

No. 0158661

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

SENT TO			
Mr. J. M. Murphy			
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE	\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢	
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES	\$		
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2/20/85			

PS Form 3800, Apr. 1976

PS Form 3811, July 1983

● **SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. Show to whom, date and address of delivery.

2. Restricted Delivery.

3. Article Addressed to:
Mr. J. M. Murphy
Drum Service Company of Fla.
803 Jones Avenue
Zellwood, Florida 32798

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	0158661

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee
X

6. Signature - Agent
X Kellye Cook

7. Date of Delivery
2-22-85

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

February 20, 1985

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. J. M. Murphy
Vice President
Drum Service Company of Florida
803 Jones Avenue
Zellwood, Florida 32798

Dear Mr. Murphy:

Attached is one copy of the Department's Intent to Deny your request for a permit to construct a spray paint system at your existing facility in Zellwood, Orange County, Florida.

Before final action can taken on your request, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Orange County no later than fourteen days after receipt of this letter. The department must be provided with proof of publication within seven days of the date the notice is published.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/pa

Attachments

cc: Alex Alexander
Gary Early
John Seabury
Roger Schwenke

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of an)
Application for Permit by)
)
Drum Service Co. of Florida) DER File No. AC 48-094701
803 Jones Avenue)
Zellwood, Florida 32798)
)

INTENT TO DENY

The Department of Environmental Regulation hereby gives notice of its Intent to Deny the requested permit specified above and further described below, pursuant to Chapter 403, Florida Statutes.

The applicant, Drum Service Co. of Florida, applied on October 24, 1984, to the Department of Environmental Regulation for a permit to construct a spray paint system at their existing facility in Zellwood, Orange County, Florida.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The applicant was officially notified by the Department that an air construction permit was required for the proposed work.

The grounds for the intended agency action are as follows: The applicant has failed to provide information requested by the Department as specified in the Departments letter of November 21, 1984 to the applicant. The answers provided in the applicant's letter of December 13, 1984 are insufficient for the Department to make a determination of whether the facility will be capable of meeting the Department's air quality standards. In addition, the applicant has failed to provide reasonable assurance that the combined impact of new emissions, emissions offsets, temporary emissions, and existing emissions shall not interfere with reasonable further progress toward attainment of ambient air quality standards.

This intent to deny shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

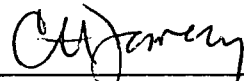
Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witness and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a

petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Executed the 20 day of FEBRUARY, 1985, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



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

Copies furnished to:

Alex Alexander
Gary Early
John Seabury
Roger Schwenke

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to deny a permit to Drum Service Company of Florida to construct a spray paint system at 803 Jones Avenue, Zellwood, Orange County, Florida. A determination of best available control technology (BACT) was not required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this preliminary statement. Therefore, persons who may not object to the proposed agency action may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

RULES OF THE ADMINISTRATIVE COMMISSION
MODEL RULES OF PROCEDURE
CHAPTER 28-5
DECISIONS DETERMINING SUBSTANTIAL INTERESTS

28-5.15 Requests for Formal and Informal Proceedings

- (1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.
- (2) All petitions filed under these rules should contain:
 - (a) The name and address of each agency affected and each agency's file or identification number, if known;
 - (b) The name and address of the petitioner or petitioners;
 - (c) All disputed issues of material fact. If there are none, the petition must so indicate;
 - (d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;
 - (e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;
 - (f) A demand for the relief to which the petitioner deems himself entitled; and
 - (g) Such other information which the petitioner contends is material.

Check Sheet

Company Name: *Drum Service Co of Florida*
Permit Number: *AC 48 - 094701*
PSD Number:
County:
Permit Engineer:
Others involved:

→ P 4/10

Application:

- Initial Application
- Incompleteness Letters
- Responses
- Final Application (if applicable)
- Waiver of Department Action
- Department Response

Intent today

Intent:

- Intent to Issue
- Notice to Public
- Technical Evaluation
- BACT Determination
- Unsigned Permit

Attachments:

-
-
-
- Correspondence with:
 - EPA
 - Park Services
 - County
 - Other
- Proof of Publication
- Petitions - (Related to extensions, hearings, etc.)

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

Post Permit Correspondence:

- Extensions
- Amendments/Modifications
- Response from EPA
- Response from County
- Response from Park Services

In the folder labeled as follows there are documents, listed below, which were not reproduced in this electronic file. Those documents can be found in the supplementary documents file drawer. Folders in that drawer are arranged alphabetically, then by permit number.

Folder Name: Drum Service Company of Florida
Permit(s) numbered: AC 48-094701

Period During Which
DOCUMENT WAS
SUBMITTED
(APPLICATION, PD & TE,
FINAL DETERMINATION,
POST PERMIT)

APP

Detailed Description

1. 24"x36" BLUEPRINT
BOOTH TO OVEN CONVEYOR
ENCLOSURE
DWG NO. 110-7-VOC5



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

4APT-AE

JUL 18 1991

RECEIVED

JUL 22 1991

Division of Air
Resources Management

Mr. C. H. Fancy, Chief
Bureau of Air Regulation
Division of Air Resources Management
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

As requested in your April 26, 1991, letter, we have reviewed the information pertaining to the request from Drum Service of Florida to utilize Method 25A in lieu of Method 25. We recommend that Drum Service of Florida be allowed to utilize Method 25A to determine the destruction efficiency of their VOC incinerator.

The basis for this recommendation is that the amount of VOC emitted from the incinerator is less than the detection limit of Method 25. In this case, Method 25 tests at the outlet of the incinerator would provide inaccurate results which may cause the compliance status of the source to be questionable.

For consistency in the test results, Method 25A should be specified for use on both the inlet and outlet of the incinerator. If a combination of Method 25 on the inlet and Method 25A on the outlet are used, calculations to convert the results to similar units (i.e. lb VOC as propane) will have to be employed.

If you have any questions regarding this letter, please contact Mr. Paul Reinermaun at 404/347-5014.

Sincerely yours,

Jewell A. Harper, Sr.

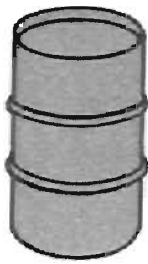
Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides and Toxics
Management Division

BA/CHF

Mike Harley

} 7-22-91

file



DRUM SERVICE CO. OF FLORIDA

DER

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 869-2581

AUG 3 1987

BAQM

July 28, 1987

C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulations
2600 Blair Stone Road
Tallahassee, FL 32399

They Reapply

Re: AC48-094701

Dear Sir:

This letter is in response to your letter of June 4, 1987.

1. With regard to your comments concerning "evidence of compliance" we have - with the concurrence of Mr. Bill Thomas of your staff, and Mr. Tom Sawicki of our DER Regional Office - arranged for a retesting of the plant. This was conducted on July 17th and our engineers will shortly be submitting a new application for an Operating Permit which I believe will satisfactorily respond to your needs.
2. With regard to your request that we furnish your office with another copy of the EPA document we previously had submitted, I have replied directly to Ms. Teresa Heron, Review Engineer, in my letter of June 10, 1987.
3. Enclosed with your letter was a copy of a May 26, 1987 memorandum from Douglas Kiesling to you. While the retesting arrangements (referred to above) probably operate to render the points in this memo moot, I still feel I should respond. I do so because the memo incorporates false assumptions which yield incorrect conclusions.

Copied: Teresa Heron }
Clair Fancy } 8/4/87 wmt
Bill Thomas }

815

~~BT~~:

CHF:

Maggie = do as

Bill T says

and simply

what should I file it.

do w/this?

Alan

Thanks, (i)

He is right - this letter does not require a reply. It should go to Drum Service file for record.

BT

Lest I seem needlessly critical, please remember we are now in the fourth year of trying to get this permit. (The first meeting was held at your Tallahassee offices on June 26, 1984.) Much of this extraordinary delay has been caused by improper assumptions, faulty analysis, and inadequate understanding of your own regulations. Please forgive me if I am oversensitive on this issue.

Mr. Kiesling presents data to arrive at an estimate of the destruction efficiencies of our ovens (caused by the recirculating feature of the oven air flows, which continuously return heated, solvent-laden air back through the firebox, where a portion of the VOC's are destroyed through the firebox temperatures and direct flame impingement). His calculations develop destruction efficiencies that are, in his opinion, too high and not realistic.

Mr. Kiesling's assumptions are that 16.84 pounds/hour of VOC exit the oven system, and that 61.6 pounds/hour of VOC are fed into the ovens. Both numbers are wrong, and hence so are his conclusions.

A. VOC Exit From Ovens

Mr. Kiesling's assumption that 16.84 pounds/hour of VOC exit the oven is taken from the measured figures reported during the EPA Method 25A Stack Test at the inlet to the afterburner (which, because of a totally enclosed duct system, is all from the exit from the ovens). See Table I, page 3, Source Test Report For Volatile Organic Compounds, Air Consulting and Engineering, Gainesville, Florida. (Attachment E to Drum Service Co. Certificate of Completion).

The error is that this 16.84 number is not pounds/hour of the actual VOC compounds being emmitted. Instead,

Results are reported as volume concentration equivalents of the calibration gas or as carbon equivalents (EPA Method 25A, Rev. 2/84, Page 1).

In our test, the data was measured as propane (the calibration gas) and expressed as carbon. See our test report (Table I, Page 3); the results are expressed "as carbon". This number (16.84) does not represent the actual pounds per hour of VOC emissions.

Keep in mind that the sole purpose of the test conducted was to measure the destruction efficiency of the afterburner control device. For this purpose, two simultaneously Method 25A measurements - one measuring inlet, and one measuring outlet concentrations - were conducted (in three sets of 1 hour tests). As long as the two measurements are calculated exactly the same way, the results will yield an accurate expression of destruction efficiency. For these purposes, it is sufficient to measure inlet and outlet gases in terms of carbon equivalents.

In actual fact, the VOC compounds emitted from our paint and lining operations are considerably heavier hydrocarbon compounds. (See the original application, Exhibits 2 and 3, Coating Supplier Product Data.) Toluene, xylene, diacetone alcohol, and methyl ethyl ketone are the primary solvents. The actual VOC loading at the inlet to the afterburner would therefore range from 18 pounds/hour (for toluene) to 42 pounds/hour (for alcohols). I have asked Cross/Tessitore & Associates, our engineers, to provide an estimate of the actual VOC loading and they have indicated "30 pounds/hour would probably be more representative of oxidizer inlet conditions."

B. VOC INLET TO OVENS

Mr. Kiesling assumes 61.6 pounds/hour of VOC are emitted to be captured by the ovens. This number is wrong - it is actually 56.28 pounds/hour.

I believe his error comes from assuming that for all paint application sources, 60% are uncontrolled and 40% are captured by the ovens. A careful reading of the permit application, however, shows that there are two coating application points (open head drum exterior painting, and lids exterior painting) where the coating is air dried; thus 100% of these sources is uncontrolled, and 0% goes to ovens. For the other three application points - where ovens are used - the 60% - 40% ratio is correct.

From the December 12, 1986 test, the actual figures are:

Tight Head Oven	23.77
Open Head Lining Oven	27.95
Lids Oven	<u>4.56</u>
Total	56.28 Pounds/Hour

C. SUMMARY

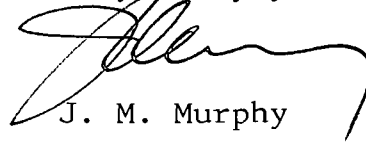
Both numbers used by Mr. Kiesling are in error, and both errors operate in the same direction of bias. When the more reasonable exit concentrations are matched with the calculated inlet concentrations, the destruction efficiency of the recirculating ovens drops into the 40% range. Discussions with oven manufacturers indicated this number is realistic.

Remember that since the days of high energy costs ovens are built to exhaust only as much air/gas volume as is needed to maintain the solvent concentration below the lower explosive limit. To exhaust any more is to remove expensive heat energy from the oven, which then has to be replaced. A side benefit of the "recirculate as much as possible" principle has been enhanced VOC destruction in the firebox.

Another factor has been the trend to "high velocity" ovens. Our newest oven has a turnover rate of seven times per minute; this means the volume of air in the oven passes through the firebox seven times each minute.

As indicated above, the retesting regime Cross/Tessitore & Associates has worked out with your staff and the region probably will make all of this an academic discussion. I do not, therefore, request any reply to this letter. I just would like the record to be straight.

Very truly yours,



J. M. Murphy

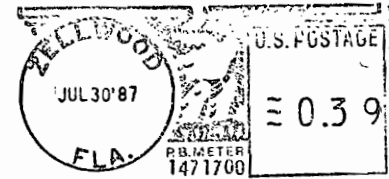
JM/vah

cc: Joseph Tessitore, P.E.
A. Thomas Sawicki, P.E.
Roger D. Schwenke, ESQ.

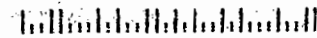


DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798

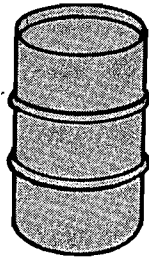


C.H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
Florida Department of
Environmental Regulations
2600 Blair Stone Road
Tallahassee, FL 32399



File Copy

DRUM SERVICE CO. OF FLORIDA



POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

DER
JUN 15 1987
BAQM

June 10, 1987

Ms. Teresa Heron
Review Engineer
Florida Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Street
Tallahassee, FL 32301

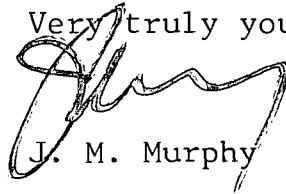
Dear Ms. Heron:

In Mr. C. H. Fancy's letter to me of June 4, 1987, he requests a copy of the EPA document: "Controlling Pollution from the Manufacturing and Coating of Metal Products", Volume 1.

We have previously supplied your office with a copy of this document. We do not have another copy available at this time. However, I am enclosing a Xerox copy of the cover page, which gives you the EPA publication number, which will enable you to obtain another copy directly from EPA.

With regard to the other items in Mr. Fancy's letter, you will be hearing from our Engineer, Mr. Joseph Tessitore, directly.

Very truly yours,



J. M. Murphy

/slj

Enclosure

CC: Mr. Joseph Tessitore

copied:

Teresa 6/15/87 WMH

**CONTROLLING POLLUTION
FROM THE MANUFACTURING
& COATING OF METAL PRODUCTS**

**METAL COATING
AIR POLLUTION CONTROL - I**



U.S. ENVIRONMENTAL PROTECTION AGENCY
Environmental Research Information Center • Technology Transfer

MAY 1977

P 408 531 191

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to T. M. Murphy	
Drum Service Co. of Florida	
P.O. Box 278	
P.O., State and ZIP Code Zellwood, FL 32798	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date 6/5/87 AC 48-094701	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:
T. M. Murphy
Drum Service Company of Florida
P.O. Box 278
Zellwood, FL 32798

4. Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	Article Number P 408 531 191
--	---------------------------------

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature — Addressee
X

6. Signature — Agent
X *Deborah A Bower*

7. Date of Delivery
6/9/87

8. Addressee's Address (ONLY if requested and fee paid)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY

June 4, 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. T. M. Murphy, Vice President
Drum Service Company of Florida
Post Office Box 278
Zellwood, Florida 32798

Re: Construction Application AC 48-094701
Spray Paint System

Dear Mr. Murphy:

The Bureau of Air Quality Management (BAQM) has received your request to modify the specific conditions for the above mentioned permit.

We have reviewed your data and have determined the following:

The calculations, as presented, are insufficient evidence of compliance. Measurement of the VOC capture efficiency and/or destruction efficiency for the recirculating ovens is required. If Method 25 is not appropriate to measure capture and destruction efficiencies for your recirculating type ovens, please propose a method for our approval. Notify the BAQM, Compliance Section, when this test is scheduled. Submit a copy of the EPA document "Controlling Pollution from the Manufacturing and Coating of Metal Products", Vol. 1, EPA, 1977, along with the manufacturer's design, drawings, and specifications of the permitted ovens.

Submit a detailed list (see AC 48-114677, Specific Condition No. 3) of the actual paint consumption (coating and solvents) for your operation in gallons/hour and gallons/year.

Mr. T. M. Murphy
Page Two
June 4, 1987

When all the above information is received, we will resume processing your request. If you have any questions, please call Teresa Heron, Review Engineer, at (904)488-1344 or write to me at the above address.

Sincerely,

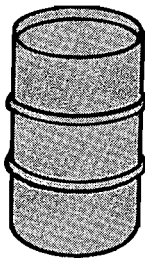


C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/TH/ks

cc: T. Sawicki
J. Brown
J. Tessitore

DRUM SERVICE CO. OF FLORIDA



POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

DEF
APR 15 1986
BAQM

April 11, 1986

EXPRESS MAIL

Mr. Edward J. Svec
Department of Environmental Regulation
State of Florida
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

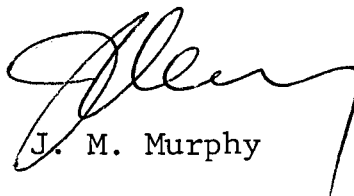
Dear Mr. Svec:

Enclosed please find a Proof of Publication form for the Department's Notice of Intent to Permit in connection with our VOC Control System.

Also enclosed, at Joe Tessitore's request, is a complete photocopy of the EPA publication: Controlling Pollution from the Manufacturing and Coating of Metal Products, Volume I (Air Pollution Control).

The data on relative emissions from various stages of the overall coating process - application, pre/air dry, and baking - are found at page 25. You can see that - at 40% - we are well within EPA guidelines. Remember, too, that in our plant the entrance to the ovens are much closer to the paint booth than in many applications and thus the EPA figures for pre/air dry are overstated (at the expense of the oven figures).

Very truly yours,



J. M. Murphy

/kmk

Enclosure

cc: Joseph Tessitore, P.E.
Roger D. Schwenke, Esq.
A. T. Sawicki, P.E.
Dennis Nester

The Apopka Chief

APOPKA, FLORIDA

PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF FLORIDA
COUNTY OF ORANGE

Before the undersigned personally appeared John E. Ricketson who on oath says, he is Publisher of THE APOPKA CHIEF, a weekly newspaper published at Apopka, in Orange County, Florida, that the attached copy of advertisement was published in said newspaper in the issues of:

April 11, 1986

Affiant further says that the said APOPKA CHIEF is a newspaper published in said Orange County, Florida, and that said newspaper has heretofore been continuously published in said Orange County, Florida, each week and has been entered as second class mail matter at the post office in Apopka, in said Orange County, Florida for a period of one year next preceeding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any discount, rebate commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn and subscribed before me this 11 day of April, 1986

John E. Ricketson
John E. Shawe
Notary Public, State of Florida

(SEAL)

My commission expires on the _____ day of _____, 19_____

Notary Public, State of Florida at Large
My Commission Expires Feb. 18, 1987.

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department gives notice of its intent to issue a permit to Drum Service Company of Florida to construct an incinerator to control the emissions from a spray painting operation at the applicant's existing drum reclamation plant located at 803 Jones Avenue, Zellwood, Orange County, Florida. A determination of best available control technology (BACT) was not required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Tower's Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

April 11, 1986

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

DER

DEC 09 1985

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



RECEIVED

DEC 6 1985

Dept. of Environmental Regulation
Office of General Counsel

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) AND 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. AC 48-105517

Applicant's Name: DRUM SERVICE CO.

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above reference license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 15th day of JANUARY 1986.

The undersigned is authorized to make this waiver on behalf of the applicant.

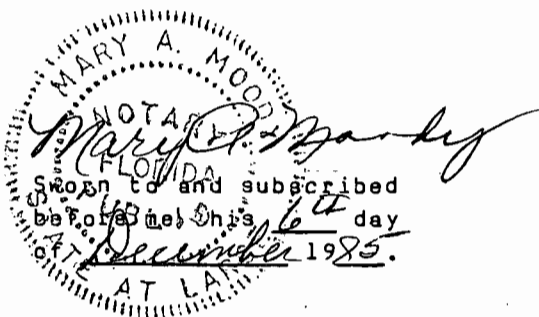
Signature

ROGER D. SCHWENKE, COUNSEL FOR DRUM

Please Type Name of Signee

DECEMBER 6, 1985

Date



DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP		ACTION NO.	
		ACTION DUE DATE	
1. TO: (NAME, OFFICE, LOCATION) ED SVEC	INITIAL	DATE	
2. BAQIM	INITIAL	DATE	
3.	INITIAL	DATE	
4.	INITIAL	DATE	
<p>REMARKS:</p> <p><i>Ed -</i> I made a note of this for the record - if you want to return this for the file</p>		INFORMATION	
		REVIEW & RETURN	
		REVIEW & FILE	
		INITIAL & FORWARD	
		DISPOSITION	
		REVIEW & RESPOND	
		PREPARE RESPONSE	
		FOR MY SIGNATURE	
		FOR YOUR SIGNATURE	
		LET'S DISCUSS	
SET UP MEETING			
INVESTIGATE & REPT			
INITIAL & FORWARD			
DISTRIBUTE			
CONCURRENCE			
FOR PROCESSING			
INITIAL & RETURN			
FROM: <i>[Signature]</i>		DATE	
		PHONE	

RECEIVED
MAY 10 1971
U.S. ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.

Section 120.60, Florida Statutes

(2) When an application for a license is made as required by law, the agency shall conduct the proceedings required with reasonable dispatch and with due regard to the rights and privileges of all affected parties or aggrieved persons. Within 30 days after receipt of an application for a license, the agency shall examine the application, notify the applicant of any apparent errors or omissions, and request any additional information the agency is permitted by law to require. Failure to correct an error or omission or to supply additional information shall not be grounds for denial of the license unless the agency timely notified the applicant within this 30 day period. The agency shall notify the applicant if the activity for which he seeks a license is exempt from the licensing requirement and return any tendered application fee within 30 days after receipt of the original application or within 10 days after receipt of the timely requested additional information or correction of errors or omissions. Every application for license shall be approved or denied within 90 days after receipt of the original application or receipt of the timely requested additional information or correction of errors or omissions unless a shorter period of time for agency action is provided by law. The 90-day or shorter time period shall be tolled by the initiation of a proceeding under Section 120.57 and shall resume 10 days after the recommended order is submitted to the agency and the parties. Any application for a license not approved or denied within the 90-day period or shorter time period, within 15 days after conclusion of a public hearing held on the application, or within 45 days after the recommended order is submitted to the agency and the parties, whichever is latest, shall be deemed approved and, subject to the satisfactory completion of an examination, if required as prerequisite to licensure, the license shall be issued. The Public Service Commission, when issuing a license, and any other agency, if specifically exempted by law, shall be exempt from the time limitations within this subsection. Each agency, upon issuing or denying a license, shall state with particularity the grounds or basis for the issuance or denial of same, except where issuance is a ministerial act. On denial of a license application on which there has been no hearing, the denying agency shall inform the applicant of any right to a hearing pursuant to Section 120.57.

Section 403.0876, Florida Statutes

Permits; processing. ---Within 30 days after receipt of an application for a permit under this chapter, the department shall review the application and shall request submittal of all additional information the department is permitted by law to require. If the applicant believes any departmental request for additional information is not authorized by law or departmental rule, the applicant may request a hearing pursuant to s. 120.57. Within 30 days after receipt of such additional information, the department shall review it and may request only that information needed to clarify such additional information or to answer new questions raised by or directly related to such additional information. If the applicant believes the request of the department for such additional information is not authorized by law or departmental rule, the department, at the applicant's request, shall proceed to process the permit application. Permits shall be approved or denied within 90 days after receipt of the original application, the last item of timely requested additional material, or the applicant's written request to begin processing the permit application.

[Handwritten signature]

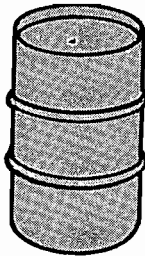
CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

P. O. DRAWER 190

TALLAHASSEE, FLORIDA 32302

Office of General Counsel
Department of Environmental Regulation
Attention Gary Early

DRUM SERVICE CO. OF FLORIDA



POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

DER

NOV 26 1985

November 18, 1985

FEDERAL EXPRESS

BAQM

E. Gary Early, Esq.
Office of the General Counsel
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

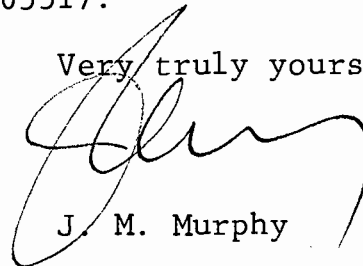
RECEIVED
NOV 19 1985

Dept. of Environmental Regulation
Office of General Counsel

Dear Mr. Early:

At the request of Roger Schwenke I am enclosing an executed copy of DER Form "Waiver of 90 Day Time Limit" in connection with our application no. AC 48-105517.

Very truly yours,



J. M. Murphy

/t1m

Enc.

cc: Roger D. Schwenke, Esq.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

ED SUEC

INITIAL

DATE

2.

BAQIM

INITIAL

DATE

3.

INITIAL

DATE

4.

INITIAL

DATE

REMARKS:

INFORMATION

REVIEW & RETURN

REVIEW & FILE

INITIAL & FORWARD

DISPOSITION

REVIEW & RESPOND

PREPARE RESPONSE

FOR MY SIGNATURE

FOR YOUR SIGNATURE

LET'S DISCUSS

SET UP MEETING

INVESTIGATE & REPT

INITIAL & FORWARD

DISTRIBUTE

CONCURRENCE

FOR PROCESSING

INITIAL & RETURN

FROM:

[Handwritten Signature]

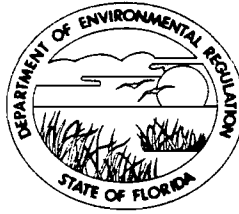
DATE

PHONE

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

WILLIAM K. HENNESSEY
DISTRICT MANAGER

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) AND 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. AC 48-105517

Applicant's Name: DRUM SERVICE CO. OF FLORIDA

The undersigned has read Sections 120.60(2) and 403.0876, Florida Statutes, and fully understands the applicant's rights under that section.

With regard to the above reference license (permit, certification) application, the applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right under Sections 120.60(2) and 403.0876, Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Sections 120.60(2) and 403.0876, Florida Statutes. Said waiver is made freely and voluntarily by the applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 15th day of December 1985.

The undersigned is authorized to make this waiver on behalf of the applicant.

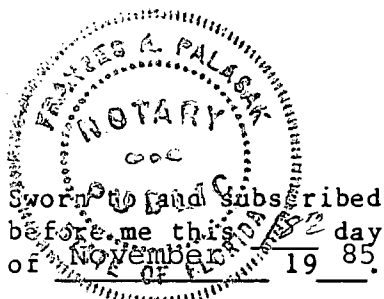
DRUM SERVICE CO. OF FLORIDA

BY: [Signature]
Signature

J. M. MURPHY

Please Type Name of Signee

NOVEMBER 18 1985
Date



Sworn to and subscribed
before me this 15 day
of November 1985.

NOTARY PUBLIC, STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES OCT. 27, 1986
BONDED THROUGH MUROSKI-ASHTON, INC.

[Signature: Frances A. Palaska]

Section 120.60, Florida Statutes

(2) When an application for a license is made as required by law, the agency shall conduct the proceedings required with reasonable dispatch and with due regard to the rights and privileges of all affected parties or aggrieved persons. Within 30 days after receipt of an application for a license, the agency shall examine the application, notify the applicant of any apparent errors or omissions, and request any additional information the agency is permitted by law to require. Failure to correct an error or omission or to supply additional information shall not be grounds for denial of the license unless the agency timely notified the applicant within this 30 day period. The agency shall notify the applicant if the activity for which he seeks a license is exempt from the licensing requirement and return any tendered application fee within 30 days after receipt of the original application or within 10 days after receipt of the timely requested additional information or correction of errors or omissions. Every application for license shall be approved or denied within 90 days after receipt of the original application or receipt of the timely requested additional information or correction of errors or omissions unless a shorter period of time for agency action is provided by law. The 90-day or shorter time period shall be tolled by the initiation of a proceeding under Section 120.57 and shall resume 10 days after the recommended order is submitted to the agency and the parties. Any application for a license not approved or denied within the 90-day period or shorter time period, within 15 days after conclusion of a public hearing held on the application, or within 45 days after the recommended order is submitted to the agency and the parties, whichever is latest, shall be deemed approved and, subject to the satisfactory completion of an examination, if required as prerequisite to licensure, the license shall be issued. The Public Service Commission, when issuing a license, and any other agency, if specifically exempted by law, shall be exempt from the time limitations within this subsection. Each agency, upon issuing or denying a license, shall state with particularity the grounds or basis for the issuance or denial of same, except where issuance is a ministerial act. On denial of a license application on which there has been no hearing, the denying agency shall inform the applicant of any right to a hearing pursuant to Section 120.57.

Section 403.0876, Florida Statutes

Permits; processing. ---Within 30 days after receipt of an application for a permit under this chapter, the department shall review the application and shall request submittal of all additional information the department is permitted by law to require. If the applicant believes any departmental request for additional information is not authorized by law or departmental rule, the applicant may request a hearing pursuant to s. 120.57. Within 30 days after receipt of such additional information, the department shall review it and may request only that information needed to clarify such additional information or to answer new questions raised by or directly related to such additional information. If the applicant believes the request of the department for such additional information is not authorized by law or departmental rule, the department, at the applicant's request, shall proceed to process the permit application. Permits shall be approved or denied within 90 days after receipt of the original application, the last item of timely requested additional material, or the applicant's written request to begin processing the permit application.

187

File



DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

October 11, 1985

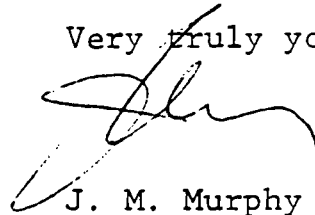
C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
State of Florida
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301



Dear Sir:

Enclosed is a Proof of Publication of the Department's
Notice of Proposed Agency Action in connection with DER
File No. AC 48-105517.

Very truly yours,



J. M. Murphy

vg
Enc.

cc: Roger D. Schwenke, Esq.
Cross/Tessitore & Associates

DER

OCT 11 1985

BAQM

The Apopka Chief

APOPKA, FLORIDA

DER
OCT 14 1985
BAQM

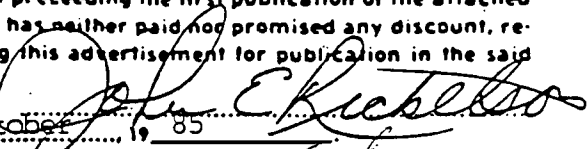
PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF FLORIDA
COUNTY OF ORANGE

Before the undersigned personally appeared John E. Ricketson who on oath says he is... Publisher of THE APOPKA CHIEF, a weekly newspaper published at Apopka, in Orange County, Florida, that the attached copy of advertisement was published in said newspaper in the issues of: October 11, 1985

Affiant further says that the said APOPKA CHIEF is a newspaper published in said Orange County, Florida, and that said newspaper has heretofore been continuously published in said Orange County, Florida, each week and has been entered as second class mail matter at the post office in Apopka, in said Orange County, Florida for a period of one year next preceeding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any discount, rebate commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Sworn and subscribed before me this 11 day of October 19 85


Notary Public, State of Florida

(SEAL) My commission expires on the 18 day of Feb 19 87

Notary Public, State of Florida at Large
My Commission Expires Feb. 18, 1987

STATE OF FLORIDA
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to Drum Service Company of Florida for the construction of six spray paint booths, baking ovens, and a thermal oxidizer (incinerator) at the applicant's existing facility in Zellwood, Orange County, Florida. A determination of best available control technology (BACT) was not required. Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes. If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes. The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays.

Dept. of Environmental Regulation
St. Johns River District
3315 Maguire Blvd., Suite 232
Orlando, Florida 32803

Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

ATTORNEYS AT LAW

TAMPA - ORLANDO - PENSACOLA - TALLAHASSEE

GIDDINGS E. MABRY 1877-1968
O. K. REAVES 1877-1970
DOYLE E. CARLTON 1885-1972

600 NORTH FLORIDA AVENUE

POST OFFICE BOX 3239

TAMPA, FLORIDA 33601

(813) 223-5366

TELEX: CARFIELD 52-2520

EDWARD C. ADKINS
THOMAS D. AITKEN
JAMES W. AULT
GEORGE BARFORD
CHRISTINE K. BILODEAU
RUSSELL S. BOGUE, III
JOHN W. BOULT
FRANK C. BOZEMAN
J. DIXON BRIDGERS, III
MARK A. BROWN
DAVID P. BURKE
CHARLES J. CACCIABEVE
JORDAN F. CAMENKER
STEPHEN M. CHRISTIAN
ROBERT L. CIOTTI
JOSEPH B. COFER
ANNE C. CONWAY
C. TIMOTHY CORCORAN, III
ROBERT W. COURTNEY
CHRIS S. COUTROULIS
F. MALCOLM CUNNINGHAM, JR.
JOHN J. CUNNINGHAM, JR.
EDWARD I. CUTLER
JAMES O. DAVIS, III
PAUL C. DAVIS
DAVID S. DEE
NATHANIEL L. DOLINER
DAVISSON F. DUNLAP

KATHLEEN S. EDWARDS
MICHEL G. EMMANUEL
NANCY J. FAGGIANELLI
EDWARD W. GERECKE
LEONARD H. GILBERT
FREDERICK J. GRADY
MARK E. GRANTHAM
JAMES A. GRESSER
CHRISTOPHER L. GRIFFIN
EURICH Z. GRIFFIN
MARTHA H. HALL
W. DOUGLAS HALL
DONALD E. HEMKE
RUTH BARNES HIMES
J. BRADFORD HINES
MICHAEL K. HOUTZ
TIMOTHY A. HUNT
THOMAS F. ICARD, JR.
GREGORY G. JONES
JAMES J. KENNEDY
JOHN P. KUDER
JAMES M. LANDIS
HYWEL LEONARD
JEFFREY W. LEWIS
JOHN B. LIEBMAN
WILLIAM V. LINNE
A. BROADDUS LIVINGSTON
LAUREL E. LOCKETT

JOHN P. McADAMS
J. ROBERT McCLURE, JR.
RICHARD C. MCCREA, JR.
WILLIAM F. MCGOWAN, JR.
GEORGE C. McLARRY
GEORGE N. MEROS, JR.
WILLIAM JONES MILLER
WILLIAM D. MITCHELL
WRIGHT MOULTON
DAVID G. MULOCK
EDWARD P. NICKINSON, III
MICHAEL F. NUECHTERLEIN
JOHN K. OLSON
WILLIAM C. OWEN
DAVID C. PALMER
WILLIAM D. PALMER
BARBARA R. PANKAU
ROBERT W. PASS
JENNETH L. PEMBERTON
MARTI S. PHILLIPS
KENNETH J. PLANTE
ROBERT M. QUINN
LILLIAN J. REYES
R. ANDREW ROCK
DEBORAH H. ROSS
PAUL A. SAAD
THOMAS D. SCANLON

ROGER D. SCHWENKE
STEPHEN L. SEPINUCK
W. LAWRENCE SMITH
WM. REECE SMITH, JR.
THOMAS A. SNOW
ROBERT A. SORIANO
DOREEN SPADORCIA
STEVEN L. SPARKMAN
ROBERT M. STEELE
ALAN C. SUNDBERG
CYNTHIA S. TUNNICLIFF
LINDA A. URBAN
JACOB D. VARN
ALAN F. WAGNER
SYLVIA H. WALBOLT
J. BRENT WALKER
LAWRENCE M. WATSON, JR.
ROBERT J. WELLS
JAMES R. WILEY
ROBERT C. WILKINS, JR.
EDWIN L. WILLIAMSON, JR.
PETER J. WINDERS
JAMES D. WING
DEXTER R. WOODS, JR.
GWYNNE A. YOUNG
ROBERT L. YOUNG
GEORGE ZADOROZNY
PETER W. ZINOBER

May 14, 1985

Mr. William Thomas
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Drum Service Company of Florida

Dear Bill:

This is a letter following up on our meeting in Tallahassee last Tuesday, May 7, 1985.

Based upon that meeting, Frank Cross' firm will be submitting a revised construction permit application for the Drum Service painting/incineration system at Zellwood. The analysis used in this revised application will correspond to the materials presented at last week's meeting, and the additional issues which you raised will also be included and analyzed in that application.

As a result of the decision to submit a revised construction permit application, on behalf of Drum Service, I hereby withdraw the original permit to construct a spray paint system, which was submitted to the Department on October 24, 1984. As you know, on February 20, 1985, the Department issued an Intent to Deny that permit application.

DER
MAY 16 1985
BAQM
RECEIVED

MAY 16 1985

Dept. of Environmental Regulation
Office of General Counsel

Mr. William Thomas
Page Two
May 14, 1985

From my prior conversations with Gary Early, and the comments of John Bottcher at last week's meeting, it was my understanding that we would be receiving an order from the Secretary denying our most recent request for an extension of time to file an administrative hearing request in connection with that permit. Even though I have not yet received such an order, again based on last week's meeting it is my understanding that those entire proceedings are now academic in view of the withdrawal of the earlier application, and the mutual expectation of Drum Service, the Department, and Drum Service's engineers, that a revised application will be submitted in the next several weeks.

If you or John have any differing understanding of last week's meeting, and of the status of this matter, please let either Frank Cross or me know.

Sincerely yours,



Roger D. Schwenke

RDS/sd

cc: Mr. J. M. Murphy
Mr. Frank L. Cross, Jr., P.E.
John C. Bottcher, Esq.
E. Gary Early, Esq.
Mr. Alexander Alexander - DER/Orlando

DER

MAY 7 1985

BAQM

DRUM SERVICE COMPANY OF FLORIDA

VOC EMISSION INVENTORY STUDY

MAY 7, 1985

CROSS/TESSITORE & ASSOCIATES, P.A.
4759 SOUTH CONWAY ROAD, SUITE D
ORLANDO, FLORIDA 32812

(305) 851-1484

DRUM SERVICE COMPANY OF FLORIDA

VOC Emissions Inventory, and
Study Assumptions and Guidelines

- (1) All VOC potential emissions based on actual purchase for calendar years 1983 and 1984. Purchases include all paints, liners, thinners, and solvents for the above years.
- (2) VOC potential emissions based on manufacturer's data and/or product sheet for each individual type of product.

Example: Drum Enamel Shell Red VOC = 4.18 lb/gal.
Drum Enamel Texaco Green VOC = 4.20 lb/gal.

- (3) All Toluol is used to thin external coating paints.
- (4) All MEK and Diacetone is used to thin L-15 concentrated lining.
- (5) All emissions uncontrolled except for Open Head Drum Interior Line (A3, B2).
- (6) Above controlled emissions based on 90% VOC capture efficiency and 95% thermal destruction @1500°F.

Potential Emissions

<u>Coating Type</u>	1983		1984	
	<u>Gal/Yr</u>	<u>VOC Lb/Yr</u>	<u>Gal/Yr</u>	<u>VOC Lb/Yr</u>
Exterior Paints	29,455	123,924	25,896	107,993
Lining	11,855	56,705	7,081	32,857
MEK	1,265	8,510	1,320	8,880
Diacetone	883	6,880	715	5,590
Toluol	495	3,208	330	2,138

<u>Total</u>	<u>199,227</u>	<u>157,458</u>
--------------	----------------	----------------

Average

178,343 Lb/Yr

89.2 Ton/Yr

Calculation of Allowable Emissions

Exterior Paints

$$(29,455 + 25,896) \text{ (gal/yr)} \times (3.5 \text{ lb VOC/gal)} = 193,729 \text{ lb.}$$

Toluol (Used only in Exterior Paints)

$$(495 + 330) \text{ (gal/yr)} \times (3.5 \text{ lb VOC/gal)} = 2,888 \text{ lb.}$$

Lining

$$(11,855 + 7081) \text{ (gal/yr)} \times (4.3 \text{ lb VOC/gal)} = 81,425 \text{ lb.}$$

Solvents (Used in Lining)

$$(2148 + 2035) \text{ (gal/yr)} \times (4.3 \text{ lb VOC/gal)} = 17,987 \text{ lb.}$$

Total 296,029 lb

Average (1983 and 1984) = 148,015 lb/yr

74.0 Ton/yr

Actual Emissions

Exterior Paint and Toluol (Emission Points, A1, B1, A2, and A4)

(123,924 + 3,208 + 107,993 + 2,138) = 237,263 lbs.

Lining, MEK, and Diacetone

(56,705 + 8,510 + 6,880 + 32,857 + 8,880 + 5,590)

= 119,422 lbs.

*14% VOC Uncontrolled (Emission Points

A5, B3) = 16,719 lbs.

86% VOC Controlled (Emission Points A3, B2)

Assume 90% Capture (119,422-16,719)

x(0.10) = 10,270 lbs.

For VOC captured, assume 95% destruction

(119,422-16,719-10,270)(0.05) = 4,622 lbs.

Total Emissions =

268,875 lbs.

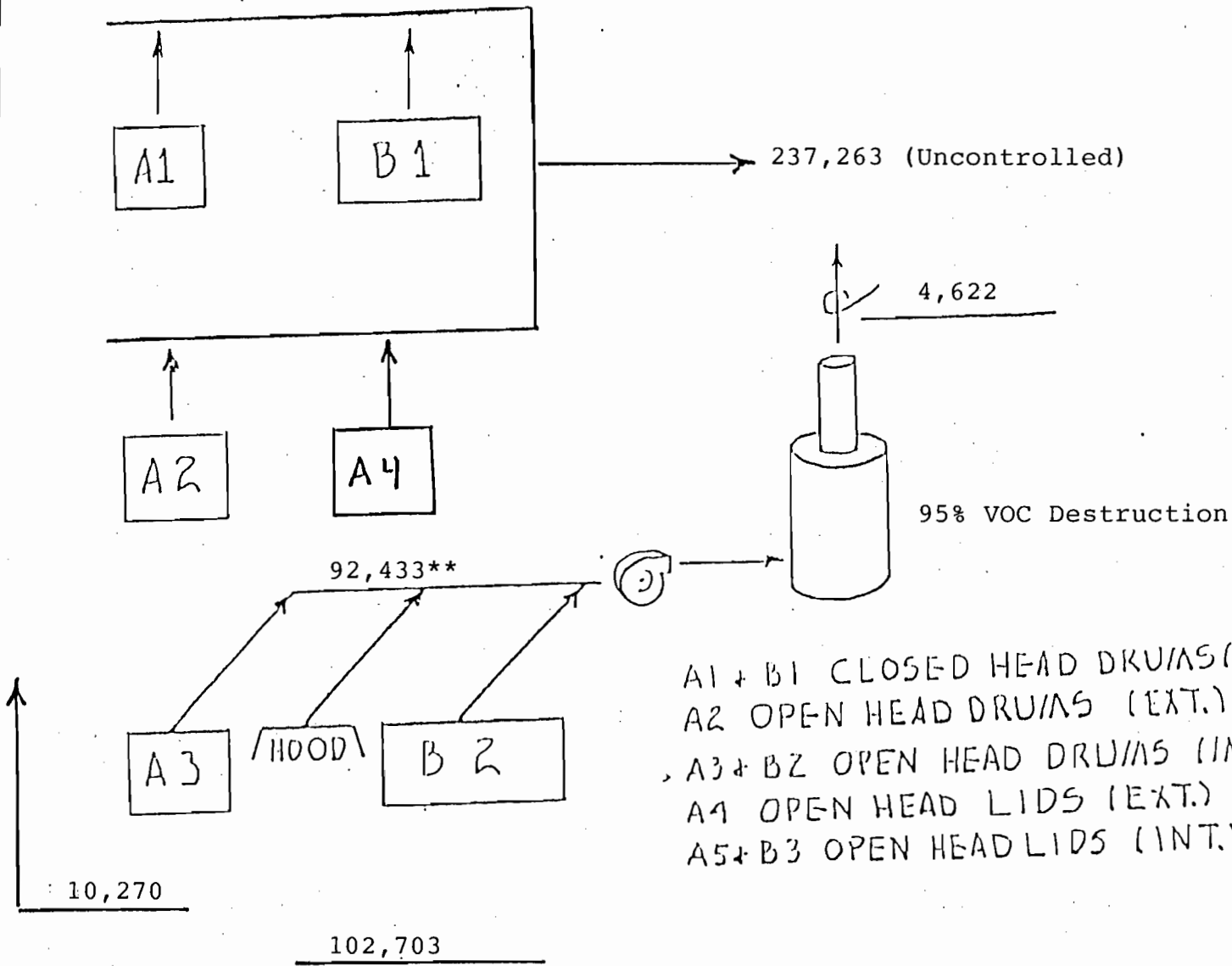
Average Emissions =

134,437 lb/yr

67.2 Tons/yr

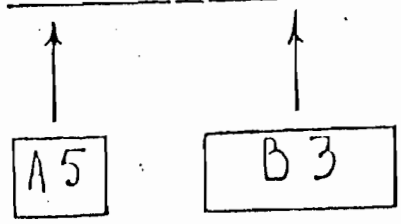
*Lid lining only and lids are 14% of drum interior area.

VOC EMISSION POINT SUMMARY (LBS) *



- A1 + B1 CLOSED HEAD DRUMS (EXT.)
- A2 OPEN HEAD DRUMS (EXT.)
- A3 + B2 OPEN HEAD DRUMS (INT.)
- A4 OPEN HEAD LIDS (EXT.)
- A5 + B3 OPEN HEAD LIDS (INT.)

16,719 (Uncontrolled)



**Assumes 90% VOC Capture Efficiency
 *Total Emission for 1983 and 1984

Average Annual Emissions = 67.2 Tons/Yr

VOC Emission Inventory Summary*

	<u>Tons/Year</u>
Potential Emissions	89.2
Allowable Emissions	74.0
Actual Emissions	67.2

*Based on paint, liner, thinner, and solvent purchases for calendar years 1983 and 1984.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: ED SVEC
FROM: GARY EARLY *EGE*
DATE: MARCH 29, 1985
SUBJECT: SUSPENSION OF THE 90 DAY CLOCK DATE

DER
MAR 29 1985
BAQM

This memo is to clarify the effect of a request for extension of time to file a petition for hearing on the 90 day permitting clock.

The timely request for an extension of time constitutes the initiation of a proceeding for purposes of Chapter 120, Florida Statutes. For that reason, the requests are given OGC file numbers and are tracked as if a petition had been filed. Section 120.60(2), Florida Statutes, states that the 90 day clock is tolled by the initiation of a 120.57 proceeding. Therefore, the 90 day clock is suspended when a request for extension is filed. The Department also construes Section 120.60, Florida Statutes, to mean that the clock resumes 10 days after expiration of the waiver expires if no petition or further request for extension is filed.

In keeping with that construction, Florida Administrative Code Rule 17-103.070 provides that "a timely request for extension of time shall toll the running of the applicable time period until the request is acted upon." That section means that not only is the 14 day clock tolled, but any other applicable time clock, such as the 90 day clock, is also tolled.

In summary, a request for extension of time to file a petition for hearing tolls the 90 day clock, even in the absence of a 90 day waiver. The clock resumes 10 days after expiration of the waiver, or after the administrative hearing process is concluded.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO.

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

ED SUEC

INITIAL

DATE

2.

BAQM - KOGER

INITIAL

DATE

3.

DER

INITIAL

DATE

4.

MAR 29 1985

INITIAL

DATE

REMARKS:

BAQM

Memo re: 90 day
 dbk + extensions
 of time. For your
 Drum Services
 file.

INFORMATION

REVIEW & RETURN

REVIEW & FILE

INITIAL & FORWARD

DISPOSITION

REVIEW & RESPOND

PREPARE RESPONSE

FOR MY SIGNATURE

FOR YOUR SIGNATURE

LET'S DISCUSS

SET UP MEETING

INVESTIGATE & REPLY

INITIAL & FORWARD

DISTRIBUTE

CONCURRENCE

FOR PROCESSING

INITIAL & RETURN

FROM:

[Signature]

DATE

3/29

PHONE

8-9730

CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

ATTORNEYS AT LAW

GIDDINGS E. MABRY 1877-1988
O. K. REAVES 1877-1970
DOYLE E. CARLTON 1885-1972

TAMPA - ORLANDO - PENSACOLA - TALLAHASSEE

600 NORTH FLORIDA AVENUE

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TAMPA, FLORIDA 33601

(813) 223-5366

TELEX: CARFIELD 52-2520

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THOMAS D. AITKEN
JAMES W. AULT
GEORGE BARFORD
CHRISTINE K. BILODEAU
RUSSELL S. BOGUE, III
JOHN W. BOULT
FRANK C. BOZEMAN
J. DIXON BRIDGERS, III
MARK A. BROWN
DAVID P. BURKE
CHARLES J. CACCIABEVE
JORDAN F. CAMENKER
STEPHEN M. CHRISTIAN
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JOSEPH B. COFER
ANNE C. CONWAY
C. TIMOTHY CORCORAN, III
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CHRIS S. COUTROULIS
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A. BROODDUS LIVINGSTON
LAUREL E. LOCKETT

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GEORGE N. MEROS, JR.
WILLIAM JONES MILLER
WILLIAM D. MITCHELL
WRIGHT MOULTON
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WILLIAM C. OWEN
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WILLIAM D. PALMER
BARBARA R. PANKAU
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JENNETH L. PEMBERTON
MARTI S. PHILLIPS
KENNETH J. PLANTE
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LILLIAN J. REYES
R. ANDREW ROCK
DEBORAH H. ROSS
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THOMAS D. SCANLON

ROGER D. SCHWENKE
STEPHEN L. SEPINUCK
W. LAWRENCE SMITH
WM. REECE SMITH, JR.
THOMAS A. SNOW
ROBERT A. SORIANO
DOREEN SPADORCIA
STEVEN L. SPARKMAN
ROBERT M. STEELE
ALAN C. SUNDBERG
CYNTHIA S. TUNNICLIFF
JAMES A. URBAN
JACOB D. VARN
ALAN F. WAGNER
SYLVIA H. WALBOLT
J. BRENT WALKER
LAWRENCE M. WATSON, JR.
LINDA F. WELLS
JAMES R. WILEY
ROBERT C. WILKINS, JR.
EDWIN L. WILLIAMSON, JR.
PETER J. WINDERS
JAMES D. WING
DEXTER R. WOODS, JR.
GWYNNE A. YOUNG
ROBERT L. YOUNG
GEORGE ZAOROZNY
PETER W. ZINOBER

March 4, 1985
(dictated February 23, 1985)

Mr. William Thomas
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Bulding
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Drum Service Company of Florida

Dear Bill:

This is a follow-up to our conversation yesterday concerning the Drum Service matter. Obviously, I have not yet spoken to Gary, since apparently he did not return to the office yesterday; as I mentioned in our phone conversation, I will try to see him on Monday when I am in Tallahassee, or to call him if we don't get together Monday. I am also sending him a copy of this correspondence.

As I said I would, I went back and looked at the correspondence involving the confidentiality question. Copies are enclosed. This was one of the points we discussed yesterday, although at that time neither of us had the correspondence in front of us, and both of us were working from recollections.

I am not sure whether you were mentioning this incident as an illustration of a specific problem in the application which entered into the Department's intent to deny the permit application, or merely that this was a time which you remembered where Mr. Murphy and his engineer did not seem to be direct and responsive to your request.

DER
MAR 7 1985
BAQM

2. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

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Patty,

This should go in the
Drum Service file

thanks

CL

Mr. William Thomas
Page Two
March 4, 1985

After looking at the correspondence it looks to me like several things happened.

On October 22, Mr. Seabury wrote you, on behalf of Drum Service, requesting confidentiality to the entire application. Quite properly, on November 6, you wrote Mr. Seabury back informing him that the Department could not consider the entire application to be confidential, and that in fact emission data had to be made public even if it related to a secret process. A copy of that letter went to me as well as to John Bottcher.

In response, Mr. Murphy wrote you on November 14, to explain that the request for confidentiality related to detailed production records which, if disclosed to other competitors, would be significantly disadvantageous to Drum Service. Mr. Murphy specifically amended the letter to reference only one page of the main application and several pages of exhibits and tables. He explained specifically the production focus of this information, and expressed the hope that the modified request would satisfy your requirements and still preserve the confidentiality to which Drum Service felt it was entitled.

Mr. Murphy went so far as to illustrate, in the final paragraph in his letter, a personal experience which he felt demonstrated the need for and benefit of the confidentiality provisions of Chapter 403.

Since neither Mike Murphy, John Seabury nor I ever heard any further from you or John Bottcher concerning this confidentiality issue, I think it is fair to say that all of us assumed his letter, sent within the ten-day period originally identified in your letter of November 6, satisfied your request for a detail of what information in the application related to "secret processes, method of manufacture, or production".

I'll leave it to Gary and me to argue about the legal interpretation of Section 403.111, Florida Statutes. Based on prior agency practice in construing this Section, plus the plain meaning of the language, I think that sources are entitled to have several items kept confidential, including information on production, information on methods of manufacture, and information on secret processes. Perhaps you were construing the confidentiality exemption more narrowly, feeling that it would apply to production information or to methods of manufacture only

Mr. William Thomas
Page Three
March 4, 1985

if these production details or methods were also "secret".

In any event, I am not now, several months later, trying to quibble with your interpretation. All I am saying is that since no one from the Department responded to Mr. Murphy's clarification, I think it was reasonable for all of us to assume that this had adequately responded to the questions raised in your letter of November 6.

I am planning to go back and review the entire application, the supplemental correspondence and information which Drum Service and its engineer provided, following up on your suggestions.

Bill, you were very candid with me yesterday, and I will try to be the same with you. If you were considering this correspondence by Mr. Murphy and his engineer to be some demonstration of "bad faith" or failure to answer the questions asked by the Department, I think you are wrong. Mr. Murphy explained quite specifically why he was asking for confidentiality, and tried to narrow his request to specific production information which he felt would offer competitors an unfair advantage not authorized by statutes. If someone had not and did not agree with that interpretation, I wish that they would have contacted us then, instead of letting these feelings and perceptions fester to the point where they may have helped influence your Bureau's overall reaction to further information provided by Mr. Murphy and by his engineer.

I still do not know where we will be going on the overall application. I spoke to Mr. Murphy briefly on that subject yesterday, but need to talk to Gary first before we take any further action.

Thanks again for your candor. I still wish that someone had contacted me or Mr. Murphy, prior to the mailing of the Notice of Intent to Deny, just to let us know what was happening and why the Department was intending to take this position. I understand why that probably did not happen here, but still wished we had received that kind of notification first.

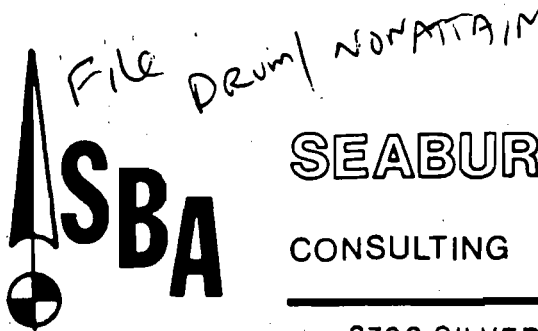
Sincerely yours,



Roger D. Schwenke

RDS/sd

cc: Gary Early, Esq.
John C. Bottcher, Esq.
Deputy General Counsel
Mr. J. M. Murphy
Mr. John W. Seabury



SEABURY-BOTTORF ASSOCIATES, INC.

CONSULTING ENGINEERS

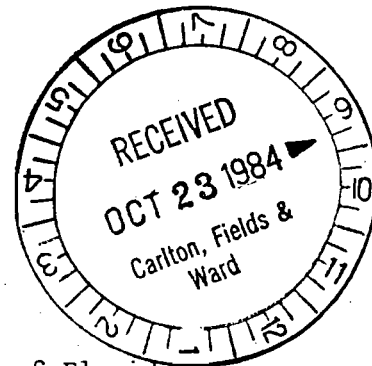
ANALYTICAL LABORATORY

3702 SILVER STAR RD. ORLANDO, FLORIDA, 32808 305-298-0846

October 22, 1984

Project No. 110-7

Mr. Bill Thomas
Bureau of Air Quality Management
Florida Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Rd.
Tallahassee, Florida 32301-8241

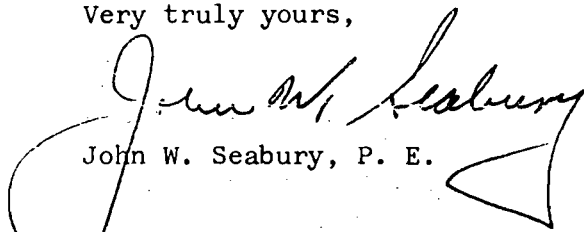


Subject: Drum Service Co. of Florida
Chapter 403, Confidential Records

Dear Mr. Thomas:

On behalf of the Drum Service Co. of Florida which has this date submitted an Application for a Permit to Construct a Source of Air Pollution in Zellwood, Orange County, Florida, we request that provisions of Chapter 403 "The Florida Air and Water Pollution Control Act" relating to confidential records as found in Section 403.111 of that Act be afforded to all information supplied to the Department in connection with this Application, either in the Application itself, or as preliminary to the Application, or as auxiliary to the Application, or henceforth as related to any requirement of Permit which may be granted subsequent to the Application, in order to protect trade secrets, methods of manufacture, and/or other vital interests of the Applicant.

Very truly yours,


John W. Seabury, P. E.
JWS/ac

cc: Mr. J. M. Murphy
Mr. Roger Schwenke

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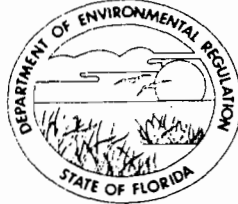
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File - Drum / NON ATTAINMENT

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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

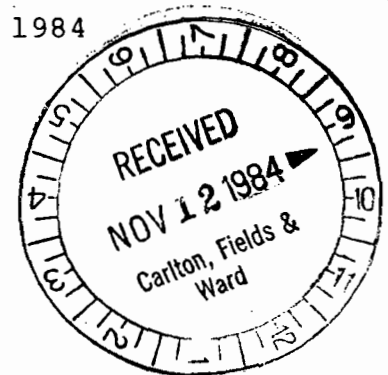


BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 6, 1984

Mr. John W. Seabury
Seabury-Bottorf Associates, Inc.
3702 Silver Star Road
Orlando, Florida 32808



Re: Drum Service Company of Florida
Confidentiality of Permit Application

Dear Mr. Seabury:

This is to formally notify you that the Department intends to deny your request for confidentiality of all information submitted in connection with the application by Drum Service Company of Florida for permit to construct a source of air pollution as set forth in your letter dated October 22, 1984. The only information that can be kept confidential pursuant to Section 403.111, Florida Statutes, is that which relates to secret processes, methods of manufacture, or production. Emission data must be made public even if it relates to a secret process. 40CFR Section 52.526. Unless you specify what information relates to the secret processes and not to emission data within ten days of your receipt of this letter the Department will treat your entire application and all information submitted in connection with it as public records.

You and any other person whose substantial interests are affected by the above proposed agency action have a right to petition for an administrative determination (hearing) on the proposed action, pursuant to Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code and must be filed (received)

Page 2

with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of this letter. Failure to file a petition within the fourteen (14) days constitutes a waiver of any rights you or such other person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

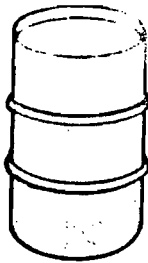
Sincerely

A handwritten signature in cursive script that reads "William Thomas". The signature is written in dark ink and is positioned below the word "Sincerely".

William Thomas
Bureau of Air Quality
Management

cc: John Bottcher
Roger schwenke

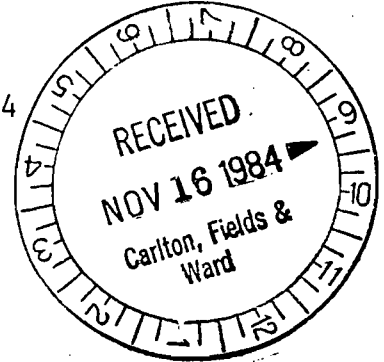
DRUM / N.A.



DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

November 14, 1984



Mr. William Thomas
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Dear Mr. Thomas:

This is in reply to your November 6, 1984, letter to John Seabury concerning our confidentiality request for the VOC control permit application.

We wish to make clear that no request for confidentiality is being made for emission data. Please, therefore, accept this letter as a modification of Mr. Seabury's letter of October 22, 1984, in this regard.

Our request for confidentiality was based upon the extremely detailed production records which were necessarily made available as part of the application. This information, covering the exact number of drums this company reconditioned last year, as well as detailed breakdown by several varieties and subtypes, would put our company at an extreme competitive disadvantage should it be revealed to certain interested other parties. We definitely feel that protection of this sensitive information is well within the spirit and letter of Section 403.111, Florida Statutes.

We suggest, therefore, that we further amend Mr. Seabury's letter of October 22 to specifically reference only those sections of permit application which deal with our production data. These are as follows:

Main Application	Page 4	Section III C
Exhibit 4	Pages 2-9	
Exhibit 5	Page 1	
Exhibit 5	Page 4	
Exhibit 9	Page 1	
Exhibit 10	Pages 1-3	
Exhibit 12	Pages 2-3 (Tables)	

We sincerely hope that this modified request will satisfy your requirements and still preserve the confidentiality to which we feel entitled. We do not believe that competitors, creditors, or any other curious party should have access to the detailed breakdown of our production activities which is revealed in this application. We earnestly hope that we can avoid the aggravation and continued delay of an administrative hearing on this issue, and are accordingly significantly modifying our request for confidentiality at this time.

Perhaps I should add a final word concerning our experiences with the need for confidentiality. I recently went through a very difficult divorce which ended up in a very difficult trial. One member of the Environmental Regulation Commission at the time happened to be a personal friend of my ex-wife. One day Mr. Collins of the Orlando DER office called advising that this Commission member was in his office, inquiring about certain aspects of pollution control problems at Drum Service Co. Fortunately (and to his everlasting credit) Mr. Collins remembered that some of our permit information had been protected by the confidentiality provision, and I believe that he declined to disclose this information to the Commission member. This was a distressing episode but is a good example of the kind of protection I feel the Legislature intended when it enacted 403.111.

I will look forward to hearing from you soon.

Very truly yours,



J. M. Murphy

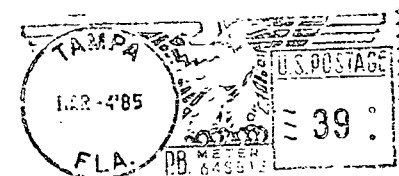
mac

cc: Roger D. Schwenke, Esq. ✓
John W. Seabury, P.E.

CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

P. O. Box 3239

TAMPA, FLORIDA 33601



Mr. William Thomas
Department of Environmental Regulation
Bureau of Air Quality Managment
Twin Towers Office Bulding
2600 Blair Stone Road
Tallahassee, Florida 32301



DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

December 13, 1984

DER
DEC 17 1984
BAQM

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Re: Construction Application AC 48-094701
Spray Paint System

Dear Mr. Fancy:

This is in reply to your letter of November 21, 1984,
concerning the above-referenced permit application.

Before replying, I wish to respectfully express my
extreme disappointment that ten discrepancies or short-
comings were noted on our application. We feel we took
extraordinary measures to insure that our application
would conform to the Department's needs. Toward this
end we:

- a. travelled to Tallahassee for a meeting
with your staff; attending were not
only myself but our attorney and engineer;
- b. submitted an exhaustive "preapplication"
application so that our extensive data
could be reviewed and commented upon;
- c. had a series of color photographs taken
of our plant operation;
- d. travelled once more to Tallahassee for
another conference with your staff (also
with our engineer). We left this meeting
feeling all information needed in the
application had been discussed and agreed
upon.

Some of the questions asked in your letter were answered
in these conferences; others indicate incomplete under-
standing of our system. We certainly feel these should
have been taken care of in all the preapplication efforts.

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clair CTS

Initial

Date

2.

Bill BT

Initial

Date

3.

Initial

Date

4.

Initial

Date

REMARKS:

Incompleteness response. Ed S. + John Botcher have copies. Return to me for file

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

Patty

DATE

12/17

PHONE

DEC 17 1984

BAQM

In any event, the following replies are numbered in the same manner as your list of questions.

1. Actual Consumption Data of Paints and Linings

We explained at both our conferences that this data is not available in any form reliable enough to use for permitting purposes. The reason is that there has been no requirement to keep this data to the degree of accuracy necessary for permitting; therefore, it does not exist. We felt we overcame this problem through:

- a. providing some very laborious, time-consuming calculations using all known data available on actual paint characteristics and actual application specifics at this plant to arrive at theoretical values we feel are very close to actual; and
- b. providing for future actual consumption data by means of an elaborate inventory reporting system which will keep this information to the required degree of specificity.

We do, of course, have invoices from paint vendors which could be added up to show total gallonage purchased during a given year. These, however, would not produce meaningful figures for at least the following reasons:

- a. At the beginning of the year, a certain amount of paint was on hand in the form of inventory, which obviously got used up during the year. We don't have exact counts of this.
- b. The same is obviously true at the end of the year: much of the paint purchased during the last several weeks of the year would not have been used by the end of the year, but was still on hand, unopened, and therefore should not properly be counted in consumption figures for that year.
- c. From time to time, colors are discontinued and the paint, if not suitable for rework into other colors, is discarded. There is no data at all on the volumes involved here, only estimates.
- d. The same is true on bad paint: For a variety of reasons, paint gets stale and unusable,

and is discarded. There is no exact data for this.

- e. We have certain non-application usages for paint, primarily supplying "touch-up paint" to customers who use it to cover small scratches in the drums due to transportation marring. Likewise, we have no figures on this.
- f. Paint is not purchased in an even, "one-to-one" ratio with drum production. To reduce freight costs and achieve lowest possible per gallon prices, orders are sometimes bunched into very large quantities on a single order at one time. Thus there is no meaningful ratio that can be established between monthly purchases and monthly production.

Following our last conference we felt that the theoretical data provided, coupled with our willingness to maintain extensive inventory records on actual consumption in the future, would satisfy the Department. Surely this is satisfactory, or how else could a new source ever get a permit, not having had any actual consumption experience?

2. Listing of All Solvents Used

The following solvents are identifiable from manufacturer's declaration of coating ingredients:

- Xylol
- Ketones, exempt
- Ketones, non-exempt
- Alcohols, exempt
- Esters
- MEK
- Naphtha
- Toluene

Above solvents are included in paint as received and serve as vehicle to carry solids from spray nozzle to surface being coated. The amount used as reported in Application is 148,008 lbs. per year.

Coatings are received in ready-to-spray condition and are used directly from the drum except for #1 lining and in very cold weather when a small but indeterminate amount of diacetone alcohol or toluene is added for reduction (viscosity control) purposes.

Wash solvents used are MEK or toluene and are directed into containers that prevent evaporation into the atmosphere; thus are exempt from consideration in the emission limitation as per 17-2.650(1)(f)14 b.(D)(iii). From time to time the containers of wash solvents are reclaimed by distillation and the recovered solvent reused for washing.

The proposed future inventory control records will include reduction solvents employed in viscosity control and will also include an accounting of wash solvent usage both new and recovered.

3. Afterburner/Boiler Questions

The Spencer Boiler & Engineering Company Afterburner Model DSF-002 is fired by the four eclipse NM128 burners. Note in Exhibit 10 that the burner description is a subheading underneath Item B: THERMAL OXIDIZER (AFTERBURNER). They are not a separate control device; they are the essential heart of the afterburner.

The boiler is solely a waste heat device, operating on heat from this afterburner. It will furnish process steam to several heating units in the plant which are now served by a 100 HP steam generator. As indicated in the attached Drawing Number 110-7-VOC-3 prepared by Seabury-Bottorf Associates, the waste heat boiler is downstream of the afterburner and is not in any way a control device.

4. Afterburner Guarantee

A letter was requested from the manufacturer of the afterburner guaranteeing the operating parameters claimed, and is enclosed. This company has built several similar units; three of these are in use in the Los Angeles Basin, home of America's strictest air pollution control regulations. I have personally inspected all three.

5. Furnace Description

The furnace is our drum reclamation furnace (DER Permit Number AO 48-49657, referred to in Item B. Page 2 of the application). It can most properly be described as a pyrolytic chamber wherein empty 55-gallon steel drums are prepared for steel shot abrasive cleaning by quick exposure to elevated temperatures. Smoke and fumes from this operation are ducted to an afterburner chamber covered by the

existing permit. (Note: During the most recent permitting of this furnace, an inspection was made by Steve Smallwood and Mary Clark; since they are both in your office we suggest they would be an excellent source if any additional information is needed.)

6. Boiler Information

As indicated, the boiler is solely a waste heat recovery device, operating on the heat from the afterburner. The boiler can operate on waste heat from the afterburner whether the afterburner is serving the drum reclamation furnace or the spray paint exhaust system, or both. No provision is made for any auxiliary firing; at 400 HP capability the waste heat boiler is expected to yield a surplus of steam. (The present steam generator it will replace is only 100 HP.)

7. Propane Consumption

Afterburner chamber temperature will be maintained at a minimum temperature of 1500 degrees Fahrenheit by modulation of propane fuel supply. VOC loading is not expected to have a significant influence on fuel consumption: production takes place on a steady-state, production line basis, so significant variations in emissions are not expected. (A drum reconditioning line, as operating in this plant, is a continuous operation, not a "batch process".)

It was not felt that any accurate and reliable estimates can be provided, so the most conservative assumptions (average hourly consumption equal to maximum hourly consumption) were provided.

8. Incinerator Information

The incinerator information in Section IV of the application does not appear applicable to this system or control device. Those sections of Section IV which might be relevant, such as stack height, stack diameter, gas flow rates and temperature, etc., are provided at the end of Section III on Page 6. This area was extensively discussed by Mr. Smallwood and Ms. Clark during the permitting process leading to the current permit; Section IV was not deemed necessary on that application. They closely examined the operation here during a lengthy visit and concurred that this device need not be treated with the incinerator standards.

9. Boiler Control Connections

With the exception of a low water cutoff safety control, the boiler is not connected to the VOC afterburner control system. The boiler is an independent, downstream waste heat scavenger which will not lead or initiate any control actions, nor does it receive any control signals from the VOC afterburner controls. The only exception is a possible emergency malfunction of low water supply; in this unlikely event the entire system would be shut down.

10. Drying Oven Information

The drying ovens are heated by propane. Individual gas metering devices are not present on their fuel supply. Maximum heat release can only be estimated from maximum burner ratings and an approximation of the percentage operation on an average, daily basis. These are estimated as follows:

OVEN*	MAX. BURNER RATING BTU PER HOUR	ESTIMATED UTILIZATION	ESTIMATED HEAT RELEASE BTU PER HOUR**
B1	2,500,000	1/3	833,333
B2	5,000,000	1/2	2,500,000***
B3	800,000	1/3	266,666

EMISSION FROM TABLE 1.5-1 AP42, PART A, THIRD EDITION

	LB. EMISSION	EMISSION LB./HOUR****		
	1000 GAL. PROPANE	B1	B2***	B3
PARTICULATES	1.7	.0155	Nil	.005
SO ₂	0.014	.0001	Nil	.00004
CO	1.5	.0136	Nil	.0044
HYDROCARBONS	0.3	.0003	Nil	.0009
NO _X	11.2	.1018	Nil	.033

*For oven identification, see Seabury-Bottorf Associates Drawing 110-7-VOC-1 (Exhibit 6 of the application).

**Based on heating value of Propane @ 91.620 BTU/Gallon.

***Emissions from Oven B2 proposed to be sent to After-burner (emission will be nil).

****Also equals Tons per Year.

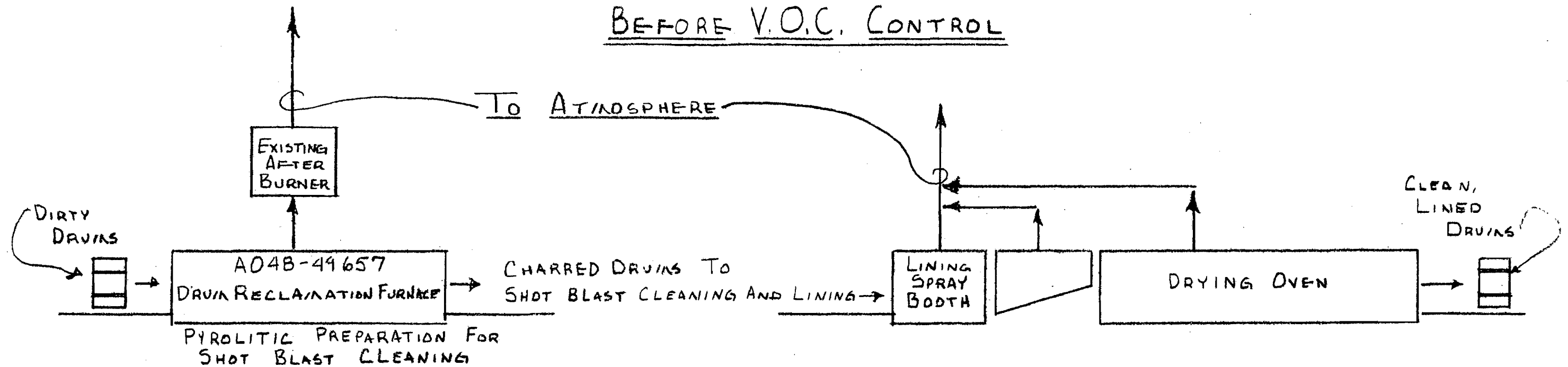
Very truly yours,

DRUM SERVICE CO. OF FLORIDA

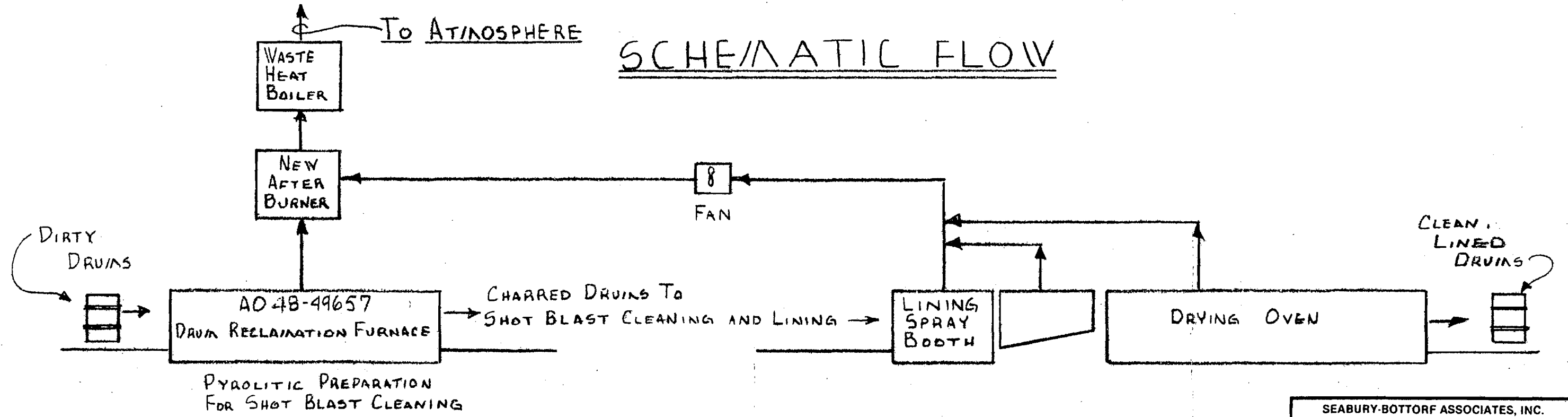
J. M. Murphy

cc: John W. Seabury, P.E.
 Roger D. Schwenke, Esq.
 James Show
 A. T. Sawicki, P.E.

BEFORE V.O.C. CONTROL



SCHEMATIC FLOW



AFTER V.O.C. CONTROL

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE COMPANY OF FLORIDA ZELLWOOD, FLORIDA		
DES. J.S.	OWN. N.D.S.	110-7-VOC-3
SCALE NONE	DATE 12-7-84	DRAWING NO.

SPENCER BOILER & ENGINEERING INC.NEW & RECONDITIONED BOILERS, AIR POLLUTION CONTROL & HEAT RECOVERY SYSTEMS
DISTRIBUTOR FOR: ABCO IND. - BOILERS.**CRANE**

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GENERAL OFFICES AND FACTORY

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SOUTH GATE, CALIF. 90280
(213) 636-0216
(213) 630-1102FRESNO BRANCH
2141 S. VAN NESS
FRESNO, CALIF. 93721
(209) 237-6951

December 11, 1984

Drum Service Co. Of Florida
P.O. Box 278
Zellwood, Florida 32798

Attention: Mr. Mike Murphy

Subject: Thermal Oxidizer (Afterburner)

Reference: Quotation #2603

Dear Mr. Murphy:

This is to certify that the subject Thermal Oxidizer (Afterburner) will be designed in accordance with U.S. E.P.A. AP-40 to raise the effluent from your spray booth and drum furnace from an average temperature of 750° to a minimum temperature of 1500°F with a minimum retention time of .5 seconds.


The unit will be constructed from 3/16 carbon steel plate lined with 5" insulating high temperature refractory. It will be equipped with four Eclipse NM128 burners which fire 90° to the effluent direction of flow. The effluent will be introduced forward of the burners insuring intimate flame contact resulting in maximum efficiency.

The control panel will be a NEMA 12 panel complete with a Fireye Factory Mutual and UL approved flame safeguard system, Eclipse digital modulating temperature control, Eclipse high temperature limit, manual over ride, alarm, alarm silence and indicating lights.

Should you have any further questions please contact the undersigned.

Very truly yours,

SPENCER BOILER & ENGINEERING INC.


Frank L. Reed
President

FLR/amd

DRUM SERVICE CO. OF FLORIDA

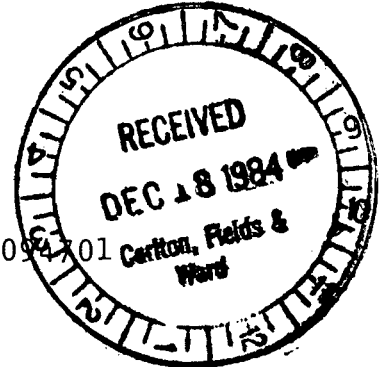


POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

December 13, 1984

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, FL 32301

Re: Construction Application AC 48-092701
Spray Paint System



Dear Mr. Fancy:

This is in reply to your letter of November 21, 1984, concerning the above-referenced permit application.

Before replying, I wish to respectfully express my extreme disappointment that ten discrepancies or shortcomings were noted on our application. We feel we took extraordinary measures to insure that our application would conform to the Department's needs. Toward this end we:

- a. travelled to Tallahassee for a meeting with your staff; attending were not only myself but our attorney and engineer;
- b. submitted an exhaustive "preapplication" application so that our extensive data could be reviewed and commented upon;
- c. had a series of color photographs taken of our plant operation;
- d. travelled once more to Tallahassee for another conference with your staff (also with our engineer). We left this meeting feeling all information needed in the application had been discussed and agreed upon.

Some of the questions asked in your letter were answered in these conferences; others indicate incomplete understanding of our system. We certainly feel these should have been taken care of in all the preapplication efforts.

No. 0155777

RECEIPT FOR CERTIFIED MAIL

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

SENT TO			
Mr. J. M. Murphy			
STREET AND NO.			
P.O., STATE AND ZIP CODE			
POSTAGE	\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢	
	SPECIAL DELIVERY	¢	
	RESTRICTED DELIVERY	¢	
	OPTIONAL SERVICES	SHOW TO WHOM AND DATE DELIVERED	¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES	\$		
POSTMARK OR DATE			
11/21/84			

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979

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

1. The following service is requested (check one.)
 Show to whom and date delivered..... ¢
 Show to whom, date and address of delivery..... ¢
 RESTRICTED DELIVERY
 Show to whom and date delivered..... ¢
 RESTRICTED DELIVERY.
 Show to whom, date, and address of delivery \$ ____
 (CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:
 Mr. J. M. Murphy
 P. O. Box 278
 Zellwood, FL 32798

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
	0155777	

 (Always obtain signature of addressee or agent)

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

4. DATE OF DELIVERY: 11-26-84 POSTMARK

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE: CLERK'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 21, 1984

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. J. M. Murphy, Vice President
Drum Service Company of Florida
Post Office Box 278
Zellwood, Florida 32798

RE: Construction Application AC 48-094701 - Spray Paint System

Dear Mr. Murphy:

The Bureau of Air Quality Management has received your application to construct a spray paint system. After initial review, the application is deemed incomplete. The following information is required along with all appropriate calculations, assumptions and documentation:

1. All consumption data of paints and interior linings are theoretical values. Because the spraying operation has been in use for a number years, provide the actual number of gallons of each exterior paint and lining used each year. Calculate the actual emissions of volatile organic compounds and the actual emissions of particulate matter generated from overspray using the actual consumptions.
2. Provide a list of all solvents used in the spray paint system, the amount used, and how these solvents are used. All reduction solvents and wash solvents used are to be included in the emission limits for the coatings, FAC Rule 17-2.650 (1)(f)14.
3. A Spencer Boiler and Engineering Company afterburner model DSF-002 is referenced in Section III D of the permit application and four Eclipse NM128 burners are referenced in the equipment specification of Exhibit 10. Which will be used? Will the boiler be the afterburner?
4. Provide a manufacturer's guarantee for the control device. You claim 100% efficiency in Section III D of the permit application.

Mr. J. M. Murphy
Page Two
November 21, 1984

5. The description of the transition ducting in the equipment specification of Exhibit 10 refers to "furnace to afterburner." Describe this furnace.
6. Will this boiler operate independently of the spray paint system? Will any additional fuel be used to fire this boiler? Is so, provide these emission rates.
7. The average and maximum hourly consumption of propane are equal in Section III E of the permit application. Will consumption vary depending on VOC loading? If so, provide the necessary calculations.
8. Provide the information required in Section IV: Incinerator Information of the permit application.
9. Provide the necessary diagrams showing how the boiler will be connected to the control system.
10. How are the drying ovens heated? Include any emission rates for these sources.

When all the requested information is received, we will resume processing your application. If you have any questions, please call Edward Svec, Review Engineer, at (904)488-1344 or write to me at the above address.

Sincerely,



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

CHF/ES/s

cc: John Seabury, P.E.
Roger Schewenke
Tom Sawicki, DER SJRD

No. 0155769

RECEIPT FOR CERTIFIED MAIL

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

SENT TO		John W. Seabury		
STREET AND NO.				
P.O., STATE AND ZIP CODE				
POSTAGE		\$		
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE		¢	
	SPECIAL DELIVERY		¢	
	RESTRICTED DELIVERY		¢	
	OPTIONAL SERVICES	RETURN RECEIPT SERVICE		¢
		SHOW TO WHOM AND DATE DELIVERED		¢
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢		
TOTAL POSTAGE AND FEES		\$		
POSTMARK OR DATE				
11/7/84				

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1979 RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL	SENDER: Complete Items 1, 2, and 3. Add your address in the "RETURN TO" space on reverse.								
	1. The following service is requested (check one.) <input checked="" type="checkbox"/> Show to whom and date delivered..... ¢ <input type="checkbox"/> Show to whom, date and address of delivery..... ¢ <input type="checkbox"/> RESTRICTED DELIVERY Show to whom and date delivered..... ¢ <input type="checkbox"/> RESTRICTED DELIVERY. Show to whom, date, and address of delivery \$ ____ (CONSULT POSTMASTER FOR FEES)								
	2. ARTICLE ADDRESSED TO: Mr. John W. Seabury 3702 Silver Star Road Orlando, FL 32808								
	3. ARTICLE DESCRIPTION: <table border="1" style="width: 100%;"> <tr> <td style="width: 33%;">REGISTERED NO.</td> <td style="width: 33%;">CERTIFIED NO.</td> <td style="width: 33%;">INSURED NO.</td> </tr> <tr> <td></td> <td style="text-align: center;">0155769</td> <td></td> </tr> </table> (Always obtain signature of addressee or agent)			REGISTERED NO.	CERTIFIED NO.	INSURED NO.		0155769	
	REGISTERED NO.	CERTIFIED NO.	INSURED NO.						
		0155769							
	I have received the article described above. SIGNATURE <input type="checkbox"/> Addressee <input checked="" type="checkbox"/> Authorized agent <div style="text-align: center; font-family: cursive; font-size: 1.2em;">Ana Clemons</div>								
	4. DATE OF DELIVERY 11-9-84		POSTMARK						
	5. ADDRESS (Complete only if requested)								
	6. UNABLE TO DELIVER BECAUSE:		CLERK'S INITIALS						

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

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



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

November 6, 1984

Mr. John W. Seabury
Seabury-Bottorf Associates, Inc.
3702 Silver Star Road
Orlando, Florida 32808

Re: Drum Service Company of Florida
Confidentiality of Permit Application

Dear Mr. Seabury:

This is to formally notify you that the Department intends to deny your request for confidentiality of all information submitted in connection with the application by Drum Service Company of Florida for permit to construct a source of air pollution as set forth in your letter dated October 22, 1984. The only information that can be kept confidential pursuant to Section 403.111, Florida Statutes, is that which relates to secret processes, methods of manufacture, or production. Emission data must be made public even if it relates to a secret process. 40CFR Section 52.526. Unless you specify what information relates to the secret processes and not to emission data within ten days of your receipt of this letter the Department will treat your entire application and all information submitted in connection with it as public records.

You and any other person whose substantial interests are affected by the above proposed agency action have a right to petition for an administrative determination (hearing) on the proposed action, pursuant to Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapter 17-103 and 28-5, Florida Administrative Code and must be filed (received)

Page 2

with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301, within fourteen (14) days of receipt of this letter. Failure to file a petition within the fourteen (14) days constitutes a waiver of any rights you or such other person has to an administrative determination (hearing) pursuant to Section 120.57, Florida Statutes.

Sincerely

A handwritten signature in cursive script that reads "W. Thomas". The signature is written in dark ink and is positioned below the word "Sincerely".

William Thomas
Bureau of Air Quality
Management


cc: John Bottcher
Roger schwenke

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional <input type="checkbox"/>	Reply Required <input type="checkbox"/>	Info. Only <input type="checkbox"/>
Date Due: _____	Date Due: _____	

TO: BILL THOMAS

FROM: JOHN C. BOTTCHER 

DATE: NOVEMBER 6, 1984

SUBJECT: DRUM SERVICE COMPANY OF FLORIDA -
SEABURY LETTER DATED OCTOBER 22, 1984

The request for confidentiality contained in the letter from Mr. John W. Seabury to you dated October 22, 1984, must be denied. The request is too broad. The only information that can be kept confidential is that which relates to secret processes, methods of manufacture, or production. Emission data must be made public even if it relates to a secret process. 40CFR Section 52.526.

Attached is a letter for you to send to Mr. Seabury putting him on notice that the Department must deny confidentiality to the application. Until we receive a response, or the time has lapsed for a response to be received, treat any information relating to secret processes, methods of manufacture, or production, as confidential.

Attachment

DRUM SERVICE CO. OF FLORIDA
VOC CAPTURE EFFICIENCY
PAINT STORAGE THROUGH APPLICATION AND CURING

1. All paint and lining products are purchased in sealed 55 gallon drums.
2. Nearly all products are purchased "ready to spray" - no thinning or mixing required.
3. Drums are not opened until ready to use in the paint room. Immediately after opening, a special cover is placed on the drum. (The cover provides for an air driven agitator assembly and the intake pipe to the paint pump.) The cover remains on the drum until it is empty, at which time the original cover is replaced on the drum and the drum is removed.
4. Only airless type paint pumps are used. Paint is drawn up to the pump through the intake pipe, subjected to intense pressure, and pumped out of the pump through high pressure tubing to the application area. No exposure to the atmosphere is possible.
5. At the paint booth the only way paint is released is at the spray gun tips. These are always in the paint booth and subject to the exhaust drafting of the booth.

6. After lining, the open head drums pass through a flash-off area prior to entering the oven. See Seabury-Bottorf Associates drawing No. 110-7-VOC 5 for flash-off area collection device
7. VOC's remaining in lining material (after application at spray booth and flash off area) are driven off in baking oven. See Seabury-Bottorf & Associates Drawing 110-7-VOC3 for exhaust details.
8. All exhausted VOC's - from spray booth, flash off area, and baking oven - are ducted into common exhaust system leading into proposed incinerator.



DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798
PHONE AREA 305 - 889-2581

October 24, 1984

Mr. William Thomas
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

*Bill -
Ed has copy -
Please return
for file
Patty*

Dear Mr. Thomas:

I want to thank you again for the time you and Ed Svec gave us October 9, 1984. The meeting was very productive and John Seabury and I feel we have been able to complete a permit application which appropriately addresses all your concerns. Quite frankly, we didn't thoroughly understand them all at first, but in our smaller meeting in your office, we believe we made a lot more progress. You should be receiving our completed application directly from John Seabury this week.

If our hopes about the application are well founded, it appears the only other major technical point of discussion between us would be permit conditions. I am writing with two requests:

- A. That we be provided a draft of proposed permit conditions for review and comment, prior to any permit action. (We commit to review these and provide any appropriate comments immediately, so that we cause no delay in the process.)
- B. That in your evaluation of potential permit conditions, you keep several points in mind, which we respectfully submit are relevant to your decision-making. Our feeling is that when all these are considered, there is no need for time-consuming, expensive permit requirements. We hope you will be guided by the following:

DER

OCT 26 1984

BAQM

1. We are a minor source (estimating 54.9 tons per year of controlled emissions). We realize that your office normally deals with major sources, some of which have incredibly higher potential to pollute than our plant (John Seabury told me once that our new Stanton Energy Plant will emit the same gross amount of pollutants [54.9 tons] in a few hours as our plant will in an entire year).

We also note in the EPA discussion of VOC emissions trading in the April 7, 1982 Federal Register, that situations involving less than 100 tons per year:

...will have at most a de minimus impact on local air quality because only minor quantities of emissions are involved...(p. 15084)

2. We have already agreed - in the application - to several time-consuming record keeping and reporting requirements, such as the inventory control records and paint and solvent disposition reports. These will require a continuous administrative task, perpetually.
3. While the application is very complicated and extremely detailed, the operation of the system is simplicity itself. All of the covered process points (lining booth, flash off hood, and oven) are completely in the open as are the ducts and fans that carry the VOC vapors to the proposed incinerator.

To ascertain proper collection and operation takes but a momentary inspection.

The incinerator itself is likewise extremely simple: once proper operating temperature is reached

and maintained, the laws of physics insure total VOC destruction. (Yes, I know about "Murphy's Law", but I really don't see how we can foul this one up.)

4. Orange County currently inspects this plant (with special attention to all pollution control systems) on a quarterly basis. Presumably they would be the lead enforcement office since John just advised they have received DER approval to administer the air program. Accordingly, our proposed control system should receive far more scrutiny than those systems in many plants that are inspected less often.
5. We happen to be (unfortunately) a business that is affected by almost every environmental program there is. We hold four other permits from the Department for other sources, all with permit condition requirements. We will be impacted by the new above-ground storage tank rules, and by the new waste oil rules (now in the workshop stage). In our day-to-day operations, we must enforce several of the U.S. EPA RECRA Regulations - notably the "Empty Drum" Rule (40 CFR 261.7) and the acutely hazardous chemical prescriptions (40 CFR 261.33(e)). Finally, in 1972, the Department required us to retain all waste waters on the property and issued a permit for "Evaporation and Percolation Ponds". Percolation ponds!!! Thanks to that permit and those ponds (now removed), we have a large CERCLA problem with EPA that may take 2-4 years to resolve.

The point of all this is that there is just so much environmental management a small company can handle. We are near the breaking point. Please keep this in mind as you decide on permit conditions, and be as reasonable as good policy allows.

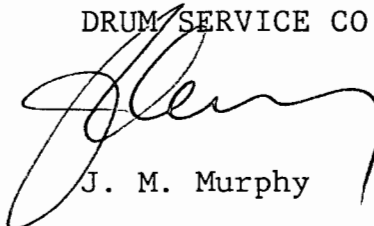
October 24, 1984

Page 4

Thank you again for your consideration.

Very truly yours,

DRUM SERVICE CO. OF FLORIDA

A handwritten signature in black ink, appearing to read 'J. M. Murphy', written over the typed name.

J. M. Murphy

cc: John W. Seabury, P.E.
James Show
Roger D. Schwenke, Esq.

DRUM SERVICE CO. OF FLORIDA

POST OFFICE BOX 278
ZELLWOOD, FLORIDA 32798

631

No. 34651



BARNETT BANK
Zellwood, Fla. 32798

VOID AFTER 60 DAYS

DATE	CHECK NO.	DISCOUNT	AMOUNT
OCT 19 84	34651	.00*	\$500.00*

PAY TO THE ORDER OF
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

DRUM SERVICE CO. OF FLORIDA

[Handwritten Signature]
AUTHORIZED SIGNATURE

[Redacted area]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No. 76049

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Drum Service Co. of Florida Date October 24 1984

Address P.O. Box 278 Zellwood, Florida Dollars \$ 500.00

Applicant Name & Address Same as above

Source of Revenue _____

Revenue Code 001031 Application Number AC 48-094701

By Patricia G. Adams

DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER
DISTRICT3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803

DER

OCT 24 1984

BAQM

BOB GRAHAM
GOVERNORVICTORIA J. TSCHINKEL
SECRETARYALEX SENKEVICH
DISTRICT MANAGERAPPLICATION TO ~~OPERATE~~ CONSTRUCT AIR POLLUTION SOURCESSOURCE TYPE: Volatile Organic Compounds [] New¹ [X] Existing¹

APPLICATION TYPE: [X] Construction [] Operation [] Modification

COMPANY NAME: DRUM SERVICE CO. OF FLORIDA COUNTY: ORANGEIdentify the specific emission point source(s) addressed in this application (i.e. Lime
Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Spray Paint SystemSOURCE LOCATION: Street 803 Jones Ave. City ZellwoodUTM: East 17-439904 North 3178077Latitude 28 ° 43 ' 55 "N Longitude 81 ° 36 ' 45 "WAPPLICANT NAME AND TITLE: J. M. Murphy, Vice PresidentAPPLICANT ADDRESS: P. O. Box 278, Zellwood, Florida 32798

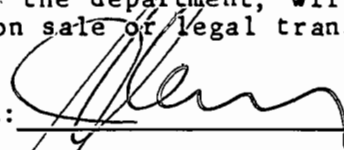
SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Drum Service Co. of Florida

I certify that the statements made in this application for a construction 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 provision 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 non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

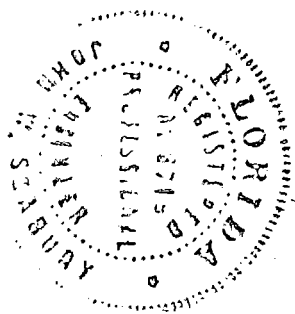
Signed: J. M. Murphy, Vice President
Name and Title (Please Type)Date: 10/22/84 Telephone No. 305/889-2581

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

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

¹ See Florida Administrative Code Rule 17-2.100(57) and (104)

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 regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Signed John W. Seabury

 John W. Seabury

 Name (Please Type)

 Seabury-Bottorf Associates, Inc.

 Company Name (Please Type)

 3702 Silver Star Road, Orlando, FL 32808

 Mailing Address (Please Type)

Florida Registration No. 8719 Date: 10-19-84 Telephone No. 305/298-0846

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

This is an Application to Construct a system to collect and render harmless (incinerate) vapors from paint spraying operations to the extent that emissions are within the limiting standards of 17-2.650 (1)(e) and 17-2.650 (1)(f) 14(i)(B), see Exhibits 1 thru 11.

B. Schedule of project covered in this application (Construction Permit Application Only)
 Start of Construction 120 days after approval* Completion of Construction 12 to 18 months after start

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Afterburner	\$77,300.00
Ducts, Fan, and Collection Hoods	5,000.00
Foundation, Roof, Wiring, Labor	17,500.00
TOTAL	\$99,800.00

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

AO 48-49657 issued 2/19/82 to expire 1/30/86;
No previous VOC Permits; Warning Notice OWN-84-034.

*120 days estimated as necessary to obtain financing and finalize agreements w/Contractors.

E. Requested permitted equipment operating time: hrs/day 8; days/wk 5; wks/yr 50; if power plant, hrs/yr _____; if seasonal, describe: Operating time is not seasonal, but may vary with demands of the trade.

F. If this is a new source or major modification, answer the following questions. (Yea or No)

1. Is this source in a non-attainment area for a particular pollutant? No
 - a. If yes, has "offset" been applied? _____
 - b. If yes, has "Lowest Achievable Emission Rate" been applied? _____
 - c. If yes, list non-attainment pollutants. _____
 2. Does best available control technology (BACT) apply to this source? No
If yes, see Section VI.
 3. Does the State "Prevention of Significant Deterioration" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No
 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No
- H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? Yes
- a. If yes, for what pollutants? VOC
 - b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

See attached Exhibits #1 thru #11 for data relating to Rule 17-2.650.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Paints	SEE EXHIBIT 2	FOR FULL DESCRIPTION		See Drawing #110-7-VOC2
Linings	SEE EXHIBIT 3	FOR FULL DESCRIPTION		See Drawing #110-7-VOC2

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): Not Applicable

2. Product Weight (lbs/hr): Not Applicable

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE EXHIBIT #9; Drawings #110-1-VOC1, #110-1-VOC2

VOC Name of Contaminant	Emission ¹ *		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ * Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Closed Head	21.89	17.91	3.5# Gal.	17.82	35,818	17.91	A1 & B1
Open Head Exterior	56.57	26.30	3.5# Gal.	46.06	52,594	26.30	A2
Open Head Interior	4.83	2.13	4.3# Gal.	41.93	4,254	2.13	A3 & B2
Open Head Exterior Lid	8.92	4.15	3.5# Gal.	7.53	8298	4.15	A4
Open Head Interior Lid	9.68	4.38	4.3# Gal.	8.60	8765	4.38	A5

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

*Maximum Lb./Hr. based on Max. Production Rate with highest VOC per gallon coating, actual and potential T/Yr. based on annual statistics.

D. Control Devices: (See Section V, Item 4)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Spencer Boiler and Engineering Co. Afterburner Model DSF-002	VOC	100%	N.A.	EPA study - See Exhibit 11

E. Fuels SEE EXHIBIT 11

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Propane	104.6 Gal.	104.6 Gal.	8.8

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: Nil Percent Ash: Nil
 Density: 4.23 lbs/gal Typical Percent Nitrogen: 0.0045
 Heat Capacity: 19,834 BTU/lb 84,096 BTU/gal
 Other Fuel Contaminants (which may cause air pollution): None

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average _____ Maximum _____

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

None

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

Stack Height: 20 ft. Stack Diameter: Square 24" x 24" ftx
 Gas Flow Rate: 15,425 ACFM 8500 DSCFM Gas Exit Temperature: 450 ** °F.
 Water Vapor Content: 3 % Velocity: 64 FPS

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste _____
 Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____
 Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____
 Manufacturer _____
 Date Constructed _____ Model No. _____

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

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____
 Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: Cyclone Wet Scrubber Afterburner
 Other (specify) _____

**Incinerated vapors and products of combustion pass through a waste heat boiler before discharge to atmosphere.

Brief description of operating characteristics of control devices: _____

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
Not Applicable.
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made. See Exhibits 4, 5, 6, 7, 8.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
See Exhibit 9, 10, 11.
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.) See Exhibit 5 and Exhibit 8.
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency). See Exhibit 11.
6. An 8 1/2" 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. See Exhibit 7, Drawing No. 110-7-VOC2.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
See Drawing No. 110-7-VOC4
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
See Exhibit 6, Drawing No. 110-7-VOC1.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.
10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

Yes No

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

Yes No

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
_____	_____
_____	_____
_____	_____

D. Describe the existing control and treatment technology (if any).

- | | |
|---------------------------|--------------------------|
| 1. Control Device/System: | 2. Operating Principles: |
| 3. Efficiency:* | 4. Capital Costs: |

*Explain method of determining

5. Useful Life:

7. Energy:

9. Emissions:

6. Operating Costs:

8. Maintenance Cost:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

- a. Height: ft.
- b. Diameter: ft.
- c. Flow Rate: ACFM
- d. Temperature: °F.
- e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Cost:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

- a. Control Device:
- b. Operating Principles:
- c. Efficiency:¹
- d. Capital Costs:
- e. Useful Life:
- f. Operating Cost:
- g. Energy:²
- h. Maintenance Cost:
- i. Availability of construction materials and process chemicals:
- j. Applicability to manufacturing processes:
- k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

- 1. Control Device:
- 2. Efficiency:¹
- 3. Capital Cost:
- 4. Useful Life:
- 5. Operating Cost:
- 6. Energy:²
- 7. Maintenance Cost:
- 8. Manufacturer:
- 9. Other locations where employed on similar processes:
- a. (1) Company:
- (2) Mailing Address:
- (3) City:
- (4) State:

¹Explain method of determining efficiency.

²Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

¹Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data

1. _____ no. sites _____ TSP _____ () SO₂* _____ Wind spd/dir

Period of Monitoring _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

Other data recorded _____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

- a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No
- b. Was instrumentation calibrated in accordance with Department procedures?
[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year
2. Surface data obtained from (location) _____
3. Upper air (mixing height) data obtained from (location) _____
4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.
2. _____ Modified? If yes, attach description.
3. _____ Modified? If yes, attach description.
4. _____ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	_____ grams/sec
SO ²	_____ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

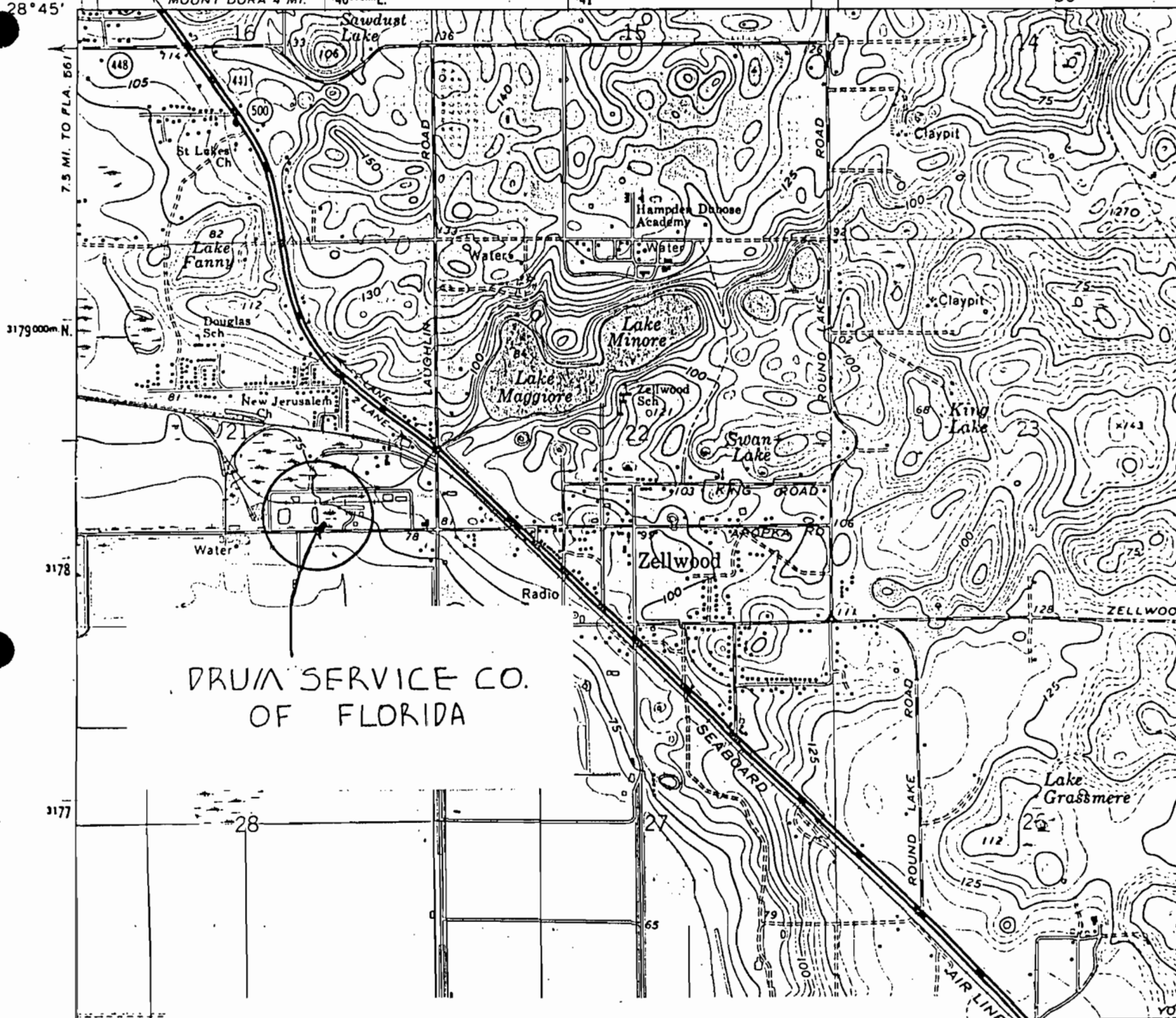
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

4641 SW
(EUSTIS)

81° 37' 30"

LEESBURG 20 MI.
MOUNT DORA 4 MI. 4000000 E.

35'



DRUM SERVICE CO.
OF FLORIDA

VOC-4

LOCATION MAP

SCALE: 1" = 2000'

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA		
ZELLWOOD, FLORIDA		
DES.	DWN. N.DS.	110-7
SCALE NOTED	DATE 7-3-84	VOC-4 DRAWING NO.

T. 20 S.
T. 21 S.

MC DONALD

CANAL

ADDITIONAL INFORMATION DESCRIBING
THE NATURE AND EXTENT OF THE PROJECT

EXHIBIT 1	GENERAL DESCRIPTION
EXHIBIT 2	COATING SUPPLIER PRODUCT DATA MOBIL (26 PAGES)
EXHIBIT 3	COATING SUPPLIER PRODUCT DATA KNS (2 PAGES)
EXHIBIT 4	FACT SHEETS - APPLICATION DATA (9 PAGES)
EXHIBIT 5	DESIGN FACTORS FOR INCINERATION OF VOC VAPORS (4 PAGES)
EXHIBIT 6	PLANT LAYOUT DRAWING #110-7-VOC1
EXHIBIT 7	SCHEMATIC FLOW DIAGRAM DRAWING #110-7-VOC2
EXHIBIT 8	COLLECTION SYSTEM AND DUCTWORK DRAWING NO. 110-7-VOC3
EXHIBIT 9	COMPARISON OF UNCONTROLLED EMISSIONS, ALLOWABLE EMISSIONS, ACTUAL EMISSIONS
EXHIBIT 10	AIRBORNE CONTAMINANTS EMITTED - VOC EMISSION POINT SUMMARY
EXHIBIT 11	VERIFICATION OF CONTROLLED VS. UNCONTROLLED VOC EMISSION RATIO
EXHIBIT 12	PARTICULATE CONTROL

EXHIBIT 1

GENERAL DESCRIPTION

The Drum Service Co. of Florida is a supplier of reconditioned steel drums to a variety of corporations and individuals who use such containers as a means of packaging lubricants, foods, and other liquid products.

Chief competitor of the reconditioned drum is the new drum, which sets a standard of appearance and cleanliness which must be equalled or exceeded to offset the stigma of being secondhand.

A leading factor in establishing and maintaining a favorable image of appearance and cleanliness is the quality of surface coating applied to the straightened, sanitized, reconditioned item.

The coating must not only give a fresh and unblemished appearance, but must resist heat, cold, sun, and rain, as well as a broad spectrum of commonly encountered mild corrosive agents within the bounds of reasonable cost and mass production drying and curing limitations.

It is within the realm of possibility that American ingenuity will, in the not too distant future, develop a coating for metal surfaces which will be sufficiently attractive and durable to satisfy the foregoing requirements without use of the conventional and time honored solvents which have lately been limited for environmental reasons. Please refer to letter of June 13, 1984, from Mr. S. R. Persak to Mr. J. M. Murphy which describes the present status of solvent/coating technology. (Letter attached to Exhibit 2.)

In the meantime, and until suitable coatings of low solvent content become available, it is the intention of the Drum Service Co. of Florida to comply with both the letter and spirit of the law by abating the emissions of volatile organic compounds by incineration to the extent that resultant emissions are equal to or lower than emission limiting standards as contained in Chapter 17-2.650(f)14,b,(B); namely 3.5#/gallon of coating or less.

Because of severe practical problems to be faced in drum reconditioning where two types of drums must be painted in three separate spray booths, internally lined in two separate spray booths, oven dried in three separate heated enclosures, or air dried in two separate areas, with application of 57 different coatings, all depending upon the end use of the drums, it was deemed impractical to apply a mixture of controls to the widely separated and dissimilar parts of the system.

It is proposed to incinerate and totally destroy all collectible VOC emissions from the single largest source most likely to resist scientific advance in water base or low solvent technology, i.e. the internal lining spray booth and drying oven where the most severe service conditions require a coating of superior chemical resistance.

The following Exhibits numbered 2 through 12 contain calculations, diagrams, and other supporting data to allow evaluation of a control system which will reduce annual emissions to a level of 3.220 Lbs. of VOC per gallon of coating applied as per the latest figures for 1983, which is typical of the last several years.

EXHIBIT 2

Mobil Chemical Company

MAINTENANCE TRANSPORTATION AND
STEEL CONTAINER COATINGS DEPARTMENT

P.O. BOX 250
EDISON, NEW JERSEY 08817
TELEPHONE (201) 321-6000

June 13, 1984

1-800-526-7575

REC'D

JUN 18 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
P. O. Box 278
Zellwood, Florida 32798

SEABURY-BOTTORF
ASSOCIATES INC.

Dear Mike:

The USEPA had issued Volume VI: Coatings of Miscellaneous Metal Parts and Products in the Guideline Series on control of volatile organic emissions. This had been further clarified to indicate that interior steel container linings, both clear and pigmented, would purportedly be governed by the clear coat category which permits a VOC of 4.3 lbs./gallon.

At that time, we reported that the industrially acceptable linings had a VOC of 5 to 5.5 lbs./gallon and that a presumptive norm of 4.3 lbs./gallon was beyond RACT (Reasonable Available Control Technology). Also, that no promising developing technology was impending which would permit compliance in the foreseeable future.

Our present position, unfortunately, has not changed in that even after expending considerable laboratory effort, we still cannot offer the industry any low VOC lining material which will provide a degree of chemical resistance equivalent to that of any of the coatings historically supplied to the industry.

Fortunately, our vehicle suppliers have heeded our pleas for assistance and are assisting us in attempting to develop resins which will increase the solids content of these linings.

The breakthrough, however, remains in the undefined future. As soon as we have a candidate product considered suitable for this demanding application, we will offer it for your evaluation.

Very truly yours,

Steve Persak

S. R. Persak
Manager, Steel Containers

SRP/ny

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Mobil Chemical Company

MAINTENANCE, TRANSPORTATION AND
STEEL CONTAINER COATINGS DEPARTMENT

P.O. BOX 250
EDISON, NEW JERSEY 08817
TELEPHONE (201) 321-6000

June 13, 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
P. O. Box 278
Zellwood, Florida 32798

Dear Mike:

You recently questioned the theoretical square feet of coverage in a gallon coating. The volume solids of a coating determines the coverage and will vary depending on the color of the coating.

Theoretically, a gallon of coating at 100% solids will cover 1600 square feet at a film thickness of 1.0 mil dry. This assumes 100% transfer efficiency which, of course, is not available. The efficiency percentage of drum spraying equipment will vary from 40% to 80% depending upon the degree of sophistication of the equipment.

We attach a list of our coatings which you are currently using or have used in the past. On this list we show the theoretical coverage if applied at 1.0 mil dry with 100% efficiency. You can determine your own approximate percent of spray efficiency with the following example.

Consider our 210-J-20 Black Enamel, which is a volume color in your plant. A 55 gal. drum has 23 sq. ft. of steel to be painted. This includes the shell and both heads. At 100% efficiency and painting the entire drum black, you would coat twenty-four drums per gallon at 1.0 mil dry. At 0.6 mil dry, still at 100% efficiency, you would coat forty drums per gallon. Your actual paint mileage compared to the theoretical mileage will give you the spray efficiency. You may consider each head to be 3 sq. ft., and the shell to be 17 sq. ft. These constants will enable you to determine paint mileage on multi-colored drums.

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Mobil

-2-

We hope these explanations have answered your questions; please let us know if you need more information.

Very truly yours,

S. R. Persak

S. R. Persak
Manager, Steel Containers

SRP/ny

Att.

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Mobil

THEORETICAL SQUARE FOOT COVERAGE OF PAINTS

210-B-23	578 sq. ft./gal.	210-Y-48	594 sq. ft./gal.
210-B-54	674 " "	86-F-20	561 " "
210-B-72	561 " "	86-R-14	561 " "
210-B-74	561 " "	286-B-50	642 " "
210-B-77	578 " "	286-B-77	513 " "
210-B-78	578 " "	286-B-78	658 " "
210-D-9	594 " "	286-B-82	545 " "
210-F-16	706 " "	286-B-107	594 " "
210-F-22	561 " "	286-F-41	561 " "
210-F-23	578 " "	286-D-18	642 " "
210-G-40	561 " "	286-G-39	626 " "
210-G-42	545 " "	286-G-81	545 " "
210-J-20	545 " "	286-R-48	594 " "
10-R-12	610 " "	286-W-57	610 " "
210-R-26	561 " "	286-Y-53	578 " "
210-W-12	578 " "	286-Y-54	545 " "
210-W-24	610 " "	286-Y-71	578 " "
210-Y-47	578 " "	285-R-9	545 " "

Mobil

<u>Product</u>		<u>V.O.C.</u>
210-B-23	P. & G. Light Blue	4.1
210-B-54	Amoco Blue	3.8
210-B-72	Chevron Blue	4.2
210-B-74	Gulf Blue	4.1
210-B-77	Fina Blue	4.1
210-B-78	New Chevron 370 Blue	4.1
210-D-9	Stevens Brown	4.1
210-F-16	High Gloss Texaco Gray	3.6
210-F-22	Texaco Gray	4.2
210-F-23	Semi-Gloss Texaco Gray	4.1
210-G-40	Texaco Green	4.2
210-G-42	Semi-Gloss Texaco Green	4.1
210-J-20	Black	4.3
10-R-12	Mobil Red	4.2
210-R-26	Shell Red	4.2
210-W-12	White	4.3
210-W-24	White	4.0
210-Y-47	Shell Yellow	4.1
210-Y-48	Gulf Orange	4.0
285-R-9	Citrus Drum Lining	4.5
86-F-20	Mobil Beige	4.2
86-R-14	Mobil Red	4.2

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Mobil

<u>Product</u>		<u>V.O.C.</u>
286-B-50	Cal Oil Blue	3.8
286-B-77	Gulf Blue	4.3
286-B-78	Amoco Blue	3.8
286-B-82	Chevron Blue	4.2
286-B-107	Fina Blue	4.1
286-F-41	Semi-Gloss Texaco Gray	4.2
286-D-18	Stevens Brown	4.0
286-G-39	Texaco Green	3.9
286-G-81	Semi-Gloss Texaco Green	4.2
286-R-48	Shell Red	4.1
286-W-57	White	4.1
286-Y-53	Shell Yellow	4.3
286-Y-54	Gulf Orange	4.1
286-Y-71	B. P. Yellow	4.1

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 285-R-9

NAME Drum Lining Red

COLOR Red

TYPE Alkyd-Amine

SUGGESTED USE	<input type="checkbox"/> EXTERIOR <u>Special Purpose Drum Lining</u> <input checked="" type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>20-30</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zohn Cup @ 80°F. WEIGHT PER GALLON <u>8.2 ± 1</u> _____ Lbs. Pigment <u>12.0</u> % By Weight SOLIDS <u>45.2 ± 1</u> % By Weight <u>33.9</u> % By Volume THEORETICAL COVERAGE <u>545</u> _____ Sq. Ft. @ _____ Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>Steel</u> _____ Primed With _____ GAUGE <u>Varied</u> _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from all surface contaminants.</u>		
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity _____ FILM THICKNESS _____ Mils (Wet) <u>.5 - .7</u> Mils (Dry) BAKE <u>10</u> @ <u>300 - 400</u> °F.* Peak Metal Temp. _____ °F. REDUCE <u>As required</u> _____ With <u>Toluol</u> OTHER _____ Clean up solvent(s) <u>Toluol</u>		
PROPERTIES	GLOSS _____ @ _____ Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>* Bake temperature dependent upon end use of package.</p> <p>Note: When lining is to hold shortening, pure foods, and edible oils, the final bake must be 10 minutes at 400°F.</p>		
DEVELOPED FOR		SUBMITTED BY	
			Salesman
			Laboratory
			Date
Attn.			Ref. No.

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-23

NAME Drum Enamel P&G Light Blue

COLOR Blue

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>			
	<input type="checkbox"/> INTERIOR			
CONSTANTS	VISCOSITY <u>45 - 55</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.	
		Sec. # _____	Zohn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.26 ± .15</u>	Lbs.	Pigment <u>15.3</u>	% By Weight
	SOLIDS <u>50 ± 1</u>	% By Weight	<u>36</u>	% By Volume
	THEORETICAL COVERAGE <u>585</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____		
	GAUGE _____	Reverse Side _____		
	CHEMICAL TREATMENT <u>Free of all surface contaminants</u>			
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30 - 33" #2 Zahn</u>		
	FILM THICKNESS _____	Mils (Wet)	<u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5-10'</u>	@ <u>275</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>		
	OTHER _____	Clean up solvent(s) <u>Toluene</u>		
PROPERTIES	GLOSS <u>85+</u>	@ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>VOC = 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>			
DEVELOPED FOR	SUBMITTED BY	Salesman		
		Laboratory		
		Date <u>10/7/83</u>		
		Ref. No. <u>1550</u>		
Attn.				

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-54

NAME Air-Dry Drum Enamel Amoco Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.
		Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>8.35 ± .15</u>	Lbs.	Pigment _____ % By Weight
	SOLIDS <u>54.0 ± 1</u>	% By Weight	<u>42.0 ± 1</u> % By Volume
THEORETICAL COVERAGE	<u>5.85</u> Sq. Ft. @	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-35" #2 Zahn Cup</u>	
	FILM THICKNESS _____	Mils (Wet)	<u>.7-1.0</u> Mils (Dry)
	BAKE _____ @ _____ °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>8-1</u>	With <u>Xylol</u>	
	OTHER _____	Clean up solvent(s) <u>Xylol</u>	
PROPERTIES	GLOSS _____ @ _____ Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____
REMARKS	<p>V.O.C. = 3.74</p> <p>Air-dry tack free 1 hour, overnight - hard.</p> <p>Rule 66</p>		
DEVELOPED FOR	SUBMITTED BY		Salesman _____
			Laboratory _____
			Date <u>5-30-84</u>
			Ref. No. _____
Attn. _____			

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-72

NAME Drum Enamel Chevron Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30 - 35</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.
		Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>7.88 ± .15</u> Lbs.	Pigment <u>9.8</u>	% By Weight
	SOLIDS <u>47 ± 1</u> % By Weight	<u>35 ± 1</u>	% By Volume
THEORETICAL COVERAGE <u>565</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>Steel</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-35" Zahn 2 Cup</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>0.7 - 1.0</u> Mils (Dry)	
	BAKE <u>5-10'</u> @ _____ °F.	Peak Metal Temp. <u>275</u> °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>	
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>Rule 66 met</p> <p>VOC = 4.16 lbs/gallon</p>		
DEVELOPED FOR	SUBMITTED BY		Salesman _____
			Laboratory _____
			Date <u>7/27/83</u>
			Ref. No. <u>WO 1511</u>
Attn. _____			

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-74

NAME Drum Enamel Gulf Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>35-50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F.	_____ Sec. # _____ Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>7.6 ± .1</u> Lbs.	Pigment <u>5.2</u> % By Weight	
	SOLIDS <u>45 ± 1</u> % By Weight	<u>35 ± 1</u> % By Volume	
	THEORETICAL COVERAGE <u>571</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free from all Surface Contaminants</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30 - 35 Sec. #2 Zahn Cup</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5-10 min.</u> @ _____ °F.	Peak Metal Temp. <u>275</u> °F.	
	REDUCE <u>10:1</u>	With <u>Naphtha</u>	
	OTHER _____	Clean up solvent(s) <u>Naphtha or Aromatic</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	VOC = 4.13 lbs/gallon Conforms to Rule 66		
DEVELOPED FOR	SUBMITTED BY	Salesman _____	
		Laboratory _____	
		Date <u>8/19/83</u>	
		Ref. No. <u>1520</u>	
Attn. _____			

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-77

NAME Drum Enamel Fina Blue

COLOR Blue

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>			
	<input type="checkbox"/> INTERIOR			
CONSTANTS	VISCOSITY <u>40 - 50</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.	
		Sec. # _____	Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>7.75 ± .1</u>	Lbs.	Pigment <u>6.6</u>	% By Weight
	SOLIDS <u>47 ± 1</u>	% By Weight	<u>36</u>	% By Volume
	THEORETICAL COVERAGE <u>589</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____		
	GAUGE _____	Reverse Side _____		
	CHEMICAL TREATMENT <u>Free of all surface contaminants</u>			
APPLICATION	METHOD <u>spray</u>	Applied Viscosity <u>30-35" #2 Zahn</u>		
	FILM THICKNESS _____	Mils (Wet)	<u>.7 - 1</u>	Mils (Dry)
	BAKE <u>5-10'</u>	@ <u>275</u>	°F. Peak Metal Temp. _____ °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>		
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u>	@ <u>60°</u>	Angle	Contains Lubricant _____
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____	
REMARKS	VOC = 4.1 lbs/gallon Conforms to Rule 66. This product will air dry to handle in 15 minutes and is hard overnight.			
DEVELOPED FOR	SUBMITTED BY		Salesman _____	
			Laboratory _____	
			Date <u>10/4/83</u>	
			Ref. No. _____	
Attn. _____				

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-78

NAME Drum Enamel Chevron 370 Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>	
	<input type="checkbox"/> INTERIOR	
CONSTANTS	VISCOSITY <u>35-50</u> Sec. # <u>4</u> Ford Cup @ 80°F.	Sec. # _____ Zohn Cup @ 80°F.
	WEIGHT PER GALLON <u>7.89 ± .15</u> Lbs.	Pigment <u>10</u> % By Weight
	SOLIDS <u>47 ± 1</u> % By Weight	<u>36</u> % By Volume
	THEORETICAL COVERAGE <u>570</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u> Primed With _____	
	GAUGE _____ Reverse Side _____	
	CHEMICAL TREATMENT <u>Free of all surface contaminants</u>	
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u>	
	FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5'</u> @ _____ °F. Peak Metal Temp. <u>275</u> °F.	
	REDUCE <u>10-1</u> With <u>Naphtha</u>	OTHER Clean up solvent(s) <u>Aromatic or naphtha</u>
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____	
REMARKS	<u>Meets rule 66</u> <u>VOC = 4.1 lbs/gallon</u>	
DEVELOPED FOR	SUBMITTED BY	Salesman _____
		Laboratory _____
		Date <u>3/9/84</u>
		Ref. No. <u>1610</u>
Attn. _____		

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-D-9

NAME Drum Enamel Brown

COLOR Brown

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.
		Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>7.95 ± .1</u> Lbs.	Pigment <u>10.6</u>	% By Weight
	SOLIDS <u>49 + 1</u> % By Weight	<u>37</u>	% By Volume
THEORETICAL COVERAGE <u>594</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-35" #2 Zahn</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5-10'</u> @ <u>275</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>	
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>VOC = 4.1 lbs/gal. Conforms to Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR	SUBMITTED BY	Salesman	
		Laboratory	
		Date <u>10/4/83</u>	
		Ref. No.	
Attn.			

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-16

NAME Air-Dry Drum Enamel Texas Gray

COLOR Gray

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>50-60</u> Sec.	= <u>4</u> Ford Cup @ 80°F.	
		= _____ Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.8 ± .15</u> Lbs.	Pigment _____ % By Weight	
	SOLIDS <u>59 ± 1</u> % By Weight	<u>44 ± 1</u> % By Volume	
	THEORETICAL COVERAGE <u>563</u> Sq. Ft. @ _____ Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE <u>--</u>	Reverse Side _____	
	CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-35" #2 Zahn Cup</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>.7-1.0</u> Mils (Dry)	
	BAKE _____ @ _____ °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>8-1</u>	With <u>Xylol</u>	
	OTHER _____	Clean up solvent(s) <u>Xylol</u>	
PROPERTIES	GLOSS _____ @ _____ Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>V.O.C. = 3.56</p> <p>Air-dry tack free 1 hour, overnight - hard.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
			Laboratory
			Date <u>5-30-84</u>
	Attn. _____		Ref. No. _____

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-22

NAME Drum Enamel Texaco Gray

COLOR Gray

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> _____	Sec. # <u>4</u> Ford Cup @ 80°F.	
	_____	Sec. # _____ Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.09±.15</u> Lbs.	Pigment <u>12.0</u> % By Weight	
	SOLIDS <u>48±1</u> % By Weight	<u>35±1</u> % By Volume	
THEORETICAL COVERAGE <u>563</u> Sq. Ft. @	<u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>as required</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>0.7-1.0</u> Mils (Dry)	
	BAKE <u>5-10</u> @ <u>300</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10-1</u>	With <u>Naphtha</u>	
	OTHER _____	Clean up solvent(s) <u>Aromatic or Naphtha</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>Meets Rule 66</p> <p>VOC = 4.2 lbs. per gallon</p>		
DEVELOPED FOR	SUBMITTED BY	Salesman _____	
		Laboratory _____	
		Date <u>3/29/83</u>	
		Ref. No. _____	
Attn. _____			

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-23

NAME Semi-Gloss Texaco Gray Enamel

COLOR Gray

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-55</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.
		Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>8.28 ± .15</u>	Lbs.	Pigment <u>15.5</u> % By Weight
	SOLIDS <u>50 ± 1</u> % By Weight		<u>36</u> % By Volume
	THEORETICAL COVERAGE <u>581</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-33" #2 Zahn</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5-10'</u> @ <u>275</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>	
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>	
PROPERTIES	GLOSS <u>50-60</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____
REMARKS	<p>VOC = 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR	SUBMITTED BY	Salesman _____	
		Laboratory _____	
		Date <u>10/7/83</u>	
		Ref. No. <u>1550</u>	
Attn.			

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Mobil Chemical**product data sheet**CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817CODE 210-G-40NAME Drum Enamel Texaco GreenCOLOR GreenTYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30 - 35</u>	Sec.	# <u>4</u> Ford Cup @ 80°F.
		Sec.	# _____ Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>7.89 ± .15</u> Lbs.	Pigment <u>9</u>	% By Weight
	SOLIDS <u>46.5±1</u> % By Weight	<u>34.5</u>	% By Volume
	THEORETICAL COVERAGE <u>554</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free of oil and water soluble salts.</u>		
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>as required</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>1</u>	Mils (Dry)
	BAKE <u>5-10'</u> @ <u>300</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10-1</u>	With <u>VM&P Naphtha</u>	
	OTHER	Clean up solvent(s) <u>Naphtha or aromatic</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	Rule 66 complying VOC = 4.2 lbs/gal.		
DEVELOPED FOR	SUBMITTED BY	Salesman	
		Laboratory	
		Date <u>3/23/83</u>	
		Ref. No.	
Attn.			

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-G-42

NAME Semi-Gloss Texaco Green Enamel

COLOR Green

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>			
	<input type="checkbox"/> INTERIOR			
CONSTANTS	VISCOSITY <u>40-55</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.	
		Sec. # _____	Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.07 + .15</u>	Lbs.	Pigment <u>12.3</u>	% By Weight
	SOLIDS <u>48 ± 1</u>	% By Weight	<u>35</u>	% By Volume
	THEORETICAL COVERAGE <u>569</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____		
	GAUGE _____	Reverse Side _____		
	CHEMICAL TREATMENT <u>Free of all surface contaminants.</u>			
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-33" #2 Zahn</u>		
	FILM THICKNESS _____	Mils (Wet)	<u>.7 - 1</u> Mils (Dry)	
	BAKE <u>5-10'</u>	@ <u>275</u> °F.	Peak Metal Temp. _____ °F.	
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>		
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>50-60</u>	@ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>VOC - 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>			
DEVELOPED FOR	SUBMITTED BY		Salesman	
			Laboratory	
			Date <u>10/7/83</u>	
			Ref. No. <u>1550</u>	
Attn.				

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 10-R-12

NAME Mobil Drum Red Enamel

COLOR Red

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40 - 50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.66 ± .15</u> Lbs. Pigment <u>18</u> % By Weight SOLIDS <u>53 ± 1</u> % By Weight <u>38</u> % By Volume THEORETICAL COVERAGE <u>608</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>28 - 33" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> With <u>Naphtha</u> OTHER Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.0 lbs/gal. Conforms to Rule 66.</p> <p>This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>2-28-83</u> Ref. No. _____
	Attn. _____		

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-R-26

NAME Drum Enamel Shell Red

COLOR Red

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>			
	<input type="checkbox"/> INTERIOR			
CONSTANTS	VISCOSITY <u>30-35</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.	
		Sec. # _____	Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.1 ± .1</u>	Lbs.	Pigment <u>11.5</u>	% By Weight
	SOLIDS <u>48 ± 1</u>	% By Weight	<u>35 ± 1</u>	% By Volume
	THEORETICAL COVERAGE <u>559</u>	Sq. Ft. @ <u>1</u>	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____		
	GAUGE _____	Reverse Side _____		
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>			
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>as required</u>		
	FILM THICKNESS _____	Mils (Wet)	<u>.7 - 1.0</u>	Mils (Dry)
	BAKE <u>5-10 min.</u>	@ <u>300</u>	°F. Peak Metal Temp. _____ °F.	
	REDUCE <u>as required</u>	With <u>Naphtha</u>		
	OTHER _____	Clean up solvent(s) <u>Aromatic or Naphtha</u>		
PROPERTIES	GLOSS <u>85+</u>	@ <u>60°</u>	Angle	Contains Lubricant <u>Yes</u>
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>Conforms with the requirements of Rule 66</p> <p>VOC = 4.18 lbs. per gallon</p>			
DEVELOPED FOR	SUBMITTED BY		Salesman	
			Laboratory	
			Date <u>4/11/83</u>	
			Ref. No.	
Attn.				

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-Y-47

NAME Drum Enamel Shell Yellow

COLOR Yellow

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> _____	Sec. # <u>4</u> _____	Ford Cup @ 80°F.
	_____	Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>9.17 ± .15</u> _____ Lbs.	Pigment <u>24</u> _____	% By Weight
	SOLIDS <u>55 ± 1</u> % By Weight	<u>36 ± 1</u> _____	% By Volume
THEORETICAL COVERAGE <u>575</u> _____	Sq. Ft. @ <u>1</u> _____	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>CRS</u> _____	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> _____	Applied Viscosity <u>30-35" #2 Zahn</u>	
	FILM THICKNESS _____ Mils (Wet)	<u>0.7 - 1.0</u> Mils (Dry)	
	BAKE <u>5-10'</u> @ <u>275</u> °F.	Peak Metal Temp. <u>275</u> °F.	
	REDUCE <u>10-1</u> _____	With <u>Naphtha</u> _____	
	OTHER _____	Clean up solvent(s) <u>Naphtha or Toluene</u>	
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle	Contains Lubricant _____	
	PENCIL HARDNESS _____ (Eagle Turquoise)	Solvent Rubs _____	
REMARKS	<p>VOC = 4.12 lbs/gallon</p> <p>Meets Rule 66</p>		
DEVELOPED FOR	_____	SUBMITTED BY	_____ Salesman
	_____		_____ Laboratory
	_____		Date <u>4/14/83</u>
	Attn, _____		Ref. No. _____

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-Y-48

NAME Drum Enamel Gulf Orange

COLOR Orange

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>35 - 50</u> Sec. # <u>4</u> Ford Cup @ 80°F. Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.3 ± .1</u> Lbs. Pigment <u>13.2</u> % By Weight SOLIDS <u>51 ± 1</u> % By Weight <u>37 ± 1</u> % By Volume THEORETICAL COVERAGE <u>592</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from all Surface Contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35 Sec. #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>7 - 1</u> Mils (Dry) BAKE <u>5-10 min.</u> @ _____ °F. Peak Metal Temp. <u>275</u> °F. REDUCE <u>10:1</u> With <u>Naptha</u> OTHER <u>Clean up solvent(s) Naphtha or Aromatic</u>		
PROPERTIES	GLOSS <u>85 +</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.04 lbs/gallon Conforms to Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
			Laboratory
			Date <u>8/10/83</u>
	Attn. _____		Ref. No. <u>1520</u>

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210 W 12

NAME Air Dry Drum En. Mobil White

COLOR White

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY _____ Sec. # _____ Ford Cup @ 80°F. <u>40-60</u> _____ Sec. # <u>2</u> Zahn Cup @ 80°F. WEIGHT PER GALLON <u>9.15±.15</u> Lbs. Pigment <u>22.</u> % By Weight SOLIDS <u>53 ± 1</u> % By Weight <u>36</u> % By Volume THEORETICAL COVERAGE <u>583</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>Steel</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35</u> <u>2</u> Zahn Cup FILM THICKNESS _____ Mils (Wet) <u>.7-1</u> Mils (Dry) <u>Air dry to handle 15 min. overnight hard</u> BAKE _____ @ _____ °F. Peak Metal Temp. _____ °F. REDUCE <u>as required</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>Conforms to Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
			Laboratory
			Date
	Attn.		Ref. No.

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-W-24

NAME Drum Enamel SSCI #41 White

COLOR White

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> Sec. # <u>4</u> Ford Cup @ 80°F. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>9.4 ± .15</u> Lbs. Pigment <u>29.0</u> % By Weight SOLIDS <u>57±1</u> % By Weight <u>38±1</u> % By Volume THEORETICAL COVERAGE <u>606</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>0.7 - 1.0</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10-1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Naphtha or toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 3.99 lbs/gallon Meets Rule 66.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>4/19/83</u> Ref. No. _____
	Attn. _____		

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210 J 20

NAME Drum Enamel Black

COLOR Black

TYPE Modified Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u> Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.35±.1</u> Lbs. Pigment <u>2.7</u> % By Weight SOLIDS <u>42±1</u> % By Weight <u>34±1</u> % By Volume THEORETICAL COVERAGE <u>602</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Oil free</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7-1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275-300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>8-1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Naphtha or Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>Conforms to Rule 66</p>		
DEVELOPED FOR	SUBMITTED BY _____ Date _____ Ref. No. _____		Salesman
			Laboratory
			Attn.

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EXHIBIT 3

KNS Companies, Inc.
475 RANDY ROAD, P. O. BOX 962
CAROL STREAM, ILLINOIS 60187
Telephone: Area 312/665-9010

kerpro[®]

May 22, 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
803 Jones Ave.
Zellwood, Fla. 32798

Dear Mr. Murphy:

KNS lining L-15 (407-30-J76) has a V.O.C. content of 4.84 pounds per gallon. The following lists the percentage of volatiles.

Xylol	8.0%
Ketones, exempt	8.54
Ketones, non-exempt	11.26
Alcohols, exempt	62.94
Esters	<u>9.27</u>
	100.01%

Please let me know if any additional information is needed.

Very truly yours,
KNS COMPANIES, INC.

John M. Browning
John M. Browning
General Manager

JMB/jd

500 VISTA AVENUE
ADDISON, ILLINOIS 60101
Telephones: Area 312/543-2020

BEST AVAILABLE COPY

Area Code 312/543

CONTAINER LININGS PROPERTIES & APPLICATION DATA

CODE NO. 407-30B-J76

DESIGNATION Kerpro Lo-Cure L-15 Dark Brown Pigmented, Ready to Spray.

DESCRIPTION

Epoxy modified phenolic resin base, pigmented with inert pigments.

TYPICAL PROPERTIES

VISCOSITY #4FC @ 70°F., SECS	<u>26 ± 1</u>	DENSITY @ 70°F., LBS./GALS	<u>8.8 ± 1</u>
RESIN SOLIDS % BY WEIGHT	<u>26 ± 1</u>	TOTAL SOLIDS % BY WEIGHT	<u>40 ± 2</u>
PIGMENT SOLIDS % BY WEIGHT	<u>14 ± 1</u>	TOTAL SOLIDS % BY VOLUME	<u>28 ± 2</u>
COLOR, WET	<u>Dark Brown</u>	GLOSS GARDNER 60°	<u>40 ± 10</u>
COLOR, BAKED	<u>Dark Brown</u>	HIDING POWER SQ. FT./GAL.	<u>650 @ 0.7 mils DF</u>

APPLICATION DATA

FOR REDUCTION USE: No reduction required

- PARTS (VOLUME) KERPRO - PARTS (VOLUME) SOLVENT

APPLY BY Spray as is.

APPLY 2.5 - MILS WET TO OBTAIN 0.7 - 0.8 MILS

FORCE DRY 5 MINUTES AT 250 °F.*

BAKE 10 MINUTES AT 350 °F.*

CLEAN UP SOLVENT MEK

*METAL TEMPERATURE

NOTES

The information contained herein is based on data obtained by our own research and is considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. This information is furnished upon the condition that the person receiving it shall make his own tests to determine the suitability thereof for his particular purpose.

EXHIBIT 4

DRUM SERVICE CO. OF FLORIDA

FACT SHEET - VOC PERMIT

I. EMISSION POINTS

A. Application Points

1. Tight Head drum exterior paint booth
2. Open Head drum exterior paint booth
3. Open Head drum interior lining booth
4. Open Head covers exterior paint booth
5. Open Head covers interior lining booth

B. Ovens

1. Tight Head drum drying oven
2. Open Head drum lining drying oven
3. Open Head cover lining drying oven

NOTE: Open Head drum and cover exterior drying
is air dry.

II. PRODUCTION (Fiscal Year 1983 - Nov. 1, 1982 to October 31, 1983)

<u>BOOTH</u>	<u>APPLICATION</u>	<u>QUANTITY</u>	<u>NOTES</u>
A.1.	Tight Head drum exteriors	165,502	(1)
A.2.	Open Head drum exteriors	278,259	(1)
A.3.	Open Head drum interiors	255,998	(2)
A.4.	Open Head covers exteriors	278,259	(1)
A.5.	Open Head covers interiors	255,998	(2)

NOTES:

(1) Represents 100% of production.

(2) Not all drums run on open head line are lined internally; some are shipped unlined. Fiscal Year 1983 production estimated at 92% lined, 8% unlined.

III. PAINT CONSUMPTION - EXTERIOR PAINT

A. Theoretical Coverage of Paint Sprayed

1. Square feet per gallon @ 1.0 mil dry film thickness (from Mobil Chemical Co. Product Data Sheets):

Black: 602

White: 595 (Note 1)

Colors: 576 (Note 2)

Note 1. Average of two whites used

Note 2. Average of all colors used.

2. Weighted Average of Above, Assuming:

- a. 60% of production is black bodies and bottoms, white heads;

- b. 30% of production is colored bodies and bottoms, white heads;

c. 10% of production is solid color drums;

d. Drum is 23 square feet as follows:

		<u>% OF TOTAL</u>
- Top Head	3.2 sq. ft.	14%
- Bottom Head	3.2 sq. ft.	14%
- Body	<u>16.6</u> sq. ft.	<u>72%</u>
Totals	23.0 sq. ft.	100%

e. Units Painted:

Open Head exterior (including covers): 278,259

Tight Head exterior: 165,502

443,761

3. Units painted, by parts, by paint:

Refer to III.A.2.a.,b.,c., and e. for derivation.

	<u>TOP HEAD</u>	<u>BODY</u>	<u>BOTTOM HEAD</u>
Black:	-0-	266,257	266,257
White:	399,385	-0-	-0-
Colors:	44,376	177,504	177,504

4. In Square Feet (per III.A.2.d.):

Black:	-0-	4,419,866	852,022
White:	1,278,038	-0-	-0-
Colors:	142,003	2,946,566	568,013

5. Theoretical Usage - Gallons

Black @ 602 sq. ft./gal.:	-0-	7,342	1,415
White @ 595 sq. ft./gal.:	2,148	-0-	-0-
Colors @ 576 sq. ft./gal.:	246	5,116	986

B. Conversion to actual coverage, in gallons,
 assuming hand sprayed airless paint delivery
 system at 25%* over-spray loss:

	<u>TOP</u>	<u>BODY</u>	<u>BOTTOM</u>	<u>TOTAL</u>
Black:	-0-	9,789	1,887	11,676
White:	2,864	-0-	-0-	2,864
Colors:	328	6,821	1,315	<u>8,464</u>
			GRAND TOTAL	<u>23,004</u> gals.

IV. CONSUMPTION - INTERIOR LINING

A. Using same calculations as above, with #1 lining
 (KERPRO L-15) @ 640 sq. ft./gal. and citrus lining
 @ 545 sq. ft./gal.

1. 60% of lined drums are citrus, 40% #1 lining
2. Units lined

Open Head drums and covers: 255,998

*From "Controlling Pollution from the Manufacturing and Coating of
 Metal Products", Vol. 1 EPA May 1977.

3. Units lined, by type:

Citrus: 153,599

#1: 102,399

4. In square feet @ 23 ft.² per drum:

Citrus: 3,532,777 sq. ft.

#1: 2,355,177 sq. ft.

5. Theoretical usage - gallons:

Citrus

@ 545 sq.

ft./gal.: 6,482

#1

@ 640 sq.

ft./gal.: 3,680

B. Conversion to actual coverage in gallons,
assuming interior lining of drum with automatic
airless spray system at 5% over-spray loss, and
cover interior lining with hand sprayed airless
system at 25% over-spray loss.

1. % for each lining:

	<u>THEORETICAL GALLONS</u>	<u>INTERIOR BODY & BOTTOM</u>	<u>INTERIOR COVER</u>
		86%	14%
<hr/>			
Citrus:	6,482	5,575	907
#1:	3,680	3,165	515

2. Conversion to actual:

	<u>INTERIOR BODY & BOTTOM @ .95</u>	<u>INTERIOR COVER @ .75</u>	<u>TOTAL</u>
Citrus:	5,868	1,209	7,077
#1:	3,332	687	<u>4,018</u>
		GRAND TOTAL	<u><u>11,095</u></u>

V. VOC EMISSIONS - WITHOUT CONTROLS

<u>PRODUCT</u>	<u>GALLONS USED</u>	<u>VOC LBS/ GALLONS</u>	<u>TOTAL VOC'S</u>
Black Paint	11,676	4.3 (1)	50,207
White Paint	2,864	4.15 (2)	11,885
Colored Paint	8,464	4.09 (3)	34,618
Citrus Lining	7,077	4.5 (1)	31,846
#1 Lining	<u>4,018</u>	4.84 (4)	<u>19,447</u>
Totals:	<u>34,099</u>		<u>148,003</u>

NOTES:

- (1) From Mobil Chemical Company Product Data Sheets.
- (2) Same, average of two whites used.
- (3) Same, average of all colors used.
- (4) From KNS Companies, Inc. letter of 5/22/84.

EXHIBIT 5

DRUM SERVICE CO. OF FLORIDA

DESIGN FACTORS FOR
INCINERATION OF VOC VAPORS FROM
SPRAY LINING OF OPEN HEAD DRUMS

OPERATING RATE OF SPRAY BOOTH

Citrus Lining 300 Drums/Hr.
#1 Lining 200 Drums/Hr.

AREA PER DRUM = 19.78 SQ. FT.

COATED AREA PER HOUR

19.78 x 300 = 5934 Sq. Ft./Hr. Citrus Lining
19.78 x 200 = 3956 Sq. Ft./Hr. #1 Lining

THEORETICAL APPLICATION RATE:

5934 ÷ 545 Sq.Ft./Gal. = 9.27 Gal./Hr. Citrus Lining
3956 ÷ 640 Sq.Ft./Gal. = 6.18 Gal./Hr. #1 Lining

ACTUAL APPLICATION RATE (5% OVERSPRAY)

9.27 ÷ .95 = 9.75 Gal./Hr. Citrus Lining
6.18 ÷ .95 = 6.50 Gal./Hr. #1 Lining

VOC = 4.5#/Gal. Citrus Lining

VOC = 4.84#/Gal. #1 Lining

CITRUS LINING VOC/HR. = 9.75 x 4.5 = 43.87#/HR.

#1 LINING VOC/HR. = 6.5 x 4.84 = 31.48#/HR.

AIR FLOW AND INCINERATION MUST BE BASED ON MAXIMUM RATE; USE 43.87 LBS./HR.

PERCENT OF TOTAL EMISSION FROM SPRAY PROCESS (FROM "CONTROLLING POLLUTION FROM THE MANUFACTURING AND COATING OF METAL PRODUCTS", VOL. 1., EPA, 1977):

SPRAY BOOTH	50%
PRE/DRY FLASH-OFF	10%
BAKE OVEN	<u>40%</u>
	100%

SPRAY BOOTH EMISSION:

$$43.87 \times .50 = 21.93 \text{ Lb./Hr.}$$

FLASH-OFF AREA EMISSION:

$$43.87 \times .10 = 4.39 \text{ Lb./Hr.}$$

BAKE OVEN EMISSION:

$$43.87 \times .40 = 17.55 \text{ Lb./Hr.}$$

AIR VELOCITY AT BOOTH OPENINGS MUST BE 100 FT./MIN. TO AVOID FUMES IN WORKING AREA.

SIZE AND AREA OF BOOTH OPENINGS:

$$40'' \times 29'' = 1160 \text{ Sq.In.} = 8.06 \text{ Sq.Ft.}$$

$$24'' \times 26\frac{1}{2}'' = 636 \text{ Sq.In.} = 4.12 \text{ Sq.Ft.}$$

$$48'' \times 38'' = 1824 \text{ Sq.In.} = \underline{12.66} \text{ Sq.Ft.}$$

$$24.82 \text{ Sq.Ft.}$$

$$24.82 \times 100 = 2482 \text{ CFM}$$

SOLVENT IN CITRUS LINING (MOBIL #285-R-9):

NAPHTHA 38.9% by Wt.

TOLUENE 5.5%

XYLENE 1.2%

BUTANOL 9.2%

54.8% SOLVENT

45.2% SOLIDS

WEIGHT PER GALLON 8.2 LBS./GAL.

SOLVENT CHARACTERISTICS:

	MOLECULAR WEIGHT	LEL%	SP.GR.	SP.GR.* (M.W.)(LEL)
NAPHTHA	106.16	0.8	.850	.0100
TOLUENE	92.13	1.27	.866	.0074
XYLENE	106.16	1.0	.881	.0083
BUTANOL	74.12	1.45	.810	.0075

*SEE "INDUSTRIAL VENTILATION", 16TH EDITION 1980, pp. 2-6

FOR EXPLOSIVE LIMIT OF MIXED VAPORS TREAT THE ENTIRE MIXTURE AS IF IT WERE ENTIRELY COMPOSED OF THE COMPONENT HAVING HIGHEST $\frac{\text{Sp.Gr.}}{(\text{MW})(\text{LEL})}$

FOR EXPLOSIVE LIMIT ASSUME

54.8% by Wt. Naptha 4.5#/Gallon

$$\text{Cu.Ft. Air per Lb. Evaporated} = \frac{387 \times 10^6 \times K}{\text{MW} \times \text{LEL}}$$

Where K = 4 LEL = ppm = 8000

$$\text{Cu.Ft. per Lb. Solvent} = \frac{387 \times 10^6 \times 4}{106.16 \times 8000} = 1823$$

SPRAY BOOTH LBS./MIN. = .3655

$$.3655 \times 1823 = 666 \text{ CFM}$$

FLASH-OFF HOOD LBS./MIN. = .073

$$.073 \times 1823 = 133 \text{ CFM}$$

BAKE OVEN LBS./MIN. = .2925

$$.2925 \times 1823 = 533 \text{ CFM}$$

TOTAL CFM FOR EXPLOSION CONTROL:

$$666 + 133 + 533 = 1332 \text{ CFM}$$

USE HIGHER VALUE FOR SPRAY BOOTH

100 Ft./Min. 2482 CFM or 666 CFM

TOTAL TO INCINERATOR:

From Booth	2482
From Flash-Off Hood	133
From Oven	<u>533</u>
TOTAL	3148 CFM

VOC generated from lining operation annually amounts to 42,533 Lbs. and occurs within the following enclosures:

Spray Booth	21,267 Lbs./Year
Flash-Off Area	4,253 Lbs./Year
Bake Oven	17,013 Lbs./Year

A small amount will escape the induced draft collection system and will linger in the vicinity of the spray booth and oven as fugitive emissions. All of the vapors involved are heavier than air (from 2.0 to 3.6 times heavier).

To improve collection efficiency, a blower (Strobic Air Model TB27J3K1Y) with capacity well beyond the needs of this system is to be installed together with hoods, close fitting doors, side curtains, etc. to give positive control and minimize loss to the room. See Exhibit 8.

At this time, exact collection efficiency is indeterminate and more subject to engineering judgement than to precise calculation.

A nominal 90% capture, 10% loss ratio is assumed for purposes of determining emissions after controls are in operation, but actual expectations are for 5% loss.

Area	Generated Total	10% Loss	90% to Control
Spray Booth	21,267 Lb./Yr.	2127 Lb./Yr.	19,140 Lb./Yr.
Flash-off	4,253 Lb./Yr.	425 Lb./Yr.	3,828 Lb./Yr.
Oven	17,013 Lb./Yr.	1701 Lb./Yr.	<u>15,312</u> Lb./Yr.
		VOC TOTALLY DESTROYED	38,280 Lb./Yr.

Incineration of these vapors at 1500⁰F. with 0.5 second retention will result in 100% destruction of VOC.

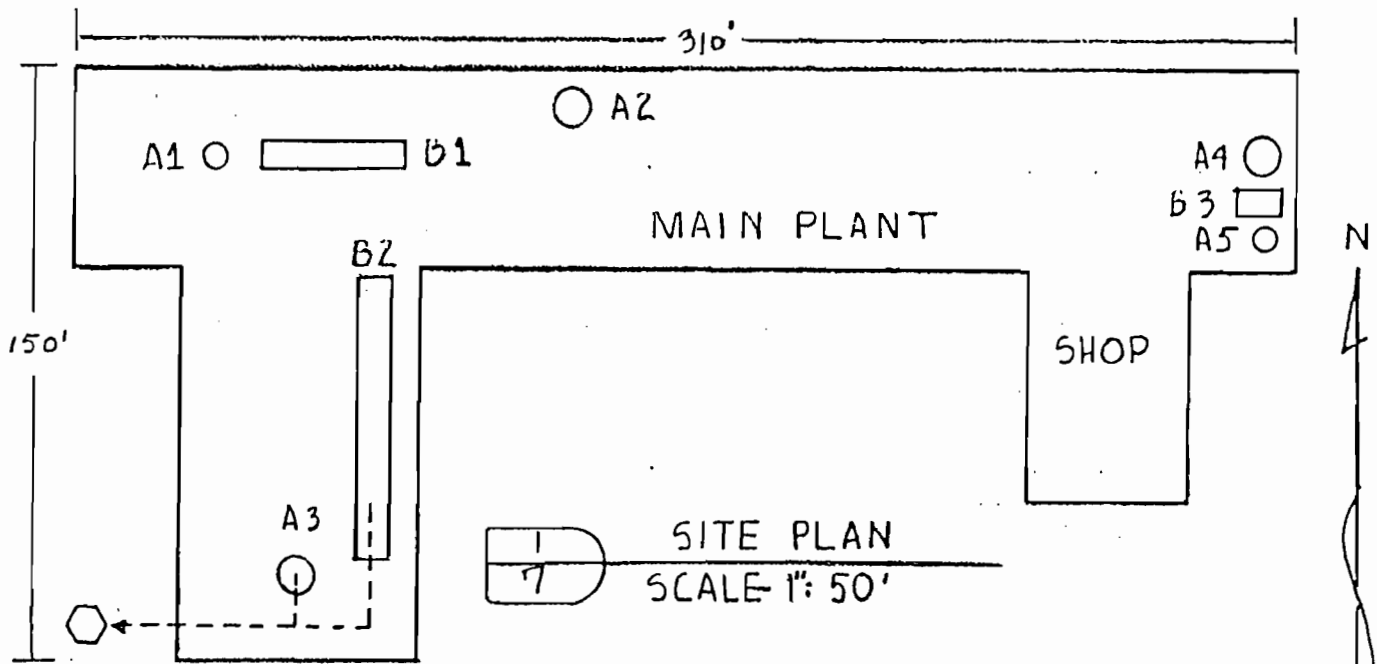
Copies of the manufacturer's equipment specifications and graph of temperature vs. time in determining pollutant destruction may be seen in Exhibit 10.

Other emissions of non-spray booth origin are judged to be minimal as may be seen from the following description of storage and handling of coatings prior to and during use.

1. All paint and lining products are purchased in sealed 55 gallon drums.
2. Nearly all products are purchased "ready to spray" - no thinning or mixing required.
3. Drums are not opened until ready to use in the paint room. Immediately after opening, a special cover is placed on the drum. (The cover provides for an air driven agitator assembly and the intake pipe to the paint pump.) The cover remains on the drum until it is empty, at which time the original cover is replaced on the drum and the drum is removed.
4. Only airless type paint pumps are used. Paint is drawn up to the pump through the intake pipe, subjected to intense pressure, and pumped out of the pump through high pressure tubing to the application area. No exposure to the atmosphere is possible.
5. At the paint booth the only way paint is released is at the spray gun tips. These are always in the paint booth and subject to the exhaust drafting of the booth.

6. After lining, the open head drums pass through a flash-off area prior to entering the oven. See Seabury-Bottorf Associates Drawing No. 110-7-VOC5 for flash-off area collection device.
7. VOC's remaining in lining material (after application at spray booth and flash-off area) are driven off in baking oven. See Seabury-Bottorf Associates Drawing No. 110-7-VOC3 for exhaust details.
8. All exhausted VOC's - from spray booth #A3, flash-off area, and baking oven - are ducted into common exhaust system leading into proposed incinerator.
9. Solvents used for cleaning or other irregular purposes are accounted for by inventory reporting control (see Exhibit 11).

EXHIBIT 6



EMISSION POINTS

"A" APPLICATION POINTS

1. TIGHT HEAD DRUM EXTERIOR PAINT BOOTH
2. OPEN HEAD DRUM EXTERIOR PAINT BOOTH
3. OPEN HEAD DRUM INTERIOR LINING BOOTH
4. OPEN HEAD COVERS EXTERIOR PAINT BOOTH
5. OPEN HEAD COVERS INTERIOR LINING BOOTH

"B" OVENS

1. TIGHT HEAD DRUM DRYING OVEN
2. OPEN HEAD DRUM LINING DRYING OVEN
3. OPEN COVER LINING DRYING OVEN

○ DENOTES PROPOSED INCINERATOR LOCATION

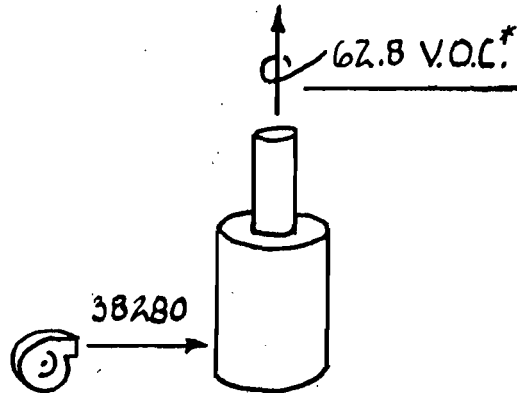
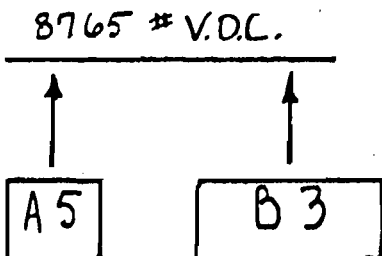
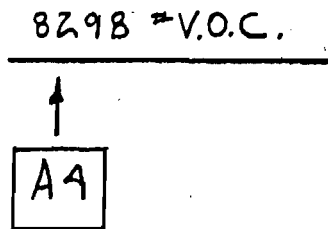
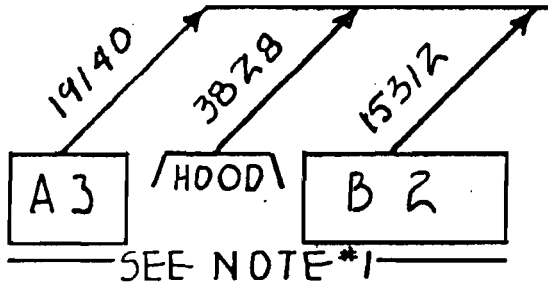
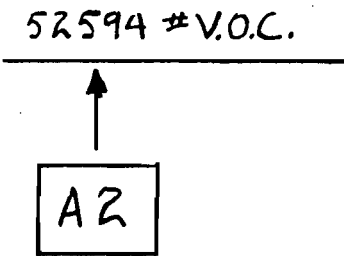
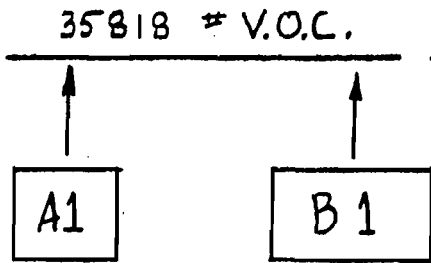
PLANT LAYOUT

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLYWOOD, FLORIDA		
DES. JVS	DWN. NDS	110-7-
SCALE NOTED	DATE 7-3-84	VOC I DRAWING NO.

EXHIBIT 7

SCHEMATIC FLOW

V.O.C. EMISSIONS
IN LBS/YEAR



- A1 + B1 CLOSED HEAD DRUMS (EXT.)
- A2 OPEN HEAD DRUMS (EXT.)
- A3 + B2 OPEN HEAD DRUMS (INT.)
- A4 OPEN HEAD LIDS (EXT.)
- A5 + B3 OPEN HEAD LIDS (INT.)

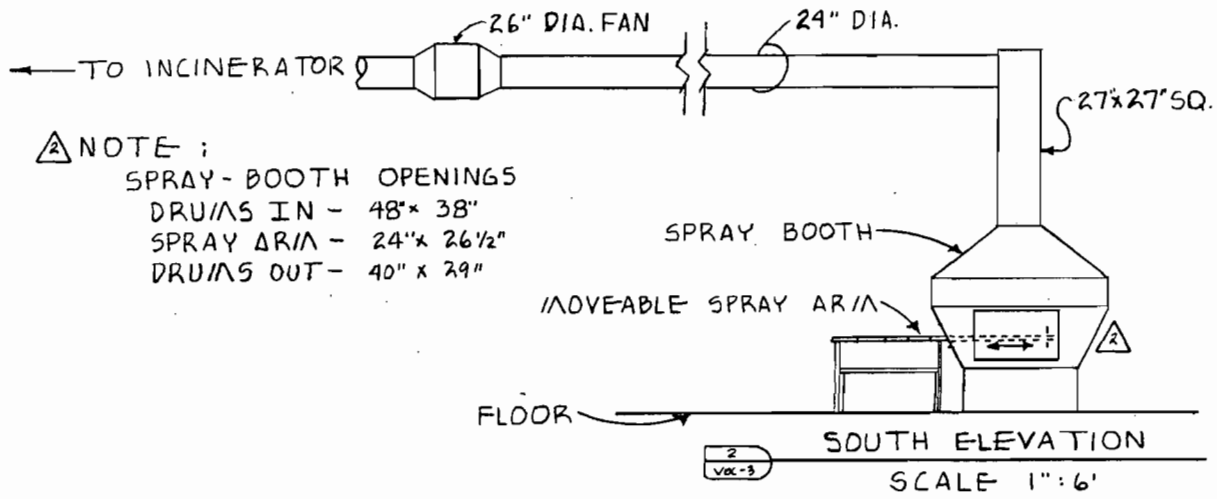
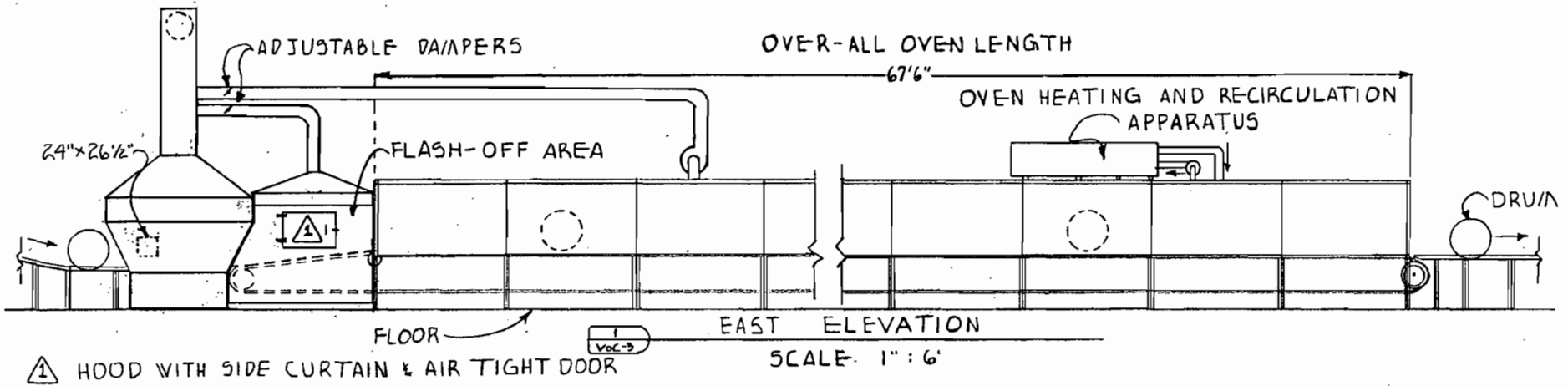
TOTAL GALLONS OF COATING 34099
 TOTAL LBS. VOC EMITTED 105500
 VOC EMISSION $\frac{109816^*}{34099} = 3.220^* \text{ LBS/GAL.}$

NOTE #1 42533 # V.O.C. GENERATED
 THIS AREA 90% CAPTURED,
 10% LOST.

* REVISION - 10/18/84

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLWOOD, FLORIDA		
DES. J.V.S.	DWN. N.D.S.	110-7-
SCALE	DATE 7-3-84	VOC 2 DRAWING NO.

EXHIBIT 8



NOTE:
 SPRAY-BOOTH OPENINGS
 DRUMS IN - 48" x 38"
 SPRAY AREA - 24" x 26 1/2"
 DRUMS OUT - 40" x 29"

COLLECTION SYSTEM AND DUCTWORK

SEABURY-BOTTF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLWOOD, FLORIDA		
DES. JWS	DWN. NRS.	110-7
SCALE 1" : 6"	DATE 7-3-84	VOC-3 DRAWING NO.

EXHIBIT 9

EXHIBIT 9

COMPARISON OF UNCONTROLLED EMISSIONS,
ALLOWABLE EMISSIONS, ACTUAL EMISSIONS

1. Uncontrolled Emission:

Uncontrolled emission will amount to the total vaporization and release to atmosphere of all volatile organic carbon solvent portions of the combined paints and linings sprayed.

Black Paint	11,676 Gal. @ 4.3	=	50,207 Lbs. VOC
White Paint	2,864 Gal. @ 4.15	=	11,885 Lbs. VOC
Colored Paint	8,464 Gal. @ 4.09	=	<u>34,618 Lbs. VOC</u>
	Paint Subtotal		96,710 Lbs. VOC
Citrus Lining	7,077 Gal. @ 4.5	=	31,846 Lbs. VOC
#1 Lining	4,018 Gal. @ 4.84	=	<u>19,449 Lbs. VOC</u>
	Lining Subtotal		51,295 Lbs. VOC
	OVERALL TOTAL		148,005 Lbs. VOC

UNCONTROLLED ANNUAL EMISSION 148,005 LBS. OR 74.0 TONS

2. Allowable Emissions:

As per EPA Guidance 450/2-79004, steel pail and drum coatings are to contain no more than the following amounts of VOC's:

Exterior Coatings	3.5#/Gal.
Linings (clear or pigmented)	4.3#/Gal.

See Memorandum from Tom Helms to Air Branch Chief, Regions I-X dated 9/3/80, copy attached.

Paint	23,004 Gal. @ 3.5	=	80,514 Lbs. VOC
Lining	11,095 Gal. @ 4.3	=	<u>47,708.5 Lbs. VOC</u>
	TOTAL		128,222.5 Lbs. VOC

ANNUAL ALLOWABLE EMISSIONS 128,222.5 LBS. OR 64.11 TONS

3. Actual Emissions as proposed:

Annual paint and lining emission after control (see 110-7-VOC2)
109,753 Lbs. VOC

ACTUAL ANNUAL EMISSIONS 109,816 LBS. OR 54.91 TONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: September 3, 1980

SUBJECT: Miscellaneous Metal Parts and Products CTG--
Emission Limits for Coating of Shipping Pails and Drums

FROM: Tom Helms, Chief *Tom* (MD-15)
Control Programs Operations Branch, CPDD

TO: Air Branch Chief, Regions I - X

The sample regulation for the Group II CTG categories indicated that the coating of pails and drums was to be included in the Miscellaneous Metal Parts CTG. Representatives from the shipping container industry have since requested clarification as to what emission limits are applicable to their coatings.

We recommend that a presumptive norm of 4.3 pounds of VOC per gallon of coating less water is reasonably available control technology for coatings used in pail and drum interior protective linings even though the coatings may not be a true "clear coat." This determination was made on the basis of the unavailability of lower VOC coatings that can withstand the harsh, toxic, and corrosive nature of many chemicals that are shipped in these containers.

The exterior coatings for pails and drums must meet an emission limit of 3.5 pounds of VOC per gallon of coating less water. This is the limit described in the CTG for outdoor exposure coatings.

The following information is provided for the States to use in defining metal pails and drums:

Pails -- any nominal cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29 gauge and heavier material.

Drums -- any cylindrical metal shipping container of 13- to 110-gallon capacity.

For additional information, please call Tom Williams at FTS 629-5226.

cc: VOC Contact, Regions I - X
Jim Berry, ESED

EXHIBIT 10

EXHIBIT 10

AIRBORNE CONTAMINANTS EMITTED - VOC EMISSION POINT SUMMARY, PART III,C

Refer to Drawing #110-7-VOC1 for location of each source which is identified according to the following:

"A" indicated Spray Application Booth

- A1 Tight Head Drum Exterior
- A2 Open Head Drum Exterior
- A3 Open Head Drum Interior
- A4 Open Head Covers Exterior
- A5 Open Head Covers Interior

"B" indicates Oven with heat and forced circulation

- B1 Tight Head Drum
- B2 Open Head Drum Lining
- B3 Open Head Drum Cover Lining

Open Head Drum Exterior Paint is air dried both for drum body and drum cover.

Coating Application Rates (Maximum)

Closed Head Paint	100 Drums/Hr.
Open Head Paint	300 Drums/Hr.
Open Head Lining	300 Drums/Hr.
Open Head Covers	300 Covers/Hr.

From the best data available based on production records of 1983 which is typical of the past several years and which is projected to be typical of the next several years, annual amounts of VOC's generated are as shown on Drawing #110-7-VOC2.

A1-B1 A1 and B1 (closed head exterior spray booth and oven) together generate 35,818 Lbs./year of VOC derived from the following operations:

Black Paint	4320 Gal. @ 4.3#/Gal.	=	18,577 Lbs.
White Paint	1068 Gal. @ 4.15#/Gal.	=	4,432 Lbs.
Colored Paint	3132 Gal. @ 4.09#/Gal.	=	<u>12,809 Lbs.</u>

Annual Total 35,818 Lbs.

$35,818 \div 2000 = 17.91 \text{ Tons/Yr.}$

In order to determine the maximum emission rate in terms of Lbs./Hr., it will be necessary to assume the maximum production rate of 100 drums per hour while painting with black paint:

$100 \times 23 = 2300 \text{ Sq. Ft./Hr.}$
 Theoretical Coverage 602 Sq.Ft./Gal. , but
 with 25% overspray $602 \times .75 = 451.5$
 $\text{Sq. Ft. Gal. Actual Overspray} = 451.5 \text{ Sq.Ft.}$
 $2300 \div 451.5 = 5.09 \text{ Gal./Hr.}$
 $5.09 \text{ Gal./Hr.} \times 4.3 \text{ Lb./Gal.} = 21.89 \text{ Lb./Hr.}$
 Maximum Hourly Emission Rate $= 21.89 \text{ Lb./Hr.}$

Allowable Emission @ $3.5\# \text{ VOC/Gal.}$
 $5.09 \text{ Gal./Hr.} \times 3.5 \text{ Lb./Gal.} = 17.82 \text{ Lb./Hr.}$

A2

A2 (open head drum exterior) spray booth and open air drying area cause the emission of 52,584 Lbs./Year of VOC's derived from the following operations:

Black Body and Bottom $7,356 \text{ Gal.} @ 4.3\#/\text{Gal.} = 31,630 \text{ Lbs.}$
 Color Body and Bottom $5,126 \text{ Gal.} @ 4.09\#/\text{Gal.} = \underline{20,964 \text{ Lbs.}}$

VOC Total $52,594 \text{ Lbs.}$

$52,594 \div 2000 = 26.30 \text{ Tons/Yr.}$

In order to determine the maximum emission rate, it will be necessary to assume the maximum 300 per hour operating rate using black paint.

$300 \text{ Drums/Hr.} @ 19.8 \text{ Sq.Ft.}$
 $300 \times 19.8 = 5940 \text{ Sq.Ft./Hr.}$
 At $451.5 \text{ Actual Sq.Ft./Gal.}$ consumption
 Rate will be $5940 \div 451.5 = 13.16 \text{ Gal./Hr.}$
 $13.16 \times 4.3 \text{ Lb./Gal.} = 56.57 \text{ Lb./Hr.}$
 Max. Hourly Emission Rate $= 56.57 \text{ Lb./Hr.}$

Allowable Emission Rate
 $13.16 \text{ Gal./Hr.} \times 3.5\#/\text{Gal.} = 46.06 \text{ Lb./Hr.}$

A3-B2

A3 and B2 (Open Head Interior) emissions are to be completely destroyed by incineration at 1500°F. with $\frac{1}{2}$ second retention time, after 90% capture at origin.

The quantity being destroyed is as follows (refer to Exhibit 5):

Maximum Rate $43.87 \text{ Lb./Hr.} \times 0.9 = 39.48 \text{ Lb./Hr.}$ destroyed

Allowable Amount 4.3 Lb./Gal.
 9.75 Gal./Hr. Max. Rate

$9.75 \times 4.3 = 41.93 \text{ Lb./Hr.} = \text{Allowable}$

Actual Emission $= 43.87 - 39.48 = 4.39 \text{ Lb./Hr.}$

A4

A4 (Open Head Lid Exterior) spray booth and air drying area generate 8298 Lbs. of VOC from the following sources:

White Paint 1796 Gal. @ 4.15 = 7453
Color Paint 207 Gal. @ 4.09 = 845

Total 8298 Lb./Yr.

$8298 + 2000 = 4.15$ Tons/Yr.

Maximum Hourly Rate 300/Hour
Assume White Paint for Maximum Emission Rate
3.2 Sq.Ft. each lid
 $300 \times 3.2 = 960$ Sq. Ft./Hr.

Coverage Theoretical 595 Sq.Ft./Gal.
At 25% overspray
Actual coverage = $595 \times .75 = 446.25$ Sq.Ft./Gal.

$960 \text{ Sq.Ft./Hr.} + 446.25 = 2.15$ Gal./Hr.

Actual Emission Rate $2.15 \text{ Gal./Hr.} \times 4.15\#/Gal. = 8.92\#/Hr.$

Allowable Emission Rate = $2.15 \times 3.5 = 7.53\#/Hr.$

A5-B3

A5 and B3 (Open Head Lid Interior) lining spray booth and drying oven together emit 8765 Lbs. of VOC per year from the following sources:

Citrus Lining 1205 Gal. @ 4.5 = 5440 Lb./Yr.
#1 Lining 687 Gal. @ 4.84 = 3325 Lb./Yr.
8765 Lb./Yr.

$8765 + 2000 = 4.38$ Tons/Yr.

Maximum emission will occur when applying #1 lining @ 300/Hr. rate

960 Sq.Ft./Hr. with coverage
of $640 \times .75 = 480$ Sq.Ft./Gal.

$960 + 480 = 2$ Gal./Hr.

$2 \text{ Gal./Hr.} @ 4.84 = 9.68$ Lb./Hr.

Actual Emission = 9.68 Lb./Hr. VOC

Allowable Emission @ 4.3 Lb./Gal.

$2 \times 4.3 = 8.6$

Allowable Emission = 8.6 Lb./Hr.

Operation of the incinerator will generate a minor amount of VOC and other emissions from the incinerator burner.

Fuel for incineration of VOC vapors is propane. The manufacturer claims heat release of 8.8×10^6 BTU/Hr. (See Equipment Specification sheets attached.)

If 8.8 MMBTU/Hr. are to be generated from combustion of propane in 1500°F. temperature, it will require use of the lower heating value of 19,834 BTU/Lb. of propane.

$$\text{Commercial Propane} = 4.24 \text{ Lb./Gal.}$$

For our purposes:

$$4.24 \times 19,834 = 84,096 \text{ BTU/Gal.}$$

$$8.8 \times 10^6 \div 84,096 = 104.64 \text{ Gal./Hr.}$$

Contaminants emitted from combustion of propane from AP42, Table 1.5-1:

Pollutant	Lb./1000 Gal.	Lb./Hr.	Lb./Yr. @ 2000 Hrs.
Particulate	1.7	.1778	355.8
SO _x	0.09S	S = Grains/100 Cu.Ft.	Nil
CO	1.5	.1569	313.9*
Hydrocarbon	0.3	.0314	62.8
NO _x	11.2	1.1719	2343.9

From the lining area, 38,280 Lb./Yr. of VOC vapors are introduced into the afterburner chamber and retained at 1500°F. for 0.5 seconds from which we may expect total 100% destruction as shown on Figure 1 from controlling pollution from the Manufacturing and Coating of Metal Products, Vol. 1, (EPA-625/3-77-009).

*Above data from AP42 is based on average combustion of propane which should be reviewed in light of special high temperature conditions (1500°F. as mentioned above).

Manufacturing and Coating of Metal Products, Vol. 1 (EPA-625/3-77-009), Page 54, indicates that CO generated within the incinerator is controlled by retention time of 0.3 sec. in high temperature zone. Copy of Page 54 attached with Figure 2.

DRUM SERVICE CO. OF FLORIDA
P.O. BOX 278
ZELLWOOD, FLORIDA

EQUIPMENT SPECIFICATION

THERMAL OXIDIZER (AFTERBURNER)/WASTE HEAT BOILER

A. GENERAL SYSTEM DESCRIPTION

Propane fired thermal oxidizer with a waste heat boiler, fan, refractory lined transition ducting, control panel and support platform.

B. THERMAL OXIDIZER (AFTERBURNER)

Performance: Raise 7000 SCFM of effluent from approximately 1000°F to 1400°F. 1500°F.

Retention Time: .5 seconds.

Burner: 4 Eclipse NM128, 2.2 million BTU each at 14" W.C. with combustion air blower.

Construction: ASTM A-36 all welded 3/16 HRP shell lined with 5" thick litecrete 90 castable refractory secured with stainless steel anchors and complete with access doors, sight ports and test ports.

Gas Train: Pilot and main trains in accordance with Factory Mutual insurance requirements including:

- . Modulating gas control valve
- . Hydromotor gas valve with proof of closure switch
- . High and low gas pressure switches
- . Pilot regulator and solenoid valve
- . Main gas pressure regulator
- . Pressure gauge

C. FAN

Twin Cities Model 914RBO radial blade, self cleaning class III, rated at 8000 SCFM at 8" static complete with 50 H.P., 3 Ph., 230/460 VAC motor with belt drive, OSHA approved guard and high temperature limit.

D. TRANSITION DUCTING

Furnace-to-afterburner and afterburner-to-Waste Heat Boiler:

ASTM A-36 shell lined with 4" litecrete 90 castable refractory secured with stainless steel anchors.

E. CONTROL PANEL

Nema 12 enclosure with Fireeye flame safeguard system, modulating temperature controller, high limit temperature control, manual over ride, alarm silence, indicating lights and switches.

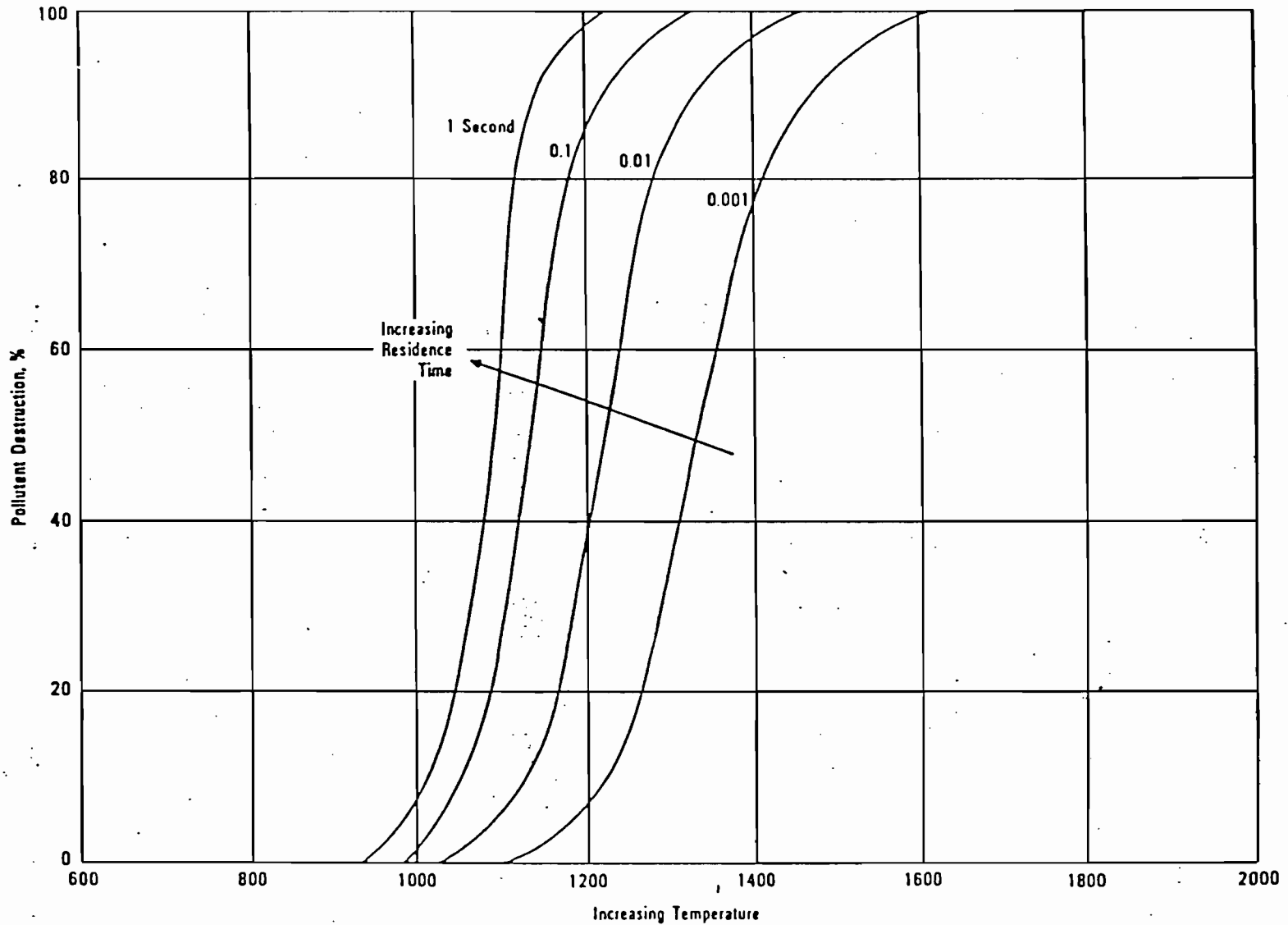
F. SUPPORT STRUCTURE

Designed to requirements of local Building & Safety Code.

G. WASTE HEAT BOILER

Eclipse 7HR 250 H.P. (Max. 400 H.P.), 250 PSI waste heat boiler complete with all equipment necessary for its operation including:

- . Low water cutoff and pump control.
- . Low-low water cutoff.
- . Safety valves.
- . Blow down valves.
- . Steam stop valves.
- . Make up tank with feed pumps.
- . Blow down tank.
- . Temperature gauge.
- . Superior water softener, dual system with automatic regeneration.
- . Hays-Republic steam flow meter complete with orifice flanges and recorder.



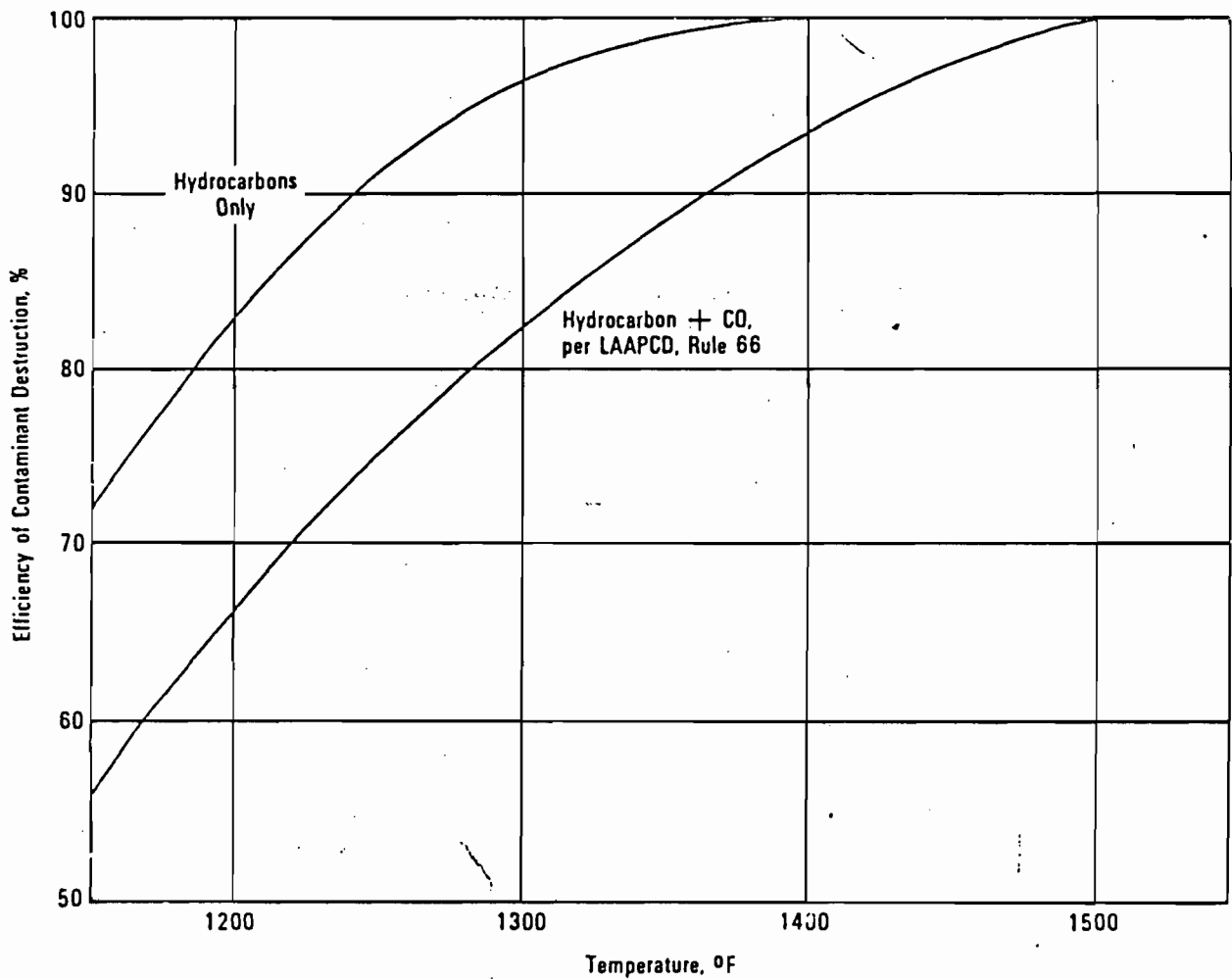
Source: *Afterburner Systems Study*, Shell Development Company, 1972.

Figure 1. Coupled Effects of Temperature and Time on Rate of Pollutant Oxidation

FRDA: CONTROLLING POLLUTION FROM THE MANUFACTURING AND COATING OF METAL PRODUCTS. I. METAL COATING AIR POLLUTION CONTROL.

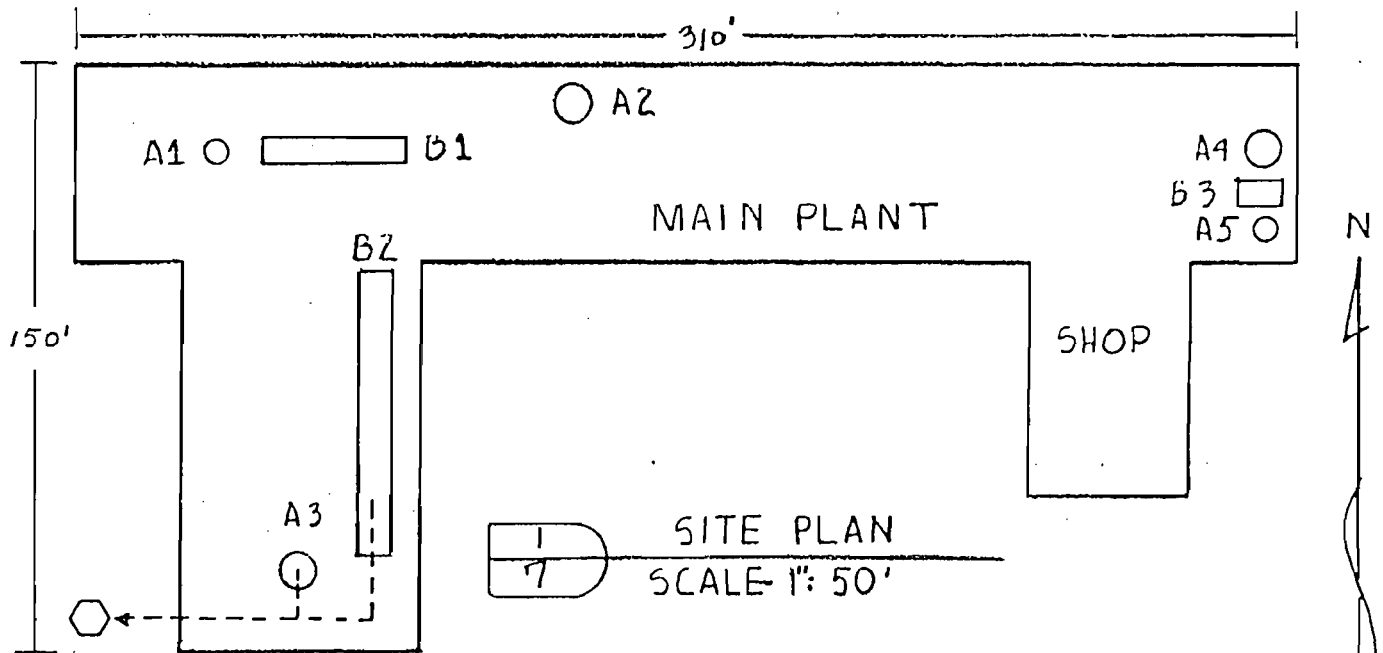
In cases where carbon monoxide formation in the incinerator is deducted from the unit's efficiency, such as under Rule 66 of the Southern California Air Pollution Control District referred to earlier, significantly higher time/temperature units are required to achieve a given efficiency. This principle is illustrated in Figure 2. The combustion of organic carbon to carbon dioxide is a two-stage reaction: the first stage of oxidation to CO involves a relatively high-heat release and proceeds rapidly. The second stage, further oxidation to CO₂, gives off less heat and is therefore an inherently slower reaction.

The zone of combustion consists of a region of rising temperature followed by a dwell region with an essentially constant temperature. The design residence time of 0.3 or more seconds should apply to the reaction zone only, with additional volume provided for initial combustion and mixing. Insufficient combustion chamber volume is probably the most significant design flaw in units that fail to meet performance expectations.



Source: *Afterburner Systems Study*, Shell Development Company, 1972.

Figure 2. Typical Effect of Operating Temperature on Effectiveness of Thermal Afterburner for Destruction of Hydrocarbons and CO



EMISSION POINTS

"A" APPLICATION POINTS

1. TIGHT HEAD DRUM EXTERIOR PAINT BOOTH
2. OPEN HEAD DRUM EXTERIOR PAINT BOOTH
3. OPEN HEAD DRUM INTERIOR LINING BOOTH
4. OPEN HEAD COVERS EXTERIOR PAINT BOOTH
5. OPEN HEAD COVERS INTERIOR LINING BOOTH

"B" OVENS

1. TIGHT HEAD DRUM DRYING OVEN
2. OPEN HEAD DRUM LINING DRYING OVEN
3. OPEN COVER LINING DRYING OVEN

⬡ DENOTES PROPOSED INCINERATOR LOCATION

PLANT LAYOUT

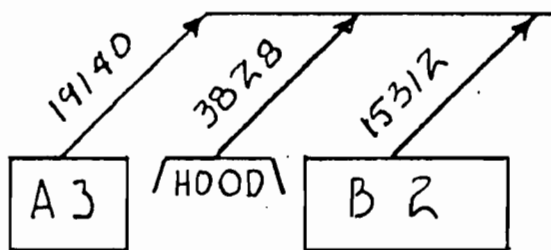
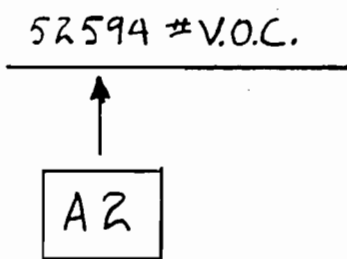
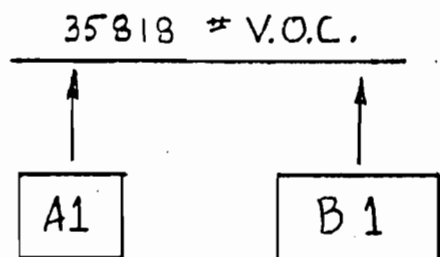
SEABURY-BOTTORF ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

DRUM SERVICE CO.
OF FLORIDA
ZELLWOOD, FLORIDA

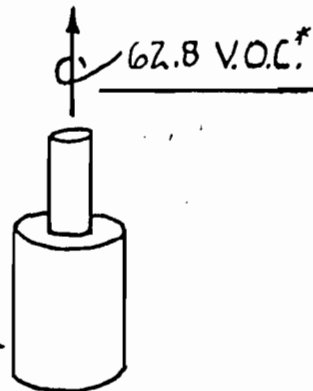
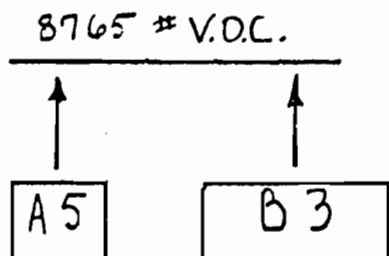
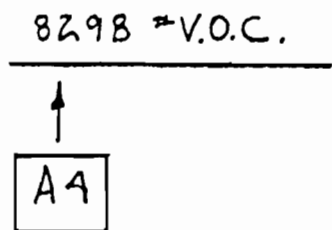
DES. JWS	DWN. NDS	110-7-
SCALE NOTED	DATE 7-3-84	VOC 1
		DRAWING NO.

SCHEMATIC FLOW

V.O.C. EMISSIONS
IN LBS/YEAR



SEE NOTE #1



- A1 + B1 CLOSED HEAD DRUMS (EXT.)
- A2 OPEN HEAD DRUMS (EXT.)
- A3 + B2 OPEN HEAD DRUMS (INT.)
- A4 OPEN HEAD LIDS (EXT.)
- A5 + B3 OPEN HEAD LIDS (INT.)

TOTAL GALLONS OF COATING 34099
 TOTAL LBS. VOC EMITTED 105500
 VOC EMISSION $\frac{109816^*}{34099} = 3.220^* \text{ LBS/GAL.}$

NOTE #1 42533 # V.O.C. GENERATED
 THIS AREA 90% CAPTURED,
 10% LOST.

* REVISION - 10/18/84

SEABURY-BOTTFOR ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLWOOD, FLORIDA		
DES. J.W.S.	DWN. N.D.S.	110-7-
SCALE	DATE 7-3-84	VOC 2 DRAWING NO.

EXHIBIT 11

EXHIBIT 11

VERIFICATION OF CONTROLLED VS. UNCONTROLLED VOC
EMISSION RATIO - INVENTORY CONTROL

In order for the Florida Department of Environmental Regulation to have assurance that overall emissions remain within proposed/allowable limits, it will be necessary to demonstrate on a continuing basis the use and disposition of all VOC material received.

To this end a complete inventory and reporting system is proposed to account for each shipment of paint or lining material received, as well as utilization and record of exit.

The inventory system will include coating stock and solvent on hand at beginning and end of each reporting period as well as the amounts of each purchased during the period.

Tally sheets for production foremen will be arranged for easy check-off of each category of utilization with predetermination of emission potential of each category to allow easy summation.

In order to minimize overlap and to promote orderly development of meaningful data, the manner of gathering subtotal information by daily, by weekly, or by individual production runs should be left to the discretion of Drum Service Co. of Florida's Management.

It is a fortunate necessity that drum lining is always prior to exterior coating (to minimize handling damage to finish).

Due to storage limitations inherent to the bulky nature of 55 gallon drums, no significant delays of production are possible between interior lining (controlled emission) and exterior painting (uncontrolled emission). With the exception of in-process malfunctions causing need for repair, retouch, or scrapping, the entire process is on an assembly line basis with only a few minutes between stages.

It would be acceptable to Drum Service Co. of Florida if a permit condition should require that 97% of drums lined be painted within 24 hours.

The following three sample inventory sheets include all basic data necessary to arrive at the appropriate totals from which emissions can be determined.

These sheets should be regarded as outline only; in actual use, multiple entry will be necessary to account for the item to item variation of VOC content.

DRUM SERVICE CO. OF FLORIDA
PAINT AND SOLVENT INVENTORY AND
REPORTING CONTROL

DER PERMIT # _____ VOC CONTROL, PAINT SPRAYING SYSTEM

	<u>EXTERIOR PAINT</u>	<u>INTERIOR LINING</u>	<u>SOLVENTS</u>
I. MATERIAL ON HAND AT BEGINNING OF PERIOD DATE _____	_____ GALLONS	_____ GALLONS	_____ GALLONS
[NOTE: Same figures as in Item III from previous report]			
ADD:			
II. PURCHASES DURING PERIOD:	_____ GALLONS	_____ GALLONS	_____ GALLONS
	_____	_____	_____
TOTAL TOTAL	_____ GALLONS	_____ GALLONS	_____ GALLONS
LESS:			
III. MATERIALS ON HAND AT END OF PERIOD DATE _____	_____ GALLONS	_____ GALLONS	_____ GALLONS
	_____	_____	_____
MATERIAL TO BE ACCOUNTED FOR:	_____ GALLONS	_____ GALLONS	_____ GALLONS

COMMENTS:

PAINT FOREMAN _____
(Signature)

DRUM SERVICE CO. OF FLORIDA
 PAINT AND SOLVENT INVENTORY AND
 REPORTING CONTROL

IV. UTILIZATION - COATINGS	<u>EXTERIOR PAINT</u>	<u>INTERIOR LININGS</u>
CODE "E" LEADS TO VOC EMISSIONS		
CODE "NE" LEADS TO NO VOC EMISSIONS		
A. SPRAYED IN PRODUCTION	_____ E	_____ NE
B. SOLD DIRECTLY TO CUSTOMERS, OR PROVIDED FREE AS "TOUCH-UP" PAINT	_____ NE	
C. DISCONTINUED PAINT COLORS (To be scrapped)	_____ NE	
D. BAD PAINT		
1. TO BE REPROCESSED	_____ NE	_____ NE
2. TO BE SCRAPPED	_____ NE	_____ NE
E. RECOVERED FROM SOLVENT WASH OF PIPING	_____ NE	_____ NE

COMMENTS

PAINT FOREMAN _____
 (Signature)

DRUM SERVICE CO. OF FLORIDA
PAINT AND SOLVENT INVENTORY AND
REPORTING CONTROL

V. UTILIZATION - SOLVENTS

CODE "E" LEADS TO VOC EMISSIONS
CODE "NE" LEADS TO NO VOC EMISSIONS

- A. ADDED TO PAINT - VISCOSITY CONTROL _____ E
- B. ADDED TO LINING - VISCOSITY CONTROL _____ NE
- C. CLEAN UP - DISSIPATED _____ E
- D. CLEAN UP - RECAPTURED AND RECYCLED _____ NE

VI. DRUM PRODUCTION BY PAINT BOOTH

- A1 TIGHT HEAD DRUM EXTERIOR _____ E
- A2 OPEN HEAD DRUM EXTERIOR _____ E
- A3 OPEN HEAD DRUM INTERIOR _____ NE
- A4 OPEN HEAD COVERS EXTERIOR _____ E
- A5 OPEN HEAD COVERS INTERIOR _____ E

COMMENTS

PAINT FOREMAN _____
(Signature)

EXHIBIT 12

EXHIBIT 12

PARTICULATE CONTROL IN EXHAUST FROM BOOTH OVERSPRAY

Control of particulate from overspray is accomplished by high efficiency filters or water wash.

Overspray is drawn by means of spray booth exhaust fans to control/capture devices. A minor portion of overspray falls onto and adheres to booth interior from which it is periodically removed by hand scraper for disposal according to approved RCRA Methods.

Capture efficiency reduces 20,106 Lbs./Yr. sent to control devices to actual emission of 441 Lb./Yr. for an overall efficiency of 97.8%.

For purposes of calculation of particulate emission as follows, the efficiency of filters was taken from data furnished by the manufacturers. This resulted in a higher emission than if efficiency as stated on Page 20 of Controlling Pollution from the Manufacturing and Coating of Metal Products, Vol. I, U.S. EPA, May 1977, i.e. filter pads 98%, water wash 95%.

Even with the lesser efficiency, however, particulate emission amounts to only 441 Lbs./Year.

PARTICULATE CONTROL

PAINT BOOTH OVERSPRAY CONTROL SYSTEMS

<u>BOOTH</u>	<u>SPRAY TYPE</u>	<u>APPLICATION</u>	<u>QUANTITY</u>	<u>CONTROL TYPE</u>
A.1.	Hand	Tight Head drum exteriors	165,502	Dry Filters*
A.2.	Automatic	Open Head drum exteriors	278,259	Water Wash**
A.3.	Automatic	Open Head drum interiors	255,998	Dry Filters*
A.4.	Semi Automatic	Open Head covers exteriors	278,259	Dry Filters*
A.5.	Semi Automatic	Open Head covers interiors	255,998	Dry Filters*

NOTES: *20 x 20 x 2 paint arrestors manufactured by:
 Chemco Manufacturing Co., Inc.
 7540 N. Linder
 Skokie, IL 60077

**Booth manufactured by:
 Binks Manufacturing Company
 9201 West Belmont Ave.
 Franklin Park, IL 60666

PAINT OVERSPRAY CALCULATIONS

FISCAL YEAR ENDING 10/31/83

<u>BOOTH</u>	<u>TOTAL PAINT SPRAYED</u> [NOTE: LBS./YR. SOLIDS ONLY] (NOT GALLONS OF COATINGS)	<u>% OVERSPRAYED</u> Note 1	<u>% OF OVERSPRAY CAPTURED</u> <u>ON BOOTH SURFACES (SCRAPED</u> <u>OFF BY OPERATOR DURING</u> <u>ROUTINE MAINTENANCE AND</u> <u>DISPOSED OF) Note 2</u>	<u>OVERSPRAY TO</u> <u>CONTROL SYSTEM</u> <u>LBS./YR.</u>	<u>CONTROL</u> <u>SYSTEM</u> <u>EFFICIENCY*</u>	<u>EMISSIONS</u> <u>LBS./YR.</u>
A.1.	31,773	25	25	5957	95.8%	250
A.2.	44,406	25	25	8326	99.8%	17
A.3.	33,382	5	N.A.	1669	95.8	Nil**
A.4.	15,287	25	25	2864	95.8	120
A.5.	6,879	25	25	1290	95.8	54
			TOTAL	20,106 Lb./Yr.	TOTAL	441 Lb./Yr.

Note 1: See Exhibit 4

Note 2: Per DSC Operator and Foreman Estimate

*See test reports attached,
Binks Manufacturing Co.
and Chemco Manufacturing Co.

**Theoretically 70 Lb./Yr. will pass to incinerator
from which an incalculable minor weight of ash
will escape.



Air Filter Testing Laboratories, Inc.

4632 Old LaGrange Road • Crestwood, Kentucky 40014 • Phone (502) 222-5720

REPORT NO. 3180
TEST NO. 3

PAINT ARRESTOR PAD PERFORMANCE TEST

TEST REQUESTED BY: CHEMCO MANUFACTURING COMPANY, INC.
MANUFACTURER: CHEMCO MANUFACTURING COMPANY, INC.
PRODUCT NAME: GREEN/WHITE
HOW LABORATORY PROCURED TEST SAMPLE: FURNISHED BY MANUFACTURER
MODEL NO.: GREEN/WHITE DIMENSIONS: 20IN. H 20IN. W 2IN. L
PRODUCT DESCRIPTION: GLASS FIBER

TEST CONDITIONS:

TEST AIR FLOW RATE 200 FPM
PAINT APPLICATION RATE 0.5 Q.T. / 20 MIN.
DESCRIPTION OF PAINT USED SYNTHETIC ENAMEL LIMCO

RESULTS:

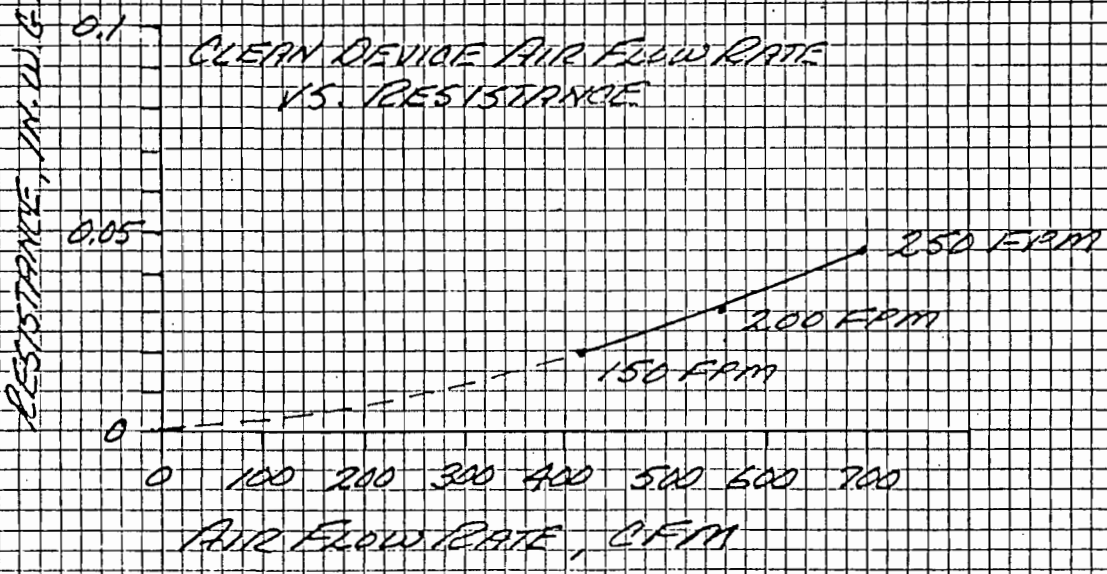
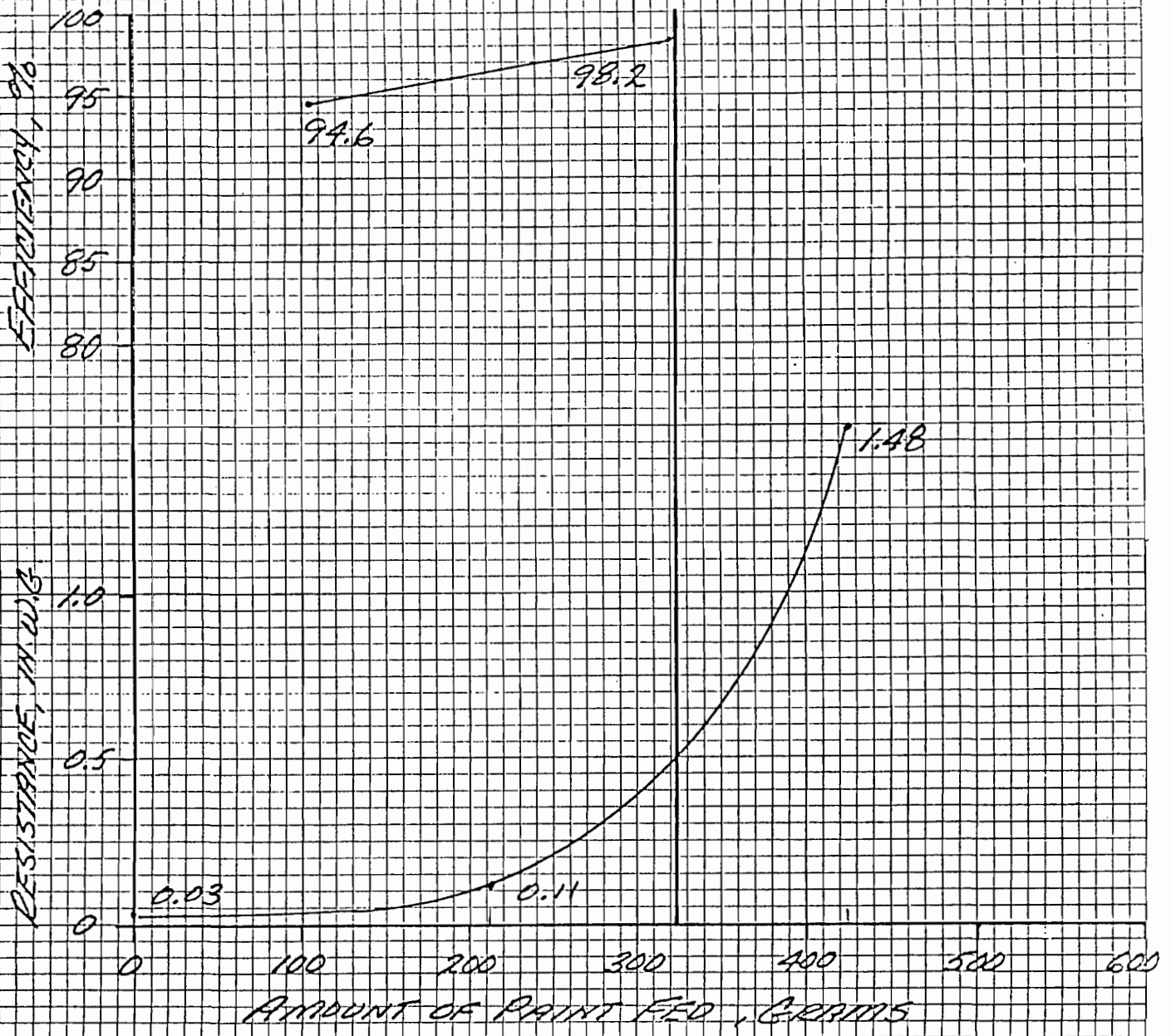
WEIGHT GAIN PAINT ARRESTOR PAD 410.0 GM.
FINAL ARRESTANCE FILTERS WEIGHT GAIN 15.3 GM.
TOTAL WEIGHT PAINT FED (DRY BASES) 425.3 GM.
FINAL RESISTANCE PAINT LOADED FILTER 1.48 IN. W.G.
PERFORMANCE TO CHANGE OUT RESISTANCE 0.50 IN. W.G.
AVERAGE PAINT REMOVAL EFFICIENCY 95.8 %
PAINT HOLDING CAPACITY 309 GM. OR 0.68 LBS.

DATE 2-3-1984

ENGINEERING APPROVAL

David J. Murphy Jr.





BINKS MANUFACTURING COMPANY

4301 RISING SUN AVENUE, PHILADELPHIA, PENNSYLVANIA 19140

MAILING ADDRESS:

P.O. BOX 46008, PHILADELPHIA, PENNSYLVANIA
19160-6008

PHONE: 215/329-7800
FAX: 834222

OFFICES IN ALL PRINCIPAL CITIES



October 17, 1984

Mr. Mike Murphy
Drum Service Co.
803 Jones Avenue
Zellwood, FL 32798

Subject: Binks No-Pump Spray Booth
Model CNPB 10-7T
Invoice #38147

Dear Mr. Murphy:

In accordance with your request regarding the efficiency of Binks No-Pump Spray Booths, a test was conducted by an Independent Consulting Engineering Service Co. in 1966. The booth design has not been changed and the results remain to date, as follows:

TEST RESULTS: (Paint used for testing has a weight of 2.25 lbs/qt.)

Test No. 1

Material Usage: 20 gals/hr. x 4 qts. x 2.25 lbs/qt. = 180 lbs/hr.

Grain Loading: 4.68 gr/1000 CF

Material Injection:

$$\frac{180 \text{ lbs/hr.} \times 7000 \text{ gr.} \times 1000 \text{ CF}}{9017 \text{ CFM} \times 60 \text{ mins.}} = 2328.93 \text{ grains}$$

Efficiency:

$$\text{Efficiency} = \frac{2328.93 - 4.68 \times 100}{2328.93}$$

Efficiency = 99.799%

Emission Rate (lbs/hr.)

$$E = \frac{9017 \times 60 \times 4.68}{1000 \times 7000} = 2531.9$$

E = 0.361 lbs/hr.

Test No. 2

Material Usage: 21 gals/hr. x 4 qts. x 2.25 lbs/qt = 189 lbs/hr.

Grain Loading: 4.99 gr/1000 CF

Material Injection:

$$\frac{189 \times 7000 \times 1000}{9017 \times 60} = 2445.38 \text{ grains}$$

Efficiency:

$$\text{Efficiency} = \frac{2445.38 - 4.99 \times 100}{2445.38}$$

$$\text{Efficiency} = 99.795\%$$

Emission Rate (lbs/hr.)

$$E = \frac{9017 \times 60 \times 4.99}{1000} = 7000$$

$$E = 0.385 \text{ lbs/hr.}$$

Allowable Emission (0.62 lbs/hr.)

$$E = 3.59 \text{ (P)}$$


$$E = 0.83 \text{ lbs/hr. for 189 lbs. material/hr.}$$

Binks Spray Booths conform with O.S.H.A. and E.P.A. regulations. However, this equipment is designed expressly for the removal of particulate matter only. Reduction of "Volatile Organic Compounds" requires either coating reformulation or optional additional equipment.

If you have any questions or need additional information please feel free to contact this office.

Very truly yours,

BINKS MANUFACTURING COMPANY



Ben Mallen
Resident Engineer
Philadelphia Branch

EM:ds

cc: R. Kradoska
L. Gonzales



SEABURY-BOTTORF ASSOCIATES, INC.

CONSULTING ENGINEERS

ANALYTICAL LABORATORY

3702 SILVER STAR RD. ORLANDO, FLORIDA, 32808 305-298-0846

TRANSMITTAL

TO: Mr. Bill Thomas
Bureau of Air Quality Management
Florida Dept. of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Rd.
Tallahassee, Florida 32301-8241

Date October 23, 1984

Project No. 110-7(VOC) -

DRUM SERVICE CO. OF FLORIDA
Zellwood, Orange County

Tracings Prints Shop Drawings Specs. Letters Other

No. Cys.	Numbered	Date	Description
4	110-7-VOC5	7/9/84	BOOTH TO OVEN CONVEYOR ENCLOSURE (Drum Service Co. of Florida)
			NOTE: This drawing was inadvertently omitted as
			an attachment to our letter to you dated 10/22/84
			transmitting the Application to Construct Air
			Pollution Source for Drum Service Co. of Florida.

REMARKS:

DER

OCT 25 1984

BAQM

SEABURY-BOTTORF ASSOCIATES, INC.

By John W. Seabury
John W. Seabury, P. E.

COPY TO: Mr. Jim Show, Orange County EPD
(w/cy. encl.)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ST. JOHNS RIVER DISTRICT

3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767.



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

A. ALEXANDER
DISTRICT MANAGER

John Seabury
Seabury-Bottorf Associates, Inc.
3702 Silver Star Road
Orlando, Florida 32808

OSJ-AP-84-0350

Dear Mr. Seabury:

Orange County - AP
Drum Service Co. of Florida
VOC Control Proposal
REF: Letter dated August 31, 1984

The referenced letter requests the district's participation in evaluating and commenting on the VOC Control Proposal, and states that it is short of an official permit application due to omission of a signature and a fee. Since the applicant, his attorney and you presumably the engineer of record, have had extensive discussions with the legal and permitting staff in the DER Tallahassee office, and since that staff is responsible for issuing the construction permit for the proposed VOC control facility, the Chief Engineer in Tallahassee, Mr. William Thomas, and I agree that the district office is not in a position to make a meaningful contribution at this time. This was discussed in my conversation with you on September 27, 1984.

The VOC control proposal should be reviewed with the Tallahassee DER staff because we lack adequate background information since we were not present during earlier discussions in Tallahassee, it is not appropriate for the district to address legal matters, and, the permitting staff in Tallahassee is easily capable of handling any permit application for which they are responsible.

Sincerely,

A. T. Sawicki, P.E.
Air Engineering

cmc

ATS:es

cc: Nancy Wright
William Thomas



Best Available Copy

com e
TCC

SEABURY-BOTTORF ASSOCIATES, INC.

CONSULTING ENGINEERS

ANALYTICAL LABORATORY

3702 SILVER STAR RD. ORLANDO, FLORIDA, 32808 305-298-0846

August 31, 1984

Project No. 110-7(VOC)

M
E
C
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A
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I
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A
L

Tom Sawicki, Air Engineering Supervisor
St. Johns River District
Florida Dept. of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767



Subject: Drum Service Co. of Florida
VOC Control Proposal

Dear Tom:

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On July 17, 1984, the Drum Service Co. of Florida submitted a proposal to bring their plantwide emissions of VOC into compliance with the requirements of 17-2.

purpose was to allow both treatment review and interagency coordination on procedure.

We would be pleased to receive comments from your office on technical aspects and evaluation of acceptability of a similar application to construct. We are aware that DER/Tallahassee and EPA/Atlanta may also have input, but we know that your office is the appropriate place to begin a review.

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Perhaps a meeting of all parties at your office or at the site would be useful as the next step.

Very truly yours,

John W. Seabury
John W. Seabury, P. E.

JWS/ac

Next steps 1. signed by a PE.

2. Fee Paid

3. Formal submitted

4. Review

5. Meeting if necessary

cc: Mr. J. M. Murphy
Mr. Roger Schwenke
Mr. James T. Show



CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

ATTORNEYS AT LAW

GIDDINGS E. MABRY, 1877-1966
O. K. REAVES 1877-1970
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August 2, 1984

FEDERAL EXPRESS

Nancy E. Wright, J. D.
Assistant General Counsel
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Re: Drum Service

Dear Nancy:

Slightly over a month ago, our client, Drum Service Company of Florida, their engineer and I met with you and technical representatives of the Department, to discuss the proposed solution to the VOC problem raised by the Department's District Office.

As a result of the discussions during the meeting there in Tallahassee, on July 17 we submitted a completed Department Consturction Application for incineration to destroy significant quantities of volatile organic compounds at the Drum Service facility. We provided this to the Department for technical review, but based on our meeting we understand that no filing fee should yet be paid, nor can this be treated as a permit applciation and reviewed as such, until you have resolved with both the District and with EPA how the Drum Service situation is to be treated.

Specifically, we are concerned with the question of whether this problem is solved by a permit, a consent order, a delayed

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AUG 3 1984

Dept. of Environmental Regulation
Office of General Counsel

Nancy E. Wright, J. D.
Page Two
August 2, 1984

compliance order, a variance, or some combination. Also obviously involved is the bubble aspects of the solution proposed by Drum Service. You indicated that you were going to pursue these questions with both EPA and the District, and I know that there have been some discussions and correspondence.

However, I must emphasize that our client is anxious to be authorized to proceed with construction of this facility, which it believes would benefit not only its operations but also the VOC concerns of the Department and of EPA. Hopefully the mechanical questions of what format should be used will not stand in the way of an early resolution of this problem.

As I mentioned in our telephone conversation, I am also concerned that whatever approach Drum Service takes with the Department, be one which resolves all of the VOC concerns which your Agency, Orange County, your District or EPA might have concerning this situation. Drum Service obviously does not want to undertake the significant capital outlays which would be involved with this project, only to wake up one morning with a further notice of enforcement or violation from EPA. It believes that it has come up with a solution which should be acceptable to all parties, and would like to see the earliest possible action on this proposal.

Since it has now been more than a month since our meeting, and since I know the District is anxious to achieve an early resolution of the problem, both our client and I would appreciate as expeditious a handling of this request as can be accomplished, realizing the number of different agencies and individuals who are involved.

Sincerely yours,



Roger D. Schwenke

RDS/sd

cc: Mr. J. M. Murphy
Mr. John W. Seabury
Mr. Thomas Bessa - Orlando DER
Mr. John M. Bateman, Director
Orange County Environmental Protection Dept.

To: File
Thru Chuck Collins c.m.c.
Thru Tom Sawicki #9
From Roger Caldwell
Date 6-18-84
Subject 6-7-84 Drum Service Improvement Meeting
Drum Painting Booths

John Seabury stated that the Proposed Control is "low Solvent Control Technology" but

- ① It is not available for the interior of the drum
- ② It is available for the exterior, but they are not presently using the L.S.T. paint. Probably because this would not solve all their problems.

John Seabury quoted rule 17-2.650(1)(e)

→

(e) Nothing in this Section 17-2.650(1) shall be construed to preclude the use of alternate means to abate volatile organic compound emissions, if such alternative will result in emissions equal to or lower than would result from the application of emission limiting standards specified herein.

Seabury questioned the use of this rule above to allow the use of total plantwide emission compliance (Bubble Concept). They are looking into compliance by means of incineration of VOC from one of three five (5) paint spray booths. The booth with the highest paint throughput and the highest solvent content. I told him that this may or may not be acceptable, we would first need to review air application and check with the ISAQM

Mike Murphy
Seabury
Roger Schwenke

Henry Wright
Bill Thoma
Ed Sacc

6/26/84

Mtg w/ Drum Services

control techniques -

400K - 500K drums per year. ① Water-based paints tried in drum industry. Problems w/ weathering ability (Co. in Calif. tried unsuccessfully). Also, energy probs. - much more required. [But not be offset by cost to control solvent] ② High ~~solvent~~ ^{BT-} solids coating - prob. w/ holding mil thickness. Too thick - results in much higher cost for paint. ^{as opposed to petroleum-based} ③ Chlorinated solvents - worked in Calif. (Chevron) for only one color - DS uses 57 dif. colors

Control devices -

Exterior paint - reqs ability to w/stand weather, hold color
Interior - compatibility w/ contents - must be chemically resistant. No one has come up w/ complying interior coating.

4.84 \leq 4.5 lb/gal VOCs for types used as DS.

Add-on ① Carbon absorption - really suited for only 1 pct's

② Incinerator - proposing to incin on worst actor (highest solvent, least likely to dup LST) - the oil emis. from booth, drying ovens, \leq totally destroy.

Uncontrolled - annual emis. 174 tons/yr

Drum in booth ventilated + on rotating mechanism auto-guns firing into interior. Almost all overspray cap. inside drum. Air velocity extremely positive in booth. ^{6000 CFM, in} Flash-off area vented similarly. Oven has exhaust duct - into sm. common capture system. (No solvent at end of baking)

Materials balance - some paint sold, some paint disposed (shelf life probs) This case - whed backwards from paint applied / production figures

24 hr avg -

CARLTON, FIELDS, WARD, EMMANUEL, SMITH & CUTLER, P. A.

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June 21, 1984

FEDERAL EXPRESS

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JUN 22 1984

Dept. of Environmental Regulation
Office of General Counsel

Nancy E. Wright, J. D.
Assistant General Counsel
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Re: Drum Service Company of Florida/
VOC Emissions from Coating Operations/
Application for Construction Permit

Dear Nancy:

As you requested in our recent discussions, and in preparation for our meeting there in Tallahassee next Tuesday, I have obtained from Drum Service's engineer a draft of the supporting information outlining the project which Drum Service proposes to control VOC emissions from their Zellwood facility.

Please treat Mr. Seabury's materials as a draft, since there needs to be more clarification, especially in Exhibit 1. Furthermore, although this exhibit suggests that low solvent coating materials are not available at all, our client realizes that suitable materials are available, in some cases, for the exterior surfaces of the steel drums which it reconditions. As confirmed by the exhibit, interior coating materials are still not available. Mike Murphy can give more information on this subject, during next week's meeting, and can discuss the various options which appear to be alternatives for VOC controls in the coating operations.

Nancy E. Wright, J. D.
Page Two
June 21, 1984

As you can see from the information provided by the engineer, especially the schematic diagrams in Exhibits 6 and 7, in the absence of suitable interior coating materials rather than to try to destroy all VOC emissions at several different points in the system, Drum Service is proposing completely and totally to destroy all VOC emissions from the single largest source, the internal lining spray booth and drying oven. This significant reduction, as shown in the engineer's calculations, will more than offset the VOC emissions from other points within the plant. This is similar in concept to the can coating procedure with which both of us are very familiar.

Since the Orlando office of the Department has told our client that the plant is not in compliance and may therefore be subject to enforcement action, and since there are obvious questions about how Orange County is treated, for air quality purposes, by DER and EPA, and since that characterization question affects the options open to both Drum Service and the Department (i.e., consent order, permit, variance, etc.), it is obvious to me that there are both technical and legal issues which we will try to discuss with you and Bill at next week's meeting. I realize that I have promised you a more detailed outline of those legal issues, and plan to send that out tomorrow; however, I did not want to delay sending the enclosures, since you thought Bill would want all the time we could give him to review the engineering and technical materials.

I assume that you contacted the Orlando office to let them know about our meeting on the 26th. As you probably recall, Mr. Murphy met with Mr. Kozlov, then the District Enforcement Chief, on June 7, and by letter on June 8, Mr. Kozlov emphasized the need for a timely response and made reference to the possible need to refer the matter to your Office for appropriate action. For your benefit I'll enclose a copy of that letter.

If you or Bill have any questions about this after reviewing these materials, please feel free to give me a call and I will try to answer them.

Sincerely yours,


Roger D. Schwenke

RDS/sd

Enclosures

cc: Mr. William A. Thomas - Federal Express
DER - Tallahassee (w/enclosures)
Mr. John W. Seabury (w/o enclosures)
Mr. J. M. Murphy (w/o enclosures)
Mr. Thomas Bessa (w/o enclosures)

ADDITIONAL INFORMATION DESCRIBING
THE NATURE AND EXTENT OF THE PROJECT

- | | |
|-----------|--|
| EXHIBIT 1 | GENERAL DESCRIPTION |
| EXHIBIT 2 | COATING SUPPLIER PRODUCT DATA
MOBIL (26 PAGES) |
| EXHIBIT 3 | COATING SUPPLIER PRODUCT DATA
KNS (2 PAGES) |
| EXHIBIT 4 | FACT SHEETS - APPLICATION DATA
(9 PAGES) |
| EXHIBIT 5 | DESIGN FACTORS FOR INCINERATION OF
VOC VAPORS (4 PAGES) |
| EXHIBIT 6 | PLANT LAYOUT DRAWING #110-7-VOC1 |
| EXHIBIT 7 | SCHEMATIC FLOW DIAGRAM
DRAWING #110-7-VOC2 |
| EXHIBIT 8 | COMPARISON OF UNCONTROLLED EMISSIONS,
ALLOWABLE EMISSIONS, ACTUAL EMISSIONS |

EXHIBIT 1

GENERAL DESCRIPTION

The Drum Service Co. of Florida is a supplier of reconditioned steel drums to a variety of corporations and individuals who use such containers as a means of packaging lubricants, foods, and other liquid products.

Chief competitor of the reconditioned drum is the new drum, which sets a standard of appearance and cleanliness which must be equalled or exceeded to offset the stigma of being secondhand.

A leading factor in establishing and maintaining a favorable image of appearance and cleanliness is the quality of surface coating applied to the straightened, sanitized, reconditioned item.

The coating must not only give a fresh and unblemished appearance, but must resist heat, cold, sun, and rain, as well as a broad spectrum of commonly encountered mild corrosive agents within the bounds of reasonable cost and mass production drying and curing limitations.

It is within the realm of possibility that American ingenuity will, in the not too distant future, develop a coating for metal surfaces which will be sufficiently attractive and durable to satisfy the foregoing requirements without use of the conventional and time honored solvents which have lately been limited for environmental reasons. Please refer to letter of June 13, 1984, from Mr. S. R. Persak to Mr. J. M. Murphy which describes the present status of solvent/coating technology. (Letter attached to Exhibit 2.)

In the meantime, and until suitable coatings of low solvent content become available, it is the intention of the Drum Service Co. of Florida to comply with both the letter and spirit of the law by abating the emissions of volatile organic compounds by incineration to the extent that resultant emissions are equal to or lower than emission limiting standards as contained in Chapter 17-2.650(f)14,b,(B); namely 3.5#/gallon of coating or less.

Because of severe practical problems to be faced in drum reconditioning where two types of drums must be painted in three separate spray booths, internally lined in two separate spray booths, oven dried in three separate heated enclosures, or air dried in two separate areas, with application of 57 different coatings, all depending upon the end use of the drums, it was deemed impractical to apply a mixture of controls to the widely separated and dissimilar parts of the system.

Instead, it is proposed to completely and totally destroy all VOC emissions from the single largest source most likely to resist scientific advance in water base or low solvent technology, i.e. the internal lining spray booth and drying oven where the most severe service conditions require a coating of superior chemical resistance.

The following Exhibits numbered 2 through 8 contain calculations, diagrams, and other supporting data to allow evaluation of a control system which will reduce annual emissions to a level of 3.09 Lbs. of VOC per gallon of coating applied as per the latest figures for 1983, which is typical of the last several years.

EXHIBIT 8

EXHIBIT 8

COMPARISON OF UNCONTROLLED EMISSIONS,
ALLOWABLE EMISSIONS, ACTUAL EMISSIONS

1. Uncontrolled Emission:

Uncontrolled emission will amount to the total vaporization and release to atmosphere of all volatile organic carbon solvent portions of the combined paints and linings sprayed.

Black Paint	11,676 Gal. @ 4.3	=	50,207 Lbs. VOC
White Pain	2,864 Gal. @ 4.15	=	11,885 Lbs. VOC
Colored Paint	8,464 Gal. @ 4.09	=	<u>34,618 Lbs. VOC</u>
Paint Subtotal			96,710 Lbs. VOC
Citrus Lining	7,077 Gal. @ 4.5	=	31,846 Lbs. VOC
#1 Lining	4,018 Gal. @ 4.84	=	<u>19,449 Lbs. VOC</u>
Lining Subtotal			51,295 Lbs. VOC
OVERALL TOTAL			148,005 Lbs. VOC

UNCONTROLLED ANNUAL EMISSION 148,005 LBS. OR 74.0 TONS

2. Allowable Emissions:

As per EPA Guidance 450/2-79004, steel pail and drum coatings are to contain no more than the following amounts of VOC's:

Exterior Coatings	3.5#/Gal.
Linings (clear or pigmented)	4.3#/Gal.

See Memorandum from Tom Helms to Air Branch Chief, Regions I-X dated 9/3/80, copy attached.

Paint	23,004 Gal. @ 3.5	=	80,514 Lbs. VOC
Lining	11,095 Gal. @ 4.3	=	<u>47,708.5 Lbs. VOC</u>
TOTAL			128,222.5 Lbs. VOC

ANNUAL ALLOWABLE EMISSIONS 128,222.5 LBS. OR 64.11 TONS

3. Actual Emissions as proposed:

Annual paint and lining emission after control (see 110-7-VOC2)
105,500 Lbs. VOC

ACTUAL ANNUAL EMISSIONS 105,500 LBS. OR 52.75 TONS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

DATE: September 3, 1980

SUBJECT: Miscellaneous Metal Parts and Products CTG--
Emission Limits for Coating of Shipping Pails and Drums

FROM: Tom Helms, Chief *Tom Helms* (MD-15)
Control Programs Operations Branch, CPDD

TO: Air Branch Chief, Regions I - X

The sample regulation for the Group II CTG categories indicated that the coating of pails and drums was to be included in the Miscellaneous Metal Parts CTG. Representatives from the shipping container industry have since requested clarification as to what emission limits are applicable to their coatings.

We recommend that a presumptive norm of 4.3 pounds of VOC per gallon of coating less water is reasonably available control technology for coatings used in pail and drum interior protective linings even though the coatings may not be a true "clear coat." This determination was made on the basis of the unavailability of lower VOC coatings that can withstand the harsh, toxic, and corrosive nature of many chemicals that are shipped in these containers.

The exterior coatings for pails and drums must meet an emission limit of 3.5 pounds of VOC per gallon of coating less water. This is the limit described in the CTG for outdoor exposure coatings.

The following information is provided for the States to use in defining metal pails and drums:

Pails -- any nominal cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29 gauge and heavier material.

Drums -- any cylindrical metal shipping container of 13- to 110-gallon capacity.

For additional information, please call Tom Williams at FTS 629-5226.

cc: VOC Contact, Regions I - X
Jim Berry, ESED

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EXHIBIT 2

Mobil Chemical Company

MAINTENANCE TRANSPORTATION AND
STEEL CONTAINER COATINGS DEPARTMENT

P.O. BOX 250
EDISON, NEW JERSEY 08817
TELEPHONE (201) 321-6000

June 13, 1984

1-800-526-7575

REC'D

JUN 18 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
P. O. Box 278
Zellwood, Florida 32798

SEABURY-BOTTORF
ASSOCIATES, INC.

Dear Mike:

The USEPA had issued Volume VI: Coatings of Miscellaneous Metal Parts and Products in the Guideline Series on control of volatile organic emissions. This had been further clarified to indicate that interior steel container linings, both clear and pigmented, would purportedly be governed by the clear coat category which permits a VOC of 4.3 lbs./gallon.

At that time, we reported that the industrially acceptable linings had a VOC of 5 to 5.5 lbs./gallon and that a presumptive norm of 4.3 lbs./gallon was beyond RACT (Reasonable Available Control Technology). Also, that no promising developing technology was impending which would permit compliance in the foreseeable future.

Our present position, unfortunately, has not changed in that even after expending considerable laboratory effort, we still cannot offer the industry any low VOC lining material which will provide a degree of chemical resistance equivalent to that of any of the coatings historically supplied to the industry.

Fortunately, our vehicle suppliers have heeded our pleas for assistance and are assisting us in attempting to develop resins which will increase the solids content of these linings.

The breakthrough, however, remains in the undefined future. As soon as we have a candidate product considered suitable for this demanding application, we will offer it for your evaluation.

Very truly yours,

S. R. Persak

S. R. Persak
Manager, Steel Containers

SRP/ny

The furnishing of the information contained herein does not constitute a representation by Mobil that any product or process is free from patent infringement claims of any third party nor does it constitute the granting of a license under any patent of Mobil or any third party. Mobil assumes no liability for any infringement which may arise out of the use of the product. Mobil warrants that its products meet the specifications which it sets for them. Mobil DISCLAIMS ALL OTHER WARRANTIES relating to the products, and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION, express or implied, INCLUDING but not limited to warranties of MERCHANTABILITY and FITNESS for particular purpose. Receipt of products from Mobil's Chemical Coatings Division constitutes acceptance of the terms of this Warranty, contrary provisions of purchase orders notwithstanding. In the event that Mobil finds that products delivered are off-specification, Mobil will, at its sole discretion, either replace the products or refund the purchase price thereof, and Mobil's choice of one of these remedies shall be Buyer's sole remedy. Mobil will under no circumstances be liable for consequential damages, except insofar as liability is mandated by law. Mobil will deliver products at agreed times insofar as it is reasonably able to do so, but Mobil shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.

Mobil Chemical Company

MAINTENANCE, TRANSPORTATION AND
STEEL CONTAINER COATINGS DEPARTMENT

P.O. BOX 250
EDISON, NEW JERSEY 08817
TELEPHONE (201) 321-6000

June 13, 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
P. O. Box 278
Zellwood, Florida 32798

Dear Mike:

You recently questioned the theoretical square feet of coverage in a gallon coating. The volume solids of a coating determines the coverage and will vary depending on the color of the coating.

Theoretically, a gallon of coating at 100% solids will cover 1600 square feet at a film thickness of 1.0 mil dry. This assumes 100% transfer efficiency which, of course, is not available. The efficiency percentage of drum spraying equipment will vary from 40% to 80% depending upon the degree of sophistication of the equipment.

We attach a list of our coatings which you are currently using or have used in the past. On this list we show the theoretical coverage if applied at 1.0 mil dry with 100% efficiency. You can determine your own approximate percent of spray efficiency with the following example.

Consider our 210-J-20 Black Enamel, which is a volume color in your plant. A 55 gal. drum has 23 sq. ft. of steel to be painted. This includes the shell and both heads. At 100% efficiency and painting the entire drum black, you would coat twenty-four drums per gallon at 1.0 mil dry. At 0.6 mil dry, still at 100% efficiency, you would coat forty drums per gallon. Your actual paint mileage compared to the theoretical mileage will give you the spray efficiency. You may consider each head to be 3 sq. ft., and the shell to be 17 sq. ft. These constants will enable you to determine paint mileage on multi-colored drums.

The furnishing of the information contained herein does not constitute a representation by Mobil that any product or process is free from patent infringement claims of any third party nor does it constitute the granting of a license under any patent of Mobil or any third party. Mobil assumes no liability for any infringement which may arise out of the use of the product. Mobil warrants that its products meet the specifications which it sets for them. Mobil DISCLAIMS ALL OTHER WARRANTIES relating to the products, and DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION, express or implied, INCLUDING but not limited to warranties of MERCHANTABILITY and FITNESS for particular purpose. Receipt of products from Mobil's Chemical Coatings Division constitutes acceptance of the terms of this Warranty, contrary provisions of purchase orders notwithstanding. In the event that Mobil finds that products delivered are off-specification, Mobil will, at its sole discretion, either replace the products or refund the purchase price thereof, and Mobil's choice of one of these remedies shall be Buyer's sole remedy. Mobil will under no circumstances be liable for consequential damages, except insofar as liability is mandated by law. Mobil will deliver products at agreed times insofar as it is reasonably able to do so, but Mobil shall not be liable for failure to deliver on time when the failure is beyond its reasonable control.

Mobil

-2-

We hope these explanations have answered your questions; please let us know if you need more information.

Very truly yours,

S. R. Persak

S. R. Persak
Manager, Steel Containers

SRP/ny

Att.

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Mobil

THEORETICAL SQUARE FOOT COVERAGE OF PAINTS

210-B-23	578 sq. ft./gal.	210-Y-48	594 sq. ft./gal.
210-B-54	674 " "	86-F-20	561 " "
210-B-72	561 " "	86-R-14	561 " "
210-B-74	561 " "	286-B-50	642 " "
210-B-77	578 " "	286-B-77	513 " "
210-B-78	578 " "	286-B-78	658 " "
210-D-9	594 " "	286-B-82	545 " "
210-F-16	706 " "	286-B-107	594 " "
210-F-22	561 " "	286-F-41	561 " "
210-F-23	578 " "	286-D-18	642 " "
210-G-40	561 " "	286-G-39	626 " "
210-G-42	545 " "	286-G-81	545 " "
210-J-20	545 " "	286-R-48	594 " "
10-R-12	610 " "	286-W-57	610 " "
210-R-26	561 " "	286-Y-53	578 " "
210-W-12	578 " "	286-Y-54	545 " "
210-W-24	610 " "	286-Y-71	578 " "
210-Y-47	578 " "	285-R-9	545 " "

Mobil

<u>Product</u>		<u>V.O.C.</u>
210-B-23	P. & G. Light Blue	4.1
210-B-54	Amoco Blue	3.8
210-B-72	Chevron Blue	4.2
210-B-74	Gulf Blue	4.1
210-B-77	Fina Blue	4.1
210-B-78	New Chevron 370 Blue	4.1
210-D-9	Stevens Brown	4.1
210-F-16	High Gloss Texaco Gray	3.6
210-F-22	Texaco Gray	4.2
210-F-23	Semi-Gloss Texaco Gray	4.1
210-G-40	Texaco Green	4.2
210-G-42	Semi-Gloss Texaco Green	4.1
210-J-20	Black	4.3
10-R-12	Mobil Red	4.2
210-R-26	Shell Red	4.2
210-W-12	White	4.3
210-W-24	White	4.0
210-Y-47	Shell Yellow	4.1
210-Y-48	Gulf Orange	4.0
285-R-9	Citrus Drum Lining	4.5
86-F-20	Mobil Beige	4.2
86-R-14	Mobil Red	4.2

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Mobil

<u>Product</u>		<u>V.O.C.</u>
286-B-50	Cal Oil Blue	3.8
286-B-77	Gulf Blue	4.3
286-B-78	Amoco Blue	3.8
286-B-82	Chevron Blue	4.2
286-B-107	Fina Blue	4.1
286-F-41	Semi-Gloss Texaco Gray	4.2
286-D-18	Stevens Brown	4.0
286-G-39	Texaco Green	3.9
286-G-81	Semi-Gloss Texaco Green	4.2
286-R-48	Shell Red	4.1
286-W-57	White	4.1
286-Y-53	Shell Yellow	4.3
286-Y-54	Gulf Orange	4.1
286-Y-71	B. P. Yellow	4.1

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 285-R-9

NAME Drum Lining Red

COLOR Red

TYPE Alkyd-Amine

SUGGESTED USE	<input type="checkbox"/> EXTERIOR <u>Special Purpose Drum Lining</u> <input checked="" type="checkbox"/> INTERIOR								
CONSTANTS	VISCOSITY <u>20-30</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.2 ± 1</u> _____ Lbs. Pigment <u>12.0</u> % By Weight SOLIDS <u>45.2 ± 1</u> % By Weight _____ <u>33.9</u> % By Volume THEORETICAL COVERAGE <u>545</u> _____ Sq. Ft. @ _____ Mil Dry Film (100% Efficiency)								
SUBSTRATE	TYPE <u>Steel</u> _____ Primed With _____ GAUGE <u>Varied</u> _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from all surface contaminants.</u>								
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity _____ FILM THICKNESS _____ Mils (Wet) <u>.5 - .7</u> Mils (Dry) BAKE <u>10</u> @ <u>300 - 400</u> °F.* Peak Metal Temp. _____ °F. REDUCE <u>As required</u> _____ With <u>Toluol</u> _____ OTHER _____ Clean up solvent(s) <u>Toluol</u>								
PROPERTIES	GLOSS _____ @ _____ Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____								
REMARKS	<p>* Bake temperature dependent upon end use of package.</p> <p>Note: When lining is to hold shortening, pure foods, and edible oils, the final bake must be 10 minutes at 400°F.</p>								
DEVELOPED FOR	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:50%; text-align: right;">Salesman</td> </tr> <tr> <td></td> <td style="text-align: right;">Laboratory</td> </tr> <tr> <td></td> <td style="text-align: right;">Date</td> </tr> <tr> <td style="text-align: left;">Attn.</td> <td style="text-align: right;">Ref. No.</td> </tr> </table>		Salesman		Laboratory		Date	Attn.	Ref. No.
	Salesman								
	Laboratory								
	Date								
Attn.	Ref. No.								

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-23

NAME Drum Enamel P&G Light Blue

COLOR Blue

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>45 - 55</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.26 ± .15</u> Lbs. Pigment <u>15.3</u> % By Weight SOLIDS <u>50 ± 1</u> % By Weight <u>36</u> % By Volume THEORETICAL COVERAGE <u>585</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30 - 33" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>10/7/83</u> Ref. No. <u>1550</u>
	Attn. _____		

Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-54

NAME Air-Dry Drum Enamel Amoco Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.35 ± .15</u> Lbs. Pigment _____ % By Weight SOLIDS <u>54.0 ± 1</u> % By Weight <u>42.0 ± 1</u> % By Volume THEORETICAL COVERAGE <u>5.5</u> Sq. Ft. @ _____ Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> _____ Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity <u>30-35" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>.7-1.0</u> Mils (Dry) BAKE _____ °F. Peak Metal Temp. _____ °F. REDUCE <u>8-1</u> _____ With <u>Xylol</u> OTHER _____ Clean up solvent(s) <u>Xylol</u>		
PROPERTIES	GLOSS _____ @ _____ Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	V.O.C. = 3.74 Air-dry tack free 1 hour, overnight - hard. Rule 66		
DEVELOPED FOR		SUBMITTED BY	Salesman _____
Attn. _____			Laboratory _____
			Date <u>5-30-84</u>
			Ref. No. _____

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-72

NAME Drum Enamel Chevron Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30 - 35</u> _____	Sec. # <u>4</u> _____	Ford Cup @ 80°F.
	_____	Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>7.88 ± .15</u> _____ Lbs.	Pigment <u>9.8</u> _____	% By Weight
	SOLIDS <u>47 ± 1</u> _____ % By Weight	<u>35 ± 1</u> _____	% By Volume
THEORETICAL COVERAGE <u>565</u> _____	Sq. Ft. @ <u>1</u> _____	Mil Dry Film (100% Efficiency)	
SUBSTRATE	TYPE <u>Steel</u> _____	Primed With _____	
	GAUGE _____	Reverse Side _____	
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> _____	Applied Viscosity <u>30-35" Zahn 2 Cup</u>	
	FILM THICKNESS _____	Mils (Wet) <u>0.7 - 1.0</u> _____	Mils (Dry)
	BAKE <u>5-10'</u> _____ @ _____ °F.	Peak Metal Temp. <u>275</u> °F.	
	REDUCE <u>10 - 1</u> _____	With <u>Naphtha</u> _____	
	OTHER _____	Clean up solvent(s) <u>Aromatic</u>	
PROPERTIES	GLOSS <u>85+</u> _____ @ <u>60°</u> _____	Angle _____ Contains Lubricant _____	
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____
REMARKS	Rule 66 met VOC = 4.16 lbs/gallon		
DEVELOPED FOR	SUBMITTED BY		Salesman _____
			Laboratory _____
			Date <u>7/27/83</u>
			Ref. No. <u>WO 1511</u>
Attn. _____			

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-74

NAME Drum Enamel Gulf Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>35-50</u> Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zohn Cup @ 80°F. WEIGHT PER GALLON <u>7.6 ± .1</u> Lbs. Pigment <u>5.2</u> % By Weight SOLIDS <u>45 ± 1</u> % By Weight <u>35 ± 1</u> % By Volume THEORETICAL COVERAGE <u>571</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from all Surface Contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30 - 35 Sec. #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5-10 min.</u> @ _____ °F. Peak Metal Temp. <u>275</u> °F. REDUCE <u>10:1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Naphtha or Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	VOC = 4.13 lbs/gallon Conforms to Rule 66		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>8/19/83</u> Ref. No. <u>1520</u>
Attn.			

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-77

NAME Drum Enamel Fina Blue

COLOR Blue

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40 - 50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.75 ± .1</u> Lbs. Pigment <u>6.6</u> % By Weight SOLIDS <u>47 ± 1</u> % By Weight _____ 36 % By Volume THEORETICAL COVERAGE <u>589</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> _____ Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>spray</u> _____ Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> _____ With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	VOC = 4.1 lbs/gallon Conforms to Rule 66. This product will air dry to handle in 15 minutes and is hard overnight.		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>10/4/83</u> Ref. No. _____
	Attn. _____		

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-B-78

NAME Drum Enamel Chevron 370 Blue

COLOR Blue

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>35-50</u> Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.89 ± .15</u> Lbs. Pigment <u>10</u> % By Weight SOLIDS <u>47 ± 1</u> % By Weight <u>36</u> % By Volume THEORETICAL COVERAGE <u>570</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5'</u> @ _____ °F. Peak Metal Temp. <u>275</u> °F. REDUCE <u>10-1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic or naphtha</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<u>Meets rule 66</u> <u>VOC = 4.1 lbs/gallon</u>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>3/9/84</u> Ref. No. <u>1610</u>
	Attn. _____		

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-D-9

NAME Drum Enamel Brown

COLOR Brown

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u> Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.95 ± .1</u> Lbs. Pigment <u>10.6</u> % By Weight SOLIDS <u>49 ± 1</u> % By Weight _____ 37 % By Volume THEORETICAL COVERAGE <u>594</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.1 lbs/gal. Conforms to Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
			Laboratory
			Date <u>10/4/83</u>
	Attn.		Ref. No.

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-16

NAME Air-Dry Drum Enamel Texas Gray

COLOR Gray

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>50-60</u> _____ Sec. = <u>4</u> Ford Cup @ 80°F. _____ Sec. = _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.8 ± .15</u> Lbs. Pigment _____ % By Weight SOLIDS <u>59 ± 1</u> % By Weight <u>44 ± 1</u> % By Volume THEORETICAL COVERAGE <u>563</u> Sq. Ft. ÷ Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE <u>--</u> Reverse Side _____ CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>.7-1.0</u> Mils (Dry) BAKE _____ @ _____ °F. Peak Metal Temp. _____ °F. REDUCE <u>8-1</u> With <u>Xylol</u> OTHER Clean up solvent(s) <u>Xylol</u>		
PROPERTIES	GLOSS _____ @ _____ Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	V.O.C. = 3.56 Air-dry tack free 1 hour, overnight - hard.		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>5-30-84</u> Ref. No. _____
	Attn. _____		

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-22

NAME Drum Enamel Texaco Gray

COLOR Gray

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F.	_____ Sec. # _____ Zahn Cup @ 80°F.	
	WEIGHT PER GALLON <u>8.09±.15</u> _____ Lbs.	Pigment <u>12.0</u> % By Weight	
	SOLIDS <u>48±1</u> % By Weight	<u>35±1</u> % By Volume	
	THEORETICAL COVERAGE <u>563</u> _____ Sq. Ft. @ _____ Mil Dry Film (100% Efficiency)	<u>1</u>	
SUBSTRATE	TYPE <u>CRS</u> _____ Primed With _____	_____	
	GAUGE _____ Reverse Side _____	_____	
	CHEMICAL TREATMENT <u>Free from surface contaminants</u>	_____	
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity <u>as required</u>	_____	
	FILM THICKNESS _____ Mils (Wet) <u>0.7-1.0</u> Mils (Dry)	_____	
	BAKE <u>5-10</u> @ <u>300</u> °F. Peak Metal Temp. _____ °F.	_____	
	REDUCE <u>10-1</u> _____ With <u>Naphtha</u>	_____	
OTHER _____ Clean up solvent(s) <u>Aromatic or Naphtha</u>	_____		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle _____ Contains Lubricant _____	_____	
	PENCIL HARDNESS _____ (Eagle Turquoise) _____ Solvent Rubs _____	_____	
REMARKS	<p>Meets Rule 66</p> <p>VOC = 4.2 lbs. per gallon</p>		
DEVELOPED FOR	SUBMITTED BY		_____ Salesman
			_____ Laboratory
			Date <u>3/29/83</u>
			Ref. No. _____

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-F-23

NAME Semi-Gloss Texaco Gray Enamel

COLOR Gray

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-55</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.28 ± .15</u> Lbs. Pigment <u>15.5</u> % By Weight SOLIDS <u>50 ± 1</u> % By Weight _____ <u>36</u> % By Volume THEORETICAL COVERAGE <u>581</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-33" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>50-60</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____
Attn. _____			Date <u>10/7/83</u> Ref. No. <u>1550</u>

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-G-40

NAME Drum Enamel Texaco Green

COLOR Green

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30 - 35</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.89 ± .15</u> Lbs. Pigment <u>9</u> % By Weight SOLIDS <u>46.5±1</u> % By Weight <u>34.5</u> % By Volume THEORETICAL COVERAGE <u>554</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> _____ Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of oil and water soluble salts.</u>		
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity <u>as required</u> FILM THICKNESS _____ Mils (Wet) <u>1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10-1</u> _____ With <u>VM&P Naphtha</u> OTHER _____ Clean up solvent(s) <u>Naphtha or aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle _____ Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	Rule 66 complying VOC = 4.2 lbs/gal.		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>3/23/83</u> Ref. No. _____
	Attn. _____		

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-G-42

NAME Semi-Gloss Texaco Green Enamel

COLOR Green

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u>		
	<input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-55</u>	Sec. # <u>4</u>	Ford Cup @ 80°F.
		Sec. # _____	Zahn Cup @ 80°F.
	WEIGHT PER GALLON <u>8.07 + .15</u>	Lbs.	Pigment <u>12.3</u> % By Weight
	SOLIDS <u>48 ± 1</u>	% By Weight	<u>35</u> % By Volume
THEORETICAL COVERAGE	<u>569</u>	Sq. Ft. @	<u>1</u> Mil Dry Film (100% Efficiency)
SUBSTRATE	TYPE <u>CRS</u>	Primed With _____	
	GAUGE _____	Reverse Side _____	
CHEMICAL TREATMENT <u>Free of all surface contaminants.</u>			
APPLICATION	METHOD <u>Spray</u>	Applied Viscosity <u>30-33" #2 Zahn</u>	
	FILM THICKNESS _____	Mils (Wet)	<u>.7 - 1</u> Mils (Dry)
	BAKE <u>5-10'</u>	@ <u>275</u> °F.	Peak Metal Temp. _____ °F.
	REDUCE <u>10 - 1</u>	With <u>Naphtha</u>	
OTHER	Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>50-60</u>	@ <u>60°</u> Angle	Contains Lubricant _____
	PENCIL HARDNESS _____	(Eagle Turquoise)	Solvent Rubs _____
REMARKS	<p>VOC - 4.1 lbs/gallon Conforms with Rule 66 This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR	SUBMITTED BY		Salesman
			Laboratory
			Date <u>10/7/83</u>
			Ref. No. <u>1550</u>
Attn.			

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 10-R-12

NAME Mobil Drum Red Enamel

COLOR Red

TYPE Mod. Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40 - 50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.66 ± .15</u> Lbs. Pigment <u>18</u> % By Weight SOLIDS <u>53 ± 1</u> % By Weight <u>38</u> % By Volume THEORETICAL COVERAGE <u>608</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free of all surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>28 - 33" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10 - 1</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.0 lbs/gal. Conforms to Rule 66.</p> <p>This product will air dry to handle in 15 minutes and is hard overnight.</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
Attn.			Laboratory
			Date <u>2-28-83</u>
			Ref. No.

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-R-26

NAME Drum Enamel Shell Red

COLOR Red

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.1 ± .1</u> Lbs. Pigment <u>11.5</u> % By Weight SOLIDS <u>48 ± 1</u> % By Weight _____ <u>35 ± 1</u> % By Volume THEORETICAL COVERAGE <u>559</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> _____ Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> _____ Applied Viscosity <u>as required</u> FILM THICKNESS _____ Mils (Wet) <u>.7 - 1.0</u> Mils (Dry) BAKE <u>5-10 min @ 300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>as required</u> _____ With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Aromatic or Naphtha</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant <u>Yes</u> PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	Conforms with the requirements of Rule 66 VOC = 4.18 lbs. per gallon		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>4/11/83</u> Ref. No. _____
	Attn. _____		

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-Y-47

NAME Drum Enamel Shell Yellow

COLOR Yellow

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> Sec. # <u>4</u> Ford Cup @ 80°F. " " " " Zahn Cup @ 80°F. WEIGHT PER GALLON <u>9.17 ± .15</u> Lbs. Pigment <u>24</u> % By Weight SOLIDS <u>55 ± 1</u> % By Weight <u>36 ± 1</u> % By Volume THEORETICAL COVERAGE <u>575</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>0.7 - 1.0</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275</u> °F. Peak Metal Temp. <u>275</u> °F. REDUCE <u>10-1</u> With <u>Naphtha</u> OTHER <u>Clean up solvent(s) Naphtha or Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.12 lbs/gallon</p> <p>Meets Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman
			Laboratory
			Date <u>4/14/83</u>
	Attn.		Ref. No.

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-Y-48

NAME Drum Enamel Gulf Orange

COLOR Orange

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>35 - 50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>8.3 ± .1</u> Lbs. Pigment <u>13.2</u> % By Weight SOLIDS <u>51 ± 1</u> % By Weight <u>37 ± 1</u> % By Volume THEORETICAL COVERAGE <u>592</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from all Surface Contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35 Sec. #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>7 - 1</u> Mils (Dry) BAKE <u>5-10 min.</u> @ _____ °F. Peak Metal Temp. <u>275</u> °F. REDUCE <u>10:1</u> With <u>Naptha</u> OTHER <u>Clean up solvent(s) Naptha or Aromatic</u>		
PROPERTIES	GLOSS <u>85 +</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 4.04 lbs/gallon Conforms to Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date <u>8/10/83</u> Ref. No. <u>1520</u>
Attn.			

The technical information and suggestions for use and application presented herein represent the best information available to us and are believed to be reliable. They should not, however, be construed as controlling suggestions, and there is no warranty of performance of our materials either express or implied. We urge that users of our materials conduct confirmatory tests to determine final suitability for their specific end uses.

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210 W 12

NAME Air Dry Drum En. Mobil White

COLOR White

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-60</u> _____ Sec. # _____ Ford Cup @ 80°F. _____ Sec. = <u>2</u> _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>9.15 ± .15</u> Lbs. Pigment <u>22.</u> % By Weight SOLIDS <u>53 ± 1</u> % By Weight _____ <u>36</u> % By Volume THEORETICAL COVERAGE <u>583</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>Steel</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Oil Free</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35</u> <u>2</u> Zahn Cup FILM THICKNESS _____ Mils (Wet) <u>.7-1</u> Mils (Dry) <u>Air dry to handle 15 min. overnight hard</u> BAKE _____ @ _____ °F. Peak Metal Temp. _____ °F. REDUCE <u>as required</u> With <u>Naphtha</u> OTHER _____ Clean up solvent(s) <u>Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>Conforms to Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date _____ Ref. No. _____
	Attn. _____		

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Mobil Chemical

product data sheet

CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210-W-24

NAME Drum Enamel SSCI #41 White

COLOR White

TYPE Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>30-35</u> Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>9.4 ± .15</u> Lbs. Pigment <u>29.0</u> % By Weight SOLIDS <u>57±1</u> % By Weight <u>38±1</u> % By Volume THEORETICAL COVERAGE <u>606</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Free from surface contaminants</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn Cup</u> FILM THICKNESS _____ Mils (Wet) <u>0.7 - 1.0</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>10-1</u> With <u>Naphtha</u> OTHER Clean up solvent(s) <u>Naphtha or toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60°</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>VOC = 3.99 lbs/gallon Meets Rule 66.</p>		
DEVELOPED FOR	SUBMITTED BY	Salesman _____	
		Laboratory _____	
		Date <u>4/19/83</u>	
Attn.		Ref. No. _____	

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CHEMICAL COATINGS DIV.
P. O. BOX 250
EDISON, NEW JERSEY 08817

CODE 210 J 20

NAME Drum Enamel Black

COLOR Black

TYPE Modified Alkyd

SUGGESTED USE	<input checked="" type="checkbox"/> EXTERIOR <u>Drum Enamel</u> <input type="checkbox"/> INTERIOR		
CONSTANTS	VISCOSITY <u>40-50</u> _____ Sec. # <u>4</u> Ford Cup @ 80°F. _____ Sec. # _____ Zahn Cup @ 80°F. WEIGHT PER GALLON <u>7.35±.1</u> Lbs. Pigment <u>2.7</u> % By Weight SOLIDS <u>42±1</u> % By Weight <u>34±1</u> % By Volume THEORETICAL COVERAGE <u>602</u> Sq. Ft. @ <u>1</u> Mil Dry Film (100% Efficiency)		
SUBSTRATE	TYPE <u>CRS</u> Primed With _____ GAUGE _____ Reverse Side _____ CHEMICAL TREATMENT <u>Oil free</u>		
APPLICATION	METHOD <u>Spray</u> Applied Viscosity <u>30-35" #2 Zahn</u> FILM THICKNESS _____ Mils (Wet) <u>.7-1</u> Mils (Dry) BAKE <u>5-10'</u> @ <u>275-300</u> °F. Peak Metal Temp. _____ °F. REDUCE <u>8-1</u> With <u>Naphtha</u> OTHER Clean up solvent(s) <u>Naphtha or Toluene</u>		
PROPERTIES	GLOSS <u>85+</u> @ <u>60</u> Angle Contains Lubricant _____ PENCIL HARDNESS _____ (Eagle Turquoise) Solvent Rubs _____		
REMARKS	<p>Conforms to Rule 66</p>		
DEVELOPED FOR		SUBMITTED BY	Salesman _____ Laboratory _____ Date _____ Ref. No. _____
	Attn. _____		

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EXHIBIT 3

KNS Companies, Inc.
475 RANDY ROAD, P. O. BOX 962
CAROL STREAM, ILLINOIS 60187
Telephone: Area 312/665-9010

kerpro

May 22, 1984

Mr. J. M. Murphy
Drum Service Co. of Florida
803 Jones Ave.
Zellwood, Fla. 32798

Dear Mr. Murphy:

KNS lining L-15 (407-30-J76) has a V. O. C. content of 4.84 pounds per gallon. The following lists the percentage of volatiles.

Xylol	8.0%
Ketones, exempt	8.54
Ketones, non-exempt	11.26
Alcohols, exempt	62.94
Esters	<u>9.27</u>
	100.01%

Please let me know if any additional information is needed.

Very truly yours,
KNS COMPANIES, INC.

John M. Browning
John M. Browning
General Manager

JMB/jd

500 VISTA AVENUE
 ADDISON, ILLINOIS 60101
 Telephones: Area 312/543-2020

Area Code 312/543

CONTAINER LININGS PROPERTIES & APPLICATION DATA

CODE NO. 407-30B-J76

DESIGNATION Kerpro Lo-Cure L-15 Dark Brown Pigmented, Ready to Spray.

DESCRIPTION

Epoxy modified phenolic resin base, pigmented with inert pigments.

TYPICAL PROPERTIES

VISCOSITY #4FC @ 70°F., SECS	<u>26 ± 1</u>	DENSITY @ 70°F., LBS./GALS	<u>8.8 ± 1</u>
RESIN SOLIDS % BY WEIGHT	<u>26 ± 1</u>	TOTAL SOLIDS* % BY WEIGHT	<u>40 ± 2</u>
PIGMENT SOLIDS % BY WEIGHT	<u>14 ± 1</u>	TOTAL SOLIDS % BY VOLUME	<u>28 ± 2</u>
COLOR, WET	<u>Dark Brown</u>	GLOSS GARDNER 60°	<u>40 ± 10</u>
COLOR, BAKED	<u>Dark Brown</u>	HIDING POWER SQ. FT./GAL.	<u>650 @ 0.7 mils D.</u>

APPLICATION DATA

FOR REDUCTION USE: No reduction required

- PARTS (VOLUME) KERPRO - PARTS (VOLUME) SOLVENT

APPLY BY Spray as is.

APPLY 2.5 - MILS WET TO OBTAIN 0.7 - 0.8 MILS

FORCE DRY 5 MINUTES AT 250 °F.

BAKE 10 MINUTES AT 350 °F.

CLEAN UP SOLVENT MEK

*METAL TEMPERATURE

NOTES

The information contained herein is based on data obtained by our own research and is considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data, the results to be obtained from the use thereof, or that any such use will not infringe any patent. This information is furnished upon the condition that the person receiving it shall make his own tests to determine the suitability thereof for his particular purpose.

EXHIBIT 4

DRUMS SERVICE CO. OF FLORIDA

FACT SHEET - VOC PERMIT

I. EMISSION POINTS

A. Application Points

1. Tight Head drum exterior paint booth
2. Open Head drum exterior paint booth
3. Open Head drum interior lining booth
4. Open Head covers exterior paint booth
5. Open Head covers interior lining booth

B. Ovens

1. Tight Head drum drying oven
2. Open Head drum lining drying oven
3. Open Head cover lining drying oven

NOTE: Open Head drum and cover exterior
drying is air dry.

II. PRODUCTION (Fiscal Year 1983 - Nov. 1, 1982 to Oct. 31, 1983)

<u>BOOTH</u>	<u>APPLICATION</u>	<u>QUANTITY</u>	<u>NOTES</u>
A.1.	Tight Head drum exteriors	165,502	(1)
A.2.	Open Head drum exteriors	278,259	(1)
A.3.	Open Head drum interiors	255,998	(2)
A.4.	Open Head covers exteriors	278,259	(1)
A.5.	Open Head covers interiors	255,998	(2)

NOTES:

(1) Represents 100% of production.

(2) Not all drums run on open head line are lined internally; some are shipped unlined. Fiscal Year 1983 production estimated at 92% lined, 8% unlined.

III. PAINT CONSUMPTION - EXTERIOR PAINT

A. Theoretical Coverage of Paint Sprayed

1. Square feet per gallon @ 1.0 mil dry film thickness (from Mobil Chemical Co. Product Data Sheets):

Black: 602

White: 595 (Note 1)

Colors: 576 (Note 2)

Note 1. Average of two whites used

Note 2. Average of all colors used

2. Weighted Average of Above, Assuming:
 - a. 60% of production is black bodies and bottoms, white heads;
 - b. 30% of production is colored bodies and bottoms, white heads;

c. 10% of production is solid color drums;

d. Drum is 23 square feet as follows:

		<u>% OF TOTAL</u>
- Top Head	3.2 sq. ft.	14%
- Bottom Head	3.2 sq. ft.	14%
- Body	<u>16.6</u> sq. ft.	<u>72%</u>
Totals	23.0 sq. ft.	100%

e. Units Painted:

Open Head exterior (including covers): 278,259

Tight Head exterior: 165,502

443,761

3. Units painted, by parts, by paint:
 Refer to III.A.2.a.b.c. and e. for derivation.

	<u>TOP HEAD</u>	<u>BODY</u>	<u>BOTTOM HEAD</u>
Black:	-0-	266,257	266,257
White:	399,385	-0-	-0-
Colors:	44,376	177,504	177,504

4. In Square Feet (per III.A.2.d.):

Black:	-0-	4,419,866	852,022
White:	1,278,038	-0-	-0-
Colors:	142,003	2,946,566	568,013

5. Theoretical Usage - Gallons

Black @ 602 sq. ft./gal.:	-0-	7,342	1,415
White @ 595 sq. ft./gal.:	2,148	-0-	-0-
Colors @576 sq. ft./gal.:	246	5,116	986

B. Conversion to actual coverage, in gallons,
 assuming hand sprayed airless paint delivery
 system at 25%* over-spray loss:

	<u>TOP</u>	<u>BODY</u>	<u>BOTTOM</u>	<u>TOTAL</u>
Black:	-0-	9,789	1,887	11,676
White:	2,864	-0-	-0-	2,864
Colors:	328	6,821	1,315	<u>8,464</u>
			GRAND TOTAL	<u>23,004</u> gals.

IV. CONSUMPTION - INTERIOR LINING

A. Using same calculations as above, with #1
 lining (KERPRO L-15) @ 640 sq. ft./gal. and
 citrus lining @ 545 sq. ft./gal.

1. 60% of lined drums are citrus, 40% #1
 lining

2. Units lined

Open Head drums and covers: 255,998

3. Units lined, by type:

Citrus: 153,599

#1: 102,399

4. In square feet @ 23 ft.² per drum:

Citrus: 3,532,777 sq. ft.

#1: 2,355,177 sq. ft.

5. Theoretical usage - gallons:

Citrus

@ 545 sq.

ft./gal.: 6,482

#1

@ 640 sq.

ft./gal.: 3,680

- B. Conversion to actual coverage in gallons, assuming interior lining of drum with automatic airless spray system at 5% over-spray loss, and cover interior lining with hand sprayed airless system at 25% over-spray loss.

1. % for each lining:

	<u>THEORETICAL GALLONS</u>	<u>INTERIOR BODY & BOTTOM</u>	<u>INTERIOR COVER</u>
		86%	14%
Citrus:	6,482	5,575	907
#1:	3,680	3,165	515

2. Conversion to actual:

	<u>INTERIOR BODY & BOTTOM @ .95</u>	<u>INTERIOR COVER @ .75</u>	<u>TOTAL</u>
Citrus:	5,868	1,209	7,077
#1:	3,332	687	<u>4,018</u>
	GRAND TOTAL:		<u>11,095</u>

V. VOC EMISSIONS - WITHOUT CONTROLS

<u>PRODUCT</u>	<u>GALLONS USED</u>	<u>VOC LBS/ GALLONS</u>	<u>TOTAL VOC'S</u>
Black Paint	11,676	4.3 (1)	50,207
White Paint	2,864	4.15 (2)	11,885
Colored Paint	8,464	4.09 (3)	34,618
Citrus Lining	7,077	4.5 (1)	31,846
#1 Lining	<u>4,018</u>	4.84 (4)	<u>19,447</u>
Totals:	34,099		148,003

NOTES:

(1) From Mobil Chemical Company Product Data
Sheets.

(2) Same, average of two whites used.

(3) Same, average of all colors used.

(4) From KNS Companies, Inc. letter of 5/22/84.

EXHIBIT 5

DRUM SERVICE CO. OF FLORIDA

DESIGN FACTORS FOR
INCINERATION OF VOC VAPORS FROM
SPRAY LINING OF OPEN HEAD DRUMS

OPERATING RATE OF SPRAY BOOTH

Citrus Lining 300 Drums/Hr.
#1 Lining 200 Drums/Hr.

AREA PER DRUM = 19.78 SQ. FT.

COATED AREA PER HOUR

19.78 x 300 = 5934 Sq. Ft./Hr. Citrus Lining
19.78 x 200 = 3956 Sq. Ft./Hr. #1 Lining

THEORETICAL APPLICATION RATE:

5934 ÷ 545 Sq.Ft./Gal. = 9.27 Gal./Hr. Citrus Lining
3956 ÷ 640 Sq.Ft./Gal. = 6.18 Gal./Hr. #1 Lining

ACTUAL APPLICATION RATE (5% OVERSPRAY)

9.27 + .95 = 9.75 Gal./Hr. Citrus Lining
6.18 + .95 = 6.50 Gal./Hr. #1 Lining

VOC = 4.5#/Gal. Citrus Lining

VOC = 4.84#/Gal. #1 Lining

CITRUS LINING VOC/HR. = 9.75 x 4.5 = 43.87#/HR.

#1 LINING VOC/HR. = 6.5 x 4.84 = 31.48#/HR.

AIR FLOW AND INCINERATION MUST BE BASED ON MAXIMUM RATE; USE 43.87 LBS./HR.

PERCENT OF TOTAL EMISSION FROM SPRAY PROCESS (FROM "CONTROLLING POLLUTION FROM THE MANUFACTURING AND COATING OF METAL PRODUCTS", VOL. 1., EPA, 1977):

SPRAY BOOTH	50%
PRE/DRY FLASH-OFF	10%
BAKE OVEN	<u>40%</u>
	100%

SPRAY BOOTH EMISSION:

$$43.87 \times .50 = 21.93 \text{ Lb./Hr.}$$

FLASH-OFF AREA EMISSION:

$$43.87 \times .10 = 4.39 \text{ Lb./Hr.}$$

BAKE OVEN EMISSION:

$$43.87 \times .40 = 17.55 \text{ Lb./Hr.}$$

AIR VELOCITY AT BOOTH OPENINGS MUST BE 100 FT./MIN. TO AVOID FUMES IN WORKING AREA.

SIZE AND AREA OF BOOTH OPENINGS:

$$40'' \times 29'' = 1160 \text{ Sq.In.} = 8.06 \text{ Sq.Ft.}$$

$$24'' \times 26\frac{1}{2}'' = 636 \text{ Sq.In.} = 4.12 \text{ Sq.Ft.}$$

$$48'' \times 38'' = 1824 \text{ Sq.In.} = \underline{12.66} \text{ Sq.Ft.}$$

$$24.82 \text{ Sq.Ft.}$$

$$24.82 \times 100 = 2482 \text{ CFM}$$

SOLVENT IN CITRUS LINING (MOBIL #285-R-9):

NAPHTHA 38.9% by Wt.

TOLUENE 5.5%

XYLENE 1.2%

BUTANOL 9.2%

54.8% SOLVENT

45.2% SOLIDS

WEIGHT PER GALLON 8.2 LBS./GAL.

SOLVENT CHARACTERISTICS:

	MOLECULAR WEIGHT	LEL%	SP.GR.	SP.GR.* (M.W.)(LEL)
NAPHTHA	106.16	0.8	.850	.0100
TOLUENE	92.13	1.27	.866	.0074
XYLENE	106.16	1.0	.881	.0083
BUTANOL	74.12	1.45	.810	.0075

*SEE "INDUSTRIAL VENTILATION", 16TH EDITION 1980, pp. 2-6

FOR EXPLOSIVE LIMIT OF MIXED VAPORS TREAT THE ENTIRE MIXTURE AS IF IT WERE ENTIRELY COMPOSED OF THE COMPONENT HAVING HIGHEST $\frac{\text{Sp.Gr.}}{(\text{MW})(\text{LEL})}$

FOR EXPLOSIVE LIMIT ASSUME

54.8% by Wt. Naptha 4.5#/Gallon

$$\text{Cu.Ft. Air per Lb. Evaporated} = \frac{387 \times 10^6 \times K}{\text{MW} \times \text{LEL}}$$

$$\text{Where } K = 4 \quad \text{LEL} = \text{ppm} = 8000$$

$$\text{Cu.Ft. per Lb. Solvent} = \frac{387 \times 10^6 \times 4}{106.16 \times 8000} = 1823$$

$$\text{SPRAY BOOTH LBS./MIN.} = .3655$$

$$.3655 \times 1823 = 666 \text{ CFM}$$

$$\text{FLASH-OFF HOOD LBS./MIN.} = .073$$

$$.073 \times 1823 = 133 \text{ CFM}$$

$$\text{BAKE OVEN LBS./MIN.} = .2925$$

$$.2925 \times 1823 = 533 \text{ CFM}$$

TOTAL CFM FOR EXPLOSION CONTROL:

$$666 + 133 + 533 = 1332 \text{ CFM}$$

USE HIGHER VALUE FOR SPRAY BOOTH

$$100 \text{ Ft./Min. } 2482 \text{ CFM or } 666 \text{ CFM}$$

TOTAL TO INCINERATOR:

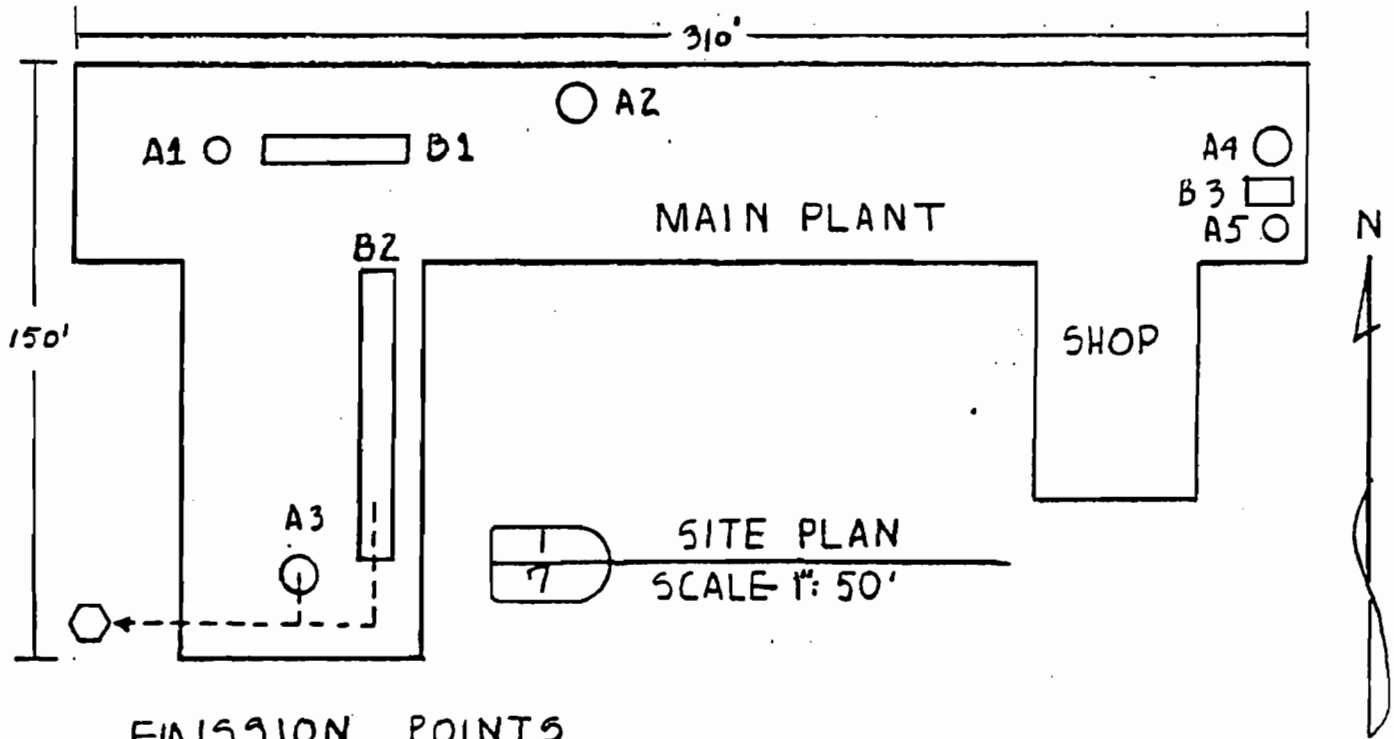
From Booth 2482

From Flash-Off Hood 133

From Oven 533

TOTAL 3148 CFM

EXHIBIT 6



EMISSION POINTS

"A" APPLICATION POINTS

1. TIGHT HEAD DRUM EXTERIOR PAINT BOOTH
2. OPEN HEAD DRUM EXTERIOR PAINT BOOTH
3. OPEN HEAD DRUM INTERIOR LINING BOOTH
4. OPEN HEAD COVERS EXTERIOR PAINT BOOTH
5. OPEN HEAD COVERS INTERIOR LINING BOOTH

"B" OVENS

1. TIGHT HEAD DRUM DRYING OVEN
2. OPEN HEAD DRUM LINING DRYING OVEN
3. OPEN COVER LINING DRYING OVEN

○ DENOTES PROPOSED INCINERATOR LOCATION

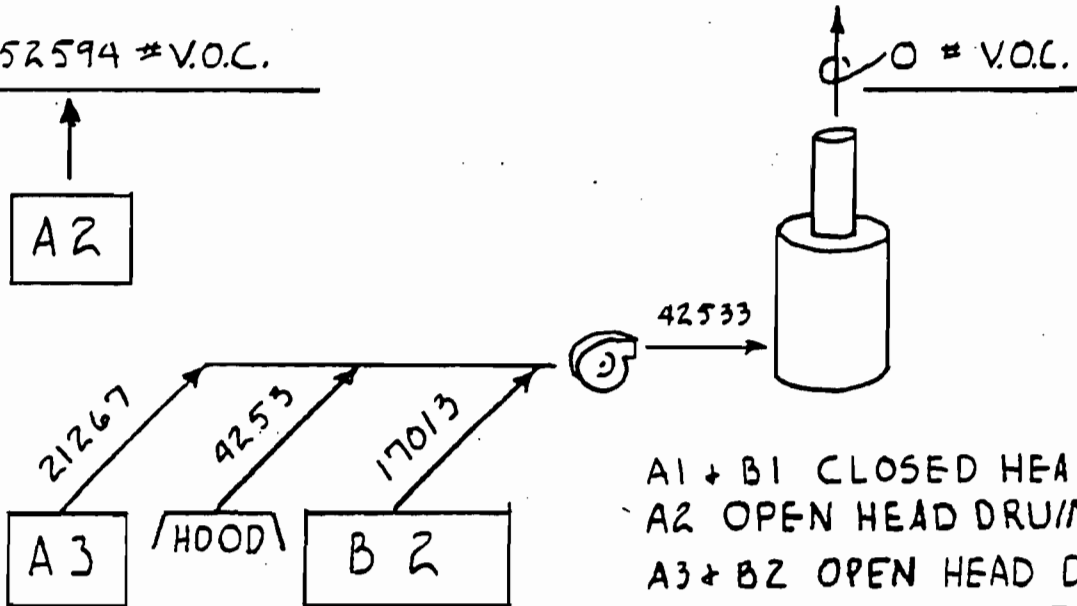
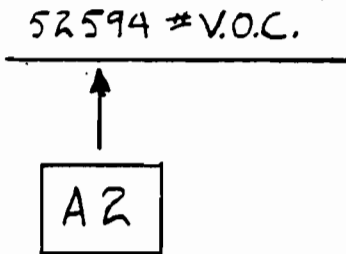
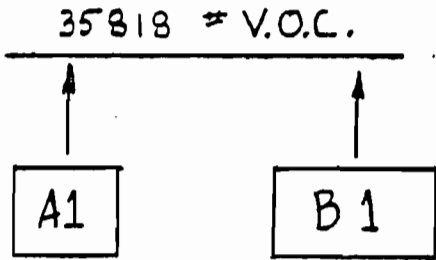
PLANT LAYOUT

SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLYWOOD, FLORIDA		
DES. JWS	DWN. NDS	110-7-
SCALE NOTED	DATE 6-15-84	VOC 1 DRAWING NO.

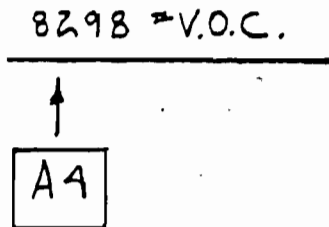
EXHIBIT 7

SCHEMATIC FLOW

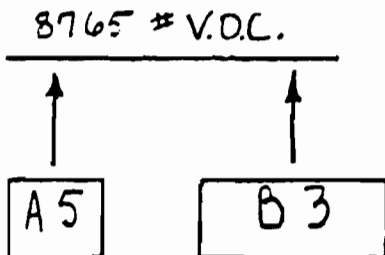
V.O.C. EMISSIONS
IN LBS/YEAR



- A1 + B1 CLOSED HEAD DRUMS (EXT.)
- A2 OPEN HEAD DRUMS (EXT.)
- A3 + B2 OPEN HEAD DRUMS (INT.)
- A4 OPEN HEAD LIDS (EXT.)
- A5 + B3 OPEN HEAD LIDS (INT.)



TOTAL GALLONS OF COATING 34099
 TOTAL LBS. VOC EMITTED 105500
 VOC EMISSION $\frac{105500}{34099}$ = 3.09 LBS/GAL.



SEABURY-BOTTORF ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA		
DRUM SERVICE CO. OF FLORIDA ZELLWOOD, FLORIDA		
DES. J.W.S.	DWN. N.D.S.	110-7-
SCALE	DATE 6-19-84	VOC 2 DRAWING NO.