

Pensacola P.O.C., Inc.

109 South Second Street, Pensacola, FL 32507 Phone: (850) 456-4406
Email: ppoc@bellsouth.net Fax: (850) 456-4426

Environmental Permitting and Testing

30 December 2002

Ms. Sandra F. Veazey
Air Program Administrator
Department of Environmental Protection
160 Governmental Center
Pensacola, FL 32501-5794

RE: **Burkhead Gin Company**
Jay, FL
1130027

Dear Ms. Veazey,

Enclosed please find four copies of an Application for Air Operation Permit – Non-title V Source for subject cotton gin along with a check payable to DEP for \$1,000.00.

Sincerely,


Barbara Šviglin

enclosures

cc: Burkhead Gin – Buddy Burkhead
file

RECEIVED
JAN - 2 2003
NORTHWEST FLORIDA
DEP

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JAN - 1 2003
NORTHWEST FLORIDA
DEP

Permitting Application - Permit Detail and Permit									
ARMS Facility									
POINT	AIRS ID	1130027	STATUS	A	OFFICE	RWD	NW PENSACOLA		
SITE NAME		BURKHEAD GIN			COUNTY		SANTA ROSA		
OWNER/COMPANY		BURKHEAD GIN							
Project									
AIR Permit #	-		Project #	003	CRA Reference #	138292			
Permit Office	RWD (DISTRICT)				Agency Action	Pending			
Project Name	BURKHEAD GIN CO			Desc	Burkhead Gin AO				
Type/Sub/Req	AO	2B	Minor Source - Other Sample \$1000			Logged	01/06/2003		
Received	01/01/2003		Issued		Expires		OGC		
Fee	1000.00	Fee Recd	1000.00	Dele		Override	NONE		
Related Party									
Role	APPLICANT			Begin	01/03/2003	End			
Name	BURKHEAD, BUDDY Z.				Company	BURKHEAD GIN			
Addr	P O BOX 69, 225 N MAGNOLIA ST								
City	JAY			State	FL	Zip	32565	County	
Phone	850-675-4636		Fax	850-675-4402					
Processors									
Processor	WHITE KM			Y	Active	01/03/2003	Inactive		Events

JACKSON - A 01/14/03



Jeb Bush
 Governor

Department of Environmental Protection

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794

David B. Struhs
Secretary

PERMIT DATA FORM

DATE: January 2, 2003

PROJECT SOURCE NAME

Bulkhead Tim Co.

TYPE CODE Air

SUBCODE AO

CORRECT FEE

\$1,000

AMOUNT RECEIVED

1,000

AMOUNT REFUND

PROCESSOR

KEVIN WHITE

COMMENTS:

PERMIT APPLICATION SITE NUMBER

1130027-003-A0

WAER SITE NUMBER

ARMS SITE NUMBER

CASH RECEIVING RECEIPT NUMBER

401647

CHECK REMITTED BY:

CHECK#

8347

Collection Point Log Remittance

AREA **HWD**

Tot **CRAF006A**
\$10,687.50

Remittance **497696** Type **C** Received Date **01/02/2003** Status **RECEIVED**
 SYB\$RCPT **401647** PNR Check # **8347** Amount **1,000.00**
 SSN/FBI# Name **BURKHEAD GIN CO**
 First Middle Title Suf
 Address1 **P O BOX 69** Short Comments
 Address2 **1130027003 - MBC**
 City **JAY** ST **FL** Zip **32565** County

PAYMENT (S)

Payment#	Dist CL Area	Object Code/Description	Payment Amount	Reference#	Applio Fund	Status
533961	HWD	002223 AIR OPERATE	\$1,000.00	1130027003	ARM: PFTF	COMPLETE

COMMIT FREQUENTLY

\$1,000.00 Payment total

DEP Form 62-210.900(3)

Application for Air Permit – Non-Title V Source
Operation Permit Application

for

Burkhead Gin Company
Jay, FL

December 2002

Table of Contents:

- Introduction
- Emissions Calculations
- Application
- Doc. "A" - Area Map
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- Doc. "D" – Precautions to Prevent Emissions of Unconfined PM
- Doc. "E" - Control Equipment Description
- Doc. "F" – Operation & Maintenance Plan
- Doc. "G" = Compliance Tests

Prepared by:
Pensacola P.O.C., Inc.
109 South Second Street
Pensacola, FL 32507
850 456-4406

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Copies to:
DEP (4)
Burkhead Gin Co.
file

Introduction

Burkhead Gin is an existing cotton ginning facility located on approximately 2 acres of land on Highway 89 just North of Highway 4 in Jay, FL. Presently it is operating under DEP permit 1130027-002-AC. In November 2001, construction permit application was applied for to incorporate the changes that have been done to the facility through the years and to establish true picture of facility as it is now. It also incorporated an increase rate of production to 60,000 bales/yr and hours of operation increase to 3,000 hr/yr. DEP issued construction permit as listed above. Since it was too late in the 2001/2002 ginning season to conduct VE tests as required by construction permit, application for operating permit was postponed until this year's ginning season. VE tests were conducted by certified POC tester and facility inspected by POC engineer to verify that no additional changes have been done over and above the ones listed in construction application. Burkhead Gin in present configuration is fully capable of meeting requirements set forth in construction permit and it is the purpose of this application to obtain Operation Permit for this facility.

Process of ginning cotton consists of removing seeds, trash and motes from harvested cotton brought into the gin. Harvested cotton brought into the gin is called seed cotton; it contains seeds, trash, twigs and other trash and is usually damp. To enhance ginning process which basically removes all undesirable contents such as mentioned above, cotton is conveyed pneumatically by heated air. Heat is provided by several heaters using natural gas burners. Entire process of conveying cotton through different stages of ginning is accomplished by arrangement of push-pull air conveying systems consisting of supply and exhaust blowers/fans and a system of ductwork called blowpipes. After ginning process, cotton is called lint, or as referred to in this application lint cotton. Motes are cotton fibers of lower quality and are a byproduct of ginning. They are also collected and pressed into bales for resale.

Process of ginning for all practical purposes and for keeping filing fees economical is considered one single emissions unit. In actuality it consists of the following activities:

Unloading (of seed cotton)
Drying and cleaning (of seed cotton)
Ginning (of seed cotton)
Cleaning of lint (cotton)
Pressing (baling) of lint (cotton)
Trash and motes removal
Trash handling
Seed handling

All the above activities are shown on attached process flow sheets.

Unloading

Unloading is done mainly by using unloading module, which is basically a building (enclosure) into which trailer loaded with cotton module is backed to. Rotating wheels with hooks chip cotton from module onto moving conveyor belt. From there seed cotton is picked up by suction blowpipe and carried to unloading separator. From unloading separator, seed cotton falls into feed controller. Feed controller is a device which controls speed of unloading of cotton to match process rate of ginning to avoid backups or overflows. Suction required to move cotton through blowpipe is provided by a suction (pull) fan. The exhaust from this fan terminates in cyclones #1 & #2. This facility also has the old system of unloading cotton, using suction pipe moved across trailer of loose cotton to be pulled into the process. This system is used infrequently.

From feed controller, seed cotton falls into a blowpipe which pneumatically conveys cotton into three streams of drying and cleaning. Cotton is pushed through this process by an air supply blower using heated air provided by air heaters #1 & #2.

Drying and Cleaning

As mentioned earlier, drying and cleaning of seed cotton is done in three streams each consisting of first step tower dryer, incline cleaner, stick and burr machine, second step tower dryer and incline cleaner. Between first step and second step of cleaning, additional conveying stream of air is provided by two additional push blowers and two air heaters, #3 & #4. Trash, burrs and sticks removed by incline cleaners and stick and burr machines are pneumatically removed by exhaust systems (fans) delivering its contents to facility main trash plenum.

Dried and clean seed cotton from all three streams falls into a distribution screw conveyor to be carried to gin stands.

Ginning

Ginning is accomplished by 4 gin stands into which seed cotton is feed by distribution conveyor. Gin stands separate seeds, motes and trash from seed cotton. From this point on, cotton is referred to as lint (cotton). Lint cotton is delivered by a pneumatic exhaust system to the next process called lint cleaning.

Trash and motes are picked up by an exhaust system terminating in cyclone #3.

Seeds fall into an enclosed screw conveyor which delivers them to seed handling system.

Lint (cotton) Cleaning and Pressing (Baling)

Lint cotton is pneumatically removed from gin stands and delivered into four streams (one from each gin stand). Each stream is equipped with super jet, lint cleaner #1 and #2. After cleaning, lint cotton is delivered into battery condenser by suction conveying system. Lint cotton is separated from exhaust air system in battery condenser and falls through a chute into a bale press, where it is pressed into bales as a finished product. Bales weigh approximately 500 lbs each. Exhaust blower providing suction exhausts into a dust house.

Motes and trash removed from lint cotton by super jet and cleaners are removed by exhaust blowers terminating in cyclones #4, #5, #6 and #7.

Fine fibers, called nits, are exhausted from lint cleaners by a separate exhaust stream terminating into cycles #9, #10, #11 & #12.

Seed Handling

Seed handling consists of seed screw conveyor picking seeds from 4 gin stands and several additional screw conveyors which deliver seeds to a seed house. From there, seeds are pneumatically blown into truck trailers for removal.

Trash and Mote System

Motes and trash removed from gin stands, are delivered to cyclone #3 as mentioned earlier. Motes and trash removed from lint cleaning process are delivered to cyclones #4, #5, #6, #7, #9, #10, #11, #12. All of these cyclones sit atop and discharge into trash and mote screw conveyor. From this conveyor, trash and motes are carried by a suction system and delivered into cyclone #8. Cyclone #8 empties into an inclined screen where trash is separated from the motes. From this screen, motes fall into a motes baler to be pressed and baled similar to lint cotton. Trash is pneumatically conveyed into facility main trash plenum.

Trash Handling

All trash produced by various activities of ginning process ends up in facility main trash plenum. From it trash is removed by a system of vacuum wheels to be emptied into a pneumatic system terminating into cyclone #25. Trash is also removed from this plenum by air streams terminating in cyclones #13, #14, #15, #16, #17, #18, #19, #20, #21, #22, #23 & #24. Cyclones #13, #15, #17, #19, #21, #23 & #25 sit atop and discharge trash into enclosed screw conveyor which delivers trash into a trailer parked underneath. Cyclones #14, #16, #18, #20, #22 & #24 also sit and discharge into another screw conveyor which delivers trash into a trailer parked underneath.

Cyclones used in this process are high efficiency type developed by Texas A & M University. Sizes are listed on attached list of cyclones.

PM Emissions are calculated using emission factors listed in table published in AP 42 as attached.

Facility is to be limited to 60,000 bales of lint cotton / year and 3,000 hr/yr. Limits are established facility from becoming a major source, by limiting emissions to less than 100 TPY,

Maximum baling speeds is 32 bales/hr

Heaters used in process are rated as follows:

Heater #1 – 3 MM BTUH input

Heater #2 – 3 MM

Heater #3 – 3 MM

Heater #4 – 3 MM

Total - 12 MM BTUH input

Fuel used is natural gas

Emissions calculations from combustion of natural gas in these heaters shows emissions of less than 5 TPY of individual pollutant, allowing heaters to be exempt from permitting requirements according to rule 62-210(b)1.

Emissions Calculations

PM Emissions from ginning

Using emissions factors from AP 42 table 9.7-1	
Unloading fan (SCC 3-01-004-01)	0.29 lb/bale
No. 1 dryer and cleaner (SCC 3-02-004-20)	0.36
No. 2 dryer and cleaner (SCC 3-02-004-21)	0.24
Lint cleaners (SCC 3-02-004-07)	0.58
Mote fan (SCC 3-02-004-36)	0.28
Mote trash fan (SCC 3-02-004-36)	0.077
Battery condenser (SCC 3-02-004-08)	0.17
Master trash fan (SCC 3-02-004-03)	<u>0.54</u>
Total	2.537 lb/bale

With new limit of 60,000 bales/yr potential PM emissions will be:
 $PM = (60,000 \text{ bales/yr} \times 2.537 \text{ lb/bale}) / 2,000 = 76.1 \text{ TPY}$

PM10 Emissions from battery condenser with screens

$$PM10 = (60,000 \times 0.17 \text{ lb/bale} \times 0.5) / 2,000 = 2.6 \text{ TPY}$$

Combustion Emissions from air heaters

Burkhead gin uses 4 air heaters totaling 12 MM BTUH heat input
Fuel is natural gas
Their records indicate that facility uses 147 CF of natural gas / bale of cotton.

$$60,000 \text{ bales/yr max.} \times 147 \text{ CF/bale} = 8.8 \text{ MM CFY}$$

Heaters are not exempt from permitting according to rule 62-210(3)(a)21b- Categorical Exemptions.

Calculating potential emissions from process heaters

Hourly fuel usage is $12 \text{ MM BTUH} / 1,050 \text{ BTU/CF} = 0.011 \text{ MM CFH}$

Emissions factors from combustion of natural gas (SCC 1-03-006-03)

PM =	4.5 lb/MM CF burned
S02 =	0.6
N0X =	100
C0 =	21
VOC =	5.3

Proposed hours of operation are 3,000 hr/yr.

$PM = 4.5 \times 0.011 \times 3,000 / 2,000 = 0.1 \text{ TPY}$
 $S02 = 0.6 \times 0.011 \times 3,000 / 2,000 = \text{negligible}$
 $N0X = 100 \times 0.011 \times 3,000 / 2,000 = 1.7 \text{ TPY}$
 $CO = 21 \times 0.011 \times 3,000 / 2,000 = 0.3 \text{ TPY}$
 $VOC = 5.3 \times 0.011 \times 3,000 / 2,000 = 0.1 \text{ TPY}$

All regulated pollutants resulting from process heaters are less than 5 TPY

Total PM emissions from the facility are 76.1 TPY from ginning + 0.1 TPY from heaters = 76.2 TPY, less than 100 TPY, keeping facility from becoming Major (Title V) Source.

Therefore heaters qualify to be exempted from permitting under generic exemption rule 62-210(b)1.

Bring that this is a minor source, other sample (visible emissions), this source is AO2B requiring processing fee of \$1,000.00.

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Initial non-Title V air operation permit for one or more existing, but previously unpermitted, emissions units.
- Initial non-Title V air operation permit for one or more newly constructed or modified emissions units.

Current construction permit number: _____

- Non-Title V air operation permit revision to address one or more newly constructed or modified emissions units.

Current construction permit number: 113027-002-AC _____

Operation permit number to be revised: _____

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

Current operation/construction permit number(s):

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

Operation permit number to be revised: _____

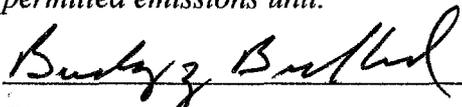
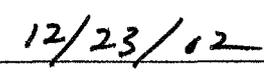
Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

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

Owner/Authorized Representative

1. Name and Title of Owner/Authorized Representative: Buddy Z. Burkhead, Owner
2. Owner/Authorized Representative Mailing Address: Organization/Firm: Burkhead Gin Company Street Address: P. O. Box 69 City: Jay State: FL Zip Code: 32565
3. Owner/Authorized Representative Telephone Numbers: Telephone: (850) 675-4636 Fax: () -
4. Owner/Authorized Representative Statement: <i>I, the undersigned, am the owner or authorized representative* of the facility addressed in this application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>  _____ Signature Date 

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: Kresimir C. Šviglin Registration Number: 49223
2. Professional Engineer Mailing Address: Organization/Firm: Pensacola P.O.C., Inc. Street Address: 109 South Second Street City: Pensacola State: FL Zip Code: 32507
3. Professional Engineer Telephone Numbers: Telephone: (850) 456-4406 Fax: (850) 4564426-

Construction/Modification Information

1. Description of Proposed Project or Alterations:
2. Projected or Actual Date of Commencement of Construction:
3. Projected Date of Completion of Construction:

Application Comment

The purpose of this application is to obtain an operation permit incorporating the changes that have been done to the facility through the years and to establish a true picture of facility as it is now.

Facility Regulatory Classifications

Check all that apply:

1. <input checked="" type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Synthetic Non-Title V Source?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
5. <input type="checkbox"/> One or More Emissions Units Subject to NSPS?	
6. <input type="checkbox"/> One or More Emission Units Subject to NESHAP Recordkeeping or Reporting?	
7. Facility Regulatory Classifications Comment (limit to 200 characters):	

Rule Applicability Analysis

Chapter 62-4 FAC, basic permitting rules & required filing fees
Chapter 62-210(b)1, exemption for gas heaters
300.

III. EMISSIONS UNIT INFORMATION

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

A. GENERAL EMISSIONS UNIT INFORMATION

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>		
<p>2. Description of Emissions Unit Addressed in This Section (limit to 60 characters): See "Introduction"</p>		
<p>3. Emissions Unit Identification Number: ID1130027</p>		<p><input type="checkbox"/> No ID <input type="checkbox"/> ID Unknown</p>
<p>4. Emissions Unit Status Code: A</p>	<p>5. Initial Startup Date:</p>	<p>6. Emissions Unit Major Group SIC Code: 0724</p>
<p>7. Emissions Unit Comment: (Limit to 500 Characters) See "Introduction"</p>		

Emissions Unit Control Equipment

1. Control Equipment/Method Description (limit to 200 characters per device or method):
See "Introduction" Supplemental Information – Doc. "E"

2. Control Device or Method Code(s): 9

Emissions Unit Details

1. Package Unit:	
Manufacturer:	Model Number:
2. Generator Nameplate Rating: MW	
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	12	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate: 60,000 bales/yr		
5. Requested Maximum Operating Schedule:		
hours/day		days/week
weeks/year	3,000	hours/year

6. Operating Capacity/Schedule Comment (limit to 200 characters):

B. EMISSION POINT (STACK/VENT) INFORMATION

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? Cyclones 1-25		2. Emission Point Type Code: 3	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Cyclones 1-25 + condenser dust house			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: W	6. Stack Height: varies	feet	7. Exit Diameter: varies
			feet
8. Exit Temperature: varies	°F	9. Actual Volumetric Flow Rate: see Doc. "E"	10. Water Vapor: %
		acfm	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters): See Plot Plan, Doc. "B" for location of all emissions points (cyclones & dust house).			

C. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Industrial Process: Food and Agriculture: Cotton Ginning: General-Entire Process, Sum of Typical Equipment Used. Bale cotton process		
5. Source Classification Code (SCC): 3-02-004-10		3. SCC Units: bale cotton process
4. Maximum Hourly Rate:	5. Maximum Annual Rate: 60,000	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: N/A	8. Maximum % Ash: N/A	9. Million Btu per SCC Unit: N/A
10. Segment Comment (limit to 200 characters):		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type) (limit to 500 characters):		
2. Source Classification Code (SCC):		3. SCC Units:
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters):		

D. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

Potential Emissions

1. Pollutant Emitted: PM		2. Pollutant Regulatory Code: NS	
3. Primary Control Device Code: 007	4. Secondary Control Device Code:	5. Total Percent Efficiency of Control:	
6. Potential Emissions: lb/hour 76.1 tons/year		7. Synthetically Limited? []	
8. Emission Factor: See "Emissions Calculations" Reference: AP42, Table 9.7-1		9. Emissions Method Code: 3	
10. Calculation of Emissions (limit to 600 characters): See "Emissions Calculations"			
11. Pollutant Potential Emissions Comment (limit to 200 characters):			

Allowable Emissions Allowable Emissions _____ of _____ N/A

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

**E. VISIBLE EMISSIONS INFORMATION
(Only Emissions Units Subject to a VE Limitation)**

Visible Emissions Limitation: Visible Emissions Limitation 1 of 1

1. Visible Emissions Subtype: VE20	2. Basis for Allowable Opacity: [x] Rule [] Other
3. Requested Allowable Opacity: Normal Conditions: 20% Exceptional Conditions: 20% Maximum Period of Excess Opacity Allowed: n/a min/hour	
4. Method of Compliance: yearly ½ hr VE tests	
5. Visible Emissions Comment (limit to 200 characters): VE test to be conducted on worst of the following groups of cyclones: 1) Unloading 2) Drying, cleaning & ginning 3) lint cleaning and baling 4) Trash & Motes Tests to be conducted during cotton ginning season.	

**F. CONTINUOUS MONITOR INFORMATION N/A
(Only Emissions Units Subject to Continuous Monitoring)**

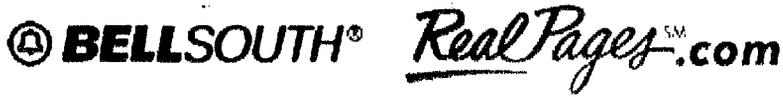
Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	[] Rule [] Other
4. Monitor Information: Manufacturer: Model Number: Serial Number:	
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment (limit to 200 characters):	

G. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Supplemental Requirements

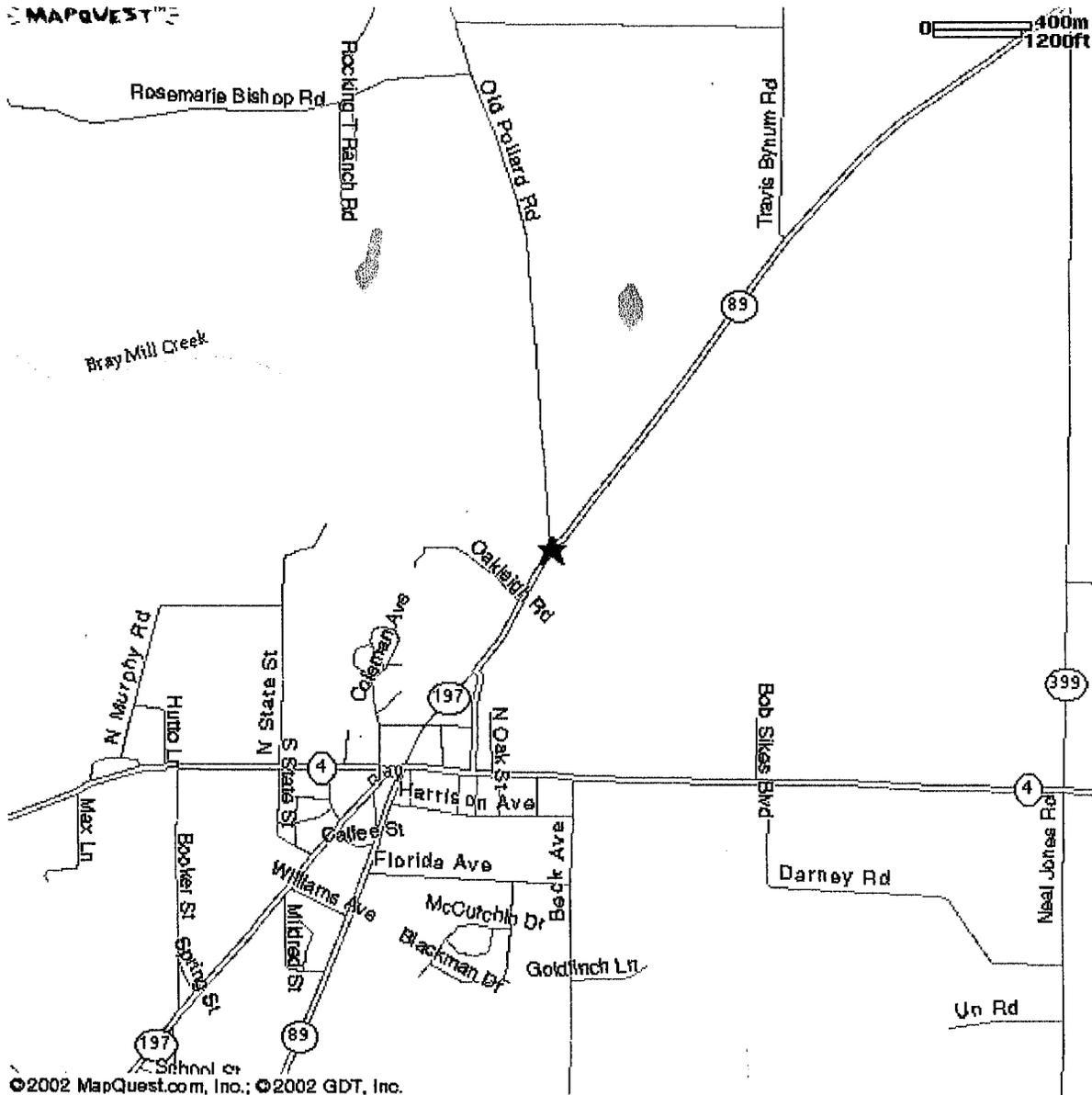
1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Doc. "C" <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification n/a <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/>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



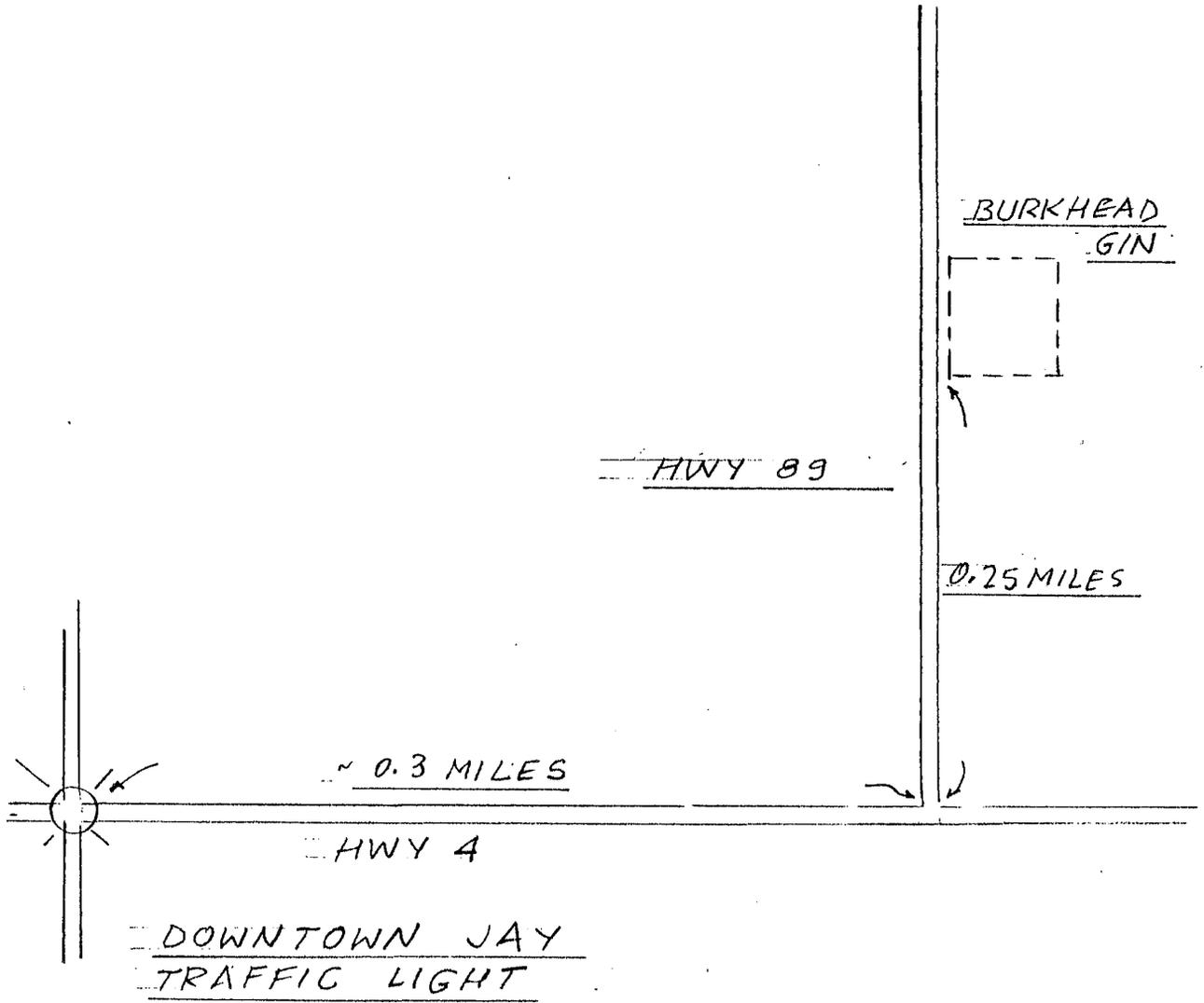
[Return to Map](#)

(To print, use the print option on your browser.)

Map Location:
14294 HIGHWAY 89 N
JAY, FL



Powered by MAPQUEST



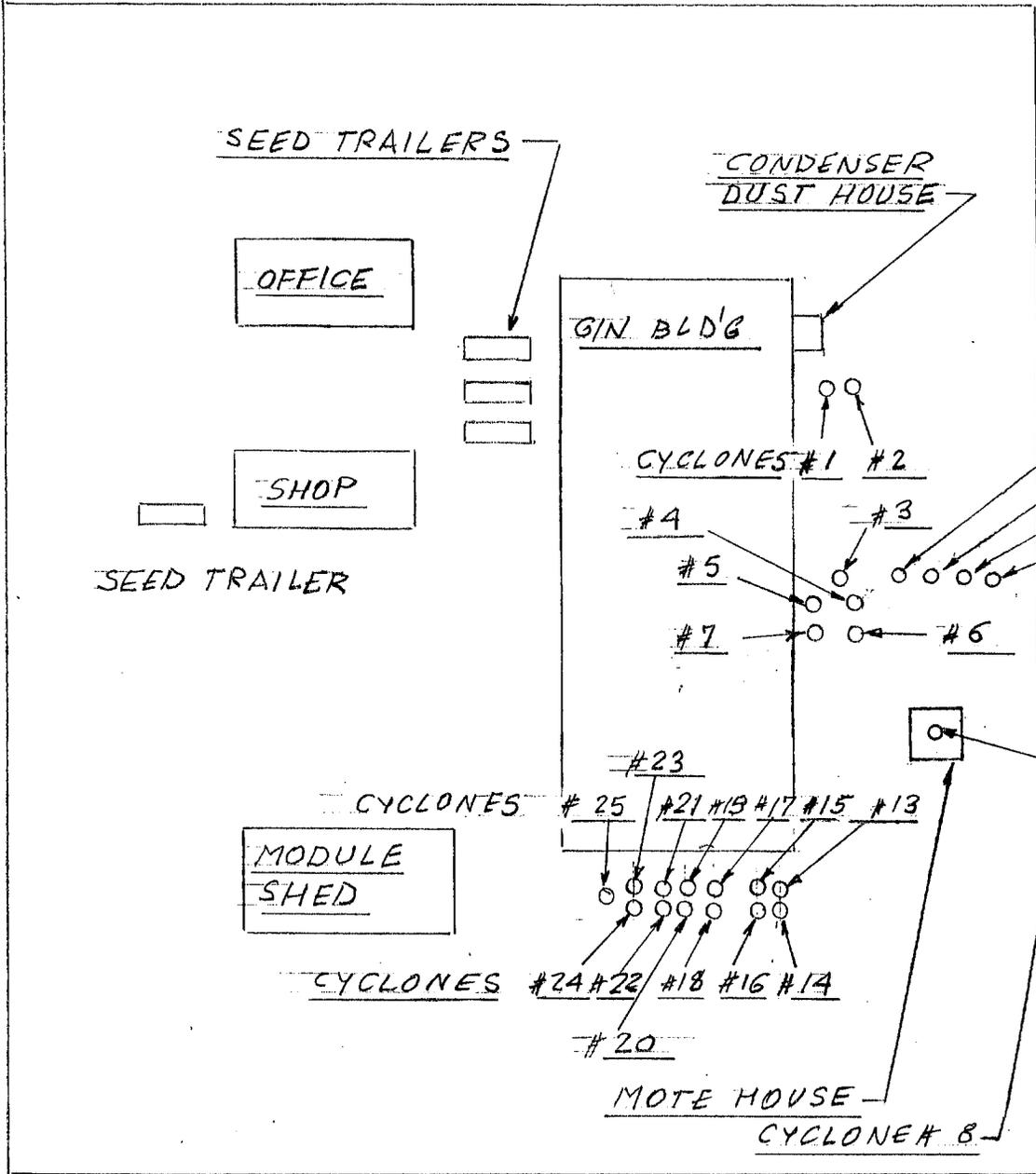
LOCATION PLAN

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

<u>BURKHEAD GIN</u> <u>JAY FL.</u>	Date	11/14/01
	Scale	NONE



HWY 89



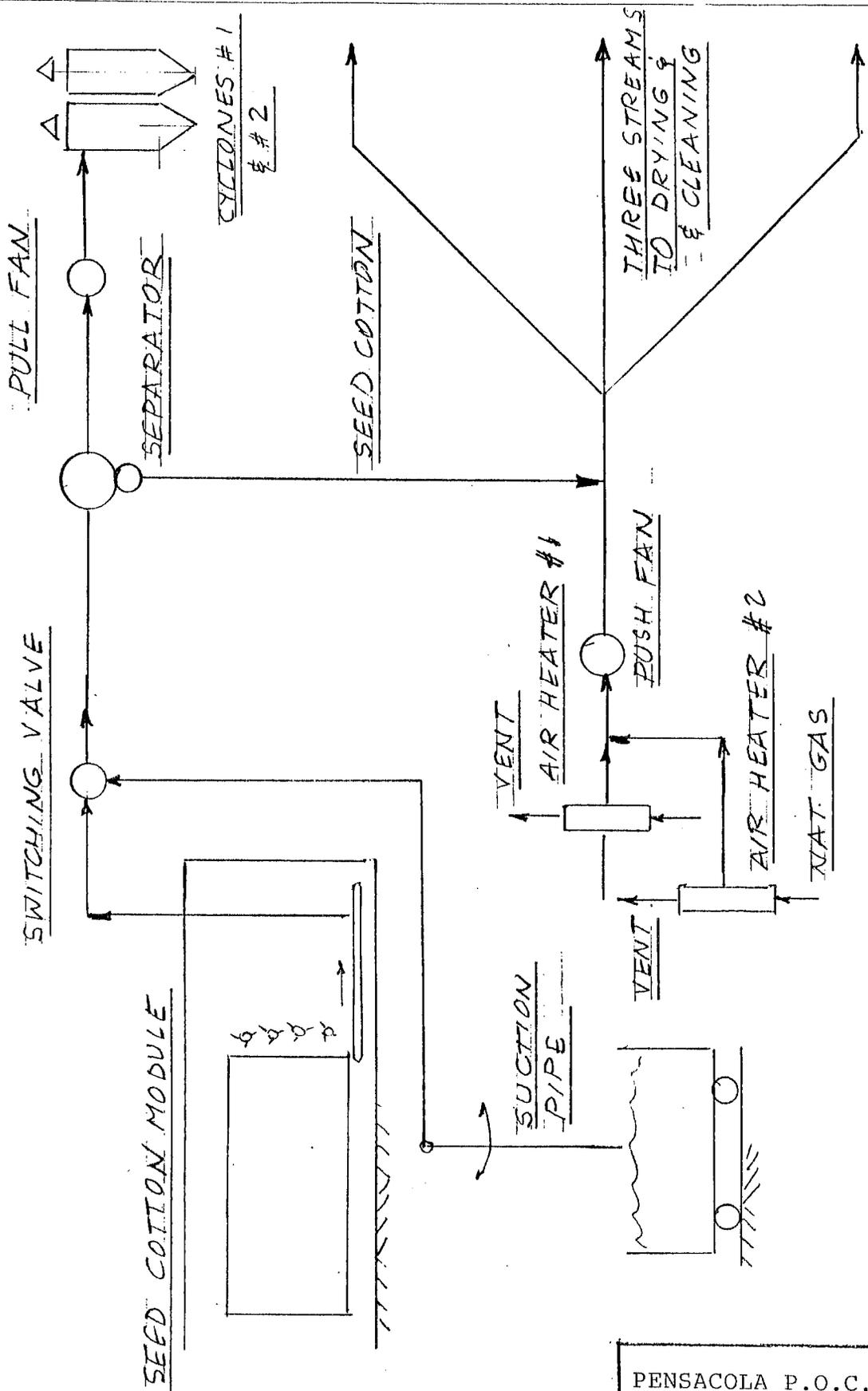
PLOT PLAN

REVISED 12/10/02

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

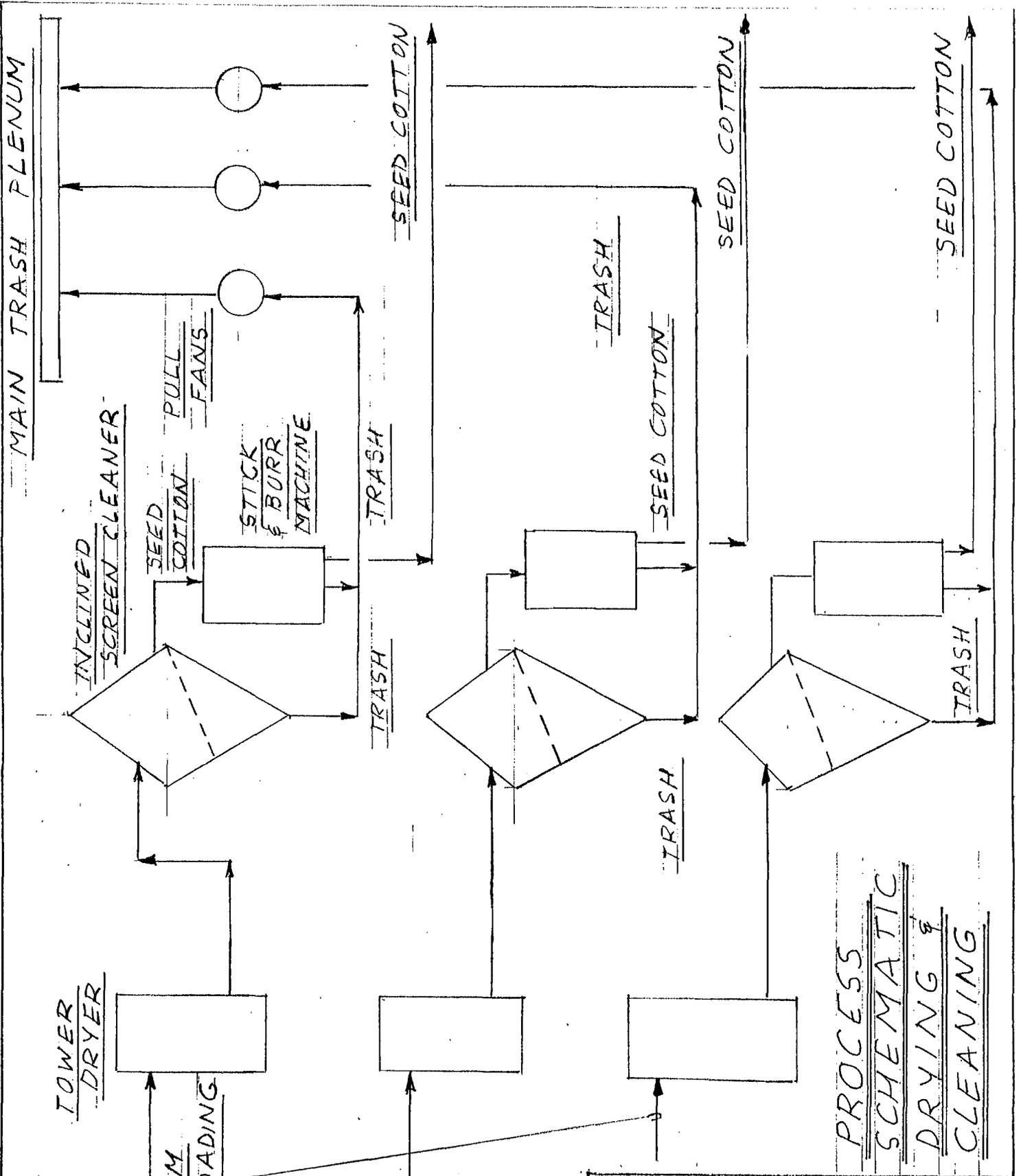


PROCESS FLOWSHEET
UNLOADING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/1A/01
Scale	NONE

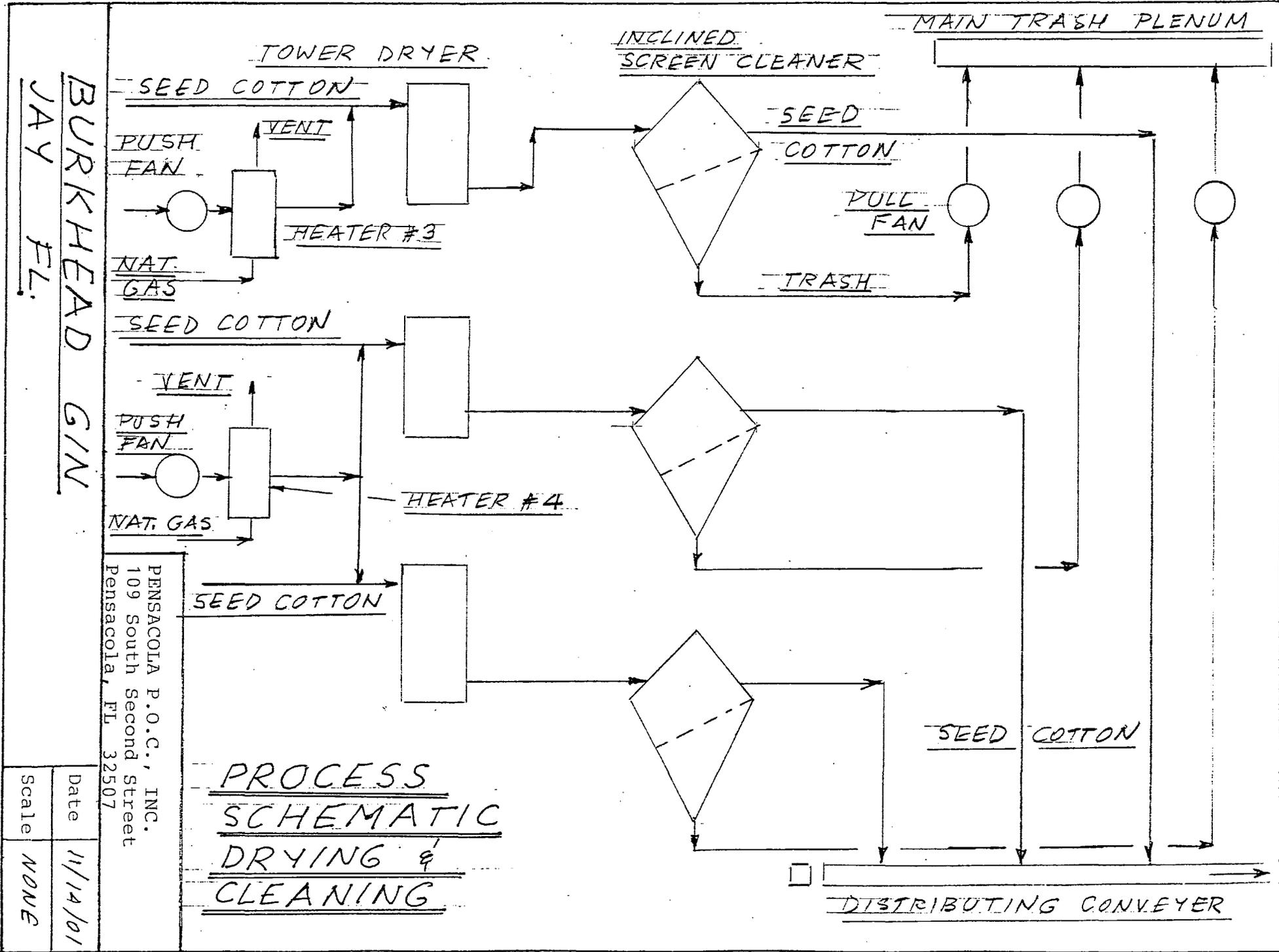


PROCESS
SCHEMATIC
DRYING &
CLEANING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date 11/14/01
Scale NONE

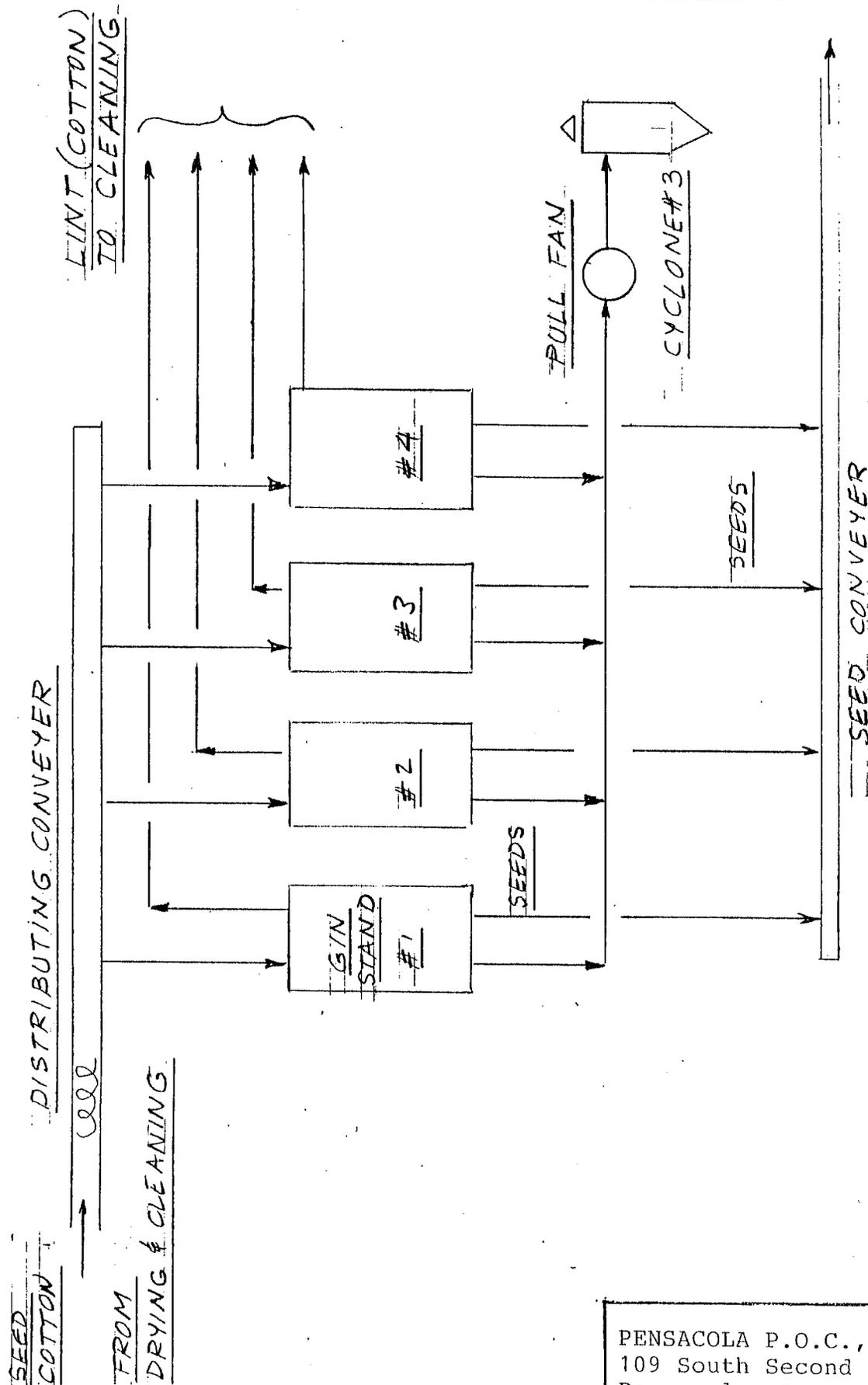


PROCESS
SCHEMATIC
DRYING &
CLEANING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

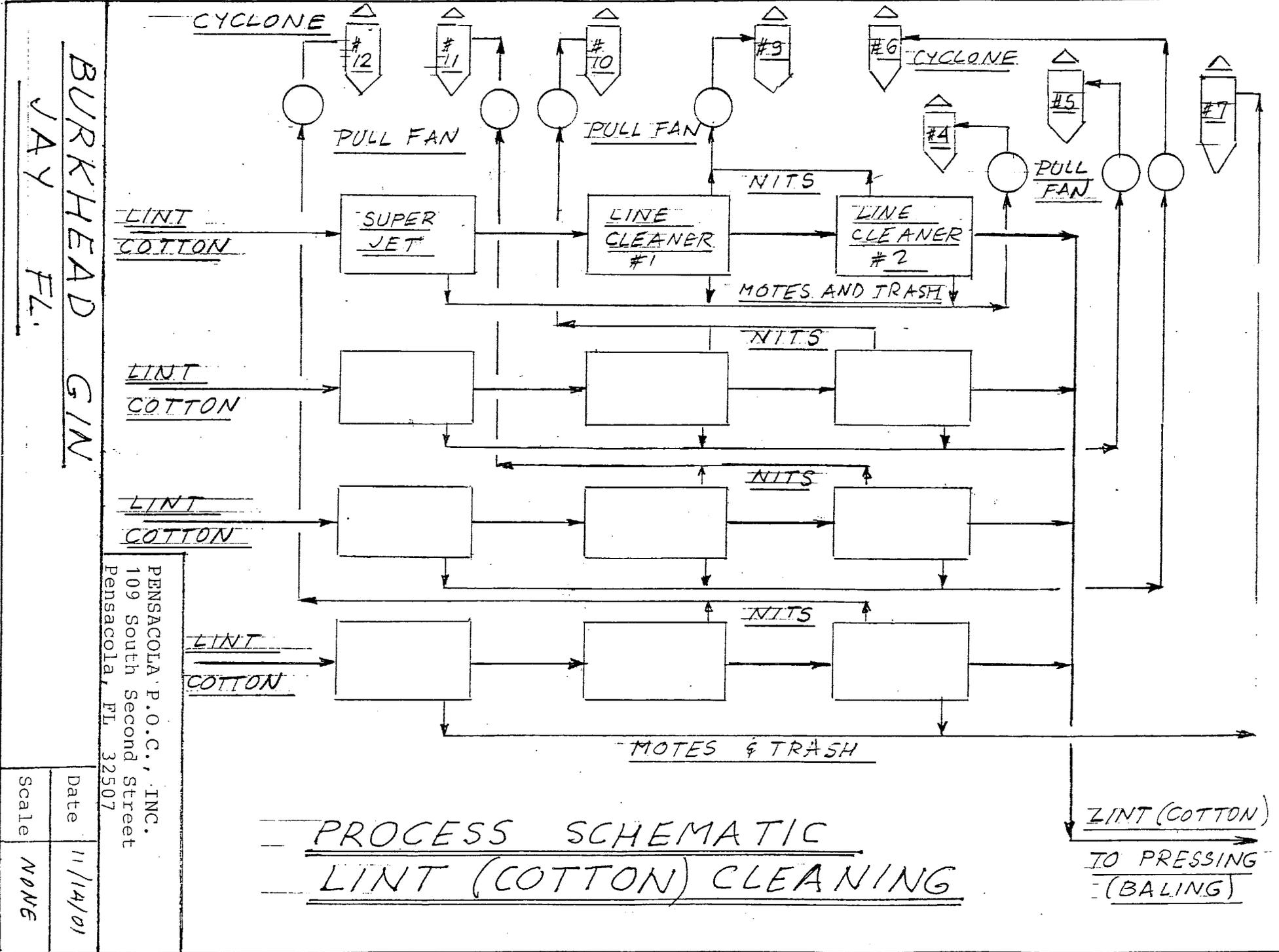


PROCESS SCHEMATIC
GINNING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE



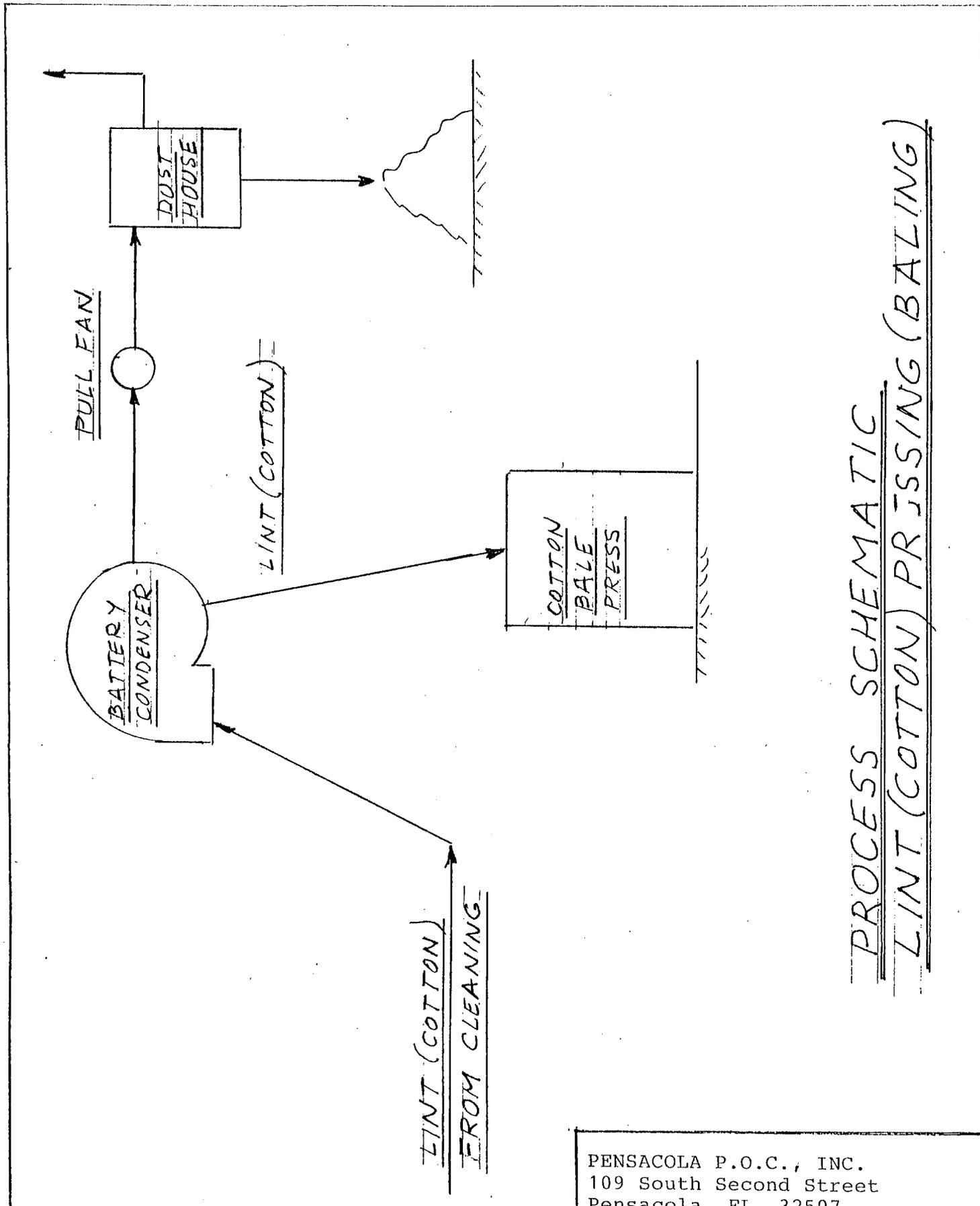
PROCESS SCHEMATIC
LINT (COTTON) CLEANING

LINT (COTTON)
TO PRESSING
(BALING)

BURKHEAD GIN
JAY FL.

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

Date	11/14/01
Scale	NONE

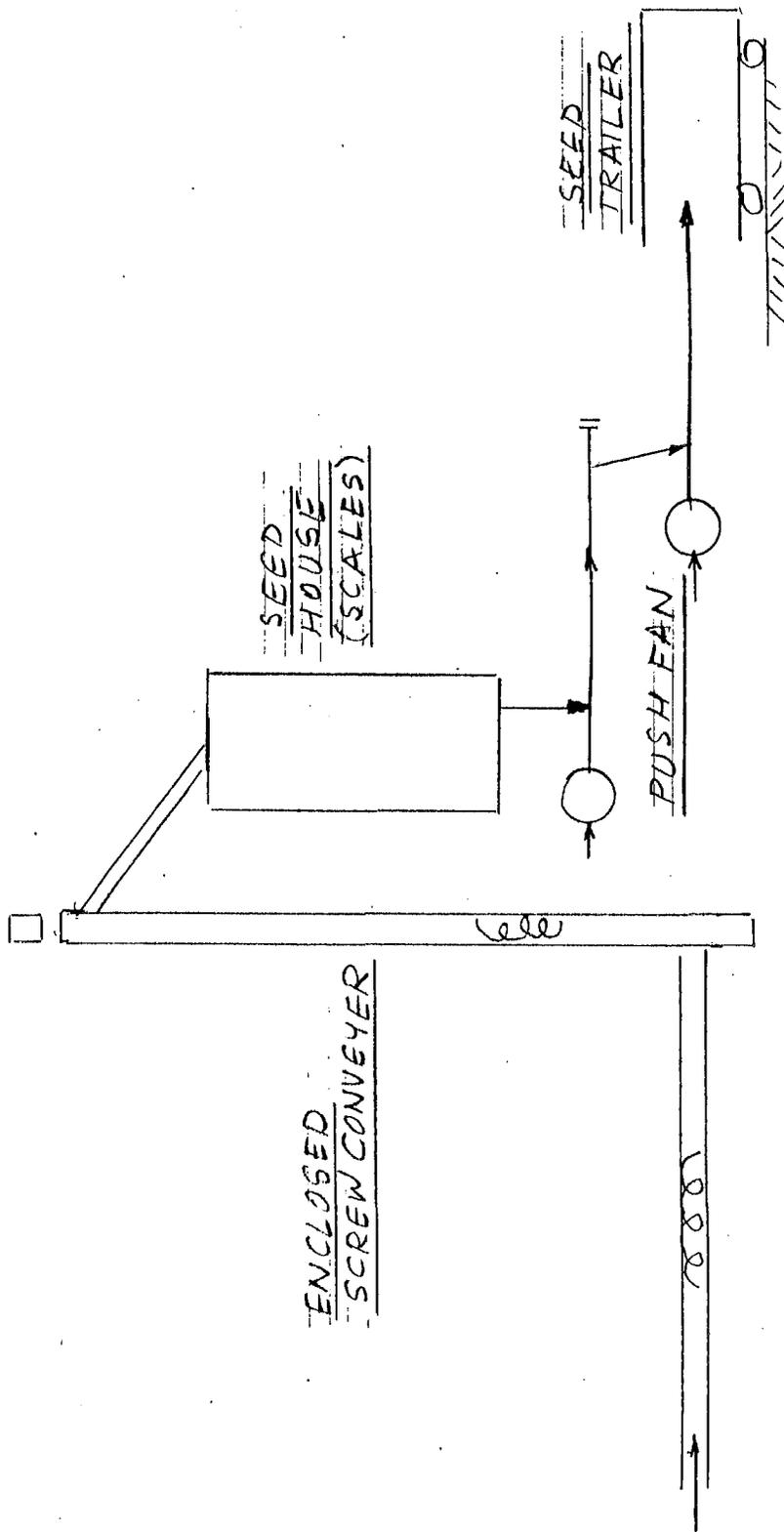


PROCESS SCHEMATIC
LINT (COTTON) PRESSING (BALING)

PENSACOLA P.O.C., INC.
 109 South Second Street
 Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

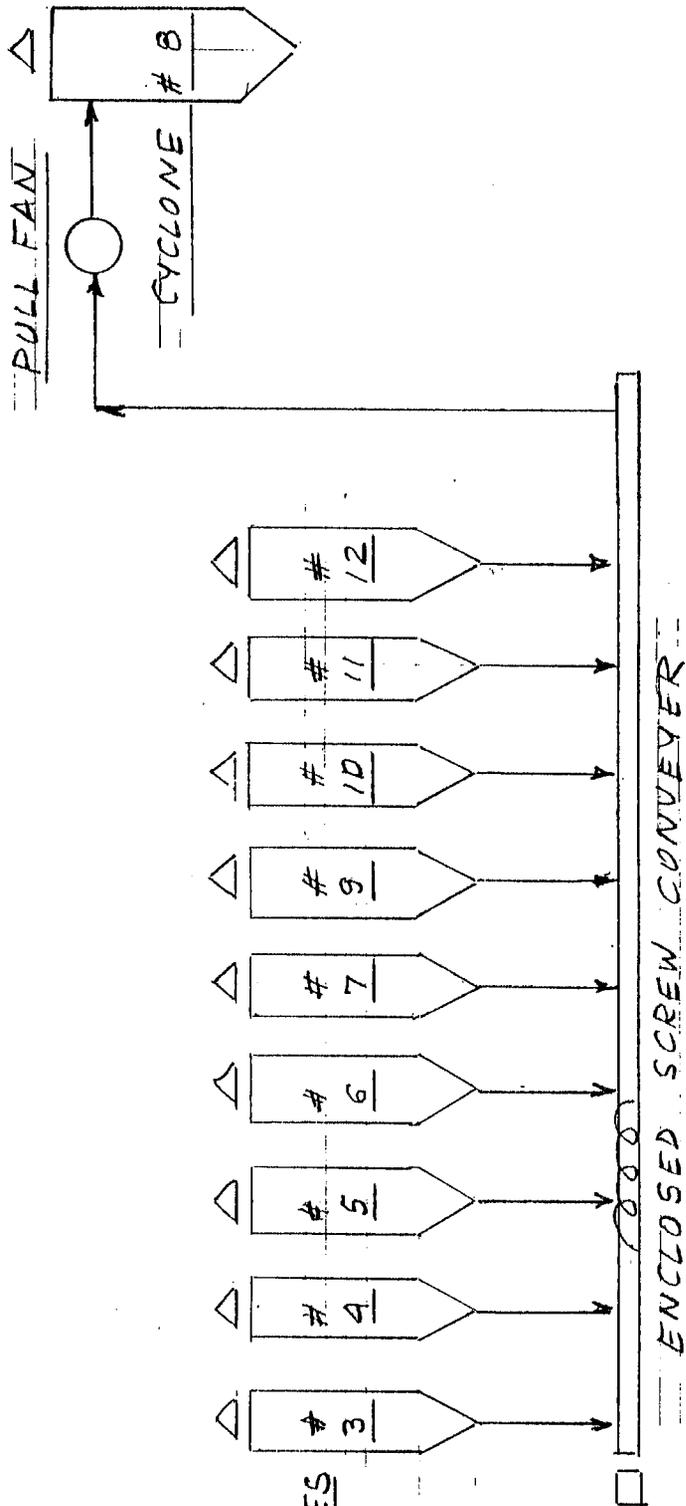


PROCESS SCHEMATIC
SEED HANDLING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE



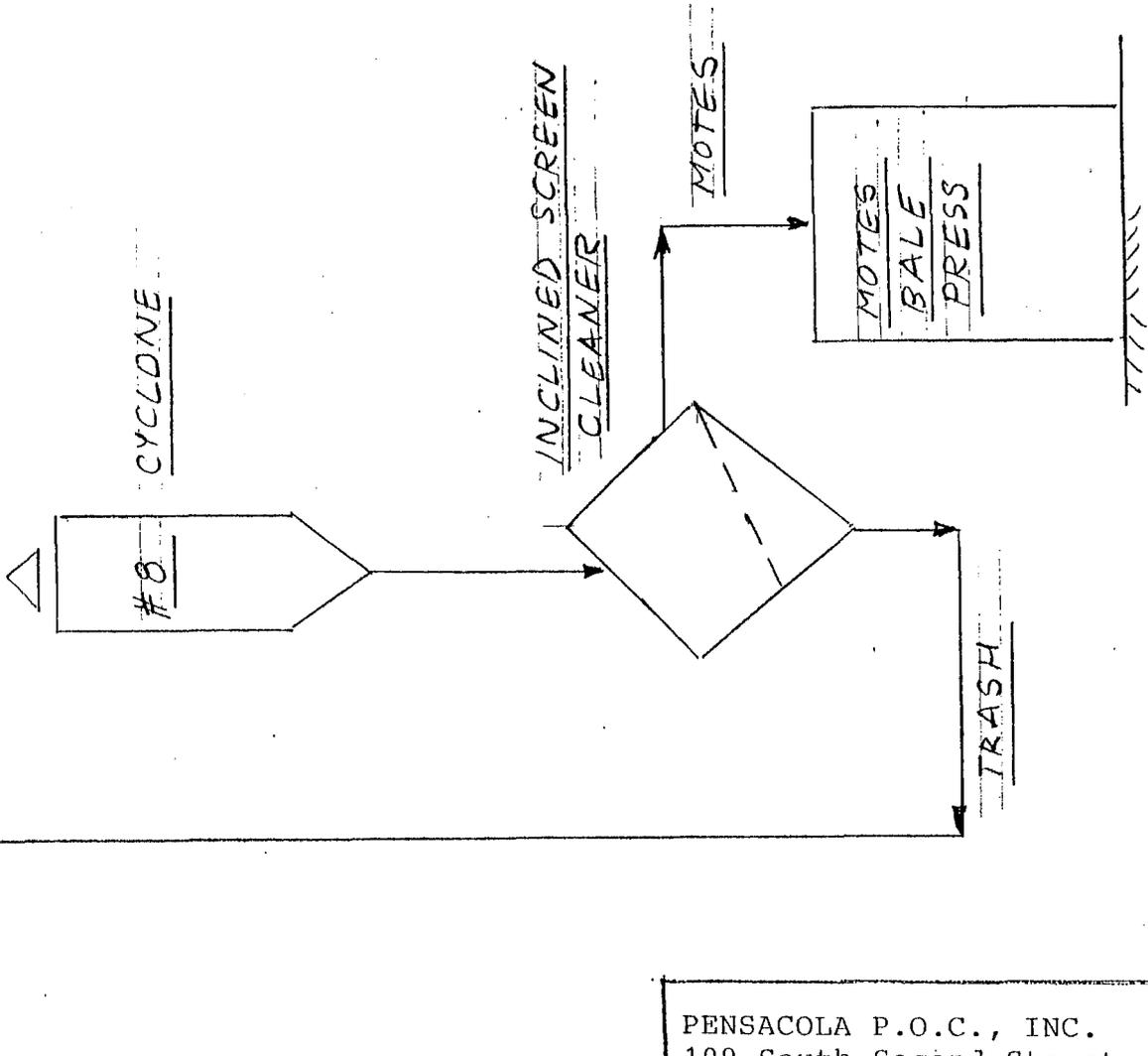
PROCESS SCHEMATIC
TRASH AND MOTES HANDLING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

MAIN TRASH PLENUM

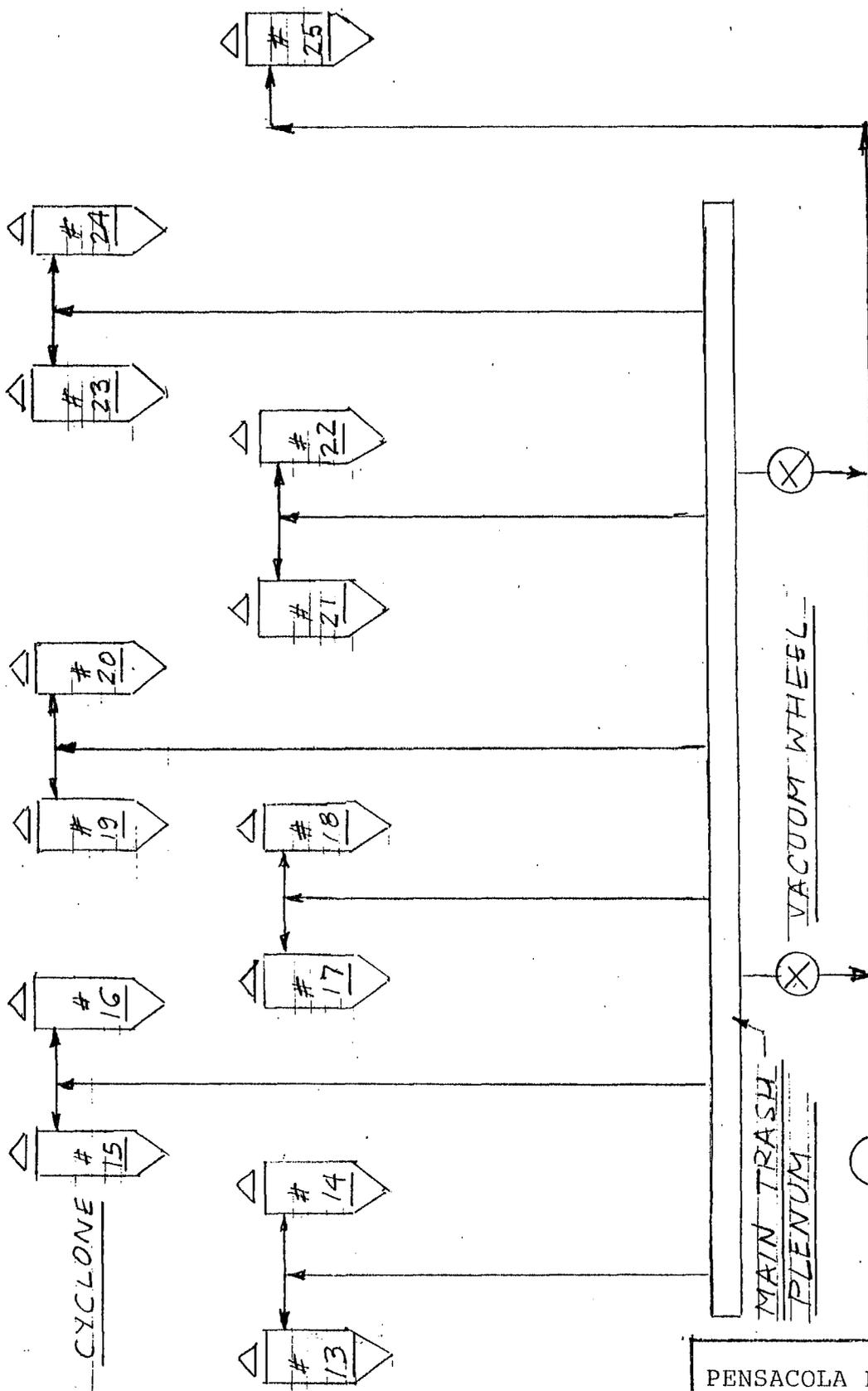


PROCESS SCHEMATIC - TRASH & MOTES

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

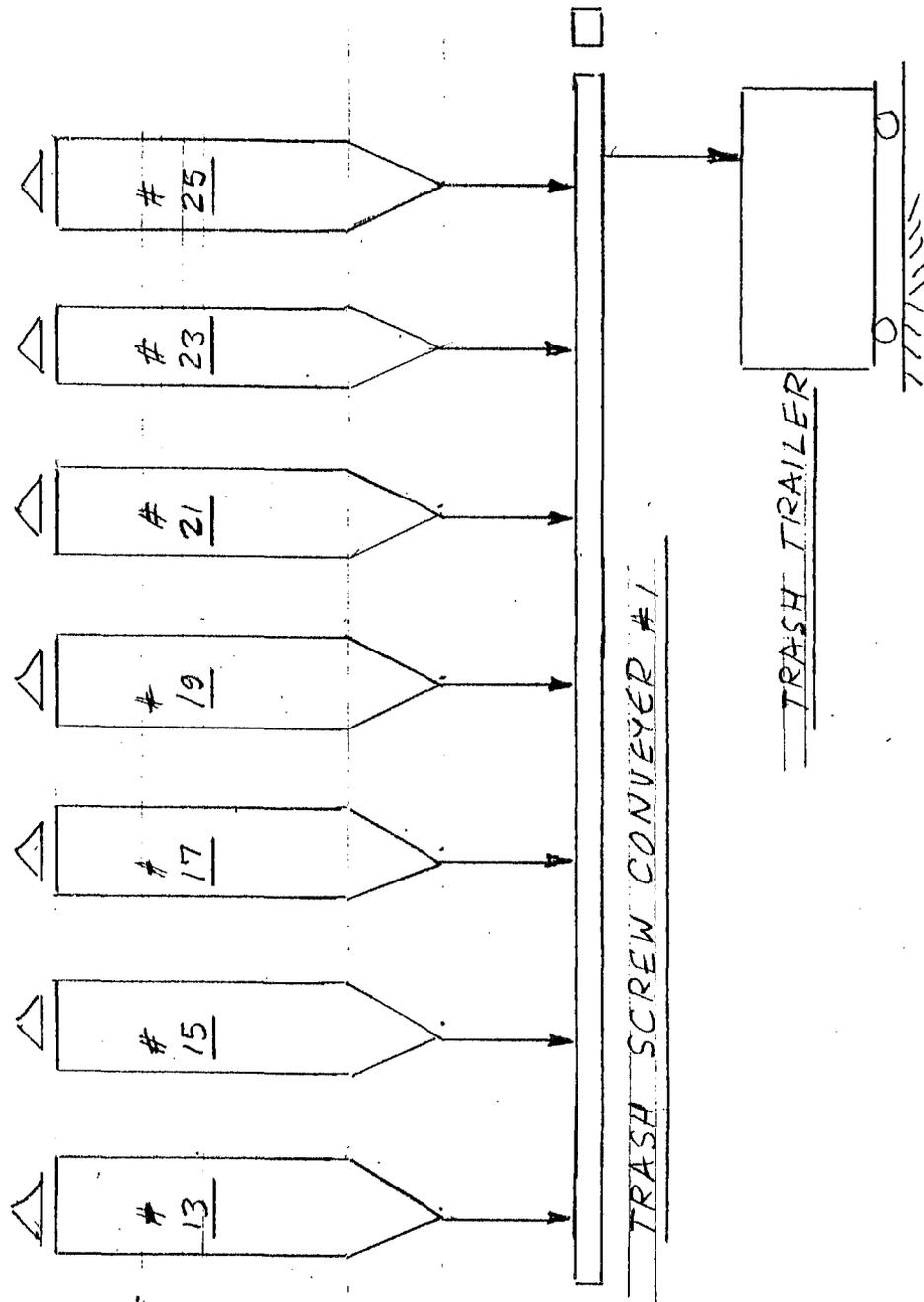


PROCESS SCHEMATIC
TRASH HANDLING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE



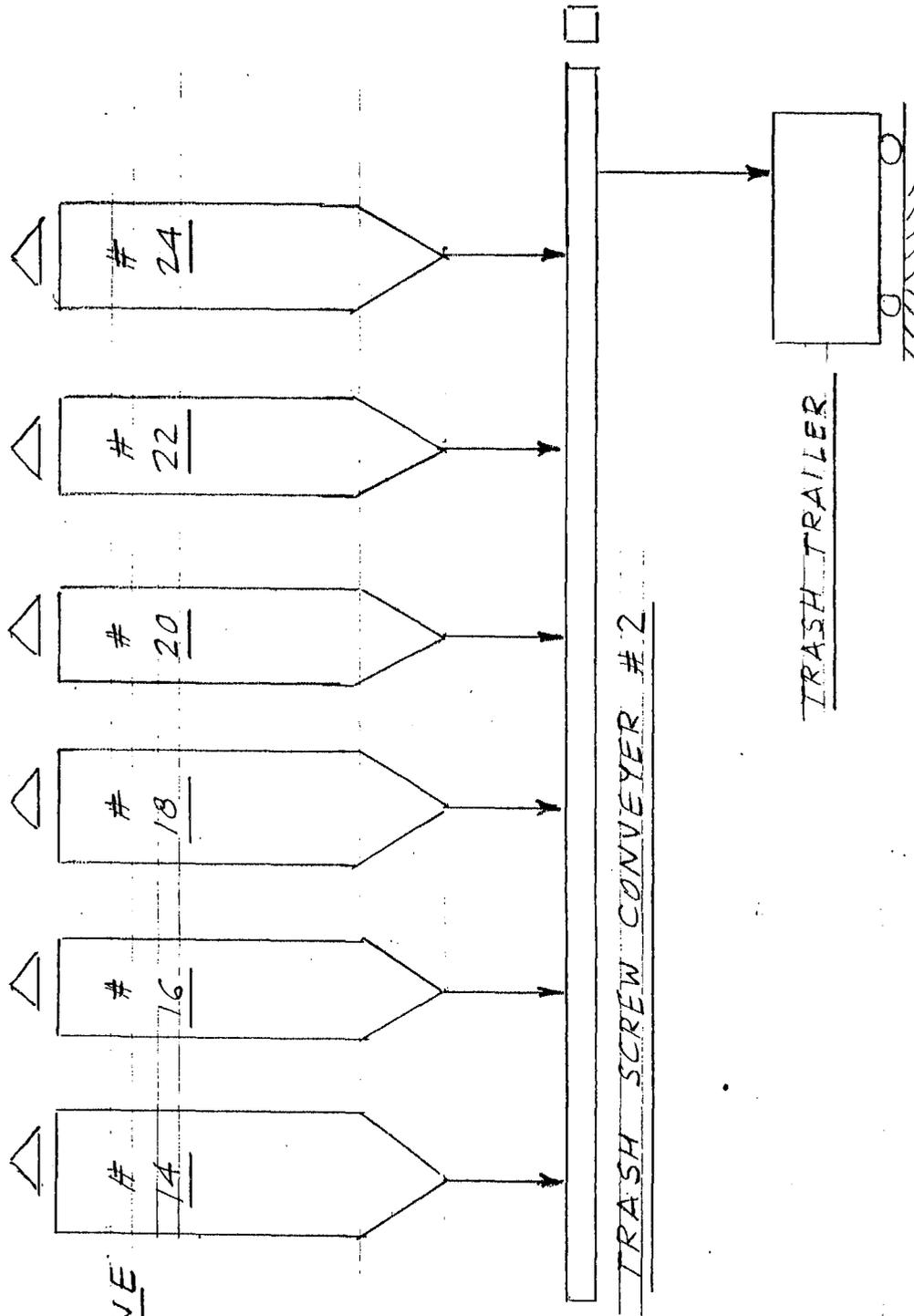
PROCESS SCHEMATIC
TRASH HANDLING

CYCLONE

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL

Date	11/14/01
Scale	NONE



CYCLONE

TRASH SCREW CONVEYER #2

TRASH TRAILER

PROCESS SCHEMATIC
TRASH HANDLING

PENSACOLA P.O.C., INC.
109 South Second Street
Pensacola, FL 32507

BURKHEAD GIN
JAY FL.

Date	11/14/01
Scale	NONE

Precautions to Prevent Emissions of Unconfined PM

This facility is located in a farming area and surrounded by farm land. Ginning and handling of cotton is accomplished under roof inside gin building. All cotton and byproducts such as lint, trash and seeds are handled by fully enclosed screw conveyors or blow pipes which are terminated by cyclones located in the open. All trash produced by this operation is terminated in cyclones from which it is dumped into trailers, closed on four sides (only tops are open). All seeds produced by this process are handled by fully enclosed screw conveyors and blow pipes to be delivered inside enclosed trailers.

In general, cotton ginning is accompanied by a certain amount of fugitive emissions in spite of the latest improvements and technologies associated with ginning process. By maintaining the equipment, watching the process, and removal of debris and trash from facility on a regular basis will help keep fugitive emissions to a minimum. Important aspect regarding fugitive emissions is the fact that these emissions are bio-degradable and are a good fertilizer for surrounding farms.

Cyclone Schedule

<u>Cyclone #</u>	<u>Diameter</u>
#1	48"
#2	48"
#3	32"
#4	36"
#5	36"
#6	36"
#7	36"
#8	60"
#9	60"
#10	60"
#11	60"
#12	60"
#13	48"
#14	48"
#15	48"
#16	48"
#17	48"
#18	48"
#19	48"
#20	48"
#21	48"
#22	48"
#23	48"
#24	48"
#25	24"

PAPER NO. _____

PREDICTED EFFECTS OF THE USE OF NEW CYCLONE DESIGNS
ON AGRICULTURAL PROCESSING PARTICULATE EMISSIONS

by

Calvin B. Parnell, Jr., Assoc. Professor
and
Doug Davis, Research Assistant
Department of Agricultural Engineering
Texas A&M University
College Station, Texas 77843

For Presentation at the 1979 Southwest Region Meeting
American Society of Agricultural Engineers

Hot Springs, Arkansas
April 25-27, 1979

SUMMARY: A cyclone design model was developed that allows for prediction of emission concentrations of cyclone given inlet dust loading, volume rate of flow, particle size distribution and cyclone dimensions. An example design was presented for grain dust using Texas A&M Long Cone (10-30) cyclones in a series with a high volume, low efficiency cyclone used as a pre-separator. With the cyclone pre-separator, reductions of particulate emissions of 90% were calculated.



American Society of Agricultural Engineers

St. Joseph, Michigan 49085

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The Department of Agricultural Engineering initiated research in 1975 on the design of cyclone collectors. This work was sponsored by a grant from the Texas Grain and Feed Association. The hypothesis associated with this research effort was that cyclone collectors designed properly could reduce particulate emissions that would be expected from standard 2D-2D collectors. The benefit of this work would be in those areas where local community air pollution regulations could not be met by standard 2D-2D collectors.

The objective of our cyclone research project was to develop a cyclone design model that could be used to design cyclone collectors to meet community air pollution regulations. This cyclone design model was based on the theoretical design concepts published by Muschelkneutz (1970) and Barth (1956). It was validated using experimental data for collection efficiencies of the standard 2D-2D and long-cone (1D-3D) cyclone collectors.

The purpose of this paper is to illustrate the use of this cyclone design model to develop a cyclone collection system that significantly reduces emissions from agricultural processing facilities. The sample design consists of cyclones in series used to abate a dust loading of 300 pounds per hour at a volume rate of flow of 11,000 actual cubic feet per minute (acfm). The inlet loading of 300 pounds per hour would be similar to loadings that could be expected from a 10-bales-per-hour cotton gin unloading separator exhaust processing stripper-harvested cotton (Parnell, 1973). The particle-size distributions used in this sample problem were obtained from grain dust collected at a terminal grain elevator. Dust associated with cotton ginning would most likely have a higher percentage of larger particles. Hence, emission concentrations from this same sample design for cotton gin exhausts would most likely be lower.

$$\frac{300 \text{ LBS/HR}}{11,000 \text{ CFM}} = 0.027 \text{ LB/HR, CFM}$$

Procedure

An air-pollution-abatement system consisting of a low-efficiency (large diameter) cyclone functioning as a preseparator for a series of high-efficiency (small diameter) cyclones may provide an effective and inexpensive method of reducing mill and elevator emissions to compliance levels. With the use of the Texas A&M cyclone design model and the application of basic engineering principles, a system can be designed and tested to determine expected emissions before cyclones are fabricated and installed. The following procedure was used:

1. Determine the volume of air and amount of dust the system will be required to handle.
2. After the volume of air to be handled has been determined, the dimensions of the low-efficiency cyclone can be calculated. The Handbook for Cotton Ginners (USDA Handbook No. 203) provides a "cookbook" methodology for the design of large-diameter cyclones.
3. In order to use the cyclone design model, the particle-size distribution of the dust to be collected must be determined. A sieve analysis of the dust yielded the mass median diameter (MMD) and geometrical standard deviation (σ_g) (Lee et al., 1972).
4. A plot was made of the particle-size distribution using the MMD and σ_g on log-probability paper.
5. A convenient range of particle sizes for the distribution was selected. The midpoint of those ranges and the percentage of dust contained in each range were determined.
6. This cyclone design model can predict the emissions from a given cyclone based on several system parameters. These include the dimensions of the cyclone, the quantity and the PSD of the dust to be collected, and the volume and velocity of the air moving through the system. By inputting the data as determined for the large-diameter cyclone, emission concentrations, as well as back pressure and cutoff diameter of the dust, can be obtained. The resulting emission concentration from this cyclone was used for the input dust loading for the bank of high-efficiency cyclones.

7. The final step in the design process was the decision of how many small-diameter cyclones to incorporate into the system. Four 18-30, long-cone cyclones were designed based on an inlet velocity of 3200 FPM. Application of the continuity equation determined the cross-sectional area of the cyclone inlet:

$$\text{CFM} = \text{Inlet velocity (ft/min)} \times \text{cross sectional area of inlet (ft}^2\text{)}$$

The barrel diameter (D_c) of the cyclone is a function of the inlet cross-sectional area. This relationship can be described mathematically as:

$$\text{cross sectional area (ft}^2\text{)} = D_c^2/8$$

With the diameter (D_c) determined, the rest of the cyclone dimensions can be determined using the relative dimensions shown in Figure 1.

To estimate emissions from the long-cone cyclones with the cyclone design model, the particle-size distribution for the dust emitted from the large-diameter cyclone must be determined. The particle-size distribution of the grain dust less than 100 μm was conducted using the Model TA Coulter Counter. This PSD in the new ranges was used with the cyclone dimensions, the volume rate of flow and velocity of air as before, and the model predicted the emission levels for each of the high-efficiency cyclones.

Results

Tables 1 through 5 are typical results for the long-cone (18-30) cyclones with varying loadings of 50 to 200 pounds per hour. The particle size (column 1) refers to the median particle size of the range used to calculate emission concentrations. These designs represent the typical approach used to design cyclones for agricultural processing facilities.

Tables 6 and 7 represent a unique cyclone "in series" design (Figure 2). The first cyclone (Table 6) is a high-volume, low-back pressure cyclone used to remove the large particles and decrease the inlet dust concentration inputted to the long-cone collectors. Note the emission concentrations for the

second series of cyclones is 0.075 grains per cubic foot. This should be compared to the emission concentration of 0.203 grains per cubic foot associated with the 75 pounds per hour loading (Table 2) which would be the equivalent design configuration without a preseparator cyclone. The reduction in emission concentrations was approximately 90 percent when cyclones were used in series.

Conclusions

This cyclone design model can be a very useful tool in designing cyclones to meet community air-pollution standards. It provides the means whereby emission concentrations can be estimated prior to installation and testing. A number of cyclone configurations can be compared in the design phase to obtain the system that will satisfy the community air-pollution standards provided the dust loading, particle-size distribution and volume rate of flow is known.

This model provides an opportunity for the agricultural processing industry to meet more rigid air-pollution standards with cyclone collectors when heretofore bag filters would have been required. Although the use of a high-volume, low-efficiency cyclone in series with high-efficiency cyclones require more energy than the standard cyclone design approach, the cost of this system should be significantly less than bag filter systems requiring \$4.00 per cfm.

REFERENCES

1. Lee, R. E. and S. Goransen. 1972. National air surveillance cascade impactor network. I. Size distribution measurements of suspended particulate matter in air. Environmental Science and Technology, 6(12):1019-1024.
 2. Matlock, S. W., L. R. Wiederhold, Jr. and C. B. Parnell, Jr. 1976. Particle sizing of dust found in cottonseed oil mills. Transactions of the ASAE. 19(5):970-976.
 3. Moore, V. P. and E. A. Harrell, 1964. Handbook for cotton ginners. Agricultural Handbook #260. ARS. USDA. pp. 83-84.
 4. Muschelknautz, D. 1970. Design of cyclone separators in the engineering practice. Staub-Reinhalte. Luft. 30(5):1-12.
 5. Parnell, C. D. and R. V. Baker. 1973. Particulate emissions of a cotton gin in the Texas stripper area. USDA, Production Research Report No.149, 18 p.
-

TABLE 4

32 INCH DIAMETER CYCLONE - 150 lb/hr DUST LOADING

INLET VELOCITY - 3200 FPM

OVERALL EFFICIENCY - 81.22

BACK PRESSURE - 6.32 IN. OF WATER

PARTICLE SIZE (MICROMS)	MASS LOADING IN (mg/m ³)	FRACTIONAL EFFICIENCY	MASS LOADING OUT (mg/m ³)	MASS LOADING OUT (gr/ft ³)
2.25	52.68	0.000	52.68	0.023
2.85	79.02	0.025	77.01	0.034
3.58	121.17	0.073	112.37	0.049
4.52	142.24	0.150	120.89	0.053
5.70	189.66	0.265	139.47	0.061
7.18	200.19	0.419	116.27	0.051
9.04	389.85	0.606	153.42	0.067
11.39	611.12	0.800	122.32	0.053
14.35	1022.05	0.947	54.30	0.024
18.10	964.10	0.996	4.02	0.002
22.80	600.58	1.000	0.00	0.000
28.70	426.73	1.000	0.00	0.000
36.15	273.95	1.000	0.00	0.000

SUM IN = 5073.36

SUM OUT = 952.75

SUM OUT = 0.416

TYP. CYCLONE DIMENSIONS.

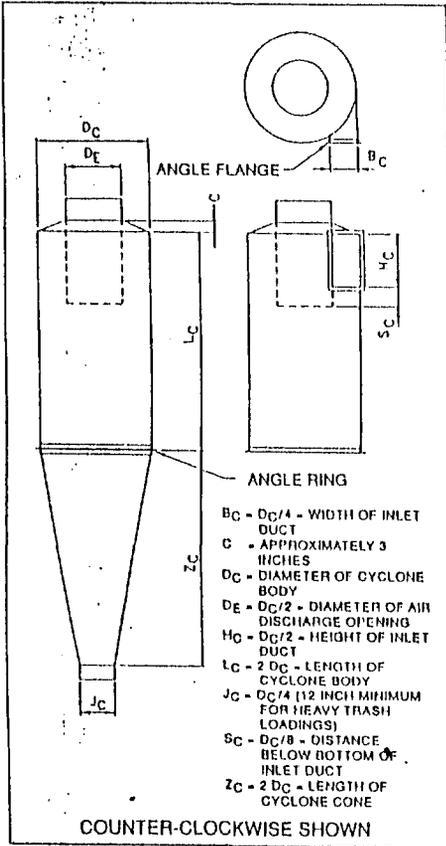


Figure 2: Dimensions of a 2D2D cyclone.

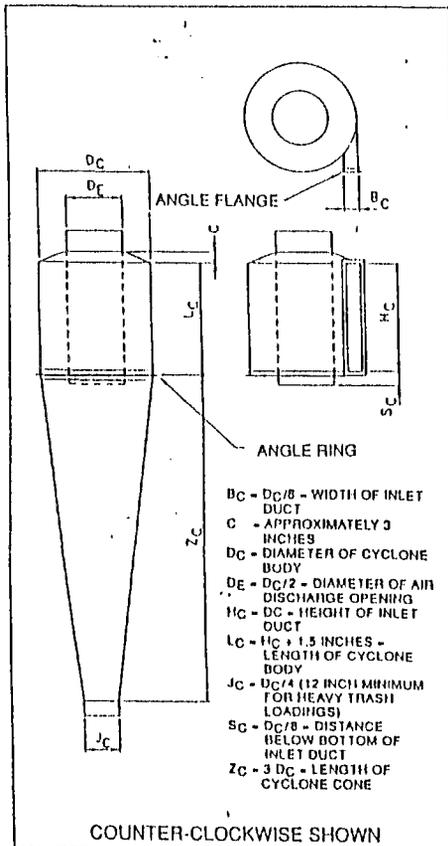


Figure 3: Dimensions of a 1D3D cyclone.

Are Your Cyclones Correctly Sized?

Now that you know the pipe size, air flow, and cyclone type and size, you can determine if your cyclones are correctly sized. The following example will make things clearer. Suppose that you have a 24" pipe carrying the exhaust from an incline cleaner, and that this exhaust discharges into a triple, 40" 1D3D setup. Also assume that the gin is located at 4,000 ft. altitude. Using the pitot tube and manometer, you measure a velocity pressure of 1.2" of water in the 24" pipe and the air temperature is 40°F. From Table 1, a 24" pipe having a velocity pressure of 1.2" of water is carrying

12,561 ft³/min of air. After correcting for temperature (0.971 at 40°F) and altitude (1.075 at 4000 ft above sea level), your pipe is actually carrying 13,111 (12,561 x 0.971 x 1.075 = 13,311) ft³/min of air. Table 2 shows the recommended cyclone arrangements as a function of total air flow. You can see that a triple, 40", 1D3D setup can handle up to 14,000 ft³/min of air and would be a recommended arrangement for handling 13,111 ft³/min of air; therefore, your cyclones have been sized correctly and you need only be concerned with quality of construction and maintenance. Since many of you are probably still using 2D2D cyclones in your gin, Table 3 shows the recommended cyclone arrangements for 2D2Ds.

For those of you interested in how the engineer decided that three, 40" cyclones were an acceptable design, or for that matter, would like to design your

Air volume ft ³ /min	Single		Double		Triple		Quadruple	
	dia. in.	height ft.	dia. in.	height ft.	dia. in.	height ft.	dia. in.	height ft.
1500	24	9	--	--	--	--	--	--
2000	26	10	--	--	--	--	--	--
2500	30	11	22	8	--	--	--	--
3000	32	12	24	9	--	--	--	--
3500	36	13	26	10	20	8	--	--
4000	38	14	26	10	22	8	--	--
4500	40	14	28	10	24	9	20	8
5000	42	15	30	11	24	9	22	8
5500	44	16	32	12	26	10	22	8
6000	46	16	32	12	26	10	24	9
7000	--	--	36	13	28	10	26	10
8000	--	--	38	14	30	11	26	10
9000	--	--	40	14	32	12	28	10
10000	--	--	42	15	34	12	30	11
11000	--	--	44	16	36	13	32	12
12000	--	--	46	16	38	14	32	12
14000	--	--	--	--	40	14	36	13
16000	--	--	--	--	44	16	38	14
18000	--	--	--	--	46	16	40	14
20000	--	--	--	--	--	--	42	15
22000	--	--	--	--	--	--	44	16
24000	--	--	--	--	--	--	46	16

Table 2 Recommended 1D3D cyclone arrangements*

*Inlet air velocity = 3,200 ft/min. Cyclone diameters are rounded to the nearest 2 inches.

Burkhead Gin Company

Operation and Maintenance Plan

Prior to the ginning season, facility is started and gone over thoroughly to identify and correct any problems.

During ginning season, weekly check of cyclones and blowpipes for integrity and proper operation will be conducted. Any problems will be corrected as they are found.

VISIBLE EMISSION OBSERVATION FORM 1

Form Number	BG-1	Page	1	of	1
Continued on VEO Form Number					

Method Used (Circle One)
 Method 9 203A 203B Other: _____

Company Name
 Buckhead Gin Co
 Facility Name

Street Address
 225 N. Magnolia
 City Jay State FL Zip 32565

Process
 raw cotton unloading
 Control Equipment
 cyclones 1+2
 Unit # 1
 Operating Mode
 pneumatic
 Operating Mode
 continuous

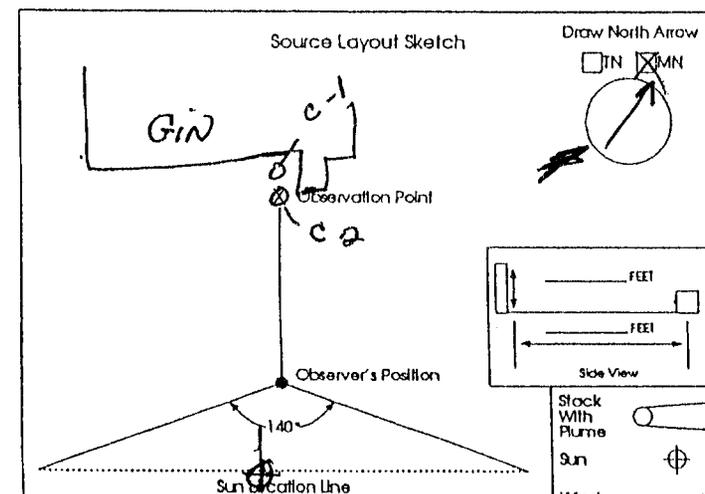
Describe Emission Point
 top of cyclone 2

Height of Emiss. Pt.
 Start ~25' End ✓
 Distance to Emiss. Pt.
 Start 57 yds End ✓
 Height of Emiss. Pt. Rel. to Observer
 Start ~25' End ✓
 Direction to Emiss. Pt. (Degrees)
 Start 326°N End ✓

Vertical Angle to Obs. Pt.
 Start 7° End ✓
 Direction to Obs. Pt. (Degrees)
 Start 326° End ✓
 Distance and Direction to Observation Point from Emission Point
 Start N/A End ✓

Describe Emissions
 Start none End ✓
 Emission Color
 Start N/A End ✓
 Water Droplet Plume
 Attached Detached None

Describe Plume Background
 Start Gin, sky End ✓
 Background Color
 Start gray, blue End ✓
 Wind Speed
 Start 3-10 End ✓
 Ambient Temp.
 Start 55°F End ✓
 Sky Conditions
 Start clear End ✓
 Wind Direction
 Start SSW End ✓
 Wet Bulb Temp.
 Start 75°F RH Percent
 ~79%



Longitude 87°08'43" Latitude 30°57'22" Declination unknown

Additional Information
 11300027-002-AC ✓=same
 22 bales/hr

Min	Time Zone				Start Time	End Time	Comments
	Sec	0	15	30			
1	0	0	0	0	10:35 AM	11:04:45	
2	0	0	0	0			
3	0	0	0	0			
4	0	0	0	0			
5	0	0	0	0			
6	0	0	0	0			
7	0	0	0	0			
8	0	0	0	0			
9	0	0	0	0			
10	0	0	0	0			
11	0	0	0	0			
12	0	0	0	0			
13	0	0	0	0			
14	0	0	0	0			
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21	0	0	0	0			
22	0	0	0	0			
23	0	0	0	0			
24	0	0	0	0			
25	0	0	0	0			
26	0	0	0	0			
27	0	0	0	0			
28	0	0	0	0			
29	0	0	0	0			
30	0	0	0	0			

Observer's Name (Print)
 Barbara Swain
 Observer's Signature
 Barbara Swain
 Date 12/2/02
 Organization
 Pensacola P.O.C. Inc.
 Certified By
 ETA
 Date 11/02

VISIBLE EMISSION OBSERVATION FORM 1

Form Number	RG-2	Page	1	Of	1
Continued on VEO Form Number					

Method Used (Circle One)
 Method 9 203A 203B Other: _____

Company Name
 Buckhead Gin Co
 Facility Name
 Street Address
 225 N. Magnolia
 City Jay State FL Zip 32565

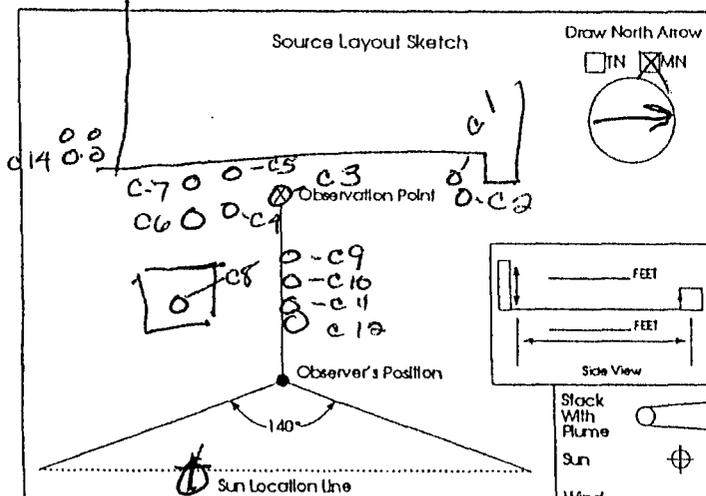
Process
 Ginning
 Control Equipment
 cyclone 3
 Unit # 2
 Operating Mode
 pneumatic
 Operating Mode
 Continuous

Describe Emission Point
 top of cyclone 3
 Height of Emiss. Pt. Start ~18' End ✓
 Height of Emiss. Pt. Rel. to Observer Start ~18' End ✓
 Distance to Emiss. Pt. Start 42 yds End ✓
 Direction to Emiss. Pt. (Degrees) Start 282°N End ✓

Vertical Angle to Obs. Pt. Start 6° End ✓
 Direction to Obs. Pt. (Degrees) Start 282°N End ✓
 Distance and Direction to Observation Point from Emission Point Start N/A End ✓

Describe Emissions
 Start none End ✓
 Emission Color Start N/A End ✓
 Water Droplet Plume Attached Detached None

Describe Plume Background
 Start roof of GIN End ✓
 Background Color Start Gray End ✓
 Wind Speed Start 3-10 End ✓
 Wind Direction Start S End ✓
 Ambient Temp. Start 55°F End
 Wet Bulb Temp. Start 45°F End
 RH Percent ~44%



Longitude 87°08'43" Latitude 30°57'22" Declination unknown

Additional Information
 11300027-002-A-C ✓ = same
 22 bales/hr

Mn	Time Zone Central				Start Time	End Time	Comments
	0	15	30	45			
1	0	0	0	0	10:00 AM	10:29:45 AM	
2	0	0	0	0			
3	0	0	0	0			
4	0	0	0	0			
5	0	0	0	0			
6	0	0	0	0			
7	0	0	0	0			
8	0	0	0	0			
9	0	0	0	0			
10	0	0	0	0			
11	0	0	0	0			
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23	0	0	0	0			
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25	0	0	0	0			
26	0	0	0	0			
27	0	0	0	0			
28	0	0	0	0			
29	0	0	0	0			
30	0	0	0	0			

Observer's Name (Print) Barbara S. King
 Observer's Signature Barbara S. King Date 12/2/02
 Organization Pensacola P.O.C. Inc.
 Certified by ETA Date 11/02

ETA
 12/5/02

VISIBLE EMISSION OBSERVATION FORM 1

Form Number	BG-3	Page	1	Of	1
Continued on VEO Form Number					

Method Used (Circle One)
 Method 2 203A 203B Other: _____

Company Name
Buckhead Gin Co

Facility Name

Street Address
225 N. Magnolia

City Jay State FL Zip 32565

Process Unit # Operating Mode
 lint cleaning & baling Pneumatic
 Control Equipment Operating Mode
 cyclones 1-12 Continuous

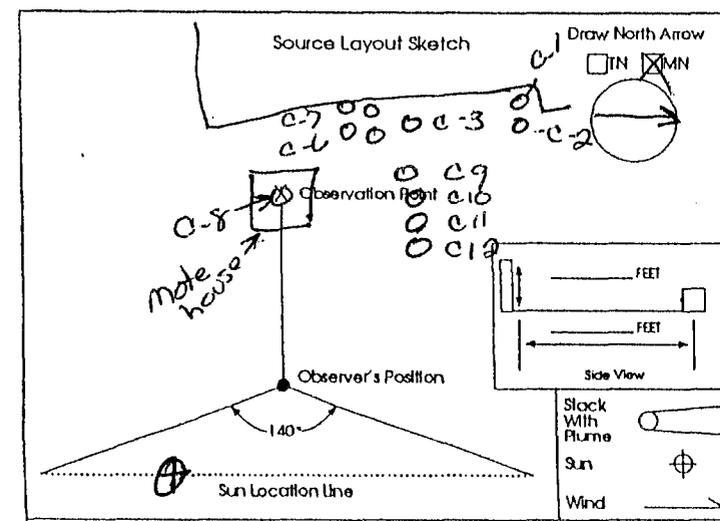
Describe Emission Point
top of cyclones

Height of Emiss. Pt. Height of Emiss. Pt. Rel. to Observer
 Start ~35' End ✓ Start ~35' End ✓
 Distance to Emiss. Pt. Direction to Emiss. Pt. (Degrees)
 Start 34yds End ✓ Start 267°N End ✓

Vertical Angle to Obs. Pt. Direction to Obs. Pt. (Degrees)
 Start 17° End ✓ Start 267°N End ✓
 Distance and Direction to Observation Point from Emission Point
 Start N/A End ✓

Describe Emissions
 Start barely visible End ✓
 Emission Color Water Droplet Plume
 Start whitish End ✓ Attached Detached None

Describe Plume Background
 Start SKY End ✓
 Background Color Sky Conditions
 Start blue End ✓ Start Clear End ✓
 Wind Speed Wind Direction
 Start Var 3-10 End ✓ Start S End ✓
 Ambient Temp. Wet Bulb Temp. RH Percent
 Start 55° F End 75° F ~79%



Longitude 87°08'43" Latitude 30°57'22" Declination UNKNOWN

Additional Information
 1130027-002-A-C ✓ same
 22bade/h

Mn	Time Zone				Start Time	End Time	Comments
	0	15	30	45			
	12/2/02 Central				10:00 AM	10:29:45	
1	5	5	10	10			
2	10	10	5	10			
3	10	5	5	10			
4	10	10	10	10			
5	10	5	10	10			
6	10	10	10	5			
7	10	5	5	10			
8	5	5	5	5			
9	0	5	5	5			
10	10	10	5	0			
11	5	5	5	5			
12	5	10	5	10			
13	5	5	5	5			
14	5	5	5	0			
15	5	5	5	5			
16	5	5	10	5			
17	0	5	0	5			
18	10	5	5	10			
19	10	10	10	15			
20	10	10	5	5			
21	5	10	5	5			
22	5	5	5	5			
23	0	0	0	0			
24	5	10	5	5			
25	0	5	5	0			
26	5	10	15	10			
27	10	15	10	10			
28	10	5	5	5			
29	5	10	10	5			
30	5	5	0	5			

Observer's Name (Print)
Barbara Swain

Observer's Signature
Barbara Swain

Date
12/2/02

Organization
Pensacola P.O.C. Inc.

Certified By
ETA

Date
11/08

EPA

VISIBLE EMISSION OBSERVATION FORM 1

Form Number	BG-4	Page	1	Of	1
Continued on VEO Form Number					

Method Used (Circle One)
 Method 9 203A 203B Other: _____

Company Name
Buckhead Gin Co

Facility Name

Street Address
225 N. Magnolia

City Jay State FL Zip 32565

Process
Trash handling

Unit #

Operating Mode
pneumatic

Control Equipment
Cyclones 13-25

Operating Mode
Continuous

Describe Emission Point
top of cyclone 14

Height of Emiss. Pt.
Start ~30' End ~30'

Height of Emiss. Pt. Rel. to Observer
Start ~30' End ~30'

Distance to Emiss. Pt.
Start 42 yds End ✓

Direction to Emiss. Pt. (Degrees)
Start 256°N End ✓

Vertical Angle to Obs. Pt.
Start 12° End ✓

Direction to Obs. Pt. (Degrees)
Start 256°N End ✓

Distance and Direction to Observation Point from Emission Point
Start N/A End ✓

Describe Emissions

Start None End ✓

Emission Color
Start N/A End ✓

Water Droplet Plume
Attached Detached None

Describe Plume Background

Start sky End ✓

Background Color
Start blue End ✓

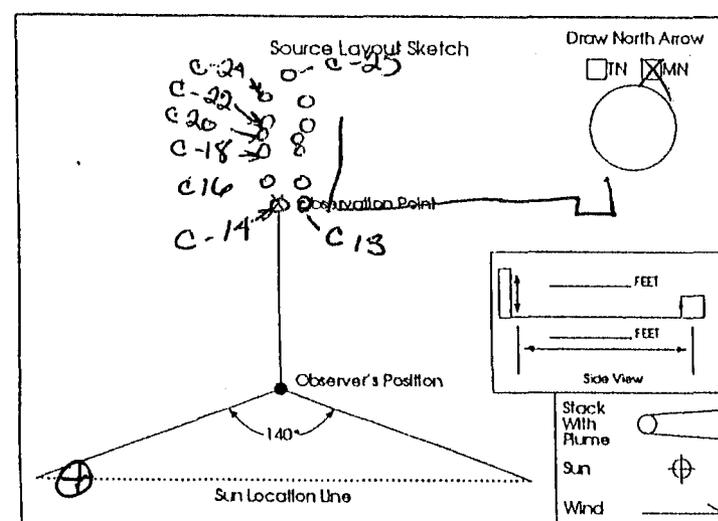
Wind Speed
Start near 3-10 End ✓

Wind Direction
Start S. End ✓

Ambient Temp.
Start 55°F End

Wet Bulb Temp.
45°F

RH Percent
~44%



Longitude 87°08'43" Latitude 30°57'22" Declination unknown

Additional Information
1130027-002-AC ✓ same
22 bales/hr

Mn	Time Zone Central				Start time 10:00	End time 10:29:45 AM	Comments
	Sec	0	15	30			
1	0	0	0	0			
2	0	0	0	0			
3	0	0	0	0			
4	0	0	0	0			
5	0	0	0	0			
6	0	0	0	0			
7	0	0	0	0			
8	0	0	0	0			
9	0	0	0	0			
10	0	0	0	0			
11	0	0	0	0			
12	0	0	0	0			
13	0	0	0	0			
14	0	0	0	0			
15	0	0	0	0			
16	0	0	0	0			
17	0	0	0	0			
18	0	0	0	0			
19	0	0	0	0			
20	0	0	0	0			
21	0	0	0	0			
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25	0	0	0	0			
26	0	0	0	0			
27	0	0	0	0			
28	0	0	0	0			
29	0	0	0	0			
30	0	0	0	0			

Observer's Name (Print)
Barbara Swain

Observer's Signature
Barbara Swain

Organization
Pensacola P.O.C. Inc.

Certified By
ETA

Date
11/02