STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

December 2, 1982

CERTIFIED MAIL

Mr. Richard C. Entorf
Senior Vice President
Florida Crushed Stone Company
Post Office Box 317
Leesburg, FL 32748

Dear Mr. Entorf:

Re: Florida Crushed Stone Company, Cement/Power Plant's Applications, Hernando County

Please notice that the application fee $5,100.00 for the subject applications was received by FDER on November 1, 1982.

The response to our incompleteness letter (10/29/82) from Dr. John Koogler on November 4, 1982, indicates that the subject applications are in the process of being revised. Dr. Koogler also mentioned in his letter that he would submit the revised applications soon.

As soon as we receive those revised applications, we will resume processing your permits. Should you have any questions on this matter, please feel free to call Bill Thomas or Bob King at (904)488-1344.

Sincerely,

C. H. Fancy, P. E.
Deputy Chief
Bureau of Air Quality
Management

BK/ks

cc: Dan Williams, DER SW District
John Koogler, Sholtes & Koogler

No. 0157774

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SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 307-82-01

November 4, 1982

DER
NOV 08 1982
BAQM

Mr. Clair Fancy
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Subject: Florida Crushed Stone Company
Hernando County, Florida
Application for State and Federal PSD Review

Dear Mr. Fancy:

In mid-October 1982, your staff was informed that the Florida Crushed Stone Company was making some major revisions to the cement plant and power plant proposed for construction in Hernando County. The most significant change was an increase in the capacity of the electric power generating plant from 40 megawatts to 125 megawatts. As a result of this revision, all permitting for the power plant, including State and Federal PSD Review, will be reviewed under the requirements of the Florida Power Plant Siting Act.

In addition to the increased capacity of the power plant, Florida Crushed Stone has made some revisions in the cement plant. These revisions include the elimination of the auxiliary burner on the rotary raw materials dryer and the elimination of several bag collectors throughout the plant as a result of more efficient venting of materials handling sources.

All of the modifications related to the increased capacity of the power plant have been addressed in the Power Plant Siting Application submitted to FDER by Florida Crushed Stone on October 18, 1982. The purpose of this letter is to describe the modifications to the cement plant and the effect of these modifications on ambient air quality.

It will be noted from Table 2-1, revised (attached hereto), that the proposed power plant will become subject to PSD review for carbon monoxide and hydrocarbons in addition to particulate matter, sulfur dioxide and nitrogen oxides as it was originally. The cement plant, however, will still be subject to PSD review only for particulate matter, sulfur dioxide and nitrogen oxides.

Attached hereto are two copies each of a revised plot plan of the cement plant, a process flow diagram defining the operations of the cement plant and an equipment list defining all items shown in the flow diagram. These materials replace the materials which were submitted with the original PSD application on September 30, 1982.

Also attached is a summary (Table A) identifying the changes in control equipment throughout the cement plant. It should be noted that there are no changes in the production rate of the plant; only changes in the handling of raw materials and the placement of bag collectors to control emissions from vented materials handling sources. In addition to the summary of changes in Table A, the material presented in Appendix A2-1 of the original application has been modified to reflect the revisions to individual sources and is attached hereto.

Since the change in the capacity of the power plant will have a significant effect on the gas flows through the raw materials dryer, the raw mill, the kiln and the clinker cooler of the cement plant, revised copies of Figures 2-3, 2-4 and 2-5 of the original application have been prepared and are attached. In these figures, the gas flow through the power plant and the referenced portions of the cement plant are shown when both the power plant and the cement plant are operating, when the power plant only is operating and when the cement plant only is operating.

As a result of the increase in particulate matter, sulfur dioxide and nitrogen oxides emissions from the larger power plant, the air quality impact study had to be revised. The impact analysis, reflecting the increased emission rates has been included in the Power Plant Siting Application submitted to FDER by Florida Crushed Stone on October 18, 1982. Verbal discussion with your staff has indicated that it will be unnecessary to duplicate the air quality modeling material and submit it as a revision to the PSD application for the cement plant.

The revised modeling for cement plant and power plant particulate matter emissions as submitted with the Power Plant Siting Application reflected only the increase in particulate matter emissions from the power plant. The modeling did not reflect the reduction in particulate matter emissions from the various bag collectors throughout the cement plant as summarized in Table A, delineating cement plant equipment changes.

As a result of the equipment changes within the cement plant, particulate matter emissions from sources other than the kiln/power plant bag collector will be reduced from 45.1 pounds per hour to 24.8 pounds per hour (Table A). In addition to emission changes many of the source parameters (stack height, stack diameter, stack gas temperature and stack gas velocity) were also changed. Rather than revise all of the particulate matter air quality modeling to reflect the equipment changes, only the conditions resulting in the maximum impact from the proposed Florida Crushed Stone sources were remodeled. These conditions were represented by meteorological conditions from day 174, 1972, the revised particulate matter emission data summarized in Table A and receptors shown at Location 10 in Figure 5-7 of the original PSD application.

The modeling conducted in conjunction with the original PSD application (an emission rate from materials handling sources of 41.5 pounds per hour) showed a maximum particulate matter impact from Florida Crushed Stone sources of 21 micrograms per cubic meter. The modeling conducted with the revised sources (24.8 pounds per hour) shows a maximum particulate matter impact from Florida Crushed Stone sources of 12 micrograms per cubic meter.

Since the maximum impact decreased approximately 43 percent as a result of changes in equipment, it is anticipated that the impacts at the other locations shown in Figure 5-7 will also decrease and since PSD increments and air quality standards were not threatened with the 41.5 pound per hour particulate matter emission rate, it follows that these standards will not be threatened under revised conditions with an emission rate of 24.8 pounds per hour. A copy of the air quality modeling, conducted with the ISC-ST model, analyzing the worst case impact of particulate matter emissions is attached hereto.

One matter which was not discussed in the original PSD application is that of downwash. This condition can develop when emissions from various sources within a plant are trapped in the wake of the stack or an adjacent building and are rapidly mixed to ground-level. For the Florida Crushed Stone sources, the effects of downwash were analyzed on the 24-hour particulate matter impact, the 24-hour sulfur dioxide impact and the 3-hour sulfur dioxide impact. It should be recognized in reviewing the results of these analyses that the potential for downwash to exist during an entire 24-hour period is extremely remote.

The particulate matter downwash was analyzed for conditions which resulted in the greatest particulate matter impact from Florida Crushed Stone sources under normal conditions. This was with meteorology from day 174, 1972 and at receptors shown at location 10 in Figure 5-7 of the

original application. As discussed in a preceeding paragraph, the maximum impact of particulate matter emissions at this receptor under normal dispersion conditions was 12.0 micrograms per cubic meter. Under downwash conditions, as analyzed with the ISC-ST model, the maximum impact is 9.9 micrograms per cubic meter. The reduced impact undoubtedly results from the fact that the particulate matter emissions are dispersed over a wider area normal to the wind. This factor apparently offsets the increased impact expected due to the particulate matter reaching ground-level more rapidly.

The 24-hour sulfur dioxide downwash analysis was conducted using meteorology from day 286, 1974 and receptors at Location 8 in Figure 6.3 of the Power Plant Siting Application. A copy of this figure is attached hereto. The maximum impact under normal dispersion conditions as shown in Figure 6-3, was 19.0 micrograms per cubic meter. Under downwash conditions, as defined by the ISC-ST model, the maximum impact at Receptor No. 8 will be 18.0 micrograms per cubic meter. A copy of the modeling showing this analysis is attached.

For the 3-hour sulfur dioxide downwash analysis, conditions represented by meteorology from day 284, 1974 were used with receptors shown at Location 8 and Figure 6-2 of the Power Plant Siting Application. A copy of this figure is attached. Under normal dispersion conditions, the maximum 3-hour impact of emissions from Florida Crushed Stone sources at this receptor was 73 micrograms per cubic meter. Under downwash conditions, as defined by the ISC-ST model, the maximum of 3-hour impact will be 75 micrograms per cubic meter. A copy of the modeling showing this analysis is attached hereto.

The results of the downwash analyses show that the 24-hour particulate matter and sulfur dioxide emission impacts will be reduced slightly if downwash occurs during the entire 24-hour period. The analyses further show that the impact of 3-hour sulfur dioxide emissions will increase by three micrograms per cubic meter if downwash occurs during the worst case 3-hour period. These changes in impacts will not result in violations of applicable air quality standards or applicable PSD increments.

The FDER Construction Permit Applications submitted in conjunction with the PSD application for the cement plant are being revised to reflect changes in control equipment. These revised applications will be submitted to your office as soon as they are completed.

If any additional information is needed to complete the PSD application for the cement plant, please contact our office.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS, INC.

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

JBK:ldh
Enclosures
cc: Mr. Richard C. Entorf
Mr. Larry Curtin

Summary of Air Pollutant
Emission Rates from
125 Megawatt Power Plant and
600,000 Ton per Year Cement Plant

TABLE 2-1

ANNUAL AIR POLLUTANT EMISSION RATES

FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

Source	Pollutant Emission Rate (tpy)				
	Particulate Matter	Sulfur Dioxide	Nitrogen Oxides	Carbon Monoxide	Hydrocarbons
Kiln	141	305	1585	0	0
Cooler	47	0	0	0	0
Power Plant	486	5837	3405	197	59
Other					
Cement Plant	95	0	0	0	0
Secondary (1)	2	1	10	8	3
Total	771	6143	5000	205	62
Power Plant	486	5837	3405	197	59
Cement Plant	285	306	1595	8	3
De Minimus Emission Rate	25	40	40	100	40

(1) See Appendix A2-2

REVISED 11/3/82

SHOLTES & KOOGLER

Summary of Control Equipment Changes in Cement Plant

TABLE A

SUMMARY OF CHANGES IN SOURCE IDENTIFICATION AND CHARACTERISTICS

FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

SOURCE DATA IN SEPTEMBER, 1982 APPLICATION						REVISED SOURCE DATA					
IDENTIFICATION	PART. MATTER EMISSIONS (g/sec)	STACK HT. (M)	STACK DIA. (M)	STACK GAS VEL. (M/S)	STACK GAS TEMP. (°K)	IDENTIFICATION	PART. MATTER EMISSIONS (g/sec)	STACK HT. (M)	STACK DIA. (M)	STACK GAS VEL. (M/S)	STACK GAS TEMP. (°K)
B09 - Clay Crusher	0.13	7.6	0.70	12.3	314	Eliminated					
B10 - Limestone Conveyor	0.06	16.9	0.50	14.4	314	Eliminated					
D16 - Limestone Transfer	0.10	4.6	0.61	12.9	314	D18 - Raw Materials Bin	0.10	7.6	0.61	12.9	314
D21 - Premix Bin	0.13	38.1	0.70	12.8	314	D12 - Premix Bins	0.08	38.1	0.61	9.7	314
D22 - Fly Ash Bin	0.13	38.1	0.61	12.8	314	D23 - Fly Ash Bin	0.08	38.1	0.61	9.7	314
E16 - Kiln/Power Plant	11.88	61.0	4.27	13.1	391	E20 - Kiln/Power Plant	21.8	91.5	4.88	14.6	389
SO_2 Emissions	80.34					SO_2 Emissions	196.7				
NO_x Emissions	92.70					NO_x Emissions	161.3				
F04 - Raw Meal Transfer	0.08	7.6	0.46	14.4	339	F14 - Raw Meal Transfer	0.03	18.3	0.30	12.9	355
G12 - Blending Silo	0.37	62.5	1.07	12.2	339	G12 - Blending Silo	0.42	62.5	1.07	13.7	355
H15 - Kiln Feed	0.16	15.2	0.76	10.4	339	H15 - Kiln Feed	0.10	15.2	0.61	9.7	366
L12 - Clinker Silo	0.16	61.0	0.76	10.4	339	L06 - Clinker Silo	0.08	61.0	0.46	14.4	366
L13 - Clinker Silo	0.16	61.0	0.76	10.4	339	L08 - Clinker Silo	0.08	41.2	0.46	14.4	366
L14 - Cooler Discharge	0.08	3.0	0.46	14.4	339	L16 - Cooler Discharge	0.10	8.8	0.61	9.7	366
M18 - Clinker Silo Discharge	0.08	7.6	0.46	14.4	339	M08 - Silo Discharges	0.23	15.2	0.76	14.5	314
M19 - Limestone Silo Discharge	0.05	7.6	0.40	12.4	314						
M20 - Cement Silo Discharge	0.13	7.6	0.61	12.9	339						
N13 - Finish Mill	0.70	30.5	1.52	11.9	366	N13 - Finish Mill	0.81	21.3	1.52	12.9	372
Q08 - 4 Cement Silo Discharge	0.52*	7.6	0.46	12.9	339	Q17 - Cement Silo Discharge	0.08	15.2	0.46	14.4	344
						Q18 - Cement Silo Discharge	0.08	15.2	0.46	14.4	344
Q09 - 5 Cement Silos	0.95*	61.0	0.76	12.4	339	Q15 - 3 Cement Silos	0.24*	61.0	0.46	14.4	355
R14 - Packing Plant	0.16	16.8	0.76	10.4	314	R14 - Packing Plant	0.13	15.2	0.61	12.9	344
R16 - 3 Masonry Silos	0.48*	24.4	0.76	10.4	339	R16 - 3 Masonry Silos	0.24*	30.5	0.46	14.4	355
S04 - Raw Coal Bin	0.05	30.5	0.40	12.4	314	S04 - Coal Handle	0.10	4.6	0.61	9.7	314
--- - Power Plant Coal Bin	0.05	30.5	0.40	12.4	314	S11 - Power Plant Coal Bin	0.15	30.5	0.76	9.3	314
--- - Gypsum Silo	0.50	7.6	0.40	12.4	314	Eliminated					
	5.23 or 41.5 lb/hr**						3.13 or 24.8 lb/hr**				

* Includes Emissions From All Units
** Does Not Include Kiln And Power Plant Emissions

SHOLTES & KOOGLER

APPENDIX A2-1

Tentative Specifications
for Control Equipment
Revised 11/3/82

E - 360.044
N - 3162.648

FORM PI-2 (72-9)

P.M. = 10000 cfm x 60 min/hr x 0.012 gr/ft3 x 1/7000 lb/grain x 0.126 g/sec/lb/hr = 0.13 g/sec

Ht = 25 ft
dia = 2.3 ft
Vv = 40.0 fpm

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
B09 ELIMINATE	
Name of Abatement Device	**Type of Particulate Controlled**
CLAY CRUSHER	CLAY

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
10000		70	15	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
6		25	10000

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	100	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Will not be const [redacted]

E - 360.123
N - 3162.379

PM = $\frac{4000}{\cancel{5000}}$ x 60 x 0.012 x 1/7000 x 0.126
= $\frac{\cancel{0.06}}{0.05}$ g/sec

FORM PI-2 (72-9)

Ht = 55' ✓
dia = 1.5 ft
Vel = ~~47.2 fps~~ 37.7 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
B10 D04	
Name of Abatement Device	**Type of Particulate Controlled**
LIMESTONE CONVEYOR	LIMESTONE

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
4000 ~~5000~~		70 ✓	15	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
6 10"		15	~~5000~~ 4200

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	~~50~~ 40	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Will not be const [redacted]

E- 360.005 ✓
N- 3162.477

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 1000 × 60 × 0.012 × 1/7000 × 0.126
= ~~0.13~~ / 0.01 g/sec

Ht = ~~125~~ 100'
dia = ~~2.310~~' Vel = ~~4200 fpm~~ 21.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~D-24~~ D08	
Name of Abatement Device LIMESTONE BIN ~~PRENIX BIN~~	**Type of Particulate Controlled** LIMESTONE

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
1000 ~~10,000~~		70 ✓	15	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~35~~ 10	~~10000~~ 1050

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	10 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation
B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what

E- 360.005 ✓

N- 3162.477

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 6000 × 60 × 0.012 × 1/7000 × 0.12

= ~~0.13~~ 0.08 g/sec

TABLE II
FABRIC FILTERS

Ht = 125' ✓

dia = ~~25~~ 20' Vel = ~~42.0~~ 31.8 fps

Point Number (from Flow Diagram)		Manufacturer & Model No. (if available)	
~~D2+~~ D12			
Name of Abatement Device		**Type of Particulate Controlled**	
PREMIX ~~BIN~~ BINS		LIMESTONE	
GAS STREAM CHARACTERISTICS			
Flow Rate (acfm)		**Gas Stream Temperature (°F)**	**Particulate Grain Loading (grain/scf)**
Design Maximum	**Average Expected**		**Inlet** / **Outlet**
6000 ~~10,000~~		70 ✓	15 / 0.012
Pressure Drop (in. H_2O)		**Water Vapor Content of Effluent Stream (lb water/lb dry air)**	**Fan Requirements (hp)** / **(ft^3/min)**
~~6~~ 11"			~~25~~ 20 / ~~10000~~ 6300

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	60 ~~100~~	1

Bag rows will be: Staggered / (Straight)

Walkways will be provided between banks of bags: Yes / (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size, and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Will not be const [redacted]

E- 360.005 ✓
N- 3162.477

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 4000 × 60 × 0.012 × 1/7000 × 0.126
= ~~0.13~~ 0.05 g/sec

TABLE II
FABRIC FILTERS

Ht = 125' ✓
dia = ~~2.915~~ 5' Vel = ~~42.0 fps~~ 37.7 fps

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~D24~~ D17	
Name of Abatement Device	**Type of Particulate Controlled**
~~PRIMARY~~ CLAY BIN	~~LIMESTONE~~ CLAY

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
4000 ~~10,000~~		70 ✓	1.5	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~25~~ 15	~~10000~~ 4200

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	40 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation
B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what

E - 359.950 ✓
N - 3162.477

FORM PI-2 (72-9)

P.M. = 8000 ✓ × 60 × 0.012 × 5000 × 0.126
= 0.10 g/sec

H+ = 25' ✓
dia = 2.0' ✓
Vel = 42.3 fps ✓

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~D16~~ D18 (one ~~two~~)	
Name of Abatement Device	**Type of Particulate Controlled**
RAW MATERIALS BIN DISCHG. ~~LIMESTONE TRANSFER~~	LIMESTONE

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
8000 ✓		70 ✓	15	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		~~20~~ 25	~~8000~~ 8200

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	80 ✓	

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.017 ✓

N - 3162.337

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 6000 × 60 × 0.012 × 1/2000 × 0.12

= ~~0.17 g/sec~~ 0.08 g/sec

Ht = 125' ✓

dia = ~~2.5~~ 2.0'

Vol = ~~42.0~~ 31.8 Ft³

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~D22~~ D23	
Name of Abatement Device	**Type of Particulate Controlled**
FLY ASH BIN	FLY ASH

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
~~10,000~~ 6000				
Design Maximum	Average Expected		Inlet	Outlet
[redacted]		70 ✓	15	0.012

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~25~~ 20	~~10000~~ 6300

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	60 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E-360.008
N-3162.392

Ht = 300'
dia = 16.0'
Vel = 48.0 fps - Includ. power plant & Cement plu

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~E16~~ E20	
Name of Abatement Device: POWER PLANT – KILN MILL BAGHOUSE	Type of Particulate Controlled: LIMESTONE / FLY ASH

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
578800	550,000	230	25	[redacted]

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
6		2250	580,000

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
1.6	12	37	3192	28

Bag rows will be: Staggered / (Straight)

Walkways will be provided between banks of bags: (Yes) / No

Filtering Material: Teflon coated fiber glass

Describe Bag Cleaning Method and Cycle: Reverse Air

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.030 ✓
N - 3162.335

FORM PI-2 (72-9)

P.M. = ~~5000~~ 2000 x 60 x 0.015 x 1/7000 x 0.126
= ~~0.08 g/sec~~ 0.03 g/sec

Ht = ~~25'~~ 60'
dia = ~~1.5'~~ 1.0'
Vel = ~~47.2 fps~~ 42.4 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~F04~~ F14	
Name of Abatement Device	**Type of Particulate Controlled**
Raw Meal Transfer	Raw meal

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
2000 ~~5000~~		180 ~~150~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~15~~ 10	~~5000~~ 2100

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	20 ~~50~~	1

Bag rows will be: Staggered (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation.

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.037 ✓

N - 3162.312

FORM PI-2 (72-9)

P.M. = ~~23000~~ 26000 x 60 x 0.015 x 1/7000 x 0.126

= ~~0.39 g/sec~~ 0.42 g/sec

Ht = ~~205'~~ 205'

dia = 3.5' ✓

Vel = ~~40.0 fps~~ 45.0 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
G 12 ✓	
Name of Abatement Device	**Type of Particulate Controlled**
BLENDING SILO	Raw Meal

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
26,000 ~~23000~~		180 ~~150~~	30	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11		~~40~~ 75	~~23000~~ 27,300

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	260 ~~230~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.044 ✓
N - 3162.306

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 6000 × 0.015 × 60 × 1/700 × 0.126 = ~~0.168/sec~~ 0.109/sec
Ht = 50'
dia = ~~2.5'~~ 2.0'
Vel = ~~34.1 fps~~ 31.8 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
H15 ✓	
Name of Abatement Device	**Type of Particulate Controlled**
KILN FEED	RAW MEAL

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
6000 ~~10,000~~		200 ~~450~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11		~~25~~ 20	~~10,000~~ 6300

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	60 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.114 ✓
N - 3162.137

FORM PI-2 (72-9)

P.M. = ~~10,000~~ 5000 x 60 x 0.015 x 1/7000 x 0.126
= ~~0.16 g/sec~~ 0.08 g/sec

Ht = 200' ✓
dia = ~~2.3'~~ 1.5'
Vel = ~~34.1 fps~~ 47.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~CT2~~ L06	
Name of Abatement Device	**Type of Particulate Controlled**
CLINKER SILO ✓	CLINKER

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5000 ~~10,000~~		200 ~~150~~	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11		~~25~~ 20	~~10,000~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	50 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.108 ✓

N - 3162.125

FORM PI-2 (72-9)

P.M. = ~~10000~~ 5000 × 60 × 0.015 × 1/7000 × 0.126

= ~~0.162 lbs/sec~~ 0.081 lbs/sec

Ht = ~~200~~ 135'

dia = ~~25~~ 1.5'

Vel = ~~34.1 fps~~ 47.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~E13~~ L08	
Name of Abatement Device	**Type of Particulate Controlled**
CLINKER SILO ✓	CLINKER

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5000 ~~10,000~~		200 ~~150~~	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		~~25~~ 20	~~10,000~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	50 ~~100~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.086

N - 3162.200

FORM PI-2 (72-9)

P.M = ~~5000~~ 6000 × 60 × 0.015 × 1/7000 × 0.126
= ~~0.08 grs~~ 0.10 g/sec
Ht = ~~[redacted]~~ 29'
dia = ~~15'~~ 2.0'
Vel = ~~47.2 fps~~ 31.8 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~EP~~ L16	
Name of Abatement Device	**Type of Particulate Controlled**
COOLER DISCHARGE	Clinker

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
6000 ~~5000~~		200 ~~150~~	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		~~75~~ 20	~~5000~~ 6300

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	60 ~~50~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

360.105 ✓
3162.125

P.M. = ~~5000~~ 14,800 × 60 × 0.015 × 1/7000 × 0.126
= ~~0.08 g/sec~~ 0.23 g/sec

Ht = ~~[redacted]~~ 50'
dia = ~~1.5'~~ 2.5'
Vol = ~~47.2 ft³~~ 47.5 ft³

FORM PI-2 (72-9)

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram) ~~M17 M18~~ M08 replaces { M18 M19 M20	Manufacturer & Model No. (if available)
Name of Abatement Device: CLINKER SILO DISCHARGE	Type of Particulate Controlled: CLINKER

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
14,000 ~~5000~~		100 ~~150~~	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		~~15~~ 50	~~5000~~ 14700

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	140 ~~50~~	1

Bag rows will be: Staggered (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.105
N - 3162.143

FORM PI-2 (72-9)

PM = 3000 x 60 x 0.015 x 1/7000 x 0.126
= 0.05 g/sec
Ht = 25'
dia = 1.3'
Vel = 40.7 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~M19~~ Replaced by M08	
Name of Abatement Device	**Type of Particulate Controlled**
LIMESTONE SILO	LIMESTONE

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
3000		70	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
6		10	3000

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	30	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation.

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.123
N - 3162.133

FORM PI-2 (72-9)

P.H. = 8000 x 60 x 0.015 x 1/7000 x 0.126
= 0.139 g/sec

Ht = 25'
dia = 2.0
Vel = 42.3 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~M20~~ Replaced by M08	
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT SILO	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
8000		150	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
6		20	8000

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	80	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

E - 360.111 ✓
N - 3162.133

50,000 FORM PI-2 (72-9)
P.M = ~~46,000~~ × 0.015 × 60 × 1/7000 × 0.121
= ~~0.709/sec~~ 0.81 g/sec
Ht = ~~[redacted]~~ 70'
dia = 5.0' ✓
Vel = ~~29.0 fps~~ 42.4 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
N 13 ✓	
Name of Abatement Device	**Type of Particulate Controlled**
FINISH MILL ✓	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
50,000 ~~46,000~~		210 ~~200~~	200	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 20"	0.043	~~250~~ 300	~~46,000~~ 52,500

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
5	6	10	650 ~~600~~	ONE

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Locate all at
360.125 ✓
3162.110

$PM = \frac{5000}{2000} \times 60 \times 0.015 \times 1/7000 \times 0.126$
$= 0.08$ g/sec, each source

FORM PI-2 (72-9)

Ht = 200' ✓
dia = ~~2.5~~ 1.5'
Vel = ~~40.7~~ 47.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram) 3	Manufacturer & Model No. (if available)
Q15 ~~Q09~~ (3 Units)	
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT SILO ✓	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5000 ~~+2000~~		180 ~~+50~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~30~~ 15	~~+2000~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	50 ~~+20~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

~~Location & ...~~
360.125 ✓
3162.100

FORM PI-2 (72-9)

PM = ~~[redacted]~~ 5000 × 60 × 0.015 × 1/7000 × 0.126
= ~~0.13g/sec,~~ [redacted]
0.08
Ht = [redacted] 50' ✓
dia = 1.5' ✓
Vel = ~~42.3 fps~~ 47.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~Q 08 (4 units)~~ Q17	
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT SILO DISCHARGE	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm) Design Maximum	Flow Rate (acfm) Average Expected	Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf) Inlet	Particulate Grain Loading (grain/scf) Outlet
5000 ~~8000~~		160 ~~750~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft³/min)
~~6~~ 11"		20 ✓	~~8000~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft² of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	50 ~~80~~	1

Bag rows will be:	Walkways will be provided between banks of bags:
Staggered (Straight) [circled: Straight]	Yes (No) [circled: No]

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

~~Loader Bldg~~

360.125 ✓
3162.100

FORM PI-2 (72-9)

PM = 5000 / ~~8000~~ × 60 × 0.015 × 1/7000 × 0.126
= ~~0.19~~ 0.08 g/sec, ~~scale correct~~

Ht = ~~[illegible]~~ 50' ✓
dia = 1.5' ✓
Vel = ~~42.3 fps~~ 47.2 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~Q08 (4 units)~~ Q18	
Name of Abatement Device	**Type of Particulate Controlled**
CEMENT SILO DISCHARGE	CEMENT

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5000 ~~8000~~		160 ~~+50~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		20 ✓	~~5250~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	50 ~~80~~	1

Bag rows will be:		Walkways will be provided between banks of bags:	
Staggered	(Straight)	Yes	(No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

WILL NOT BE CONSTRUCTED AT THIS TIME

E - 360.155 ✓
N - 3162.032

FORM PI-2 (72-9)

PM = ~~10,000~~ 8000 × 60 × 0.015 × V7000 × 0.120
= ~~0.180 g/sec~~ 0.13 g/sec

Ht = 55' ✓
dia = ~~2.5~~ 2.0'
Vel = ~~34 fps~~ 42.4 fps

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)		Manufacturer & Model No. (if available)	
R14 ✓			
Name of Abatement Device		**Type of Particulate Controlled**	
PACKING PLANT ✓		CEMENT	
GAS STREAM CHARACTERISTICS			
Flow Rate (acfm)		**Gas Stream Temperature (°F)**	**Particulate Grain Loading (grain/scf)**
Design Maximum	**Average Expected**		**Inlet** / **Outlet**
~~10,000~~ 8,000		~~70~~ 160	15 / 0.015
Pressure Drop (in. H_2O)		**Water Vapor Content of Effluent Stream (lb water/lb dry air)**	**Fan Requirements (hp)** / **(ft^3/min)**
~~6~~ 11			25 ✓ / ~~10000~~ 8400

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	~~100~~ 80	1

Bag rows will be: Staggered / (Straight)

Walkways will be provided between banks of bags: Yes / (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

WILL NOT BE CONSTRUCTED AT THIS TIME

Locate all at
360.147 ✓
3162.047

5000
P.M = ~~10,000~~ x 60 x 0.015 x 1/7000 x 0.126
= ~~0.116~~ g/sec, each source
0.08
Ht = ~~80'~~ 100'
dia = ~~2.5'~~ 1.5'
Vel = ~~34.1 fps~~ 47.2 fps

FORM PI-2 (72-9)

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
R16 (3 units) ✓	
Name of Abatement Device	**Type of Particulate Controlled**
MASONRY SILO ✓	

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
5000 ~~10,000~~		180 ~~150~~	20	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 10"		~~25~~ 15	~~10,000~~ 5250

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	30 ~~100~~	1

Bag rows will be: Staggered (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

FORM PT-2 (12-9)

6000
P.M. = ~~3000~~ 60 x 0.015 x 1/7000 x 0.126
= ~~0.050 lbs~~ 0.109 lbs/sec
Ht = ~~100'~~ 15
dia = ~~5'~~ 2.0'
Vel = ~~40.7 fps~~ 31.8 fps

360.102 ✓

3162.210

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
S-04 ✓	
Name of Abatement Device	**Type of Particulate Controlled**
~~RAW COAL BIN~~ COAL HANDLING	COAL ✓

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
6000 ~~3000~~		70 ✓	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~6~~ 11"		~~10~~ 20	~~7000~~ 6300

PARTICULATE DISTRIBUTION (By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	~~30~~ 60	1

Bag rows will be: ~~Staggered~~ (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

JUL 16 1982

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

C. If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

P.M. = ~~3000~~ 9000 × 60 × 0.015 × 1/2000 × 0.196
= ~~0.053 g/sec~~ 0.15 g/sec
Ht = 100'
dia = ~~1.3~~ 2.5'
Vel = ~~40.7 fps~~ 30.6 fps

360.102
3162.210

TABLE II
FABRIC FILTERS

Point Number (from Flow Diagram)	Manufacturer & Model No. (if available)
~~S-04~~ S11	
Name of Abatement Device	**Type of Particulate Controlled**
RAW COAL BIN	COAL

GAS STREAM CHARACTERISTICS

Flow Rate (acfm)		Gas Stream Temperature (°F)	Particulate Grain Loading (grain/scf)	
Design Maximum	Average Expected		Inlet	Outlet
9000 ~~3000~~		70	10	0.015

Pressure Drop (in. H_2O)	Water Vapor Content of Effluent Stream (lb water/lb dry air)	Fan Requirements (hp)	Fan Requirements (ft^3/min)
~~4~~ 11"		~~10~~ 30	~~3000~~ 9450

PARTICULATE DISTRIBUTION
(By Weight)

Micron Range	Inlet	Outlet
0.0-0.5	%	%
0.5-1.0	%	%
1.0-5.0	%	%
5-10	%	%
10-20	%	%
over 20	%	%

FILTER CHARACTERISTICS

Filtering Velocity (acfm/ft^2 of Cloth)	Bag Diameter (in.)	Bag Length (ft)	Number of Bags	Number of Compartments in Baghouse
6.5	6	10	~~30~~ 90	1

Bag rows will be: Staggered (Straight)

Walkways will be provided between banks of bags: Yes (No)

Filtering Material: POLYESTER

Describe Bag Cleaning Method and Cycle: PULSE JET

ADDITIONAL INFORMATION

On separate sheets attach the following:

JUL 16 1982

A. Details regarding principle of operation

B. An assembly drawing (Front and Top View) of the abatement device dimensioned and to scale clearly showing the design, size and shape.

If the device has bypasses, safety valves, etc., include in drawing and specify when such bypasses are to be used and under what conditions.

Kiln/Power Plant
Gas Flows for
125 Megawatt Power Plant
and
600,000 Tons per Year Cement Plant

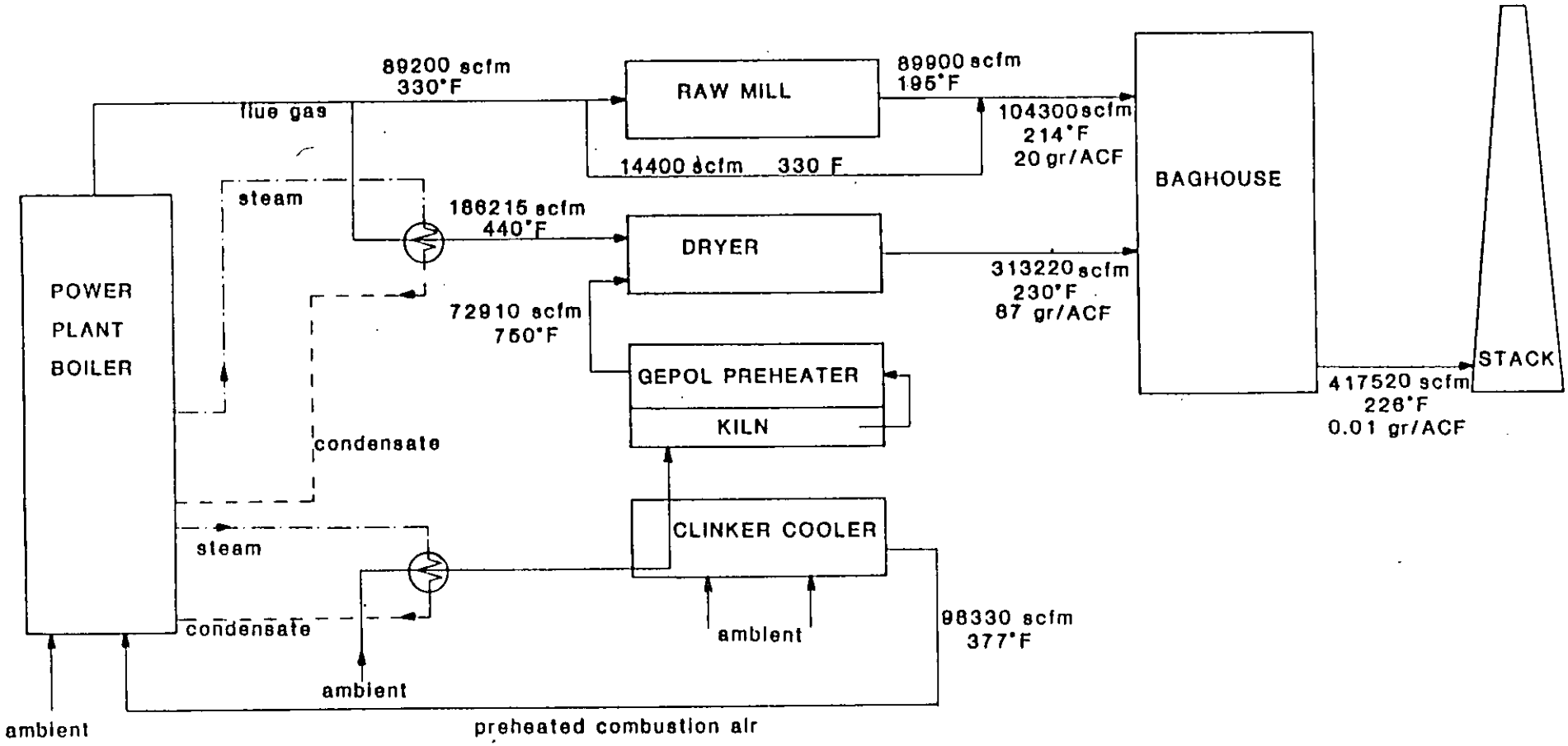


FIGURE 2-3

POWER PLANT OPERATING/CEMENT PLANT OPERATING

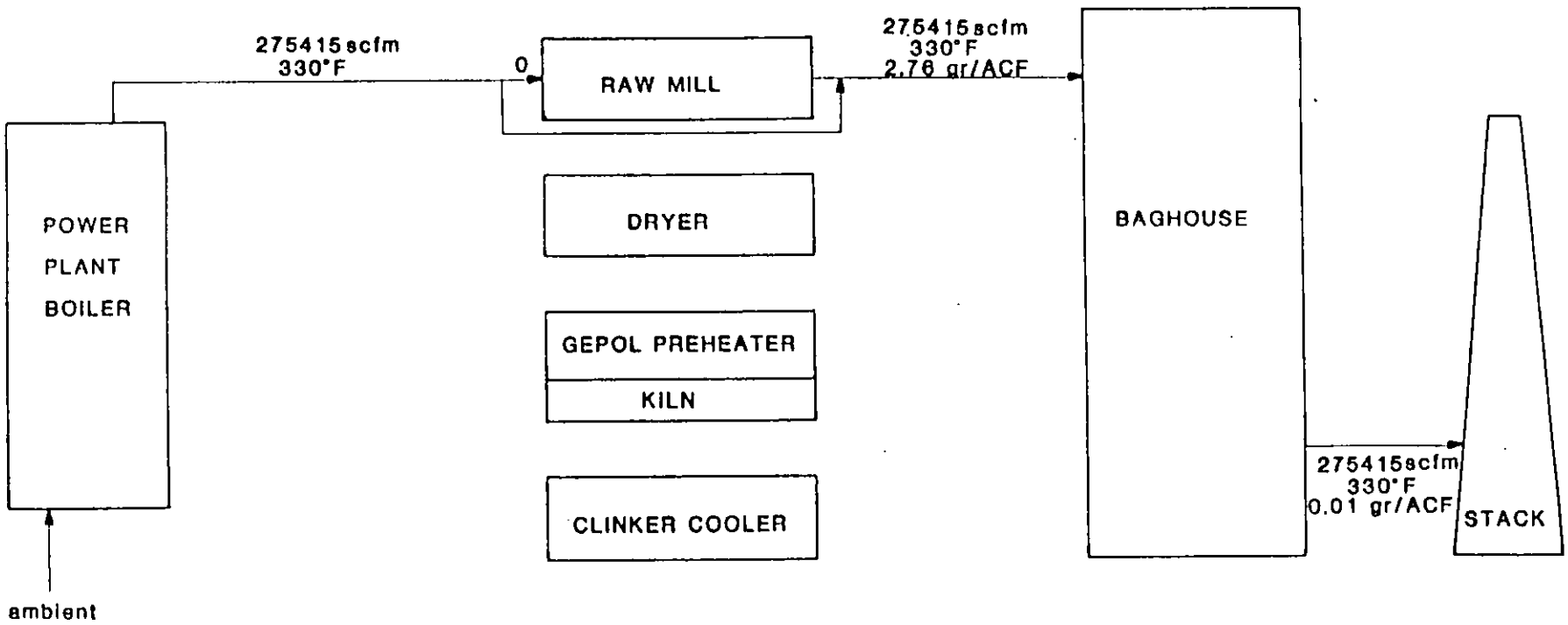


FIGURE 2-4

POWER PLANT OPERATING/CEMENT PLANT NOT OPERATING

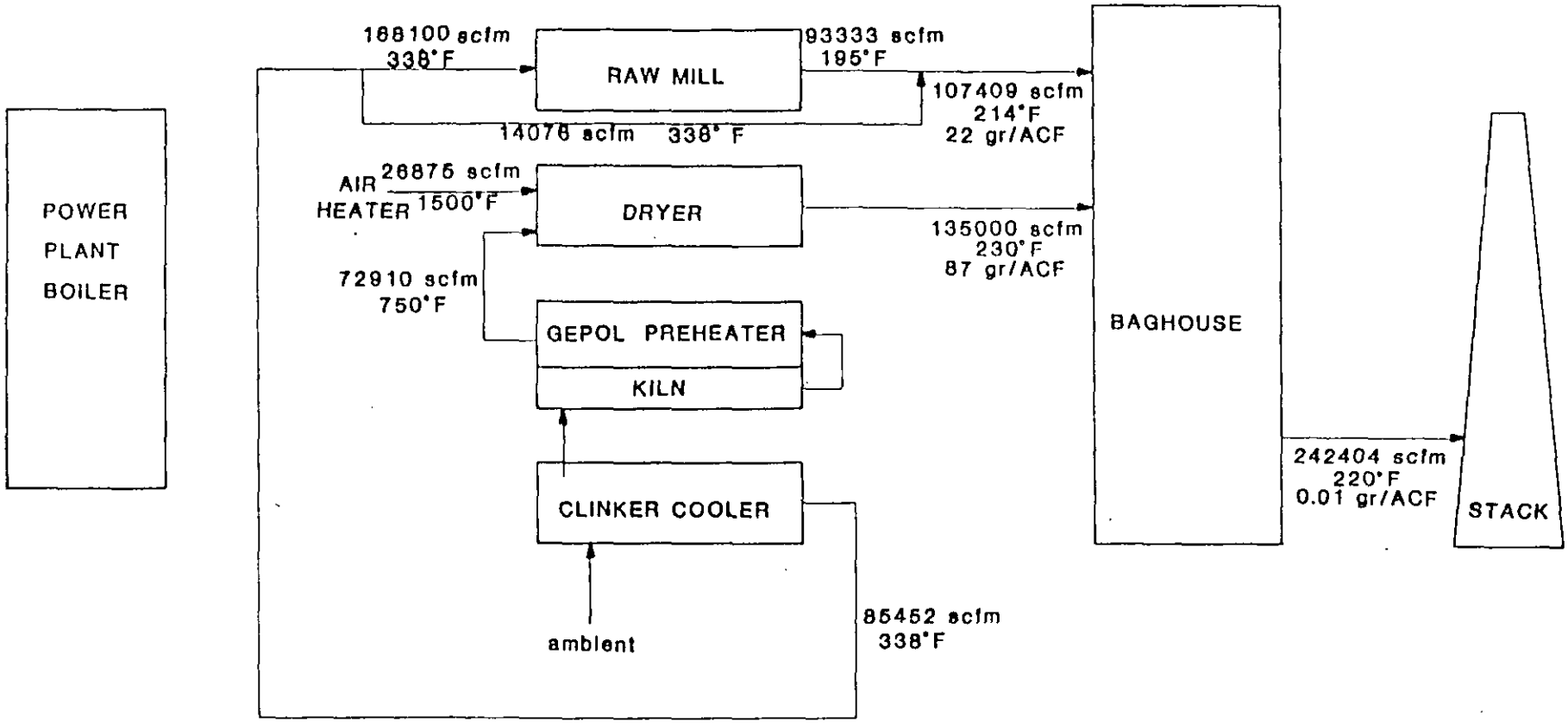
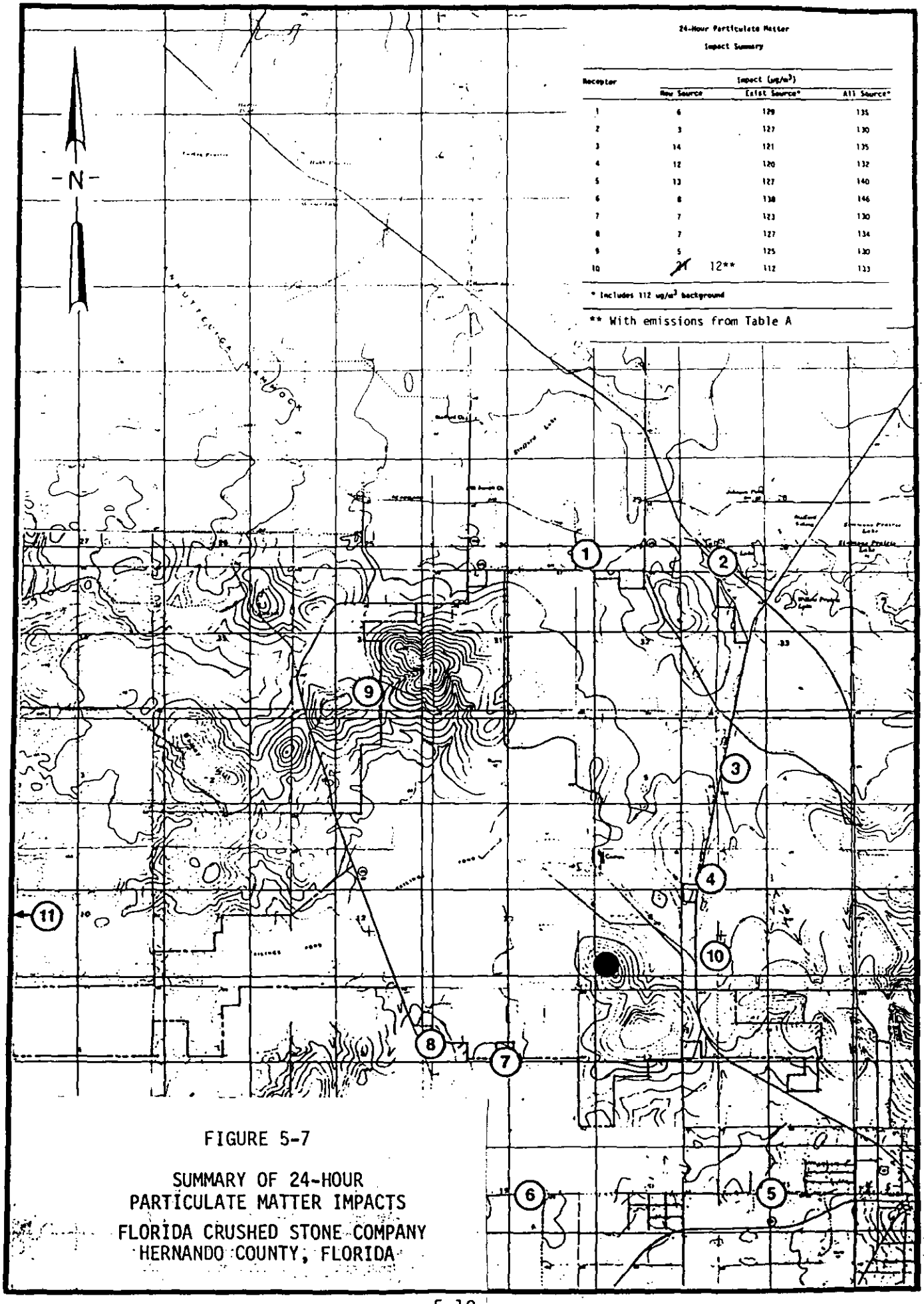


FIGURE 2-5

POWER PLANT NOT OPERATING/CEMENT PLANT OPERATING

Impact of Particulate Matter Emissions from Revised Sources



24-Hour Particulate Matter

Impact Summary

Receptor	Impact ($\mu g/m^3$)		
	New Source	Exist Source*	All Source*
1	6	129	135
2	3	127	130
3	14	121	135
4	12	120	132
5	13	127	140
6	8	138	146
7	7	123	130
8	7	127	134
9	5	125	130
10	21 12**	112	133

* Includes 112 $\mu g/m^3$ background

** With emissions from Table A

FIGURE 5-7

SUMMARY OF 24-HOUR
PARTICULATE MATTER IMPACTS
FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION) WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 1
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 0
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 2
RURAL-URBAN OPTION (RURAL=0,URBAN MODE 1=1,URBAN MODE 2=2)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
NUMBER OF INPUT SOURCES	NSOURC = 18
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 8
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 7
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS = 24
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS = 1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E 07
ENTRAINMENT COEFFICIENT FOR UNSTABLE ATMOSPHERE	BETA1 =0.600
ENTRAINMENT COEFFICIENT FOR STABLE ATMOSPHERE	BETA2 =0.600
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 5
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 4053 WORDS

*** Particulate Matter - Max Impact - Day 174,1972 ***

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

361100.0, 361200.0, 361300.0, 361400.0, 361500.0, 361600.0, 361700.0, 361800.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

3161900.0, 3162000.0, 3162100.0, 3162200.0, 3162300.0, 3162400.0, 3162500.0,

*** Particulate Matter - Max Impact - Day 174,1972 ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
101	0	0	0	0.10000E 00	359950.0	3162477.0	0.0	7.60	314.00	12.90	0.60	0.0	0.0	0.0
102	0	0	0	0.80000E-01	360005.0	3162337.0	0.0	38.10	314.00	9.70	0.61	0.0	0.0	0.0
103	0	0	0	0.80000E-01	360017.0	3162337.0	0.0	38.10	314.00	9.70	0.61	0.0	0.0	0.0
104	0	0	0	0.21800E 02	360008.0	3162392.0	0.0	91.50	389.00	14.66	4.88	0.0	0.0	0.0
105	0	0	0	0.30000E-01	360030.0	3162335.0	0.0	18.30	355.00	12.90	0.30	0.0	0.0	0.0
106	0	0	0	0.42000E 00	360037.0	3162312.0	0.0	62.50	355.00	13.70	1.07	0.0	0.0	0.0
107	0	0	0	0.10000E 00	360044.0	3162306.0	0.0	15.20	366.00	9.70	0.61	0.0	0.0	0.0
108	0	0	0	0.10000E 00	360086.0	3162200.0	0.0	8.80	366.00	9.70	0.61	0.0	0.0	0.0
109	0	0	0	0.80000E-01	360114.0	3162137.0	0.0	61.00	366.00	14.40	0.46	0.0	0.0	0.0
110	0	0	0	0.80000E-01	360108.0	3162125.0	0.0	41.20	366.00	14.40	0.46	0.0	0.0	0.0
111	0	0	0	0.23000E 00	360105.0	3162125.0	0.0	15.20	314.00	14.50	0.76	0.0	0.0	0.0
112	0	0	0	0.81000E 00	360111.0	3162157.0	0.0	21.30	372.00	12.90	1.50	0.0	0.0	0.0
113	0	0	0	0.16000E 00	360125.0	3162100.0	0.0	15.20	344.00	14.40	0.46	0.0	0.0	0.0
114	0	0	0	0.24000E 00	360125.0	3162110.0	0.0	61.00	355.00	14.40	0.46	0.0	0.0	0.0
115	0	0	0	0.13000E 00	360155.0	3162032.0	0.0	15.20	344.00	12.90	0.61	0.0	0.0	0.0
116	0	0	0	0.24000E 00	360147.0	3162047.0	0.0	30.50	355.00	14.40	0.46	0.0	0.0	0.0
117	0	0	0	0.10000E 00	360102.0	3162210.0	0.0	4.60	314.00	9.70	0.61	0.0	0.0	0.0
118	0	0	0	0.15000E 00	360080.0	3162010.0	0.0	30.50	314.00	9.30	0.76	0.0	0.0	0.0

*** Particulate Matter - Max Impact - Day 174,1972 ***

* METEOROLOGICAL DATA FOR DAY 174 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	85.0	5.66	785.0	300.0	0.0	4	0.2500	0.0
2	82.0	5.14	823.0	300.0	0.0	4	0.2500	0.0
3	87.0	6.17	862.0	300.0	0.0	4	0.2500	0.0
4	93.0	6.17	901.0	300.0	0.0	4	0.2500	0.0
5	90.0	6.17	939.0	300.0	0.0	4	0.2500	0.0
6	88.0	6.17	978.0	300.0	0.0	4	0.2500	0.0
7	92.0	4.63	1016.0	300.0	0.0	4	0.2500	0.0
8	95.0	5.14	1055.0	300.0	0.0	4	0.2500	0.0
9	87.0	6.17	1094.0	301.0	0.0	4	0.2500	0.0
10	92.0	6.17	1132.0	301.0	0.0	4	0.2500	0.0
11	102.0	6.69	1171.0	302.0	0.0	4	0.2500	0.0
12	99.0	6.69	1210.0	303.0	0.0	4	0.2500	0.0
13	104.0	7.20	1248.0	303.0	0.0	4	0.2500	0.0
14	100.0	7.20	1287.0	303.0	0.0	3	0.2000	0.0
15	88.0	8.23	1287.0	303.0	0.0	4	0.2500	0.0
16	103.0	7.72	1287.0	303.0	0.0	4	0.2500	0.0
17	92.0	7.20	1287.0	302.0	0.0	4	0.2500	0.0
18	91.0	7.72	1287.0	302.0	0.0	4	0.2500	0.0
19	94.0	6.69	1287.0	301.0	0.0	4	0.2500	0.0
20	93.0	5.66	1292.0	300.0	0.0	4	0.2500	0.0
21	88.0	6.17	1300.0	300.0	0.0	4	0.2500	0.0
22	91.0	5.14	1308.0	300.0	0.0	4	0.2500	0.0
23	81.0	5.14	1316.0	300.0	0.0	4	0.2500	0.0
24	78.0	5.14	1324.0	300.0	0.0	4	0.2500	0.0

DAILY: 174
24-HR/PD 1
SGROUP# 1

*** Particulate Matter - Max Impact - Day 174,1972 ***

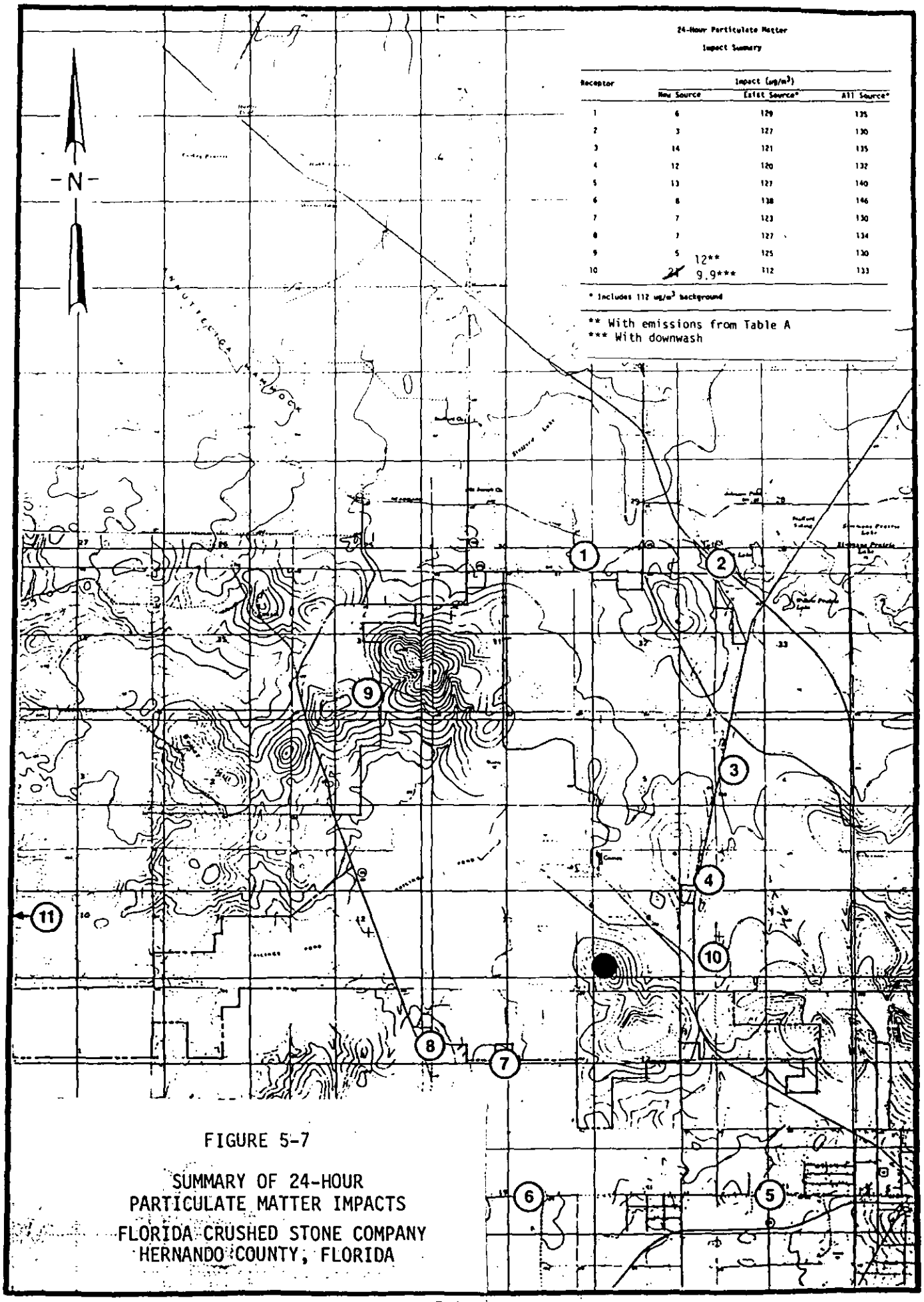
* DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* ENDING WITH HOUR 24 FOR DAY 174 *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 11.99813 AND OCCURRED AT (361200.0, 3162100.0) *

Y-AXIS (METERS) /	0.0	361200.0	361300.0	361400.0	361500.0	361600.0	361700.0	361800.0
		X-AXIS (METERS)						
3162500.0 /	0.0	2.04800	2.18804	2.34575	2.50298	2.64660	2.76920	2.86819
3162400.0 /	0.0	4.14795	4.32071	4.44134	4.51169	4.53854	4.53093	4.49815
3162300.0 /	0.0	7.26204	7.20228	7.08063	6.91556	6.72346	6.51739	6.30704
3162200.0 /	0.0	10.86109	10.33832	9.82437	9.32863	8.85652	8.41114	7.99418
3162100.0 /	0.0	11.99813	11.31013	10.66520	10.06353	9.50388	8.98454	8.50369
3162000.0 /	0.0	8.57389	8.31245	8.05642	7.80222	7.54828	7.29478	7.04300
3161900.0 /	0.0	4.68837	4.76473	4.78768	4.78546	4.77110	4.74909	4.72020

TCP OUTPUT CHARGE: $ .06

Downwash Analyses



24-Hour Particulate Matter

Impact Summary

Receptor	Impact ($\mu g/m^3$)		
	New Source	Exist Source*	All Source*
1	6	129	135
2	3	127	130
3	14	121	135
4	12	120	132
5	13	127	140
6	8	138	146
7	7	123	130
8	7	127	134
9	5	125	130
10	12** 9.9***	112	133

* Includes 112 $\mu g/m^3$ background

** With emissions from Table A
*** With downwash

FIGURE 5-7

SUMMARY OF 24-HOUR
PARTICULATE MATTER IMPACTS
FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

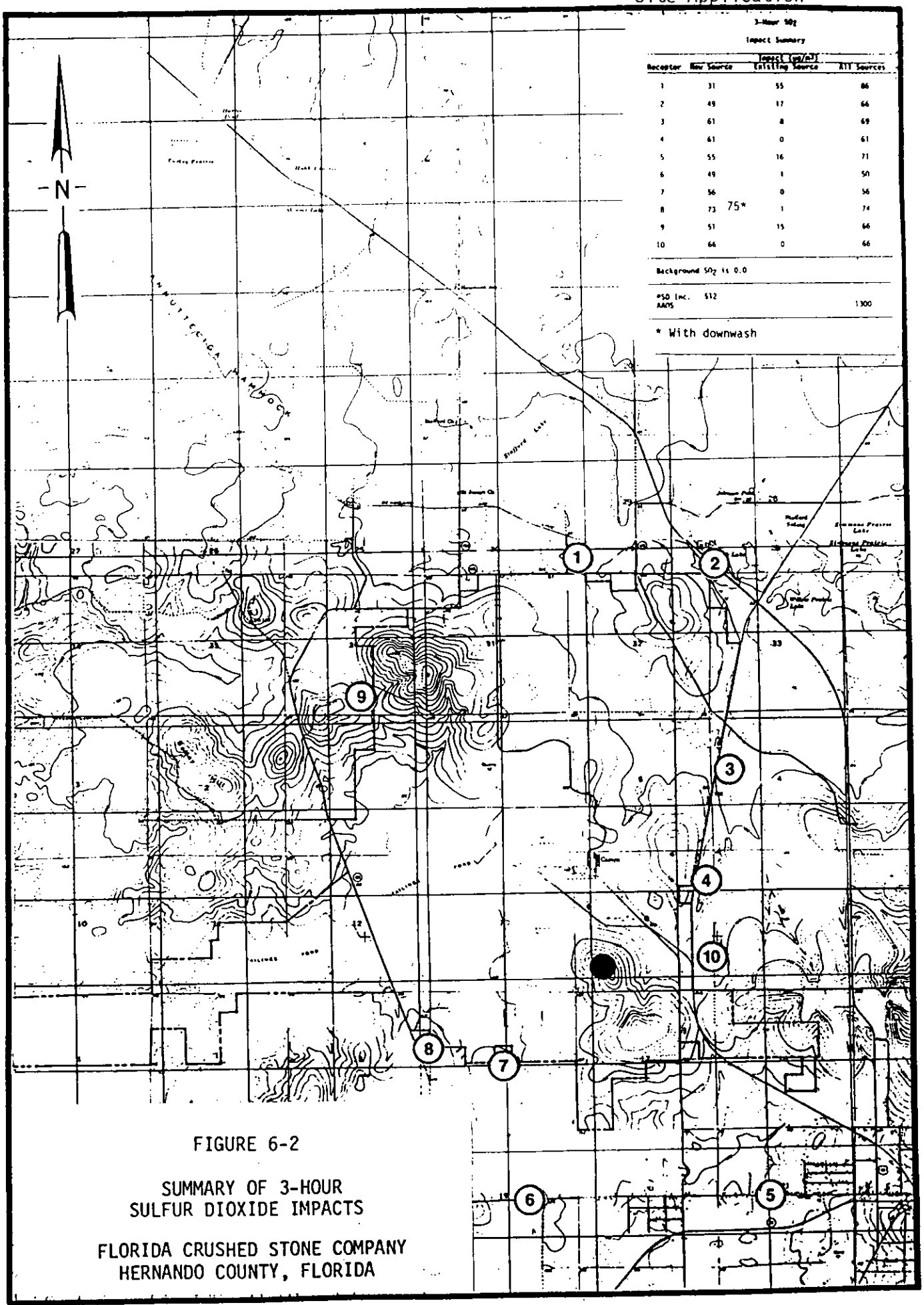


FIGURE 6-2

SUMMARY OF 3-HOUR
SULFUR DIOXIDE IMPACTS

FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

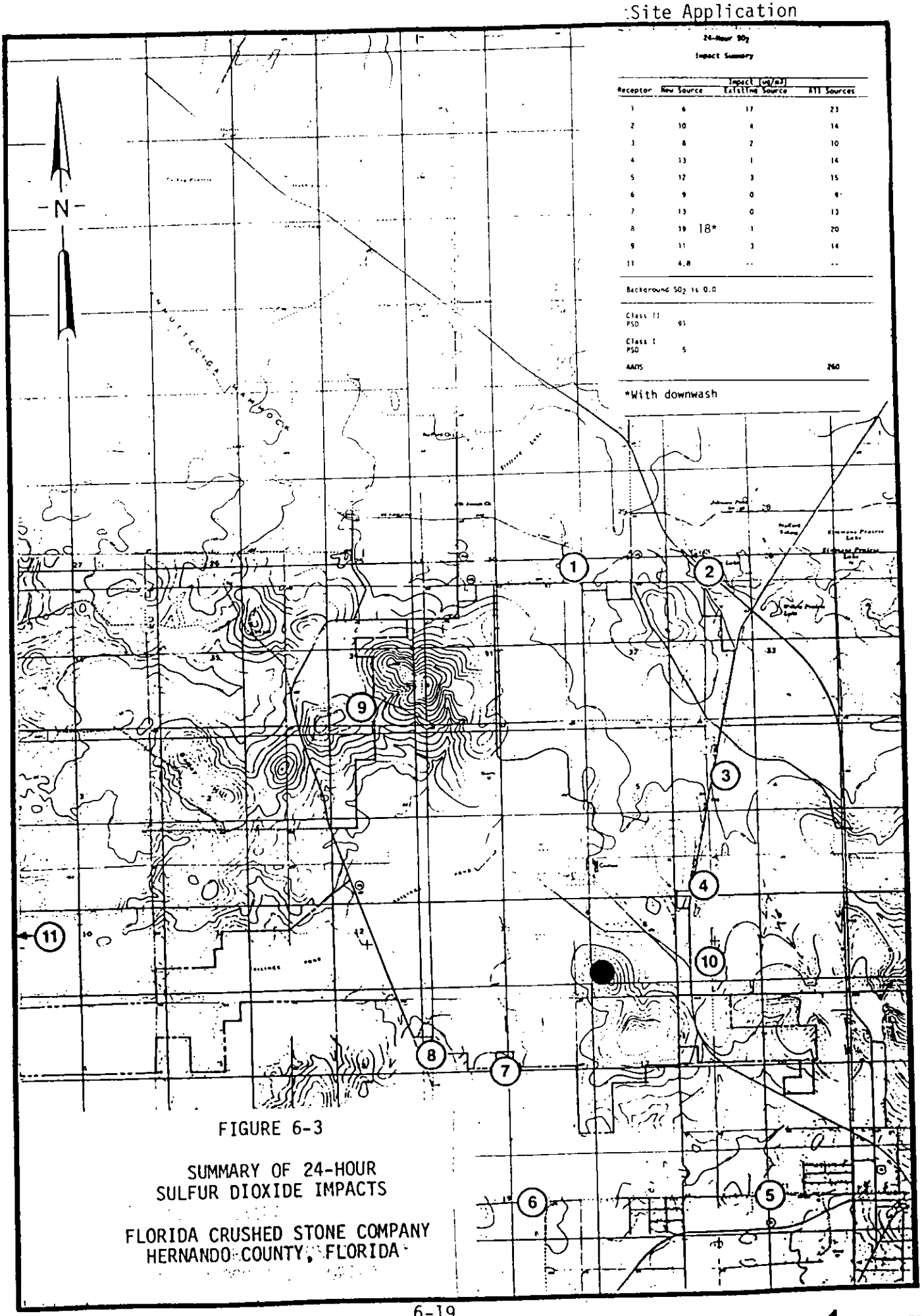


FIGURE 6-3

SUMMARY OF 24-HOUR
SULFUR DIOXIDE IMPACTS

FLORIDA CRUSHED STONE COMPANY
HERNANDO COUNTY, FLORIDA

*** Particulate Matter - Downwash Analysis - Day 174,1972 ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE	
SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 1
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 0
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 2
RURAL-URBAN OPTION (RURAL=0,URBAN MODE 1=1,URBAN MODE 2=2)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
NUMBER OF INPUT SOURCES	NSOURC = 18
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 8
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 7
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS = 24
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS = 1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E 07
ENTRAINMENT COEFFICIENT FOR UNSTABLE ATMOSPHERE	BETA1 =0.600
ENTRAINMENT COEFFICIENT FOR STABLE ATMOSPHERE	BETA2 =0.600
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 5
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 4053 WORDS

*** Particulate Matter - Downwash Analysis - Day 174,1972 ***

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

361100.0, 361200.0, 361300.0, 361400.0, 361500.0, 361600.0, 361700.0, 361800.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

3161900.0, 3162000.0, 3162100.0, 3162200.0, 3162300.0, 3162400.0, 3162500.0,

*** Particulate Matter - Downwash Analysis - Day 174,1972 ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
101	0	0	0	0.10000E 00	359950.0	3162477.0	0.0	7.60	314.00	12.90	0.60	37.00	21.00	31.00
102	0	0	0	0.80000E-01	360005.0	3162337.0	0.0	38.10	314.00	9.70	0.61	37.00	21.00	31.00
103	0	0	0	0.80000E-01	360017.0	3162337.0	0.0	38.10	314.00	9.70	0.61	37.00	21.00	31.00
104	0	0	0	0.21800E 02	360008.0	3162392.0	0.0	91.50	389.00	14.66	4.88	63.00	17.00	24.00
105	0	0	0	0.30000E-01	360030.0	3162335.0	0.0	18.30	355.00	12.90	0.30	63.00	17.00	24.00
106	0	0	0	0.42000E 00	360037.0	3162312.0	0.0	62.50	355.00	13.70	1.07	63.00	17.00	24.00
107	0	0	0	0.10000E 00	360044.0	3162306.0	0.0	15.20	366.00	9.70	0.61	63.00	17.00	24.00
108	0	0	0	0.10000E 00	360086.0	3162200.0	0.0	8.80	366.00	9.70	0.61	24.00	61.00	27.00
109	0	0	0	0.80000E-01	360114.0	3162137.0	0.0	61.00	366.00	14.40	0.46	61.00	40.00	40.00
110	0	0	0	0.80000E-01	360108.0	3162125.0	0.0	41.20	366.00	14.40	0.46	61.00	40.00	40.00
111	0	0	0	0.23000E 00	360105.0	3162125.0	0.0	15.20	314.00	14.50	0.76	61.00	40.00	40.00
112	0	0	0	0.81000E 00	360111.0	3162157.0	0.0	21.30	372.00	12.90	1.50	61.00	40.00	40.00
113	0	0	0	0.16000E 00	360125.0	3162100.0	0.0	15.20	344.00	14.40	0.46	61.00	40.00	40.00
114	0	0	0	0.24000E 00	360125.0	3162110.0	0.0	61.00	355.00	14.40	0.46	61.00	40.00	40.00
115	0	0	0	0.13000E 00	360155.0	3162032.0	0.0	15.20	344.00	12.90	0.61	61.00	40.00	40.00
116	0	0	0	0.24000E 00	360147.0	3162047.0	0.0	30.50	355.00	14.40	0.46	61.00	40.00	40.00
117	0	0	0	0.10000E 00	360102.0	3162210.0	0.0	4.60	314.00	9.70	0.61	4.00	5.00	5.00
118	0	0	0	0.15000E 00	360080.0	3162010.0	0.0	30.50	314.00	9.30	0.76	24.00	61.00	27.00

*** Particulate Matter - Downwash Analysis - Day 174,1972 ***

* METEOROLOGICAL DATA FOR DAY 174 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	85.0	5.66	785.0	300.0	0.0	4	0.2500	0.0
2	82.0	5.14	823.0	300.0	0.0	4	0.2500	0.0
3	87.0	6.17	862.0	300.0	0.0	4	0.2500	0.0
4	93.0	6.17	901.0	300.0	0.0	4	0.2500	0.0
5	90.0	6.17	939.0	300.0	0.0	4	0.2500	0.0
6	88.0	6.17	978.0	300.0	0.0	4	0.2500	0.0
7	92.0	4.63	1016.0	300.0	0.0	4	0.2500	0.0
8	95.0	5.14	1055.0	300.0	0.0	4	0.2500	0.0
9	87.0	6.17	1094.0	301.0	0.0	4	0.2500	0.0
10	92.0	6.17	1132.0	301.0	0.0	4	0.2500	0.0
11	102.0	6.69	1171.0	302.0	0.0	4	0.2500	0.0
12	99.0	6.69	1210.0	303.0	0.0	4	0.2500	0.0
13	104.0	7.20	1248.0	303.0	0.0	4	0.2500	0.0
14	100.0	7.20	1287.0	303.0	0.0	3	0.2000	0.0
15	88.0	8.23	1287.0	303.0	0.0	4	0.2500	0.0
16	103.0	7.72	1287.0	303.0	0.0	4	0.2500	0.0
17	92.0	7.20	1287.0	302.0	0.0	4	0.2500	0.0
18	91.0	7.72	1287.0	302.0	0.0	4	0.2500	0.0
19	94.0	6.69	1287.0	301.0	0.0	4	0.2500	0.0
20	93.0	5.66	1292.0	300.0	0.0	4	0.2500	0.0
21	88.0	6.17	1300.0	300.0	0.0	4	0.2500	0.0
22	91.0	5.14	1308.0	300.0	0.0	4	0.2500	0.0
23	81.0	5.14	1316.0	300.0	0.0	4	0.2500	0.0
24	78.0	5.14	1324.0	300.0	0.0	4	0.2500	0.0

DAILY: 174
24-HR/PD 1
SGROUP# 1

*** Particulate Matter - Downwash Analysis - Day 174,1972 ***

* DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* ENDING WITH HOUR 24 FOR DAY 174 *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 9.91523 AND OCCURRED AT (361200.0, 3162100.0) *

Y-AXIS (METERS) /	0.0	361200.0	361300.0	361400.0	361500.0	361600.0	361700.0	361800.0
				X-AXIS (METERS)				
3162500.0 /	0.0	1.85651	1.99165	2.12624	2.25093	2.35972	2.45020	2.52266
3162400.0 /	0.0	3.84906	3.94587	3.99796	4.01425	4.00270	3.97077	3.92530
3162300.0 /	0.0	6.65502	6.47565	6.28558	6.07348	5.85868	5.64760	5.44485
3162200.0 /	0.0	9.42658	8.86214	8.37736	7.91009	7.48262	7.09150	6.73401
3162100.0 /	0.0	9.91523	9.27654	8.74730	8.24343	7.78820	7.37410	6.99582
3162000.0 /	0.0	6.99679	6.77041	6.57371	6.36602	6.16502	5.96932	5.77835
3161900.0 /	0.0	3.77666	3.86407	3.91422	3.93493	3.94263	3.94113	3.93184

TCP OUTPUT CHARGE: $ .06

*** SO2 24-Hour Downwash Analysis - Day 286,1974 ***

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 0
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 1
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE	
SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 1
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 0
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 2
RURAL-URBAN OPTION (RURAL=0,URBAN MODE 1=1,URBAN MODE 2=2)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
NUMBER OF INPUT SOURCES	NSOURC = 1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 8
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 7
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS = 24
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS = 1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E 07
ENTRAINMENT COEFFICIENT FOR UNSTABLE ATMOSPHERE	BETA1 =0.600
ENTRAINMENT COEFFICIENT FOR STABLE ATMOSPHERE	BETA2 =0.600
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 5
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 398 WORDS

*** SO2 24-Hour Downwash Analysis - Day 286,1974 ***

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

357600.0, 357700.0, 357800.0, 357900.0, 358000.0, 358100.0, 358200.0, 358300.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

3161000.0, 3161100.0, 3161200.0, 3161300.0, 3161400.0, 3161500.0, 3161600.0,

*** SO2 24-Hour Downwash Analysis - Day 286,1974 ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
101	0	0	0	0.19670E 03	360008.0	3162392.0	0.0	91.50	389.00	14.66	4.88	63.00	17.00	24.00

*** SO2 24-Hour Downwash Analysis - Day 286,1974 ***

* METEOROLOGICAL DATA FOR DAY 286 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	253.0	1.54	352.0	293.0	0.0350	6	0.3000	0.0
2	242.0	2.06	352.0	293.0	0.0350	6	0.3000	0.0
3	232.0	3.60	352.0	293.0	0.0200	5	0.3000	0.0
4	230.0	3.60	352.0	293.0	0.0200	5	0.3000	0.0
5	238.0	3.60	352.0	293.0	0.0200	5	0.3000	0.0
6	227.0	3.60	352.0	293.0	0.0200	5	0.3000	0.0
7	221.0	3.60	457.0	293.0	0.0	4	0.2500	0.0
8	244.0	4.12	680.0	294.0	0.0	3	0.2000	0.0
9	236.0	4.63	903.0	297.0	0.0	3	0.2000	0.0
10	238.0	5.14	1126.0	300.0	0.0	3	0.2000	0.0
11	216.0	5.14	1349.0	301.0	0.0	3	0.2000	0.0
12	245.0	4.12	1573.0	302.0	0.0	3	0.2000	0.0
13	248.0	3.60	1796.0	302.0	0.0	2	0.1500	0.0
14	232.0	3.60	2019.0	303.0	0.0	2	0.1500	0.0
15	248.0	3.60	2019.0	303.0	0.0	2	0.1500	0.0
16	236.0	4.63	2019.0	303.0	0.0	3	0.2000	0.0
17	234.0	4.12	2019.0	303.0	0.0	4	0.2500	0.0
18	246.0	5.66	2019.0	301.0	0.0	4	0.2500	0.0
19	236.0	5.14	2029.0	300.0	0.0	4	0.2500	0.0
20	255.0	5.14	2039.0	298.0	0.0	4	0.2500	0.0
21	251.0	4.63	1144.0	298.0	0.0200	5	0.3000	0.0
22	254.0	4.12	852.0	297.0	0.0200	5	0.3000	0.0
23	260.0	3.60	560.0	296.0	0.0200	5	0.3000	0.0
24	254.0	2.57	268.0	295.0	0.0350	6	0.3000	0.0

DAILY: 286
24-HR/PD 1
SGROUP# 1

*** SO2 24-Hour Downwash Analysis - Day 286,1974 ***

* DAILY 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* ENDING WITH HOUR 24 FOR DAY 286 *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 18.05806 AND OCCURRED AT (357900.0, 3161200.0) *

Y-AXIS (METERS) /	0.0	357700.0	357800.0	357900.0	358000.0	358100.0	358200.0	358300.0
				X-AXIS (METERS)				
3161600.0 /	0.00000	9.53827	10.55792	11.58904	12.57934	13.46125	14.15496	14.57338
3161500.0 /	0.00000	11.98260	13.04732	14.05116	14.93212	15.62043	16.04024	16.10974
3161400.0 /	0.00000	14.26472	15.23522	16.07405	16.72121	17.10789	17.15279	16.76115
3161300.0 /	0.00000	16.10027	16.86725	17.44598	17.76981	17.75450	17.30086	16.31267
3161200.0 /	0.00000	17.32689	17.81917	18.05806	17.95659	17.41646	16.35172	14.72990
3161100.0 /	0.00000	17.88866	18.02896	17.82658	17.19040	16.05147	14.40094	12.32646
3161000.0 /	0.00000	17.74802	17.44032	16.71028	15.50956	13.85226	11.83965	9.66298

TCP OUTPUT CHARGE: $ .06

DAILY: 284
3-HR/PD 1
SGROUP# 1

*** SO2 3-Hour Downwash Analysis - Day 284(4), 1974 ***

* DAILY 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* ENDING WITH HOUR 3 FOR DAY 284 *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 74.85649 AND OCCURRED AT (357600.0, 3161100.0) *

Y-AXIS (METERS) /	0.0	357100.0	357200.0	357300.0	357400.0	357500.0	357600.0	357700.0
				X-AXIS (METERS)				
3161400.0 /	0.00000	18.07910	22.10892	26.84819	32.30779	38.42686	45.03510	51.80923
3161300.0 /	0.00000	29.14171	34.64967	40.77063	47.35414	54.12590	60.65852	66.35660
3161200.0 /	0.00000	42.06181	48.43158	54.98746	61.37663	67.11276	71.58597	74.10637
3161100.0 /	0.00000	54.78749	60.88130	66.45982	71.02823	74.01985	74.85649	73.04480
3161000.0 /	0.00000	64.86914	69.36275	72.58298	74.04677	73.31401	70.07564	64.25458
3160900.0 /	0.00000	70.28799	72.14005	72.18147	70.11305	65.78812	59.28502	50.95715
3160800.0 /	0.00000	70.13448	68.94969	65.82990	60.75859	53.92047	45.72240	36.77238

TCP OUTPUT CHARGE: $ .06

*** SO2 3-Hour Downwash Analysis - Day 284(4), 1974 ***

* METEOROLOGICAL DATA FOR DAY 284 *

HOUR	FLOW VECTOR (DEGREES)	WIND SPEED (MPS)	MIXING HEIGHT (METERS)	TEMP. (DEG. K)	POT. TEMP. GRADIENT (DEG. K PER METER)	STABILITY CATEGORY	WIND PROFILE EXPONENT	DECAY COEFFICIENT (PER SEC)
1	241.0	5.66	1048.0	298.0	0.0	3	0.2000	0.0
2	244.0	5.14	1288.0	300.0	0.0	3	0.2000	0.0
3	241.0	4.12	1528.0	301.0	0.0	3	0.2000	0.0

*** SO2 3-Hour Downwash Analysis - Day 284(4), 1974 ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
101	0	0	0	0.19670E 03	360008.0	3162392.0	0.0	91.50	389.00	14.66	4.88	63.00	17.00	24.00

*** SO2 3-Hour Downwash Analysis - Day 284(4), 1974 ***

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** X-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

357000.0, 357100.0, 357200.0, 357300.0, 357400.0, 357500.0, 357600.0, 357700.0,

*** Y-COORDINATES OF RECTANGULAR GRID SYSTEM ***
(METERS)

3160800.0, 3160900.0, 3161000.0, 3161100.0, 3161200.0, 3161300.0, 3161400.0,

CALCULATE (CONCENTRATION=1,DEPOSITION=2)	ISW(1) = 1
RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)	ISW(2) = 3
DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)	ISW(3) = 1
TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)	ISW(4) = 0
CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)	ISW(5) = 0
LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)	ISW(6) = 2
COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)	
WITH THE FOLLOWING TIME PERIODS:	
HOURLY (YES=1,NO=0)	ISW(7) = 0
2-HOUR (YES=1,NO=0)	ISW(8) = 0
3-HOUR (YES=1,NO=0)	ISW(9) = 1
4-HOUR (YES=1,NO=0)	ISW(10) = 0
6-HOUR (YES=1,NO=0)	ISW(11) = 0
8-HOUR (YES=1,NO=0)	ISW(12) = 0
12-HOUR (YES=1,NO=0)	ISW(13) = 0
24-HOUR (YES=1,NO=0)	ISW(14) = 0
PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)	ISW(15) = 0
PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE	
SPECIFIED BY ISW(7) THROUGH ISW(14):	
DAILY TABLES (YES=1,NO=0)	ISW(16) = 1
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 0
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 0
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 2
RURAL-URBAN OPTION (RURAL=0,URBAN MODE 1=1,URBAN MODE 2=2)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES>0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 1
NUMBER OF INPUT SOURCES	NSOURC = 1
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 8
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 7
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 0
NUMBER OF HOURS PER DAY IN METEOROLOGICAL DATA	NHOURS = 3
NUMBER OF DAYS OF METEOROLOGICAL DATA	NDAYS = 1
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK =.10000E 07
ENTRAINMENT COEFFICIENT FOR UNSTABLE ATMOSPHERE	BETA1 =0.600
ENTRAINMENT COEFFICIENT FOR STABLE ATMOSPHERE	BETA2 =0.600
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 10.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 5
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 398 WORDS

SHOLTES & KOOGLER, ENVIRONMENTAL CONSULTANTS
1213 N.W. 6th Street Gainesville, Florida 32601 (904) 377-5822

SKEC 307-82-01

November 1, 1982

Mr. Clair Fancy
Florida Department of
Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Subject: Florida Crushed Stone Company
PSD Application

Dear Mr. Fancy:

For your records, I would like to confirm that the Florida Crushed Stone Company is withdrawing the Application for PSD approval for the 40 megawatt electric power generating station that was proposed in conjunction with the Portland Cement Plant the firm plans to construct in Hernando County, Florida. This decision was verbally transmitted to your staff in mid-October, 1982.

In lieu of the 40 megawatt power plant, the Florida Crushed Stone Company is proposing to construct a 125 megawatt power plant. The application for this power plant was forwarded to the Power Plant Site Certification Staff of FDER on October 18, 1982.

The change in power plant capacity has resulted in some modifications to the proposed cement plant. These modifications, plus additional modifications resulting from more detailed engineering design, will be forwarded to your office as soon as the necessary data can be compiled. It is still the intent of the Florida Crushed Stone Company for the review of the PSD application for the proposed cement plant to proceed as expeditiously as possible.

Very truly yours,

SHOLTES & KOOGLER
ENVIRONMENTAL CONSULTANTS, INC.

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

JBK:sc

cc: Mr. Richard C. Entorf
Mr. Skip Haskell
Mr. Larry Curtin

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 65389

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Florida Crushed Stone Co. Date 11-1-82

Address Permit to Construct Air Dollars $5,100.00

Applicant Name & Address Pollution Sources

Source of Revenue Permit # AC27- 61016

Revenue Code ~~0118~~ 0101 Application Number Ck # 2211

By K. B. Romans

FLORIDA CRUSHED STONE CO. 65389 2211
P.O. BOX 317 63-27
LEESBURG, FLORIDA 32748 631

Exchange Bank & Trust Company of Florida
Tampa, Florida 33601

October 29 19 82

PAY Exactly $5,100 00/100 DOLLARS $5,100.00

TO THE ORDER OF Florida Department of
Environmental Regulations
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301
Attn: Clair Fancy

FLORIDA CRUSHED STONE CO.

"000221" 1:063100277: 00860560 01"

DETACH AND RETAIN THIS STATEMENT
THE ATTACHED CHECK IS IN PAYMENT OF ITEMS DESCRIBED BELOW.
IF NOT CORRECT PLEASE NOTIFY US PROMPTLY. NO RECEIPT DESIRED.

FLORIDA CRUSHED STONE CO.

DATE	DESCRIPTION	AMOUNT
	Cement Plant Construction Permits	520238

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

October 29, 1982

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Richard C. Entorf
Senior Vice President
Florida Crushed Stone Company
Post Office Box 317
Leesburg, Florida 32748

Dear Mr. Entorf:

RE: Florida Crushed Stone Company, Cement/Power Plant Applications, Hernando County

The subject applications for construction were received by the Florida Department of Environmental Regulation on September 30, 1982. Since then, you enlarged the size of the power plant and submitted an application for Power Plant Site Certification to FDER on October 18, 1982.

Based on the major changes in your power plant project, it has been determined that we have to know the effects of these changes on each of the subject applications before we can review the applications in detail.

Please submit the $5,100 application fee for the cement plant complex, the itemized cost on each source is as follows:

Permit No.	Source Type	Cost
AC 27-61016	Cement Kiln	$1,000
"	Clinker Cooler	250
"	Dryer	750
"	Raw Mill	100
AC 27-61009	Clay Crusher	100
AC 27-61010	Limestone Conveyor	100
AC 27-61012	Pre Mix Bin	100
AC 27-61013	Fly Ash Bin	100
AC 27-61017	Raw Meal Transfer	100
AC 27-61019	Limestone Transfer	100
AC 27-61020	Blending Silo	100
AC 27-61021	Kiln Feed	100

Permit No.	Source Type	Cost
AC 27-61026	Raw Coal Bin	$ 100
AC 27-61027	Cooler Discharge	100
AC 27-61029	Gypsum Storage Silo	100
AC 27-61030	Clinker Silo (L-12)	100
AC 27-61032	Clinker Silo (L-13)	100
AC 27-61033	Clinker Silo Discharge	100
AC 27-61034	Limestone Silo	100
AC 27-61036	Cement Silo	100
AC 27-61037	Finish Mill	100
AC 27-61038	Cement Silo (Q-08)	100
"	"	100
"	"	100
"	"	100
AC 27-61040	Cement Silo (Q-09)	100
"	"	100
"	"	100
"	"	100
"	"	100
AC 27-61041	Masonry Silo	100
"	"	100
"	"	100
AC 27-61042	Packing Plant	100

The total cost of the application fees was originally $6,200. After dropping $1,100 for the power plant and raw coal bin, the fee now is $5,100.

As soon as these two items of incompleteness are cleared up, we will proceed with the processing of your applications. If you have any questions, please call Bill Thomas at (904) 488-1344.

Sincerely,

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/pa

cc: John Koogler, Sholtes & Koogler
Hamilton S. Oven, DER, Power Plant Siting
Dan Williams, DER Southwest District Office

P16 7682432

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO
Richard C. Entorf
STREET AND NO.
P. O. Box 317
P.O., STATE AND ZIP CODE
Leesburg, FL 32748

POSTAGE		$
CONSULT POSTMASTER FOR FEES — CERTIFIED FEE		¢
OPTIONAL SERVICES — SPECIAL DELIVERY		¢
OPTIONAL SERVICES — RESTRICTED DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢
TOTAL POSTAGE AND FEES		$

POSTMARK OR DATE

10/29/82

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

SENDER: Complete items 1, 2, and 3.
Add your address in the "RETURN TO" space on reverse.

1. The following service is requested (check one.)
- [X] Show to whom and date delivered..... ¢
- [ ] Show to whom, date and address of delivery.... ¢
- [ ] RESTRICTED DELIVERY
  Show to whom and date delivered..... ¢
- [ ] RESTRICTED DELIVERY.
  Show to whom, date, and address of delivery.$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
Mr. Richard C. Entorf
P. O. Box 317
Leesburg, FL 32748

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	7682432	

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐Addressee ☐Authorized agent

4. DATE OF DELIVERY — POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: — CLERK'S INITIALS

LEESBURG FL 1982

☆GPO : 1979-300-469