</b>

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: <b>lb/hr</b> <b>tons/year</b>
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

**Emission Unit 2 of 4**  
**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   3   of   3  

1. Pollutant Emitted: <b>VOC</b>			
2. Total Percent Efficiency of Control: <b>NA</b>		%	
3. Primary Control Device Code: <b>NA</b>			
4. Secondary Control Device Code: <b>NA</b>			
5. Potential Emissions:	<b>13.0</b>	lb/hour	<b>53.3 tons/year</b>
6. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year			
8. Emission Factor: <b>0.1 lb/ton dry feed</b> Reference: <b>Estimate</b>			
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5			
10. Calculation of Emissions:  <p align="center"><b>See Appendix I.</b></p>			
11. Pollutant Potential/Estimated Emissions Comment:			

**Emission Unit 2 of 4**

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>ESCPSD</b>		
2. Future Effective Date of Allowable Emissions: <b>NA</b>		
3. Requested Allowable Emissions and Units: <b>0.1 lb/ton dry feed</b>		
4. Equivalent Allowable Emissions:	<b>13.0</b> lb/hour	<b>53.3</b> tons/year
5. Method of Compliance: <b>EPA Method 25A</b>		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC .</b>		

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hr	tons/year
5. Method of Compliance:		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):		

**Emission Unit 2 of 4**  
**F. VISIBLE EMISSIONS INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitation:** Visible Emissions Limitation   1   of   1  

1. Visible Emissions Subtype: <b>VE</b>									
2. Basis for Allowable Opacity:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other								
3. Requested Allowable Opacity:	<table style="width: 100%; border: none;"> <tr> <td style="width: 40%;">Normal Conditions:</td> <td style="width: 20%; text-align: center;"><b>20%</b></td> <td style="width: 20%;">Exceptional Conditions:</td> <td style="width: 20%; text-align: center;">%</td> </tr> <tr> <td>Maximum Period of Excess Opacity Allowed:</td> <td></td> <td></td> <td style="text-align: center;">min/hour</td> </tr> </table>	Normal Conditions:	<b>20%</b>	Exceptional Conditions:	%	Maximum Period of Excess Opacity Allowed:			min/hour
Normal Conditions:	<b>20%</b>	Exceptional Conditions:	%						
Maximum Period of Excess Opacity Allowed:			min/hour						
4. Method of Compliance: <b>EPA Method 9</b>									
5. Visible Emissions Comment:									
<b>40 CFR 60, Subpart F.</b>									



Emission Unit 2 of 4

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment:			

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:			
2. Basis for Allowable Opacity:		<input type="checkbox"/> Rule	<input type="checkbox"/> Other
3. Requested Allowable Opacity:			
Normal Conditions:	%	Exceptional Conditions:	%
Maximum Period of Excess Opacity Allowed:			min/hour
4. Method of Compliance:			
5. Visible Emissions Comment:			

**Emission Unit 2 of 4**  
**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <span style="margin-left: 150px;"><input type="checkbox"/> Rule</span> <span style="margin-left: 100px;"><input type="checkbox"/> Other</span>
3. Monitor Information: Manufacturer: _____ Model Number: _____ Serial Number: _____
4. Installation Date (DD-MON-YYYY): _____
5. Performance Specification Test Date (DD-MON-YYYY): _____
6. Continuous Monitor Comment:

Emission Unit 2 of 4

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_\_ of \_\_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide? **YES**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.

The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

**Emission Unit 2 of 4**

2. Increment Consuming for Nitrogen Dioxide? NA

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour		tons/year
SO2	lb/hour		tons/year
NO2			tons/year
5. PSD Comment:			

Emission Unit 2 of 4

**I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION**

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

**Supplemental Requirements for All Applications**

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID:  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

NA

10. Alternative Methods of Operation [ ] Attached, Document ID: _____ [ ] Not Applicable
11. Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [ ] Not Applicable
12. Enhanced Monitoring Plan [ ] Attached, Document ID: _____ [ ] Not Applicable
13. Identification of Additional Applicable Requirements [ ] Attached, Document ID: _____ [ ] Not Applicable
14. Acid Rain Application (Hard-copy Required)  [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____  [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____  [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____  [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____  [ ] Not Applicable

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

#### A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.



**Emissions Unit Description and Status**

1. Description of Emissions Unit Addressed in This Section:  <p style="margin-left: 40px;"><b>No. 1 Clinker Cooler</b></p>		
2. ARMS Identification Number: <span style="margin-left: 150px;"><input type="checkbox"/> No Corresponding ID</span> <span style="margin-left: 50px;"><input checked="" type="checkbox"/> Unknown</span>		
3. Emissions Unit Status Code: <b>A</b>	4. Acid Rain Unit? <span style="margin-left: 20px;"><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</span>	5. Emissions Unit Major Group SIC Code: <b>32</b>
6. Initial Startup Date (DD-MON-YYYY): <b>NA</b>		
7. Long-term Reserve Shutdown Date (DD-MON-YYYY): <b>NA</b>		
8. Package Unit: <b>NA</b> Manufacturer: <span style="margin-left: 100px;">Model Number:</span>		
9. Generator Nameplate Rating: <b>NA</b> <span style="margin-left: 100px;">MW</span>		
10. Incinerator Information: <b>NA</b> <div style="display: flex; justify-content: space-between; margin-left: 100px;"> <span>Dwell Temperature:</span> <span>°F</span> </div> <div style="display: flex; justify-content: space-between; margin-left: 100px;"> <span>Dwell Time:</span> <span>seconds</span> </div> <div style="display: flex; justify-content: space-between; margin-left: 100px;"> <span>Incinerator Afterburner Temperature :</span> <span>°F</span> </div>		
11. Emissions Unit Comment:		

Emission Unit 3 of 4

**Emissions Unit Control Equipment**

**A.**

1. Description:

**Baghouse**

2. Control Device or Method Code: **016**

**B.**

1. Description: **NA**

2. Control Device or Method Code:

**C.**

1. Description: **NA**

2. Control Device or Method Code:

Emission Unit 3 of 4

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: NA	mmBtu/hr
2. Maximum Incineration Rate: NA      lb/hr	tons/day
3. Maximum Process or Throughput Rate: <b>130 tons per hour</b>	
4. Maximum Production Rate: NA	
5. Operating Capacity Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/year	8760 hours/year

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA



**Emission Unit 3 of 4**

**C. EMISSION POINT (STACK/VENT) INFORMATION**

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:	
3	
2. Emission Point Type Code:	
<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit:	
NA	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
NA	
5. Discharge Type Code:	
<input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height: 77	feet
7. Exit Diameter: 7.5	feet
8. Exit Temperature: 250	°F
9. Actual Volumetric Flow Rate: 110,000	acfm

Emission Unit 3 of 4

10. Percent Water Vapor : NA	%
11. Maximum Dry Standard Flow Rate: NA	dscfm
12. Nonstack Emission Point Height: NA	feet
13. Emission Point UTM Coordinates: NA Zone: East (km): North (km):	
14. Emission Point Comment:	

**Emission Unit 3 of 4**

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate:** Segment   1   of   1  

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):  <b>Raw material feed rate</b>	
2. Source Classification Code (SCC): <b>3-05-006-99</b>	
3. SCC Units: <b>Tons Material Processed</b>	
4. Maximum Hourly Rate: <b>130</b>	5. Maximum Annual Rate: <b>1,138,800</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>NA</b>	
10. Segment Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	



Emission Unit 3 of 4

**Segment Description and Rate:** Segment \_\_\_\_ of \_\_\_\_

NA

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

**E. POLLUTANT INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   1   of   1  

1. Pollutant Emitted: <b>PM/PM10</b>	
2. Total Percent Efficiency of Control: <b>99+</b>	%
3. Primary Control Device Code: <b>016</b>	
4. Secondary Control Device Code: <b>NA</b>	
5. Potential Emissions:	<b>13.0</b> lb/hour <b>56.9</b> tons/year
6. Synthetically Limited? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3                      _____ to _____ tons/year	
8. Emission Factor: <b>0.1 lb/ton dry feed</b> Reference: <b>BACT</b>	
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	
10. Calculation of Emissions:  <p style="text-align: center;"><b>See Appendix I.</b></p>	
11. Pollutant Potential/Estimated Emissions Comment:  <p><b>The 13.0 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 0.1 lb/ton.</b></p>	

Emission Unit 3 of 4

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>
2. Future Effective Date of Allowable Emissions: <b>NA</b>
3. Requested Allowable Emissions and Units: <b>0.1 lb/ton dry feed</b>
4. Equivalent Allowable Emissions: <b>13.0</b> lb/hour <b>56.9</b> tons/year
5. Method of Compliance: <b>EPA Method 5</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC.</b>

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:            lb/hr            tons/year
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):

Emission Unit 3 of 4

F. VISIBLE EMISSIONS INFORMATION

This subsection of the Application for Air Permit form must be completed for only those emissions units which are subject to a visible emissions limitation. The intent of this subsection of the form is to identify each activity associated with the emissions unit addressed in this section for which a separate opacity limitation would be applicable. Visible emission subtype codes for each such activity are listed in the instructions for Field 1. Most emissions units will be subject to a "subtype VE" limit only.

**Visible Emissions Limitation:** Visible Emissions Limitation   1   of   1  

1. Visible Emissions Subtype: <b>VE</b>	
2. Basis for Allowable Opacity:	<input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity:	
Normal Conditions:	<b>10 %</b> Exceptional Conditions:                  %
Maximum Period of Excess Opacity Allowed:	min/hour
4. Method of Compliance: <b>EPA Method 9</b>	
5. Visible Emissions Comment:	
<b>40 CFR 60, Subpart F.</b>	

Emission Unit 3 of 4

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:	
2. CMS Requirement:	[ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON <sub>7</sub> -YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Emission Unit 3 of 4

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide? **YES**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.



**Emission Unit 3 of 4**

2. Increment Consuming for Nitrogen Dioxide?                      NA

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	<input checked="" type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
SO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
NO2	<input type="checkbox"/> C	<input type="checkbox"/> E	<input type="checkbox"/> Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO2	lb/hour	tons/year	
NO2		tons/year	
5. PSD Comment:			

### I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

#### Supplemental Requirements for All Applications

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID:  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

NA

<p>10. Alternative Methods of Operation  <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable</p>
<p>11. Alternative Modes of Operation (Emissions Trading)  <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable</p>
<p>12. Enhanced Monitoring Plan  <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable</p>
<p>13. Identification of Additional Applicable Requirements  <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable</p>
<p>14. Acid Rain Application (Hard-copy Required)</p> <p><input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))  Attached, Document ID: _____</p> <p><input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)  Attached, Document ID: _____</p> <p><input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.)  Attached, Document ID: _____</p> <p><input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)  Attached, Document ID: _____</p> <p><input type="checkbox"/> Not Applicable</p>

### III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

#### A. GENERAL EMISSIONS UNIT INFORMATION

This subsection of the Application for Air Permit form provides general information on the emissions unit addressed in this Emissions Unit Information Section, including information on the type, control equipment, operating capacity, and operating schedule of the emissions unit.

##### Type of Emissions Unit Addressed in This Section

Check one:

- This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- This Emissions Unit Information Section addresses, as a single emissions unit, an individually-regulated emission point (stack or vent) serving a single process or production unit, or activity, which also has other individually-regulated emission points.
- This Emissions Unit Information Section addresses, as a single emissions unit, a collectively-regulated group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.



Emission Unit 4 of 4

**Emissions Unit Control Equipment**

**A.**

1. Description:  <b>Baghouse</b>
2. Control Device or Method Code: <b>016</b>

**B.**

1. Description: NA
2. Control Device or Method Code:

**C.**

1. Description: NA
2. Control Device or Method Code:

Emission Unit 4 of 4

**Emissions Unit Operating Capacity**

1. Maximum Heat Input Rate: NA	mmBtu/hr
2. Maximum Incineration Rate: NA      lb/hr	tons/day
3. Maximum Process or Throughput Rate: <b>130 tons per hour</b>	
4. Maximum Production Rate: NA	
5. Operating Capacity Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	

**Emissions Unit Operating Schedule**

Requested Maximum Operating Schedule:	
24 hours/day	7 days/week
52 weeks/year	8200 hours/year

**B. EMISSIONS UNIT REGULATIONS**

Depending on the application category, this subsection of the Application for Air Permit form provides either a brief analysis or detailed listing of all federal, state, and local regulations applicable to the emissions unit addressed in this Emissions Unit Information Section.

**Rule Applicability Analysis** (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

NA



**List of Applicable Regulations** (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Page 12 and attached Report.	

## C. EMISSION POINT (STACK/VENT) INFORMATION

This subsection of the Application for Air Permit form provides information about the emission point associated with the emissions unit addressed in this Emissions Unit Information Section. An emission point is typically a stack or vent but can be any identifiable location at which air pollutants, including fugitive emissions, are discharged into the atmosphere.

**Emission Point Description and Type**

1. Identification of Point on Plot Plan or Flow Diagram:	
4	
2. Emission Point Type Code:	
<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit:	
NA	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
NA	
5. Discharge Type Code:	
<input type="checkbox"/> D <input type="checkbox"/> F <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> R <input checked="" type="checkbox"/> V <input type="checkbox"/> W	
6. Stack Height: 90	feet
7. Exit Diameter: 9.7	feet
8. Exit Temperature: 250	°F
9. Actual Volumetric Flow Rate: 110,000	acfm

Emission Unit 4 of 4

10. Percent Water Vapor : NA	%
11. Maximum Dry Standard Flow Rate: NA	dscfm
12. Nonstack Emission Point Height: NA	feet
13. Emission Point UTM Coordinates: NA Zone: East (km): North (km):	
14. Emission Point Comment:	

**D. SEGMENT (PROCESS/FUEL) INFORMATION**

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of segment data (Fields 1-10) must be completed for each segment required to be reported and for each alternative operating method or mode (emissions trading scenario) under Chapter 62-213, F.A.C., for which the maximum hourly or annual segment-related rate would vary. A segment is a material handling, process, fuel burning, volatile organic liquid storage, production, or other such operation to which emissions of the unit are directly related. See instructions for further details on this subsection of the Application for Air Permit.

**Segment Description and Rate:** Segment  1  of  1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):  <b>Raw Material Feed Rate</b>	
2. Source Classification Code (SCC): <b>3-05-006-99</b>	
3. SCC Units: <b>Tons Material Processed</b>	
4. Maximum Hourly Rate: <b>130</b>	5. Maximum Annual Rate: <b>1,066,000</b>
6. Estimated Annual Activity Factor: <b>NA</b>	
7. Maximum Percent Sulfur: <b>NA</b>	8. Maximum Percent Ash: <b>NA</b>
9. Million Btu per SCC Unit: <b>NA</b>	
10. Segment Comment:  <b>Although the USEPA interprets feed to the preheater as the feed to the kiln for NSPS purposes, FDEP differentiates between feed to the preheater and feed to the kiln. Consequently, a preheater feed rate of 145 tons per hour of raw feed corresponds to a feed rate of 130 tons per hour to the kiln.</b>	

Emission Unit 4 of 4

Segment Description and Rate: Segment \_\_\_\_ of \_\_\_\_

NA

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment:	

## E. POLLUTANT INFORMATION

For the emissions unit addressed in this Emissions Unit Information Section, a separate set of pollutant information must be completed for each pollutant required to be reported. See instructions for further details on this subsection of the Application for Air Permit.

**Pollutant Potential/Estimated Emissions:** Pollutant   1   of   3  

1. Pollutant Emitted: <b>PM/PM10</b>	
2. Total Percent Efficiency of Control: <b>99+</b>	%
3. Primary Control Device Code: <b>016</b>	
4. Secondary Control Device Code: <b>NA</b>	
5. Potential Emissions:	<b>13.0</b> lb/hour <span style="float: right;"><b>53.3</b> tons/year</span>
6. Synthetically Limited? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
7. Range of Estimated Fugitive/Other Emissions: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3      _____ to _____ tons/year	
8. Emission Factor: <b>0.1 lb/ton dry feed</b> Reference: <b>BACT</b>	
9. Emissions Method Code: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	
10. Calculation of Emissions:  <b>See Appendix I.</b>	
11. Pollutant Potential/Estimated Emissions Comment:  <b>The 13.0 pounds per hour emission rate is calculated by multiplying 130 tons per hour by 0.1 lb/ton.</b>	

Emission Unit 4 of 4

**Allowable Emissions** (Pollutant identified on front of page)

**A.**

1. Basis for Allowable Emissions Code: <b>Rule</b>
2. Future Effective Date of Allowable Emissions: <b>NA</b>
3. Requested Allowable Emissions and Units: <b>0.1 lb/ton dry feed</b>
4. Equivalent Allowable Emissions: <b>13.0</b> lb/hour <b>53.3</b> tons/year
5. Method of Compliance: <b>EPA Method 5</b>
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):  <b>BACT determination pursuant to Rule 62-212.400, FAC.</b>

**B.**

1. Basis for Allowable Emissions Code: <b>NA</b>
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions:                            lb/hr                            tons/year
5. Method of Compliance:
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode):





Emission Unit 4 of 4

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_\_\_\_ of \_\_\_\_\_

NA

1. Visible Emissions Subtype:
2. Basis for Allowable Opacity: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Requested Allowable Opacity: Normal Conditions:                    %                    Exceptional Conditions:                    % Maximum Period of Excess Opacity Allowed:                    min/hour
4. Method of Compliance:
5. Visible Emissions Comment:

**G. CONTINUOUS MONITOR INFORMATION**

This subsection of the Application for Air Permit form must be completed for only those emissions units which are required by rule or permit to install and operate one or more continuous emission, opacity, flow, or other type monitors. A separate set of continuous monitor information (Fields 1-6) must be completed for each monitoring system required.

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:	
2. CMS Requirement:	[ ] Rule [ ] Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:	
4. Installation Date (DD-MON-YYYY):	
5. Performance Specification Test Date (DD-MON-YYYY):	
6. Continuous Monitor Comment:	

Emission Unit 4 of 4

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

NA

1. Parameter Code:
2. CMS Requirement: <input type="checkbox"/> Rule <input type="checkbox"/> Other
3. Monitor Information: Manufacturer: Model Number: Serial Number:
4. Installation Date (DD-MON-YYYY):
5. Performance Specification Test Date (DD-MON-YYYY):
6. Continuous Monitor Comment:

**H. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION**

This subsection of the Application for Air Permit form must be completed for all applications, not just those undergoing prevention-of-significant-deterioration (PSD) review pursuant to Rule 62-212.400, F.A.C. The intent of this subsection is to make a preliminary determination as to whether the emissions unit addressed in this Emissions Unit Information Section consumes PSD increment. PSD increment is consumed (or expanded) as a result of emission increases (decreases) occurring after pollutant-specific baseline dates. Pollutants for which baseline dates have been established are sulfur dioxide, particulate matter, and nitrogen dioxide.

**PSD Increment Consumption Determination**

1. Increment Consuming for Particulate Matter or Sulfur Dioxide? **YES**

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

- [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.
- [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

**Emission Unit 4 of 4**

2. Increment Consuming for Nitrogen Dioxide? NA

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

- The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- The facility addressed in this application is classified as an EPA major source, and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and emissions unit consumes increment.
- None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3. Increment Consuming/Expanding Code:			
PM	[X] C	[ ] E	[ ] Unknown
SO2	[ ] C	[ ] E	[ ] Unknown
NO2	[ ] C	[ ] E	[ ] Unknown
4. Baseline Emissions:			
PM	lb/hour	tons/year	
SO2	lb/hour	tons/year	
NO2		tons/year	
5. PSD Comment:			

### I. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

This subsection of the Application for Air Permit form provides supplemental information related to the emissions unit addressed in this Emissions Unit Information Section. Supplemental information must be submitted as an attachment to each copy of the form, in hard-copy or computer-readable form.

#### Supplemental Requirements for All Applications

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: <b>Report</b> <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____  <input type="checkbox"/> Previously submitted, Date: _____  <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
8. Supplemental Information for Construction Permit Application <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**Additional Supplemental Requirements for Category I Applications Only**

NA

10. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
12. Enhanced Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable
14. Acid Rain Application (Hard-copy Required)  <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____  <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____  <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____  <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____  <input type="checkbox"/> Not Applicable

REPORT IN SUPPORT OF A  
PREVENTION OF SIGNIFICANT DETERIORATION  
REVIEW

PREPARED FOR:

SOUTHDOWN, INC., BROOKSVILLE PLANT  
HERNANDO COUNTY, FLORIDA

FEBRUARY 1996

PREPARED BY:

KOGLER & ASSOCIATES  
4014 N.W. 13TH STREET  
GAINESVILLE, FLORIDA 32609  
(904) 377-5822



## TABLE OF CONTENTS

	PAGE
1.0 SYNOPSIS OF APPLICATION	1
1.1 Applicant	1
1.2 Facility Location	1
1.3 Project Description	1
2.0 FACILITY DESCRIPTION	4
3.0 PROPOSED PROJECT	9
3.1 Project Description	9
3.2 Rule Review	10
3.2.1 Ambient Air Quality Standards	11
3.2.2 PSD Increments	11
3.2.3 Control Technology Evaluation	12
3.2.4 Air Quality Monitoring	14
3.2.5 Ambient Impact Analysis	15
3.2.6 Additional Impact Analysis	15
3.2.7 Good Engineering Practice Stack Height	16
3.3 Rule Applicability	17
4.0 BEST AVAILABLE CONTROL TECHNOLOGY	24
4.1 Emission Standards for Portland Cement Plants	24
4.2 Previous BACT Determinations	25
4.2.1 Previous BACT determinations for PM	25
4.2.2 Previous BACT determinations for CO	25
4.3 Particulate Matter Control Technology	26
4.4 Carbon Monoxide Control Technology	26
4.5 BACT Conclusion	27

TABLE OF CONTENTS (CONTINUED)

	PAGE
5.0 AIR QUALITY REVIEW	28
5.1 Air Quality Modeling	28
5.2 Modeling Results	29
6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT	54
7.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY	55
7.1 Impacts on Soils and Vegetation	55
7.2 Growth Related Impacts	56
7.3 Visibility Impacts	56
8.0 CONCLUSION	59
APPENDIX I - CALCULATIONS	
APPENDIX II - MODELING OUTPUT	
APPENDIX III - CURRENT PERMITS	

*AQREV impacts ?*

## LIST OF FIGURES

FIGURE	TITLE	PAGE
FIGURE 2-1	AREA LOCATION MAP	5
FIGURE 2-2	SITE LOCATION MAP	6
FIGURE 2-3	PLOT PLAN	7
FIGURE 2-4	PROCESS FLOW DIAGRAM	8
FIGURE 5-1	RECEPTOR LOCATIONS - ALL	52
FIGURE 5-2	RECEPTOR LOCATIONS - CLOSE-IN	53

## LIST OF TABLES

---

TABLE	TITLE	PAGE
TABLE 1-1	CURRENT AND PROPOSED HOURLY EMISSION RATES	3
TABLE 3-1	CHANGES IN ANNUAL EMISSION RATES	18
TABLE 3-2	NET EMISSION INCREASES	19
TABLE 3-3	MAJOR FACILITY CATEGORIES	20
TABLE 3-4	SIGNIFICANT EMISSION RATES	21
TABLE 3-5	AMBIENT AIR QUALITY STANDARDS	22
TABLE 3-6	PSD INCREMENTS	23
TABLE 5-1	AIR QUALITY MODELING PARAMETERS	30
TABLE 5-2	SUMMARY OF MODELING ANALYSIS	31
TABLE 5-3	LIST OF PM/PM10 SOURCES- 20XD	32
TABLE 5-4	CLASS I AREA SOURCE INVENTORY	34
TABLE 5-5	CLASS II AREA SOURCE INVENTORY	43
TABLE 5-6	FAAQS SOURCE INVENTORY	46
TABLE 5-7	SUMMARY OF CLASS I AREA ANALYSIS RESULTS	49
TABLE 5-8	SUMMARY OF CLASS II AREA ANALYSIS RESULTS	50
TABLE 5-9	SUMMARY OF FAAQS ANALYSIS	51
TABLE 7-1	SUMMARY OF VISCREEN ANALYSIS	57
TABLE 7-2	SUMMARY OF REGIONAL HAZE ANALYSIS	58

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## 1.0 SYNOPSIS OF APPLICATION

### 1.1 APPLICANT

Southdown, Inc., Brooksville Plant  
Post Office Box 6  
Brooksville, FL 34605

### 1.2 FACILITY LOCATION

Southdown, Inc. (Southdown) owns and operates a portland cement manufacturing facility approximately nine miles northwest of Brooksville, off US Highway 98 in Hernando County, Florida. The UTM coordinates of the Southdown facility are Zone 17, 356.0 km East and 3169.2 km North.

### 1.3 PROJECT DESCRIPTION

Southdown requests amendments to four permits and requests that the impacts be reviewed simultaneously for Prevention of Significant Deterioration (PSD) review purposes. The four permits are:

<u>Emission Unit</u>	<u>Permit No.</u>
Kiln No. 1	AC27-258571
Kiln No. 2	AC27-258572
Clinker Cooler No. 1	AC27-258569
Clinker Cooler No. 2	AC27-258570

This amendment proposes a particulate matter (PM) emission limit for each cement kiln based on 0.2 lb/ton kiln feed, i.e. 26.0 lbs/hr; and, an emission limit based on 0.1 lb/ton kiln feed for each clinker cooler, i.e. 13.0 lbs/hr. The amendment also proposes a carbon monoxide (CO) emission limit for each kiln based on 1.307 lb/ton kiln feed, i.e. 169.9 lbs/hr.

In addition it is proposed that the volatile organic compound (VOC) emission limit for Kiln No. 2 be based on 0.1 lb/ton kiln feed, i.e. 13.0 lbs/hr. There is no VOC emission limit on Kiln 1 and none is proposed in this application. These proposed changes are summarized in Table 1-1. No other permit changes are requested.

TABLE 1-1  
 CURRENT AND PROPOSED HOURLY EMISSION RATES  
 SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

<u>EMISSION UNIT</u>	<u>POLLUTANT</u>	<u>ALLOWABLE EMISSION RATE, lbs/hr</u>	
		<u>CURRENT</u>	<u>PROPOSED</u>
No. 1 Cement Kiln	PM/PM10	39.0	26.0
	CO	57.7	169.9
No. 2 Cement Kiln	PM/PM10	13.5	26.0
	CO	64.0	169.9
	VOC	7.4	13.0
No. 1 Clinker Cooler	PM/PM10	7.13	13.0
No. 2 Clinker Cooler	PM/PM10	5.0	13.0

## 2.0 FACILITY DESCRIPTION

Southdown owns and operates the Brooksville portland cement manufacturing facility located off US Highway 98 in Hernando County, Florida (See Figures 2-1, 2-2 and 2-3). The UTM coordinates of the facility are Zone 17, 356.0 km East and 3169.2 km North. At the Brooksville facility, Southdown produces clinker in two preheater kilns. At the discharge end of each kiln there is a clinker cooler. The clinker is mixed with approximately 6 percent gypsum and ground into finished product. The No. 1 kiln is currently permitted under AC27-258571, while No. 2 kiln is permitted under A027-258572. The No. 1 clinker cooler is currently permitted under AC27-258569, while No. 2 clinker cooler is permitted under A027-258570.

Both kilns are permitted for a maximum 1-hour kiln preheater feed rate of 165 tons per hour and a corresponding kiln feed rate of 148 tons per hour; and, a 30-day average kiln preheater feed rate of 145 tons per hour and a corresponding kiln feed rate of 130 tons per hour. The maximum heat input rate to each kiln is 300 MMBTU per hour. Each kiln utilizes a baghouse to control the emissions of particulate matter. There are no add-on controls for any of the other pollutants emitted from the cement kilns.

Both clinker coolers are permitted for a maximum 1-hour throughput rate of 90 tons per hour; and, a 30-day average throughput rate of 84 tons per hour. Each clinker cooler utilizes a baghouse to control the emissions of particulate matter. A process flow diagram is presented in Figure 2-4.



# Best Available Copy

FIGURE 2-1 : AREA LOCATION MAP

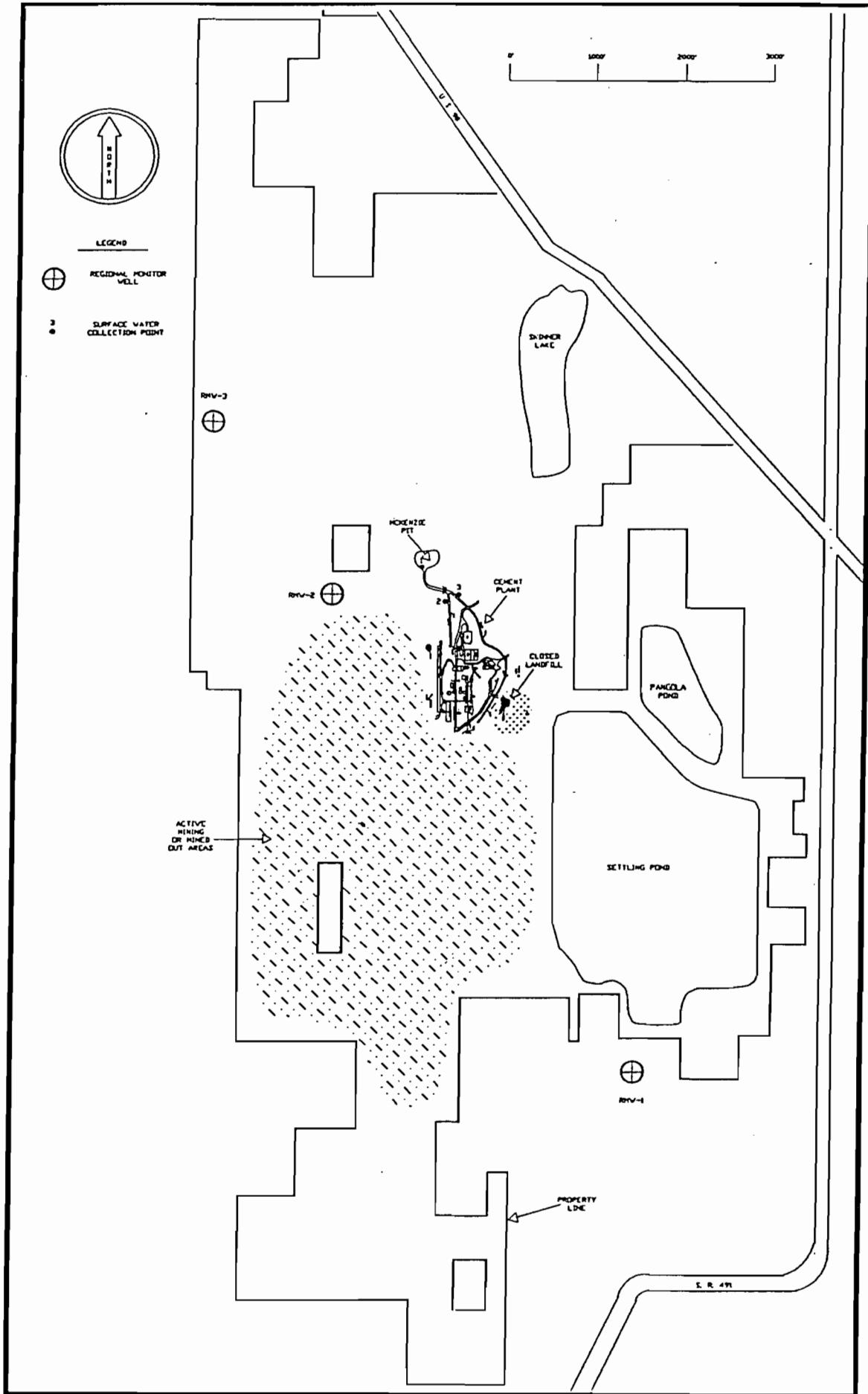
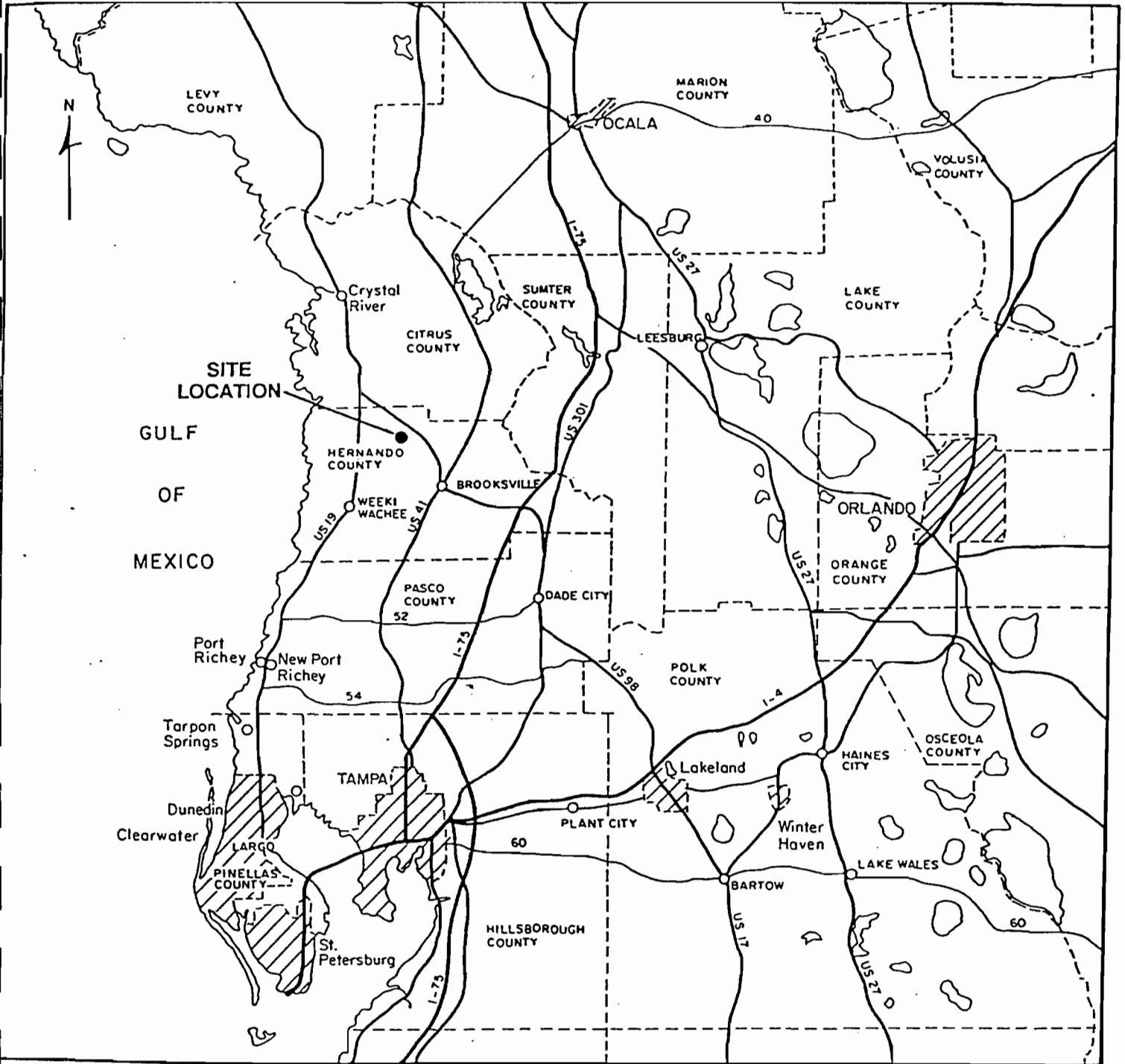


FIGURE 2-2

SITE LOCATION MAP



Best Available Copy

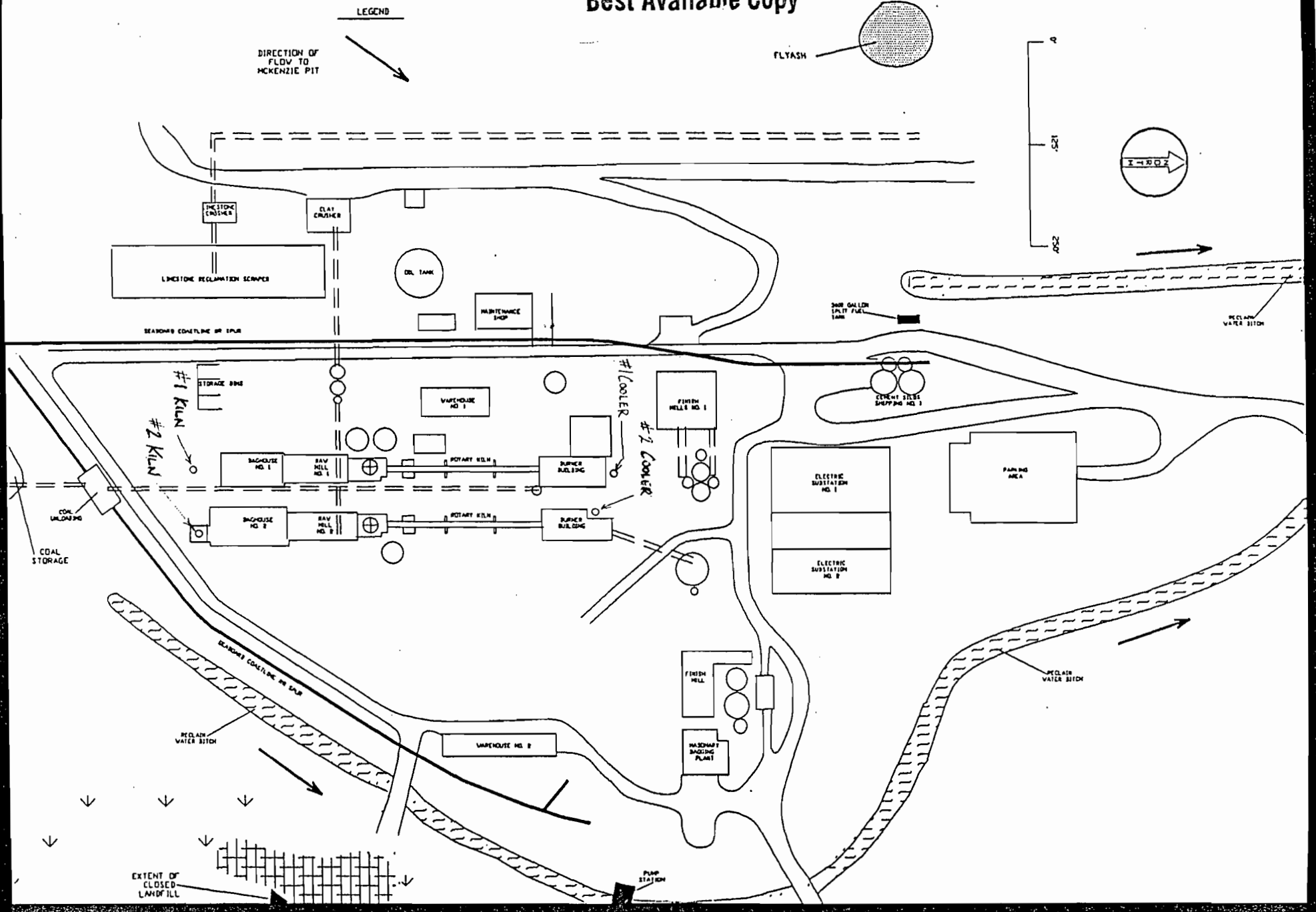
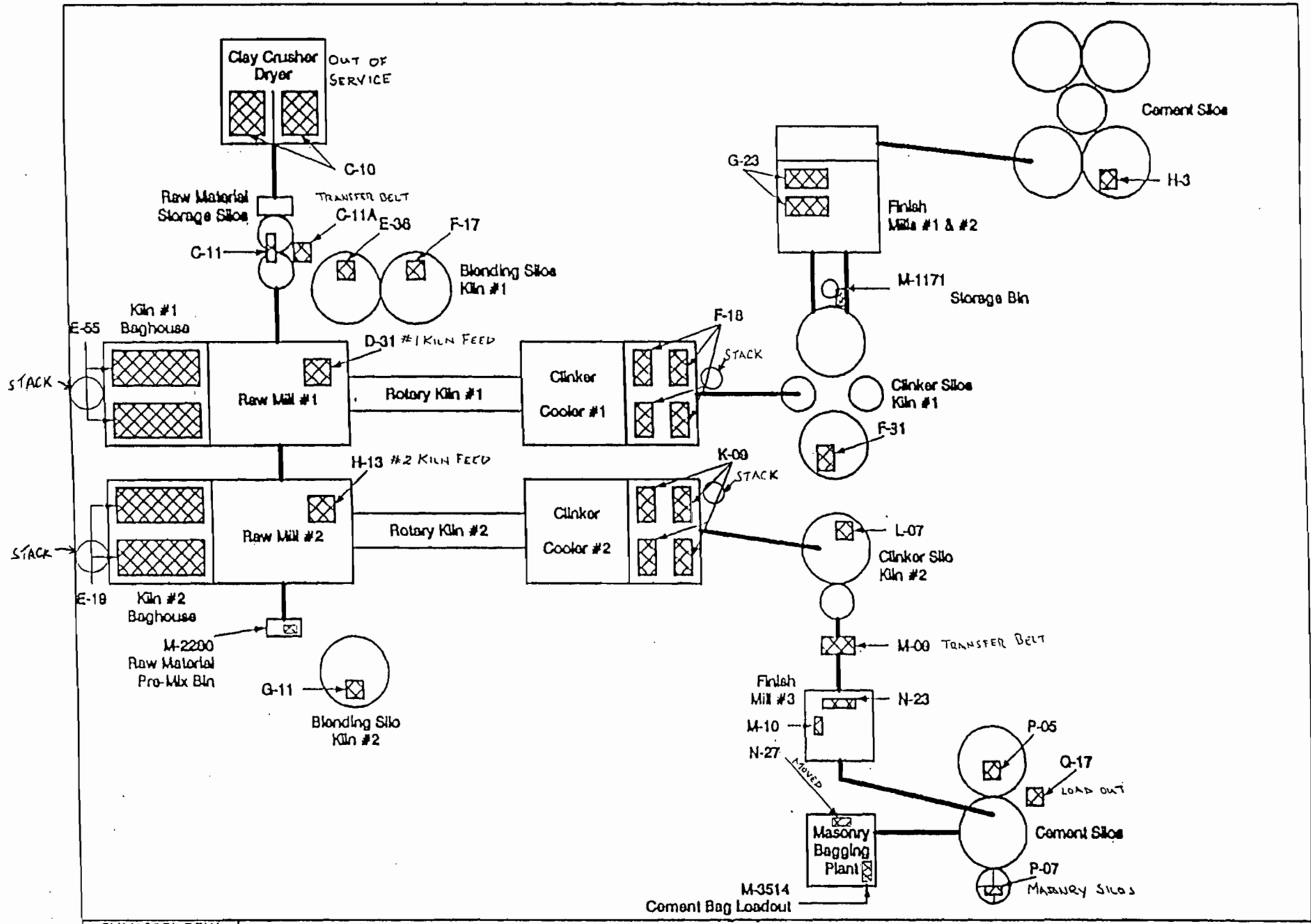


FIGURE 2-3 : PLOT PLAN

7

FIGURE 2-4 : PROCESS FLOW DIAGRAM



### 3.0 PROPOSED PROJECT

#### 3.1 PROJECT DESCRIPTION

Southdown proposes to increase the permitted emission rates of PM/PM10, CO and VOCs, presented in Table 3-1, in order to allow for the fluctuations in emission rates during normal operation.

There will be no change in the method of operation or annual operating hours of the two kilns. Also, no changes are requested in the emission rates of other air pollutants presently regulated for the two kilns.

The proposed project will result in a significant net increase (in accordance with Table 212.400-2 of Chapter 62-212, Florida Administrative Code, FAC) in the emission rate of PM/PM10 and CO (see Table 3-2). As those proposed emission rate increases will be significant, a Prevention of Significant Deterioration (PSD) review is required.

### 3.2 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a Prevention of Significant Deterioration (PSD) review.

In accordance with EPA and State of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations which are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC). All new major facilities and major modifications to existing facilities are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 3-3) which has the potential to emit 100 tons

per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 3-4).

### 3.2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 3-5). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas are usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements which would ensure continued attainment status.

### 3.2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration level for sulfur dioxide and particulate matter which would constitute significant deterioration. The size of the allowable increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas

and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides and PSD increments for nitrogen dioxide concentrations. FDEP adopted the nitrogen dioxide increments in July 1990 (see Table 3-6 for PSD increments).

### 3.2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Rule 62-212.410, FAC, as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant. If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design,



equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods or shall provide for determining compliance with the standard(s) by means which achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA recently determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires a technology evaluation to start with the most stringent control alternative, often Lowest Achievable

Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

#### 3.2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements for a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts below the de minimis levels (Table 3-4).

### 3.2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

### 3.2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation that would occur as a result of the project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed.

### 3.2.7 Good Engineering Practice Stack Height

In accordance with Rule 62-210.550, FAC, the degree of emission limitation required for control of any pollutant is not to be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the highest of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

$H_g$  - GEP stack height,

$H$  - Height of the structure or nearby structure, and

$L$  - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

### 3.3 RULE APPLICABILITY

The proposed increase in the allowable emissions from the Southdown facility is classified as a major modification to a major facility subject to both state and federal regulations as set forth in Chapter 62-212, FAC. The facility is located in an area classified as attainment for each of the regulated air pollutants. The proposed project will therefore be subject to PSD review requirements in accordance with Rule 62-212.400, FAC. This will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

TABLE 3-1  
 CHANGES IN ANNUAL EMISSION RATES  
 SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

<u>EMISSION UNIT</u>	<u>POLLUTANT</u>	<u>ALLOWABLE EMISSION RATES</u>			
		<u>CURRENT</u>		<u>PROPOSED</u>	
		<u>lb/hr</u>	<u>tpy</u>	<u>lb/hr</u>	<u>tpy</u>
No. 1 Cement Kiln	PM/PM10	39.0	170.8	26.0	113.9
	CO	57.7	234.4	169.9	742.8
No. 2 Cement Kiln	PM/PM10	13.5	55.4	26.0	106.6
	CO	64.0	262.4	169.9	696.6
	VOC	7.4	30.34	13.0	53.3
No. 1 Clinker Cooler	PM/PM10	7.13	28.14	13.0	56.9
No. 2 Clinker Cooler	PM/PM10	5.0	20.5	13.0	53.3

TABLE 3-2  
NET EMISSION INCREASES(1)

SOUTHDOWN, INC.  
HERNANDO COUNTY, FLORIDA

	NET EMISSIONS INCREASE (TPY)		
	PM/PM10	CO	VOCs
Current Limit	274.84	496.8	30.34
Proposed Limit	330.7	1439.4	53.3
Contemporaneous	0	99.9	0
Net Change	55.9	1042.5	23.0
Significant Increase (2)	25/15	100	40
PSD Review	YES	YES	NO

(1) See Appendix for emission calculations.

(2) Presented in Table 212.400-2, FAC.

TABLE 3-3  
MAJOR FACILITY CATEGORIES  
SOUTHDOWN, INC.  
HERNANDO COUNTY, FLORIDA

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr heat input  
Coal cleaning plants (with thermal dryers)  
Kraft pulp mills  
**Portland cement plants**  
Primary zinc smelters  
Iron and steel mill plants  
Primary aluminum ore reduction plants  
Primary copper smelters  
Municipal incinerators capable of charging more than 250 tons of refuse per day  
Hydrofluoric acid plants  
Sulfuric acid plants  
Nitric acid plants  
Petroleum refineries  
Lime plants  
Phosphate rock processing plants  
Coke oven batteries  
Sulfur recovery plants  
Carbon black plants (furnace process)  
Primary lead smelters  
Fuel conversion plants  
Sintering plants  
Secondary metal production plants  
Chemical process plants  
Fossil fuel boilers (or combinations thereof) totaling more than 250 million  
BTU/hr heat input  
Petroleum storage and transfer units with total storage capacity exceeding  
300,000 barrels  
Taconite ore processing plants  
Glass fiber processing plants  
Charcoal production plants



TABLE 3-4  
 REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

Pollutant	Significant Emission Rate tons/yr	De minimis Ambient Impacts $\mu\text{g}/\text{m}^3$
CO	100	575 (8-hour)
NOx	40	14 (NO2, Annual)
SO2	40	13 (24-hour)
Ozone	40 (VOC)	-
PM (TSP)	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H2S)	10	0.2 (1-hour)
H2SO4 mist	7	-
Fluorides	3	0.25 (24-hour)
Vinyl Chloride	1	15 (24-hour)
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)
Asbestos	14	-
Beryllium	0.8	0.001 (24-hour)

TABLE 3-5  
 AMBIENT AIR QUALITY STANDARDS

SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

Pollutant	FDEP (State)		USEPA (National)			
			Primary		Secondary	
	$\mu\text{g}/\text{m}^3$	PPM	$\mu\text{g}/\text{m}^3$	PPM	$\mu\text{g}/\text{m}^3$	PPM
SO <sub>2</sub> , 3-hour 24-hour Annual	1,300	0.5	-	-	1300	0.5
	260	0.1	365	0.14	-	-
	60	0.02	80	0.03	-	-
PM <sub>10</sub> , 24-hour Annual	150	-	150	-	150	-
	50	-	50	-	50	-
CO, 1-hour 8-hour	40,000	35	40,000	35	-	-
	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO <sub>2</sub> , Annual	100	0.05	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 3-6  
 PSD INCREMENTS  
 SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

Pollutant	Allowable PSD Increments (State/National)		
	Class I $\mu\text{g}/\text{m}^3$	Class II $\mu\text{g}/\text{m}^3$	Class III $\mu\text{g}/\text{m}^3$
TSP, Annual	5	19	37
24-hour	10	37	75
SO <sub>2</sub> , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO <sub>2</sub> , Annual	2.5	25	50

#### 4.0 BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology (BACT) is required to control air pollutants emitted from newly constructed major sources or from modification to the major emitting facilities if the modification results in significant increase in the emission rate of regulated pollutants (see Table 3-4 for significant emission levels). The emission rate increases of PM and CO proposed by Southdown represents a significant increase. A BACT analysis is therefore required for PM and CO.

#### 4.1 EMISSION STANDARDS FOR PORTLAND CEMENT PLANTS

Federal New Source Performance Standards (NSPS) have been promulgated for portland cement plants. These standards became effective on August 17, 1971, are codified in 40CFR60, Subpart F, and require particulate matter emissions from a cement kiln to be limited to no more than 0.30 pound per ton of feed. The visible emissions from the kiln are limited to no more than 20 percent opacity. Particulate emissions from a clinker cooler are limited to no more than 0.10 pound per ton feed. The visible emissions from the cooler are limited to less than 10 percent opacity. The NSPS do not address the emissions of other criteria pollutants from portland cement manufacturing.

EPA revised/amended the New Source Performance Standards for portland cement plants in 1989. At that time, no changes to the emission standard were deemed necessary or justified.

The emission standards in Rule 62-296, FAC applicable to new portland cement plants, are identical to those contained in 40CFR60, Subpart F and also address only particulate matter and visible emissions.

#### 4.2 PREVIOUS BACT DETERMINATIONS

A review of the EPA BACT/LAER Clearinghouse identified a number of BACT determinations for portland cement plants. These BACT determinations addressed not only particulate matter, but also other criteria pollutants emitted from portland cement manufacturing facilities. The emission limits for PM/PM10 and CO from cement kilns have been evaluated by regulatory agencies in several states. The most recent BACT determinations in this category were proposed by FDEP for Florida Rock Industries and Florida Crushed Stone.

##### 4.2.1 PREVIOUS BACT DETERMINATIONS FOR PM/PM10

A review of the EPA BACT/LAER Clearinghouse identified a number of BACT determinations for PM/PM10 emissions from portland cement plants. These determinations indicate the use of either a baghouse or an electrostatic precipitator (ESP) for kilns and clinker coolers. The most recent BACT determination, for Florida Crushed Stone, reflects an emission limit 0.2 and 0.1 lb/ton dry feed respectively for the kiln and clinker cooler.

##### 4.2.2 PREVIOUS BACT DETERMINATIONS FOR CO

A review of the EPA BACT/LAER Clearinghouse identified a number of BACT determinations for CO emissions from cement kilns. These determinations indicate the use of good operation practices and emission limitations

ranging from 1.307 to 2.7 lb/ton dry feed. The most recent determination, for Florida Crushed Stone, reflects an emission limit of 1.307 lb/ton dry feed.

#### 4.3 PARTICULATE MATTER CONTROL TECHNOLOGY

Particulate emissions from kilns and clinker coolers are generated from material processing. Some of the factors which affect the emissions include method of material movement, convective patterns and the air flow system. The most common types of control equipment utilized for these emission units are baghouses and ESPs. Southdown proposes the continued use of the existing baghouses for PM control.

#### 4.4 CARBON MONOXIDE CONTROL TECHNOLOGY

Carbon monoxide is formed as an intermediate product of the chemical reaction between carbonaceous fuels and oxygen. When an insufficient quantity of oxygen is provided, CO is formed as a product of the combustion process. CO may originate in high-temperature regions of the combustion zone, where chemical equilibrium dictates that dissociation of CO<sub>2</sub> into CO should occur. The effects of fuel-air ratio, degree of mixing, and temperature may lead to significant CO formation in the hot combustion zone. The calcining of limestone in the pyroprocess liberates large amounts of CO<sub>2</sub>, which is available for dissociation into CO. In cement plants there appears to be an inverse relationship between NO<sub>x</sub> and CO, i.e. NO<sub>x</sub> increases as CO decreases. Therefore, trying to control CO to a low level may cause NO<sub>x</sub> levels to increase. At the Brooksville facility, the operators have been trained to operate the kilns at low NO<sub>x</sub> levels.

Emphasizing low CO levels may lead to higher NOx emissions. Carbon monoxide, unlike other major gaseous pollutants, does not lend itself to exhaust gas removal techniques. No add-on controls for CO have been demonstrated for cement plants. Process control, process design, and combustion unit design have been determined to represent BACT for cement kilns. In line with recent FDEP determinations, Southdown proposes to use combustion control as BACT for the kilns.

#### 4.5 BACT CONCLUSION

Based upon the above analysis, the use of baghouses to control PM/PM10 emissions from the kilns and clinker coolers; and, the use of proper operation practices to control CO emissions from the kilns, represents BACT. Reasonable numerical emission limits, proposed for the kilns and clinker cooler, are presented in Table 3-1.

## 5.0 AIR QUALITY REVIEW

The air quality review required of a PSD construction permit application potentially requires both air quality modeling and air quality monitoring. The air quality monitoring is required when the impact of air pollutant emission increases and decreases associated with a proposed project exceed the de minimis impact levels pursuant to Table 212.400-3, FAC or in cases where an applicant wishes to define existing ambient air quality by monitoring rather than by air quality modeling. The air quality modeling is required to provide assurance that the emissions from the proposed project, together with the emissions of all other air pollutants in the project area, will not cause or contribute to a violation of any ambient air quality standard.

### 5.1 AIR QUALITY MODELING

The ambient air quality impacts resulting from the requested increase in emissions of PM/PM10 and CO were evaluated using air dispersion modeling with the EPA approved ISC-ST model, Version 95250 (ISC3). ✓

The PM/PM10 and CO emissions modeled to determine the ambient air impacts reflect the net increase in emissions from the proposed project (see Table 5-1). The modeling included discrete receptors along the property boundary and receptors located on a polar grid, on radials 10 degrees apart from 10-360 degrees and downwind distances ranging from 2500 meters to 20 kilometers (see Figure 5-1). Receptors were also located 14 ✓ kilometers from the facility representing the nearest Class I area

4, 5, 6, 8, 10, 28, 20



Southdown

1950

1951

1952

1953

1954

1955

1956

1957

1958

(Chassahowitzka National Wildlife Refuge) boundary.

Five years of Tampa meteorological data were used in the modeling for the period 1987 to 1991. ✓

## 5.2 MODELING RESULTS

The results of the ISC3 significant impact analyses (SIA) modeling, presented in Table 5-2, demonstrate that the predicted impacts of CO emission increases associated with the proposed project are less than the corresponding significant impact levels and less than the de minimis impact levels. ✓ The predicted PM/PM10 impacts, however, are greater than the corresponding significant impact level. The maximum predicted impacts from the proposed project at the Class I area were significant only for the 24-hour period. Consequently, PSD increments and ambient air quality standards analyses were required only for PM/PM10.

Based on information provided by FDEP, emission inventories were prepared to include PM/PM10 emission sources upto 120 kilometers from the proposed project. Significant sources were identified for the ambient air quality standards analysis and Class II area PSD increment analysis using the "20xD" rule (see Table 5-3). The emission inventories associated with Class I area, Class II area and ambient standards analyses are presented in Tables 5-4, 5-5 and 5-6. The results of the detailed modeling indicated that the proposed project will not cause or contribute to any exceedance of the ambient air quality standards (see Tables 5-7, 5-8, and 5-9).

TABLE 5-1  
 AIR QUALITY MODELING PARAMETERS  
 SOUTHDOWN, INC.  
 HERNANDO COUNTY, FLORIDA

Source	Emission Rate		Stack Parameters			
	PM/PM10 (g/s)	CO (g/s)	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)
No. 1 Kiln (1)	- 4.91 ✓	- 7.27 ✓	45.7 ✓	3.96 ✓	10.37 ✓	413.6 ✓
No. 1 Kiln (2)	3.28 ✓	21.41 ✓	45.7 ✓	3.96 ✓	10.37 ✓	413.6 ✓
No. 2 Kiln (1)	- 1.70 ✓	- 8.06 ✓	32.0 ✓	4.27 ✓	9.9 ✓	394.0 ✓
No. 2 Kiln (2)	3.28 ✓	21.41 ✓	32.0 ✓	4.27 ✓	9.9 ✓	394.0 ✓
No. 1 Cooler (1)	- 0.90 ✓	NA	23.5 ✓	2.29 ✓	12.7 ✓	394.0 ✓
No. 1 Cooler (2)	1.64 ✓	NA	23.5 ✓	2.29 ✓	12.7 ✓	394.0 ✓
No. 2 Cooler (1)	- 0.63 ✓	NA	27.4 ✓	2.96 ✓	7.6 ✓	394.0 ✓
No. 2 Cooler (2)	1.64 ✓	NA	27.4 ✓	2.96 ✓	7.6 ✓	394.0 ✓

NOTE:

- (1) Current allowable emission rates.
- (2) Proposed allowable emission rates.
- (3) Building wake effects were addressed in the modeling using the EPA approved BPIP downwash program.

Kathy Rhodes OK for Southdown - No comments

TABLE 5-2

SUMMARY OF SIGNIFICANT IMPACT ANALYSIS

SOUTHDOWN, INC.  
HERNANDO COUNTY, FLORIDA

MET YEAR	MAX. PREDICTED AMBIENT AIR IMPACTS (ug/m3)					
	PM/PM10				CO	
	Class I Area		Class II Area		1-hr	8-hr
24-hr	Annual	24-hr	Annual			
1987	0.78	0.052	9.36 ✓	1.07 ✓	<del>211.78</del> 374	145.66 ✓
1988	0.607	0.038	10.41 ✓	1.19 ✓	<del>173.73</del> 379.1	126.30 ✓
1989	0.772	0.032	10.59 ✓	1.00 ✓	<del>212.16</del> 372	135.12 ✓
1990	0.753	0.069	7.65 ✓	1.18 ✓	<del>194.46</del> 370	124.24 ✓
1991	1.023	0.057	11.17 ✓	1.28 ✓	<del>187.73</del> 411.4	105.37 ✓
SIG. IMPACT LEVEL	Class I		Class II		Class II	
	0.27	0.08	5	1	2000	500
(Rule 62-212.200, FAC)						
DE MINIMIS LEVEL			10	NA	NA	575
(Table 212.400-3, FAC)						

NOTE: The above impacts represent the highest-high impacts resulting from the net increase in emissions shown in Table 5-1.

**TABLE 5-3  
LIST OF PM/PM10 SOURCES -20XD**

Facility	KM East	UTM North	KM	Emissions Ton/Yr	Distance (km)	20*D	Model ?
APAC-Florida, Inc.	347.1	3027.3		280.4	142.9	2844	NO
Agrico Chemical Co Pierce	403.7	3079.0		841.5	102.6	2041	NO
Agrico Chemical Co South Pierce	407.5	3071.5		1097.6	111.0	2208	NO
ALCOA ALUMINA AND CHEMICALS,	416.8	3116.0		9.0	81.1	1614	NO
ALCOMA PACKING CO	451.6	3085.5		151.7	127.4	2535	NO
AMERICAN PROPERTIES CO	461.4	3133.6		1.2	111.3	2215	NO
ASPHALT PAVERS, INC.	359.3	3162.4		43.4	8.1	161	NO
Auburndale Cogeneration	420.8	3103.3		46.0	92.8	1846	NO
Brannen Prestress Co.	353.7	3016.5		1252.3	153.4	3053	NO
BROOKSVILLE REGIONAL HOSPITAL	363.2	3159.0		2.5	13.0	258	NO
CITRUS SERVICE, INC.	364.2	3158.3		57.0	14.1	280	NO
C F Industries Bonnie Mine Rd	408.4	3082.4		690.8	101.9	2028	NO
C & M PRODUCTS CO	405.5	3079.1		162.2	103.3	2056	NO
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0		1251.4	62.6	1245	YES
COUCH CONST CO	340.7	3119.5		51.7	52.7	1049	NO
COUCH CONSTRUCTION COMPANY	390.3	3129.4		44.8	52.9	1054	NO
COUCH CONSTRUCTION COMPANY	359.8	3164.9		44.8	6.2	123	NO
COUCH, INC.	360.0	3162.0		20.6	8.8	175	NO
Cargill Fertilizer (Gardinier)	362.9	3082.2		883.4	88.0	1750	NO
Conserv Inc.	398.7	3084.2		594.8	95.7	1904	NO
Consolidated Minerals Plant City	393.8	3096.3		749.1	82.6	1645	NO
DAVID J JOSEPH CO	364.0	3092.9		111.3	77.4	1540	NO
E. R. CARPENTER COMPANY	397.0	3131.5		54.8	56.0	1115	NO
EARL MASSEY	440.4	3103.4		206.8	107.3	2135	NO
E.R. JAHNA INDUSTRIES, INC.	386.7	3155.8		217.8	33.6	669	NO
Estech	411.5	3074.2		311.5	110.5	2200	NO
Estech-Duette Phosphate Mine	388.9	3047.2		751.1	127.0	2527	NO
FL DEPT OF CORRECTIONS	382.2	3166.1		283.2	26.3	523	NO
FLORIDA CRUSHED STONE & CPL & CLI	360.0	3162.5		697.7	8.3	166	YES
FLA MINING & MATERIALS	356.2	3169.9		446.4	0.0	0	YES
FPC Bayboro	338.8	3071.3		283.2	100.1	1992	NO
FLORIDA POWER	446.3	3126.0		412.0	100.2	1994	NO
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		10927.7	40.9	815	YES
FPC-Bartow	342.4	3082.6		2529.3	88.4	1759	YES
Farmland Industries Green Bay Plant	409.5	3080.1		1488.2	104.4	2078	NO
Florida Power & Light - MANATEE	367.2	3054.1		7578.5	116.3	2315	YES
Gold Bond Building Products CA	347.3	3082.7		335.0	87.7	1744	NO
Golden Triangle Asphalt	333.8	3086.1		43.0	86.7	1726	NO
Hardee Power Station Ft. Green Springs	404.8	3057.3		500.2	122.6	2441	NO
HCA BAYONET POINT	333.4	3141.0		0.0	36.8	733	NO
HCA OAKHILL HOSPITAL	352.6	3157.3		2.8	13.1	261	NO
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4		187.9	100.8	2006	NO
IMC Ft. Lonesome	389.6	3067.9		679.0	107.3	2136	NO
IMC Fertilizer Kingsford	398.2	3075.7		422.6	103.1	2052	NO
IMC Fertilizer New Wales	396.7	3079.4		1429.1	99.1	1973	NO

**TABLE 5-3  
LIST OF PM/PM10 SOURCES -20XD  
(CONCLUDED)**

Facility	KM East	UTM North	KM	Emissions Ton/Yr	Distance (km)	20*D	Model ?
IMC Fertilizer Noralyn Mine	414.7	3080.3		1691.5	107.0	2129	NO
IMC/Uranium Recovery C F Industries	408.4	3082.8		1213.0	101.5	2021	NO
Imperial Phosphates Ltd.	404.8	3069.5		162.2	111.5	2220	NO
Johnson Controls Battery Group, Inc.	359.9	3102.5		211.8	67.5	1343	NO
LaFarge Corp.	357.7	3090.6		1209.8	79.3	1578	NO
Lakeland City Power McIntosh Power Station	409.2	3106.1		2368.4	82.9	1651	YES
LYKES PASCO, INC.	383.5	3139.2		917.0	41.1	818	YES
Mobil Mining & Minerals SR 676	398.4	3085.3		991.5	94.5	1881	NO
Mobil-Electrophos Division	405.6	3079.4		961.5	103.1	2052	NO
National Portland Cement Co. of FL	346.4	3058.4		213.9	111.9	2227	NO
N-VIRO SOIL SOUTH, INC.	360.0	3162.5		1.3	8.3	166	NO
OMAN CONSTRUCTION CO	359.7	3164.0		25.7	6.9	137	NO
ORLANDO UTILITIES COMMISSION	483.5	3150.6		919.6	128.8	2562	NO
OVERSTREET PAVING CO	355.9	3143.7		49.1	26.2	521	NO
PAKHOED DRY BULK TERMINALS	360.8	3087.3		14.2	82.7	1646	NO
PASCO COGEN LIMITED	385.1	3139.0		27.0	42.3	841	NO
PASCO COUNTY (OWNER)	347.0	3139.0		59.5	32.2	642	NO
Pinellas Co. Resource Recovery Facility	335.2	3084.1		328.7	88.3	1758	NO
R.E. PURCELL CONST. CO.	340.6	3119.2		87.1	53.0	1056	NO
Ridge Cogeneration	416.7	3100.4		414.3	92.1	1834	NO
Royster Company	406.8	3085.1		67.1	98.7	1965	NO
Seminole Fertilizer (W R Grace)	409.9	3087.0		1510.9	98.8	1966	NO
SCI FUNERAL SERVICES	459.5	3129.5		5.5	110.9	2207	NO
STANDARD SAND & SILICA CO	441.5	3118.2		390.1	99.7	1985	NO
STAUFFER MANAGEMENT COMPANY	325.6	3116.7		578.4	61.4	1221	NO
Sulfuric Acid Trading Company	349.0	3081.5		13.9	88.7	1765	NO
SUNSHINE MATERIALS INC.	365.5	3163.2		27.7	11.5	228	NO
Surfacing Products of America	347.5	3037.6		153.1	132.6	2638	NO
TECO Big Bend	361.7	3075.5		7773.5	94.6	1882	YES
TECO Gannon	360.0	3087.5		5859.7	82.5	1642	YES
TECO Hooker's Point	358.0	3091.0		1232.8	78.9	1571	NO
TECO Polk	402.5	3067.4		438.3	112.5	2238	NO
Tropicana Products, Inc.	346.8	3040.9		904.4	129.3	2574	NO
US Agri-Chemicals Hwy 60	413.2	3086.3		443.7	101.2	2014	NO
US Agri-Chemicals Hwy 630	416.0	3069.0		542.8	117.3	2334	NO

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP2	4.002	3.0	344.1	20.69	0.55
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP3	0.230	19.8	300.2	88.45	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP4	4.318	18.3	323.0	9.70	0.30
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP5	5.067	24.4	295.2	7.23	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP6	5.067	24.4	296.9	7.80	3.35
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP7	0.259	19.8	310.2	5.48	0.49
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP8	0.547	26.8	307.4	9.24	0.91
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP9	4.117	30.5	306.3	6.87	1.22
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP10	3.023	38.1	327.4	14.55	3.05
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP11	0.432	38.1	319.1	15.84	1.07
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP12	0.029	16.2	298.0	1.72	0.46
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP13	0.029	20.7	298.0	2.87	0.46
Agrico Chemical Co South Pierce	407.5	3071.5	AGSP14	0.029	29.3	298.0	1.15	0.40
ALCOA ALUMINA AND CHEMICALS	416.8	3116.0	ALCA1	0.039	25.0	299.9	9.10	0.24
ALCOA ALUMINA AND CHEMICALS	416.8	3116.0	ALCA2	0.078	22.9	299.9	7.92	0.21
ALCOA ALUMINA AND CHEMICALS	416.8	3116.0	ALCA3	0.013	16.8	299.9	7.92	0.21
ALCOA ALUMINA AND CHEMICALS	416.8	3116.0	ALCA4	0.130	16.8	299.9	36.38	0.24
ASPHALT PAVERS, INC.	361.4	3168.4	ASPV1	0.706	8.5	366.5	16.98	1.22
ASPHALT PAVERS, INC.	359.3	3162.4	ASPV2	0.542	12.2	339.9	22.23	1.22
Auburndale Cogeneration	420.8	3103.3	AUBCO	1.323	48.8	411.0	14.30	5.49
BROOKSVILLE REGIONAL HOSPITAL	363.2	3159.0	BRHOSP	0.071	6.4	1088.8	16.99	0.40
CITRUS SERVICE, INC.	364.2	3158.3	CIRSVS	1.638	18.3	338.8	8.28	0.76
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM1	5.405	36.6	333.0	17.17	2.29
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM2	5.090	42.7	298.0	22.77	0.76
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM3	5.090	41.1	298.0	7.92	1.52
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM4	1.756	19.8	298.0	15.36	1.22
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM5	1.207	16.8	298.0	11.82	1.37
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM6	0.063	16.6	298.0	7.19	0.46
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM7	0.063	16.6	298.0	7.19	0.46
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM8	0.592	26.5	298.0	8.63	0.46
C F Industries Bonnie Mine Rd	408.4	3082.4	CFBM9	0.592	26.5	298.0	8.63	0.46
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT1	0.030	7.6	561.0	17.74	1.07
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT2	0.747	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT3	1.260	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT4	1.197	60.7	352.6	16.40	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT5	1.197	60.7	337.6	9.70	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT6	3.910	36.3	314.3	13.64	1.22
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT7	4.115	28.6	326.5	7.93	3.05
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT8	4.480	54.9	331.5	13.31	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT9	4.114	54.9	313.8	8.18	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT10	4.725	35.1	299.9	11.01	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT11	0.630	27.4	298.2	19.02	0.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT12	4.114	54.9	324.9	9.78	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT13	1.928	54.9	333.2	13.37	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT14	0.630	10.1	298.8	5.94	1.01
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT15	0.025	2.4	373.2	1.63	0.27
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT16	0.013	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT17	0.068	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT18	0.126	30.5	294.3	7.64	0.76



**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT19	2.667	25.9	298.2	11.64	0.15
C & M PRODUCTS CO	405.5	3079.1	CM1	4.662	9.1	366.5	16.17	0.61
COUCH CONST CO	340.7	3119.5	CUHCN1	1.487	10.7	422.1	26.77	1.28
COUCH CONSTRUCTION COMPANY	390.3	3129.4	CUHCN2	1.288	6.1	422.1	26.68	1.22
COUCH CONSTRUCTION COMPANY	359.8	3164.9	CUHCN3	1.288	6.1	422.1	21.00	1.42
COUCH, INC.	360.0	3162.0	CUHCN4	0.591	9.8	422.1	21.00	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL1	1.036	20.7	314.7	11.09	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL2	0.662	19.8	303.0	11.74	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL3	1.267	20.1	333.0	16.17	0.61
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL4	2.246	22.6	305.2	7.84	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL5	1.036	20.7	319.1	1.16	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL6	0.662	19.8	301.9	14.43	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL7	3.858	16.8	323.6	19.93	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL8	0.979	9.8	308.6	8.04	0.40
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL9	1.209	6.1	488.6	15.89	1.22
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL10	2.534	40.5	315.2	15.38	2.13
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL11	0.086	6.1	298.6	10.44	0.46
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL12	0.086	6.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL13	0.547	9.1	298.6	13.20	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL14	0.173	18.3	588.6	6.94	2.53
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL15	0.605	12.2	298.0	11.21	0.46
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL16	0.403	15.2	303.6	12.42	0.76
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL17	0.029	12.2	321.9	9.94	0.52
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL18	0.633	27.4	333.6	17.32	1.07
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL19	0.144	26.5	331.9	8.18	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL20	2.879	16.5	320.2	19.69	1.31
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL21	0.720	27.4	334.1	21.96	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL22	0.720	27.4	334.1	19.58	1.01
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL23	0.086	13.7	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL24	0.086	9.1	298.6	16.31	0.37
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL25	0.144	22.9	298.6	12.42	0.58
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL26	2.447	38.4	328.6	11.32	2.44
Cargill Fertilizer (Gardinier)	362.9	3082.2	CRGL27	0.118	11.6	298.6	17.75	0.82
Conserv Inc.	398.7	3084.2	CNRV1	4.920	12.8	310.8	10.60	1.22
Conserv Inc.	398.7	3084.2	CNRV2	1.180	15.8	321.9	20.18	0.76
Conserv Inc.	398.7	3084.2	CNRV3	1.180	24.4	327.4	23.81	1.07
Conserv Inc.	398.7	3084.2	CNRV4	4.434	24.7	327.4	3.77	2.29
Conserv Inc.	398.7	3084.2	CNRV5	0.288	8.2	533.0	13.74	0.61
Conserv Inc.	398.7	3084.2	CNRV6	0.432	11.9	533.0	8.91	0.98
Conserv Inc.	398.7	3084.2	CNRV7	0.633	54.6	338.6	14.37	0.18
Conserv Inc.	398.7	3084.2	CNRV8	0.202	55.5	310.8	2.97	0.43
Conserv Inc.	398.7	3084.2	CNRV9	1.382	63.1	333.0	51.22	0.27
Conserv Inc.	398.7	3084.2	CNRV10	0.633	63.1	330.2	21.12	0.43
Conserv Inc.	398.7	3084.2	CNRV11	1.180	21.9	360.8	31.08	0.98
Conserv Inc.	398.7	3084.2	CNRV12	0.633	63.1	330.2	21.12	0.43
Consolidated Minerals Plant City	393.8	3096.3	CNSDM2	0.202	13.7	349.7	14.17	0.55
Consolidated Minerals Plant City	393.8	3096.3	CNSDM3	0.202	16.5	298.0	19.96	0.55
Consolidated Minerals Plant City	393.8	3096.3	CNSDM4	4.405	24.4	308.0	79.21	1.37
Consolidated Minerals Plant City	393.8	3096.3	CNSDM5	0.115	16.5	298.0	19.14	0.43
Consolidated Minerals Plant City	393.8	3096.3	CNSDM6	1.756	46.3	295.2	11.16	1.77
Consolidated Minerals Plant City	393.8	3096.3	CNSDM7	0.662	9.8	295.8	10.76	0.46

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
Consolidated Minerals Plant City	393.8	3096.3	CNSDM8	1.641	46.3	300.2	9.61	1.77
Consolidated Minerals Plant City	393.8	3096.3	CNSDM9	1.756	24.4	319.1	6.20	1.68
Consolidated Minerals Plant City	393.8	3096.3	CNSDM10	1.900	45.7	313.0	18.34	1.77
Consolidated Minerals Plant City	393.8	3096.3	CNSDM11	0.173	32.6	298.0	33.69	0.37
Consolidated Minerals Plant City	393.8	3096.3	CNSDM12	0.259	24.7	315.2	9.05	0.82
Consolidated Minerals Plant City	393.8	3096.3	CNSDM13	1.670	30.5	338.0	11.98	1.37
Consolidated Minerals Plant City	393.8	3096.3	CNSDM14	0.029	15.2	294.1	20.70	0.15
Consolidated Minerals Plant City	393.8	3096.3	CNSDM15	0.058	3.0	338.6	18.19	0.24
Consolidated Minerals Plant City	393.8	3096.3	CNSDM18	0.029	21.3	298.0	12.58	0.18
Consolidated Minerals Plant City	393.8	3096.3	CNSDM19	0.144	20.4	298.0	11.50	0.46
Consolidated Minerals Plant City	393.8	3096.3	CNSDM20	0.259	18.9	298.0	24.95	0.55
Consolidated Minerals Plant City	393.8	3096.3	CNSDM21	0.086	21.3	298.0	31.89	0.37
Consolidated Minerals Plant City	393.8	3096.3	CNSDM22	0.202	17.4	298.0	28.75	0.46
Consolidated Minerals Plant City	393.8	3096.3	CNSDM23	0.892	10.4	327.4	19.16	0.82
Consolidated Minerals Plant City	393.8	3096.3	CNSDM24	0.086	14.0	298.0	17.97	0.18
Consolidated Minerals Plant City	393.8	3096.3	CNSDM25	0.864	30.5	319.1	0.01	0.91
Consolidated Minerals Plant City	393.8	3096.3	CNSDM26	0.058	29.6	298.0	13.58	0.30
Consolidated Minerals Plant City	393.8	3096.3	CNSDM27	0.115	15.8	298.0	19.14	0.43
DAVID J JOSEPH CO	364.0	3092.9	DJOS1	1.440	19.8	322.1	13.73	1.37
DAVID J JOSEPH CO	364.0	3092.9	DJOS2	0.145	10.7	316.5	8.08	0.61
DAVID J JOSEPH CO	364.0	3092.9	DJOS3	1.614	13.7	298.2	26.30	1.07
E. R. CARPENTER COMPANY	397.0	3131.5	ERCRP	1.575	12.8	298.2	9.47	0.98
EARL MASSEY	439.4	3101.8	EMSSY1	2.456	9.1	336.0	1.80	1.83
EARL MASSEY	440.4	3103.4	EMSSY2	3.490	15.2	298.2	4.62	0.21
E.R. JAHNA INDUSTRIES, INC.	386.7	3155.8	ERJNH1	1.701	7.6	327.6	14.32	0.18
E.R. JAHNA INDUSTRIES, INC.	386.7	3155.8	ERJNH2	4.561	4.9	294.3	28.70	0.40
Estech	411.5	3074.2	ESHTC1	1.267	11.0	311.9	7.83	0.34
Estech	411.5	3074.2	ESHTC2	0.950	11.0	315.8	11.11	0.34
Estech	411.5	3074.2	ESHTC3	1.267	14.6	311.9	11.43	0.34
Estech	411.5	3074.2	ESHTC4	1.583	18.9	338.6	11.58	2.04
Estech	411.5	3074.2	ESHTC5	3.887	18.3	334.1	6.24	3.05
FL DEPT OF CORRECTIONS	382.2	3166.1	FDOC1	0.060	9.1	477.6	4.85	0.61
FLORIDA CRUSHED STONE	360.0	3162.5	FCS1	14.180	94.5	389.3	0.00	4.88
FLORIDA CRUSHED STONE	360.0	3162.5	FCS2	0.100	30.5	314.0	12.90	0.61
FLORIDA CRUSHED STONE	360.0	3162.5	FCS3	0.080	38.1	314.0	11.00	0.61
FLORIDA CRUSHED STONE	360.0	3162.5	FCS4	0.080	38.1	314.0	6.79	0.61
FLORIDA CRUSHED STONE	360.0	3162.5	FCS5	0.030	21.3	355.0	12.90	0.30
FLORIDA CRUSHED STONE	360.0	3162.5	FCS6	0.420	73.2	355.4	13.72	1.07
FLORIDA CRUSHED STONE	360.0	3162.5	FCS7	0.101	15.2	338.8	10.35	0.76
FLORIDA CRUSHED STONE	360.0	3162.5	FCS8	0.076	41.1	366.5	14.37	0.46
FLORIDA CRUSHED STONE	360.0	3162.5	FCS9	0.126	61.0	355.4	21.27	0.46
FLORIDA CRUSHED STONE	360.0	3162.5	FCS10	0.050	8.8	366.5	9.70	0.61
FLORIDA CRUSHED STONE	360.0	3162.5	FCS11	0.151	15.2	311.0	9.31	0.76
FLORIDA CRUSHED STONE	360.0	3162.5	FCS12	0.643	21.3	372.1	10.35	1.52
FLORIDA CRUSHED STONE	360.0	3162.5	FCS13	0.050	15.2	344.3	9.20	0.46
FLORIDA CRUSHED STONE	360.0	3162.5	FCS14	0.086	61.0	355.4	15.24	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL1	0.139	7.6	294.3	16.98	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL2	0.178	61.0	355.4	31.62	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL3	0.049	9.1	338.8	4.85	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL4	0.307	45.7	311.0	30.72	0.61

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL5	0.102	30.5	322.1	6.52	0.76
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL6	0.028	4.6	298.2	4.95	0.46
CHEMICAL LIME INC	359.4	3162.3	CLI1	0.472	15.2	319.3	0.50	3.05
CHEMICAL LIME INC	359.4	3162.3	CLI2	1.575	6.1	339.9	5.48	0.91
CHEMICAL LIME INC	359.4	3162.3	CLI3	0.980	9.1	394.3	18.48	1.07
CHEMICAL LIME INC	359.4	3162.3	CLI4	0.630	18.9	295.4	11.42	0.46
CHEMICAL LIME INC	359.4	3162.3	CLI5	0.227	7.6	294.3	3.67	0.40
FLA MINING & MATERIALS	356.2	3169.9	KILN2	3.280	32.0	394.0	9.90	4.27
FLA MINING & MATERIALS	356.2	3169.9	CLCOOL2	1.640	23.5	394.0	7.60	2.29
FLA MINING & MATERIALS	356.2	3169.9	GX11	0.248	67.1	366.5	18.97	0.85
FLA MINING & MATERIALS	356.2	3169.9	HX13	0.065	22.9	327.6	19.80	0.43
FLA MINING & MATERIALS	356.2	3169.9	LX07	0.092	44.2	358.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	MX09	0.032	6.1	338.7	19.40	0.30
FLA MINING & MATERIALS	356.2	3169.9	MX10	0.092	22.9	333.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	MX2280	0.108	25.9	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9	MX3514	0.108	7.6	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9	MX3515	0.092	15.2	293.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	NX23	0.497	18.3	293.2	22.70	1.10
FLA MINING & MATERIALS	356.2	3169.9	PX05	0.124	64.0	335.9	18.59	0.61
FLA MINING & MATERIALS	356.2	3169.9	PX07	0.059	64.0	338.7	21.05	0.40
FLA MINING & MATERIALS	356.2	3169.9	QX17	0.059	21.3	338.7	13.90	0.49
FPC Bayboro C4	338.8	3071.3	FPCBY	8.140	12.2	755.4	6.54	6.98
FLORIDA POWER	446.3	3126.0	INTR1	1.890	15.2	834.9	0.05	4.21
FLORIDA POWER	446.3	3126.0	INTR2	1.890	15.2	834.9	0.05	4.21
FLORIDA POWER	446.3	3126.0	INTR3	1.890	15.2	834.9	0.05	4.21
FLORIDA POWER	446.3	3126.0	INTR4	1.890	15.2	699.9	0.06	3.96
FLORIDA POWER	446.3	3126.0	INTR5	2.142	15.2	896.0	0.03	7.04
FLORIDA POWER	446.3	3126.0	INTR6	2.142	15.2	896.0	0.03	7.04
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV3	81.580	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV4	82.638	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV5	0.443	2.4	338.8	36.96	0.21
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV6	0.038	10.7	338.8	0.48	0.58
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV7	0.074	28.3	338.8	15.24	0.46
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV8	26.988	16.2	312.1	116.67	2.74
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV9	1.642	23.8	299.9	0.00	0.21
FPC-Bartow TO9	342.4	3082.6	FPCBR5	0.010	7.6	298.1	0.04	0.27
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB1	3.224	39.3	327.4	7.47	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB2	2.937	56.4	338.0	5.17	1.52
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB3	3.800	39.3	319.1	10.66	2.13
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB4	3.800	39.9	298.0	9.92	2.44
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB5	0.058	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB6	0.086	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB7	6.622	35.1	349.7	22.72	0.67
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB8	3.397	39.3	327.4	6.84	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB9	3.224	39.6	311.9	5.66	1.22
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB10	0.662	30.5	349.7	8.70	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB11	0.662	30.5	351.9	9.74	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB12	0.086	12.2	366.3	0.03	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB13	0.086	12.2	366.3	2.67	0.61
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB14	3.311	50.3	298.0	8.86	0.70

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB15	3.426	26.8	349.7	19.09	0.73
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB16	2.937	39.3	326.9	12.41	2.29
Farmland Industries Green Bay Plant	409.5	3080.1	FRMGB17	4.462	27.4	305.2	5.48	0.91
Gold Bond Building Products CA	347.3	3082.7	GBBP	9.630	7.3	325.9	3.59	0.37
Golden Triangle Asphalt 01	333.8	3086.1	GTA	1.235	12.2	410.9	20.74	1.22
HCA BAYONET POINT	333.4	3141.0	HCABP	0.001	10.7	1144.3	1.26	0.24
HCA OAKHILL HOSPITAL	352.6	3157.3	HCAOK	0.079	9.1	588.8	4.31	0.46
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4	HLYHL1	0.066	11.6	505.4	2.16	0.91
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4	HLYHL2	0.152	8.5	505.4	2.47	0.85
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4	HLYHL3	3.603	18.0	344.3	18.97	0.85
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4	HLYHL4	0.081	10.7	505.4	11.48	0.40
HOLLY HILL FRUIT PRODUCTS	441.0	3115.4	HLYHL5	1.499	1.8	298.2	13.20	0.21
IMC Ft. Lonesome	389.6	3067.9	IMCFL1	6.766	22.9	314.7	17.33	0.85
IMC Ft. Lonesome	389.6	3067.9	IMCFL2	3.167	38.1	339.1	15.16	2.44
IMC Ft. Lonesome	389.6	3067.9	IMCFL3	3.138	38.1	339.1	16.80	2.44
IMC Ft. Lonesome	389.6	3067.9	IMCFL4	6.450	45.7	316.3	8.43	0.82
IMC Fertilizer Kingsford	398.2	3075.7	IMCKG1	3.253	21.3	346.9	14.52	2.13
IMC Fertilizer Kingsford	398.2	3075.7	IMCKG2	0.144	17.7	310.8	15.23	0.58
IMC Fertilizer Kingsford	398.2	3075.7	IMCKG3	4.462	32.3	308.0	20.70	0.76
IMC Fertilizer Kingsford	398.2	3075.7	IMCKG4	3.512	18.3	316.3	19.66	0.76
IMC Fertilizer Kingsford	398.2	3075.7	IMCKG5	0.777	10.7	296.9	10.35	0.76
IMC Fertilizer New Wales	396.5	3079.0	IMCNW1	1.929	40.5	333.0	21.43	1.22
IMC Fertilizer New Wales	396.5	3079.2	IMCNW4	3.628	40.5	315.2	18.87	1.83
IMC Fertilizer New Wales	396.5	3079.3	IMCNW5	2.534	40.5	313.6	1.01	0.91
IMC Fertilizer New Wales	396.8	3079.4	IMCNW6	4.635	52.4	321.9	13.14	2.44
IMC Fertilizer New Wales	396.7	3079.4	IMCNW7	0.432	34.1	313.6	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW8	2.130	21.6	299.7	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW9	0.432	19.8	352.4	14.37	0.46
IMC Fertilizer New Wales	396.7	3079.4	IMCNW10	0.432	32.6	313.6	20.96	0.55
IMC Fertilizer New Wales	396.7	3079.4	IMCNW11	0.115	30.5	299.7	54.62	0.46
IMC Fertilizer New Wales	396.7	3079.4	IMCNW12	1.785	52.1	316.3	17.97	1.83
IMC Fertilizer New Wales	396.7	3079.4	IMCNW13	0.605	12.2	315.2	20.12	0.91
IMC Fertilizer New Wales	396.7	3079.4	IMCNW14	0.432	31.7	313.6	21.48	0.49
IMC Fertilizer New Wales	396.7	3079.4	IMCNW15	3.340	52.4	313.6	15.97	1.37
IMC Fertilizer New Wales	396.7	3079.4	IMCNW16	0.432	26.5	438.6	86.24	0.46
IMC Fertilizer New Wales	396.7	3079.4	IMCNW17	0.432	13.7	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW18	0.432	18.3	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW19	1.785	52.1	316.3	17.97	1.83
IMC Fertilizer New Wales	396.7	3079.4	IMCNW20	0.432	17.4	352.4	22.96	0.40
IMC Fertilizer New Wales	396.7	3079.4	IMCNW21	0.432	5.2	380.2	38.27	0.40
IMC Fertilizer New Wales	396.7	3079.4	IMCNW22	0.432	26.5	438.6	86.24	0.46
IMC Fertilizer New Wales	396.7	3079.4	IMCNW23	0.777	51.8	316.3	1.97	1.52
IMC Fertilizer New Wales	396.7	3079.4	IMCNW24	0.432	34.1	313.6	10.35	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW25	0.662	7.6	333.0	10.49	1.31
IMC Fertilizer New Wales	396.7	3079.4	IMCNW26	0.432	32.0	313.6	42.69	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW27	0.202	5.5	313.6	9.70	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW28	0.432	35.7	313.6	38.81	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW29	0.806	12.2	299.7	9.39	0.27
IMC Fertilizer New Wales	396.7	3079.4	IMCNW30	0.432	18.3	313.6	16.17	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW31	0.058	30.5	311.9	12.58	0.55
IMC Fertilizer New Wales	396.7	3079.4	IMCNW32	0.576	28.7	352.4	10.78	1.83

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
IMC Fertilizer New Wales	396.7	3079.4	IMCNW33	0.173	33.5	316.3	13.86	0.43
IMC Fertilizer New Wales	396.7	3079.4	IMCNW34	0.202	26.2	299.7	16.50	0.21
IMC Fertilizer New Wales	396.7	3079.4	IMCNW35	0.345	32.6	338.6	15.84	1.07
IMC Fertilizer New Wales	396.7	3079.4	IMCNW36	0.461	19.8	313.6	51.75	0.30
IMC Fertilizer New Wales	396.7	3079.4	IMCNW37	0.432	36.0	313.6	10.35	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY1	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY2	0.345	8.2	296.9	4.85	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY3	3.224	7.6	296.9	11.50	0.46
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY4	4.981	7.3	316.3	8.09	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY5	1.900	13.1	303.0	18.11	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY6	4.347	41.1	288.6	16.75	0.85
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY7	5.211	11.6	333.0	7.17	0.58
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY8	1.267	16.5	319.1	19.40	0.30
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY11	3.829	11.6	333.0	7.17	0.58
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY12	3.829	11.6	333.0	7.17	0.58
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY13	1.900	8.2	302.4	16.17	0.61
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY14	4.405	45.7	310.8	15.84	1.07
IMC Fertilizer Noralyn Mine	414.7	3080.3	IMCNY15	2.390	7.3	316.3	8.09	0.61
Imperial Phosphates Ltd.	404.8	3069.5	IMPHS1	0.115	27.4	494.1	7.28	0.61
Imperial Phosphates Ltd.	404.8	3069.5	IMPHS2	2.274	27.4	333.0	19.78	1.40
Imperial Phosphates Ltd.	404.8	3069.5	IMPHS3	2.274	27.4	333.0	20.65	1.52
Johnson Controls Battery Group, Inc. C	359.9	3102.5	JHNSN	6.090	8.2	310.9	14.24	0.37
LaFarge Corp.	357.7	3090.6	LFRG1	0.489	9.1	298.0	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG2	0.202	10.4	298.0	32.61	0.34
LaFarge Corp.	357.7	3090.6	LFRG3	0.144	37.5	298.0	25.87	0.30
LaFarge Corp.	357.7	3090.6	LFRG4	0.403	17.4	298.0	17.37	0.67
LaFarge Corp.	357.7	3090.6	LFRG5	0.259	21.9	298.0	80.85	0.24
LaFarge Corp.	357.7	3090.6	LFRG6	0.317	1.5	310.8	17.92	0.58
LaFarge Corp.	357.7	3090.6	LFRG7	0.259	14.9	298.0	10.69	0.67
LaFarge Corp.	357.7	3090.6	LFRG8	0.259	14.9	298.0	10.69	0.67
LaFarge Corp.	357.7	3090.6	LFRG9	0.489	9.1	298.0	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG10	11.977	44.5	494.7	40.43	2.44
LaFarge Corp.	357.7	3090.6	LFRG11	0.345	31.1	298.0	19.71	0.58
LaFarge Corp.	357.7	3090.6	LFRG12	5.672	30.8	401.9	6.09	3.81
LaFarge Corp.	357.7	3090.6	LFRG13	0.144	29.0	298.0	11.50	0.46
LaFarge Corp.	357.7	3090.6	LFRG14	0.259	10.1	364.1	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG15	0.374	35.1	310.8	21.50	0.58
LaFarge Corp.	357.7	3090.6	LFRG16	0.202	44.8	298.0	13.43	0.52
LaFarge Corp.	357.7	3090.6	LFRG17	0.173	27.4	298.0	32.34	0.30
LaFarge Corp.	357.7	3090.6	LFRG18	0.202	44.8	298.0	13.43	0.52
LaFarge Corp.	357.7	3090.6	LFRG19	0.144	29.9	298.0	12.13	0.49
LaFarge Corp.	357.7	3090.6	LFRG20	0.576	6.1	310.8	24.06	0.67
LaFarge Corp.	357.7	3090.6	LFRG21	0.144	29.9	298.0	12.13	0.49
LaFarge Corp.	357.7	3090.6	LFRG22	0.403	17.4	298.0	17.37	0.67
LaFarge Corp.	357.7	3090.6	LFRG23	0.202	25.3	298.0	24.49	0.40
LaFarge Corp.	357.7	3090.6	LFRG24	0.374	14.9	298.0	19.40	0.61
LaFarge Corp.	357.7	3090.6	LFRG25	0.403	30.5	298.0	12.42	0.76
LaFarge Corp.	357.7	3090.6	LFRG26	0.374	10.1	364.1	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG27	0.144	52.1	298.0	25.66	0.34
LaFarge Corp.	357.7	3090.6	LFRG28	0.202	25.3	355.2	19.02	1.04
LaFarge Corp.	357.7	3090.6	LFRG29	0.202	17.4	342.4	17.37	0.67
LaFarge Corp.	357.7	3090.6	LFRG30	0.259	25.3	355.2	19.02	1.04

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
LaFarge Corp.	357.7	3090.6	LFRG31	1.094	25.3	298.0	19.02	1.04
LaFarge Corp.	357.7	3090.6	LFRG32	0.259	17.4	342.4	17.37	0.67
LaFarge Corp.	357.7	3090.6	LFRG33	0.173	14.3	298.0	19.14	0.40
LaFarge Corp.	357.7	3090.6	LFRG34	0.202	10.1	364.1	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG35	0.633	25.3	298.0	24.45	0.70
LaFarge Corp.	357.7	3090.6	LFRG36	0.374	22.3	298.0	23.29	0.58
LaFarge Corp.	357.7	3090.6	LFRG37	0.288	53.0	298.0	28.75	0.46
LaFarge Corp.	357.7	3090.6	LFRG38	0.403	27.4	298.0	26.73	0.34
LaFarge Corp.	357.7	3090.6	LFRG39	2.534	53.0	298.0	23.00	0.46
LaFarge Corp.	357.7	3090.6	LFRG40	1.094	25.3	298.0	19.02	1.04
LaFarge Corp.	357.7	3090.6	LFRG41	0.173	18.3	298.0	34.15	0.30
LaFarge Corp.	357.7	3090.6	LFRG42	1.094	25.3	298.0	19.02	1.04
LaFarge Corp.	357.7	3090.6	LFRG43	0.202	44.8	298.0	13.43	0.52
LaFarge Corp.	357.7	3090.6	LFRG44	0.489	4.9	298.0	16.84	0.73
LaFarge Corp.	357.7	3090.6	LFRG45	0.173	18.3	298.0	34.15	0.30
Lakeland City Power McIntosh Power Station	409.2	3106.1	LLMC5	0.115	6.1	652.4	23.54	0.79
Lakeland City Power McIntosh Power Station	409.2	3106.1	LLMC6	40.820	76.2	349.7	32.85	4.88
LYKES PASCO, INC.	383.5	3139.2	LYK1	3.941	22.9	327.6	33.71	0.79
LYKES PASCO, INC.	383.5	3139.2	LYK2	4.007	9.1	372.1	25.00	0.27
LYKES PASCO, INC.	383.5	3139.2	LYK3	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK4	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK5	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK6	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK7	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK8	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK9	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK10	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK11	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK12	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK13	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK14	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK15	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK16	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK17	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK18	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK19	0.246	16.5	505.4	14.37	0.46
LYKES PASCO, INC.	383.5	3139.2	LYK20	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK21	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK22	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK23	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK24	0.176	16.5	377.6	4.45	0.61
LYKES PASCO, INC.	383.5	3139.2	LYK25	0.188	16.5	505.4	28.99	0.40
LYKES PASCO, INC.	383.5	3139.2	LYK26	0.064	16.5	338.8	8.62	0.46
Mobil Mining & Minerals SR 676	398.2	3085.0	MMM1	3.109	25.9	338.6	16.10	2.29
Mobil Mining & Minerals SR 676	398.4	3085.1	MMM2	0.144	4.6	312.4	16.50	0.43
Mobil Mining & Minerals SR 676	398.3	3085.1	MMM3	6.996	25.9	296.9	19.40	1.52
Mobil Mining & Minerals SR 676	398.4	3085.2	MMM6	1.555	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.2	MMM7	1.123	30.5	338.6	19.02	1.10
Mobil Mining & Minerals SR 676	398.4	3085.2	MMM8	1.411	24.4	326.9	11.68	0.49
Mobil Mining & Minerals SR 676	398.4	3085.3	MMM9	1.382	12.2	344.1	11.83	1.07

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
Mobil Mining & Minerals SR 676	398.4	3085.3	MMM10	0.058	24.1	349.7	14.64	0.24
Mobil Mining & Minerals SR 676	398.4	3085.3	MMM11	0.720	4.0	521.9	2.12	0.76
Mobil Mining & Minerals SR 676	398.4	3085.3	MMM12	1.958	25.9	299.7	14.54	1.68
National Portland Cement Co. of FL	346.4	3058.4	NATPRT	6.150	27.4	338.7	77.62	0.30
N-VIRO SOIL SOUTH, INC.	360.0	3162.5	NVRSS	0.038	17.4	311.0	8.08	0.24
OMAN CONSTRUCTION CO	359.7	3164.0	OMAN	0.740	7.6	347.1	11.14	1.22
OVERSTREET PAVING CO	355.9	3143.7	OVR	1.411	9.1	408.2	15.10	1.34
PAKHOED DRY BULK TERMINALS	360.8	3087.3	PAKHD1	0.197	9.1	298.8	39.45	0.30
PAKHOED DRY BULK TERMINALS	360.8	3087.3	PAKHD2	0.083	4.9	298.8	13.90	0.34
PAKHOED DRY BULK TERMINALS	360.8	3087.3	PAKHD3	0.130	14.3	298.8	8.95	0.52
PASCO COGEN LIMITED	385.1	3139.0	PSCOG1	0.388	83.8	427.6	14.13	1.46
PASCO COGEN LIMITED	385.1	3139.0	PSCOG2	0.388	83.8	421.5	14.13	1.46
PASCO COUNTY (OWNER)	347.0	3139.0	PSCO1	0.567	83.8	394.3	15.54	3.05
PASCO COUNTY (OWNER)	347.0	3139.0	PSCO2	0.567	83.8	394.3	15.54	3.05
PASCO COUNTY (OWNER)	347.0	3139.0	PSCO3	0.567	83.8	394.3	62.18	1.52
PASCO COUNTY (OWNER)	347.0	3139.0	PSCO4	0.011	13.4	295.4	16.82	0.15
Pinellas Co. Resource Recovery Facility 03	335.2	3084.1	PNRRF	9.450	49.1	505.4	26.82	2.74
R.E. PURCELL CONST. CO.	340.6	3119.2	PURC	2.505	12.2	338.8	71.86	0.91
Ridge Cogeneration	416.7	3100.4	RIDGE	11.910	99.1	350.0	14.54	3.05
Royster Company	406.8	3085.1	ROYST	1.929	22.6	308.0	3.80	1.07
Seminole Fertilizer (W R Grace)	409.8	3086.0	SEM1	-3.771	15.2	333.0	17.29	2.04
Seminole Fertilizer (W R Grace)	409.8	3086.0	SEM2	3.771	15.2	333.0	17.29	2.04
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM3	0.115	10.7	305.2	9.98	0.55
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM4	3.224	24.4	294.1	8.38	0.76
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM5	0.432	16.2	301.9	4.19	0.67
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM6	0.058	9.4	366.3	0.03	0.61
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM7	5.000	30.5	324.7	13.40	2.04
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM8	0.058	10.4	366.3	0.12	0.30
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM9	0.633	30.5	294.1	13.20	2.13
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM10	0.058	7.9	366.3	0.12	0.30
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM11	0.259	12.8	307.4	9.41	1.16
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM12	0.058	7.9	366.3	0.12	0.30
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM13	0.058	6.1	366.3	17.46	0.30
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM14	1.267	15.2	294.1	8.02	0.34
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM15	0.576	20.7	294.1	2.46	0.52
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM16	1.382	24.4	299.7	17.90	0.52
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM17	0.115	10.7	305.2	9.98	0.55
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM18	1.929	16.8	294.1	17.42	1.07
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM19	0.029	24.4	327.4	0.00	3.51
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM20	0.432	30.5	300.2	9.70	0.61
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM21	0.461	30.5	324.7	9.70	0.61
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM22	0.633	27.4	296.9	11.37	0.98
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM23	3.167	24.4	313.6	16.63	2.01
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM24	0.806	16.2	299.7	7.68	0.67
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM25	0.576	16.2	294.1	20.21	0.12
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM26	3.771	30.2	330.2	16.21	2.29
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM27	0.115	10.7	305.2	9.98	0.55
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM28	0.086	18.0	317.4	9.70	0.61
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM29	0.086	30.5	298.0	15.52	1.52
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM30	1.929	16.8	298.0	17.42	1.07
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM31	1.382	22.6	305.2	9.98	0.55

**TABLE 5-4  
PM-10 CLASS I AREA  
SOURCE INVENTORY  
(CONCLUDED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM32	0.749	21.3	299.7	21.27	1.28
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM33	0.576	14.0	298.0	15.16	0.24
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM34	1.929	16.8	294.1	17.42	1.07
Seminole Fertilizer (W R Grace)	409.8	3086.7	SEM35	0.518	14.0	296.9	8.09	0.61
Seminole Fertilizer (W R Grace)	409.9	3087.0	SEM36	-3.340	61.0	346.9	28.46	1.52
Seminole Fertilizer (W R Grace)	409.9	3087.0	SEM38	1.353	61.0	341.3	24.58	1.52
Seminole Fertilizer (W R Grace)	409.9	3087.0	SEM39	1.727	45.7	304.1	9.32	2.04
Seminole Fertilizer (W R Grace)	409.9	3087.0	SEM40	1.296	61.0	346.9	28.46	1.52
STANDARD SAND & SILICA CO	441.5	3118.2	STNSAN1	2.323	9.1	380.4	24.13	0.43
STANDARD SAND & SILICA CO	441.5	3118.2	STNSAN2	2.323	9.1	351.0	26.55	0.43
STANDARD SAND & SILICA CO	441.5	3118.2	STNSAN3	3.327	25.9	377.6	26.93	0.49
STANDARD SAND & SILICA CO	441.5	3118.2	STNSAN4	0.927	25.9	314.9	8.85	1.22
STANDARD SAND & SILICA CO	441.5	3118.2	STNSAN5	2.312	19.8	297.1	27.95	0.27
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF1	1.754	19.8	299.9	58.21	0.30
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF2	0.604	24.4	322.1	21.08	0.18
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF3	3.622	48.8	352.6	9.90	1.22
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF4	0.949	3.0	299.9	92.49	0.30
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF5	1.121	4.6	316.5	56.27	0.30
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF6	0.891	18.6	298.2	9.70	0.30
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF7	0.183	12.2	508.2	9.55	0.61
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF8	3.852	9.1	324.9	2.64	0.64
STAUFFER MANAGEMENT COMPANY	325.6	3116.7	STAUF9	3.651	9.1	305.4	24.25	0.61
Sulfuric Acid Trading Company 3	349.0	3081.5	SATC	0.400	7.6	480.4	4.56	0.52
SUNSHINE MATERIALS INC.	365.5	3163.2	SNSH1	0.527	18.3	298.8	4.62	0.21
SUNSHINE MATERIALS INC.	365.5	3163.2	SNSH2	0.271	18.3	298.8	4.62	0.21
TECO Big Bend	361.9	3075.0	TCOBB1	0.029	42.4	333.0	18.19	0.49
TECO Big Bend	361.9	3075.0	TCOBB2	2.102	34.4	394.1	123.77	0.27
TECO Big Bend	361.9	3075.0	TCOBB3	0.662	31.1	394.1	16.04	0.76
TECO Big Bend	361.9	3075.0	TCOBB4	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB5	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB6	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB7	54.615	149.4	341.9	18.21	7.32
TECO Big Bend	361.7	3075.5	TCOBB13	4.175	22.9	770.8	18.74	4.27
TECO Gannon	360.0	3087.5	TCOBN1	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOBN2	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOBN3	0.144	32.6	449.7	30.37	0.30
TECO Gannon	360.0	3087.5	TCOBN4	0.374	31.7	449.7	18.27	0.61
TECO Gannon	360.0	3087.5	TCOBN5	0.029	53.0	298.6	24.26	0.37
TECO Gannon	360.0	3087.5	TCOBN6	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOBN7	0.029	54.0	298.6	15.52	0.61
TECO Gannon	360.0	3087.5	TCOBN8	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOBN14	0.029	21.9	449.7	10.96	0.21
TECO Polk KBA	402.5	3067.4	TCOPP1	2.020	6.1	533.0	13.10	0.90
TECO Polk KBB	402.5	3067.4	TCOPP2	7.430	45.7	400.0	16.79	5.80
TECO Polk KBC	402.5	3067.4	TCOPP3	3.150	60.7	1033.0	9.14	1.07
US Agri-Chemicals Hwy 60	413.2	3086.3	USAC1	2.850	22.6	299.7	48.51	0.61
US Agri-Chemicals Hwy 60	413.2	3086.3	USAC2	5.038	19.2	308.6	9.31	1.52
US Agri-Chemicals Hwy 60	413.2	3086.3	USAC3	4.866	39.9	327.4	11.09	2.13



**TABLE 5-5  
PM-10 CLASS II AREA  
SOURCE INVENTORY**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT1	0.030 ✓	7.6	561.0	17.74	1.07
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT2	0.747 ✓	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT3	1.260 ✓	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT4	1.197 ✓	60.7	352.6	16.40	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT5	1.197 ✓	60.7	337.6	9.70	2.44
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT6	3.910 ✓	36.3	314.3	13.64	1.22
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT7	4.115 ✓	28.6	326.5	7.93	3.05
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT8	4.480 ✓	54.9	331.5	13.31	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT9	4.114 ✓	54.9	313.8	8.18	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT10	4.725 ✓	35.1	299.9	11.01	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT11	0.630 ✓	27.4	298.2	19.02	0.52
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT12	4.114 ✓	54.9	324.9	9.78	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT13	1.928 ✓	54.9	333.2	13.37	2.80
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT14	0.630 ✓	10.1	298.8	5.94	1.01
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT15	0.025 ✓	2.4	373.2	1.63	0.27
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT16	0.013 ✓	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT17	0.068 ✓	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT18	0.126 ✓	30.5	294.3	7.64	0.76
CF INDUSTRIES, INC., PLANT CITY	388.0	3116.0	CFPLT19	2.667 ✓	25.9	298.2	11.64	0.15
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS1	14.180 ✓	94.5	389.3	0.00	4.88
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS2	0.100 ✓	30.5	314.0	12.90	0.61
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS3	0.080 ✓	38.1	314.0	11.00	0.61
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS4	0.080 ✓	38.1	314.0	6.79	0.61
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS5	0.030 ✓	21.3	355.0	12.90	0.30
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS6	0.420 ✓	73.2	355.4	13.72	1.07
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS7	0.101 ✓	15.2	338.8	10.35	0.76
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS8	0.076 ✓	41.1	366.5	14.37	0.46
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS9	0.126 ✓	61.0	355.4	21.27	0.46
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS10	0.050 ✓	8.8	366.5	9.70	0.61
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS11	0.151 ✓	15.2	311.0	9.31	0.76
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS12	0.643 ✓	21.3	372.1	10.35	1.52
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS13	0.050 ✓	15.2	344.3	9.20	0.46
FLORIDA CRUSHED STONE POWER	360.0	3162.5	FCS14	0.086 ✓	61.0	355.4	15.24	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL1	0.139 ✓	7.6	294.3	16.98	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL2	0.178 ✓	61.0	355.4	31.62	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL3	0.049 ✓	9.1	338.8	4.85	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL4	0.307 ✓	45.7	311.0	30.72	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL5	0.102 ✓	30.5	322.1	6.52	0.76
CENTRAL POWER & LIME, INC	360.0	3162.5	CPL6	0.028 ✓	4.6	298.2	4.95	0.46
CHEMICAL LIME INC	359.4	3162.3	CLI1	0.472 ✓	15.2	319.3	0.50	3.05
CHEMICAL LIME INC	359.4	3162.3	CLI2	1.575 ✓	6.1	339.9	5.48	0.91
CHEMICAL LIME INC	359.4	3162.3	CLI3	0.980 ✓	9.1	394.3	18.48	1.07
CHEMICAL LIME INC	359.4	3162.3	CLI4	0.630 ✓	18.9	295.4	11.42	0.46
CHEMICAL LIME INC	359.4	3162.3	CLI5	0.227 ✓	7.6	294.3	3.67	0.40
FLA MINING & MATERIALS	356.2	3169.9	KILN2	3.280 ✓	32.0	394.0	9.90	4.27
FLA MINING & MATERIALS	356.2	3169.9	CLCOOL2	1.640 ✓	23.5	394.0	7.60	2.29
FLA MINING & MATERIALS	356.2	3169.9	GX11	0.248 ✓	67.1	366.5	18.97	0.85
FLA MINING & MATERIALS	356.2	3169.9	HX13	0.065 ✓	22.9	327.6	19.80	0.43

**TABLE 5-5  
PM-10 CLASS II AREA SOURCE INVENTORY  
(CONTINUED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
FLA MINING & MATERIALS	356.2	3169.9	LX07	0.092 ✓	44.2	358.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	MX09	0.032 ✓	6.1	338.7	19.40	0.30
FLA MINING & MATERIALS	356.2	3169.9	MX10	0.092 ✓	22.9	333.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	MX2280	0.108 ✓	25.9	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9	MX3514	0.108 ✓	7.6	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9	MX3515	0.092 ✓	15.2	293.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9	NX23	0.497 ✓	18.3	293.2	22.70	1.10
FLA MINING & MATERIALS	356.2	3169.9	PX05	0.124 ✓	64.0	335.9	18.59	0.61
FLA MINING & MATERIALS	356.2	3169.9	PX07	0.059 ✓	64.0	338.7	21.05	0.40
FLA MINING & MATERIALS	356.2	3169.9	QX17	0.059 ✓	21.3	338.7	13.90	0.49
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV3	81.580 ✓	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV4	82.638 ✓	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV5	0.443 ✓	2.4	338.8	36.96	0.21
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV6	0.038 ✓	10.7	338.8	0.48	0.58
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV7	0.074 ✓	28.3	338.8	15.24	0.46
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV8	26.988 ✓	16.2	312.1	116.67	2.74
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5	CYRV9	1.642 ✓	23.8	299.9	0.00	0.21
FPC-Bartow TO9	342.4	3082.6	FPCBR5	0.010 ✓	7.6	298.1	0.04	0.27
Lakeland City Power McIntosh Power Station	409.2	3106.1	LLMC5	0.115 ✓	6.1	652.4	23.54	0.79
Lakeland City Power McIntosh Power Station	409.2	3106.1	LLMC6	40.820 ✓	76.2	349.7	32.85	4.88
LYKES PASCO, INC.	383.5	3139.2	LYK1	3.941 ✓	22.9	327.6	33.71	0.79
LYKES PASCO, INC.	383.5	3139.2	LYK2	4.007 ✓	9.1	372.1	25.00	0.27
LYKES PASCO, INC.	383.5	3139.2	LYK3	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK4	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK5	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK6	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK7	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK8	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK9	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK10	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK11	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK12	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK13	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK14	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK15	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK16	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK17	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK18	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK19	0.246 ✓	16.5	505.4	14.37	0.46
LYKES PASCO, INC.	383.5	3139.2	LYK20	2.112 ✓	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK21	2.112 ✓	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK22	2.112 ✓	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK23	2.112 ✓	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK24	0.176 ✓	16.5	377.6	4.45	0.61
LYKES PASCO, INC.	383.5	3139.2	LYK25	0.188 ✓	16.5	505.4	28.99	0.40
LYKES PASCO, INC.	383.5	3139.2	LYK26	0.064 ✓	16.5	338.8	8.62	0.46
TECO Big Bend	361.9	3075.0	TCOBB1	0.029 ✓	42.4	333.0	18.19	0.49
TECO Big Bend	361.9	3075.0	TCOBB2	2.102 ✓	34.4	394.1	123.77	0.27

**TABLE 5-5  
PM-10 CLASS II AREA SOURCE INVENTORY  
(CONCLUDED)**

Facility	km UTM East	km North	Modeling Designation	PM (g/s)	Height m	Temp. °K	Velocity (m/s)	Dia. m
TECO Big Bend	361.9	3075.0	TCOBB3	0.662	31.1	394.1	16.04	0.76
TECO Big Bend	361.9	3075.0	TCOBB4	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB5	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB6	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB7	54.615	149.4	341.9	18.21	7.32
TECO Big Bend	361.7	3075.5	TCOBB13'	4.175	22.9	770.8	18.74	4.27
TECO Gannon	360.0	3087.5	TCOGN1	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN2	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN3	0.144	32.6	449.7	30.37	0.30
TECO Gannon	360.0	3087.5	TCOGN4	0.374	31.7	449.7	18.27	0.61
TECO Gannon	360.0	3087.5	TCOGN5	0.029	53.0	298.6	24.26	0.37
TECO Gannon	360.0	3087.5	TCOGN6	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN7	0.029	54.0	298.6	15.52	0.61
TECO Gannon	360.0	3087.5	TCOGN8	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN14	0.029	21.9	449.7	10.96	0.21

TABLE 5-6  
PM-10 FAAQS INVENTORY

Facility	KM East	UTM North	KM	Modeling Designation	PM (g/s)	Height m	Temp °K	Velocity (m/s)	Dia. m
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT1	0.030 ✓	7.6	561.0	17.74	1.07
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT2	0.747	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT3	1.260	33.5	316.5	19.68	1.52
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT4	1.197	60.7	352.6	16.40	2.44
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT5	1.197	60.7	337.6	9.70	2.44
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT6	3.910	36.3	314.3	13.64	1.22
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT7	4.115	28.6	326.5	7.93	3.05
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT8	4.480	54.9	331.5	13.31	2.80
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT9	4.114	54.9	313.8	8.18	2.80
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT10	4.725	35.1	299.9	11.01	2.80
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT11	0.630	27.4	298.2	19.02	0.52
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT12	4.114	54.9	324.9	9.78	2.80
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT13	1.928	54.9	333.2	13.37	2.80
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT14	0.630	10.1	298.8	5.94	1.01
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT15	0.025	2.4	373.2	1.63	0.27
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT16	0.013	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT17	0.068	3.7	373.2	1.65	0.09
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT18	0.126	30.5	294.3	7.64	0.76
CF INDUSTRIES, INC. PLANT CITY	388.0	3116.0		CFPLT19	2.667	25.9	298.2	11.64	0.15
FLORIDA CRUSHED STONE	360.0	3162.5		FCS1	14.180 ✓	94.5	389.3	0.00	4.88
FLORIDA CRUSHED STONE	360.0	3162.5		FCS2	0.100	30.5	314.0	12.90	0.61
FLORIDA CRUSHED STONE	360.0	3162.5		FCS3	0.080	38.1	314.0	11.00	0.61
FLORIDA CRUSHED STONE	360.0	3162.5		FCS4	0.080	38.1	314.0	6.79	0.61
FLORIDA CRUSHED STONE	360.0	3162.5		FCS5	0.030	21.3	355.0	12.90	0.30
FLORIDA CRUSHED STONE	360.0	3162.5		FCS6	0.420	73.2	355.4	13.72	1.07
FLORIDA CRUSHED STONE	360.0	3162.5		FCS7	0.101	15.2	338.8	10.35	0.76
FLORIDA CRUSHED STONE	360.0	3162.5		FCS8	0.076	41.1	366.5	14.37	0.46
FLORIDA CRUSHED STONE	360.0	3162.5		FCS9	0.126	61.0	355.4	21.27	0.46
FLORIDA CRUSHED STONE	360.0	3162.5		FCS10	0.050	8.8	366.5	9.70	0.61
FLORIDA CRUSHED STONE	360.0	3162.5		FCS11	0.151	15.2	311.0	9.31	0.76
FLORIDA CRUSHED STONE	360.0	3162.5		FCS12	0.643	21.3	372.1	10.35	1.52
FLORIDA CRUSHED STONE	360.0	3162.5		FCS13	0.050	15.2	344.3	9.20	0.46
FLORIDA CRUSHED STONE	360.0	3162.5		FCS14	0.086	61.0	355.4	15.24	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL1	0.139	7.6	294.3	16.98	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL2	0.178	61.0	355.4	31.62	0.46
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL3	0.049	9.1	338.8	4.85	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL4	0.307	45.7	311.0	30.72	0.61
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL5	0.102	30.5	322.1	6.52	0.76
CENTRAL POWER & LIME, INC	360.0	3162.5		CPL6	0.028	4.6	298.2	4.95	0.46
CHEMICAL LIME INC	359.4	3162.3		CLI1	0.472	15.2	319.3	0.50	3.05
CHEMICAL LIME INC <i>Lime Hydrator</i>	359.4	3162.3		CLI2	1.575	6.1 ✓	339.9	5.48 ✓	0.91 ✓
CHEMICAL LIME INC	359.4	3162.3		CLI3	0.980	9.1	394.3	18.48	1.07
CHEMICAL LIME INC	359.4	3162.3		CLI4	0.630	18.9 ✓	295.4	11.42 ✓	0.46 ✓
CHEMICAL LIME INC	359.4	3162.3		CLI5	0.227	7.6	294.3	3.67	0.40
FLA MINING & MATERIALS	356.2	3169.9		KILN1	3.280 ✓	45.7	413.6	10.37	3.96
FLA MINING & MATERIALS	356.2	3169.9		KILN2	3.280 ✓	32.0	394.0	9.90	4.27
FLA MINING & MATERIALS	356.2	3169.9		CLCOOL1	1.640 ✓	23.5	394.0	12.70	2.29
FLA MINING & MATERIALS	356.2	3169.9		CLCOOL2	1.640 ✓	23.5	394.0	7.60	2.29
FLA MINING & MATERIALS	356.2	3169.9		CX11	0.162 ✓	3.0	293.2	20.04	0.67

**TABLE 5-6  
PM-10 FAAQS INVENTORY  
(CONTINUED)**

Facility	KM East	UTM North	KM	Modeling Designation	PM (g/s)	Height m	Temp °K	Velocity (m/s)	Dia. m
FLA MINING & MATERIALS	356.2	3169.9		CX11A	0.108 ✓	3.0	293.2	53.45	0.34
FLA MINING & MATERIALS	356.2	3169.9		DX31	0.108 ✓	22.9	327.6	22.38	0.52
FLA MINING & MATERIALS	356.2	3169.9		EX36	0.162 ✓	65.5	366.5	13.31	0.82
FLA MINING & MATERIALS	356.2	3169.9		FX17	0.065 ✓	65.5	366.5	19.80	0.43
FLA MINING & MATERIALS	356.2	3169.9		FX31	0.216 ✓	45.7	366.5	17.74	0.82
FLA MINING & MATERIALS	356.2	3169.9		GX11	0.248 ✓	67.1	366.5	18.97	0.85
FLA MINING & MATERIALS	356.2	3169.9		GX23	0.162 ✓	19.8	366.5	14.35	0.79
FLA MINING & MATERIALS	356.2	3169.9		GX23B	0.162 ✓	21.3	366.5	14.35	0.79
FLA MINING & MATERIALS	356.2	3169.9		HX03	0.162 ✓	42.7	338.7	20.04	0.67
FLA MINING & MATERIALS	356.2	3169.9		HX13	0.065 ✓	22.9	327.6	19.80	0.43
FLA MINING & MATERIALS	356.2	3169.9		LX07	0.092 ✓	44.2	358.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9		MX09	0.032 ✓	6.1	338.7	19.40	0.30
FLA MINING & MATERIALS	356.2	3169.9		MX10	0.092 ✓	22.9	333.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9		MX1171	0.108 ✓	7.6	338.7	11.23	0.73
FLA MINING & MATERIALS	356.2	3169.9		MX2280	0.108 ✓	25.9	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9		MX3514	0.108 ✓	7.6	293.2	17.92	0.58
FLA MINING & MATERIALS	356.2	3169.9		MX3515	0.092 ✓	15.2	293.2	21.47	0.49
FLA MINING & MATERIALS	356.2	3169.9		NX23	0.497 ✓	18.3	293.2	22.70	1.10
FLA MINING & MATERIALS	356.2	3169.9		PX05	0.124 ✓	64.0	335.9	18.59	0.61
FLA MINING & MATERIALS	356.2	3169.9		PX07	0.059 ✓	64.0	338.7	21.05	0.40
FLA MINING & MATERIALS	356.2	3169.9		QX17	0.059 ✓	21.3	338.7	13.90	0.49
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV1	60.325 ✓	152.1	451.0	43.96	4.57
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV2	60.413 ✓	153.3	444.3	43.57	4.88
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV3	81.580 ✓	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV4	82.638 ✓	182.9	412.6	20.16	7.77
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV5	0.443 ✓	2.4	338.8	36.96	0.21
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV6	0.038 ✓	10.7	338.8	0.48	0.58
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV7	0.074 ✓	28.3	338.8	15.24	0.46
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV8	26.988 ✓	16.2	312.1	116.67	2.74
FLORIDA POWER CRYSTAL RIVER	334.3	3204.5		CYRV9	1.642 ✓	23.8	299.9	0.00	0.21
FPC-Bartow TC2	342.4	3082.6		FPCBR1	31.960 ✓	91.4	424.8	31.09	2.74
FPC-Bartow TD4	342.4	3082.6		FPCBR2	12.800 ✓	13.7	772.0	22.25	5.27
FPC-Bartow TO3	342.4	3082.6		FPCBR3	27.900 ✓	91.4	408.2	34.44	3.35
FPC-Bartow TO4	342.4	3082.6		FPCBR4	0.040 ✓	9.1	541.5	5.18	0.91
FPC-Bartow TO9	342.4	3082.6		FPCBR5	0.010 ✓	7.6	298.1	0.04	0.27
Florida Power & Light - MANATEE	367.2	3054.1		FPL1	108.930 ✓	152.1	425.8	23.98	7.92
Florida Power & Light - MANATEE	367.2	3054.1		FPL2	108.930 ✓	152.1	425.8	23.61	7.99
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC1	0.576 ✓	11.0	791.3	0.39	2.80
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC2	14.049 ✓	47.5	402.4	21.29	3.17
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC3	0.115 ✓	6.1	652.4	23.54	0.79
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC4	12.408 ✓	45.7	419.1	23.96	2.74
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC5	0.115 ✓	6.1	652.4	23.54	0.79
Lakeland City Power McIntosh Power Station	409.2	3106.1		LLMC6	40.820 ✓	76.2	349.7	32.85	4.88
LYKES PASCO, INC.	383.5	3139.2		LYK1	3.941 ✓	22.9	327.6	33.71	0.79
LYKES PASCO, INC.	383.5	3139.2		LYK2	4.007 ✓	9.1	372.1	25.00	0.27
LYKES PASCO, INC.	383.5	3139.2		LYK3	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2		LYK4	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2		LYK5	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2		LYK6	0.581 ✓	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2		LYK7	0.581 ✓	12.2	347.1	1.45	0.76

**TABLE 5-6  
PM-10 FAAQS INVENTORY  
(CONCLUDED)**

Facility	KM East	UTM North	KM Modeling Designation	PM (g/s)	Height m	Temp °K	Velocity (m/s)	Dia. m
LYKES PASCO, INC.	383.5	3139.2	LYK8	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK9	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK10	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK11	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK12	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK13	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK14	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK15	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK16	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK17	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK18	0.581	12.2	347.1	1.45	0.76
LYKES PASCO, INC.	383.5	3139.2	LYK19	0.246	16.5	505.4	14.37	0.46
LYKES PASCO, INC.	383.5	3139.2	LYK20	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK21	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK22	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK23	2.112	19.8	338.8	5.05	1.22
LYKES PASCO, INC.	383.5	3139.2	LYK24	0.176	16.5	377.6	4.45	0.61
LYKES PASCO, INC.	383.5	3139.2	LYK25	0.188	16.5	505.4	28.99	0.40
LYKES PASCO, INC.	383.5	3139.2	LYK26	0.064	16.5	338.8	8.62	0.46
TECO Big Bend	361.9	3075.0	TCOBB1	0.029	42.4	333.0	18.19	0.49
TECO Big Bend	361.9	3075.0	TCOBB2	2.102	34.4	394.1	123.77	0.27
TECO Big Bend	361.9	3075.0	TCOBB3	0.662	31.1	394.1	16.04	0.76
TECO Big Bend	361.9	3075.0	TCOBB4	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB5	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB6	0.058	54.6	298.6	21.04	0.52
TECO Big Bend	361.9	3075.0	TCOBB7	54.615	149.4	341.9	18.21	7.32
TECO Big Bend	362.0	3075.0	TCOBB8	51.966	149.4	410.2	14.47	7.32
TECO Big Bend	361.9	3075.0	TCOBB9	50.440	149.4	404.7	13.02	7.32
TECO Big Bend	361.9	3075.0	TCOBB10	50.958	149.4	404.7	13.74	7.32
TECO Big Bend	361.9	3075.0	TCOBB11	4.175	10.7	816.3	15.17	4.57
TECO Big Bend	361.7	3075.2	TCOBB12	4.175	22.9	770.8	18.74	4.27
TECO Big Bend	361.7	3075.5	TCOBB13	4.175	22.9	770.8	18.74	4.27
TECO Gannon	360.0	3087.5	TCOGN1	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN2	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN3	0.144	32.6	449.7	30.37	0.30
TECO Gannon	360.0	3087.5	TCOGN4	0.374	31.7	449.7	18.27	0.61
TECO Gannon	360.0	3087.5	TCOGN5	0.029	53.0	298.6	24.26	0.37
TECO Gannon	360.0	3087.5	TCOGN6	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN7	0.029	54.0	298.6	15.52	0.61
TECO Gannon	360.0	3087.5	TCOGN8	0.029	53.3	298.6	21.49	0.52
TECO Gannon	360.0	3087.5	TCOGN9	20.182	93.3	419.7	38.64	3.23
TECO Gannon	360.0	3087.5	TCOGN10	23.694	93.3	426.9	22.97	3.05
TECO Gannon	360.0	3087.5	TCOGN11	15.892	93.3	415.8	28.90	3.05
TECO Gannon	360.0	3087.5	TCOGN12	15.892	93.3	420.8	30.85	3.05
TECO Gannon	360.0	3087.5	TCOGN13	15.403	10.7	816.3	136.61	1.52
TECO Gannon	360.0	3087.5	TCOGN14	0.029	21.9	449.7	10.96	0.21
TECO Gannon	360.0	3087.5	TCOGN15	28.761	93.3	423.6	23.18	4.45
TECO Gannon	360.0	3087.5	TCOGN16	47.906	93.3	433.0	24.74	5.36

**Table 5-7**  
**Summary of Class I Area Analysis Results**  
**SOUTHDOWN , INC - BROOKSVILLE CEMENT**  
**PM-10 MODELING RESULTS**  
**ISCST3 - PSD CLASS I**  
**24-HOUR AVERAGING PERIOD**  
**PSD Class 1 INCREMENT ANALYSIS**

YEAR	Day (yyymmdd)	X (m)	Y (m)	High-Second-High Inventory Impact (ug/m <sup>3</sup> )	Southdown Contribution (ug/m <sup>3</sup> )	Is the Southdown Contribution Significant?
1987	870414	-12680	8155	7.943	0.116	No
1988	880101	-15320	2815	6.767	0.040	No
1989	890709	-12680	8155	7.056	0.014	No
1990	900124	-13520	5980	8.243 <i>over</i>	0.021	No
1991	910714	-14020	4915	8.105 <i>over</i>	0.000	No
PSD Class 1 Significance =					0.27	

Note: For the year 1990 the maximum predicted impact for the project alone is 0.19 ug/m<sup>3</sup> when the predicted impact, excluding the highest-high, for all the sources in the Class 1 inventory exceeds 8 ug/m<sup>3</sup>. In the Year 1991, there are no other predicted impacts, excluding the highest-high, that exceeds 8 ug/m<sup>3</sup> for all the sources in the Class 1 inventory.

**Table 5-8**  
**Summary of Class II Area Analysis Results**  
**SOUTHDOWN , INC - BROOKSVILLE CEMENT**  
**PM-10 MODELING RESULTS**  
**ISCST3 - PSD CLASS II**  
**ANNUAL AND 24-HOUR AVERAGING PERIOD**

<b>PSD Class 2 INCREMENT ANALYSIS</b>		
YEAR	ANNUAL Period High Impact (ug/m ^ 3)	24-HOUR Period High-Second High Impact (ug/m ^ 3)
1987	3.25 ✓	19.67 ✓
1988	3.61 ✓	20.70 ✓
1989	3.78 ✓	23.98 ✓
1990	3.55 ✓	17.03 ✓
1991	3.68 ✓	18.71 ✓
Maximum Class 2 Increment	3.78 17	23.98 30
Within Increment ?	Yes	Yes



**Table 5-9**  
**SOUTHDOWN , INC - BROOKSVILLE CEMENT**  
**PM-10 MODELING RESULTS**  
**ISCST3 - FAAQS**  
**ANNUAL AND 24-HOUR AVERAGING PERIOD**

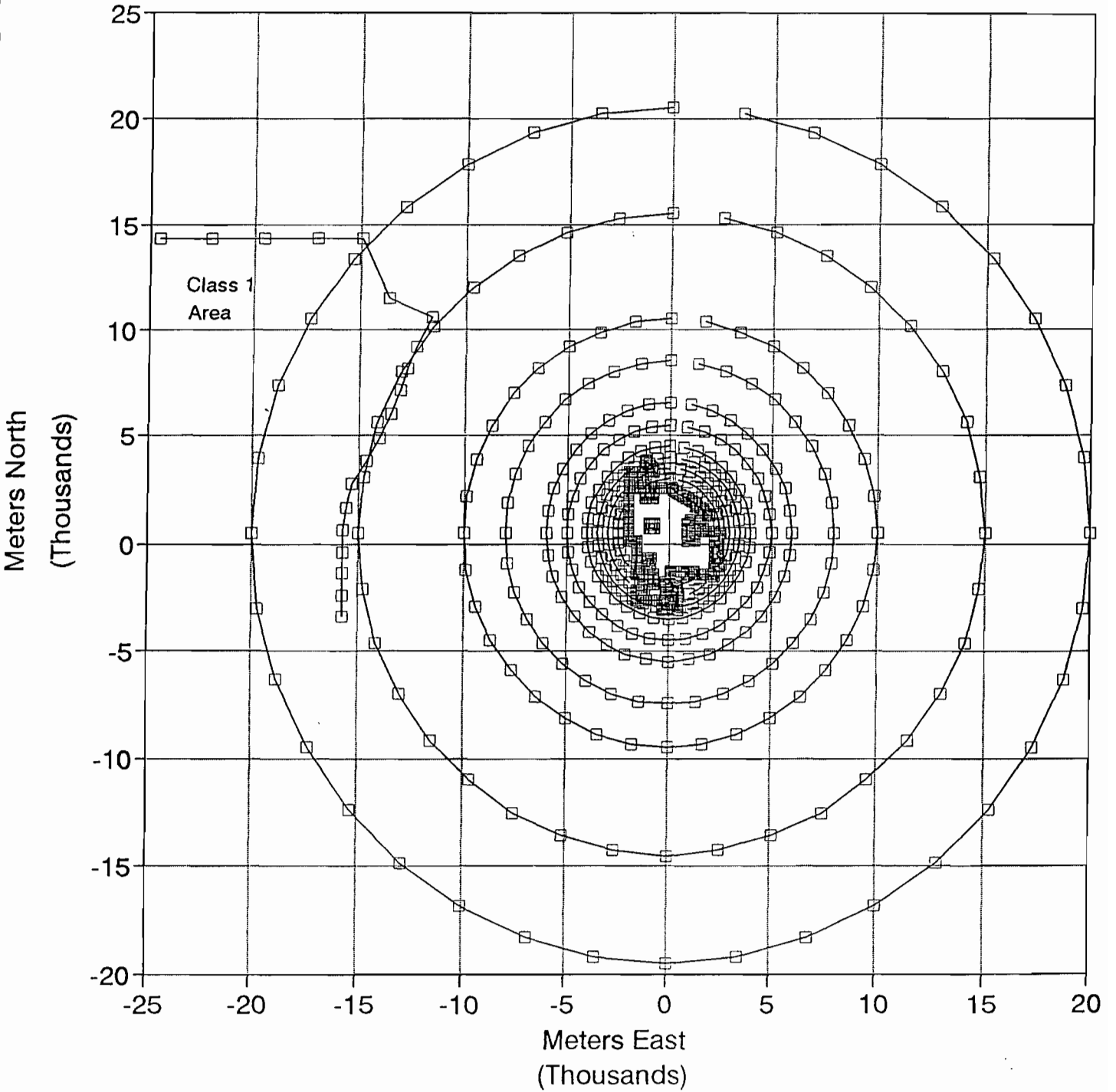
<b>FAAQS ANALYSIS</b>		
YEAR	ANNUAL Period High Impact (ug/m ^ 3)	24-HOUR Period High-Second High Impact (ug/m ^ 3)
1987	5.63 ✓	34.33 ✓
1988	6.14	34.91
1989	5.96	40.60
1990	6.12	29.15
1991	6.40	32.71
Maximum	6.40	40.60
Background (1)	35	105
Impact + Background	41	146
FAAQS	50	150
Within FAAQS ?	Yes	Yes

Note: (1) Background PM concentrations from Hernando County monitor number 1740-004  
 For 1991 24-hour second high = 105 ug/m ^ 3  
 For 1991 Annual high = 35 ug/m ^ 3

FIGURE 5-1  
RECEPTOR LOCATIONS - ALL

*SIA and  
C1*

All Receptors

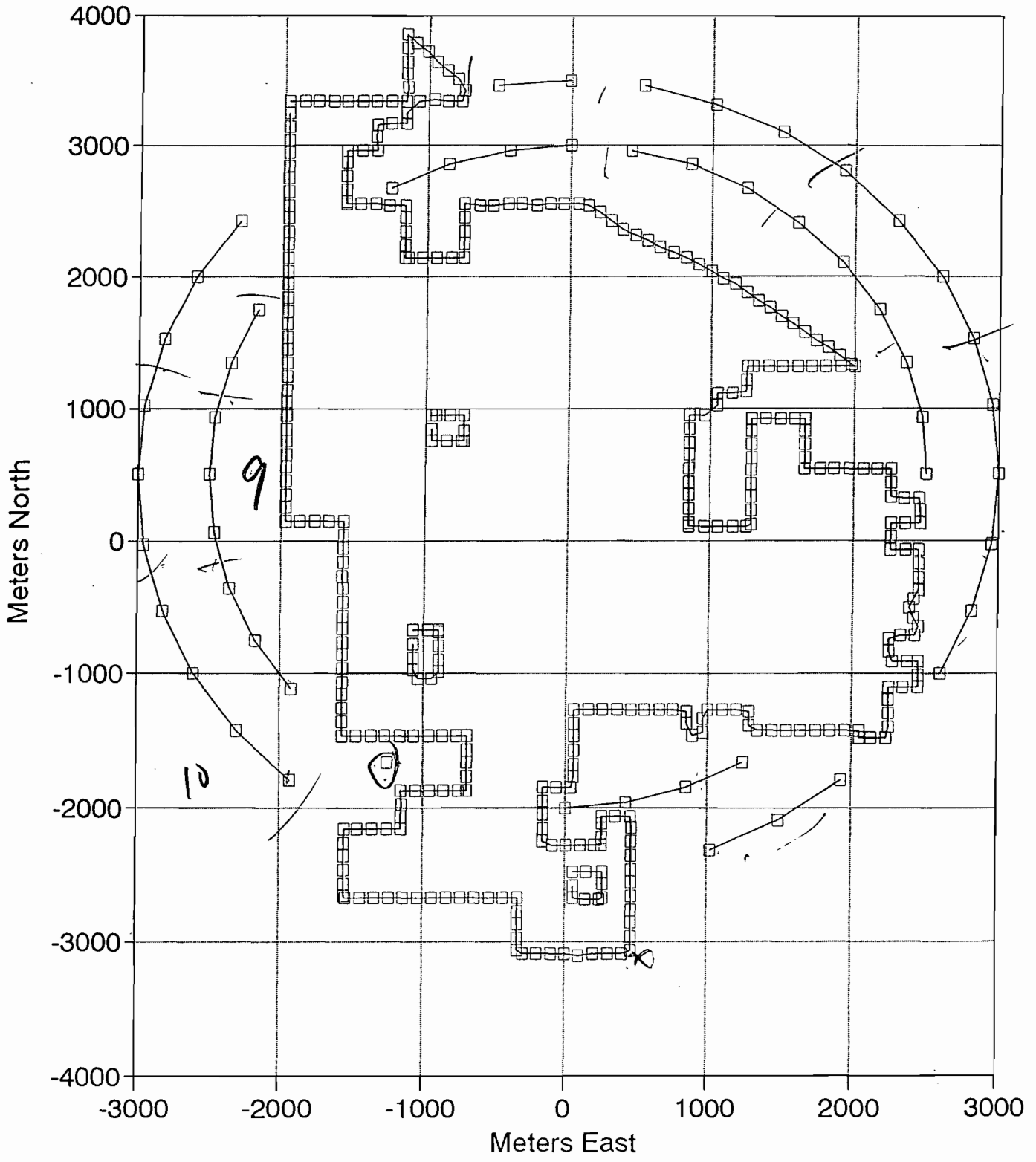


2.5, 3.0 km SIA is 2.5 km

FIGURE 5-2  
RECEPTOR LOCATIONS - CLOSE-IN

53 discrete

369 receptors  
on fence line



## 6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height in Rule 62-210.550, FAC states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion.

The stacks associated with the kilns and clinker coolers are less than 213 feet in height above-grade. This satisfies the Good Engineering Practice (GEP) stack height criteria.

It should be noted that building wake effects were addressed in the modeling using the EPA approved BPIP program. ✓

OK

*AQRV analysis  
Class I area  
for PM 10.*

7.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

7.1 IMPACT ON SOILS AND VEGETATION

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to:

"... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of PM/PM10 and CO expected as a result of the proposed project will be below the corresponding ambient standards. As a result, it is reasonable to conclude that there will be no adverse effect to the soils or vegetation of the area.

## 7.2 GROWTH RELATED IMPACTS

The proposed modification will require no increase in traffic or personnel to operate the plant. Therefore, no additional growth impacts are expected as a result of the proposed project.

## 7.3 VISIBILITY IMPACTS

The proposed increases in PM/PM10 and CO emissions were evaluated for visibility impacts using the EPA approved VISCREEN model. The modeling results, summarized in Table 7-1, indicate that the proposed project is not expected to have an adverse impact on visibility.

An analysis for determining the regional haze impacts was conducted using the guidance provided by the National Park Service. The results of the analysis, presented in Table 7-2, indicates that the proposed project's contribution to the regional haze is expected to be insignificant.

### Table 7-1

Visual Effects Screening Analysis for  
 Source: Southdown, Inc.  
 Class I Area: Chassahowitzka N.W.R.

\*\*\* Level-1 Screening \*\*\*  
 Input Emissions for

Particulates	2.00	G	/S
NOx (as NO2)	.00	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

\*\*\*\* Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	65.00 km ✓
Source-Observer Distance:	100.00 km
Min. Source-Class I Distance:	15.00 km
Max. Source-Class I Distance:	26.00 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	1.00 m/s

### R E S U L T S

Asterisks (\*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area  
 Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	4.	26.0	165.	2.00	.061	.05	.001
SKY	140.	4.	26.0	165.	2.00	.011	.05	-.000
TERRAIN	10.	4.	26.0	165.	2.00	.036	.05	.000
TERRAIN	140.	4.	26.0	165.	2.00	.011	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area  
 Screening Criteria ARE NOT Exceeded

					Delta E		Contrast	
Backgrnd	Theta	Azi	Distance	Alpha	Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	20.	65.9	149.	2.00	.111	.05	.001
SKY	140.	20.	65.9	149.	2.00	.019	.05	-.001
TERRAIN	10.	50.	87.4	119.	2.00	.060	.05	.001
TERRAIN	140.	50.	87.4	119.	2.00	.013	.05	.000

Table 7-2

Regional Haze Analysis For  
Brooksville Cement – Southdown Inc.  
CLASS I CHASSAHOWITZKA N.W.R.

(1) SO2 ( $\mu\text{g}/\text{m}^3$ )	(2) Background Visibility (km)	(3) Ambient b(ext)a	(4) Acid Mist Impact H2SO4 ( $\mu\text{g}/\text{m}^3$ )	(5) SO4 ( $\mu\text{g}/\text{m}^3$ )	(6) (NH4)SO2 ( $\mu\text{g}/\text{m}^3$ )	(7) Transport Time (hrs)	(8) Conversion
0.0000	65	0.0602	0.00000	0.0000	0.0000	1.0	0%
(9) AT 0% (NH4)SO2 CONVERSION ( $\mu\text{g}/\text{m}^3$ )	(10) Relative Humidity FACTOR @ 83%	(11) PM-10 ( $\mu\text{g}/\text{m}^3$ )	(12) Source b(ext)s (NH4)SO2	(13) Source b(ext)s PM10	(14) Total Source b(ext)s	(15) Deciview	Is Deciview Greater than 1
0.0000	4.2	1.0229	0.00000	0.00307	0.00307	0.50	NO

- (1) Maximum 24-hour SO2 Impact at Class I Receptor (none).
- (2) Measured Background Visibility Range as recommended by FWS
- (3) Ambient b(ext)a =  $3.912 / \text{Background Visibility}$
- (4) Acid Mist Impact =  $0.15 / 4 * \text{SO2 Impact} * 96 / 98$  (none).
- (5) SO4 = SO2 Impact \* 1.5
- (6) 100 % (NH4)SO2 Impact =  $1.375 * (\text{SO4} + \text{Acid Mist})$
- (7) Transport Time (hours) = Maximum Distance / Average daily wind speed. Not Calculated
- (8) Conversion = Transport Time \* 0.03 (% / hour). Not calculated.
- (9) (NH4)SO2 Conversion = % Conversion \* (NH4)SO2
- (10) Relative Humidity Factor From Meteorology and Figure B-1 IWAQM
- (11) Maximum 24-hour PM10 Impact at Class I Receptor. From table 5-7
- (12) Source b(ext)s (NH4)SO4 =  $0.003 * \text{Relative Humidity Factor} * (\text{NH4})\text{SO4}$
- (13) Source b(ext)s PM10 =  $0.003 * \text{Relative Humidity Factor} (1) * \text{PM10}$
- (14) Total Source b(ext)s = b(ext)s (NH4)SO4 + b(ext)s PM10
- (15) Deciview =  $10 * \text{LN} [ 1 + (\text{Total b(ext)s} / \text{b(ext)a} ) ]$



## 8.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the allowable emission rate of PM/PM10, CO and VOCs from the Southdown facility, as described in this report, will not cause or contribute to an exceedance of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

APPENDIX I

EMISSION CALCULATIONS

PERMITTED EMISSION RATES

PM/PM10, No. 1 kiln	=	39.0 lb/hr, 170.8 tpy
PM/PM10, No. 2 kiln	=	13.5 lb/hr, 55.4 tpy
PM/PM10, No. 1 cooler	=	7.13 lb/hr, 28.14 tpy
PM/PM10, No. 2 cooler	=	5.0 lb/hr, 20.5 tpy
CO, No. 1 kiln	=	57.7 lbs/hr, 234.4 tpy
CO, No. 2 kiln	=	64.0 lbs/hr, 262.4 tpy
VOC, No. 1 kiln	=	NO LIMIT
VOC, No. 2 kiln	=	7.4 lbs/hr, 30.34 tpy

PROPOSED EMISSION RATES

PM/PM10, No. 1 kiln	=	0.2 lb/ton dry feed x 148 tph feed
	=	29.6 lb/hr, 1-hr max.
	=	0.2 lb/ton dry feed x 130 tph feed
	=	26.0 lb/hr, 30-day avg.
	=	x 8760 hrs/yr x ton/2000 lbs
	=	113.9 tpy
PM/PM10, No. 2 kiln	=	0.2 lb/ton dry feed x 148 tph feed
	=	29.6 lb/hr, 1-hr max.
	=	0.2 lb/ton dry feed x 130 tph feed
	=	26.0 lb/hr, 30-day avg.
	=	x 8200 hrs/yr x ton/2000 lbs
	=	106.6 tpy
PM/PM10, No. 1 cooler	=	0.1 lb/ton dry feed x 148 tph feed
	=	14.8 lb/hr, 1-hr max.
	=	0.1 lb/ton dry feed x 130 tph feed
	=	13.0 lb/hr, 30-day avg.
	=	x 8760 hrs/yr x ton/2000 lbs
	=	56.9 tpy

PM/PM10, No. 2 cooler	=	0.1 lb/ton dry feed x 148 tph feed
	=	14.8 lb/hr, 1-hr max.
	=	0.1 lb/ton dry feed x 130 tph feed
	=	13.0 lb/hr, 30-day avg.
	=	x 8200 hrs/yr x ton/2000 lbs
	=	53.3 tpy
CO, No. 1 kiln	=	1.307 lb/ton dry feed x 148 tph feed
	=	193.4 lb/hr, 1-hr max.
	=	1.307 lb/ton dry feed x 130 tph feed
	=	169.9 lb/hr, 30-day avg.
	=	x 8760 hrs/yr x ton/2000 lbs
	=	742.8 tpy
CO, No. 2 kiln	=	1.307 lb/ton dry feed x 148 tph feed
	=	193.4 lb/hr, 1-hr max.
	=	1.307 lb/ton dry feed x 130 tph feed
	=	169.9 lb/hr, 30-day avg.
	=	x 8200 hrs/yr x ton/2000 lbs
	=	696.6 tpy
VOC, No. 1 kiln	=	NO LIMIT
VOC, No. 2 kiln	=	0.1 lb/ton dry feed x 148 tph feed
	=	14.8 lb/hr, 1-hr max.
	=	0.1 lb/ton dry feed x 130 tph feed
	=	13.0 lb/hr, 30-day avg.
	=	x 8200 hrs/yr x ton/2000 lbs
	=	53.3 tpy

NET EMISSIONS INCREASES

Net Emissions = Proposed - Actual + Contemporaneous

In this case, the actual emission rates are assumed to be equal to the permitted emission rates as they approach the allowable emission limits.

Net Increase, PM/PM10 = (113.9 + 106.6 + 56.9 + 53.3)  
= (170.8 + 55.4 + 28.14 + 20.5)  
= 55.9 tpy

Net Increase, CO = (742.8 + 696.6) - (234.4 + 262.4)  
+ 99.9 (contemporaneous)  
= 1042.5 tpy

For the purposes of this analysis only, it is assumed that the VOC emission rates for the two kilns are similar.

Net Increase, VOC = (56.9 + 53.3) - (56.9 + 30.34)  
= 23.0 tpy

APPENDIX II  
MODELING OUTPUT ON DISK

APPENDIX III

CURRENT PERMITS



# Department of Environmental Protection

RECEIVED  
8-4-95

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

AIRS No. 0530010

**PERMITTEE:**

FM&M/Southdown, Inc.  
P.O. Box 6  
Brooksville, Florida 34605-0006

**PERMIT/CERTIFICATION:**

Permit No: AC27-258571  
County: Hernando  
Expiration Date: 3/31/96  
Project: No. 1 Cement Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-2 through 62-297 & 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the deletion of on-specification used oil as a fuel, the addition of natural gas as a primary fuel source, and the addition of virgin fuel oils No. 2 through No. 6 as standby fuels for the No. 1 Cement Kiln. Included in the changes is a sulfur dioxide limitation of 15.0 pounds/hour in lieu of a fuel sulfur limitation.

Raw materials are milled, blended, and introduced into the Kiln Feed System (Preheater-under separate permit) where the material falls through the Kiln exhaust gasses and some weight is lost due to fines removal and heat. This remaining material enters the Kiln, where calcination further reduces the mass exiting the Kiln and entering the Clinker Cooler (under separate permit).

The kiln uses coal and natural gas as the primary fuels. The maximum permitted heat input rate of any fuel is 300 MMBtu/hr. Fuel oil Nos. 2 through 6 oil will be used as a backup fuel during periods of natural gas curtailment.

Waste Tire-Derived Fuel (WTDF) may be used up to 20% of the total Kiln heat input.

Particulate emissions are controlled by the following baghouse:

<u>Baghouse Description</u>	<u>Baghouse ID</u>
Fuller-Dracco Custom Baghouse 16 cells exhausting to a common stack. Rated at 250,000 ACFM.	E-55

Location: U.S. Highway 98 North, NW of Brooksville  
UTM: 17-356.0 E 3169.9 N NEDS No: 0010 Point ID No: 03  
Facility ID: 40TPA270010

Replaces Permit No.: AC27-186923, A027-254098

"Protect, Conserve and Manage Florida's Environment and Natural Resources" fm&m571.pmt

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions. [Rule 62-4.160, F.A.C.]
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 62-200 through 62-297, 7 62-4, or any other requirements under federal, state or local law. [Rule 62-210.300, F.A.C.]
3. The applicant shall comply with all of the applicable provisions and requirements of 40 CFR 60.60 through 60.66 - Subpart F (New Source Performance Standards - Portland Cement Plants) and applicable requirements of 40 CFR 60.7, 60.8, and 60.11. [Rule 62-296.800, F.A.C.]

PROCESS OPERATING LIMITATIONS

4. The maximum material handling rates, based upon a rolling 30 production-day average, are as follows:

Kiln preheater feed rate -- 145 tons/hour.  
No. 1 Cement Kiln feed rate -- 130 tons/hour.  
Clinker production (kiln discharge) rate -- 79.6 tons/hour

The maximum material handling rates for any one hour of operation are as follows:

Kiln preheater feed rate -- 165 tons/hour.  
No. 1 Cement Kiln feed rate -- 148 tons/hour.  
Clinker production (kiln discharge) rate -- 90 tons/hour

[Construction Permit No. AC27-186923 and Dr. John Koogler's letter of November 22, 1994].

5. No. 1 Cement Kiln is permitted to operate 8,760 hours/yr. [Construction Permit No. AC27-186923].
6. Visible emissions from Kiln No. 1 shall not exceed 20% opacity. [Rule 62-296.800, F.A.C. and 40 CFR 60.62(a)(2)].
7. Emissions from No. 1 Cement Kiln shall not exceed 0.30 pounds of particulate matter per ton of feed material, measured on a dry basis. [Rule 62-296.800, F.A.C., 40 CFR 60.62(a)(1), and construction permit AC27-186923]



PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

8. The No. 1 Cement Kiln fuel heat input rate shall not exceed 300 MMBtu/hr, or specifically:

- A. 24,000 pounds per hour of coal with a heating value of 12,500 Btu/lb.
- B. 2,116 gallons per hour of No. 2 fuel oil with a heating value of 141,300 Btu/gal.
- C. 2,060 gallons per hour of No. 4 fuel oil with a heating value of 145,600 Btu/gal.
- D. 2,016 gallons per hour of No. 5 fuel oil with a heating value of 148,800 Btu/gal.
- E. 1,982 gallons per hour of No. 6 fuel oil with a heating value of 151,300 Btu/gal.
- F. 292,683 cubic feet per hour of natural gas with a heating value of 1,025 Btu per cubic foot.
- G. 2.14 tons per hour of waste tire derived fuel (WTDF).

Use of fuels other than those listed above is prohibited.

[Construction Permit No. AC27-186923 and Supplemental information received by DEP March 31, 1995].

9. In the No. 1 cement kiln, continuous whole tire-derived fuel (WTDF) utilization/firing shall be allowed (i.e., 8760 hrs/yr operation).

[Construction Permit No. AC27-240349].

10. The No. 1 cement kiln's maximum utilization/firing rate of WTDF shall not exceed 20.0 percent of the total Btu heat input, or 2.14 tons per hour.

[Construction Permit No. AC27-240349].

11. WTDF may be introduced into the No. 1 cement kiln only at a point at the base of the preheater (i.e., kiln exit).

[Construction Permit No. AC27-240349].

12. WTDF firing in the No. 1 cement kiln shall not commence or be conducted unless the cement kiln has reached an operating temperature of at least 1,400°F for one hour. The operating temperature shall be measured at the cement kiln exit.

[Construction Permit No. AC27-240349].

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

TESTING AND EMISSIONS

13. By request of the permittee, in lieu of fuel sulfur restrictions, emissions of sulfur dioxide from the No. 1 Kiln System shall not exceed 15.0 pounds per hour.  
[Supplemental information received by DEP March 31, 1995]

14. While utilizing/firing WTDF with coal, the maximum allowable/potential carbon monoxide (CO) emissions shall not exceed 57.7 lbs/hr (1-hour average), 234.4 tons/yr, which was requested by the permittee to avoid new source review (NSR) requirements pursuant to Rules 62-212.400(2)(d) and (g) and 62-212.400(5), F.A.C.  
[Construction Permit No. AC27-240349].

15. Pursuant to Rule 62-212.400(2)(g), F.A.C., if there is any net increase in potential emissions of +0.1 tons/yr of CO above the maximum allowable/potential emissions of 234.4 tons/yr while utilizing/firing WTDF with coal, the No. 1 cement kiln will be subject to NSR in accordance with Rule 62-212.400(5), F.A.C. For PSD tracking purposes, the net potential CO emissions are +99.9 tons/yr while utilizing/firing WTDF with coal.  
[Construction Permit No. AC27-240349].

16. Test the emissions from the Kiln No. 1 baghouse exhaust while firing coal for the following pollutants annually, within 60 days prior to October 1, 1995. Submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing:

- (X) Opacity (VE - Visible Emissions)
- (X) Particulates (PM)
- \* (X) CO (Carbon Monoxide)
- (X) Sulfur Dioxide

\* Test while firing 20% of total heat input as Waste Tire Derived Fuel  
[Rules 62-297.340(1)(d) and 62-297.570(2), F.A.C.].

17. Compliance with the emission limitations of Specific Condition Nos. 6 and 7 shall be determined using EPA Methods 1, 2, 3, 4, 5, 6C, 9 and 10 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A.  
[Rule 62-297, F.A.C.]

18. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [40 CFR 60.11].

19. Testing of emissions must be conducted within 90-100% of the maximum hourly material input, as measured at the entrance to the No. 1 Kiln, attained within the period 30 production days prior to the test date, or 130 tons/hour, as measured at the entrance to the No. 1 Kiln, whichever is greater. A compliance test submitted at a rate less than 90% of the rate specified above will automatically constitute an amended permit rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted rate of 130 tons/hour, based upon a 30 day rolling average, be exceeded. Failure to submit records of the production rate during the test period, and for the 30 production days prior to the test period, along with the test report, may invalidate the test and fail to provide reasonable assurance of compliance. [Rule 62-4.070(3), F.A.C.]

20. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.340(1)(i), F.A.C.]

RECORDKEEPING AND REPORTING

21. The utilization/firing rate of WTDF shall be quantified (weighed) continuously and recorded hourly. These records and other records required under this permit shall be kept on file for a minimum of three years. [Construction Permit No. AC27-240349].

22. The quantity of all deliveries of WTDF shall be documented and kept on record/file for a minimum of three years. [Construction Permit No. AC27-240349].

23. Daily sampling and recording of the baghouse dust for the No. 1 kiln is required. The concentration of thallium in the baghouse dust shall not exceed 1.5%. Compliance shall be demonstrated using the "Thallium Concentration Monitoring and Analysis

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

Procedure" as described in Mr. Bob Rogers's letter to Dr. John Koogler, dated January 12, 1994 (Attachment #9 of Construction Permit No. AC27-240349).

[Construction Permit No. AC27-240349].

24. The Preheater and No. 1 Kiln daily feed rates and clinker production rates shall be monitored and recorded in accordance with 40 CFR 60.63.

[Rule 62-296.800, F.A.C. and 40 CFR 60.62(b)(2)].

25. The following Kiln No. 1 fuel records shall be maintained and made available upon request:

A. Coal

- (1) the coal usage rate in tons/day;
- (2) the average sulfur content and heating value (Btu/lb) of each coal shipment based upon analysis of a sample representative of the shipment (trainload);

B. Liquid Fuels

- (1) The fuel type (number) and usage rate in gal/day;
- (2) Records of the sulfur content and heating value (Btu/gal) of each oil shipment based upon analysis of a sample representative of the shipment

C. Natural Gas

- (1) The fuel usage rate in cubic feet per day.
- (2) The average heating value (Btu/Ft<sup>3</sup>) provided by the gas supplier.

[Rule 62-4.070(3), F.A.C.].

26. Submit to this office each calendar year, on or before March 1, an emission report for this source [DER Form 62-210.900(4)] for the preceding calendar year, pursuant to Rule 62-210.370(2), F.A.C.

OTHER REQUIREMENTS

27. If there is any change in the method of operation, etc., pursuant to Florida Administrative Code (F.A.C.) Rule 62-210.200, Definitions-Modification, the permittee shall submit an application along with the appropriate processing fee to the Department's Bureau of Air Regulation. Any physical modifications to the WTDF feed mechanism utilized during the test burn of WTDF/coal that results in an increased feed rate, a change in the location where WTDF is introduced into the kiln, or the introduction of WTDF into the kiln through the use of a mechanism other than a double air lock feed system, may require a modification to this permit. If the WTDF feed mechanism is to be

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

SPECIFIC CONDITIONS:

physically modified in this manner, a description of such modifications shall be submitted to FDEP and HCBCC 90 days prior to actual modification. FDEP and HCBCC shall review this information and, prior to any modification, determine whether further stack testing is required in order to determine if such modifications will result in an increase in actual emissions, whether a permit modification is necessary, and/or what the terms of any modified permit shall be. FDEP will provide a clear point of entry for Hernando County and any other substantially-affected parties to challenge any of FDEP's proposed determinations in this regard. Florida Mining & Materials (FM&M) shall bear the burden to provide reasonable assurances that such modifications will not affect the conclusions derived from the test burn of May and June, 1993. [Construction Permit No. AC27-240349].

28. Objectionable odors shall not be allowed off the facility's property in accordance with F.A.C. Rule 62-296.320(2).  
[Construction Permit No. AC27-240349].

29. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.310(3), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. Specific work practices to minimize fugitive PM emissions shall include:

- A. All permanent haul roads shall be paved.
  - B. Temporary haul roads shall be watered or treated with chemical dust suppressants at regular intervals.
  - C. Dry materials (moisture content  $\leq$  14%) shall be stored below grade, in silos, or in enclosed structures.
  - D. Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to maintain a minimum 8% moisture content in the surface layer, and shall be aligned with the predominant wind direction to minimize wind erosion.
  - E. Abandoned haul roads and other disturbed areas shall be revegetated within 60 days of the date that active service of the road ends.
  - F. All cement products shall be transferred to transport trucks with a sealed pneumatic conveying system which is either a closed system or exhausted through a bag filter.
- [Rule 62-296.310(3), F.A.C.].

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258571  
Project: No. 1 Cement Kiln

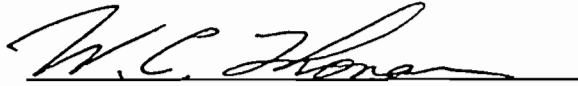
SPECIFIC CONDITIONS:

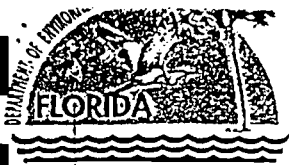
30. The cement kiln and its associated equipment are subject to the applicable provisions of F.A.C. Rules 62-210.650: Circumvention; 62-210.700: Excess Emissions; and, 62-4.130: Plant Operations- Problems.

31. Construction permits AC27-186923, AC27-213207, and AC27-240349, and all associated amendments, documents, and applicable conditions, are herein incorporated by reference.

32. Four copies of an application for a Title V permit shall be submitted to the Department in accordance with the provisions of Rule 62-213.420, F.A.C.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
For Richard D. Garrity, Ph.D.  
Director of District Management



# Department of Environmental Protection

RECEIVED  
9-4-95

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

**PERMITTEE:**  
FM&M/Southdown, Inc.  
P.O. Box 6  
Brooksville, Florida 34605-0006

**PERMIT/CERTIFICATION:**  
Permit No: AC27-258572  
County: Hernando  
Expiration Date: 3/31/96  
Project: No. 2 Cement Kiln

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-200 through 62-297 & 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the deletion of on-specification used oil as a fuel, the addition of natural gas as a primary fuel source, and the addition of virgin fuel oils No. 2 through No. 6 as standby fuels for the No. 2 Cement Kiln. Included in the changes is a sulfur dioxide limitation of 15.0 pounds/hour in lieu of a fuel sulfur limitation.

Raw materials are milled, blended, and introduced into the Kiln Feed System (Preheater-under separate permit) where the material falls through the Kiln exhaust gasses and some weight is lost due to fines removal and heat. This remaining material enters the Kiln, where calcination further reduces the mass exiting the Kiln and entering the Clinker Cooler (under separate permit).

The kiln uses coal and natural gas as the primary fuels. The maximum permitted heat input rate of any fuel is 300 MMBtu/hr. Fuel oil No. 2 through No. 6 will be used as a backup fuel during periods of natural gas curtailment.

Particulate emissions are controlled by the following baghouse:

<u>Baghouse Description</u>	<u>Baghouse ID</u>
Fuller Model 10744 Modular (18 unit reverse air dust collector rated at 300,000 ACFM)	E-19

Location: U.S. Highway 98 North, NW of Brooksville

UTM: 17-356.0 E 3169.9 N NEDS No: 0010 Point ID No: 14

Facility ID: 40TPA270010

Replaces Permit No. AC27-234710B  
Protect, Conserve and Manage Florida's Environment and Natural Resources" fm&m572b.pmt

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions. [Rule 62-4.160, F.A.C.]
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 62-200 through 62-297, 7 62-4, or any other requirements under federal, state or local law. [Rule 62-210.300, F.A.C.]
3. The applicant shall comply with all of the applicable provisions and requirements of 40 CFR 60.60 through 60.66 - Subpart F (New Source Performance Standards - Portland Cement Plants) and applicable requirements of 40 CFR 60.7, 60.8, and 60.11. [Rule 62-296.800, F.A.C.]

PROCESS OPERATING LIMITATIONS

4. The maximum material handling rates, based upon a rolling 30 production-day average, are as follows:

Kiln preheater feed rate -- 145 tons/hour.  
No. 2 Cement Kiln feed rate -- 130 tons/hour.  
Clinker production (kiln discharge) rate -- 79.6 tons/hour

The maximum material handling rates for any one hour of operation are as follows:

Kiln preheater feed rate -- 165 tons/hour.  
No. 2 Cement Kiln feed rate -- 148 tons/hour.  
Clinker production (kiln discharge) rate -- 90 tons/hour

[Construction Permit No. AC27-221252 and Dr. John Koogler's letter of November 22, 1994].

5. No. 2 Cement Kiln is permitted to operate 8,200 hours/yr. [Construction Permit No. AC27-221252].
6. Visible emissions from Kiln No. 2 shall not exceed 10% opacity. [Rule 62-296.800, F.A.C. and 40 CFR 60.62(a)(2)].
7. Emissions from No. 2 Cement Kiln shall not exceed the following:

	<u>pounds/hour</u>	<u>tons/year</u>
A. Particulate Matter	13.50	55.4
B. Sulfur Dioxide	15.00	61.5



PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

SPECIFIC CONDITIONS:

C. Nitrogen Oxides	*250.00	1025.0
D. Volatile Organic Compounds	7.40	30.34
E. Carbon Monoxide	64.00	262.4

\* Based upon a rolling 30-day average.

[Construction Permit No. AC27-212252 and Supplemental information received by DEP March 31, 1995].

8. The No. 2 Cement Kiln fuel heat input rate shall not exceed 300 MMBtu/hr, or specifically:

- A. 24,000 pounds per hour of coal with a heating value of 12,500 Btu/lb.
- B. 2,116 gallons per hour of No. 2 fuel oil with a heating value of 141,300 Btu/gal.
- C. 2,060 gallons per hour of No. 4 fuel oil with a heating value of 145,600 Btu/gal.
- D. 2,016 gallons per hour of No. 5 fuel oil with a heating value of 148,800 Btu/gal.
- E. 1,982 gallons per hour of No. 6 fuel oil with a heating value of 151,300 Btu/gal.
- F. 292,683 cubic feet per hour of natural gas with a heating value of 1,025 Btu per cubic foot.

Use of fuels other than those listed above is prohibited.

[Construction Permit No. AC27-212252 and Supplemental information received by DEP March 31, 1995].

TESTING AND EMISSIONS

9. By request of the permittee, in lieu of fuel sulfur restrictions, emissions of sulfur dioxide from the No. 2 Kiln System shall not exceed 15.0 pounds per hour as listed in Specific Condition No. 7B above.  
[Supplemental application information received by DEP March 31, 1995]

10. Test the emissions from the Kiln No. 2 baghouse exhaust while firing coal for the following pollutants annually, within 60 days

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

SPECIFIC CONDITIONS:

prior to October 1, 1995. Submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing:

- (X) Opacity (VE - Visible Emissions)
- (X) Particulates (PM)
- (X) CO (Carbon Monoxide)
- (X) Sulfur Dioxide
- (X) Nitrogen Oxides
- (X) Volatile Organic Compounds

[Construction Permit No. AC27-212252 and Rule 62-297.570(2), F.A.C.].

11. Compliance with the <sup>7E</sup> emission limitations of Specific Condition Nos. 6, 7, and 9 shall be determined using EPA Methods 1, 2, 3, 4, 5, 6 or 6C, 9, 10, and 25A contained in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297, F.A.C. The minimum requirements for stationary point source emissions test procedures and reporting shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A.  
[Rule 62-297, F.A.C.]

12. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur.  
[40 CFR 60.11].

13. Testing of emissions must be conducted within 90-100% of the maximum hourly material input, as measured at the entrance to the No. 2 Kiln, attained within the period 30 production days prior to the test date, or 130 tons/hour, as measured at the entrance to the No. 2 Kiln, whichever is greater. A compliance test submitted at a rate less than 90% of the rate specified above will automatically constitute an amended permit rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted rate of 130 tons/hour, based upon a 30 day rolling average, be exceeded. Failure to submit records of the production rate during the test period, and for the 30 production days prior to the test period, along with the test report, may invalidate the test and fail to provide reasonable assurance of compliance. [Rule 62-4.070(3), F.A.C.]

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

SPECIFIC CONDITIONS:

14. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.340(1)(i), F.A.C.].

RECORDKEEPING AND REPORTING

15. The Preheater and No. 2 Kiln daily feed rates and clinker production rates shall be monitored and recorded in accordance with 40 CFR 60.63. [Rule 62-296.800, F.A.C. and 40 CFR 60.62(b)(2)].

16. The following Kiln No. 2 fuel records shall be maintained and made available upon request:

A. Coal

- (1) the coal usage rate in tons/day;
- (2) the average sulfur content and heating value (Btu/lb) of each coal shipment based upon analysis of a sample representative of the shipment (trainload);

B. Liquid Fuels

- (1) The fuel type (number) and usage rate in gal/day;
- (2) Records of the sulfur content and heating value (Btu/gal) of each oil shipment based upon analysis of a sample representative of the shipment

C. Natural Gas

- (1) The fuel usage rate in cubic feet per day.
- (2) The average heating value (Btu/Ft<sup>3</sup>) provided by the gas supplier.

[Rule 62-4.070(3), F.A.C.].

17. Submit to this office each calendar year, on or before March 1, an emission report for this source [DER Form 62-210.900(4)] for the preceding calendar year, pursuant to Rule 62-210.370(2), F.A.C.

OTHER REQUIREMENTS

18. If there is any change in the method of operation, etc., pursuant to Florida Administrative Code (F.A.C.) Rule 62-210.200,

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

SPECIFIC CONDITIONS:

Definitions-Modification, the permittee shall submit an application along with the appropriate processing fee to the Department's Bureau of Air Regulation. FDEP and HCBCCC shall review this information and, prior to any modification, determine whether further stack testing is required in order to determine if such modifications will result in an increase in actual emissions, whether a permit modification is necessary, and/or what the terms of any modified permit shall be. FDEP will provide a clear point of entry for Hernando County and any other substantially-affected parties to challenge any of FDEP's proposed determinations in this regard.

[Rule 62-210.200, F.A.C.]

19. Objectionable odors shall not be allowed off the facility's property in accordance with F.A.C. Rule 62-296.320(2).

20. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.310(3), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. Specific work practices to minimize fugitive PM emissions shall include:

- A. All permanent haul roads shall be paved.
- B. Temporary haul roads shall be watered or treated with chemical dust suppressants at regular intervals.
- C. Dry materials (moisture content  $\leq$  14%) shall be stored below grade, in silos, or in enclosed structures.
- D. Coal stored at or above natural grade shall be compacted, turned and/or watered as necessary to maintain a minimum 8% moisture content in the surface layer, and shall be aligned with the predominant wind direction to minimize wind erosion.
- E. Abandoned haul roads and other disturbed areas shall be revegetated within 60 days of the date that active service of the road ends.
- F. All cement products shall be transferred to transport trucks with a sealed pneumatic conveying system which is either a closed system or exhausted through a bag filter.

[Rule 62-296.310(3), F.A.C.]

PERMITTEE:  
FM&M/Southdown

PERMIT/PROJECT:  
Permit No.: AC27-258572  
Project: No. 2 Cement Kiln

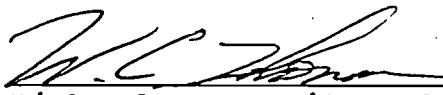
SPECIFIC CONDITIONS:

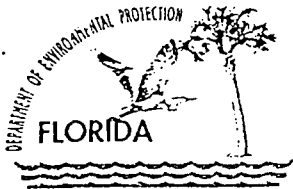
21. The cement kiln and its associated equipment are subject to the applicable provisions of F.A.C. Rules 62-210.650: Circumvention; 62-210.700: Excess Emissions; and, 62-4.130: Plant Operations- Problems.

22. Construction permits AC27-138850, AC27-212252, and AC27-212252, and all associated amendments, documents, and applicable conditions, are herein incorporated by reference.

23. Four copies of an application for a Title V permit shall be submitted to the Department in accordance with the provisions of Rule 62-213.420, F.A.C.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

  
For Richard D. Garrity, Ph.D.  
Director of District Management



# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

*AIR5 NO. 0530010*

**PERMITTEE:**  
FM&M/Southdown, Inc.  
P.O. Box 6  
Brooksville, Florida 34605-0006

**PERMIT/CERTIFICATION:**  
Permit No: AC27-258569  
County: Hernando  
Expiration Date: 03/31/96  
Project: No. 1 Clinker Cooler

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-200 through 62-297, and 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department, and made a part hereof and specifically described as follows:

For the operation of the No. 1 Clinker Cooler used to cool cement clinker from the No. 1 Kiln. Clinker is handled at a throughput rate of 84 tons/hour, based upon a 30 production-day rolling average. The No. 1 Kiln and No. 1 Clinker Cooler are operated in series, with the corresponding kiln output of 84 tons/hour also based upon a 30 production-day rolling average. Particulate emissions are controlled by the following baghouse:

<u>Baghouse Description</u>	<u>Baghouse ID</u>
Western Precipitation Baghouse	F-18

The maximum hourly input of clinker is limited to 90 tons/hour.

Location: U.S. Highway 98 North, NW of Brooksville

UTM: 17-356.9 E 3169.0 N NEDS No: 0010 Point ID No: 04-  
No. 1  
Clinker Cooler

Replaces Permit No.: A027-201252

PERMITTEE  
FM&M/Southdown, Inc.

PERMIT/PROJECT:  
Permit No.: AC27-258569  
Project: No. 1 Clinker  
Cooler

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions.  
[Rule 62-4.160, F.A.C.]

2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 62-200 through 62-297, 62-4, 40 CFR 60 Subpart F (Standards of Performance for Portland Cement Plants), or any other requirements under federal, state or local law.  
[Rule 62-210.300, F.A.C.]

3. The No. 1 Clinker Cooler throughput rate shall not exceed 84 tons per hour, based upon a rolling 30 production-day average. The maximum hourly material input rate allowed is 90 tons/hour. [Amendment request of September 26, 1994 and Dr. John Koogler's letter of November 22, 1994].

4. The operation of the No. 1 Clinker Cooler shall not exceed 8,760 hours per year.  
[Permit No. AO27-201252].

5. Particulate matter emissions shall not exceed the following levels:

Source	Baghouse ID	pounds/hour	tons/year
No. 1 Clinker Cooler	F-18	7.13	28.14

[Permit No. AO25-201252].

6. Visible emissions shall not exceed 10% opacity.  
[Rule 62-296.800, F.A.C., and 40 CFR 60.62(c)].

7. Test the emissions from the No. 1 Clinker Cooler baghouse exhaust for the following pollutants on or before 180 days prior to the date this permit expires (see Specific Condition No. 15). Submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing:  
[Rules 62-297.340 and 62-297.570(2), F.A.C.]

- (X) Opacity (Visible Emissions)
- (X) Particulates

8. Compliance with the emission limitations of Specific Condition Nos. 5 and 6 shall be determined using EPA Methods 1, 2, 4, 5 and 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297, F.A.C. The minimum requirements for stationary

PERMITTEE

FM&M/Southdown, Inc.

PERMIT/PROJECT:

Permit No.: AC27-258569

Project: No. 1 Clinker  
Cooler

Specific Conditions:

point source emissions test procedures and reporting shall be in accordance with Rule 62-297, F.A.C. and 40 CFR 60, Appendix A.

9. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [Rule 62-297.330(1)(b), F.A.C.].

10. Testing of emissions must be conducted within 90-100% of the maximum hourly material input attained within the period 30 production-days prior to the test date, or 84 tons/hour, whichever is greater. A compliance test submitted at a rate less than 90% of the above determined rate will automatically constitute an amended permit rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted hourly rate of 90 tons/hour be exceeded. Failure to submit records of the material input rate during the test period, and for the 30 production-days prior to the test period, along with the test report may invalidate the test and fail to provide reasonable assurance of compliance. [Rule 62-4.070(3), F.A.C.]

11. The permittee shall notify the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.340(1)(i), F.A.C.].

12. The No. 1 Kiln feed rates shall be monitored and recorded daily in accordance with 40 CFR 60.33.

13. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.310(3), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.



PERMITTEE  
FM&M/Southdown, Inc.

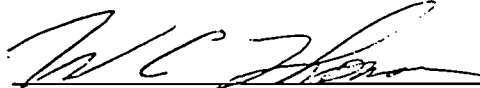
PERMIT/PROJECT:  
Permit No.: AC27-258569  
Project: No. 1 Clinker  
Cooler

Specific Conditions:

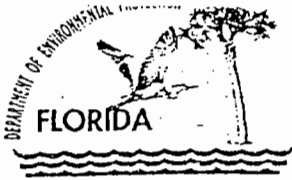
14. Submit to this office for this source, each calendar year and on or before March 1, an emission report [DEP Form 62-210.900(4)] for the preceding calendar year pursuant to Rule 62-210.370(2), F.A.C.

15. Four applications for a Title V operating permit shall be submitted to the Tallahassee Office of the Department as specified in Rule 62-213.420, F.A.C., at least 180 days prior to the expiration date of this permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, certification that construction was completed (noting any deviations from the construction permit application), and compliance test reports as required by this permit. [Rules 62-4.220 and 62-297.340(1)(a), F.A.C.]

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION



for Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District



Department of Best Available Copy  
Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

AIRS NO 0530010

PERMITTEE:  
FM&M/Southdown, Inc.  
P.O. Box 6  
Brooksville, Florida 34605-0006

PERMIT/CERTIFICATION:  
Permit No: AC27-258570  
County: Hernando  
Expiration Date: 03/31/96  
Project: No. 2 Clinker Cooler

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 62-200 through 62-297, and 62-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the Department, and made a part hereof and specifically described as follows:

For the operation of the No. 2 Clinker Cooler used to cool cement clinker from the No. 2 Kiln. Clinker is handled at a throughput rate of 84 tons/hour, based upon a 30 production-day rolling average. The No. 2 Kiln and No. 2 Clinker Cooler are operated in series, with the corresponding kiln output of 84 tons/hour also based upon a 30 production-day rolling average. Particulate emissions are controlled by the following baghouse:

<u>Baghouse Description</u>	<u>Baghouse ID</u>
Fuller Plenum Pulse No. 128 Type 20-Zone (Rated at 190,000 ACFM)	K-09

The maximum hourly input of clinker is limited to 90 tons/hour.

Location: U.S. Highway 98 North, NW of Brooksville

UTM: 17-356.9 E 3169.0 N NEDS No: 0010 Point ID No: 04-  
No. 2 Clinker  
Cooler

Replaces Permit No.: A027-194670

PERMITTEE  
FM&M/Southdown, Inc.

PERMIT/PROJECT:  
Permit No.: AC27-258570  
Project: No. 2 Clinker  
Cooler

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions.  
[Rule 62-4.160, F.A.C.]
2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapter 62-200 through 62-297, 62-4, 40 CFR 60 Subpart F (Standards of Performance for Portland Cement Plants), or any other requirements under federal, state or local law.  
[Rule 62-210.300, F.A.C.]
3. The No. 2 Clinker Cooler throughput rate shall not exceed 84 tons per hour, based upon a rolling 30 production-day average. The maximum hourly material input rate allowed is 90 tons/hour.  
[Amendment request of September 26, 1994 and Dr. John Koogler's letter of November 22, 1994].
4. The operation of the No. 2 Clinker Cooler shall not exceed 8,200 hours per year.  
[Permit No. AO27-194670].
5. Particulate matter emissions shall not exceed the following levels:

Source	Baghouse ID	pounds/hour	tons/year
No. 2 Clinker Cooler	K-09	5.00	20.5

[Permit No. AO27-194670].

6. Visible emissions shall not exceed 10% opacity.  
[Rule 62-296.800, F.A.C., and 40 CFR 60.62(c)].
7. Test the emissions from the No. 2 Clinker Cooler baghouse exhaust for the following pollutants on or before 180 days prior to the date this permit expires (see Specific Condition No. 15). Submit a copy of the test data to the Air Section of the Southwest District Office within 45 days of such testing:  
[Rules 62-297.340 and 62-297.570(2), F.A.C.]

- (X) Opacity (Visible Emissions)
- (X) Particulates

8. Compliance with the emission limitations of Specific Condition Nos. 5 and 6 shall be determined using EPA Methods 1, 2, 4, 5 and 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297, F.A.C. The minimum requirements for stationary point source

PERMITTEE  
FM&M/Southdown, Inc.

PERMIT/PROJECT:  
Permit No.: AC27-258570  
Project: No. 2 Clinker  
Cooler

Specific Conditions:

point source emissions test procedures, notification, and reporting shall be in accordance with Rule 62-297, F.A.C., 40 CFR 60.7, and 40 CFR 60, Appendix A and F.

9. The visible emissions test shall be conducted by a certified observer and be a minimum of 180 minutes in duration. The test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. [Rule 62-297.330(1)(b), F.A.C.]

10. Testing of emissions must be conducted within 90-100% of the maximum hourly material input attained within the period 30 production-days prior to the test date, or 84 tons/hour, whichever is greater. A compliance test submitted at a rate less than 90% of the above determined rate will automatically constitute an amended permit rate at that lesser rate plus 10%. Within 30 days of that lower amended permitted rate being exceeded by more than 10%, a new compliance test shall be conducted at the higher rate. The test results shall be submitted to the Southwest District Office of the Department within 45 days of testing. Acceptance of the test by the Department will automatically constitute an amended permit at the higher tested rate plus 10%, but in no case shall the maximum permitted hourly rate of 90 tons/hour be exceeded. Failure to submit records of the material input rate during the test period, and for the 30 production-days prior to the test period, along with the test report may invalidate the test and fail to provide reasonable assurance of compliance. [Rule 62-4.070(3), F.A.C.]

11. The permittee shall notify the Southwest District Office of the Department at least 30 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 62-297.340(1)(i), F.A.C.]

12. The No. 2 Kiln feed rates shall be monitored and recorded daily in accordance with 40 CFR 60.33.

13. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 62-296.310(3), F.A.C. These provisions are applicable to any source, including but not

PERMITTEE  
FM&M/Southdown, Inc.

PERMIT/PROJECT:  
Permit No.: AC27-258570  
Project: No. 2 Clinker  
Cooler

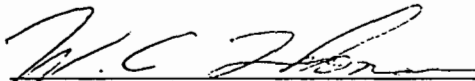
Specific Conditions:

limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

14. Submit to this office for this source, each calendar year and on or before March 1, an emission report [DEP Form 62-210.900(4)] for the preceding calendar year pursuant to Rule 62-210.370(2), F.A.C.

15. Four applications for a Title V operating permit shall be submitted to the Tallahassee Office of the Department as specified in Rule 62-213.420, F.A.C., at least 180 days prior to the expiration date of this permit. To properly apply for an operation permit, the applicant shall submit the appropriate application form, certification that construction was completed (noting any deviations from the construction permit application), records and compliance test reports as required by this permit. [Rules 62-4.220 and 62-297.340(1)(a), F.A.C.]

STATE OF FLORIDA DEPARTMENT OF  
ENVIRONMENTAL REGULATION



*RSI* Richard D. Garrity, Ph.D.  
Director of District Management  
Southwest District

The analysis involved predicting worst-case maximum short- and long-term concentrations of pollutants in the vicinity of the BKI facility and in the Class I areas and comparing the maximum predicted concentrations to lowest observed effect levels for AQRVs or analogous organisms. In conducting the assessment, several assumptions were made as to how pollutants interact with the different matrices, i.e., vegetation, soils, wildlife, and aquatic environment.

A screening approach was used to evaluate potential effects which compared the maximum predicted ambient concentrations of air pollutants of concern with effect threshold limits for both vegetation and wildlife as reported in the scientific literature. A literature search was conducted which specifically addressed the effects of air contaminants on plant species reported to occur in the vicinity of the plant and the St. Marks Class I area. It was recognized that effects threshold information is not available for all species found in the St. Marks NWA, although studies have been performed on a few of the common species and on other similar species which can be used as models. In conducting the assessment, both direct (fumigation) and indirect (soil accumulation/uptake) exposures were considered for flora, and direct exposure (inhalation) was considered for wildlife.

The St. Marks Class I area was assessed for impacts for the following reasons:

1. Maximum predicted impacts occur in St. Marks due to its distance from the BKI site.
2. Soils, vegetation, and wildlife located in the other three Class I areas are not expected to be more sensitive than those in the St. Marks Class I area.

As a result, assessing air impacts and AQRVs for St. Marks provides a conservative assessment of these parameters for the Bradwell Bay, Chassahowitzka, and Okefenokee Class I areas.

### **6.3 IMPACTS TO SOILS, VEGETATION, AND VISIBILITY IN VICINITY OF BKI PLANT**

#### **6.3.1 PREDICTED AIR QUALITY IMPACTS**

The results of the ambient air quality modeling for the proposed BKI modification, in the vicinity of the plant, are presented in Table 6-1. Maximum predicted concentrations are presented for the annual, 24-hour, 8-hour, 3-hour, and 1-hour averaging times.

### 6.3.2 IMPACTS TO SOILS

Air emissions can cause soil contamination through fumigation by gaseous forms, accumulation of compounds transformed from the gaseous state, or by the direct deposition of particulate matter or particulate matter to which certain contaminants are absorbed. Of the pollutants subject to PSD for the proposed modification, only beryllium has the potential to effect soils. Beryllium toxicity in plants in the form of reduced growth has been reported in nutrient cultures of >2 ppm Be content. Beryllium concentrations in soils are reported to range from <1 to 7 ppm. However, only a small amount is actually available for absorption by plants (Gough *et al.*, 1979). The predicted Be concentrations (Table 6-1) are below levels reported to cause effects.

### 6.3.3 IMPACTS TO VEGETATION

#### Vegetation Analysis

In general, the effects of air pollutants on vegetation occur primarily from SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, and PM. Effects from minor air contaminants such as fluoride, chlorine, hydrogen chloride, ethylene, ammonia, hydrogen sulfide, CO, and pesticides have also been reported in the literature. The effects of air pollutants are dependent both on the concentration of the contaminant and the duration of the exposure. The term "injury," as opposed to damage, is commonly used to describe all plant responses to air contaminants and will be used in the context of this analysis. Air contaminants are thought to interact primarily with plant foliage which is considered to be the major pathway of exposure.

Injury to vegetation from exposure to various levels of air contaminants can be termed acute, physiological, or chronic. Acute injury occurs as a result of a short-term exposure to a high contaminant concentration and is typically manifested by visible injury symptoms ranging from chlorosis (discoloration) to necrosis (dead areas). Physiological or latent injury occurs as the result of a long-term exposure to contaminant concentrations below that which results in acute injury symptoms. Chronic injury results from repeated exposure to low concentrations over extended periods of time, often without any visible symptoms, but with some effect on the overall growth and productivity of the plant. In this assessment, 100 percent of the particular air pollutant in the ambient air was assumed to interact with the vegetation. This is a conservative approach.

Table 6-1 . Maximum Pollutant Impacts Due to the Proposed Modification Only  
at the Site Vicinity, Refined Analysis

Pollutant	Maximum Emission Rate (lb/hr)	Averaging Time	Maximum Concentrations ( $\mu\text{g}/\text{m}^3$ )
Generic	79.365	Annual	1.07
		24-Hour	9.65
		8-Hour	20.78
		3-Hour	30.26
		1-Hour	45.62
Particulate Matter/ PM <sub>10</sub>	17.0	Annual	0.23
		24-Hour	2.07
		3-Hour	6.48
		1-Hour	9.77
Nitrogen Oxides	16.5	Annual	0.22
		24-Hour	2.01
		8-Hour	4.32
		3-Hour	6.29
		1-Hour	9.48
Beryllium	0.000114	Annual	1.5E-06
		24-Hour	1.4E-05
		8-Hour	3.0E-05
		3-Hour	4.3E-05
		1-Hour	6.6E-05

Note: Maximum concentrations are the highest predicted with a 5-year meteorological data set.



### **Nitrogen Dioxide**

A review of the literature indicates great variability in NO<sub>2</sub> dose-response relationships in vegetation. Acute NO<sub>2</sub> injury symptoms are manifested as water-soaked lesions, which first appear on the upper surface, followed by rapid tissue collapse. Low-concentration, long-term exposures as frequently encountered in polluted atmospheres often do not induce the lesions associated with acute exposures but may still result in some growth suppression. Citrus trees exposed to 470 µg/m<sup>3</sup> of NO<sub>2</sub> for 290 days showed injury (Thompson *et al.*, 1970). Sphagnum exposed for 18 months at an average concentration of 11.7 µg/m<sup>3</sup> showed reduced growth (Press *et al.*, 1986)

The maximum increase in ground-level NO<sub>2</sub> concentrations (1-hour and annual average) predicted to occur in the vicinity of the plant due to the proposed project are 9.48 µg/m<sup>3</sup> and 0.22 µg/m<sup>3</sup>, respectively (Table 6-1). These maximum predicted concentrations are well below reported effects levels.

### **Particulates**

The maximum increase in predicted concentrations of PM (in the form of TSP) due to the proposed project are 2.07 µg/m<sup>3</sup> for a 24-hour average and 0.23 µg/m<sup>3</sup> for an annual average (see Table 6-1). By comparing predicted concentrations with the few injury threshold values reported in the literature (Darley, 1966; Krause and Kaiser, 1977), no potential effects on vegetation are predicted, because these concentrations are below the values reported to adversely affect plants.

#### **6.3.4 IMPACTS UPON VISIBILITY**

All air emission sources affected by the proposed modification are existing sources. No increase in permitted emissions is requested, although actual emissions are predicted to increase slightly. All these sources are in compliance with opacity regulations and should remain in compliance after the modification. As a result, no adverse impacts upon visibility are expected.

#### **6.3.5 IMPACTS DUE TO ASSOCIATED POPULATION GROWTH**

There will be no increase in permanent employment at BKI as a result of the proposed project. Therefore, there will be no anticipated permanent impacts on air quality caused by associated population growth.



**KOGLER & ASSOCIATES**  
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KA 521-95-09

February 22, 1996

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FEB 28 1996

BUREAU OF  
AIR REGULATION

Mr. Cleve Holladay  
Florida Department of  
Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Subject: Class I Area AQRV Analysis  
Southdown, Inc., Brooksville Plant  
PSD Permit Application  
Hernando County, Florida

Dear Mr. Holladay:

This is in response to your request today, during your meeting with representatives from Southdown, Inc. and Pradeep Raval, for a Class I Area Air Quality Related Values (AQRV) Analysis.

The requested analysis is attached.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOGLER & ASSOCIATES

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

JBK:par

Enc.

cc: J. Gill, Southdown  
D. Kelly, Southdown

cc: J. Newton  
A. Linero  
EPA  
NPS  
SWD  
Hernando Co.  
Cleve

## IMPACTS ON AIR QUALITY RELATED VALUES FOR CLASS I AREA SOUTHDOWN, INC., BROOKSVILLE PLANT

The impact of the air emission increases on air quality related values in the vicinity of the proposed Southdown project was addressed in the PSD permit application previously submitted. The discussion presented in this submittal extends the review of the impact of increased emissions on air quality related values to the Chassahowitzka Class I PSD area; an area around 14 kilometers from the Southdown facility.

### Impact on Vegetation

The response of vegetation to air pollutants is influenced by the concentration of the pollutant, the duration of the exposure and the frequency of the exposure. The pattern of exposure expected from a single facility is that of a few episodes of relatively high concentrations interdispersed with long periods of no exposure or extremely low concentrations. This is the pattern of exposure that would be expected from carbon monoxide and particulate matter emissions from the proposed project at Chassahowitzka.

The vegetation in the Chassahowitzka area is characterized by flatwoods, brackish-water, marine and halothytic terrestrial species. Predominant tree species are slash pine, laurel oak, sweet gum and palm. Other plants in the area include needlegrass rush, seashore saltgrass, marsh hay and red mangrove.

Vegetation responds to a dose of an air pollutant with a dose being defined as the product of the concentration of the pollutant and the duration of the exposure. The maximum predicted concentrations of carbon monoxide in the Chassahowitzka area resulting from the increased emissions from the Southdown facility are less than significant. Consequently, no adverse impacts are expected on the vegetation.

The maximum predicted concentrations of particulate matter at Chassahowitzka area resulting from the increased emissions from the Southdown facility are less than significant for the annual period, and just over the significant level for the 24-hour period, at 1.02 micrograms per cubic meter. This impact is less than one percent of the ambient air quality standard. Further, it should be noted that particulate matter concentration in the form of salt deposition in coastal areas are in the range of 25-300 pounds per acre per year and may be as high as 4000 pounds per acre per year on exposed shorelines. Consequently, no adverse impacts on vegetation are expected from the increased particulate matter emissions from the proposed project.

### Impact on Soils

The major soil classification in the Chassahowitzka area is Weeki Wachee-Durbin muck. This is an euc, hyderthermic typic sulfhemist that is characterized by high levels of sulfur and organic matter. This soil is flooded daily with the advent of high tide and the pH ranges between 6.1 and 7.8. The upper level of this soil may contain as much as four percent sulfur (USDA, 1991).



Based upon the maximum predicted carbon monoxide and particulate matter concentrations in the Chassahowitzka area resulting from the increased emissions from the Southdown facility, it is not expected that there will be any adverse impact on the native soils.

#### Impacts on Wildlife

As the predicted carbon monoxide and particulate matter levels are below those known to affect vegetation, the proposed project is not expected to have any adverse impact on the wildlife in the Chassahowitzka area.

#### Visibility Impairment Analysis

Visibility impairment analysis was performed to determine potential visibility effects of the proposed project in the Chassahowitzka area. The VISCREEN - Level 1 modeling results (attached) indicate that no adverse visibility impacts are expected within the Class I area as a result of the proposed project.

#### REFERENCES

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- United States Environmental Protection Agency, 1988. Workbook for Plume Visual Impact Screen and Analysis. EPA-450/4-88-015, September 1988.
- United States Department of Agriculture, 1991. Surveys of Hernando and Citrus Counties, Florida. USDA Soil Conservation Service in cooperation with University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations and Soil Science Department.
- Woltz, S.S. and T.K. Howe, 1981. Effects of Coal Burning Emissions on Florida Agriculture. In: The Impact of Increased Coal Use in Florida. Interdisciplinary Center for Aeronomy and (other) Atmospheric Sciences. University of Florida, Gainesville, Florida.

