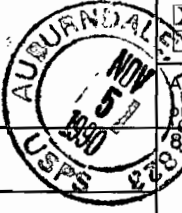


SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge)
 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Randy Guy, President Lakeland Drum Service 206 Neptune Rd. Auburndale, FL 33823	4. Article Number P 256 396 225
Type of Service: <input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input checked="" type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise	
Always obtain signature of addressee or agent and DATE DELIVERED.	
5. Signature — Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature — Agent X <i>Lina Withem</i>	
7. Date of Delivery	



PS Form 3811, Apr. 1989.

*U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

P 256 396 225
RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

*U.S.G.P.O. 1989-234-555

Sent to Mr. Randy Guy, Lakeland	
Street and No. Drum Service 206 Neptune Rd.	
P.O., State and ZIP Code Auburndale, FL 33823	
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 Mailed: 10-31-90 Permit: AC 53-187549	

PS Form 3800, June 1985



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

October 31, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Randy Guy, President
Lakeland Drum Service
206 Neptune Road
Auburndale, Florida 33823

Dear Mr. Guy:

Re: Drum Painting Operation (AC 53-187548)
Drum Reconditioning Furnace (AC 53-187549)

The Department has reviewed your applications for permits to construct a drum reconditioning furnace and a painting operation at the Lakeland Drum Service facility in Polk County, Florida. Before we can continue the processing of these applications, the following information needs to be submitted:

1. Is the Lakeland Drum Service facility a major facility (250 TPY or greater emissions of any pollutant) as specified in F.A.C. Rule 17-2.500(2)(d)?
2. Based on your proposal, a modification to a major facility that generates 138 TPY of VOC and 99.7 TPY of PM, your project may be reviewed under F.A.C. Rule 17-2.500, Prevention of Significant Deterioration. Please submit a list of all existing sources at your facility and the actual and allowable emissions for each source.

Drum Painting Operation (AC 53-187548)

3. On Page 1 - Source Description - You mentioned that empty drums are processed off-site in a drum furnace. Does this mean in a separate facility? How long has your drum refinishing facility been in operation?
4. Is your spray booth No. 1 used for open head drums? exterior or interior? Is spray booth No. 2 used for closed head drums? interior or exterior? Please submit a general description of your project.

Mr. Randy Guy
Page 2

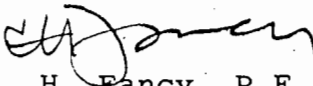
5. What will be the function of the 200 HP boiler (steam generator and/or afterburner)? Explain. Show the boiler's location in a flow diagram.
6. Calculate the acceptable ambient concentrations (AAC) for each of the hazardous ingredients listed in Section II of the material safety data sheets (MSDS) for this operation.
7. Is any baking ovens associated with this operation?

Drum Reconditioning Furnace (AC 53-187549)

8. Since there is a variety of residues that will be treated in this furnace, please specify each constituent (e.g., lead, toluene, cadmium, etc.) of the residue and its emissions during burning. Provide reasonable assurance that the burning of these residues will not pose a significant health risk (calculate AAC for each pollutant identified and the ambient air impact of the emissions).
9. What is the capture efficiency for this system?
10. What are the emissions of HCl?
11. Please provide information on how the ash is handled (measures taken to prevent the ash from becoming airborne).

If you have any questions on the data requested, please call Teresa Heron at 904-488-1344 or write to me at the above address.

Sincerely,


C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/TH/plm

c: Stephen L. Neck, P.E.

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 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 additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to: Mr. Randy Guy, President Lakeland Drum Service 206 Neptune Road Auburndale, FL 33823	4. Article Number P 407 852 630
	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 <input type="checkbox"/> Return Receipt for Merchandise
	Always obtain signature of addressee or agent and DATE DELIVERED
5. Signature - Addressee X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>Gina Wether</i>	
7. Date of Delivery <i>3/18/91</i>	

PS Form 3811, Apr. 1989

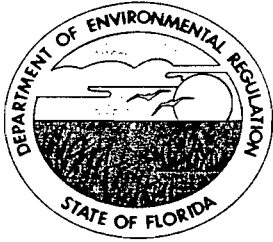
★ U.S.G.P.O. 1989-238-815

DOMESTIC RETURN RECEIPT

P 407 852 630
RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

105-0208

★ U.S.G.P.O. 1989-234-555 PS Form 3800, June 1985	Sent to Mr. Randy Guy, Lakeland Drum Service
	Street and No. 206 Neptune Rd.
	P.O., State and ZIP Code Auburndale, FL 33823
	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 Mailed: 3-18-91 Permit: AC 53-187548 AC 53-187549	



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

March 18, 1991

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Randy Guy, President
Lakeland Drum Service
206 Neptune Road
Auburndale, Florida 33823

Dear Mr. Guy:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permits to construct a Metal Drum Refinishing Operation and a Drum Reconditioning Furnace facilities to be located at the Lakeland Drum Service Complex.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Barry Andrews of the Bureau of Air Regulation.

Sincerely,

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/TH/kt

Attachments

c: Stephen L. Neck, P.E.
Bill Thomas, SW District
Bruno Ferraro

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Lakeland Drum Service
206 Neptune Road
Auburndale, FL 33823

DER File No. AC 53-187548
AC 53-187549

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue an air construction permit (copy attached) for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, Lakeland Drum Service, applied on November 19, 1990, to the Department of Environmental Regulation for a permit to construct a Drum Refinishing Operation and a Drum Reconditioning Furnace facilities. The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that an air construction permit is required for the proposed work.

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Intent to Issue Permit. The notice shall be published one time only within 30 days, in the legal ad section of a newspaper of general circulation in the area affected. For the purpose of this rule, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. The applicant shall provide proof of publication to the Department, at the address specified within seven days of publication. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S.

A person 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 contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition 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.

The Petition shall contain the following information;

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;

(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;

(d) A statement of the material facts disputed by Petitioner, if any;

(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;

(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and

(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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 notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application(s) have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office in General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such

person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

Copies furnished to:

Stephen L. Neck, P.E.
Bill Thomas, SW District
Bruno Ferraro

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 3-18-91.

FILING AND ACKNOWLEDGEMENT
FILED, on this date, pursuant to
§120.52(9), Florida Statutes, with
the designated Department Clerk,
receipt of which is hereby
acknowledged.

Ken Weber
Clerk

3-18-91
Date

State of Florida
Department of Environmental Regulation
Notice of Intent to Issue

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to Lakeland Drum Service to construct a Drum Refinishing Operation and a Drum Reconditioning Furnace facilities located at 206 Neptune Road, Auburndale, Polk County, Florida 33823. A determination of Best Available Control Technology (BACT) was required for the boiler. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

A person 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 contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition 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.

The Petition shall contain the following information:

- (a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
- (b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
- (c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
- (d) A statement of the material facts disputed by Petitioner, if any;
- (e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
- (f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
- (g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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 Notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of publication of this notice in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

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

Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Department of Environmental Regulation
Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347

Any person may send written comments on the proposed action to Mr. Barry Andrews at the Department's Tallahassee address. All comments mailed within 14 days of the publication of this notice will be considered in the Department's final determination.

Technical Evaluation
and
Preliminary Determination

Lakeland Drum Service
Auburndale, Polk County, Florida

Permit Numbers:

AC 53-187548
Metal Drum Refinishing Operation

AC 53-187549
Metal Drum Reconditioning Furnace

Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

March 18, 1991

SYNOPSIS OF APPLICATION

I. APPLICANT NAME AND ADDRESS

Lakeland Drum Service
206 Neptune Road
Auburndale, Florida 33823

II. REVIEWING AND PROCESS SCHEDULE

Date of Receipt of Application: October 2, 1990

30 Days Completeness Review: Department's letter dated October 31, 1990

Response to Incompleteness Letters: Company's letter received on December 20, 1990

Application Completeness Date: December 20, 1990

III. FACILITY INFORMATION

Lakeland Drum Service is classified as a major emitting facility for volatile organic compounds (VOC). The existing Drum Refinishing Operation facility volatile organic compounds (VOC) emissions and particulate matter emissions (PM) are approximately 138 and 1.6 tons per year respectively. The proposed addition of the Drum Reconditioning Furnace will increase PM emissions by 99 tons per year. The existing Drum Refinishing Operation will not increase emissions of any pollutant.

III.1 Facility Location

The proposed sources are located at 206 Neptune Road in Auburndale, Polk County, Florida. The UTM coordinates are Zone 17, 418.78 km East and 3103.58 km North.

III.2 Standard Industrial Classification Code (SIC)

This facility is classified as follows:

Major Group No. 34 - Fabricated Metal Products, Except Machinery and Transportation Equipment.

Industry Group No. 341 - Metal Cans and Shipping Containers.

Industry No. 3412 - Metal Shipping Barrels, Drums, Kegs, and Pails

IV. PROJECT DESCRIPTION

This project involves two different parts:

The first part consists of the permitting of an existing metal Drum Refinishing Operation (operating since January 14, 1973) which includes two automated paint spray booths, two lid spray booths, one metal ring dip tank, two wheelabrator shot blast machines with baghouse and one ABCO boiler.

The second part consists of the construction of a Drum Reconditioning Furnace. This furnace will be used to burn paint and residual materials from 55 gallon metal drums. This furnace will be equipped with an afterburner.

V. PROCESS DESCRIPTION

Metal Drum Refinishing Operation

The general description of this process is as follows:

Used empty drums are processed and cleaned in the drum furnace (this operation was conducted before at an off-site facility). These clean drums are then processed in a wheelabrator shotblast machine and dust is controlled by a baghouse.

After the blasting process, the interior and exteriors of the metal drums are painted in one of two automated "Binks" paint spray booths and air dried. Overspray is controlled by paint arrestor filters.

Drum lids are similarly processed in a shotblast machine. Dust is controlled by a wheelabrator baghouse. Clean lids are painted in one of two paint spray booths equipped with paint arrestor filters. These lids are air dried.

Drum rings are painted by dipping them in a dip tank then air dried. There is a stack associated with this dip tank.

A small 200 H.P. natural gas fired ABCO boiler is operated at this facility for steam and hot water production and is independent of other sources.

This facility operates the following sources of air pollution.

- o Automated paint spray booth Number 1 used for open head drums.
- o Automated paint spray booth Number 2 used for closed head drums.
- o Two paint spray booths for drum lids.
- o Metal ring dip tank.
- o Wheelabrator shotblast machine (for drums) with baghouse.
- o Wheelabrator shotblast machine (for lids) with baghouse.
- o ABCO 200 HP Boiler, 8.8 MMBtu/hr maximum heat input.

Metal Drum Reconditioning Furnace

A description of this facility's operation follows:

This furnace is equipped with a conveyor which automatically moves the metal drums through the furnace where paint and residual material is pyrolyzed. The smoke generated by this pyrolysis process is controlled by a thermal afterburner operated at a minimum of 1450°F.

Drums from a variety of sources will be treated in this furnace. The previous contents (and hence the residue remaining in the drum) includes citrus and food products (a significant portion of Lakeland Drum's reconditioning service), paints, varnishes, other coatings, solvents, oils, hydraulic fluid, other chemical products (i.e., cleaning products and janitorial supplies). All drums must be empty as defined by 60 CFR (less than one (1) inch of residue remaining in the drum) and must also meet the EPA definition of empty before they are accepted by Lakeland Drum Service. Drums which are not empty by this definition must be retrieved and returned to the customer's facility.

Drums which contained solvents are usually empty and contain no liquid residue since the contents have already evaporated. Other drums which contained paint or coatings may have some liquid, but usually contain dried on residue. Drums which contained oil or hydraulic fluid, will contain some liquid residue since these oils do not evaporate. Drums used for aqueous cleaning products will also contain some liquid residue.

VI. RULE APPLICABILITY

The proposed project is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Chapters 17-2 and 17-4.

The existing facility is a major emitting facility for the pollutant VOC (138 tons/year) in accordance with F.A.C. Rule 17-2.100(115). VOC are considered precursors to ozone.

The existing facility is located in Polk County, an area designated attainment for all criteria pollutants pursuant to F.A.C. Rule 17-2.420.

This facility is exempt from review under F.A.C. Rule 17-2.500, Prevention of Significant Deterioration because the potential emissions for any pollutant at this facility are under 250 tons per year.

These sources will be reviewed under F.A.C. Rule 17-2.520 Sources not Subject to Prevention of Significant Deterioration or Nonattainment Requirements.

These sources shall comply with F.A.C. Rule 17-2.600(1) and (2) Specific Emission Limiting and Performance Standards, F.A.C., Rule 17-2.620(1) and (2), General Pollutant Emission Limiting Standard and with applicable provisions of F.A.C. Rule 17-2.700, Stationary Point Source Emission Test Procedures.

VII. EMISSION IMPACT ANALYSIS

VII.1 Emission Limitations

The operation of the proposed sources will produce emissions of criteria and noncriteria pollutants. Table I and Table II will reflect a summary of emissions for the existing facility (drum refinishing operation). Table II shows the proposed emissions from the proposed modification (drum reconditioning furnace).

Table I
EXISTING FACILITY
Particulate Emission Summary

<u>Source</u>	<u>lbs/hr</u>	<u>tons/yr</u>
<u>Drum Refinishing Operation Facility</u>		
Automated Paint Booth No. 1	0.13	0.16
Automated Paint Booth No. 2	0.13	0.16
Lid Paint Booth No. 1	0.02	0.03
Lid Paint Booth No. 2	0.02	0.03
Wheelabrator for Drums	0.73	0.90
Wheelabrator for Lids	0.48	0.60
Boiler	0.04	0.05
Total	1.55	1.93

VOC Emission Summary

<u>Source</u>	<u>lbs/hr</u>	<u>tons/yr</u>
<u>Drum Refinishing Operation Facility</u>		
Automated Paint Booth No. 1	42.8	53.4
Automated Paint Booth No. 2	42.8	53.4
Lid Paint Booth No. 1	8.5	10.6
Lid Paint Booth No. 2	6.6	8.3
Ring Dip	6.1	7.6
Thinner	3.5	4.4
Boiler	0.05	0.06
Total	110.35	137.76

Table II
PROPOSED MODIFICATION
Summary of Emissions

<u>Source</u>	<u>Pollutant</u>	
	<u>lb/hr</u>	<u>ton/yr</u>
Drum Reconditioning Furnace Facility	PM	80 99
	VOC	1.0 1.3
	SO ₂	0.01 0.01
	NO _x	0.8 1.0
	CO	0.16 0.2

Table III

Acceptable Ambient Concentrations (AAC)
Drum Refinishing Operation (ug/m³)

Source	VM&P		Stoddard		Aliphatic
	Naphtha	Toluene	Solvent	Hydrocarbons	Xylene
Drum Booth	8050	802.7	1770	1445	N/A
Lid Booth	700.9	51.68	114.0	9292.76	N/A
Ring Dip	916.2	N/A	91.62	N/A	916.3
Total	9667.1	854.38	1975.62	1537.76	916.3
FDER No threat level	27,000 (8-hr)	2,000 (annual)	5,250 (8-hr)	N/A	4,350 (8-hr)

Table IV
Acceptable Ambient Concentrations (AAC)
Drum Reconditioning Furnace

Contaminant	Measured Emission		FDER
	Rate	lbs/hr	8-hr-no-threat Level ug/m ³
Vinyl Chloride	<0.0011		100
Benzene	<0.0014		30
Toluene	0.0096		2000 (annual)
Methylene Chloride	0.091		1750
Chloroform	<0.00045		98
1,1,1,-Trichloromethane	0.0090		38000
Carbon Tetrachloride	0.00010		126
Trichloroethylene	<0.00029		2700
Perchloroethylene	0.0034		3350

VII.2 Air Toxics Information

The operation of these sources will produce emissions of volatile organic compounds that may be toxic in high concentrations. The emission rates of these chemicals (as listed in the MSDS and the additional information submitted with the application) shall not create ambient concentrations greater than the acceptable ambient concentrations (AAC) shown in Table III and Table IV. Dispersion modeling presented showed all AAC below the FDER no threat values. Determination of the AAC for these chemical organic compounds shall be determined by Department approved dispersion modeling or ambient air monitoring.

$$\text{AAC} = \frac{(\text{OEL})}{\text{safety factor}}$$

where,

AAC = acceptable ambient concentration

Safety Factor = 50 for category B substances (8 hrs/day)
100 for category A substances (8 hrs/day)
210 for category B substances (24 hrs/day)
420 for category A substances (24 hrs/day)

OEL = Occupational exposure level such as ACGIH, OSHA, and NIOSH published standards for toxic materials.

MSDS = Material Safety Data Sheets

ACGIH = American Conference of Governmental Industrial Hygienists.

OSHA = Occupational Safety and Health Administration.

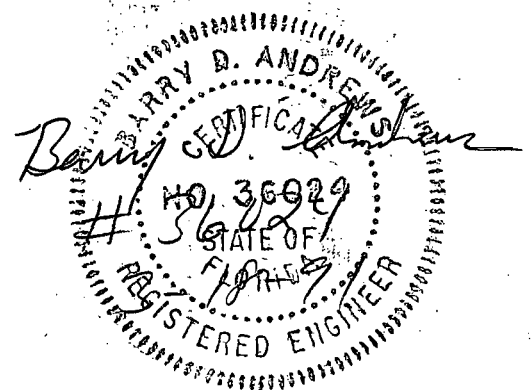
NIOSH = National Institute for Occupational Safety and Health.

VII.3 Air Quality Analyses

From a technical review of the application, the Department has determined that the construction and operation of these sources will not have a detrimental impact on Florida's ambient air quality.

VII. CONCLUSION

Based on the information provided by Lakeland Drum Service, the Department has reasonable assurance that the proposed modification of the proposed projects, as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other technical provision of Chapter 17-2 of the Florida Administrative Code.



Best Available Control Technology (BACT) Determination
Lakeland Drum Service
Polk County

The applicant plans to install and operate a small 200 hp natural gas fired ABCO boiler for steam and hot water production in a drum reconditioning operation. The boiler is scheduled to operate 2,960 hrs/year.

BACT Determination Requested by the Applicant:

The applicant has requested that natural gas be used as the fuel.

BACT Determination by DER:

The amount of particulate and sulfur dioxide emissions shall be limited by the firing of natural gas.

BACT Determination Rationale:

The firing of natural gas is considered BACT for the boiler.

Details of Analysis may be Obtained by:

Preston Lewis, P.E., BACT Coordinator
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

Approved by:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

Steve Smallwood, P.E., Director
Division of Air Resources Mgmt.



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

PERMITTEE:
Lakeland Drum Service
206 Neptune Road
Auburndale, Florida 33823

Permit Number: AC 53-187548
Expiration Date: Oct. 30, 1991
County: Polk
Latitude/Longitude: 28°03'24"N
81°49'35"W

Project: Drum Refinishing
Operation

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of a Drum Painting Operation to be located at the facility's complex in Auburndale, Polk County, Florida. The UTM coordinates of this site are Zone 17, 418.78 km E and 3103.58 km N.

The source shall be constructed in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. Application to Operate/Construct Air Pollution Sources, DER Form 17-1.202(1).
2. Department's letter dated October 31, 1990.
3. Company's letter dated December 6, 1990.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.
2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.
3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.
4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.
5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement,

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Drum Refinishing Operation Facility

1. Total volatile organic compounds and organic solvents emission levels from the whole facility shall not exceed 138 tons per year.
2. Volatile organic compounds and organic solvents emissions from this facility shall not exceed the following amounts:

<u>Source</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Automated Paint Booth No. 1	42.8	53.4
Automated Paint Booth No. 2	42.8	53.4
Lid Paint Booth No. 1	8.5	10.6
Lid Paint Booth No. 2	6.6	8.3
Ring Dip	6.1	7.6
Thinner	3.5	4.4
Boiler	0.05	0.06

The VOC content for the coatings used shall not exceed:
Red Drum Liner - 4.6 lb/gal coating less water
Black Drum Enamel - 4.3 lb/gal coating less water
Aluminum Enamel - 5.07 lb/gal coating less water

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

3. Total particulate emissions from this facility shall not exceed the following values:

<u>Source</u>	<u>lbs/hr</u>	<u>tons/yr</u>
Automated Paint Booth No. 1	0.13	0.16
Automated Paint Booth No. 2	0.13	0.16
Lid Paint Booth No. 1	0.02	0.03
Lid Paint Booth No. 2	0.02	0.03
Wheelabrator for Drums	0.73	0.90
Wheelabrator for Lids	0.48	0.60
Boiler	0.04	0.05

4. Visible emissions from this facility shall not exceed 20% opacity.

5. Unless the Department determines other concentrations are required to protect public health and safety, the predicted ambient air concentration of any pollutant (listed in the MSDS submitted with the application) shall not exceed the concentration calculated by the following formula:

$$AAC = \frac{(OEL)}{\text{safety factor}}$$

where,

AAC = acceptable ambient concentration

Safety Factor = 50 for category B substances (8 hrs/day)
100 for category A substances (8 hrs/day)
210 for category B substances (24 hrs/day)
420 for category A substances (24 hrs/day)

OEL = Occupational exposure level such as ACGIH, OSHA, and NIOSH published standards for toxic materials.

Operating Limits

6. The permitted materials and utilization rates are as stated in the application. These parameters shall include but are not limited to:

Maximum paint usage shall not exceed 60,000 gals/year.
Maximum natural gas consumption shall not exceed 8,365 ft³/hr.

Minimum particulate matter removal; 98% efficiency.
Maximum quantity of drums processed: 325 drums/hr and 325 lids/hr.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187548
Expiration Date: October 30, 1991

Any other parameter established during compliance testing and/or inspection that will confirm the proper operation of this facility shall be included in the operating permit.

7. This source shall not operate more than 8 hrs/day, 6 days/week and 52 weeks/year.

Compliance Determination

VOC Compliance

8. The permittee or the coatings manufacturer shall determine the VOC content of each coating using EPA Method 24 or 24A contained in 40 CFR 60, Appendix A and adopted by reference in F.A.C. Rule 17-2.700. The enclosed Appendix A (EPA 450/3-84-019), if properly completed for each affected coating may be submitted in lieu of the Method 24 or 24A tests. New coatings or the same coatings supplied by a different manufacturer shall be tested for VOC content using EPA Method 24 and 24A or the above mentioned Appendix B prior use in initial production. Each coating shall be tested after each is diluted with the maximum amount of solvent used by the permittee for production. The use of a different coating (not included in the application) requires prior written notification. Notification shall be provided to the Southwest District office and shall include EPA Method 24 test results. Testing procedures shall be consistent with the requirements of F.A.C. Rule 17-2.700.

9. The permittee shall maintain a record of the clean up solvents used and the waste solvents hauled off site on a quarterly basis. A composite sample of the solvent in the waste shall be established once per quarter using EPA Method 24 or 24A.

10. The permittee shall maintain accurate recordkeeping of all paints and solvents in operation at each spray booth for a least a two year period.

11. The paint spray booths shall not be operated unless the exhaust fan and abatement equipment are functioning properly.

12. Compliance with the VE standard shall be determined by EPA Method 9. Determination of the Opacity of Emissions from Stationary Sources, which is described in 40 CFR 60, Appendix A, July 1, 1990, and adopted by reference in F.A.C. Rule 17-2.700. Test results will be the average of 3 valid runs. This facility shall operate between 90% and 100% of permitted capacity.

Best Available Copy

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

EE:
1 Drum Service
Cune Road
Auburndale, Florida 33823

Permit Number: AC 53-187549
Expiration Date: Oct. 30, 1991
County: Polk
Latitude/Longitude: 28°03'24"N
81°49'35"W

Project: Drum Reconditioning
Furnace

Permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. Above named permittee is hereby authorized to perform the work to operate the facility shown on the application and approved plans, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as

the construction of a Drum Reconditioning Furnace to be located at the facility's complex in Auburndale, Polk County, Florida. The coordinates of this site are Zone 17, 418.78 km E and 3103.58 km N.

The furnace shall be constructed in accordance with the permit conditions, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

References are listed below:

- Application to Operate/Construct Air Pollution Sources, DER Form 1.202(1).
- Department's letter dated October 31, 1990.
- Company's letter dated December 6, 1990.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

- a. Have access to and copy any records that must be kept under the conditions of the permit;
- b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

- a. a description of and cause of non-compliance; and
- b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement,

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

GENERAL CONDITIONS:

report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

Drum Reconditioning Furnace Facility

1. Emission Limits

Particulate matter (PM) standard at this facility shall not exceed 0.03 gr/dscf (6.9 lbs/hr) or no visible emissions (5% opacity except tht visible emissions not exceeding 20% opacity are allowed for up to three minutes in any one hour.

2. Unless the Department determines other concentrations are required to protect public health and safety, the predicted ambient air concentration of any pollutant (as listed in the additional information submitted with the application) shall not exceed the concentrations calculated by the following formula:

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

$$AAC = \frac{(OEL)}{\text{safety factor}}$$

where,

AAC = acceptable ambient concentration

Safety Factor = 50 for category B substances (8 hrs/day)
100 for category A substances (8 hrs/day)
210 for category B substances (24 hrs/day)
420 for category A substances (24 hrs/day)

OEL = Occupational exposure level such as ACGIH, OSHA,
and NIOSH published standards for toxic materials.

3. Volatile organic compounds (VOC) emissions shall not exceed 1.0 lb/hr and 1.3 ton/year.

Operating Limits

4. The permitted parameters and utilization rates are as stated in the application. These parameters shall include but are not limited to:

Design Capacity: 400 drum/hr each containing a maximum of 4 lbs/residue drum.
Waste Incinerated: 1600 lbs residue/hr
Minimum destruction efficiency: 95%
Type of Waste: Citrus beverages and syrup, honey residues, dried coating (paints and varnishes) and adhesives
Capture efficiency: 100%
Minimum residence time: 1 second
This facility is allowed to burn natural gas only.

Any other parameters established during compliance testing and/or inspection that will confirm the proper operation of this facility shall be included in the operation permit.

5. This facility is allowed to operate 8 hours/day, 6 day week and 52 weeks/year or 2496 hours/year.

Compliance Determination

6. Compliance with the PM and VE shall be determined by the following reference methods as described in 40 CFR 60, Appendix A (July 1, 1990) and adopted by reference in F.A.C. Rule 17-2.700.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

- Method 1 - Sample and Velocity Traverses for Stationary Sources.
- Method 2 - Volumetric Flow Rate and Stack Gas Velocity.
- Method 3 - Gas Analysis
- Method 5 - Determination of the Particulate Matter Emissions from Stationary Sources
- Method 9 - Determination of the Opacity of the Emissions from Stationary Sources

Test results will be the average of 3 valid runs. This facility shall operate between 90% and 100% of permitted capacity during compliance tests. Initial compliance with the PM standard shall be determined by Method 5. Thereafter, compliance with the PM standard can be determined by EPA Method 9.

7. The permittee shall maintain a record keeping of the waste burned at this incinerator for at least a two year period.

8. Compliance with the acceptable ambient concentrations (AAC) for the chemical compound (products of drum residue burning) shall be demonstrated based on calculation certified by a Professional Engineer registered in Florida using actual operating conditions. Determination of the ambient concentrations for these chemical compounds shall be determined by Department approved dispersion modeling. AAC calculations shall be made available upon request.

9. The permittee shall notify the Southwest District office in writing at least 30 days prior to any testing. The period prior to testing shall not exceed 180 days after construction is completed. Compliance test results shall be submitted to the Southwest District office no later than 45 days after the final test run.

10. When the Department, after investigation, has good reason (such as odor complaints, increased visible emissions, etc.) to believe that any applicable emission standard contained in F.A.C., Chapter 17-2, or in this permit is being violated, it may require the owner or operator of the facility to conduct compliance tests which identify the nature and quantity of air pollutant emissions from this facility and to provide a report on the results of said tests to the Department.

PERMITTEE:
Lakeland Drum Service

Permit Number: AC 53-187549
Expiration Date: October 30, 1991

Rule Requirements

11. This facility shall comply with all applicable provisions of Chapter 403, Florida Statutes and Chapters 17-2 and 17-4, Florida Administrative Code.

12. Issuance of this permit does not relieve the facility owner or operator from compliance with any applicable federal, state, or local permitting requirements and regulations (F.A.C. Rule 17-2.210(1)).

13. This facility is subject to F.A.C. Rule 17-2.600(1) and (2), Specific Emission Limiting and Performance Standards, F.A.C. Rule 17-2.620(1) and (2), General Pollutant Emission Limiting Standard and with applicable provisions of F.A.C. Rule 17-2.700, Stationary Point Source Emission Test Procedures.

Pursuant to F.A.C. Rule 17-2.210(2), Air Operating Permits, the permittee is required to submit annual compliance test reports on the actual operating rates and emissions from this facility. These reports shall include but are not limited to the following: hours of operation, stack test results, air emissions limits, etc. Annual reports shall be sent to the Department's Southwest District office.

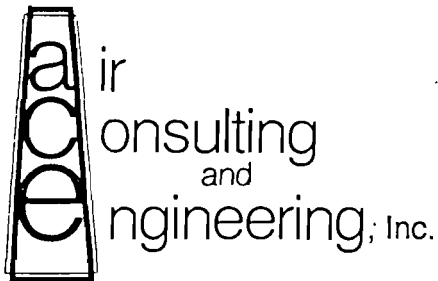
14. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. Rule 17-4.090).

15. An application for an operation permit must be submitted to the Southwest District office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. Rule 17-4.220).

Issued this _____ day
of _____, 1991

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

STEVE SMALLWOOD, P.E., Director
Division of Air Resources
Management



December 6, 1990

Mr. C.H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400

RECEIVED

DEC 20 1990

DER-BAQM

Re: Lakeland Drum Service
Drum Painting Operation (AC53-187548)
Drum Reconditioning Furnace (AC53-187549)

Dear Mr. Fancy,

We have prepared the following in response to your October 31, 1990 request for additional information.

Item 1

As referenced in the construction permit application for the drum painting operation (AC53-187548), this facility emits 138 TPY of VOC and is not a major facility (250 TPY or greater emissions of any pollutant) as specified in F.A.C. Rule 17-2.500(2)(d).

Item 2

Currently, those sources listed in application number AC53-187548 are all of the existing sources located at this facility. The actual and allowable emissions are also specified in this application and are summarized in attachment 1.

Based on our review of the rules we do not feel that F.A.C. Rule 17-2.500 applies to this facility because emissions are 138 TPY VOC and it is not a category listed in Table 500-1.

DRUM PAINTING OPERATION (AC53-187548)

Item 3

Currently, Lakeland Drum Service has a separate contractor process their drums at an independent facility. Lakeland Drum Services does not currently own or operate a drum furnace.

The sources referenced in attachment 1 are the only sources currently in operation at this facility. This refinishing facility has been in operation at this location since January 14, 1973.

Item 4

A detailed source description of the project was submitted with the construction application. This description may have appeared oversimplified to the reviewer but this is the extent of the process. Spray booth No.1 paints both interiors and exteriors of open head drums. Spray booth No.2 paints both interiors and exteriors of closed head drums.

The general description of this process is as follows:

Used empty drums are currently processed off-site (by another company) in a drum furnace. These clean drums are then processed on-site in a wheelabrator shotblast machine and dust is controlled by a baghouse.

After the blasting process, the interior and exteriors of the metal drums are painted in one of two automated "Binks" paint spray booths and air dried. Overspray is controlled by paint arrestor filters.

Drum lids are similarly processed in a shotblast machine. Dust is controlled by a wheelabrator baghouse. Clean lids are painted in one of two paint spray booths equipped with paint arrestor filters. These lids are air dried.

Drums rings are painted by dipping them in a dip tank then air dried. There is a stack associated with this dip tank.

A small 200 H.P. natural gas fired ABCO boiler is operated at this facility for steam and hot water production.

Item 5

The boiler generates steam and hot water only, is independant of other sources, and has nothing to do with an afterburner. The location of the boiler is identified on the attached plot plan referenced as supplement 8. The hot water is used to clean

certain drums and is not related to the painting operation or any other air pollution source.

Item 6

As discussed with Ms. Teresa Heron of your staff, the worst case hazardous ingredients were modeled using the SCREEN model and the results are summarized below. Since the drum booths are located immediately adjacent to each other, we used a worst case scenario by modeling the total emissions as if they were vented by a single stack.

Drum Booths Nos. 1 and 2

Drum Enamel = (96.5 lbs/hr/booth)(2 booths)
= 193 lbs/hr of drum enamel used

VM & P Naphtha = 20-50% by weight
(193 lbs/hr)(0.5) = 96.5 lbs/hr of VM & P Naphtha

Toluene = 1-5% by weight
(193 lbs/hr)(0.05) = 9.65 lbs/hr of Toluene

Stoddard Solvent = 5-20% by weight
(193 lbs/hr)(0.2) = 38.6 lbs/hr of Stoddard Solvent

Red Drum Liner = (78.8 lbs/hr/booth)(2 booths)
= 157.6 lbs/hr of Red Drum liner used

VM & P Naphtha = 20-50% by weight
(157.6 lbs/hr)(0.5) = 78.8 lbs/hr of Naphtha

Toluene = 1-5% by weight
(157.6 lbs/hr)(0.05) = 7.88 lbs/hr Toluene

Aliphatic Hydrocarbons = 5-20% by weight
(157.6 lbs/hr)(0.2) = 31.5 lbs/hr Aliphatic Hydrocarbons

Summary of Hazardous Ingredients
from Drum Booths Numbers 1 and 2

<u>Ingredient</u>	<u>Max Emissions lbs/hr</u>
VM & P Naphtha	175.3
Toluene	17.5
Stoddard Solvent	38.6
Aliphatic Hydrocarbon	31.5

Lid Paint Booths Nos. 1 and 2

Drum Enamel = 14.5 lbs/hr usage

VM & P Naphtha = 20-50% by weight
 $(14.5 \text{ lbs/hr})(0.5) = 7.25 \text{ lbs/hr of VM \& P Naphtha}$

Toluene = 1-5% by weight
 $(14.5 \text{ lbs/hr})(0.05) = 0.725 \text{ lbs/hr of Toluene}$

Stoddard Solvent = 5-20% by weight
 $(14.5 \text{ lbs/hr})(0.2) = 2.9 \text{ lbs/hr of Stoddard Solvent}$

Red Drum Liner = 11.8 lbs/hr usage

VM & P Naphtha = 20-50% by weight
 $(11.8 \text{ lbs/hr})(0.5) = 5.9 \text{ lbs/hr of VM \& P Naphtha}$

Toluene = 1-5% by weight
 $(11.8 \text{ lbs/hr})(0.05) = 0.59 \text{ lbs/hr Toluene}$

Aliphatic Hydrocarbons = 5-20% by weight
 $(11.8 \text{ lbs/hr})(0.2) = 2.36 \text{ lbs/hr of Aliphatic Hydrocarbons}$

**Summary of Hazardous Ingredients
from Lid Paint Booths Nos. 1 and 2**

<u>Ingredient</u>	<u>Max Emissions lbs/hr</u>
VM & P Naphtha	13.15
Toluene	1.315
Stoddard Solvent	2.9
Aliphatic Hydrocarbon	2.36

Ring Dip

Aluminum Enamel = 8.83 lbs/hr

Xylene = 20-50% by weight
 $(8.83 \text{ lbs/hr})(0.5) = 4.415 \text{ lbs/hr of Xylene}$

Aluminum Flake = 5-20% by weight
 N/A - This paint is dipped not sprayed - no particulates

Stoddard Solvent = 1-5%
 $(8.83 \text{ lbs/hr})(0.05) = 0.4415 \text{ lbs/hr of Stoddard Solvent}$

VM & P Naphtha = 20-50%
 $(8.83 \text{ lbs/hr})(0.5) = 4.415 \text{ lbs/hr of VM & P Naphtha}$

Summary of Acceptable Ambient Concentrations ug/m³

<u>Source</u>	<u>VM & P Naphtha</u>	<u>Toluene</u>	<u>Stoddard Solvent</u>	<u>Aliphatic Hydrocarbons</u>	<u>Xylene</u>
Drum Booth	8050	802.7	1770	1445	N/A
Lid Booth	700.9	51.68	114.0	92.76	N/A
Ring Dip	916.2	N/A	91.62	N/A	916.3
TOTAL	9667.1	854.38	1975.62	1537.76	916.3
FDER NO. threat level	27,000	2,000	5,250	N/A	4,350

The attached modeling results demonstrates the facility to be well in compliance with the FDER 8-hour AAC for each of the toxic components listed on the MSDS included in the construction application.

The stack geometry for the "Ring Dip" was omitted from the construction application and is as follows:

Stack Height = 18 feet	Stack Temperature = 85°F
Stack Diameter = 1 foot	Stack Moisture = 1° (ambient)
ACFM = 2000	Stack Velocity = 42 FPS
DSCFM = 1900	

Item 7

There is no baking oven associated with this operation.

DRUM RECONDITIONING FURNACE (AC53-187549)

Item 8

Included in Appendix B of the referenced application is a detailed source test report for an identical drum reconditioning furnace located in California. This report was selected because California's air toxic rules closely parallel those of Florida.

It is nearly impossible to accurately predict all possible constituents that would be present in the drum residues. A significant portion of Lakeland Drum's reconditioning service is on citrus and other beverage related drums containing non-toxic components. The remainder of drums will contain dried coatings (paints and varnishes), adhesives (occasionally), syrup, honey, and grease.

All drums must meet the EPA definition of empty before they are accepted by Lakeland Drum Service.

The referenced stack test report contains information regarding hydrochloric acid emissions and several toxic organics calculated in pounds per hour. These are listed below and can be found on page 18 of the previously submitted stack test report:

<u>Contaminant</u>	<u>Measured Emission Rate lbs/hr</u>	<u>FDER 8hr-No-Threat Level ug/m³</u>
Vinyl Chloride	<0.0011	100
Benzene	<0.0014	30
Toluene	0.0096	2000
Methylene Chloride	0.091	1750
Chloroform	<0.00045	98
1,1,1-Trichloromethane	0.0090	38000
Carbon Tetrachloride	0.00010	126
Trichloroethylene	<0.00029	2700
Perchloroethylene	0.0034	3350

The maximum VOC emission rate referenced in the construction application is 1.0 lbs/hr. This was modeled resulting in a maximum concentration of 7.155 ug/m³ which is well in compliance with the above referenced AAC's. The model is attached to this letter.

Item 9

The proposed drum furnace has a capture efficiency of 100% and is considered totally enclosed based on its design. The furnace, where the drums are heated and cooled, is under negative pressure and all of the combustion products are controlled by the afterburner.

Item 10

The referenced stack test (see Appendix B, Page 3 of construction application) shows hydrochloride acid emissions to be less than 0.789 ppm from a typical furnace. Plastic will not be processed in this furnace.

Item 11

The ash that results from this process is a black granular charcoal type material that is denser than a typical flyash. The process works on a low pyrolysis technology which does not completely oxidize the drum residues. Instead, the residues "char" producing a heavier ash. This ash will be collected and stored in drums, sealed and disposed of in accordance with F.A.C. 17-702.

The ash will be managed in such a manner as to confine it and prevent it from becoming airborne.

If you have any questions regarding Lakeland Drum Service, please call me at (904) 335-1889 or Bruno Ferraro at (407) 298-2282.

Respectfully,

Air Consulting & Engineering,

Stephen L. Neck

Stephen L. Neck, P.E.

cc: Randy Guy
Bruno Ferraro, C.E.P.

SN;ts

03-087.00

Lkdrum/Air/120690

cc: J. Peron
B. Thomas, SW Dist
C. Halladay

ATTACHMENT 1

**Summary of Existing Sources
and
Total Facility Wide Emissions**

ATTACHMENT 1

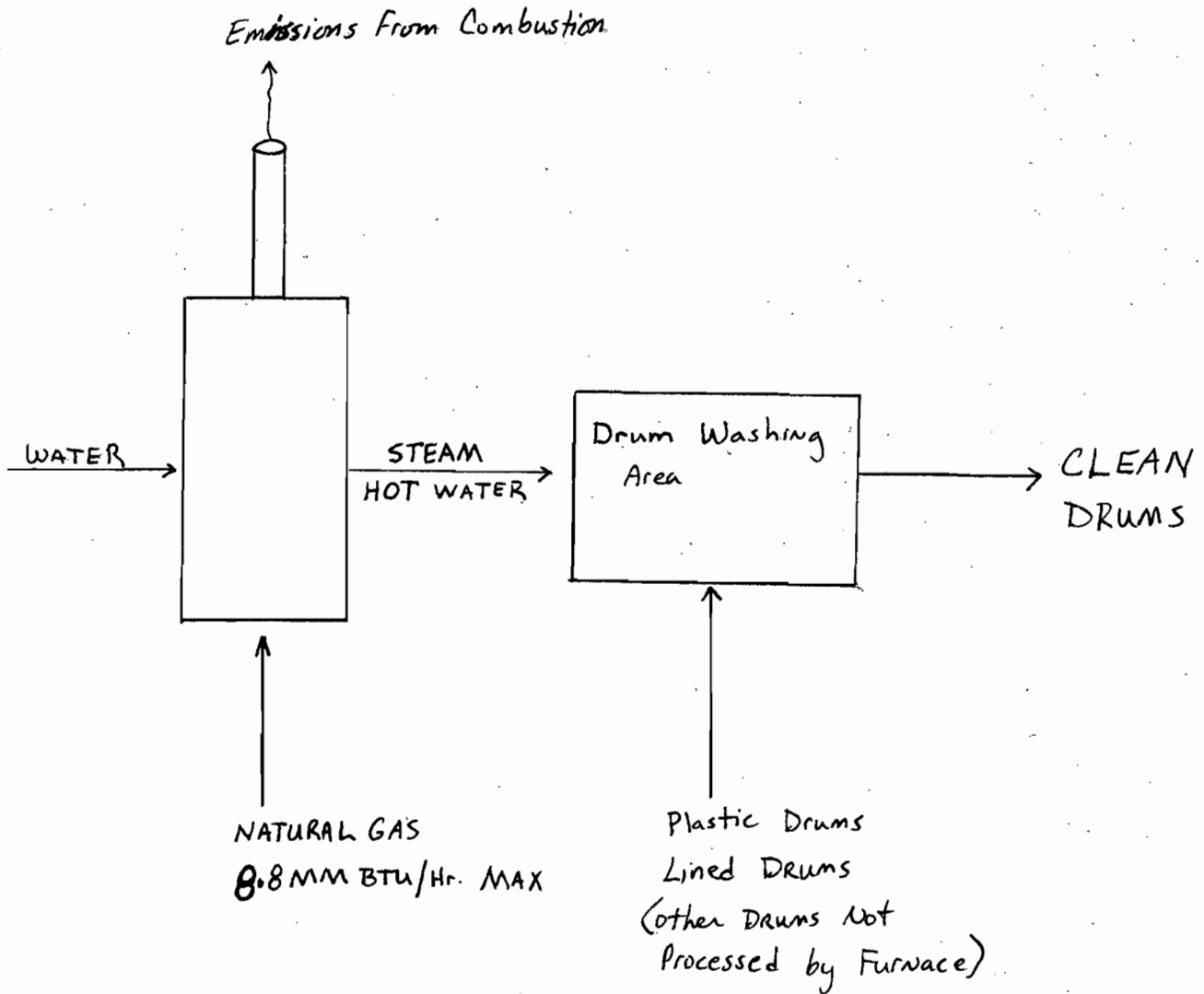
PARTICULATE EMISSION SUMMARY TABLE				
Source	lbs/hr	Tons/yr	Allowable	Per 17-2
Automated Paint Booth No. 1	0.13	0.16	20% opacity	610(2)(a)
Automated Paint Booth No. 2	0.13	0.16	20% opacity	610(2)(a)
Lid Paint Booth No. 1	0.024	0.030	20% opacity	610(2)(a)
Lid Paint Booth No. 2	0.02	0.026	20% opacity	610(2)(a)
Wheelabrator for Drums	0.725	0.90	20% opacity	610(2)(a)
Wheelabrator for Lids	0.48	0.60	20% opacity	610(2)(a)
Boiler	<u>0.042</u>	<u>0.052</u>	20% opacity	600(6)(a)
Total	1.551	1.928		

VOC EMISSION SUMMARY TABLE				
Source	lbs/hr	Tons/yr	Allowable	Per 17-2
Automated Paint Booth No. 1	42.77	53.38	53.38	620 (1)&(2)
Automated Paint Booth No. 2	42.77	53.38	53.38	620 (1)&(2)
Lid Paint Booth No. 1	8.47	10.57	10.57	620 (1)&(2)
Lid Paint Booth No. 2	6.63	8.28	8.28	620 (1)&(2)
Ring Dip	6.09	7.60	7.60	620 (1)&(2)
Thinner	3.53	4.4	4.4	620 (1)&(2)
Boiler	<u>0.045</u>	<u>0.056</u>	<u>0.056</u>	600 (6) (a)
Total	110.305	137.666	137.666	

ATTACHMENT 2

**Plot Plan Showing Boiler Location
and
Flow Diagram of Boiler Operation**

SUBJECT: Lakeland Drum Company
Boiler Flow Diagram



LAKELAND DRUM SERVICE

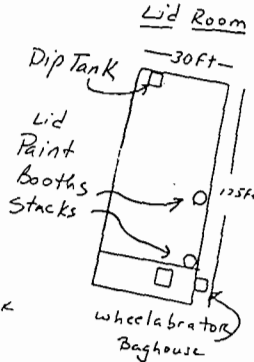
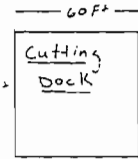
PLOT PLAN

SEABOARD COAST LINE

STORAGE

DRUM STORAGE

DRUM STORAGE

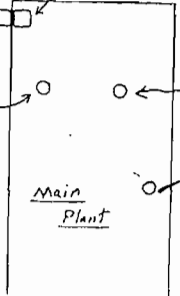


wheelabrator Shotblast Baghouse

Proposed Furnace Location

Drum Paint Booth No. 1 (stack)

Drum Paint Booth No. 2 (stack)



Boiler 200 H.P. ABCO

Break Room

Office

Maintenance Shop

Drainage Ditch

Drainage DITCH

Entrance Gate

FENCE

Fenced Property Line

Not to Scale

ATTACHMENT 3

**Screen Model Results
from
Painting Operation**

Lakeland Drum	12-03-90	Drum Booth	VMP Naphtha
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	175.3 LB/HR	0.125997	22.08727 G/S
STACK HEIGHT	24 FT	0.3048	7.3152 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	13000 ACFM	0.000472	6.136 CUBIC M/S
VELOCITY *****	4140 FPM	0.00508	21.0312 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	20 FT	0.3048	6.096 M
BLD WIDTH	100 FT	0.3048	30.48 M
BLD DEPTH	250 FT	0.3048	76.2 M
CONC.****	2.25E-04 LB/CF	1.2E+08	2.70E+04 UG/M3

Lakeland Drum	12-03-90	Drum Booth	Toluene
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	17.5 LB/HR	0.125997	2.204947 G/S
STACK HEIGHT	24 FT	0.3048	7.3152 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	13000 ACFM	0.000472	6.136 CUBIC M/S
VELOCITY *****	4140 FPM	0.00508	21.0312 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	20 FT	0.3048	6.096 M
BLD WIDTH	100 FT	0.3048	30.48 M
BLD DEPTH	250 FT	0.3048	76.2 M
CONC.****	2.24E-05 LB/CF	89142857	2.00E+03 UG/M3

Lakeland Drum	12-03-90	Drum Booth	Stoddard Solvent
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	38.6 LB/HR	0.125997	4.863484 G/S
STACK HEIGHT	24 FT	0.3048	7.3152 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	13000 ACFM	0.000472	6.136 CUBIC M/S
VELOCITY *****	4140 FPM	0.00508	21.0312 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	20 FT	0.3048	6.096 M
BLD WIDTH	100 FT	0.3048	30.48 M
BLD DEPTH	250 FT	0.3048	76.2 M
CONC.****	4.95E-05 LB/CF	1.1E+08	5.25E+03 UG/M3

Lakeland Drum	12-03-90	Drum Booth	Aliphatic Hydrocarbon
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	31.5 LB/HR	0.125997	3.968905 G/S
STACK HEIGHT	24 FT	0.3048	7.3152 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	13000 ACFM	0.000472	6.136 CUBIC M/S
VELOCITY *****	4140 FPM	0.00508	21.0312 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	20 FT	0.3048	6.096 M

BLD WIDTH	100 FT	0.3048	30.48 M
BLD DEPTH	250 FT	0.3048	76.2 M
CONC. ****	4.04E-05 LB/CF	0	0.00E+00 UG/M3

*** SCREEN-1.1 MODEL RUN ***

*** VERSION DATED 88300 ***

Lakeland Drum Service Drum Booth - VMP Naphtha

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
 EMISSION RATE (G/S) = 22.09
 STACK HEIGHT (M) = 7.32
 STK INSIDE DIAM (M) = .61
 STK EXIT VELOCITY (M/S) = 21.03
 STK GAS EXIT TEMP (K) = 303.00
 AMBIENT AIR TEMP (K) = 293.00
 RECEPTOR HEIGHT (M) = .00
 IOPT (1=URB,2=RUR) = 2
 BUILDING HEIGHT (M) = 6.10
 MIN HORIZ BLDG DIM (M) = 30.48
 MAX HORIZ BLDG DIM (M) = 76.20

BUOY. FLUX = .63 M**4/S**3; MOM. FLUX = 39.74 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	7106.	4	8.0	8.0	2560.0	8.2	8.2	6.0	SS
200.	4670.	4	5.0	5.0	1600.0	11.0	15.6	8.7	SS
300.	3410.	4	4.0	4.0	1280.0	13.6	22.6	12.1	SS
400.	2697.	4	3.0	3.0	960.0	17.5	29.5	15.3	SS
500.	2240.	4	3.0	3.0	960.0	17.5	36.1	18.3	SS
600.	1982.	6	4.0	4.0	5000.0	17.1	21.2	10.2	SS
700.	1988.	5	1.0	1.0	5000.0	32.8	37.5	18.0	NO
800.	2105.	5	1.0	1.0	5000.0	32.8	42.2	19.7	NO
900.	2165.	6	1.0	1.0	5000.0	28.5	31.4	14.3	NO
1000.	2324.	6	1.0	1.0	5000.0	28.5	34.4	15.2	NO
1100.	2407.	6	1.0	1.0	5000.0	28.5	37.5	16.0	NO
1200.	2452.	6	1.0	1.0	5000.0	28.5	40.5	16.8	NO
1300.	2468.	6	1.0	1.0	5000.0	28.5	43.5	17.5	NO
1400.	2461.	6	1.0	1.0	5000.0	28.5	46.4	18.3	NO
1500.	2437.	6	1.0	1.0	5000.0	28.5	49.4	19.0	NO
1600.	2401.	6	1.0	1.0	5000.0	28.5	52.3	19.7	NO
1700.	2356.	6	1.0	1.0	5000.0	28.5	55.3	20.4	NO
1800.	2304.	6	1.0	1.0	5000.0	28.5	58.2	21.1	NO
1900.	2248.	6	1.0	1.0	5000.0	28.5	61.1	21.8	NO
2000.	2189.	6	1.0	1.0	5000.0	28.5	64.0	22.5	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

61.	8050.	4	10.0	10.0	3200.0	7.7	5.3	4.9	SS
-----	-------	---	------	------	--------	-----	-----	-----	----

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.11
 CAVITY LENGTH (M) = 32.33
 ALONGWIND DIM (M) = 30.48

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.10
 CAVITY LENGTH (M) = 23.71
 ALONGWIND DIM (M) = 76.20

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	8050.	61.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Drum Booths - Toluene

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 2.205
STACK HEIGHT (M) = 7.32
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 21.03
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 6.10
MIN HORIZ BLDG DIM (M) = 30.48
MAX HORIZ BLDG DIM (M) = 76.20

BUOY. FLUX = .63 M**4/S**3; MOM. FLUX = 39.78 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	708.6	4	8.0	8.0	2560.0	8.2	8.2	6.0	SS
200.	465.8	4	5.0	5.0	1600.0	11.0	15.6	8.7	SS
300.	340.2	4	4.0	4.0	1280.0	13.6	22.6	12.1	SS
400.	269.0	4	3.0	3.0	960.0	17.5	29.5	15.3	SS
500.	223.5	4	3.0	3.0	960.0	17.5	36.1	18.3	SS
600.	197.6	6	4.0	4.0	5000.0	17.2	21.2	10.2	SS
700.	198.2	5	1.0	1.0	5000.0	32.8	37.5	18.1	NO
800.	209.9	5	1.0	1.0	5000.0	32.8	42.2	19.7	NO
900.	215.8	6	1.0	1.0	5000.0	28.5	31.4	14.3	NO
1000.	231.7	6	1.0	1.0	5000.0	28.5	34.4	15.2	NO
1100.	240.0	6	1.0	1.0	5000.0	28.5	37.5	16.0	NO
1200.	244.5	6	1.0	1.0	5000.0	28.5	40.5	16.8	NO
1300.	246.1	6	1.0	1.0	5000.0	28.5	43.5	17.5	NO
1400.	245.4	6	1.0	1.0	5000.0	28.5	46.4	18.3	NO
1500.	243.1	6	1.0	1.0	5000.0	28.5	49.4	19.0	NO
1600.	239.5	6	1.0	1.0	5000.0	28.5	52.3	19.7	NO
1700.	234.9	6	1.0	1.0	5000.0	28.5	55.3	20.4	NO
1800.	229.8	6	1.0	1.0	5000.0	28.5	58.2	21.1	NO
1900.	224.2	6	1.0	1.0	5000.0	28.5	61.1	21.8	NO
2000.	218.4	6	1.0	1.0	5000.0	28.5	64.0	22.5	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
61. 802.7 4 10.0 10.0 3200.0 7.7 5.3 4.9 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.11
 CAVITY LENGTH (M) = 32.34
 ALONGWIND DIM (M) = 30.48

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.10
 CAVITY LENGTH (M) = 23.72
 ALONGWIND DIM (M) = 76.20

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	802.7	61.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Drum Booths - Stoddard Solvent

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 4.863
STACK HEIGHT (M) = 7.32
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 21.03
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 6.10
MIN HORIZ BLDG DIM (M) = 30.48
MAX HORIZ BLDG DIM (M) = 76.20

BUOY. FLUX = .63 M**4/S**3; MOM. FLUX = 39.78 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	1563.	4	8.0	8.0	2560.0	8.2	8.2	6.0	SS
200.	1027.	4	5.0	5.0	1600.0	11.0	15.6	8.7	SS
300.	750.3	4	4.0	4.0	1280.0	13.6	22.6	12.1	SS
400.	593.3	4	3.0	3.0	960.0	17.5	29.5	15.3	SS
500.	492.9	4	3.0	3.0	960.0	17.5	36.1	18.3	SS
600.	435.8	6	4.0	4.0	5000.0	17.2	21.2	10.2	SS
700.	437.1	5	1.0	1.0	5000.0	32.8	37.5	18.1	NO
800.	462.9	5	1.0	1.0	5000.0	32.8	42.2	19.7	NO
900.	476.0	6	1.0	1.0	5000.0	28.5	31.4	14.3	NO
1000.	510.9	6	1.0	1.0	5000.0	28.5	34.4	15.2	NO
1100.	529.2	6	1.0	1.0	5000.0	28.5	37.5	16.0	NO
1200.	539.2	6	1.0	1.0	5000.0	28.5	40.5	16.8	NO
1300.	542.8	6	1.0	1.0	5000.0	28.5	43.5	17.5	NO
1400.	541.3	6	1.0	1.0	5000.0	28.5	46.4	18.3	NO
1500.	536.1	6	1.0	1.0	5000.0	28.5	49.4	19.0	NO
1600.	528.1	6	1.0	1.0	5000.0	28.5	52.3	19.7	NO
1700.	518.2	6	1.0	1.0	5000.0	28.5	55.3	20.4	NO
1800.	506.8	6	1.0	1.0	5000.0	28.5	58.2	21.1	NO
1900.	494.5	6	1.0	1.0	5000.0	28.5	61.1	21.8	NO
2000.	481.7	6	1.0	1.0	5000.0	28.5	64.0	22.5	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

61. 1770. 4 10.0 10.0 3200.0 7.7 5.3 4.9 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.11
 CAVITY LENGTH (M) = 32.34
 ALONGWIND DIM (M) = 30.48

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.10
 CAVITY LENGTH (M) = 23.72
 ALONGWIND DIM (M) = 76.20

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	1770.	61.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

01-01-80
00:05:56

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Drum Booths - Aliphatic Hydrocarbons

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = 3.969
STACK HEIGHT (M) = 7.32
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 21.03
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 6.10
MIN HORIZ BLDG DIM (M) = 30.48
MAX HORIZ BLDG DIM (M) = 76.20

BUOY. FLUX = .63 M**4/S**3; MOM. FLUX = 39.78 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	1276.	4	8.0	8.0	2560.0	8.2	8.2	6.0	SS
200.	838.5	4	5.0	5.0	1600.0	11.0	15.6	8.7	SS
300.	612.3	4	4.0	4.0	1280.0	13.6	22.6	12.1	SS
400.	484.2	4	3.0	3.0	960.0	17.5	29.5	15.3	SS
500.	402.3	4	3.0	3.0	960.0	17.5	36.1	18.3	SS
600.	355.7	6	4.0	4.0	5000.0	17.2	21.2	10.2	SS
700.	356.7	5	1.0	1.0	5000.0	32.8	37.5	18.1	NO
800.	377.8	5	1.0	1.0	5000.0	32.8	42.2	19.7	NO
900.	388.5	6	1.0	1.0	5000.0	28.5	31.4	14.3	NO
1000.	417.0	6	1.0	1.0	5000.0	28.5	34.4	15.2	NO
1100.	431.9	6	1.0	1.0	5000.0	28.5	37.5	16.0	NO
1200.	440.1	6	1.0	1.0	5000.0	28.5	40.5	16.8	NO
1300.	443.0	6	1.0	1.0	5000.0	28.5	43.5	17.5	NO
1400.	441.8	6	1.0	1.0	5000.0	28.5	46.4	18.3	NO
1500.	437.5	6	1.0	1.0	5000.0	28.5	49.4	19.0	NO
1600.	431.0	6	1.0	1.0	5000.0	28.5	52.3	19.7	NO
1700.	422.9	6	1.0	1.0	5000.0	28.5	55.3	20.4	NO
1800.	413.6	6	1.0	1.0	5000.0	28.5	58.2	21.1	NO
1900.	403.6	6	1.0	1.0	5000.0	28.5	61.1	21.8	NO
2000.	393.1	6	1.0	1.0	5000.0	28.5	64.0	22.5	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
 61. 1445. 4 10.0 10.0 3200.0 7.7 5.3 4.9 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***	*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = .0000	CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99	CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99	CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99	DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 6.11	CAVITY HT (M) = 6.10
CAVITY LENGTH (M) = 32.34	CAVITY LENGTH (M) = 23.72
ALONGWIND DIM (M) = 30.48	ALONGWIND DIM (M) = 76.20

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
-----	-----	-----	-----
SIMPLE TERRAIN	1445.	61.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Lakeland Drum	12-03-90	Lid Booth	VMP Naphtha
INPUT		X FACTOR	OUTPUT
EMISSION RATE	13.15 LB/HR	0.125997	1.656860 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	11500 ACFM	0.000472	5.428 CUBIC M/S
VELOCITY *****	3660 FPM	0.00508	18.5928 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	1.91E-05 LB/CF	1.4E+09	2.70E+04 UG/M3

Lakeland Drum	12-03-90	Lid Booth	Toluene
INPUT		X FACTOR	OUTPUT
EMISSION RATE	1.315 LB/HR	0.125997	0.165686 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	11500 ACFM	0.000472	5.428 CUBIC M/S
VELOCITY *****	3660 FPM	0.00508	18.5928 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	1.91E-06 LB/CF	1.0E+09	2.00E+03 UG/M3

Lakeland Drum	12-03-90	Lid Booth	Stoddard Solvent
INPUT		X FACTOR	OUTPUT
EMISSION RATE	2.9 LB/HR	0.125997	0.365391 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	11500 ACFM	0.000472	5.428 CUBIC M/S
VELOCITY *****	3660 FPM	0.00508	18.5928 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	4.20E-06 LB/CF	1.2E+09	5.25E+03 UG/M3

Lakeland Drum	12-03-90	Lid Booth	Aliphatic Hydrocarbon
EMISSION RATE	INPUT	X FACTOR	OUTPUT
EMISSION RATE	2.36 LB/HR	0.125997	0.297352 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	24 IN	0.0254	0.6096 M
STACK FLOW	11500 ACFM	0.000472	5.428 CUBIC M/S
VELOCITY *****	3660 FPM	0.00508	18.5928 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	3.42E-06 LB/CF	0	0.00E+00 UG/M3

*** SCREEN-1.1 MODEL RUN ***

*** VERSION DATED 88300 ***

Lakeland Drum Service Lid Booths - VMP Naphtha

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
 EMISSION RATE (G/S) = 1.657
 STACK HEIGHT (M) = 5.49
 STK INSIDE DIAM (M) = .61
 STK EXIT VELOCITY (M/S) = 18.59
 STK GAS EXIT TEMP (K) = 303.00
 AMBIENT AIR TEMP (K) = 293.00
 RECEPTOR HEIGHT (M) = .00
 IOPT (1=URB,2=RUR) = 2
 BUILDING HEIGHT (M) = 3.66
 MIN HORIZ BLDG DIM (M) = 9.14
 MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .56 M**4/S**3; MOM. FLUX = 31.06 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	431.2	4	8.0	8.0	2560.0	9.7	8.3	7.0	HS
200.	285.8	4	5.0	5.0	1600.0	12.3	15.7	8.7	NO
300.	249.3	4	3.0	3.0	960.0	16.8	22.8	12.5	NO
400.	212.7	4	3.0	3.0	960.0	16.8	29.6	15.6	NO
500.	188.6	4	2.0	2.0	640.0	22.5	36.5	18.9	NO
600.	181.9	5	1.0	1.0	5000.0	30.0	32.7	16.3	NO
700.	194.4	5	1.0	1.0	5000.0	30.0	37.4	17.9	NO
800.	214.2	6	1.0	1.0	5000.0	25.8	28.2	13.3	NO
900.	228.3	6	1.0	1.0	5000.0	25.8	31.3	14.2	NO
1000.	236.3	6	1.0	1.0	5000.0	25.8	34.4	15.1	NO
1100.	237.9	6	1.0	1.0	5000.0	25.8	37.4	15.9	NO
1200.	236.7	6	1.0	1.0	5000.0	25.8	40.4	16.7	NO
1300.	233.4	6	1.0	1.0	5000.0	25.8	43.4	17.5	NO
1400.	228.7	6	1.0	1.0	5000.0	25.8	46.4	18.2	NO
1500.	223.0	6	1.0	1.0	5000.0	25.8	49.4	18.9	NO
1600.	216.7	6	1.0	1.0	5000.0	25.8	52.3	19.7	NO
1700.	210.0	6	1.0	1.0	5000.0	25.8	55.2	20.4	NO
1800.	203.2	6	1.0	1.0	5000.0	25.8	58.2	21.0	NO
1900.	196.4	6	1.0	1.0	5000.0	25.8	61.1	21.7	NO
2000.	189.6	6	1.0	1.0	5000.0	25.8	63.9	22.4	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

17. 700.9 4 20.0 20.0 5000.0 6.1 1.7 3.1 HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 3.88
CAVITY LENGTH (M) = 20.09
ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 3.66
CAVITY LENGTH (M) = 9.85
ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
----- SIMPLE TERRAIN	----- 700.9	----- 17.	----- 0.

** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Lid Booth - Toluene

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .1657
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 18.59
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .56 M**4/S**3; MOM. FLUX = 31.09 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	51.52	4	10.0	10.0	3200.0	6.6	8.2	4.7	SS
200.	36.40	4	5.0	5.0	1600.0	10.6	15.6	8.5	SS
300.	28.71	4	4.0	4.0	1280.0	12.3	22.6	12.1	SS
400.	21.25	4	3.0	3.0	960.0	16.8	29.6	15.6	NO
500.	18.85	4	2.0	2.0	640.0	22.5	36.5	18.9	NO
600.	18.17	5	1.0	1.0	5000.0	30.0	32.7	16.3	NO
700.	19.42	5	1.0	1.0	5000.0	30.0	37.4	17.9	NO
800.	21.39	6	1.0	1.0	5000.0	25.8	28.2	13.3	NO
900.	22.80	6	1.0	1.0	5000.0	25.8	31.3	14.2	NO
1000.	23.60	6	1.0	1.0	5000.0	25.8	34.4	15.1	NO
1100.	23.77	6	1.0	1.0	5000.0	25.8	37.4	15.9	NO
1200.	23.65	6	1.0	1.0	5000.0	25.8	40.4	16.7	NO
1300.	23.32	6	1.0	1.0	5000.0	25.8	43.4	17.5	NO
1400.	22.85	6	1.0	1.0	5000.0	25.8	46.4	18.2	NO
1500.	22.28	6	1.0	1.0	5000.0	25.8	49.4	18.9	NO
1600.	21.65	6	1.0	1.0	5000.0	25.8	52.3	19.7	NO
1700.	20.99	6	1.0	1.0	5000.0	25.8	55.2	20.4	NO
1800.	20.31	6	1.0	1.0	5000.0	25.8	58.2	21.1	NO
1900.	19.63	6	1.0	1.0	5000.0	25.8	61.1	21.7	NO
2000.	18.95	6	1.0	1.0	5000.0	25.8	63.9	22.4	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
96. 51.68 4 10.0 10.0 3200.0 6.6 8.0 4.6 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.89
 CAVITY LENGTH (M) = 20.10
 ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.66
 CAVITY LENGTH (M) = 9.85
 ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	51.68	96.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Lid booth - Stoddard Solvent

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .3654
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 18.59
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .56 M**4/S**3; MOM. FLUX = 31.09 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	113.6	4	10.0	10.0	3200.0	6.6	8.2	4.7	SS
200.	80.27	4	5.0	5.0	1600.0	10.6	15.6	8.5	SS
300.	63.32	4	4.0	4.0	1280.0	12.3	22.6	12.1	SS
400.	46.87	4	3.0	3.0	960.0	16.8	29.6	15.6	NO
500.	41.57	4	2.0	2.0	640.0	22.5	36.5	18.9	NO
600.	40.06	5	1.0	1.0	5000.0	30.0	32.7	16.3	NO
700.	42.83	5	1.0	1.0	5000.0	30.0	37.4	17.9	NO
800.	47.17	6	1.0	1.0	5000.0	25.8	28.2	13.3	NO
900.	50.27	6	1.0	1.0	5000.0	25.8	31.3	14.2	NO
1000.	52.05	6	1.0	1.0	5000.0	25.8	34.4	15.1	NO
1100.	52.42	6	1.0	1.0	5000.0	25.8	37.4	15.9	NO
1200.	52.15	6	1.0	1.0	5000.0	25.8	40.4	16.7	NO
1300.	51.42	6	1.0	1.0	5000.0	25.8	43.4	17.5	NO
1400.	50.38	6	1.0	1.0	5000.0	25.8	46.4	18.2	NO
1500.	49.13	6	1.0	1.0	5000.0	25.8	49.4	18.9	NO
1600.	47.75	6	1.0	1.0	5000.0	25.8	52.3	19.7	NO
1700.	46.28	6	1.0	1.0	5000.0	25.8	55.2	20.4	NO
1800.	44.79	6	1.0	1.0	5000.0	25.8	58.2	21.1	NO
1900.	43.28	6	1.0	1.0	5000.0	25.8	61.1	21.7	NO
2000.	41.80	6	1.0	1.0	5000.0	25.8	63.9	22.4	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

96. 114.0 4 10.0 10.0 3200.0 6.6 8.0 4.6 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE. X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.89
 CAVITY LENGTH (M) = 20.10
 ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.66
 CAVITY LENGTH (M) = 9.85
 ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	114.0	96.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Lid Booth - Aliphatic Hydrocarbon

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .2974
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .61
STK EXIT VELOCITY (M/S) = 18.59
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .56 M**4/S**3; MOM. FLUX = 31.09 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	92.48	4	10.0	10.0	3200.0	6.6	8.2	4.7	SS
200.	65.33	4	5.0	5.0	1600.0	10.6	15.6	8.5	SS
300.	51.53	4	4.0	4.0	1280.0	12.3	22.6	12.1	SS
400.	38.15	4	3.0	3.0	960.0	16.8	29.6	15.6	NO
500.	33.83	4	2.0	2.0	640.0	22.5	36.5	18.9	NO
600.	32.61	5	1.0	1.0	5000.0	30.0	32.7	16.3	NO
700.	34.86	5	1.0	1.0	5000.0	30.0	37.4	17.9	NO
800.	38.39	6	1.0	1.0	5000.0	25.8	28.2	13.3	NO
900.	40.92	6	1.0	1.0	5000.0	25.8	31.3	14.2	NO
1000.	42.36	6	1.0	1.0	5000.0	25.8	34.4	15.1	NO
1100.	42.66	6	1.0	1.0	5000.0	25.8	37.4	15.9	NO
1200.	42.44	6	1.0	1.0	5000.0	25.8	40.4	16.7	NO
1300.	41.85	6	1.0	1.0	5000.0	25.8	43.4	17.5	NO
1400.	41.01	6	1.0	1.0	5000.0	25.8	46.4	18.2	NO
1500.	39.99	6	1.0	1.0	5000.0	25.8	49.4	18.9	NO
1600.	38.86	6	1.0	1.0	5000.0	25.8	52.3	19.7	NO
1700.	37.67	6	1.0	1.0	5000.0	25.8	55.2	20.4	NO
1800.	36.45	6	1.0	1.0	5000.0	25.8	58.2	21.1	NO
1900.	35.23	6	1.0	1.0	5000.0	25.8	61.1	21.7	NO
2000.	34.02	6	1.0	1.0	5000.0	25.8	63.9	22.4	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

96. 92.76 4 10.0 10.0 3200.0 6.6 8.0 4.6 SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.89
 CAVITY LENGTH (M) = 20.10
 ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.66
 CAVITY LENGTH (M) = 9.85
 ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	92.76	96.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Lakeland Drum	12-04-90	Ring Dip	VMP Naphtha
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	4.415 LB/HR	0.125997	0.556276 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	12 IN	0.0254	0.3048 M
STACK FLOW	2000 ACFM	0.000472	0.944 CUBIC M/S
VELOCITY *****	2546 FPM	0.00508	12.93368 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	3.68E-05 LB/CF	7.3E+08	2.70E+04 UG/M3
Lakeland Drum	12-04-90	Ring Dip	Stoddard Sol
	INPUT	X FACTOR	OUTPUT
EMISSION RATE	0.4415 LB/HR	0.125997	0.055627 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	12 IN	0.0254	0.3048 M
STACK FLOW	2000 ACFM	0.000472	0.944 CUBIC M/S
VELOCITY *****	2546 FPM	0.00508	12.93368 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC.****	3.68E-06 LB/CF	1.4E+09	5.25E+03 UG/M3

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Ring Dip - VMP Naphtha

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .5563
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .30
STK EXIT VELOCITY (M/S) = 12.93
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .10 M**4/S**3; MOM. FLUX = 3.76 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	432.1	6	4.0	4.0	5000.0	9.4	4.2	5.5	HS
200.	274.7	4	2.0	2.0	640.0	11.4	15.7	8.7	NO
300.	238.4	4	1.0	1.0	320.0	17.3	22.9	12.6	NO
400.	206.9	4	1.0	1.0	320.0	17.3	29.6	15.6	NO
500.	187.6	6	1.0	1.0	5000.0	16.8	18.3	9.0	NO
600.	207.7	6	1.0	1.0	5000.0	16.8	21.5	10.2	NO
700.	211.8	6	1.0	1.0	5000.0	16.8	24.7	11.4	NO
800.	204.5	6	1.0	1.0	5000.0	16.8	27.8	12.4	NO
900.	193.9	6	1.0	1.0	5000.0	16.8	30.9	13.4	NO
1000.	182.1	6	1.0	1.0	5000.0	16.8	34.0	14.3	NO
1100.	170.0	6	1.0	1.0	5000.0	16.8	37.1	15.2	NO
1200.	158.5	6	1.0	1.0	5000.0	16.8	40.1	16.0	NO
1300.	147.9	6	1.0	1.0	5000.0	16.8	43.2	16.8	NO
1400.	138.0	6	1.0	1.0	5000.0	16.8	46.2	17.6	NO
1500.	129.0	6	1.0	1.0	5000.0	16.8	49.1	18.3	NO
1600.	120.8	6	1.0	1.0	5000.0	16.8	52.1	19.1	NO
1700.	113.3	6	1.0	1.0	5000.0	16.8	55.0	19.8	NO
1800.	106.4	6	1.0	1.0	5000.0	16.8	58.0	20.5	NO
1900.	100.2	6	1.0	1.0	5000.0	16.8	60.9	21.2	NO
2000.	94.45	6	1.0	1.0	5000.0	16.8	63.8	21.9	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

37. 916.2 6 4.0 4.0 5000.0 8.4 1.9 4.5 HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.88
 CAVITY LENGTH (M) = 20.09
 ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.66
 CAVITY LENGTH (M) = 9.85
 ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	916.2	37.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Ring Dip - Stoddard Solvent

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .5563E-01
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .30
STK EXIT VELOCITY (M/S) = 12.93
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .10 M**4/S**3; MOM. FLUX = 3.76 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	43.21	6	4.0	4.0	5000.0	9.4	4.2	5.5	HS
200.	27.47	4	2.0	2.0	640.0	11.4	15.7	8.7	NO
300.	23.84	4	1.0	1.0	320.0	17.3	22.9	12.6	NO
400.	20.69	4	1.0	1.0	320.0	17.3	29.6	15.6	NO
500.	18.76	6	1.0	1.0	5000.0	16.8	18.3	9.0	NO
600.	20.77	6	1.0	1.0	5000.0	16.8	21.5	10.2	NO
700.	21.18	6	1.0	1.0	5000.0	16.8	24.7	11.4	NO
800.	20.45	6	1.0	1.0	5000.0	16.8	27.8	12.4	NO
900.	19.39	6	1.0	1.0	5000.0	16.8	30.9	13.4	NO
1000.	18.21	6	1.0	1.0	5000.0	16.8	34.0	14.3	NO
1100.	17.00	6	1.0	1.0	5000.0	16.8	37.1	15.2	NO
1200.	15.85	6	1.0	1.0	5000.0	16.8	40.1	16.0	NO
1300.	14.79	6	1.0	1.0	5000.0	16.8	43.2	16.8	NO
1400.	13.80	6	1.0	1.0	5000.0	16.8	46.2	17.6	NO
1500.	12.90	6	1.0	1.0	5000.0	16.8	49.1	18.3	NO
1600.	12.08	6	1.0	1.0	5000.0	16.8	52.1	19.1	NO
1700.	11.33	6	1.0	1.0	5000.0	16.8	55.0	19.8	NO
1800.	10.64	6	1.0	1.0	5000.0	16.8	58.0	20.5	NO
1900.	10.02	6	1.0	1.0	5000.0	16.8	60.9	21.2	NO
2000.	9.445	6	1.0	1.0	5000.0	16.8	63.8	21.9	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

37. 91.62 6 4.0 4.0 5000.0 8.4 1.9 4.5 HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.88
 CAVITY LENGTH (M) = 20.09
 ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 3.66
 CAVITY LENGTH (M) = 9.85
 ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	91.62	37.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

	INPUT	X FACTOR	OUTPUT
EMISSION RATE	4.415 LB/HR	0.125997	0.556276 G/S
STACK HEIGHT	18 FT	0.3048	5.4864 M
STACK DIA	12 IN	0.0254	0.3048 M
STACK FLOW	2000 ACFM	0.000472	0.944 CUBIC M/S
VELOCITY *****	2546 FPM	0.00508	12.93368 M/S
STACK TEMP	85 oF (5/9(oF-32))+273.15		303 oK
AMB TEMP	70 oF (5/9(oF-32))+273.15		294 oK
RECEPTOR HEIGHT	0 FT	0.3048	0 M
BLD. HT	12 FT	0.3048	3.6576 M
BLD WIDTH	30 FT	0.3048	9.144 M
BLD DEPTH	175 FT	0.3048	53.34 M
CONC. ****	3.68E-05 LB/CF	1.2E+08	4.35E+03 UG/M3

*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Ring Dip - Xylene

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .5563
STACK HEIGHT (M) = 5.49
STK INSIDE DIAM (M) = .30
STK EXIT VELOCITY (M/S) = 12.93
STK GAS EXIT TEMP (K) = 303.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 3.66
MIN HORIZ BLDG DIM (M) = 9.14
MAX HORIZ BLDG DIM (M) = 53.34

BUOY. FLUX = .10 M**4/S**3; MOM. FLUX = 3.76 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	432.2	6	4.0	4.0	5000.0	9.4	4.2	5.5	HS
200.	274.7	4	2.0	2.0	640.0	11.4	15.7	8.7	NO
300.	238.4	4	1.0	1.0	320.0	17.3	22.9	12.6	NO
400.	206.9	4	1.0	1.0	320.0	17.3	29.6	15.6	NO
500.	187.6	6	1.0	1.0	5000.0	16.8	18.3	9.0	NO
600.	207.7	6	1.0	1.0	5000.0	16.8	21.5	10.2	NO
700.	211.8	6	1.0	1.0	5000.0	16.8	24.7	11.4	NO
800.	204.5	6	1.0	1.0	5000.0	16.8	27.8	12.4	NO
900.	193.9	6	1.0	1.0	5000.0	16.8	30.9	13.4	NO
1000.	182.1	6	1.0	1.0	5000.0	16.8	34.0	14.3	NO
1100.	170.0	6	1.0	1.0	5000.0	16.8	37.1	15.2	NO
1200.	158.5	6	1.0	1.0	5000.0	16.8	40.1	16.0	NO
1300.	147.9	6	1.0	1.0	5000.0	16.8	43.2	16.8	NO
1400.	138.0	6	1.0	1.0	5000.0	16.8	46.2	17.6	NO
1500.	129.0	6	1.0	1.0	5000.0	16.8	49.1	18.3	NO
1600.	120.8	6	1.0	1.0	5000.0	16.8	52.1	19.1	NO
1700.	113.3	6	1.0	1.0	5000.0	16.8	55.0	19.8	NO
1800.	106.4	6	1.0	1.0	5000.0	16.8	58.0	20.5	NO
1900.	100.2	6	1.0	1.0	5000.0	16.8	60.9	21.2	NO
2000.	94.45	6	1.0	1.0	5000.0	16.8	63.8	21.9	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

37. 916.3 6 4.0 4.0 5000.0 8.4 1.9 4.5 HS

DWASH= MEANS NO CALC MADE (CONC = 0.0)

DWASH=NO MEANS NO BUILDING DOWNWASH USED

DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED

ATTACHMENT 4

**Screen Model Results
from
Proposed Drum Furnace**

Lakeland Drum	12-05-90	Furnace	General
EMISSION RATE	INPUT	X FACTOR	OUTPUT
STACK HEIGHT	1 LB/HR	0.125997	0.125997 G/S
STACK DIA	30 FT	0.3048	9.144 M
STACK FLOW	46 IN	0.0254	1.1684 M
VELOCITY *****	57278 ACFM	0.000472	27.03521 CUBIC M/S
STACK TEMP	5280 FPM	0.00508	26.8224 M/S
AMB TEMP	600 oF (5/9(oF-32))+273.15		589 oK
RECEPTOR HEIGHT	70 oF (5/9(oF-32))+273.15		294 oK
BLD. HT	0 FT	0.3048	0 M
BLD WIDTH	20 FT	0.3048	6.096 M
BLD DEPTH	30 FT	0.3048	9.144 M
CONC. ****	60 FT	0.3048	18.288 M
	2.91E-07 LB/CF	1.0E+08	3.00E+01 UG/M3

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*** SCREEN-1.1 MODEL RUN ***
*** VERSION DATED 88300 ***

Lakeland Drum Service Drum Furnace - General Pollutant

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .1260
STACK HEIGHT (M) = 9.14
STK INSIDE DIAM (M) = 1.17
STK EXIT VELOCITY (M/S) = 26.82
STK GAS EXIT TEMP (K) = 589.00
AMBIENT AIR TEMP (K) = 293.00
RECEPTOR HEIGHT (M) = .00
IOPT (1=URB,2=RUR) = 2
BUILDING HEIGHT (M) = 6.10
MIN HORIZ BLDG DIM (M) = 9.11
MAX HORIZ BLDG DIM (M) = 18.29

BUOY. FLUX = 45.11 M**4/S**3; MOM. FLUX = 122.14 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	0	.0	.0	.0	.0	.0	.0	NA
100.	7.139	4	20.0	20.0	5000.0	10.9	8.2	5.8	SS
200.	4.754	4	20.0	20.0	5000.0	13.8	15.6	9.5	SS
300.	2.992	4	20.0	20.0	5000.0	16.6	22.6	12.8	SS
400.	2.071	4	20.0	20.0	5000.0	19.2	29.5	15.9	SS
500.	1.529	4	20.0	20.0	5000.0	21.6	36.1	18.9	SS
600.	1.277	4	20.0	20.0	5000.0	22.3	42.7	21.8	SS
700.	1.099	4	20.0	20.0	5000.0	22.3	49.2	24.6	SS
800.	.9976	4	15.0	15.0	4800.0	29.1	55.6	27.0	SS
900.	.9005	4	15.0	15.0	4800.0	29.1	61.9	29.7	SS
1000.	.8110	4	15.0	15.0	4800.0	29.1	68.1	32.1	SS
1100.	.7332	4	15.0	15.0	4800.0	29.1	74.3	34.1	SS
1200.	.6836	4	10.0	10.0	3200.0	42.8	80.4	36.1	SS
1300.	.6467	4	10.0	10.0	3200.0	42.8	86.5	38.0	SS
1400.	.6106	4	10.0	10.0	3200.0	42.8	92.6	39.9	SS
1500.	.5762	4	10.0	10.0	3200.0	42.8	98.5	41.7	SS
1600.	.5436	4	10.0	10.0	3200.0	42.8	104.5	43.4	SS
1700.	.5132	4	10.0	10.0	3200.0	42.8	110.4	45.2	SS
1800.	.4848	4	10.0	10.0	3200.0	42.8	116.2	46.8	SS

1800.	.4648	4	8.0	8.0	2560.0	53.1	122.1	48.5	SS
2000.	.4460	4	8.0	8.0	2560.0	53.1	127.9	50.2	SS

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:									
95.	7.155	4	20.0	20.0	5000.0	10.8	7.9	5.6	SS

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRES DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

Best Available Copy

*** CAVITY CALCULATION - 1 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 7.49
 CAVITY LENGTH (M) = 16.74
 ALONGWIND DIM (M) = 9.11

*** CAVITY CALCULATION - 2 ***
 CONC (UG/M**3) = .0000
 CRIT WS @10M (M/S) = 99.99
 CRIT WS @ HS (M/S) = 99.99
 DILUTION WS (M/S) = 99.99
 CAVITY HT (M) = 6.29
 CAVITY LENGTH (M) = 11.61
 ALONGWIND DIM (M) = 18.29

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	7.155	95.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

DWASH=SS MEANS SCHELMAN SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

Best Available Copy

*** CAVITY CALCULATION - 1 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 3.88
CAVITY LENGTH (M) = 20.09
ALONGWIND DIM (M) = 9.14

*** CAVITY CALCULATION - 2 ***
CONC (UG/M**3) = .0000
CRIT WS @10M (M/S) = 99.99
CRIT WS @ HS (M/S) = 99.99
DILUTION WS (M/S) = 99.99
CAVITY HT (M) = 3.66
CAVITY LENGTH (M) = 9.85
ALONGWIND DIM (M) = 53.34

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20.0 M/S. CONC SET = 0.0

*** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	916.3	37.	0.

** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
