



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
ST. JOHNS RIVER SUBDISTRICT

March 16, 1979

Mr. John Mueller, Plant Manager
Anheuser-Busch, Inc.
P. O. Box 10817 AMF
Jacksonville, FL 32229

Dear Mr. Mueller:

Duval County - AP
Anheuser-Busch, Inc.
Grains Dryer No. 2

Enclosed is Permit Number A016-18260, dated March 16, 1979,
to operate the subject pollution source, issued
pursuant to Section 403.061(16), Florida Statutes.

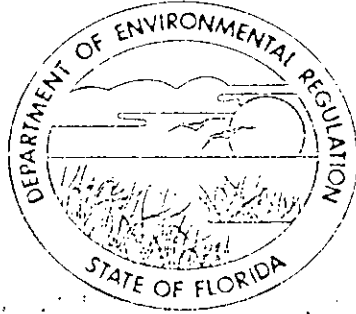
Should you object to this permit, including any and all of the conditions contained therein, you may file an appropriate petition for administrative hearing. This petition must be filed within fourteen (14) days of the receipt of this letter. Further, the petition must conform to the requirements of Section 28-5.15, Florida Administrative Code, (copy enclosed). The petition must be filed with the Office of General Counsel, Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301.

If no petition is filed within the prescribed time, you will be deemed to have accepted this permit and waived your right to request an administrative hearing on this matter.

Acceptance of the permit constitutes notice and agreement that the department will periodically review this permit for compliance, including site inspections where applicable, and may initiate enforcement action for violation of the conditions and requirements thereof.

Sincerely,
Frank Watkins Jr
Frank Watkins, Jr., P.E.
Subdistrict Engineer

FW:vk
Enclosure
cc: Records Center, Tallahassee
Bio-Environmental Services Division
Mr Charles M. Nolan, P.E.



STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION

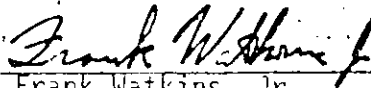
Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, FL 32218

OPERATION
PERMIT

NO. A016-18260
Grains Dryer No. 2


DATE OF ISSUANCE

March 16, 1979


Frank Watkins, Jr.
Subdistrict Engineer

DATE OF EXPIRATION

December 31, 1983


G. Doug Dutton
Subdistrict Manager



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT

March 16, 1979

APPLICANT:
Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, FL 32218

PERMIT/CERTIFICATION
NO. A016-18260

COUNTY: Duval

PROJECT: Grains Dryer No. 2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapters 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

No. 2 Grains Dryer, 12,750 Pounds/Hour Dry Weight, with Scrubber (Ducon, Serial No. C-73-373) located at 111 Buxch Drive, Jacksonville, FL

UTM: E-7438000 N-3366800

In accordance with the application dated April 27, 1978 and additional information submitted March 6, 1979.

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

Appl. Name: Anheuser-Busch, Inc.

Project: Grains Dryer No. 2

Page 2 of 4 of Permit No.: A016-18260

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided however the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

Appl. Name: Anheuser-Busch, Inc.
Project: Grains Dryer No. 2
Page 3 of 4 of Permit No. A016-18260

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.
12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.
13. This permit also constitutes:
 - () Determination of Best Available Control Technology (BACT)
 - () Determination of Prevention of Significant Deterioration (PSD)
 - () Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

SPECIFIC CONDITIONS:

1. Supporting documents are retained in file of office to which it was submitted and not attached as stated in the leading paragraph and General Condition No. 2. They are as follows:
 - a. Operation permit application
 - b. Test report
2. Testing of emissions must be accomplished at $\pm 10\%$ of the rate stated in the permit.
3. The maximum allowable emission rate for each pollutant is as follows:

<u>Pollutant</u>	<u>Emission Rate (lbs/hr)</u>
Particulates	11.32
4. Test the emissions for the following pollutant at intervals indicated from the date of December 31, 1978 and submit a copy of the test report to the Jacksonville Bio-Environmental Services Division and a summary to this office within 15 days after completion of the testing:

Particulates	6 months
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5. Submit an annual operations report for this source on the form supplied by the Department for each calendar year on or before March 1.
6. Any revision(s) to a permit (and application) must be submitted and approved prior to implementing.

Appl. Name: Anheuser-Busch, Inc.
Project: Grains Dryer No. 2
Page 4 of 4 of Permit No.: A016-18260

Expiration Date:
December 31, 1983

Issued this 16th day of March
1979.

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION



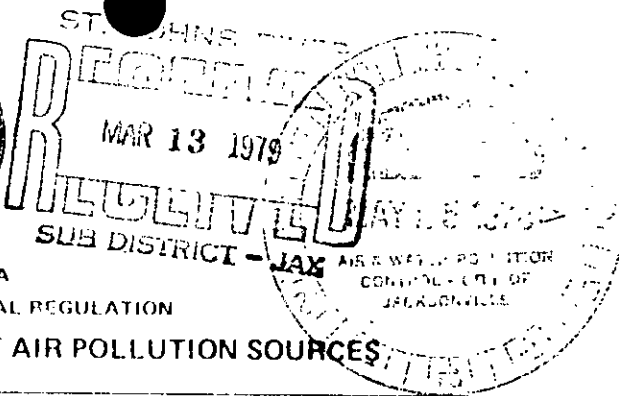
G. Doug Dutton
Subdistrict Manager

PERMITTED

BY

LOWER ST. JOHNS RIVER SUB DISTRICT
DEPARTMENT OF ENVIRONMENTAL REGULATION

PERMIT NO. AK 16-18260
DATE 3/16/78



STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution (g) Incinerator

Type application: Operation Construction

Source Status: New Existing Modification

Company Name: Anheuser-Busch, Inc. County: Duval

Source Identification: Grains Dryer No. 2

Source Location: Street: 111 Busch Drive City: Jacksonville

UTM: East 7438000 North 3366800

Appl. Name and Title: Mr. John Mueller Plant Manager

Appl. Address: 111 Busch Drive, Jacksonville, Florida 32218

STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative of Anheuser-Busch, Inc.

I certify that the statements made in this application for an operating permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403, Florida Statutes, and all the rules and regulations of the Department and revisions thereof. I also understand that a permit, if granted by the Department, will be nontransferable and I will promptly notify the Department upon sale or legal transfer of the permitted establishment.

John Mueller Plant Manager
Signature of the Owner or Authorized Representative and Title

Date: 3/16/78 Telephone No.: (904) 751-0700

*Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained for a \$5.00 charge from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulation of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature: Charles M. Nolan Mailing Address: Argo, Nolan & Assoc.
3119 Spring Glen Road
Name: CHARLES M. NOLAN Suite 108
(Please Type) Jacksonville, Fla. 32207

Company Name: ANHEUSER-BUSCH, INC. Telephone No.: (904) 396-7386

Florida Registration Number: # 19889 Date: May 24, 1978

(Att: Seal)

No changes on this page.

DETAILED DESCRIPTION OF SOURCE

A. Describe the nature and extent of the project. Refer to existing pollution control facilities, expected improvement in performance of the facilities and state whether the project will result in full compliance. Attach additional sheet if necessary.

B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Start of Construction: _____
Completion of Construction: _____

C. Costs of Construction (Show a breakdown of estimated costs for individual components/units of the project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

D. For this source indicate any previous DER permits, orders, and notices, including issuance dates and expiration dates.

E. Is this application associated with or part of a development of 50,000 sq ft (2000) pursuant to Chapter 380, Florida Statutes, and Chapter 220.2, Florida Administrative Code? Yes _____ No _____

AIR POLLUTION SOURCES & CONTROL DEVICES
(other than incinerators)

A. Identification of Air Contaminants:

- 1) Particulates
 - a) Dust
 - b) Fly Ash
 - c) Smoke
 - d) Other (Identify)
- 2) Sulfur Compounds
 - a) SO₂ as SO₂
 - b) Reduced Sulfur as H₂S
 - c) Other (Identify)
- 3) Nitrogen Compounds
 - a) NO_x as NO₂
 - b) NH₃
 - c) Other (Identify)
- 4) Fluorides
- 5) Acid Mist
- 6) Odor
- 7) Hydrocarbons
- 8) Volatile Organic Compounds
- 9) Other (Specify): _____

Raw material inputs vary considerably. They depend mainly on the operation of many pieces of brewing equipment, on

B. Raw Materials and Chemicals Used (Be Specific):

the wet spent grain demand, and on production schedules. These usages reflect typical dry inputs near the dryer's currently expected capacity.

Description	Duration Rate # lbs./hr. TYPICAL	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
See Calculations, p 3A.				
Evaporator Concentrate	2090	Grain Dust	Unknown	
Centrifuge Solids	1370	Grain Dust	Unknown	
Wet Spent Grain	4370	Grain Dust	Unknown	
Recycle	18,580	Grain Dust	Unknown	

*Dry basis

C. Process Rate:

- 1) Total Process Input Rate (Units*): 26,400 dry lb/hr. (48,000 lb/hr at 45% H₂O)
- 2) Product Weight (Units*): 7920 dry lb/hr (8500 lb/hr at 22% Total Solids)
- 3) Normal Operating Time: continuous, if seasonal describe: _____ year around
hrs./day: _____ days/wk: _____ wk./yr.

D. Airborne Contaminants Discharged

Name of Contaminant	Actual** Discharge		Discharge Criteria Rate* (lbs./hr.)	Allowable Discharge lbs./hr.	Relate to Flow Diagram
	lbs./hr.	T/yr.			
Grains Dust					No. 63 on plot plan
Tests of 7/14/77	11.49		17,004	13.53	
Tests of 3/31/77	9.40		16,185	13.13	

*Refer to Chapter 17-2-04(2) Florida Administrative Code
(Discharge Criteria: Rate = lbs./hr. P₂O₅, lbs./hr. B₂O₃, etc.)
**Estimate only if this is an application to construct.

E. Control Devices:

Name and Type (Model and Serial No.)	Contaminant	Efficiency*	Conditions of Operations	Basis for Efficiency Operational Data, Test, Design, Data
Wet Scrubber, Ducon, Size 120, Type I, Model II, Serial No. C-73-373	Particulate	99+%(110% Eff) over 3 microns		No. 63 on plot plan

*See required supplement.
(Include any test data and/or design data for efficiency substantiation)

F. Fuels:

Type (Be Specific)	Consumption*		Maximum Heat Input MMBTU/hr.
	Avg./hr.	Max./hr.	
No. 6 Fuel Oil	140 gal or 1150 lb	260 gal or 2130 lb	39

*Units: Natural Gas - MCG/hr.; Fuel Oils, Coal - lbs./hr.

Fuel Analysis:

Percent Sulfur: 2.4 max. Percent Ash: NA
 Density: est. 8.2 lb./gal.
 Heat Capacity: 150,000 BTU/lb. BTU/gal.
 Other Fuel Contaminants: _____

G. Indicate liquid or solid wastes generated and method of disposal:

None generated.

H. Emission Stack Geometry and Flow Characteristics. (provide data for each stack):

Stack Height: 70 (above grade) ft. Stack Diameter: 6.75 ft.
 Gas Flow Rate: 75,000 - 80,000 ACFM Gas Exit Temperature: 130 °F
 Water Vapor Content: 15 - 20 %

INCINERATOR INFORMATION

Type of Waste	Type O (Plastics)	Type I (Rubber)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Lbs./Hr. Incinerated							

Description of Waste: _____

Total Weight Incinerated (lbs./hr.): _____ Design Capacity (lbs./hr.): _____

Approximate Number of Hours of Operation per Day: _____, days/week: _____

Manufacturer: _____

Date Constructed: _____ Model No.: _____

	Volume (ft.) ³	Heat Release (BTU/hr.)	Fuel		Temp. (°F)
			Type	BTU/hr.	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp.: _____ °F

Water Vapor Content: _____ %

Type of Pollution Control Devices: Cyclone Wet scrubber Afterburner
 Other (Specify): _____

Brief Description of Operating Characteristics of Control Devices: _____

Ultimate disposal of Any Effluent Other Than That Emitted From the Stack (scrubber water, ash, etc.): _____

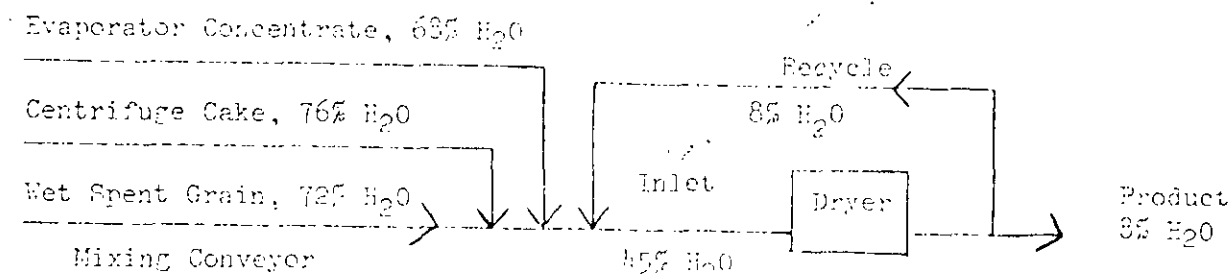
Please Provide the Following Required Supplements For All Pollution Sources.

1. Total process input rate and product weight — show derivation.
2. Efficiency estimation — show derivation.
3. An 8½" x 11" flow diagram, which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
4. An 8½" x 11" plot plan showing the exact location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
5. An 8½" x 11" plot plan showing the exact location of the establishment, and points of airborne emissions in relation to the surrounding area, residences and other permanent structures and roadways.
6. Description and sketch of storm water control measures taken both during and after construction.

PROCESS WEIGHT CALCULATIONS

JACKSONVILLE SPENT GRAIN DRYER NO. 2

- Bases: 1) A typical composite of the various dryer inputs during the Emissions Tests of 7/14/77, 3/31/77, and 1/12/77.
 2) An estimated maximum thruput of 48,000 lb/hr at 45% H₂O or 26,400 lb/hr of dry solids.



TYPICAL DRYER OPERATING MOISTURES

Calculation of inputs to obtain 48,000 lb/hr input

- | | | | |
|----|------------------------|---|--------------------------------------------|
| a. | Evaporator Concentrate | - | 6,500 lb/hr at 32% TS or 2080 lb solids/hr |
| b. | Centrifuge Solids | - | 5,700 lb/hr at 24% TS or 1370 lb solids/hr |
| c. | Wet Spent Grain | - | X lb/hr at 28% TS |
| d. | Recycle | - | Y lb/hr at 92% TS |
| e. | Product | - | Z lb/hr at 92% TS |

A total and a solids (bone dry) balance around the dryer inlet Mixing Conveyor gives:

$$X + Y + 6,500 + 5,700 = 48,000$$

$$0.28 X + 0.92 Y + 0.32(6500) + 0.24(5700) = 0.55(48,000)$$

Therefore $X = 15,600$ lb/hr at 28% TS or 4,370 dry lb/hr
 and $Y = 29,200$ lb/hr at 92% TS or 16,530 dry lb/hr

A solids balance around the dryer gives:

$$2080 + 1370 + 4370 = 7820 = 0.92 Z$$

$$Z = 8500 \text{ lb/hr at } 92\% \text{ TS or } 7800 \text{ dry lb/hr}$$



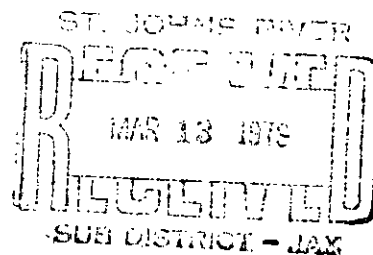
Anheuser-Busch, Inc.

ST. LOUIS, MO., U.S.A. 63118

REPLY TO:

ANHEUSER-BUSCH, INC.
P. O. Box 18017 A.M.F.
JACKSONVILLE, FLORIDA 32229

January 3, 1979



Mr. Walter W. Honour
Division Chief
Dept. of Health, Welfare &
BioEnvironmental Services
515 West 6th Street
Jacksonville, Florida 32206

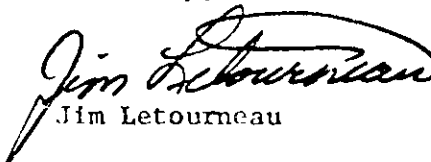
Dear Mr. Honour:

Please find enclosed one (1) copy of the Source Test Report for our Nos. 1 & 2 Grains Drying Scrubbers as prepared by Technical Services, Inc.

I am very pleased to announce that it appears that we finally passed both tests with ample margin. More important, we were finally able to define the troublesome conditions that caused us to fail the previously conducted tests.

Please call me if you have any questions regarding the enclosed package.

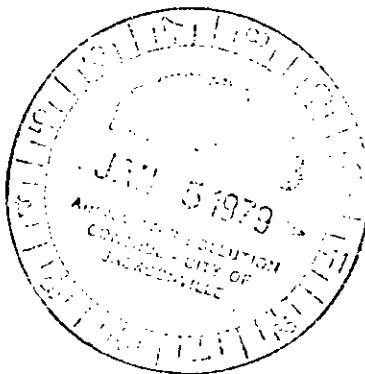
Sincerely,


Jim Letourneau

JL/mac

Encl.

cc: Mr. J. Mueller
Mr. D. Dehart



Keep
America
Beautiful



STACK TEST REPORT REVIEW

Busch Refine file

NOTE
below

PLANT Anheuser Busch Inc.
 SYSTEM #2 Grain Dryer
 DATE 12-5-78
 RUN# 2

SAMPLERS Technical Services

	YES	NO	
compliance indicated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	% of allowable
approval of report	<input type="checkbox"/>	<input type="checkbox"/>	% of isokinetic

COMMENTS on report:

- Run # 1 did not indicate compliance - 105% of allowable
 However, average of emission runs was within compliance
- Average process weight was only 12750 lb/hr. This should be noted on permit?

TEST DATA from report:

Data checked

TEST BY BES on 1/22/79

total emission	<u>9.50 lb/hr</u>	<u>9.33 lb/hr</u>
concentration	<u>0.0166 g/SCF</u>	<u>0.0162</u>
process wt.	<u>12715 lb</u>	<u>6.358 tons</u>
velocity of stack	<u>40.5 ft/sec</u>	<u>40.5 ft/sec</u>
% moisture	<u>14.87%</u>	<u>14.56%</u>
temp of stack	<u>582.8°R</u>	<u>582.8°R</u>
vol. sampled	<u>32,483</u>	
sampling interval	<u>24</u>	# of pts. <u>2 min</u>

ORSAT

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REVIEWED BY: Bruce J. Ho

DATE: 1/22/79



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER SUBDISTRICT
3426 BILLS ROAD
JACKSONVILLE, FLORIDA 32207

REUBEN OGDEN ASKEW
GOVERNOR

JOSEPH W. LANDERS, JR.
SECRETARY

September 24, 1976

Mr. John Mueller, Plant Manager
Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, Florida 32218

Dear Mr. Mueller:

Duval County - AP
Anheuser-Busch, Inc.
No. 1 Grains Dryer

Pursuant to your recent application, enclosed is Permit No. A016-2612 dated September 22, 1976 to operate the subject pollution source.

This permit will expire on August 31, 1981 and will be subject to the conditions, requirements and restrictions checked or indicated otherwise on the attached sheet entitled "Permit Conditions."

This permit is issued under the authority of Florida Statutes 403.061(16). The time limits imposed herein are a condition to this permit and are enforceable under Florida Statute 403.161. You are hereby placed on Notice that the Department will review this permit before the scheduled date of expiry and will seek court action for any violation of the conditions and requirements of this permit.

You have ten days from the date of receipt hereof within which to seek a review of the conditions and requirements contained in this permit.

In future communication please refer to your permit number and source I.D. Your continued cooperation is appreciated.

Very truly yours,

Frank Watkins, Jr., P.E.
Subdistrict Engineer

rwjgk

cc: Central Files, Mr. Nickonovitz
Bio-Environmental Services Division
Mr. Gilbert E. Paradies, P.E.

STATE OF FLORIDA
DEPARTMENT OF
ENVIRONMENTAL REGULATION
OPERATION PERMIT

FOR Anheuser-Busch, Inc.
111 Busch Drive
Jacksonville, Florida 32218

PERMIT NO. AG16-2612 DATE OF ISSUE September 22, 1976

PURSUANT TO THE PROVISIONS OF SECTIONS 403.091 (10) AND 403.707 OF CHAPTER 403 FLORIDA STATUTES AND CHAPTERS 17-4 AND 17-7 FLORIDA ADMINISTRATIVE CODE, THIS PERMIT IS ISSUED TO: Mr. John Mueller, Plant Manager

FOR THE OPERATION OF THE FOLLOWING:
No. 1 Grains Dryer, 14,700 #/hr., with Wet Scrubber
(Dycon, Size 108, Type L, Model II, Serial No. C-73-266)

LOCATED AT: 111 Busch Drive, Jacksonville, Duval County, Florida
UTM: E-7438010 N-3366830

IN ACCORDANCE WITH THE APPLICATION DATED August 17, 1976

ANY CONDITIONS OR PROVISOS WHICH ARE ATTACHED HERETO ARE INCORPORATED INTO AND MADE A PART OF THIS PERMIT AS THOUGH FULLY SET FORTH HEREIN. FAILURE TO COMPLY WITH SAID CONDITIONS OR PROVISOS SHALL CONSTITUTE A VIOLATION OF THIS PERMIT AND SHALL SUBJECT THE APPLICANT TO SUCH CIVIL AND CRIMINAL PENALTIES AS PROVIDED BY LAW.
THIS PERMIT SHALL BE EFFECTIVE FROM THE DATE OF ISSUE UNTIL August 31, 1981
OR UNLESS REVOKED OR SURRENDERED AND SHALL BE SUBJECT TO ALL LAWS OF THE STATE AND THE RULES AND REGULATIONS OF THE DEPARTMENT.

Frank Watkins, Jr.
SUBDISTRICT ENGINEER
Frank Watkins, Jr.

Joseph W. Landers, Jr.
JOSEPH W. LANDERS, JR.
SECRETARY

W. W. Honour, Division Chief
Bio-Environmental Services Division
City of Jacksonville

William R. Opp
SUBDISTRICT MANAGER
William R. Opp

DEPARTMENT OF ENVIRONMENTAL REGULATION

OPERATION PERMIT CONDITIONS
FOR AIR POLLUTION SOURCES

(an "X" indicates applicable conditions)

Permit No.: A016-2612

Date: Sept. 22, 1976

- (X) 1. The permit holder must comply with Florida Statute 403 and the applicable Chapters of the Department of Environmental Regulation in addition to the conditions of this permit. (Florida Statute, subsection (1b) of section 403.161).
- (X) 2. Test the emissions for the following pollutant(s) at intervals of _____ on request _____ from the date of _____ issuance _____ and submit a copy of test data to the District Engineer of the Florida Dept. of Environmental Regulation, 3426 Bills Road, Jacksonville, Florida, 32207, and a copy to the City of Jacksonville, Air Pollution Control Activity, 515 West Sixth Street, Jacksonville, Florida, 32206, within fifteen days of such testing. Chapter 17-2.07 (1) Florida Administrative Code (FAC).
- | | | | |
|-------|---------------|-----|----------------------|
| (X) | Particulates | () | Sulfur Oxides |
| () | Fluorides | () | Nitrogen Oxides |
| () | Plume Density | () | Hydrocarbons |
| () | Fuel Analysis | () | Total Reduced Sulfur |
- () 3. Testing of emissions must be accomplished at approximately the rates as stated in the application. Failure to submit input rates or to operate at conditions which do not reflect actual operating conditions may invalidate the data. Florida Statutes 403.161 Section (1c).
- () 4. Submit for this source quarterly reports showing the type and monthly quantities of fuel used in the operation of this source. Also state the sulfur content of each fuel. Chapter 17-4.14 FAC.
- X) 5. Submit for this facility, each year, on or before November 15, an emission report for the preceding year, October 1-September 30, containing the following information: Chapter 17-4.14 FAC.
- (A) Annual amount of materials and/or fuels utilized
 - (B) Annual emissions (note calculation basis)
 - (C) Any changes in the information contained in the permit application.
- () 6. Report per Chapter 17-4.13 FAC any problems encountered in the operation of this source to the District Office that results in discharge of stack effluents in amounts higher than permitted herein. Cease operation forthwith unless permission has been obtained from the District Office of this agency to operate the source for an interim period. Chapter 17-4.13 FAC.
- () 7. According to the Process Weight Table, the maximum allowable emission rate of particulates for a process rate of _____ tons/hour is _____ pounds/hour. At lesser process rates, the allowable emission rates can be determined from the graph.



STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL

APPLICATION TO OPERATE/CONSTRUCT POLLUTION SOURCES

SECTION I - GENERAL INFORMATION FOR ALL POLLUTION SOURCES
I TO BE FILLED IN BY APPLICANT

Source Type: Air Pollution Dryer No. 1

Type application: Operation Temporary Operation Construction

Status Source: New Existing Modification

Source Name: Anheuser-Busch, Inc County: Duval

Source Location: Street: 111 Busch Drive City: Jacksonville

(Water Source Only) Lat: _____ Long: _____

(Air Source Only) UTM: East 7438610 North 3366830

Appl. Name and Title: Mr. John Mueller, Plant Manager

Appl. Address: 111 Busch Drive, Jacksonville, Florida 32218

REVISED 8-9-76
SEP 17 1976

II TO BE FILLED IN BY REGION (*BY BUREAU OF PERMITTING)

Control No.	Region	County	Type	*Project	
Type Permit	Date Rec'd	*Permit No.	*Issue Date	*Compl. Date	*Exp. Date

Source Description: _____

Control Equipment: _____

Water Permits

Receiving Body Code: _____ Surface Water Code: _____

Station No.: Influent: _____ Effluent: _____

Effluent:	Average	Design	% Reduction
Flow rate, MGD	_____	_____	_____
BOD, lbs/day	_____	_____	_____
Susp. Sol., lbs/day	_____	_____	_____
Other: _____	_____	_____	_____

Air Permits

Operating Time: Continuous Intermittent

Fuel: Type _____ M-BTU/hr. In Put _____

Incinerator: Capacity, tons/day _____ Type Waste _____

Mfg. & Model _____

Pollutant Emissions, lbs/day	Actual	Design	Allowable
Particulate	_____	_____	_____
Sulfur Oxides	_____	_____	_____
Other: _____	_____	_____	_____

Implementation: Estimated Appl. Filing Date _____

Estimated Start of Const. _____ Estimated Compliance Date _____

DESCRIPTION OF PROPOSED PROJECT

- A. Describe the nature and extent of the proposed project. Refer to existing pollution control facilities, DPC permits, conditions, orders and notices, expected improvement in performance of the facilities and state whether the proposed project will result in full compliance of the source. Attach additional sheet if necessary.

Modification of existing grains dryer by removing a carbon steel wet scrubber and replacing it with a stainless steel wet scrubber.

- B. Schedule of Project Covered in this Application (Construction Permit Application Only).

Federally or State Financed Projects only: None

Planning Complete _____

Financing Program Complete _____

Indicate other local, state and/or federal agency approvals and dates _____

All projects:

Start of Construction February, 1974

Completion of Construction July 1974

- C. Costs of Construction (Show a breakdown of costs for individual components/units of the proposed project serving pollution control purpose only). Information on actual costs shall be furnished with the application for operation permit.

\$2,000 (est.) Removal of existing scrubber

\$11,000 Installation of new scrubber and related equipment

\$59,000 Purchase price of wet scrubber

- D. Indicate any previous DPC permits, issuance dates, and expiration dates.

None on this dryer as it was in operation before initiation of permit program.

AIR POLLUTION SOURCES & CONTROL DEVICES

A. Identification of Air Contaminants

- 1) Particulates
 - a) Dust b) Fly Ash c) Smoke d) Other (Identify)
- 2) Sulfur Compounds
 - a) SO_x as SO₂ b) Reduced Sulfur as H₂S c) Other (Identify)
- 3) Nitrogen Compounds
 - a) NO_x as NO₂ b) NH₃ c) Other (Identify)
- 4) Flourides 5) Acid Mist 6) Odor
- 7) Hydrocarbons 8) Volatile Organic Compounds
- 9) Other (Specify): _____

B. Raw Materials and Chemicals Used (Be Specific) Raw material inputs vary considerably from time to time. The inputs depend mainly on the operation of many pieces of equipment in the brewing area, on the amount of grain hauled wet, and on production schedules.

Description See No. 1 Dryer's Process Weight Cal- culations, p. 3A to Dryer:	Utilization Tons/day, lbs./day, etc. Typical lb/hr	Approximate Contaminant Content		Relate to Flow Diagram
		Type	% Wt.	
Wet Spent Grain	4,540 lb/hr	grain dust	unknown	
Dry Grain Recycle	5,440 lb/hr	grain dust	unknown	
Centrifuge Cake (grain fines)	2,660 lb/hr	grain dust	unknown	
Evaporation Concentrate	2,060 lb/hr	grain dust	unknown	

To cooling collector: 3,350 lb/hr grain dust unknown

C. Process Weight: Typical (For bases, see p. 3A)

- 1) Total Process Weight Rate 14,700 + 2,250 lbs./hr. [See Sec. 17-2.04(2)]
- 2) Product Weight 3,350 lb./hr. expressed as 9% moisture
- 3) Normal Operating Time standby, if seasonal describe: standby
When needed, operation is continuous.

D. Airborne Contaminants Discharged:

July 15, 1976 stack test

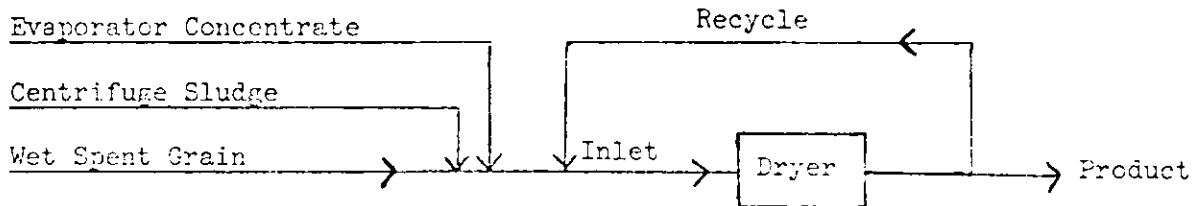
Name of Contaminant	Actual Discharge	Discharge Criteria*	Allowable Discharge*	Relate Location to Flow Diagram
Grain Dust	9.81	13,300 lb/hr	11.62 lb/hr	No. 62 on plot plan

* Refer to Chapter 17-2 Florida Administrative Code
(Discharge Criteria: Process Weight Rate, #/tonP₂O₅, #/M BTU/hr etc.)

PROCESS WEIGHT CALCULATIONS

JACKSONVILLE SPENT GRAIN DRYER NO. 1

Bases: Two (2) measurements of Dryer No. 2 inputs in October, 1974 and April, 1975; One (1) measurement of Dryer No. 1 input in July, 1976; Dryer No. 1 to operate at 60% of Dryer No. 2 loads; and total solids analyses and estimates.



Yeast sludge no longer fed to dryer directly

	10/74 ¹⁾ lb/hr @ % TS ²⁾	4/75 ¹⁾ lb/hr @ % TS	7/76 lb/hr @ % TS	Avg. ⁴⁾ lb/hr @ % TS
Wet Grain	7,260 @ 38%	2,010 @ 35%	4,350 @ 28% ³⁾	4,540 @ 34%
Evaporator Conc.	2,300 @ 36%	3,600 @ 41%	300 @ 29%	2,060 @ 39%
Centrifuge Sludge	2,640 @ 20%	3,600 @ 25%	1,750 @ 26% ³⁾	2,660 @ 24%
Recycle	4,970 @ 90%	6,510 @ 90%	4,850 @ 94%	5,440 @ 91%
Total Input	17,170 @ 50%	15,720 @ 56%	11,250 @ 57%	14,700 @ 54%
Product	4,570 @ 90%	3,420 @ 90%	2,050 @ 94%	3,350 @ 91%

- NOTES: 1) 60% of feeds to Dryer No. 2.
 2) Total solids estimated. For other dates, total solids were by analysis.
 3) During this measurement, one centrifuge was processing wet grain directly giving solids like wet grain. Calculations showed that 2/3 of "Centrifuge Sludge" stream for that day was like wet grain and 1/3 was like normal fine sludge. Figures here reflect 3,500 lb/hr of wet grain transferred from "Centrifuge Sludge" to "Wet Grain".
 4) Weights rounded to 3 significant digits. Percents rounded to nearest whole percent.

E. Control Devices:

Name	Eff.	Conditions of Operation, Particle Size Range, etc.	Relate to Flow Diagram
Wet Scrubber, Ducon, Size 108, Type I, Model II Serial No. C-73-266	98% (est.)	Mfg. Lit. - 99% + removal over 3 microns	No. 62 on plot plan

F. Fuels:

Type (Be specific)	Daily Consumption when used	Heat Input BTU/hr.	Relate to Flow Diagram
Estimated			
No. 6 Fuel Oil with 2.3% sulfur max.	min. 0 gal. ave. 1,900 gal. max. 4,560 gal.	28.5 x 10 ⁶ (max)	

G. Describe briefly, without revealing trade secrets, the unit processes/operations generating the airborne emissions identified in this application:

Wet spent grain is air dried in a rotary drum dryer to 10% moisture. The bulk of the grain is separated from the transport air and combustion gases in a cyclone. The transport air and combustion gases, water vapor, and grain dust then pass through the wet scrubber to remove the bulk of the grain dust. After separation in the cyclone, the dry grain is recycled or cooled in a cooling filter collector as product. The air from this collector also passes through the wet scrubber.

H. Indicate liquid or solid wastes generated and method of disposal.

The scrubber water with the entrapped grain particles will discharge to the sanitary sewer.

STACK DATA:

Height Data: 70 ft. (above grade)
 Diameter: 5.5 ft.
 Temperature: (est.) 140°F at exit
 Flow Rate: 1,640 ft/min at 140°F

STATEMENTS BY APPLICANT AND ENGINEER

A. Applicant

The undersigned owner or authorized representative of * Anheuser-Busch, Inc. is fully aware that the statements made in this application for a operating permit are true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to maintain and operate the pollution source and pollution control facilities in such a manner as to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department or revisions thereof. He also understands that a permit, if granted by the Department, will be non-transferable and he will promptly notify the Department upon sale or legal transfer of the permitted establishment.

John Mueller

Signature of the Owner or Authorized Representative

John Mueller - Plant Manager

Name and Title (Please Type)

Date: 8/16/76 Telephone No.: 904-751-0700

* Attach a letter of authorization Rev. 1

B. Professional Engineer Registered in Florida:

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the control and discharge of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution source(s) with appropriate control facilities, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and the rules and regulations of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the installation covered in this application.

Signature *Gilbert E. Paradies*

Mailing Address: P. O. BOX 18017, A.M.F. JACKSONVILLE, FLA. 32229

Name: GILBERT E. PARADIES
(please type)

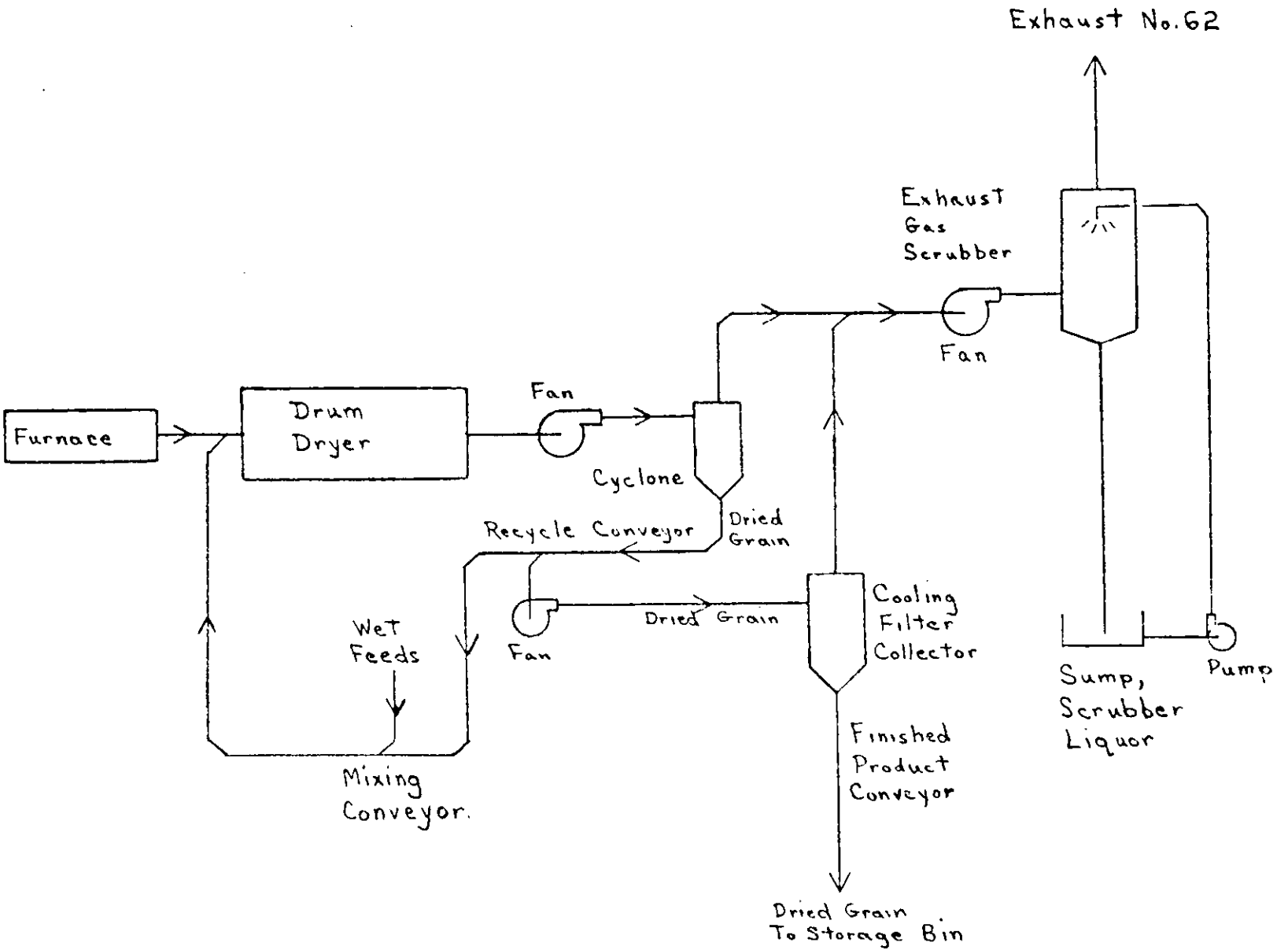
Telephone No.: 904/ 751-0700

Florida Registration Number 16135 7/9/71
(Please affix seal)

Date: AUGUST 16, 1976

... must be submitted with application.
This may be obtained, for a \$5.00 charge, from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

PERMITTED
BY
LOWER ST. JOHNS RIVER SUB DISTRICT
DEPARTMENT OF ENVIRONMENTAL REGULATION
PERMIT NO. AC16-2612
DATE 9/22/76



Jacksonville Brewery Rev. 1 8-9-76

ANHEUSER-BUSCH, INC.

ST. LOUIS, MO.

ENGINEERING DEPARTMENT

Spent Grain Dryer System I

DRAWN BY
DMD 7-1-74

APPROVED BY

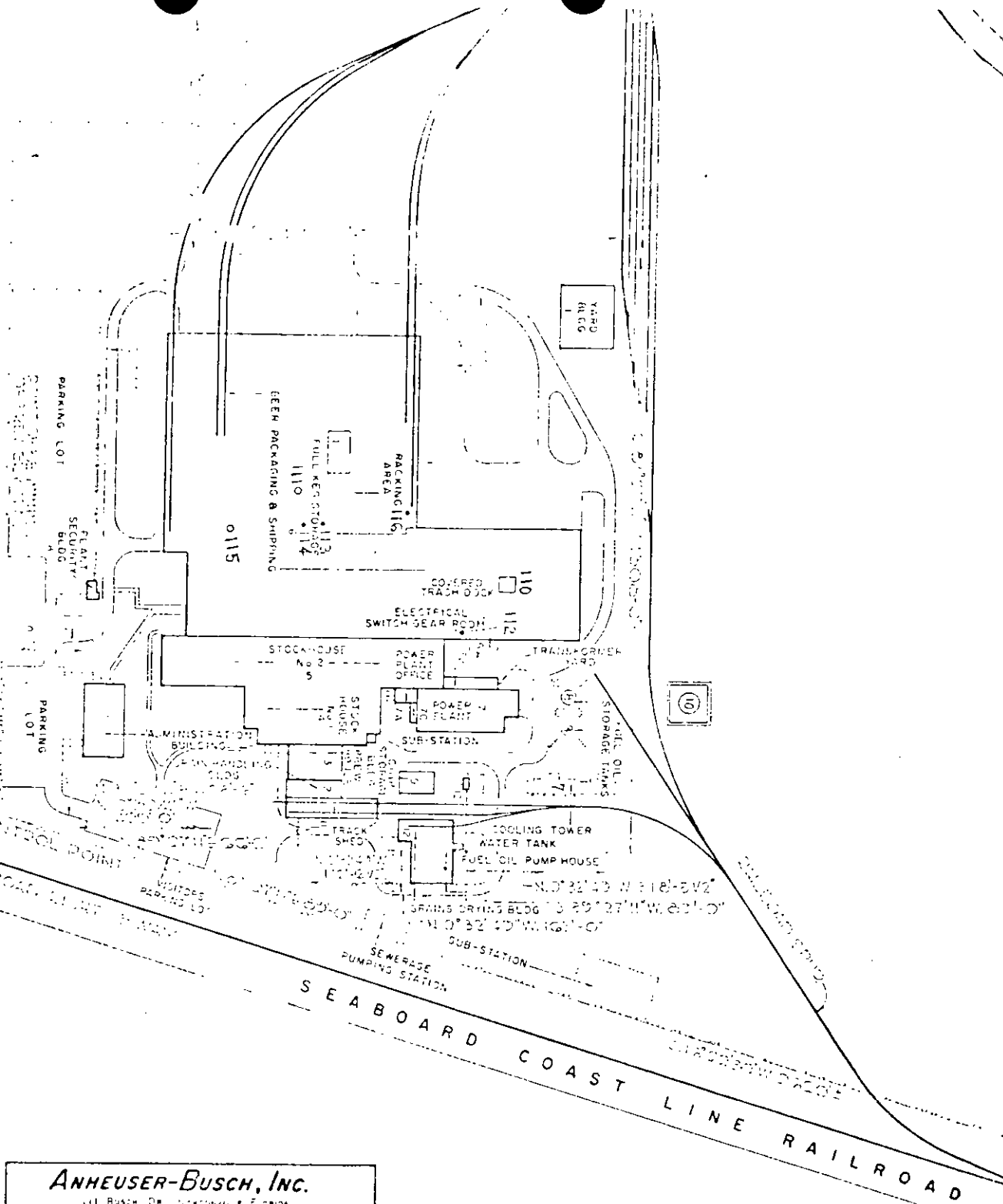
DRAWING NO.
1

BUSCH DRIVE

SUBSTANTIVE

AIR EMISSION SOURCE IDENTIFICATION

KEY
MICHIGAN TRACT
REVIEWED BY
6-27-74 DMG



Anheuser-Busch, Inc.
111 Busch Dr., Jacksonville, Florida

Accuracy Certified By: _____ Secretary
Name & Capacity for Brewer: _____
Date: _____

Sheet No. 1

APPROVED BY:
ANHEUSER-BUSCH, INC.
St. Louis, Missouri

REVENUE DEPARTMENT
BY: RITNER & WULF

**PLAT OF BREWERY
LOCATION PLAT**

5th FLOOR STOCKHOUSE No. 2
2ND FLOOR STOCKHOUSE No. 2

WELD METED

COVERED TRASH DOCK

STOCKHOUSE No. 2

POWER PLANT OFFICE
B. DC No. 7C

ELECTRICAL SWITCH GEAR ROOM

TRANSFORMER YARD

SUB STATION

POWER PLANT

LIQUID TANK

STOCKHOUSE No. 1

CO₂ LIQUID STORAGE TANKS

CHIP STORAGE B'LD'G.

WATER STORAGE TANK

FUEL OIL PUMP HOUSE

TRACK SHED

GRAINS DRYING B'LD'G.

EVAPORATOR

CONDENSER

STORAGE TANK

GRAINS DRYING B'LD'G. ADDITION

NORTHERN PART

PLAT OF BREWERY

PREPARED BY ANHEUSER-BUSCH, INC. ST. LOUIS, MISSOURI

REVENUE DEPARTMENT

ANHEUSER-BUSCH, INC.

Accuracy Certified by...

AIR EMISSION CONTROL... Sheet 2 of 2 6-27-74 DHD

