



KOUGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 521-05-11
July 27, 2006

Via Email and UPS Overnight

Ms. Cindy Mulkey
FDEP
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

JUL 28 2006

BUREAU OF AIR REGULATION

RE: *Cemex Cement, Inc.*
Brooksville Cement Plant
FDEP File 0530010-022-AC
Comments on Draft Permit

Dear Cindy:

Following are comments on the above captioned Draft Air Construction Permit issued to Cemex Cement, Inc. (Cemex). The permit authorizes Cemex to install a tire feed system on Kiln No. 2 at their Brooksville Cement Plant and to conduct temporary testing to establish site specific emission characteristics for Kiln No. 2 while burning Whole Tire Derived Fuel. The draft permit was issued on July 14, 2006. These comments are provided for the Department's review within the 14 day comment period established by Rule.

The following comments are referenced by Permit Condition number and/or page number of the draft permit.

Cover Page – expiration date.

Comment: The expiration date shown in the draft permit is May 1, 2007. Cemex estimates that it will require approximately seven months to get funding for the project, order the equipment for the tire feed system and install the equipment on Kiln No. 2. Beyond that, there should be an allowance of approximately a month for equipment shake down; approximately two months for CEMs certification, baseline emission testing and the development of baseline emission data; approximately three months for the trial burn period (see following comment) and two months as a contingency. This places the time of completion of the test period around November 1, 2007. For purposes of permit expiration, we are requesting a permit expiration date of December 31, 2007.

Section IV.A, Condition No. 4 (page 8 of 11)

Comment: Condition No. 4 specifies that the tire derived fuel test period shall end no later than March 1, 2007. In view of the schedule outlined in the preceding comment, we are requesting that this condition be amended to state that the test period shall end no later than December 31, 2007.

Also in this condition, and in Condition No. 1 of this same section, the permit states that the trial burn period for Whole Tire Derived Fuel shall be 60 consecutive calendar days in duration. We are requesting that Cemex be authorized to burn Whole Tire Derived Fuel in Kiln No. 2 for 90 operating days.

The 90 operating day trial burn period will give Cemex the time to balance the kiln while firing Whole Tire Derived Fuel and to develop a representative record of emission data. Furthermore, by defining the trial burn period in terms of operating days, Cemex will have the flexibility to work around unscheduled kiln outages.

Section III, Condition No. 2 (page 6 of 11)

Comment: This condition requires that the CO and NO_x CEMS data be reported as one-hour averages in the units of pounds per ton of dry kiln feed, pounds per ton of clinker produced, pounds per hour, and ppmvd corrected to 15 percent oxygen. Cemex has no concern regarding the reporting of emissions in the units of pounds per ton of kiln feed, pounds per ton of clinker, and pounds per hour. And, the company has no concern with reporting the concentrations of CO and NO_x (ppmvd) but sees no reason for correcting the concentration data to 15 percent oxygen. There are no permit conditions, regulatory standards or Department rules that require such a correction. Cemex, therefore, requests that the requirement to correct the CO and NO_x concentration data to 15 percent oxygen be deleted from the permit.

Section IV.A., Condition No. 9 (page 9 of 11)

Comment: This condition establishes requirements for the baseline emission tests and includes the note that these emission tests can be used to satisfy the annual compliance testing requirement of the facility Title V Air Operating Permit. The baseline emission

Ms. Cindy Mulkey
July 27, 2006

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testing is for CO, NO_x, VOC, PM/PM₁₀, visible emissions and D/F (the latter with the raw mill operating and with the raw mill off).

Cemex has the annual compliance testing for Kiln No. 2 (and Kiln No. 1) scheduled for the week of September 11, 2006. This compliance testing will include all the emission testing required by Condition No. 9, except for the D/F testing. Cemex would like the option of using the scheduled September 2006 compliance test data as the baseline data for Kiln No. 2. Regarding the baseline D/F testing, Cemex is planning D/F testing on Kiln No. 2 with the raw mill not operating later in 2006 and conducted D/F testing on Kiln No. 2 to reset the 30-month clock for tests with the raw mill operating in January 2006. Cemex would like the option of using these two D/F emission tests as baseline tests for the purposes of this permit condition.

Section IV.A., Condition No. 11 (page 10 or 11)

Comment: This condition requires that VOC emission data be expressed in several units including concentration (ppmvd) corrected to seven percent oxygen. There is no permit condition, regulatory requirement or Department rule that requires correcting VOC concentration data to seven percent oxygen. Cemex requests that the requirement to correct VOC concentration data to seven percent oxygen be deleted from the permit.

❖ ❖ ❖



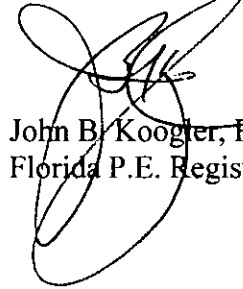
Ms. Cindy Mulkey
July 27, 2006

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This concludes our comments on a well written permit. We appreciate the effort that you and others put into the development of this permit. If there are any questions or comments regarding the comments we have provided herein, please do not hesitate to contact me at 352-377-5822 or jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES



John B. Koogler, Ph.D., P.E.
Florida P.E. Registration No. 12925

JBK/lt

cc: Trina Vielhauer
Al Linero
Leslie White, Esq., Cemex
Dan Merz, Cemex
Lillian Deprimo, Cemex
Jeet Gill, Cemex
Mike Gonzales, Cemex
Charlie Walz, Cemex
Segundo Fernandez
Tim Atkinson





KOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ■ FAX/377-7158

KA 521-05-11
June 27, 2006

Via Email and USPS

Ms. Trina Vielhauer
FDEP-Division of Air Resources Mgmt.
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

JUL 03 2006

BUREAU OF AIR REGULATION

RE: *Cemex, Inc.*
Brooksville Cement Plant
FDEP File No. 0530010-022-AC
Letter Amendment to Permit Application

Dear Trina:

This letter supersedes my letter of May 1, 2006 addressed to you and Al Linero and confirms information regarding the above-captioned Air Construction Permit file that we discussed during our meeting with you and your staff in your office on June 19, 2006. The above-captioned file addresses a trial period that Cemex had requested to evaluate the efficacy of burning petroleum coke (pet coke) in Kiln No. 1 and Kiln No. 2 at their Brooksville Cement Plant and also the efficacy of burning Tire Derived Fuel as a fuel supplement in Kiln No. 2. The use of Tire Derived Fuel is already permitted for Kiln No. 1.

During our meeting, Cemex explained that based on information developed at other plants, they would be unable to effectively burn pet coke at the Brooksville Cement Plant with the existing kiln burners and coal mills. Because of this finding, Cemex is requesting by this letter, that the use of pet coke in the trial addressed in the above-captioned Air Construction Permit application be withdrawn. Cemex is requesting, however, that the Department continue the processing of the above-captioned application for the trial period to evaluate use of Whole Tire Derived Fuel as a fuel supplement in Kiln No. 2.

Ms. Trina Vielhauer
June 27, 2006

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The request to withdraw the use of pet coke from the above-captioned application does not affect the information contained in the original application (dated December 12, 2005) related to the use of Whole Tire Derived Fuel nor does it affect the information related to the use of Whole Tire Derived Fuel contained in our response to a Request for Additional Information (RAI) dated April 14, 2006.

Regarding matters related to the above-captioned permit application are matters addressed in an Air Construction permit application submitted to the Department on October 14, 2005 and assigned FDEP File No. 0530010-018-AC/PSD-FL-362. This application included the following projects:

- (1) The installation of SNCR nozzles in the Kiln No. 1 and Kiln No. 2 systems,
- (2) The replacement of kiln burners in Kiln No. 1 and Kiln No. 2,
- (3) The use of pet coke on a continuing basis in Kiln No. 1 and Kiln No. 2, and
- (4) The use of Whole Tire Derived Fuel on a continuing basis in Kiln No. 2.

Based on discussions between the Department and Cemex subsequent to the submittal of this application, Cemex submitted the Air Construction Permit application assigned File No. 0530010-022-AC. This application requested a trial period for the burning of pet coke and tire derived fuel. The purpose of the trial period is to generate data that can be used to support the projects requested in Application 0530010-018-AC. While not the immediate subject of this letter, the request to burn pet coke on a continuing basis will also be withdrawn from Application 0530010-018-AC and submitted at a later date in an entirely new Air Construction Permit Application.

Regarding the two Air Construction Permit Applications addressed herein, Cemex requests and/or understands the following:

- The application in File 0530010-022-AC, requesting authorization to use Whole Tire Derived Fuel on a trial basis in Kiln No. 2, will continue to be processed by



the Department. The request to use pet coke on a trial basis in Kiln No. 1 and Kiln No. 2 is withdrawn from this application by this letter.

- The permit issued following the completion of review of File 0530010-022-AC will recognize the installation and use of the SNCR nozzles in Kiln No. 1 and Kiln No. 2 and the installation and use of the kiln burners in Kiln No. 1 and Kiln No. 2. This recognition will eventually be superseded by conditions of the permit issued under File 0530010-018-AC.
- The processing of Application 0530010-018-AC will be placed on hold until data generated under Permit 0530010-022-AC have been generated and submitted to the Department. These data may require amendments to the application in File 0530010-018-AC; possibly subjecting other pollutants to a PSD Review or conversely, eliminating the necessity of a PSD Review entirely. When finally processed, the permit issued under this file will authorize the use on a continuing basis of the SNCR nozzles on Kiln No. 1 and Kiln No. 2, the kiln burners on Kiln No. 1 and Kiln No. 2 and Whole Tire Derived Fuel as a supplemental fuel in Kiln No. 2. The permit will also address other incidental items included in the original application or items that may have surfaced during the review of the application.
- There is a RAI from the Department related to File 0530010-018-AC dated March 31, 2006 that is outstanding. While this RAI does not specifically impact the primary request of this letter, a response will be prepared and submitted to the Department in a timely manner.

We appreciate the time that you and your staff have expended on the projects addressed herein and I hope that the information that I've provided and the understandings that I've expressed are consistent with the requests/understandings of the

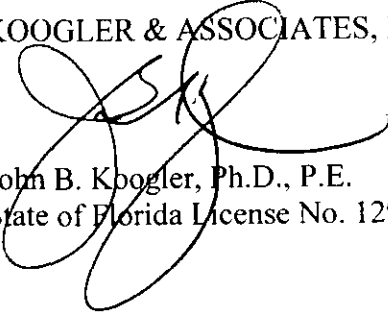
Ms. Trina Vielhauer
June 27, 2006

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Department. If there are any inconsistencies between what I've represented and the intentions of the Department or if there are questions regarding factual information I've provided, please contact me at 352-377-5822 or jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES, INC.


John B. Koogler, Ph.D., P.E.
State of Florida License No. 12925

JBK/lt

cc: Ms. Cindy Mulkey
Mr. Al Linero
Mr. Jeet Gill
Mr. Mike Gonzales
Mr. Charlie Walz



Candy M_o
7/17

DEP ROUTING AND TRANSMITTAL SLIP	
TO: (NAME, OFFICE, LOCATION)	
1. <i>Trina Vielhauer</i>	3. _____
2. <i>DARM/BAR</i>	4. _____
	5. _____
PLEASE PREPARE REPLY FOR:	COMMENTS:
<input type="checkbox"/> SECRETARY'S SIGNATURE	<i>RE: CEMEX Consent Order Submittal</i>
<input type="checkbox"/> DIV/DIST DIR SIGNATURE	
<input type="checkbox"/> MY SIGNATURE	
<input type="checkbox"/> YOUR SIGNATURE	
<input type="checkbox"/> DUE DATE _____	
ACTION/DISPOSITION	
<input type="checkbox"/> DISCUSS WITH ME	
<input type="checkbox"/> COMMENTS/ADVISE	
<input type="checkbox"/> REVIEW AND RETURN	
<input type="checkbox"/> SET UP MEETING	
<input checked="" type="checkbox"/> FOR YOUR INFORMATION	
<input type="checkbox"/> HANDLE APPROPRIATELY	
<input type="checkbox"/> INITIAL AND FORWARD	
<input type="checkbox"/> SHARE WITH STAFF	
<input checked="" type="checkbox"/> FOR YOUR FILES	
FROM: <i>Mara Nasca</i>	DATE: <i>7/18/06</i> PHONE: _____



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

KA 521-06-02
July 13, 2006

RECEIVED

JUL 21 2006

Via UPS Ground
BUREAU OF AIR REGULATION

DARM/BAR copy

Ms. Mara G. Nasca, Administrator of Air Programs
FDEP SW District Office
13051 N Telecom Pkwy
Temple Terrace, FL 33637-0926

**Dept. of Environmental
Protection**

JUL 14 2006

RE: *Cemex Cement, Inc.*
OGC File No. 05-2192

Southwest District

Dear Ms. Nasca:

In accordance with requirements of the Consent Order issued pursuant to the above captioned OGC file, Cemex Cement, Inc. (Cemex) is providing herewith four (4) copies of the information required by Paragraph 22 of the Consent Order. The information herein relates to the No. 1 and No. 2 Kiln/Raw Mill systems at the Cemex Brooksville, Florida Cement Plant.

In summary, the information provided herein documents the procedures Cemex employs to cool the preheater gases bypassing the No. 1 and No. 2 Raw Mills. The information includes procedures followed by Cemex personnel for positioning dampers in the ductwork surrounding the No. 1 and No. 2 Raw Mills, documentation of the parameters monitored during the operations of the No. 1 and No. 2 Kiln Systems and drawings, diagrams, and photographs showing the ductwork and dampers associated with the No. 1 and No. 2 Raw Mills.

Ms. Mara G. Nasca
July 13, 2006

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If there are questions regarding any of the information provided herein or if additional information is required, please do not hesitate to contact me at 352-377-5822 or jkoogler@kooglerassociates.com.

Very truly yours,

KOOGLER & ASSOCIATES


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

JBK/lt

Attachments

cc: Trina Vielhauer
Leslie White, Esq., Cemex
Dan Merz, Cemex
Lillian Deprimo, Cemex
Jeet Gill, Cemex
Mike Gonzales, Cemex
Charlie Walz, Cemex
Segundo Fernandez
Tim Atkinson





July 14, 2006

Via FedEx – Overnight Delivery

Dept. of Environmental
Protection

JUL 17 2006

Ms. Mara G. Nasca, Administrator of Air Programs
FDEP SW District Office
13051 N Telecom Pkwy
Temple Terrace, FL 33637-0926

Southwest District

**RE: Cemex Cement, Inc.
OGC File No. 05-2192**

Dear Mara:

As discussed in our telephone conversation of this date, I am enclosing four (4) copies of the Responsible Official Certification supporting the submittal of documents made under cover of a July 13, 2006 letter to you from John B. Koogler.

If you have any questions or if additional information is required, please do not hesitate to contact me at 713-722-5962 or daniell.merz@cemexusa.com.

Very truly yours,

Daniel L. Merz
Vice President
Environmental Affairs

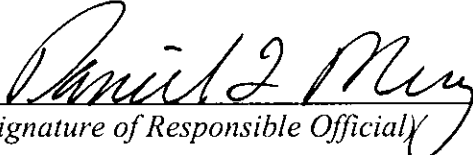
Enclosure(s)

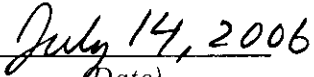
United States Operations

840 Gessner, Suite 1400, Houston, Texas 77024, USA. Phone: (713) 650-6200

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am a responsible official of Cemex Cement, Inc. I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in the documents submitted under cover a July 13, 2006 letter to Ms. Mara G. Nasca from John B. Koogler, in accordance with the Consent Order issued pursuant to OGC File No. 05-2192 are true, accurate, and complete.


(Signature of Responsible Official)


(Date)

Name: Daniel L. Merz

Title: Vice President, Environmental Affairs

**Dept. of Environmental
Protection**

JUL 17 2006

Southwest District

**INFORMATION REQUIRED BY PARAGRAPH 22 OF THE CONSENT ORDER
IN OGC FILE NO. 05-2192**

22.b. Detailed information on cooling techniques used to minimize exhaust gas cooling time and residence time in the D/F formation zone.

Response

CEMEX controls the formation of D/F using two fresh air dampers designated 323E and 323N on the No. 1 Kiln and two fresh air dampers designated as 2323A and 2323 for the No. 2 Kiln. These dampers draw ambient cooling air into the bypass ducts located in the respective raw mill buildings.

When a raw mill is shut down the control room operators will initiate the Control Operating Procedures (see Attachment A) that are posted in the Control Room. These procedures consist of a series of damper changes in each raw mill duct system that have been established to achieve the bypass cooling of the preheater gases thus preventing the formation of D/F. The two fresh air dampers, 323E (No. 1 Raw Mill) and 2323A (No. 2 Raw Mill), are totally closed when the raw mills are operating and 100 percent open when the raw mills are shut down. The two fresh air dampers, 323N (No. 1 Raw Mill) and 2323 (No. 2 Raw Mill), modulate to control the inlet temperatures into the main kiln raw mill baghouse on each side in the raw mill up and raw mill down operating modes.

Each baghouse inlet temperature has a controlling set point that is used to regulate the automatic damper actuators to open or close Dampers 323N and 2323 so that each temperature set point is automatically maintained. The damper positions of these four dampers are currently being recorded and archived.

To achieve bypass cooling on the No. 1 Raw Mill (Raw Mill DOWN), dampers 317, 318, 320, 321 and 322 must all be closed and damper 319 is fully open. On the No. 2 side (Raw Mill DOWN), dampers 2317, 2318, 2320, 2321 and 2322 are all closed and damper 2319 is fully opened.

22.b.(i) Temperature readings from temperature probe locations currently located in the raw mill bypass ducts.

Response

The only temperature probes located in the raw mill bypass ducts are the thermocouples located in the inlet ducting of both kiln/mill baghouses as required by the MACT regulations (See Attachment B). Each location contains two permanently mounted thermocouples. Only temperature readings from one of these thermocouples on each side is recorded and archived in a computer. The other thermocouple serves as a back up in case the other fails.

22.b.(ii) Detailed engineering drawings of the ductwork and damper locations.

Response

See Attachment B.

22.b.(iii) Process flow diagrams.

Response

Included in Attachment C are Process Flow Diagrams for the Raw Mill No. 1 up and down operating modes and similar Process Flow Diagrams for Raw Mill No. 2.

22.b.(iv) Photographs of the current raw mill bypass exhaust gas cooling systems.

Response

See Attachment D.

22.c.(i) Detailed information on control room parameters, including damper positions and for adjustable dampers, tracking the size of damper opening(s).

Response

Refer to Response 22.b. and Attachments A and C. The degree of opening (0-100 percent) for modulating dampers 323N (Raw Mill No. 1) and 2323 (Raw Mill No. 2) are recorded and archived in the Control Room. The other dampers are open/closed dampers and the positions of these dampers are indicated in the Control Room, but not recorded and archived.

22.c.(ii) Records of air flows.

Response

No air flow measurements are made in the bypass ducting of either raw mill.

22.c.(iii) Records of temperature readings in the raw mill bypass ducts.

Response

Refer to Response 22.b.(i). No temperature measurements are made in the ducting at either Raw Mill No. 1 or No. 2. The only temperatures monitored and archived are those at the inlets of the No. 1 and No. 2 Kiln/Raw Mill baghouses.

22.c.(iv) Other similar data collected when transitioning to, and operating in, the “raw mill off” and “raw mill on” modes, and in the “SNCR off” and “SNCR on” modes.

Response

The data recorded and archived, data indicated but not recorded and operating procedures related to the raw mills have been addressed in the preceding responses. These procedures are followed whether or not SNCR is employed. At the present time, SNCR is employed essentially 100 percent of the time on Kiln No. 1 and Kiln No. 2.

22.d. Cemex’s plan for monitoring and maintaining records of Control Room parameters.

Response

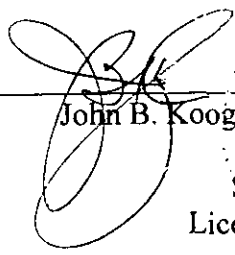
Cemex proposes to continue with the procedures detailed in the preceding responses to assure that D/F emissions will not exceed applicable limits.

PROFESSIONAL ENGINEER CERTIFICATION

Professional Engineer Name: John B. Koogler, Ph.D., P.E.
Florida P.E. Registration No.: 12925
Professional Engineer Mailing Address: Koogler & Associates, Inc.
4014 NW 13th Street
Gainesville, FL 32609-1923
Professional Engineer Telephone No.: 352.377.5822
Professional Engineer Email Address: jkoogler@kooglerassociates.com

Professional Engineer Certification:

I, the undersigned, hereby certify that the information provided herein has been prepared by me, prepared under my supervision or thoroughly reviewed by me. I further certify, based on information and belief formed after reasonable inquiry, that the information and statements provided herein are true, accurate, and complete. I further certify that, to the best of my knowledge, the information provided in Attachment A includes the procedures routinely used by Cemex Brooksville, Florida Cement Plant operators when transitioning from one raw mill operating mode to another; that the data monitoring, recording and/or archiving described herein are procedures routinely used by Cemex Brooksville, Florida Cement Plant operators; and that the engineering drawings, process flow diagrams and photographs reasonably represent the ductwork and damper locations associated with Raw Mill No. 1 and Raw Mill No. 2 located at the Cemex Brooksville, Florida Cement Plant.



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

State of Florida,
License No. 12925

7/13/2006

Date



Attachment A
Control Operating Procedures

CEMEX Brooksville Cement Plant

Control Operating Procedure for Kiln #1 when the Raw Mill is operating and when it goes down.

The Bag House Inlet temperature limit when the Raw Mill is operating is now 250 deg F.

The maximum kiln feed rate with the raw mill running is 151 tph.

The Bag House Inlet temperature limit when the Raw Mill is not operating is now 367 deg F.

The maximum kiln feed rate with the raw mill down is 124 tph.

The following steps must be followed whenever the No. 1 Raw Mill goes down in order to control dioxin/furan emissions. The bag house inlet temperature must stay below 367 deg F at all times after the mill is shut down. The order of the following steps may change due to varying operating conditions

Open the 319 damper

Fully close the 317 damper.

Open 323E damper 100%.

Shut down the raw mill fan when the temperature allows it and close the 318 dampers.

Fully close the 322 damper.

Fully close the 321 damper.

The 323N fresh air damper will modulate as required to maintain the bag house inlet temperature at less than 368 deg F. The max kiln feed rate of 124 tph cannot be exceeded while the mill is down

Close the 320 damper to fully isolate the mill.

The max kiln feed rate of 124 cannot be exceeded while the mill is down.

Adjust the main bag house fan damper as required to draft the system.

CEMEX Brooksville Cement Plant

Control Operating Procedure for Kiln #2 when the Raw Mill is operating and when it goes down.

The Bag House Inlet temperature limit when the Raw Mill is operating is now 250 deg F.

The maximum kiln feed rate with the raw mill running is 148 tph

The Bag House Inlet temperature limit when the Raw Mill is not operating is now 395 deg F.

The maximum kiln feed rate with the raw mill down is 133 tph.

The following steps must be followed whenever the No. 2 Raw Mill goes down in order to control dioxin/furan emissions. The bag house inlet temperature must stay below 395 deg F at all times after the mill is shut down. The order of the following steps may change due to varying operating conditions.

Open the 2319 damper.

Fully close the 2317 damper.

Open the 2323A damper 100 %

Shut down the raw mill fan when the temperature allows it and close the 2318 dampers.

Fully close the 2322 damper.

Fully close the 2321 damper.

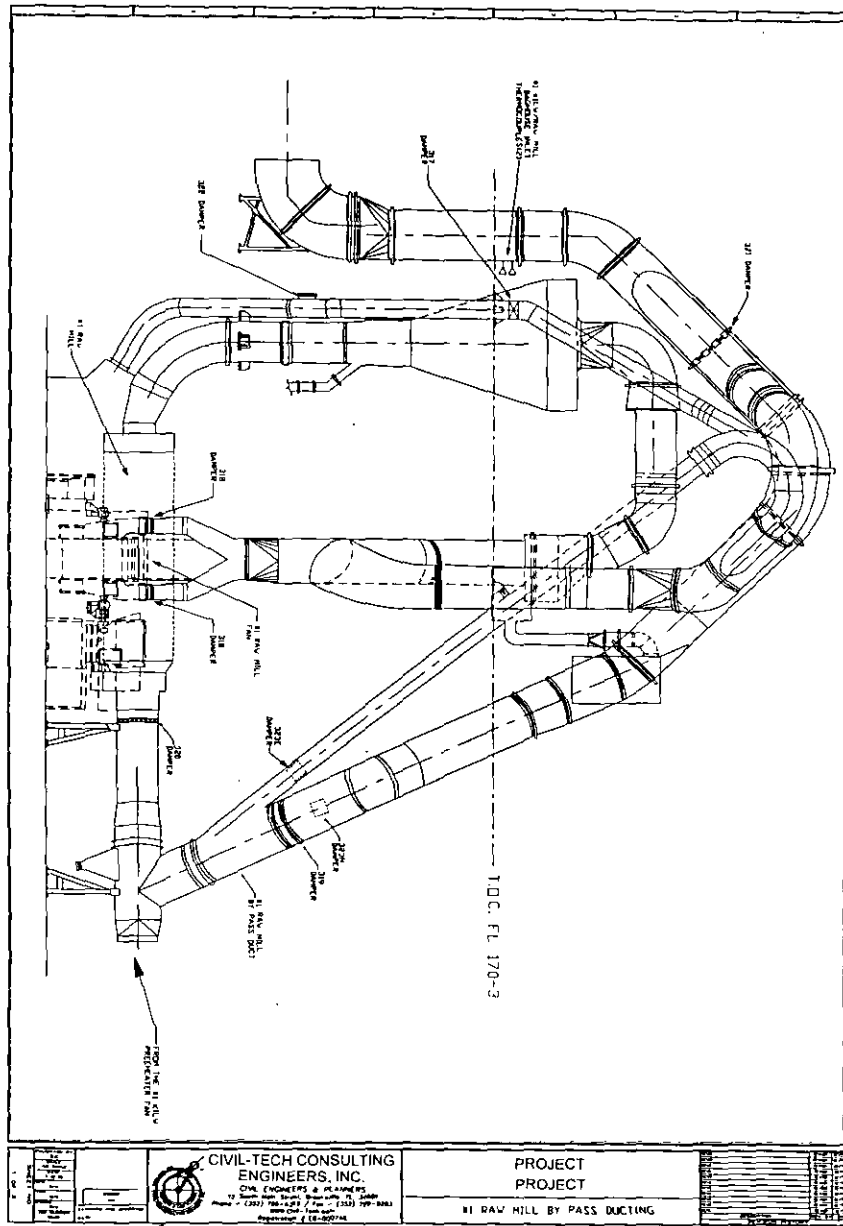
The 2323 fresh air damper will modulate as required to maintain the bag house inlet temperature at less than 395 deg F. The max kiln feed rate of 133 tph cannot be exceeded while the mill is down.

Close the 2320 damper to fully isolate the mill.

Adjust the main bag house fan damper as required to draft the system.

Attachment B
Engineering Drawings of Bypass Ductwork Showing Dampers





Dept. of Environmental
Protection

JUL 14 2006

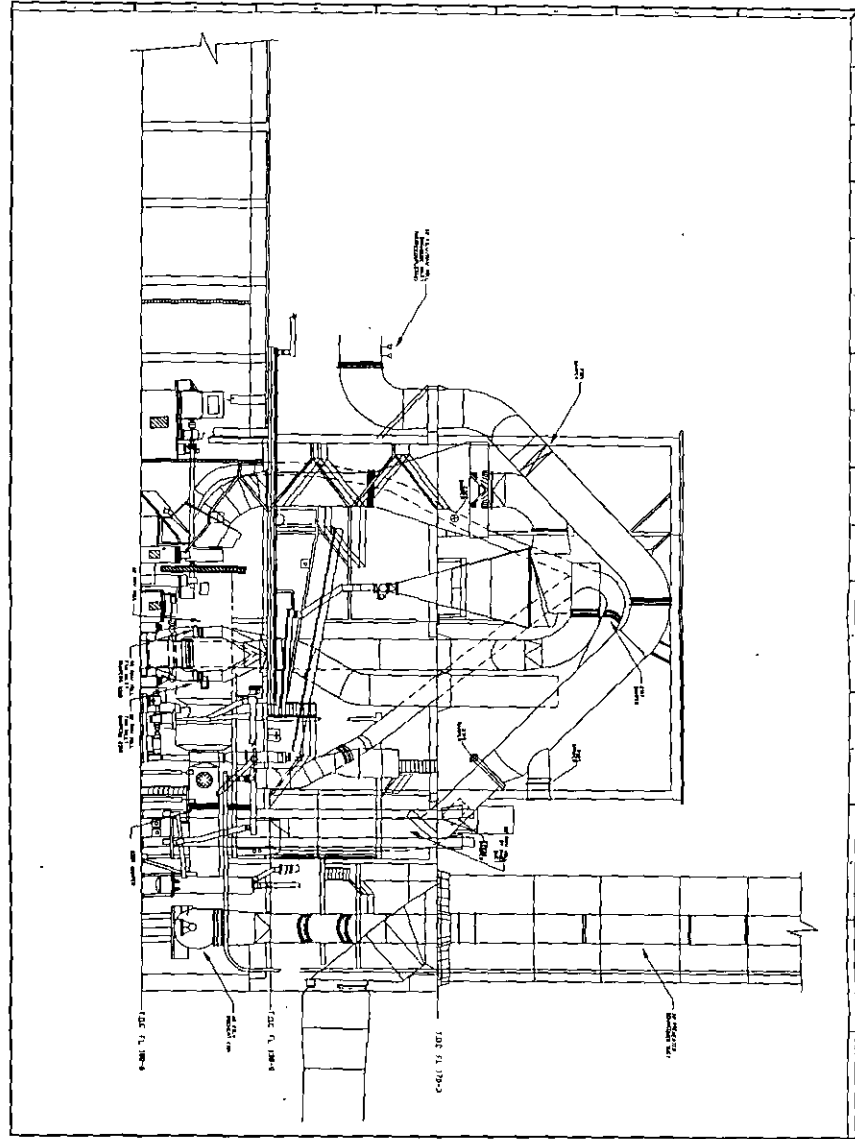
Southwest District

NO.	REV.	DATE	BY	CHKD.

**CIVIL-TECH CONSULTING
ENGINEERS, INC.**
CIVIL ENGINEERS & PLANNERS
10 South Main Street, Suite 200, St. Louis, MO 63102
Phone: (314) 241-2222 Fax: (314) 241-2222
www.civiltech.com
Registration # 18-000714

**PROJECT
PROJECT**
RE RAW HILL BY PASS DUCTING

DATE	BY	CHKD.



<p>REV. 1</p> <p>DATE</p> <p>DESCRIPTION</p>	<p>CIVIL-TECH CONSULTING ENGINEERS, INC.</p> <p>CIVIL ENGINEERS & PLANNERS</p> <p>17 South Main Street, Westborough, MA, U.S.A.</p> <p>Phone - (508) 733-8300 / Fax - (508) 733-8000</p> <p>www.civiltech.com</p> <p>Registration # 120-00070</p>	<p>PROJECT</p> <p>PROJECT</p> <p>#2 RAV HILL BY PASS DUCTING</p>	<p>DATE</p> <p>DESCRIPTION</p>
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This sheet shall not be used as a construction document unless otherwise approved by the engineer.

Attachment C
Process Flow Diagrams

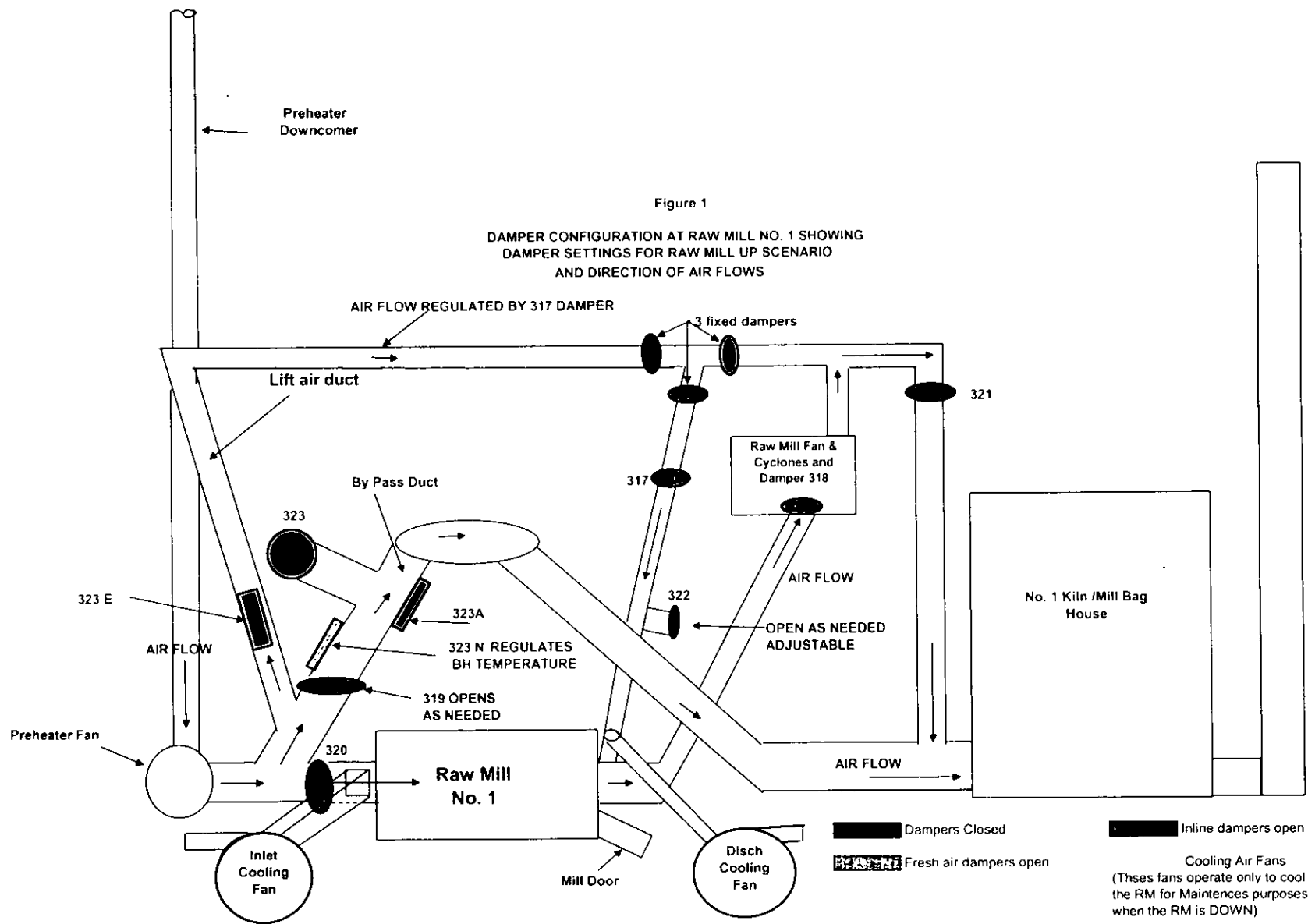


Figure 1

DAMPER CONFIGURATION AT RAW MILL NO. 1 SHOWING
 DAMPER SETTINGS FOR RAW MILL UP SCENARIO
 AND DIRECTION OF AIR FLOWS

AIR FLOW REGULATED BY 317 DAMPER

3 fixed dampers

Lift air duct

By Pass Duct

323

323 E

AIR FLOW

Preheater Fan

Inlet Cooling Fan

323A

323 N REGULATES
 BH TEMPERATURE

319 OPENS
 AS NEEDED

320

Raw Mill
 No. 1

Mill Door

317

Raw Mill Fan &
 Cyclones and
 Damper 318

AIR FLOW

OPEN AS NEEDED
 ADJUSTABLE

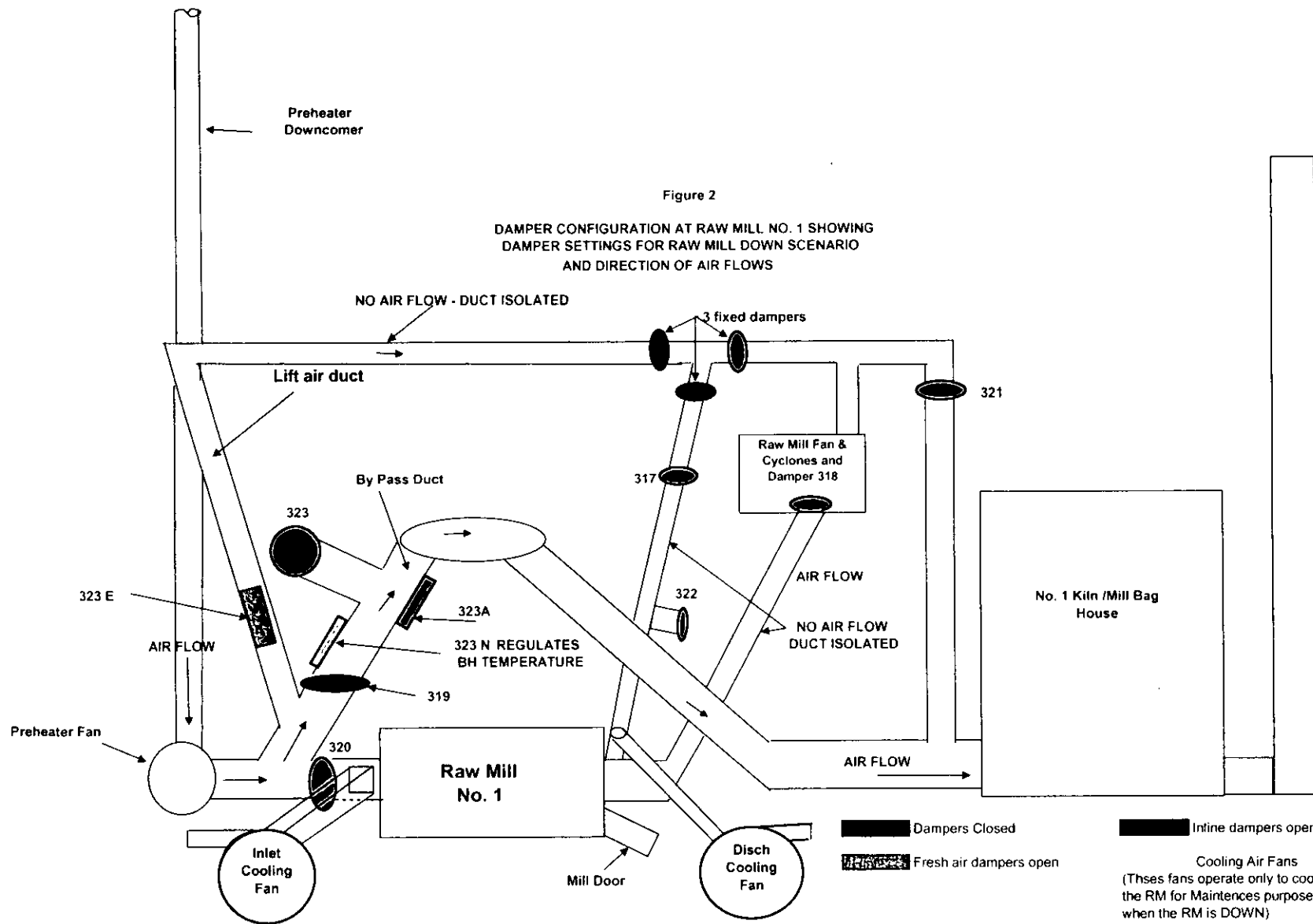
AIR FLOW

No. 1 Kiln / Mill Bag
 House

321

■ Dampers Closed
 ▨ Fresh air dampers open

■ Inline dampers open
 Cooling Air Fans
 (These fans operate only to cool
 the RM for Maintenances purposes
 when the RM is DOWN)



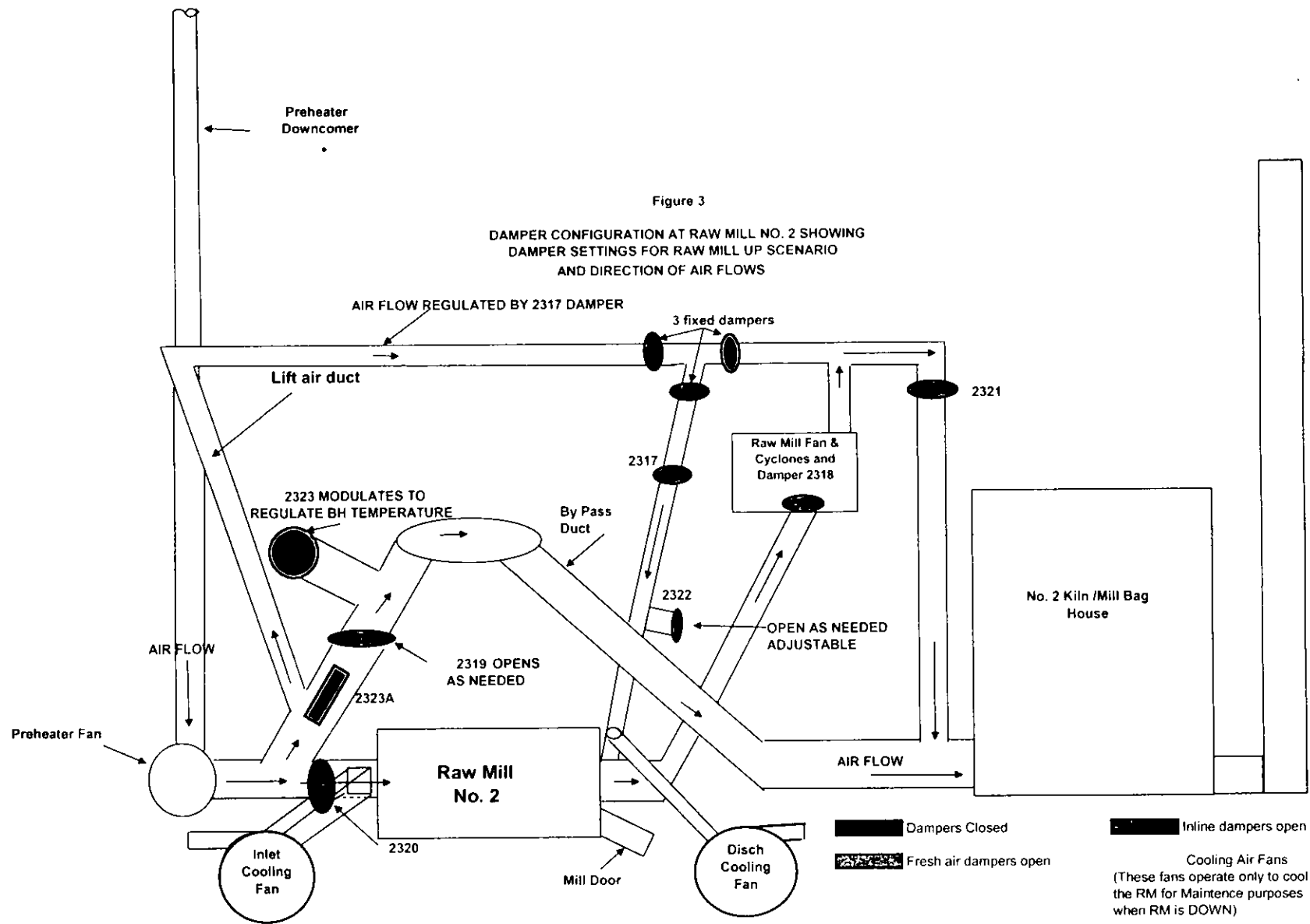
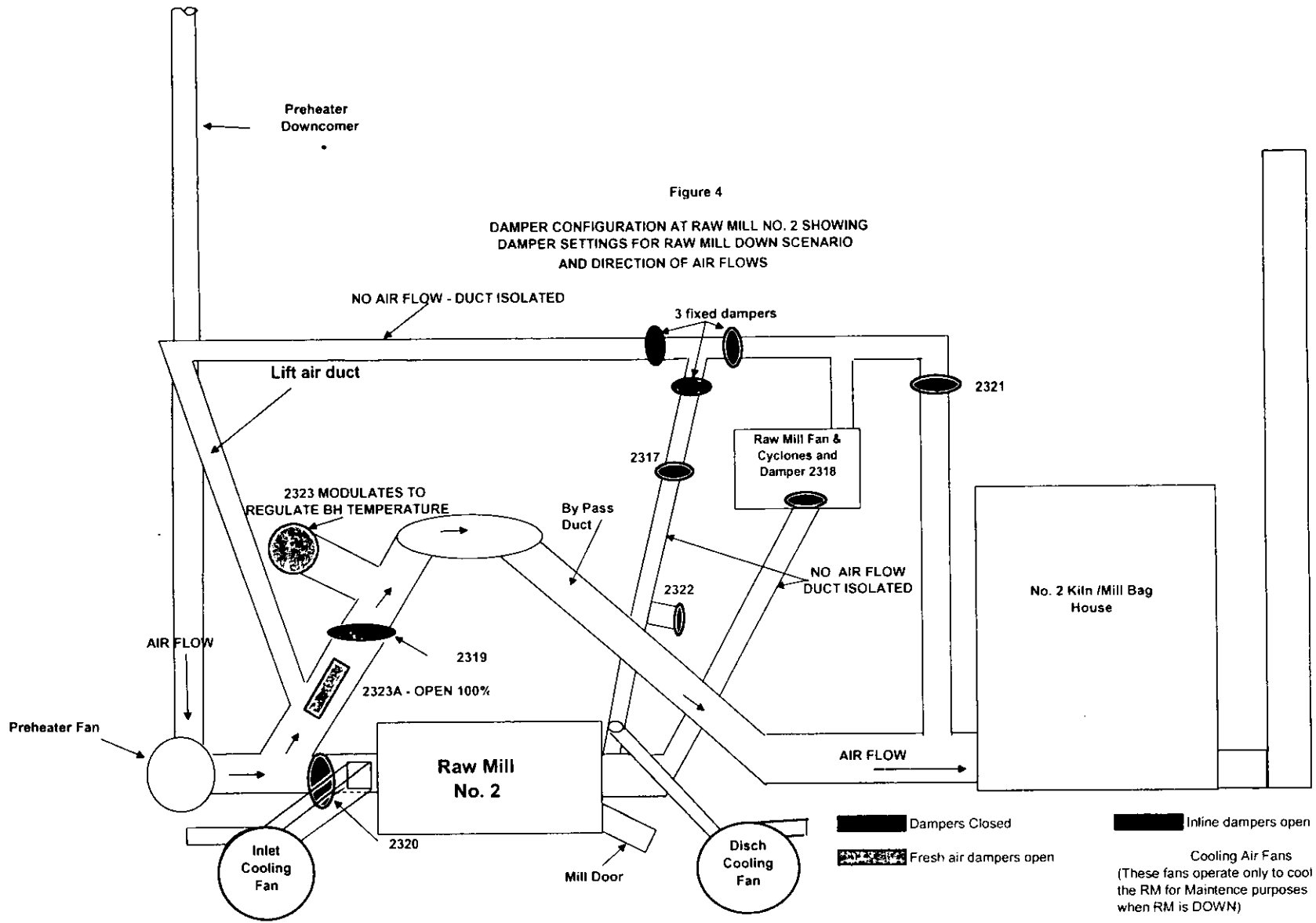


Figure 4

DAMPER CONFIGURATION AT RAW MILL NO. 2 SHOWING DAMPER SETTINGS FOR RAW MILL DOWN SCENARIO AND DIRECTION OF AIR FLOWS



Attachment D
Photographs of No. 1 and No. 2 Raw Mill Ducting

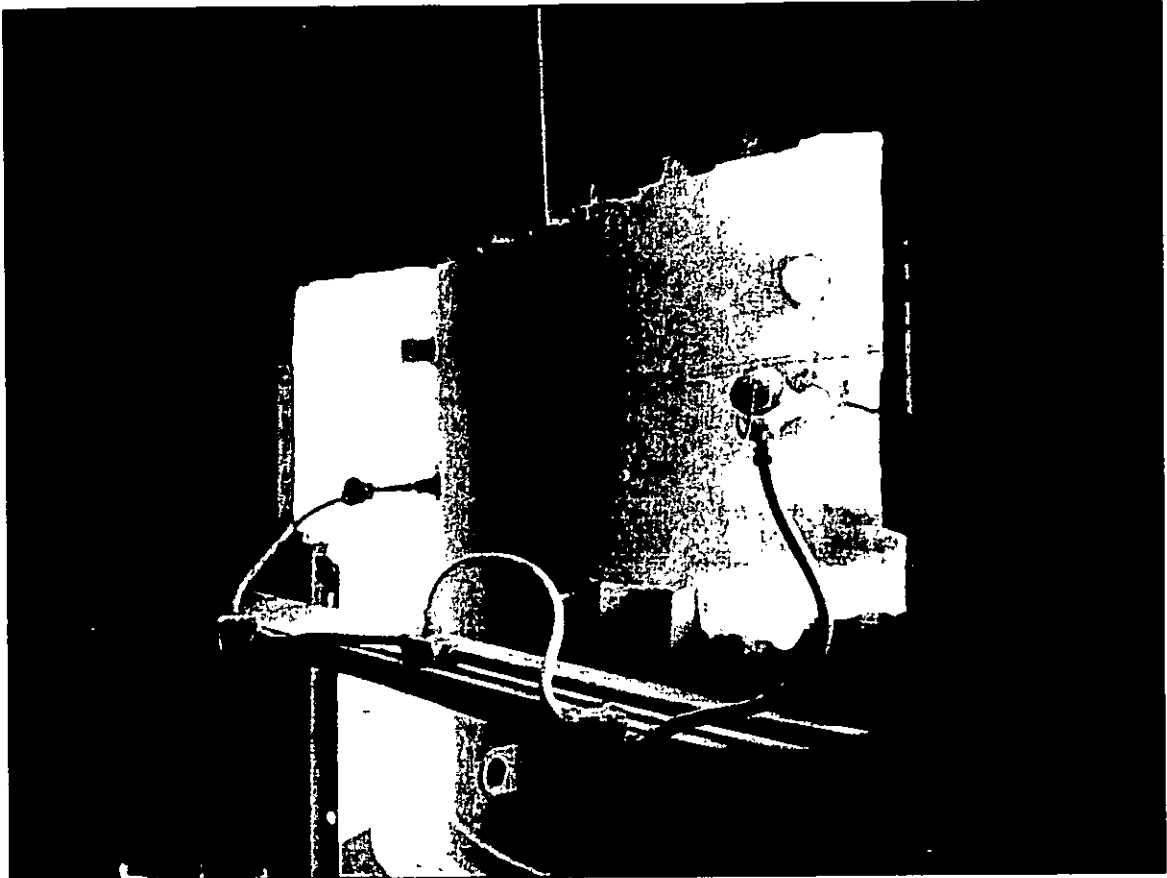


Figure 1: #1 Kiln—Raw Mill B H Inlet Thermocouples.



Figure 2: #1 Raw Mill by pass Ducting (1).

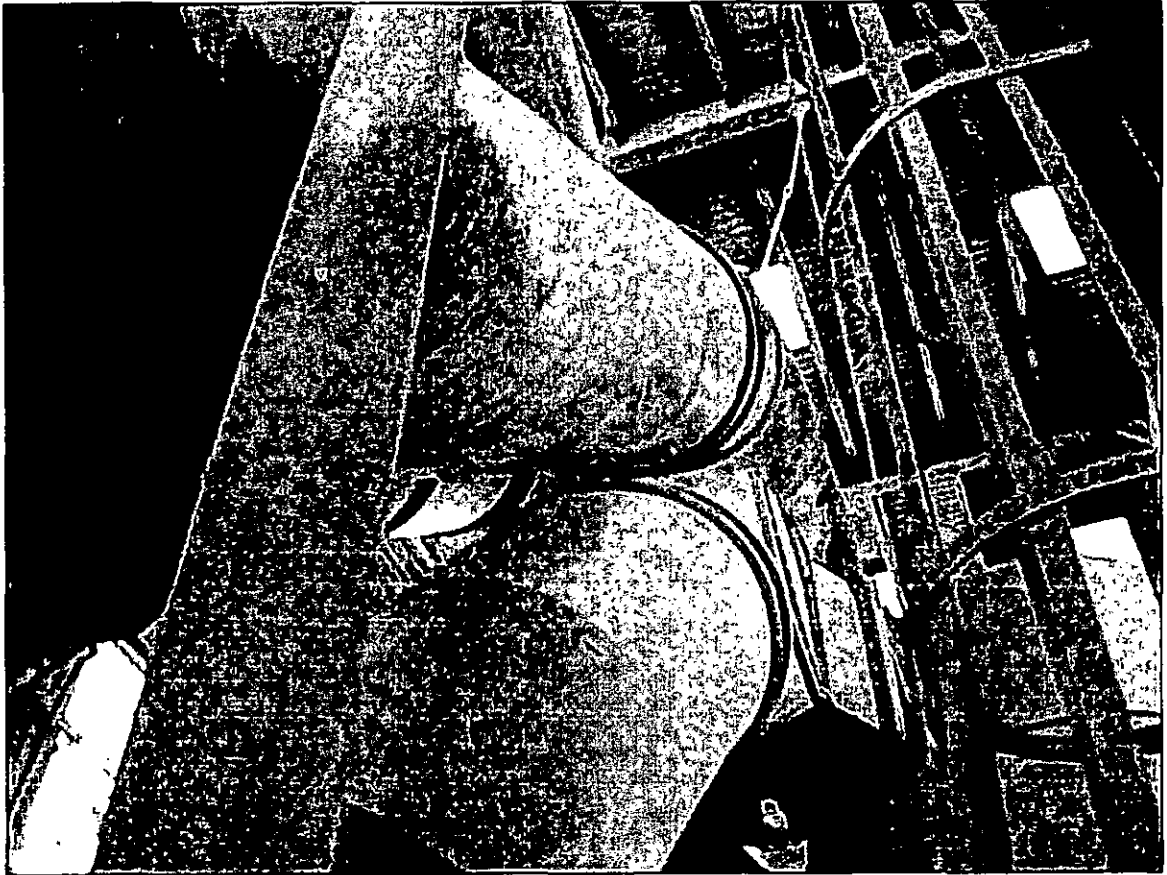


Figure 3: #1 Raw Mill by pass Ducting

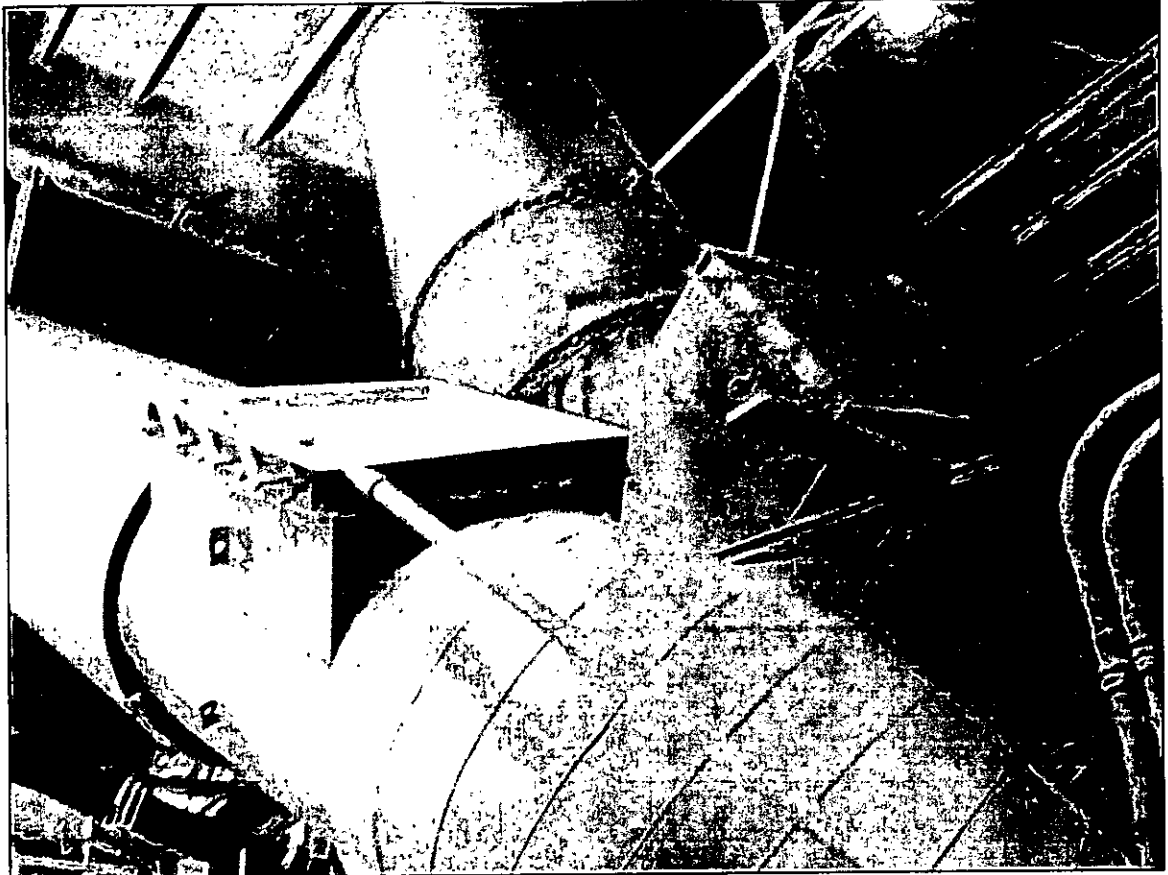


Figure 4: Raw Mill #1 Dampers 323E left side, 323 N rt side.



Figure 5: Old not used Raw Mill #1 323 Damper.

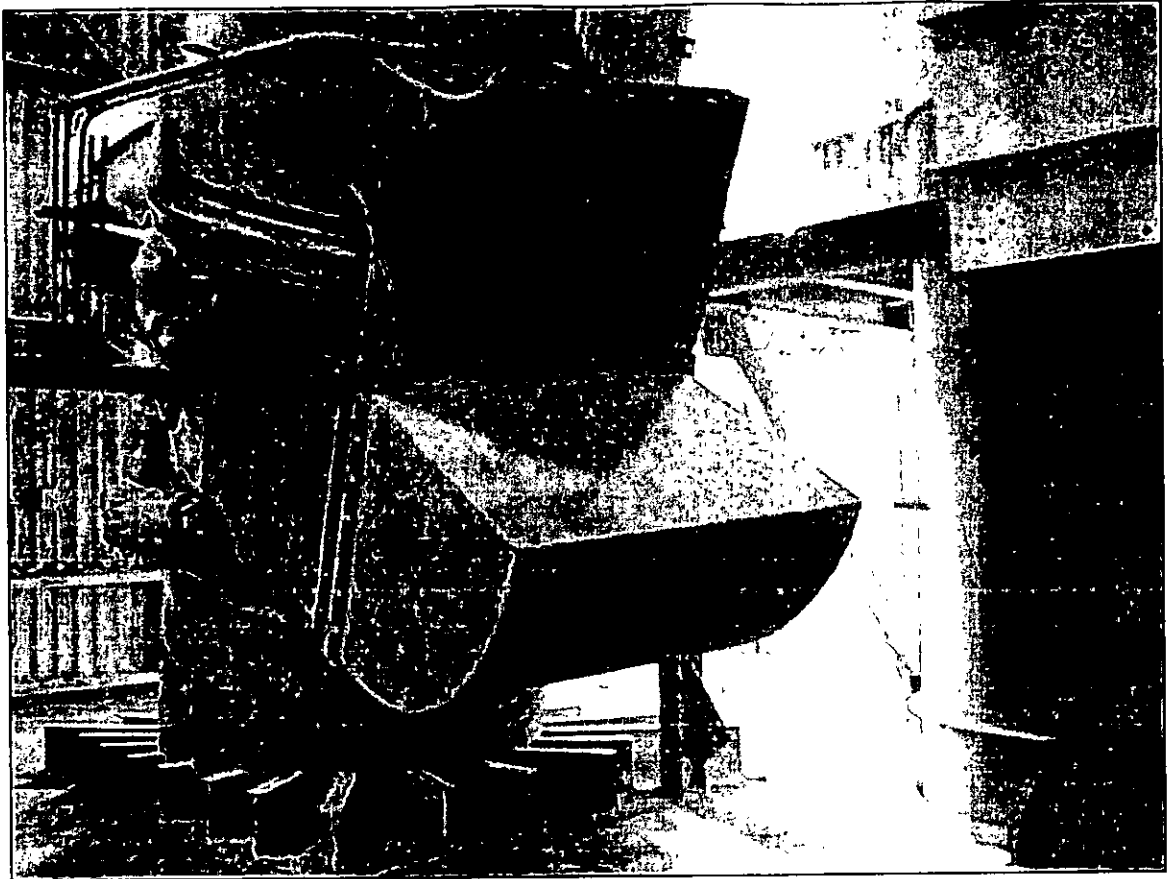


Figure 6: Old not used Raw Mill #1 323A Damper.

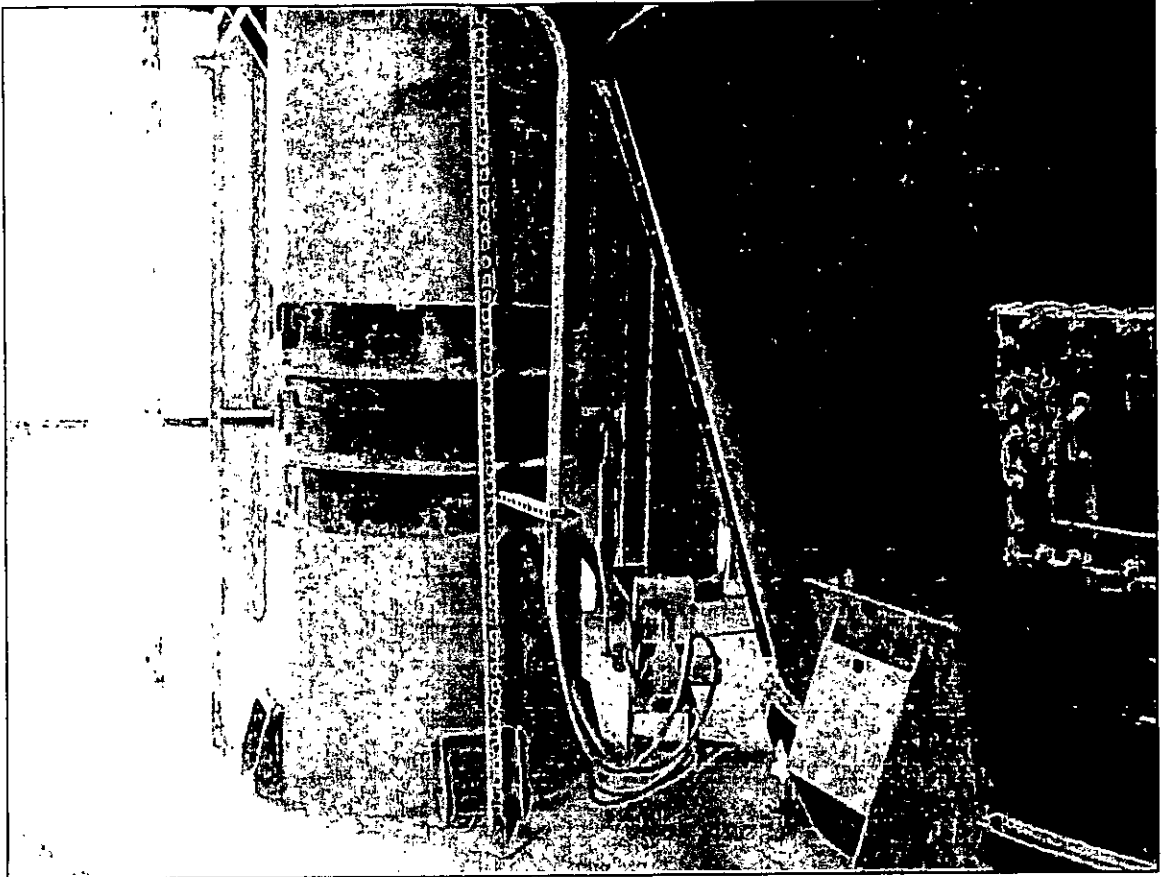


Figure 7: Raw Mill #1 317 Damper.

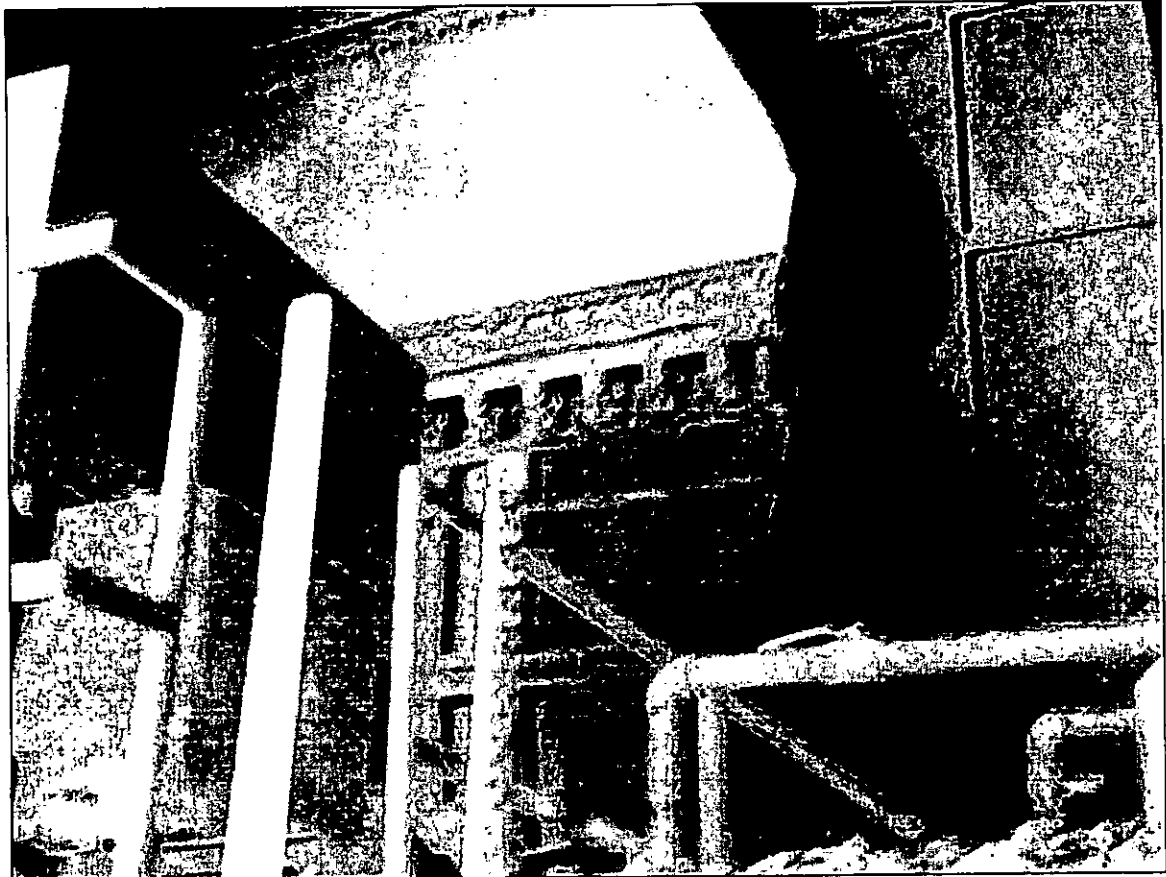


Figure 8: Raw Mill #1 318 Fan inlet Dampers.

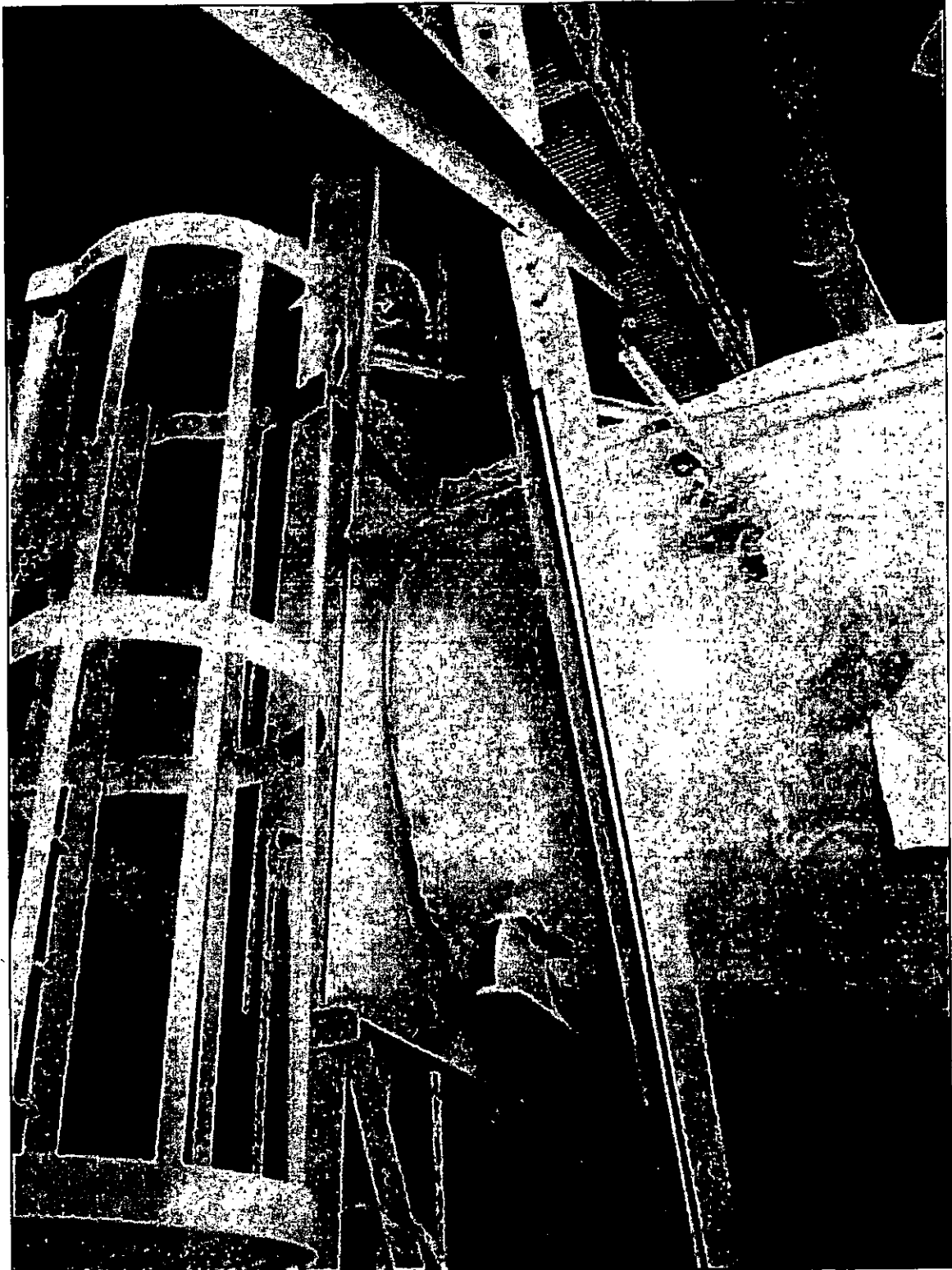


Figure 9: Raw Mill #1 320 Damper.

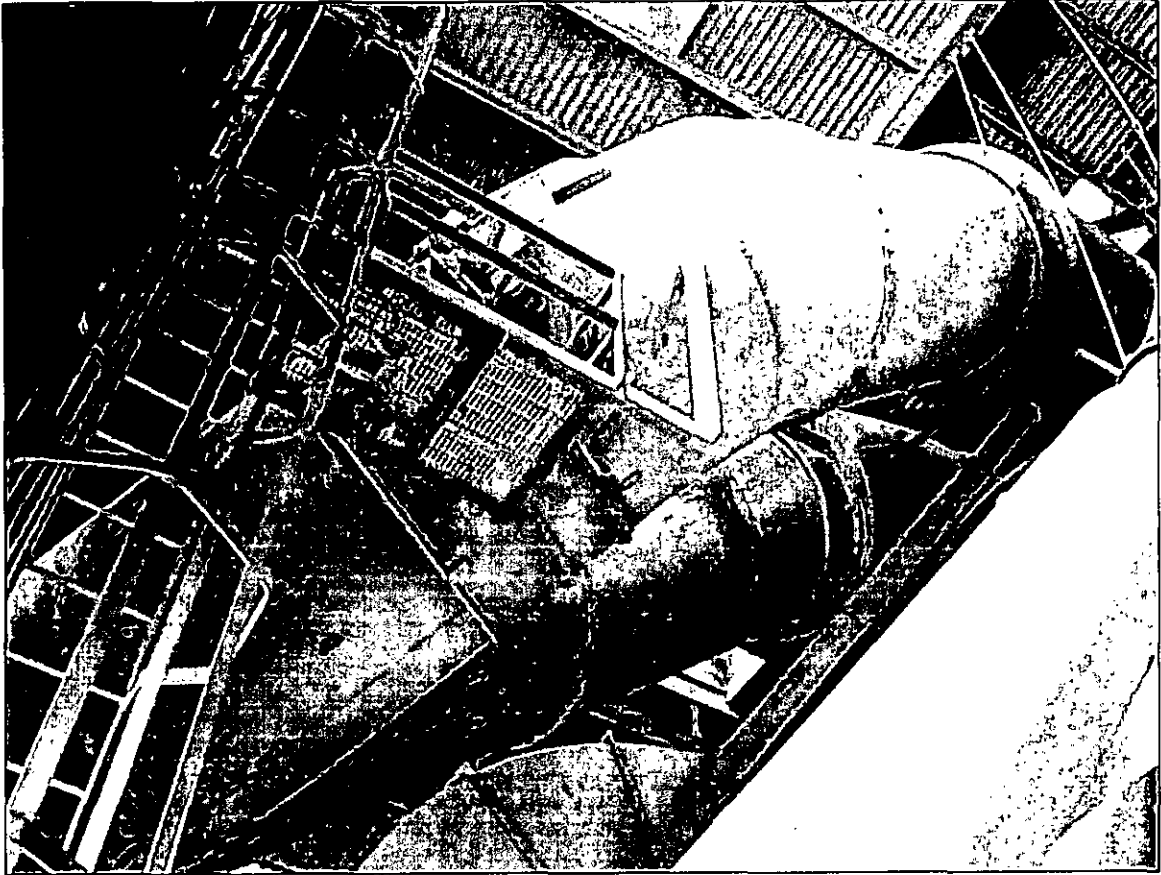


Figure 10: Raw Mill #1 321 Damper.



Figure 11: Raw Mill #1 322 Damper.

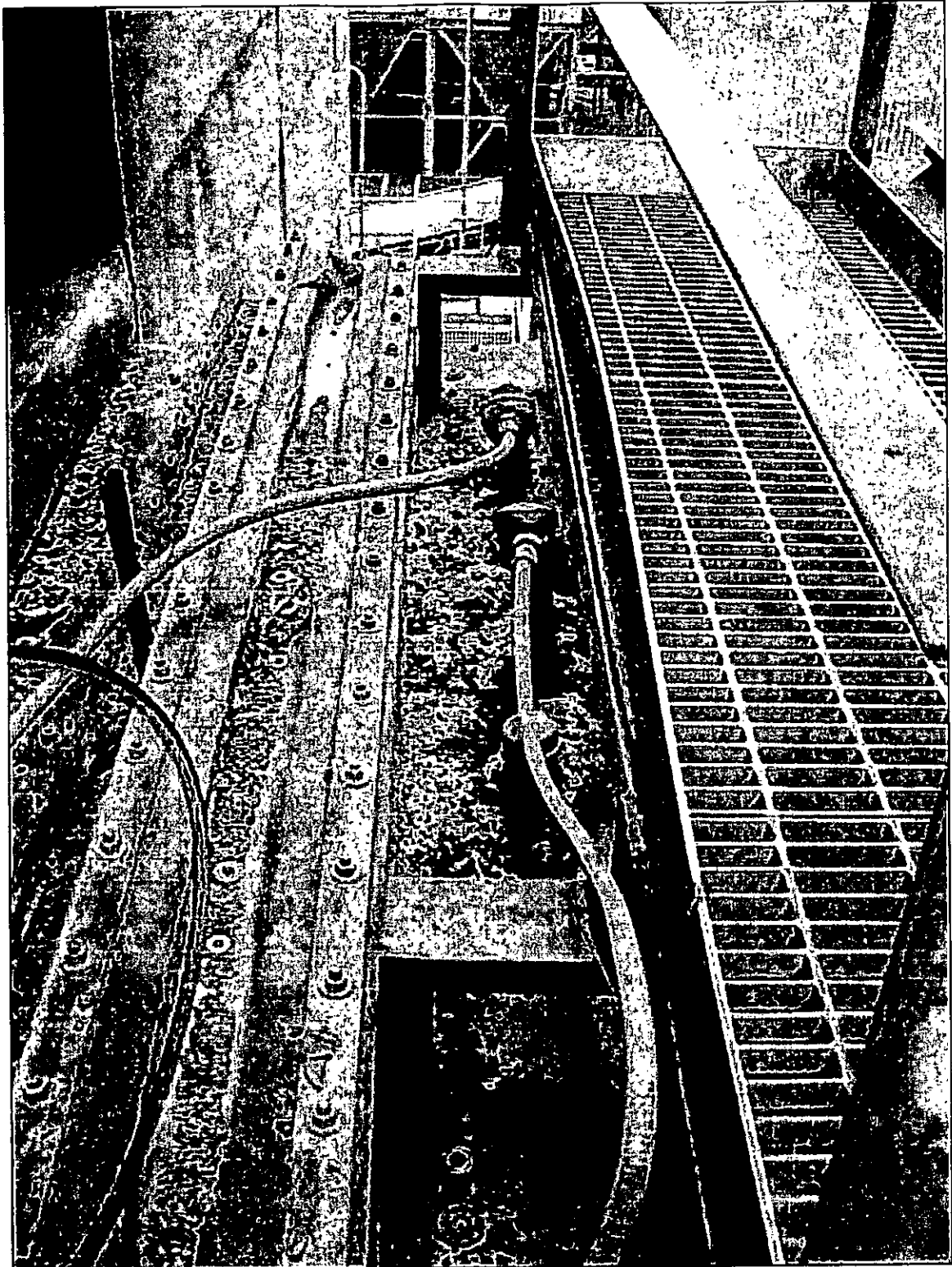


Figure 12: #2 Kiln—Raw Mill BH Inlet Thermocouples.



Figure 13: Raw Mill #2 2317 damper at platform.

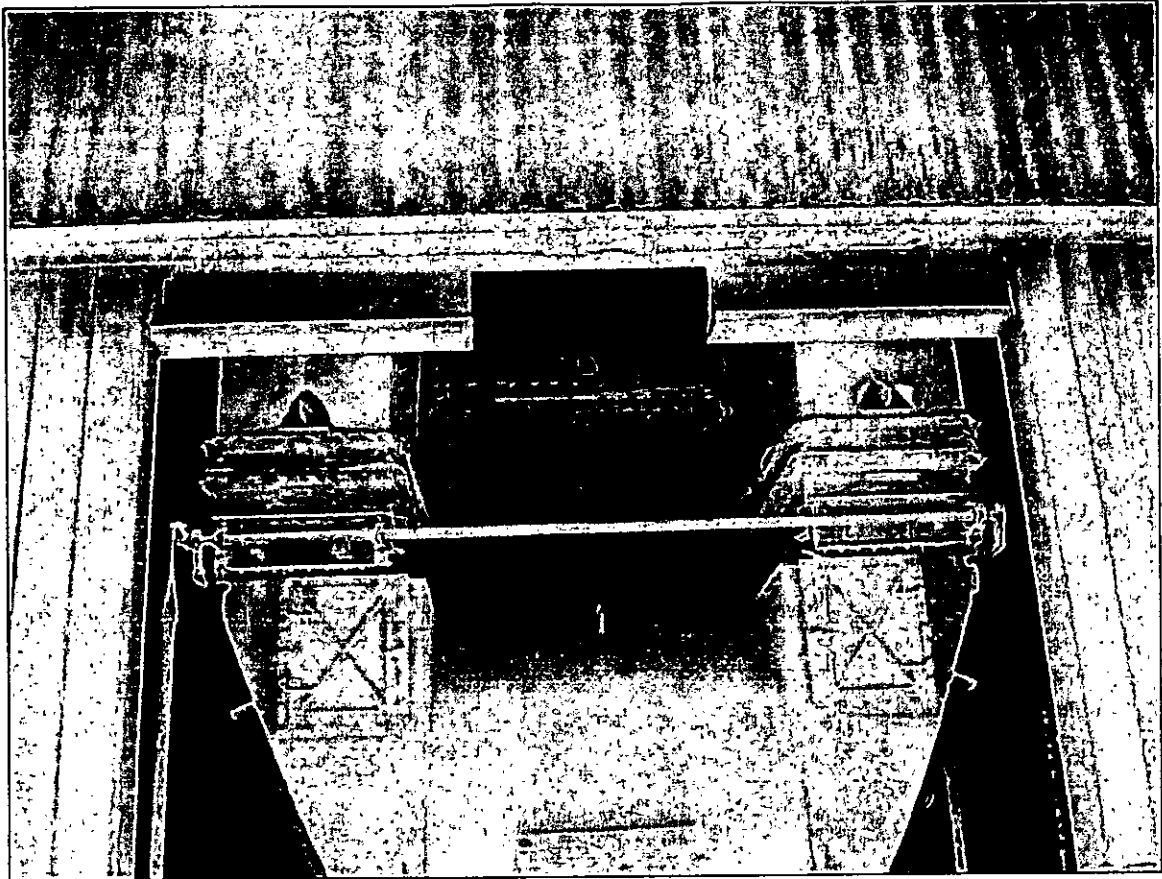


Figure 14: Raw Mill #2 2318 Fan inlet Dampers.



Figure 15: Raw Mill #2 2320 Damper.

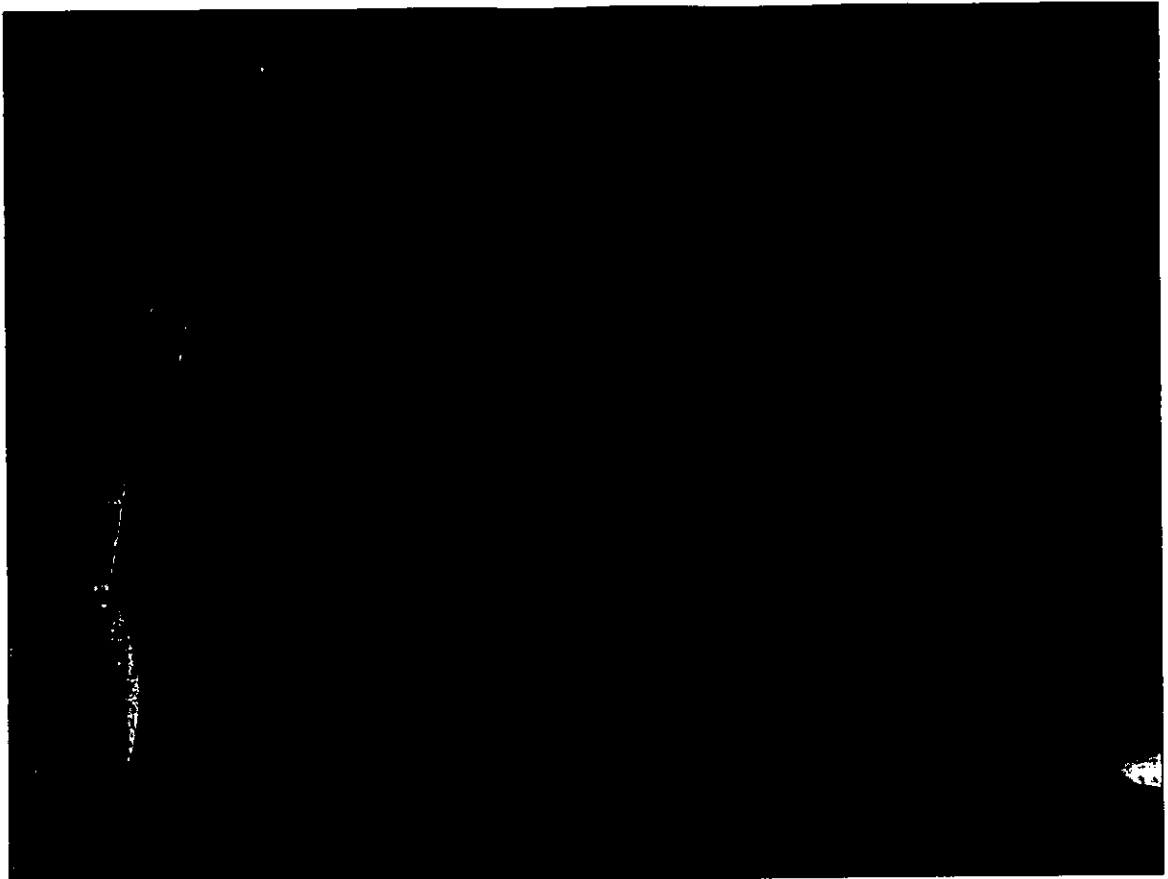


Figure 16: Raw Mill #2 2321 Damper.

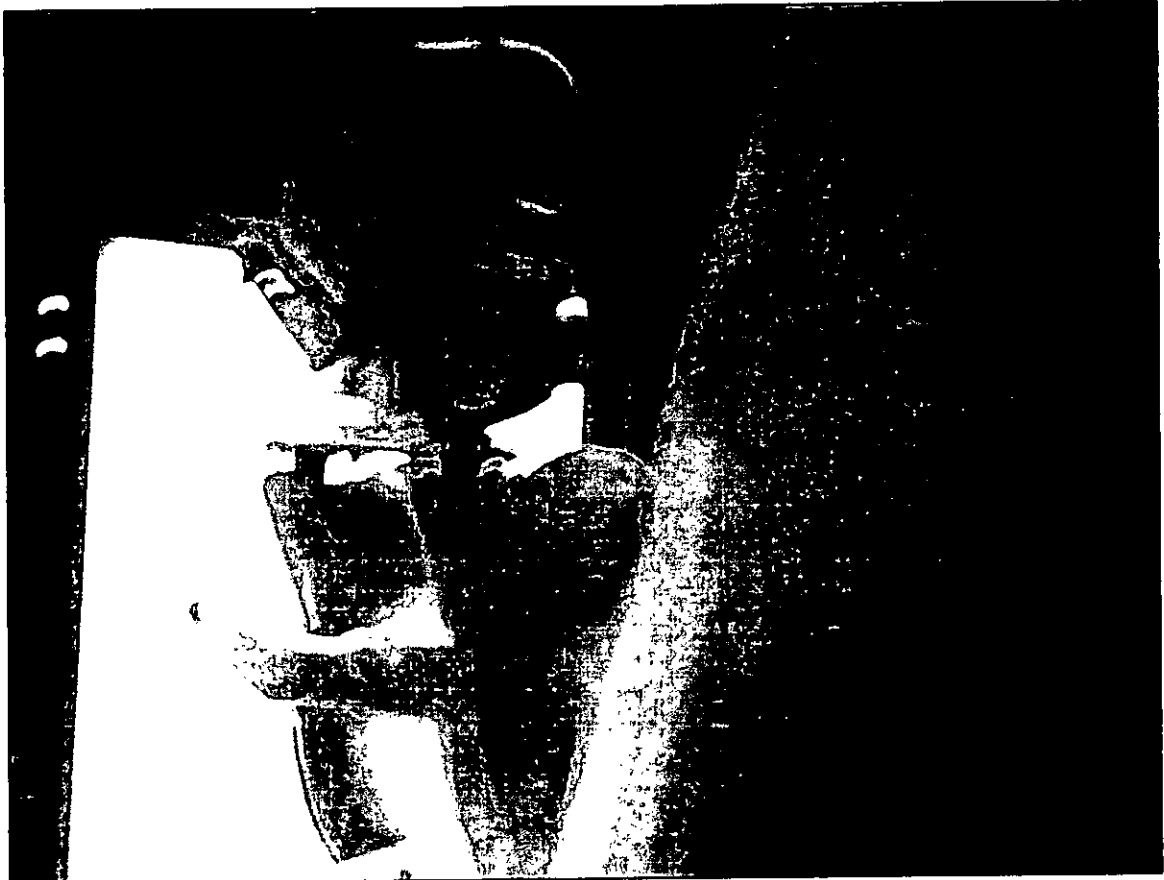


Figure 17: Raw Mill #2 2322 Damper.

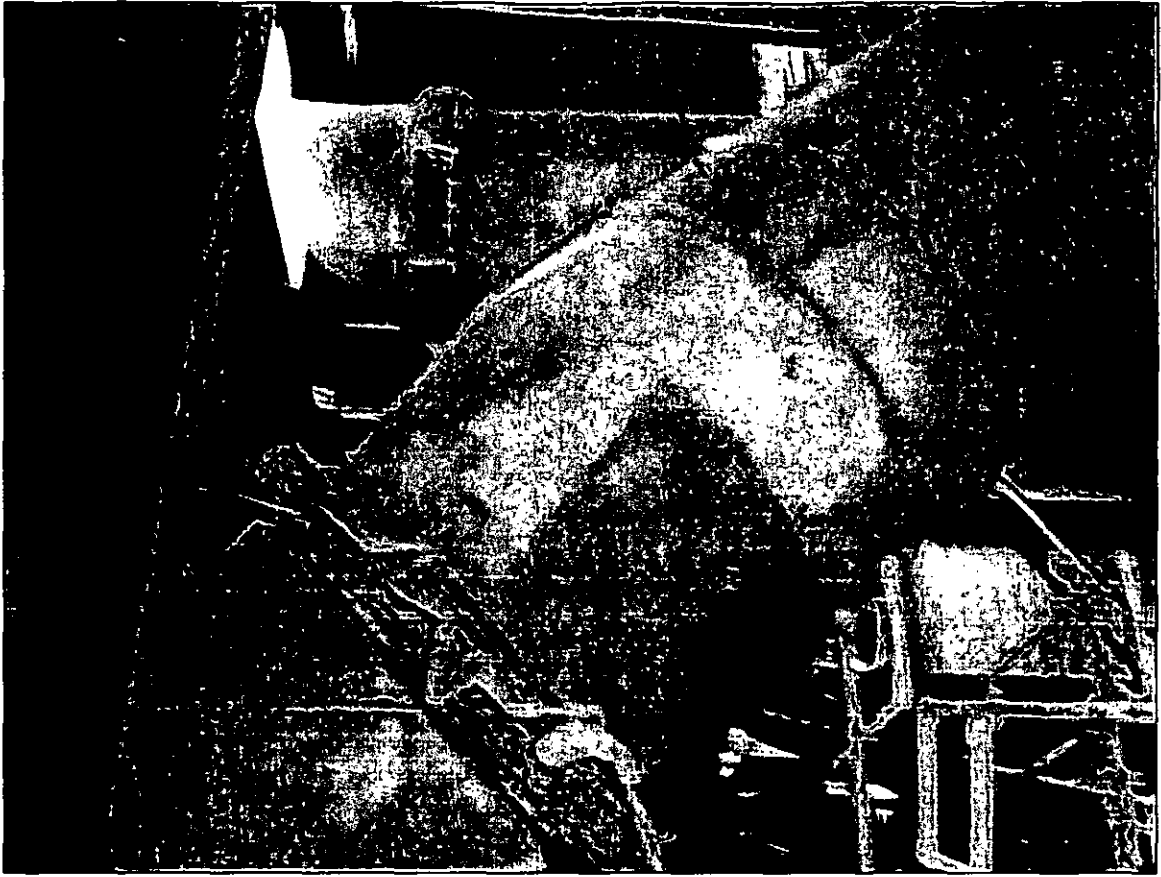


Figure 18: Raw Mill #2 2323 Damper top, 2319 Damper bottom.

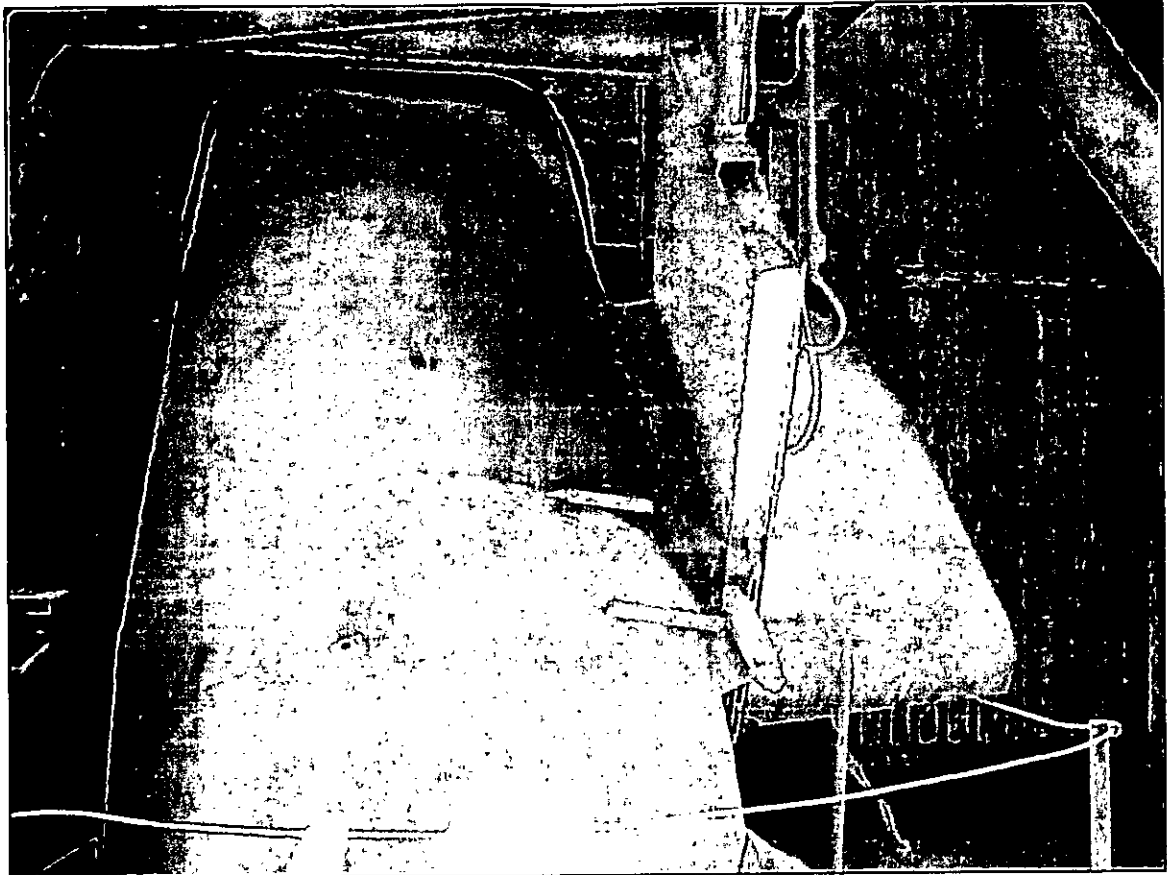


Figure 19: Raw Mill #2 2323A Damper.



Figure 20: Raw Mill #2 by pass Ducting (1).

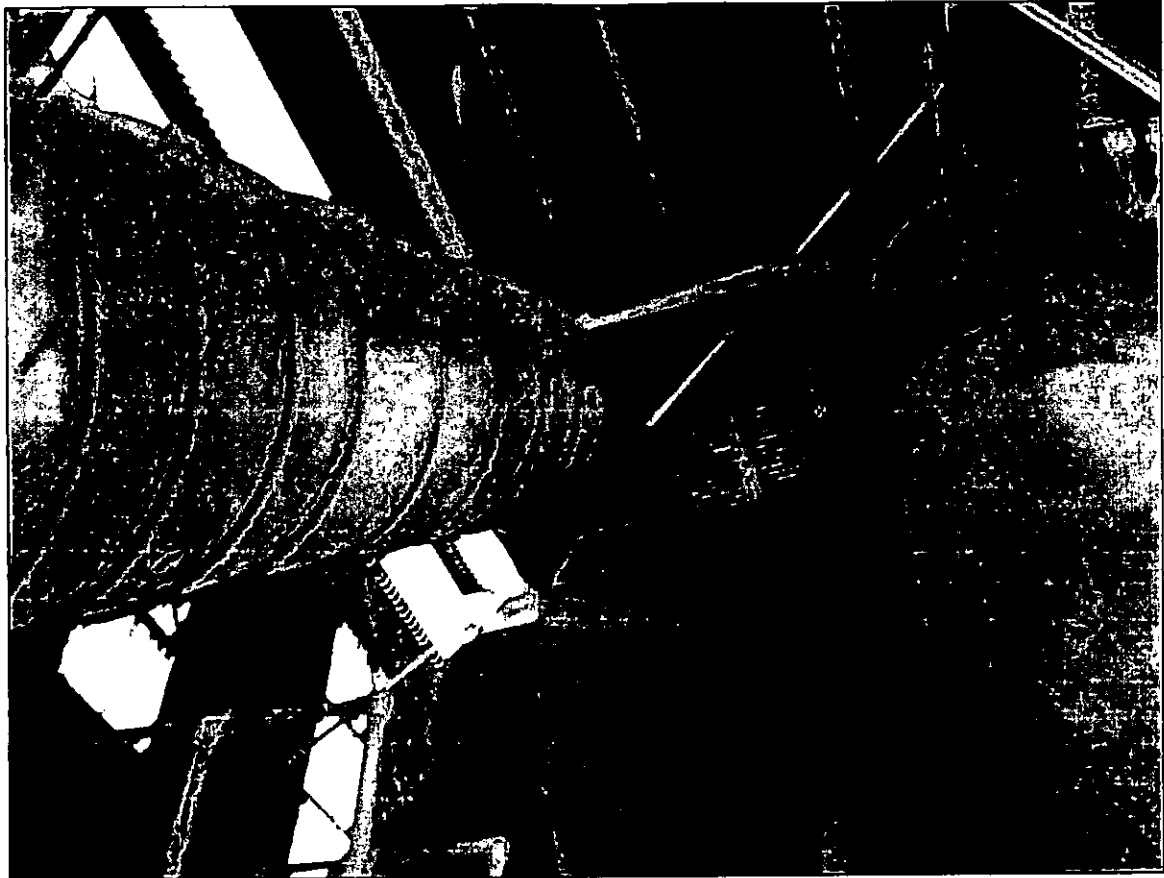


Figure 21: Raw Mill #2 by pass duct.