

Check Sheet

Company Name: Citrus Central Inc
Permit Number: AC 48-155933, AC 48-158974
PSD Number:
County: Orange
Permit Engineer:
Others involved:

Application:

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

Intent:

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

Attachments:

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

Final Determination:

- Final Determination
- Signed Permit
- BACT Determination

Post Permit Correspondence:

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

P 274 010 384

RECEIPT FOR CERTIFIED MAIL

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

* U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Mr. John Z. Randall, Citrus Central, Inc.	
Street and No. P.O. Box 607774	
P.O. State and ZIP Code Orlando, FL 32860	
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: 5-10-89 Permit: AC 48-155533 AC 48-158976	

● **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. John Z. Randall Executive Vice President Citrus Central, Inc. P. O. Box 607774 Orlando, Florida 32860	4. Article Number P 274 010 384
	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 - Address X	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>Jim Larkin</i>	
7. Date of Delivery <i>MAY 15 1989</i>	





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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMITS

Mr. John Z. Randall
Executive Vice President
Citrus Central, Inc.
P. O. Box 607774
Orlando, Florida 32860

May 9, 1989

Enclosed are construction permits AC 48-155533 and AC 48-158976 for Citrus Central to increase the hours of operation and changes of material usage at the existing can assembly plant and to replace an existing incinerator with a new thermal oxidizer at the metals plant in Plymouth, Orange County, Florida. These permits are issued pursuant to Section 403, Florida Statutes. ✓

Any party to these permits has the right to seek judicial review of the permits pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date these permits are filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Deputy Chief

Bureau of Air Quality Management

Copy furnished to:

S. Arrington, Citrus Central
C. Collins, CF District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 5-10-89.

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.

Martha Melise
Clerk

5-10-89
Date

Final Determination

Citrus Central Inc.
Orlando, Orange County, Florida

Can Assembly Plant
Permit No. AC 48-155533

Metals Plant
Permit No. AC 48-158976

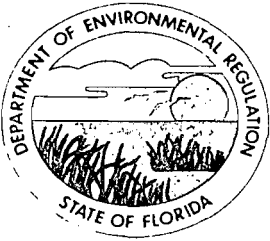
Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

May 4, 1989

Final Determination

Citrus Central's permit applications for the Can Assembly Plant and the Metals Plant in Plymouth, Orange County, Florida, have been reviewed by the Bureau of Air Quality Management. No comments were received in response to the Public Notice published in The Apopka Chief on April 7, 1989.

The final action of the Department will be to issue the permits as proposed in the Preliminary Determination.



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

PERMITTEE:
Citrus Central Inc.
Plymouth Can Division
Post Office Box 607774
Orlando, FL 32860

Permit Number: AC 48-155533
Expiration Date: December 1, 1989
County: Orange
Latitude/Longitude: 28°41'31"
81°33'21"

Project: Can Assembly and End
Seal Compounding
Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of the Can Assembly and End Seal Compounding plant producing metal cans and lids. The existing plant consists of seven lines which form cans, weld seams, apply side stripping varnish and dry the coating in natural gas-fired ovens at 450°F. There is one stack per side stripe applicator, two stacks for ovens 3a and 3b, the others have no stacks. A 360° spray is applied to some cans on two production lines where one line has five applicator vents through a stack and the other has six applicators and a stack. The product from each line is dried in a dual side-by-side, two zone natural gas fired oven which has two stacks. Five end conversion presses and sealing lines form and seal lids and vent emissions into the plant.

The Can Assembly Plant is located at the Citrus Central Inc. facility on Route 437, Plymouth, Orange County, Florida. The UTM coordinates of the facility are Zone 17, 445.6 km East and 3174 km North.

The source shall be 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. Citrus Central's application package received September 30, 1988.
2. DER's letter dated October 26, 1988.
3. Citrus Central's response received November 16, 1988.
4. Citrus Central's MSDS submitted received January 9, 1989.
5. DER's letter dated January 20, 1989.
6. Citrus Central's letter received February 17, 1989.
7. Citrus Central's letter received March 6, 1989.
8. Preliminary Determination dated March 31, 1989.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations 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. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

- b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, 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 date(s) analyses were performed;
 - the person responsible for performing the analyses;
 - the analytical techniques or methods used; and
 - the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Can Assembly and End Seal Compounding Plant may operate continuously (8760 hours/year).
2. The maximum material utilization rates are as stated in the application for the specific coatings and solvents to be used.
3. The maximum allowable volatile organic compound (VOC) emissions for the plant shall not exceed 74.6 TPY, as determined in the technical evaluation (based on material utilization rates).

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

SPECIFIC CONDITIONS:

4. The permittee shall comply with F.A.C. Rule 17-2.620(1)(a), whereby no person shall store, pump, handle, process, load, unload, or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions should include but shall not be limited to the following:

- a) tightly cover or close all VOC containers when they are not in use;
- b) tightly cover, where possible, all open troughs, basins, baths, tanks, etc., when they are not in use;
- c) maintain all piping, valves, fittings, etc., in good operating condition;
- d) prevent excessive air turbulence across exposed VOC's;
- e) immediately confine and clean up VOC spills and make certain wastes are placed in closed containers for reuse, recycling or proper disposal; and
- f) maintain a monthly accounting of each VOC based on beginning and ending inventories, deliveries, shipments, etc.

5. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620.

6. Initial and annual compliance tests shall be conducted using EPA Method 24 for VOCs in accordance with the 1987 version of 40 CFR 60, Appendix A, or using manufacturer's specifications with material balance.

7. Only natural gas shall be fired in the dryers/ovens. The maximum emissions from 50,000 CF/hr of natural gas combustion are expected to be as follows:

Pollutant	Emissions	
	lb/hr	TPY
Particulates, PM	0.02	0.11
Sulfur Dioxide, SO ₂	0.01	0.01
Carbon Monoxide, CO	0.17	0.80
Nitrogen Oxides, NO _x	0.70	3.07
VOCs	0.01	0.01

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

SPECIFIC CONDITIONS:

8. A minimum of 15 days prior notification of the compliance tests shall be given to DER's Central Florida District office. The compliance test results shall be submitted to the district office within 45 days of test completion.

9. The permittee may use other RACT compliant end seal compounds (3.7 lb/gal of coating less water), only after written notification to DER's Central Florida District office as to the compound specifications and emissions calculations in accordance with 40 FR 60824 to compare against current compounds being used.

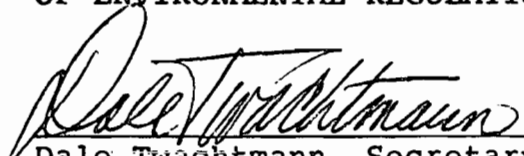
10. Any change in the method of operation, raw materials, equipment or operating hours shall be submitted to DER's Central Florida District office for approval.

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

12. An application for an operation permit must be submitted to the Central Florida 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. 17-4.220).

Issued this 8 day
of May, 1989

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtman, Secretary



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

PERMITTEE:

Citrus Central Inc.
Metals Division
Post Office Box 607774
Orlando, FL 32860

Permit Number: AC 48-155976
Expiration Date: April 1, 1990
County: Orange
Latitude/Longitude: 28°41'31"
81°33'21"

Project: Metals Division with
REECO Thermal Oxidizer

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of the existing Metals Division sources consisting of metal coil coater lines Nos. 1 and 2, UV press line No. 1 and 2-color UV press line No. 2. Emissions of volatile organic compounds (VOCs) from all these sources will be controlled by a REECO thermal oxidizer with a 95% destruction efficiency. The metal plant is located at the Citrus Central Inc. facility on Route 437, Plymouth, Orange County, Florida.

The UTM coordinates of the facility are Zone 17, 445.6 km East and 3174 km North.

The sources shall be 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. Citrus Central's application package received September 30, 1988.
2. DER's letter dated October 26, 1988.
3. Citrus Central's response received November 16, 1988.
4. Citrus Central's MSDS submitted received January 9, 1989.
5. DER's letter dated January 20, 1989.
6. Citrus Central's letter received February 17, 1989.
7. Citrus Central's letter received March 6, 1989.
8. Preliminary Determination dated March 31, 1989.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.
2. This permit is valid only for the specific processes and operations 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. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, 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 date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Metals Division plant may operate continuously (8760 hours/year).

2. The maximum material utilization rates are as stated in the application for the specific coatings and solvents which are to be used.

3. The maximum allowable volatile organic compound (VOC) emissions from the thermal oxidizer shall not exceed 15.1 lbs/hr and 60.0 TPY. The emission limitation in lbs/hr includes the flexibility of the thermal incinerator to fire up to 6.5 gals/hr of spent solvent (7.0 lbs/gal density), and up to 78.1 TPY of spent solvent in the thermal oxidizer. Fugitive VOC emissions, according to material balance calculations, shall not exceed 11.8 lbs/hr, and 51.6 TPY.

PERMITTEE :
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

SPECIFIC CONDITIONS:

4. Visible emissions shall not exceed 5% opacity.

5. The permittee shall comply with F.A.C. Rule 17-2.620(1)(a), whereby no person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions should include but shall not be limited to the following:

- a) tightly cover or close all VOC containers when they are not in use;
- b) tightly cover, where possible, all open troughs, basins, baths, tanks, etc., when they are not in use;
- c) maintain all piping, valves, fittings, etc., in good operating condition;
- d) prevent excessive air turbulence across exposed VOC's;
- e) immediately confine and clean up VOC spills and make certain wastes are placed in closed containers for reuse, recycling or proper disposal; and
- f) maintain a monthly accounting of each VOC based on beginning and ending inventories, deliveries, shipments, etc.

6. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620.

7. Only natural gas shall be fired as fuel in the thermal oxidizer except as provided in Specific Condition No. 3. The maximum emissions from 69,000 cf/hr of natural gas combustion are expected to be as follows:

Pollutant	Emissions	
	lb/hr	TPY
Particulates, PM	0.03	0.15
Sulfur Dioxide, SO2	0.01	0.02
Carbon Monoxide, CO	0.24	1.10
Nitrogen Oxides, NOx	0.97	4.23
VOCs	0.02	0.09

8. Initial and annual compliance tests shall be conducted using EPA Method 25 for VOC emissions from the thermal oxidizer, in accordance with the 1987 version of 40 CFR 60, Appendix A. The

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

SPECIFIC CONDITIONS:

capture efficiency test protocol shall be agreed upon with the Bureau of Air Quality Management prior to testing. Fugitive VOC emissions shall be determined based on a material balance. The VOC emission contributions for various compounds shall be determined using either EPA Method 24 or using manufacturer's specifications and material balances.

9. A minimum of 15 days prior notification of the compliance tests shall be given to DER's Central Florida District office. The compliance test results shall be submitted to the district office within 45 days of test completion.

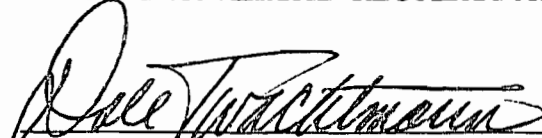
10. Any change in the method of operation, raw materials, equipment or operating hours shall be submitted to DER's Central Florida District office for approval.

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

12. An application for an operation permit must be submitted to the Central Florida 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. 17-4.220).

Issued, this 8 day
of May, 1989

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


Dale Twachtmann, Secretary

The Apopka Chief

APOPKA, FLORIDA

PUBLISHER'S AFFIDAVIT OF PUBLICATION

STATE OF FLORIDA
COUNTY OF ORANGE

Before the undersigned personally appeared... John E. Ricketson..... who on oath says he is... Publisher of THE APOPKA CHIEF, a weekly newspaper published at Apopka, in Orange County, Florida, that the attached copy of advertisement was published in said newspaper in the issue of: April 7, 1989

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

Sworn and subscribed before me this... 7... day of... April... 19 89

Delores G. Elliott
Notary Public, State of Florida

(SEAL)

My commission expires on the day of 19 88
Notary Public, State of Florida at Largo
My Commission Expires November 9, 1992

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 permits to Citrus Central, Inc., 10000 Citrus Blvd., Orlando, Florida 32806 to undertake two modifications at their facility in Plymouth, Orange County, Florida. The first modification involves an increase in the hours of operation of the thermal oxidizer at their existing can assembly and seal compounding plant. The second modification involves the replacement of an older incinerator with a new and more efficient thermal oxidizer; an increase in the annual operating hours of the use of spent solvents as fuel for the thermal oxidizer at their existing metal plant. The negligible quantity of products of natural combustion (VOCs) and a negligible quantity of products of natural combustion (BACT) was not required. The Department is issuing this notice of intent for the reasons stated in the Technical Evaluation Preliminary Determination.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for a hearing (administrative proceeding) 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 the 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 address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of the right such person may have to request an administrative hearing (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 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;
 - (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 required to formulate agency action. Accordingly, the Department's action may be different from the position taken by it in the notice. Persons whose substantial interests will be affected by an action 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 the General Counsel at the above address of the Department. Failure to file a petition within the allowed time frame constitutes a waiver of the right such person has to request a hearing under Section 120.57, and to participate as a party to this proceeding. Any request for intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 20-5.207, F.A.C.

The application is available for public inspection during regular 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 Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

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

April 7, 1989

P 938 762 601

RECEIPT FOR CERTIFIED MAIL

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

PS Form 3800, June 1985

Sent to Mr. John Z. Randall, Citrus	
Street and No. Central, Inc.	
P.O. Box 607774	
P.O. State and ZIP Code Orlando, FL 32860	
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: 6-23-89 Permit: AC 48-155533	

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. John Z. Randall Citrus Central, Inc. P. O. Box 607774 Orlando, Florida 32860	4. Article Number P 938 762 601
5. Signature - Address X <i>[Signature]</i>	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
6. Signature - Agent X	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery 6-27-89	8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT



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

June 21, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central, Inc.
P. O. Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Re: Amendment to Permit No. AC 48-155533, for Citrus Central's
Can Assembly and End Seal Compounding Plant in Plymouth,
Orange County, Florida

The Department is amending Specific Condition No. 3 in the above
referenced permit to clarify compliance issues and to minimize
cross referencing. The following shall be changed in the permit:

Specific Condition No. 3 Change:

From:

The maximum allowable volatile organic compound (VOC) emissions
for the plant shall not exceed 74.6 TPY, as determined in the
technical evaluation (based on material utilization rates).

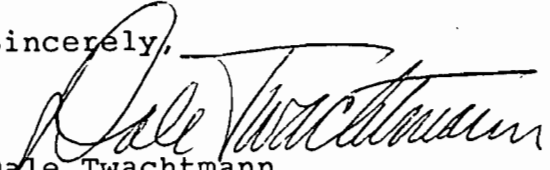
To:

The maximum allowable volatile organic compound (VOC) emissions
for the plant shall not exceed 74.6 TPY, as determined in the
technical evaluation (based on material utilization rates). The
material usage table is attached. Compliance on a 24-hour basis
for any given day's operation shall be determined by using the
method contained in 45 FR 80824 (compliance table attached).

Mr John Z. Randall
Page Two
June 21, 1989

This letter must be attached to your construction permit No. AC 48-155533 mentioned above, and shall become a part of that permit.

Sincerely,



Dale Twachtman
Secretary

DT/ks

attachments

cc: S. Arrington, Citrus Central Inc.
C. Collins, CF District

Table 1: Citrus Central - Plymouth Can Division Actual and Allowable VOC Emissions

Compound	Solvent Density	Vol % Solids	Vol % Solvent	lbs VOC/ gal solids	Usage gal/yr	Actual Emiss. TPY	Allow. lb VOC/ gal ctg	Allow. lbs VOC/ gal solids	Allow. Emiss. TPY
1. Tab Lube	6.436		93		3000	8.98			8.98
2. Isopropanol	6.586		100		1500	4.94			4.94
3. Jet Ink	7.42		84		38	0.12			0.12
4. Jet Makeup	6.77		100		95	0.32			0.32
5. Jet Wash	6.75		100		76	0.26			0.26
6. USA 7286	6.4		100		1500/2	2.4			2.4
7. MEK	6.76		100		148	0.5			0.5
8. AMSCO	5.67		100		2420	6.86			6.86
9. Valspar	8.07	23.3		5.49	20500	13.11	4.2	8.76	20.92
10. 730(A)	7.03	17.5		33.14	1930	5.6	5.5	25.27	4.26
11. 730(B)	7.03	20.34		27.53	1930	5.4	5.5	25.27	4.96
12. D&A S9372A	5.9	36.9		10	9572	17.7	3.7	9.92	17.52
13. D&A W9307	-	62		0	641	0	3.7	7.44	1.47
14. D&A 5101	6.0	37.5		9.3	781	1.4	3.7	9.65	1.41
15. D&A 9179	5.7	36.5		9.9	3856	6.9	3.7	10.55	7.42
16. D&A 1697	5.7	35.9		10.3	76	0.14	3.7	10.55	0.14
Subtotal (9-16)						50.25			58.1
Total (1-16)						74.63			82.48

the additional premium or March 31, 1981.

§ 2602.4 [Amended]

3. Section 2602.4 is amended by deleting "section 4022(a)" wherever it appears and substituting "sections 4022(a) or 4022A(a)."

4. Section 2602.5 is revised to read as follows:

§ 2602.5 Premium rate.

(a) *Single employer plans.* Plans other than multi-employer plans shall pay the following premiums for basic benefits guaranteed under section 4022(a) of the Act:

(1) For plan years beginning on or after January 1, 1970, two dollars sixty cents for each individual who is a participant in such plan on the last day of the preceding plan year;

(2) For plan years beginning on or after September 2, 1970 and ending on or before December 30, 1970, one dollar for each individual who is a participant in such plan on the last day of the preceding plan year; or

(3) For plan years beginning before September 2, 1970, one dollar for each individual who is a participant in such plan at any time during the plan year.

(b) *Multiemployer plans.* Multiemployer plans shall pay premiums for basic benefits guaranteed under section 4022(a) or 4022A(a) as follows:

(1) For plan years beginning after September 20, 1980, multiemployer plans shall pay premiums at the rate set forth in the following table for each individual who is a participant in such plan on the last day of the preceding plan year.

	Rate
For plan years beginning:	
After Sept. 20, 1980 and before Sept. 27, 1984...	\$1.40
After Sept. 20, 1984 and before Sept. 27, 1986...	1.60
After Sept. 20, 1986 and before Sept. 27, 1988...	2.20
After Sept. 20, 1988	2.60

(2) For the plan year in which September 20, 1980 falls ("the enactment year"), multiemployer plans shall pay a premium for each individual who is a participant in such plan on the last day of the preceding plan year at the rate set forth in the following table:

	Rate
For plan years beginning in:	
September 1970	0.50
October 1970	.54
November 1970	.58
December 1970	.62
January 1980	.67
February 1980	.71
March 1980	.76
April 1980	.79
May 1980	.83
June 1980	.88

	Rate
July 1980	.92
August 1980	.96
September 1980 (on or before Sept. 26)	1.00

The rates in the above table equal (after rounding) the sum of—

(i) Fifty cents multiplied by a fraction, the numerator of which is the number of calendar months in the enactment year ending before September 20, 1980, and the denominator of which is twelve, and

(ii) One dollar, multiplied by a fraction equal to one minus the fraction determined under paragraph (b)(2)(i) of this section.

(3) For plan years before the enactment year, multiemployer plans shall pay premiums as follows:

(i) For plan years beginning on or after September 2, 1970, fifty cents for each individual who is a participant in such plan on the last day of the preceding plan year; or

(ii) For plan years beginning before September 2, 1970, fifty cents for each individual who is a participant in such plan at any time during the plan year.

(c) For plans not previously covered under section 4021 of the Act, the plan shall pay the applicable premium under paragraphs (a) or (b) of this section for each individual who is a participant in such plan on the plan's effective date.

§ 2602.6 [Amended]

5. Section 2602.6 is amended by deleting "(Rev. August 1975)."

6. Section 2602.12 is revised to read as follows:

§ 2602.12 Mailing address.

Plan administrators shall mail the Form PBGC-1 and all payments for premiums, interest and penalties to: Pension Benefit Guaranty Corporation, P.O. Box 2454, Washington, D.C. 20013.

(Secs. 4002(b)(5) and 4008(a), Pub. L. 93-400, 83 Stat. 1004, as amended by Secs. 403(l) and 105 (respectively), Pub. L. 93-384, 94 Stat. 1208 (20 U.S.C. 1302(b)(5) and 1300(a)))

Issued at Washington, D.C. on this 3rd day of December 1980.

Ray Marshall,
Chairman, Board of Directors, Pension Benefit Guaranty Corporation.

Issued on the date set forth above, pursuant to a resolution of the Board of Directors approving this regulation authorizing its Chairman to issue same.

Mitchell Strickler,
Acting Secretary, Pension Benefit Guaranty Corporation.

[FR Doc. 80-37070 Filed 12-5-80; 8 45 am]
DILLING CODE 7763-01-41

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 51

[AD-FRL-1694.3, Docket No. A-80-55]

Compliance With VOC Emission Limitations for Can Coating Operations

AGENCY: Environmental Protection Agency.

ACTION: Notice of policy memorandum.

SUMMARY: Reproduced below is a copy of a memorandum in which the Assistant Administrator for Air, Noise and Radiation describes an acceptable compliance program for can coating operations. This compliance program will allow the use of a daily weighted average in conjunction with a plantwide emission limitation.

FOR FURTHER INFORMATION CONTACT: Leo Stander, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards (MD-15), Research Triangle Park, N.C. 27711, (919/541-5510).

SUPPLEMENTARY INFORMATION: The memorandum reproduced below, with the Assistant Administrator for Air, Noise and Radiation sent to the ten Regional Administrators, describes a program for determining compliance with appropriate emission limitations in State Implementation Plans. This memorandum notifies State and local agencies that in EPA's view, in general, their regulations may be interpreted allowing a daily weighted average for approving permits and compliance plans without further regulatory changes or SIP revisions. EPA is encouraging this approach. A suggested format is attached to the memorandum.

David G. Hawkins,
Assistant Administrator for Air, Noise and Radiation.

United States Environmental Protection Agency,
Office of Air, Noise, and Radiation,
Washington, D.C., November 20, 1980.

Subject: Compliance with VOC Emission Limitations for Can Coating Operations

From: David G. Hawkins, Assistant Administrator for Air, Noise, and Radiation (ANR-443).

Memo to: Regional Administrator, Region I-X.

The Agency has been requested by the Manufacturers Institute to consider the utilization of the compliance program described below for determining compliance with appropriate emission limitations in State Implementation Plans. The Agency has previously considered such an approach in a memorandum dated November 21, 1979, from Richard C. Rhoads, Director, Control

DER

NOV 13 1980

BAOM

Best Available Copy

Regions Development Division to Director, Air and Hazardous Materials Division, Regions I-V entitled "RACT Options for Can Coating Operations." The Agency stated that "It is immaterial with such provisions would be approvable. This memorandum expands the Regional memorandum to cover options which can be utilized by States in determining compliance with can coating VOC emission limitations.

Mr. Rhoads' memorandum stated that a daily weighted average in conjunction with a State's emission limitation would be approvable as part of a SIP. This is because of the severe practical problems faced by can manufacturing plants where a number of plants supply as many as 50 different coatings, depending on the end uses of the cans. In this industry, line specific emission limitations may cause can coaters to be in violation when a high solvent coating is applied.

Regulatory language in State Implementation Plans defining the allowable emission limits for can coating operations differs in detail from State to State and among areas in individual States. The Agency believes that for the most part, the States and relevant local agencies may utilize a daily weighted average to determine whether a can manufacturing operation is in compliance

with the State's emission limitations. EPA is issuing this interpretative statement to notify State and local agencies that in EPA's view, in general, their regulations may be interpreted as allowing daily weighted averages for approving permits and compliance plans without further regulatory changes or the need for a SIP revision. EPA encourages such an interpretation.*

Compliance can be determined for any 24-hour period based on total actual emissions calculated from daily units of production records (e.g., number of each type of can, sheet, or end), application rates of each coating (e.g., gallons/units of production), solvent and solids content of each coating, and control efficiency. This would then be compared to the total allowable emissions for that production mix assuming each coating complied with applicable emission limitations. The attached suggested format allows use of a standardized equation to express the weight of VOC per gallon of coatings, less water, in terms of weight of VOC per gallon of solids to determine

compliance. The pounds of solvent per gallon of coating should be based on a certified analysis of the VOC content of each coating given to the user by the supplier. This analysis should be verifiable by laboratory analysis. For purposes of emission limitation compliance, VOC content of coatings is the responsibility of the user. The percent capture and control efficiency must be established by using approved test methods on the worst case solvent or for all cases of use and held constant until such time as a new test is conducted to demonstrate a different efficiency.

It is essential that companies keep detailed records in a format that will allow simple and accurate verification and that the information be available as necessary for compliance certification and possible enforcement action. Further, standard test methods to verify the solvent content of each coating should be in accordance with those prescribed in the State's regulations.

States are urged to utilize enforcement techniques which encourage the development and use of low solvent coatings technology in the can manufacturing industry. In the long run, use of such technology is preferable to incineration from the point of view of reliability and maintenance of controls, as well as for purposes of energy conservation. Attachment.

*This compliance method may be applicable to multipoint situations where the plants are under common ownership or control and are located in the same geographic area. EPA will consider approval of such multipoint applications of this method.

Suggested Format for Determining Compliance for Can Coating Operations¹

	Pounds VOC per gallon coating less water	Percent solids	Percent solvent	Percent water	Pounds VOC per gallon solids	Application rate (gallon per unit produced)	Units produced	Gallon coating applied (f x g)	Gallon solids applied (D x h + 100)	Control ² efficiency	Pounds of VOC (e x i x (j - k))
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Actual Emissions											
1. Sheet coating	0.42	20.4	73.0		20.62	22	5	110	220	0.01	110.1
2. Sheet coating	1.09	60.0	0.7	41.3	1.20	10	24	240	120.0		153.6
3. Sheet coating	0.00	31.2	60.0		10.23	10	24	240	74.0	.01	831.0
4. End seam	0.34	13.0	60.1		45.59	1.5	10	27	3.8		173.2
5. Inside spray	3.01	10.0	16.1	65.0	6.33	6	24	162	30.7		255.7
6. End compound	4.20	42.0	67.1		0.60	1.6	24	38	15.4		160.0
Actual total emissions											1,077.6
Allowable Emissions Using Complying Coating³											
1. Sheet coating	2.0				4.52				20.0		131.1
2. Sheet coating	2.0				4.52				120.0		642.4
3. Sheet coating	2.0				4.52				74.0		338.5
4. End seam	6.5				21.76				3.0		62.7
5. Inside spray	4.2				0.70				30.7		200.2
6. End compound	3.7				7.44				15.4		114.6
Allowable total emissions											1,502.5

¹ Concept based on the following principal for computing actual and allowable emissions: Pounds VOC emitted = pounds VOC per gallon of solids x gallons of solids applied per unit. (Same units of solids applied for actual and allowable.)

² Control efficiency varies with emission devices used. The percent capture and control efficiency must be established by using approved test methods on the worst case solvent or for all cases of use and held constant until such time as a new test is conducted to demonstrate a different efficiency.

³ Complies with State VOC emission limitations.

Note: Data in columns a, b, c, d, f, g, and j (under actual emissions) obtained from plant records including slushing solvent.

(i) = Density of solvent for complying coating (average density is 7.38 lbs/gallon)

$$e = \frac{(a) \times C}{(b)} \quad C = 100 \text{ pct or } e = \frac{D \times (k)}{[D - (a)]}$$



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Dale Twachtmann

for FROM: Steve Smallwood *[Signature]*

SUBJ: Approval of Permit Amendment for Citrus Central Inc
Permit No. AC 48-155533

RECEIVED
JUN 21 1989

DATE: June 21, 1989

Office of the Secretary

Attached for your approval and signature is a permit amendment prepared by Central Air Permitting for Citrus Central's Can Assembly and End Seal Compounding Plant in Plymouth, Orange County, Florida.

I recommend your approval and signature.

SS/PR

Attachments

*Please call
Patty Adams
when signed
8-1344*

P 832 539 855



Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to	
Mr. John Z. Randall, Citrus Central	
Street & No. P. O. Box 607774	
P.O., State & ZIP Code Orlando, FL 32860	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$
Postmark or Date	
Mailed: 6-28-91 Permit: AC 48-158976	

PS Form 3800, June 1990

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. John Z. Randall
President
Citrus Central, Inc.
P. O. Box 607774
Orlando, FL 32860

JUL 05 1991

4a. Article Number
P 832 539 855

Division of Air Resources Management

- 4b. Service Type
- Registered
 - Certified
 - Express Mail
 - Return Receipt for Merchandise

7. Date of Delivery

7-2-91

5. Signature (Addressee)

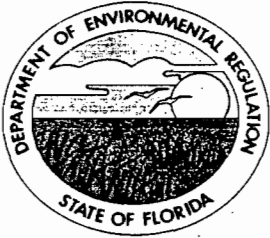
8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, October 1990

U.S. GPO: 1990-273-861

DOMESTIC RETURN RECEIPT



Florida Department of Environmental Regulation

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

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 27, 1991

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall, President
Citrus Central, Inc.
P. O. Box 607774
Orlando, Florida 32860

Re: Orange County - A.P.
Citrus Central, Inc.
AC 48-158976
Metals Division Permit with Thermal Oxidizer

Dear Mr. Randall:

The Department is in receipt of your letter dated April 8, 1991 requesting an extension of the expiration date for the above referenced project. Although, the Department has extended the expiration date of this permit three times previously and this project has already completed construction, this permit is being extended for a limited time. The extension will allow you to conduct a stack test and submit the stack test results demonstrating compliance, along with an operation permit application, in the specified time referenced below.

Expiration Date Extension:

From: June 30, 1991

To: August 15, 1991, September 29, 1991 or December 28, 1991 conditional upon the following:

1. This permit shall be extended until August 15, 1991, in order for the permittee to conduct the required compliance tests for capture efficiency and destruction efficiency. If the required compliance tests are not completed by midnight on August 15, 1991, this permit shall be deemed to have expired and no future extensions shall be granted.
2. Providing the permittee has fulfilled the requirements of the first specific condition of extension by August 15, 1991, this permit shall automatically be extended until September 29, 1991. This extension will allow the permittee to submit the results of the compliance tests and submit an application for an operation permit along

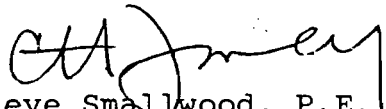
with the appropriate permit fee, and a certification that construction was completed noting any deviations from the conditions in the construction permit. If the materials required by this specific condition are not received at the Department's Central Florida District office in Orlando, Florida by the close of business on September 29, 1991, this permit shall be deemed to have expired and no future extensions shall be granted.

3. Providing the permittee has fulfilled the requirements of the first and second specific conditions of extension by the required dates, this permit shall automatically be extended until December 28, 1991, in order to allow the Department to take final agency action concerning the application for an operation permit. This permit shall expire at midnight on December 28, 1991 and no future extensions shall be granted.

This letter shall be attached to the permit referenced above and shall become a part of that permit.

It should be noted that the correct number of this permit is AC 48-158976 and not AC 48-155976 as referenced in your request letter. All other permit conditions issued previously remain in effect.

Sincerely,

for 
Steve Smallwood, P.E.
Director
Division of Air Resources
Management

SS/MB/plm

c: Chuck Collins, CD
Steve Neck, P.E.



CITRUS CENTRAL, INC.

RECEIVED
JUN 17 1991
PO BOX 607774 Orlando, Florida U.S.A. 32816-7774
PHON 408/419-4101
Division of Air Resources Management

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
F.D.E.R., 2500 Blair Stone Rd.
Tallahassee, FL 32399-2400

June 12, 1991

Dear Mr. Fancy:

I am writing in regard to my previous letter dated April 8, 1991 in which we requested another extension for our permit #AC 48-158976 (last denoted as #AC 1555976). Citrus Central and its consultant, Steve Neck of A.C.E., have been prepared to test the plant's stack emissions for several months. However, it appears that some confusion over stack test procedures exists. After two years of working with Tallahassee DER and EPA, we felt that our stack test procedures were acceptable and were scheduled to proceed with tests in March of this year. At that point, Central Florida District DER officials told us for the first time that we did not have their approval. They wanted to: meet with us, obtain a letter from your Tallahassee office indicating approval of our procedures, and have our consultant submit detailed procedures and drawings for the stack tests we were planning to perform. We have been diligently working on satisfying the Central District's requirements.

Would you please carefully consider our need for another extension on our construction permit, so we do not have to practically start all over again. We intend to perform the stack tests this summer, and will submit results to you within 60 days after sampling. Therefore, we need at least three months extension from when you answer this request.

If there are any questions, please contact me or Susan Arrington as soon as possible.

Sincerely,

CITRUS CENTRAL, INC.

John Z. Randall, Pres. & CEO.

cc: Charles Collins, FDER., Central Dist.
Thomas K. Maurer, Esquire, Foley & Lardner
M. *[Signature]*



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: <u>Mike</u>	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Chuck Collins
FROM: Jim Pennington *W/Kell*
DATE: June 25, 1991
SUBJ: Source Sampling Protocol - Citrus Central
Permit No. AC 48-158976

On May 8, 1991, we forwarded comments about the proposed VOC emission testing protocol for Citrus Central Metals, Inc. to you. A copy of the comments was sent to the company's consultant, Air Consulting and Engineering, Inc. The comments basically recommended approval of the proposed sampling protocol with the exception of those aspects that deviated from EPA's "Guidance on Addressing Capture Efficiency in Enforcing VOC SIP Regulations."

On May 17, a representative of Air Consulting and Engineering, Inc., called to discuss the basis for the proposed deviations from the EPA test protocol. The reasons for the proposed deviations were discussed at some length. The proposed deviations and the reasons were then discussed with Mr. Gary McAlister of EPA.

As a result of the discussions, it is necessary to offer the following revisions to our comments about the deviations to the EPA protocol for Citrus Central.

- 1.0 The consultant indicated that the proposed sampling effort would include 24 to 46 sources that are to be sampled four times per hour. The time required for each sample is at least one minute plus the response time of the instrument. This would make it physically impossible to use only one FIA. Therefore, it is recommended that the request for approval to use more than one FIA be granted.
- 2.0 The consultant explained that it would be necessary to remove rain covers from each of the ambient temperature roof vents and use temporary fabricated vent stack extensions to obtain valid gas flow

TO: Chuck Collins
DATE: June 25, 1991
PAGE: Two

measurements. According to the consultant, the fans for the ambient temperature roof exhausts operate at constant rpm. In order to conduct the sampling within a reasonable time frame the consultant has proposed to measure the flow from each of the ambient temperature roof exhausts the day before the testing. But, the consultant proposes to measure flows from other intake and exhaust stacks, including cooler and preheat flows hourly. In view of the number of sources involved, the consultant's proposed deviation should be approved subject to the following condition. The volumetric flow from a representative number of the ambient temperature roof exhaust vents is to be measured again within 24 hours after the actual source testing is completed. The purpose of the second measurement is to demonstrate that the volumetric flow is constant.

- 3.0 The consultant asked that the requirement to use heat-traced line for all sources be waived for those sources where the gases are at ambient temperature. The basis for the request was the prohibitive cost of the quantity of the heat-traced line needed to sample all of the emission points. Air Compliance and Engineering, Inc. indicated that VOC condensation in the sample line could be detected because the sampling instrument would not zero. The request should be approved providing the consultant uses heat-traced line to sample all sources that emit gases at temperatures in excess of ambient. In addition, heat-traced line should be used where condensation problems are noted.
- 4.0 It will be necessary to use data acquisition systems pursuant to the requirements of the protocol. The consultant has agreed to this requirement.
- 5.0 The consultant has agreed to perform the background sampling that is required by "G.1 Captured VOC Emissions."

The destruction efficiency of the REECO incinerator is to be determined through the measurement of both inlet and outlet concentrations of VOC using Method 25. The sample collection rate of EPA Method 25 is not to be reduced in order to extend

TO: Chuck Collins
DATE: June 25, 1991
PAGE: Three

the duration of each EPA Method 25 destruction efficiency run. The EPA Method 25 sample collection rate is to be from 60 - 100 ccm/min as required by 40 CFR 60 Appendix A.

If you have any questions please contact either me or Mike Harley at Suncom 278-1344.

JKP/mdh

cc: G. Kuberski
S. Neck

CITRUS CENTRAL, INC.



RECEIVED
JUN 17 1991
P.O. BOX 607774 / Orlando, Florida, U.S.A. 3260-7774
PHON (305) 899-4101
Division of Air Resources Management

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
F.D.E.R., 2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

June 12, '91

Dear Mr. Fancy:

I am writing in regard to my previous letter dated April 8, 1991 in which we requested another extension for our permit #AC 48-158976 (last denoted as #AC 1555976). Citrus Central and its consultant, Steve Neck of A.C.E., have been prepared to test the plant's stack emissions for several months. However, it appears that some confusion over stack test procedures exists. After two years of working with Tallahassee DER and EPA, we felt that our stack test procedures were acceptable and were scheduled to proceed with tests in March of this year. At that point, Central Florida District DER officials told us for the first time that we did not have their approval. They wanted to: meet with us, obtain a letter from your Tallahassee office indicating approval of our procedures, and have our consultant submit detailed procedures and drawings for the stack tests we were planning to perform. We have been diligently working on satisfying the Central District's requirements.

Would you please carefully consider our need for another extension on our construction permit, so we do not have to practically start all over again. We intend to perform the stack tests this summer, and will submit results to you within 60 days after sampling. Therefore, we need at least three months extension from when you answer this request.

If there are any questions, please contact me or Susan Arrington as soon as possible.

Sincerely,

CITRUS CENTRAL, INC.

A handwritten signature in cursive script that reads "John Z. Randall".

John Z. Randall, Pres. & CEO.

cc: Charles Collins, FDER., Central Dist.
Thomas, K. Maurer, Esquire, Foley & Lardner
M. Bally

CITRUS CENTRAL, INC.



RECEIVED
P.O. BOX 607274, Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

APR 12 1991

DER-BAQM

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
Fl. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

April 8, 1991

Dear Mr. Fancy:

I am writing to request another extension on our Metals Division construction permit #AC 48-1555976. As you may be aware, we have not been able to get written approval on a protocol for the air emissions compliance test at this plant; and it will not be possible to obtain lab results and submit the final report to you under the current June '91 deadline. The air samples will take at least 45 days for lab analysis alone. In a meeting on 3/21/91 with Central District engineers, Chuck Collins, Alan Zahm and John Turner, we were informed that we should not only provide drawings and calculations of our proposed procedures and testing protocol, but we must get written approval from your office before our local officials will allow us to proceed with compliance tests. Our consultant, Steve Neck, P.E. will be working with Jim Pennington of FDER to obtain this written approval. We now anticipate being able to perform air compliance tests by the middle of July. Please grant another extension on our current construction permit, so we will all be prepared for the sampling and tests.

Sincerely,

CITRUS CENTRAL, INC.

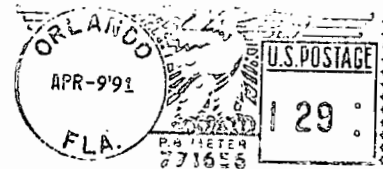
John Z. Randall, Pres. & CEO.

cc. R. Cannon
C. Collins, FDER.
D. Nester, Org. Cty. EP.

m. Daig

CITRUS CENTRAL, INC.
P.O. Box 607774
Orlando, FL 32860-7774

CERTIFIED
P 874 796 877
MAIL



ATTN.- MR. CLAIR FANCY, DEP. CHIEF
FL. DER. - B.A.Q.M.
2600 BLAIR STONE RD.
TALLAHASSEE
FL. 32399-2400

P 280 742 403

RECEIPT FOR CERTIFIED MAIL

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

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

PS Form 3800, June 1985

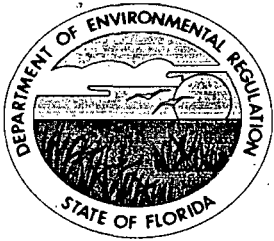
Sent to	John Randall
Street and No.	Citrus Central
P.O., State and ZIP Code	P.O. BOX 60774 Orlando, FL
Postage	
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt showing to whom and Date Delivered	
Return Receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	11-1-90 AC 48-158976

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: John Z. Randall Citrus Central, Inc. P.O. BOX 60774 Orlando, FL 32860	4. Article Number P 280 742 403
5. Signature - Addressee X	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
6. Signature - Agent X <i>Chris Santiago</i>	Always obtain signature of addressee or agent and DATE DELIVERED.
7. Date of Delivery 11-1-90	8. Addressee's Address (ONLY if requested and fee paid)



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

October 29, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central, Inc.
Post Office Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Re: Permit Expiration Date Extension
Metals Division Permit with Thermal Oxidizer
AC 48-158976

The Department is in agreement with your request received October 1, 1990, for an extension of the expiration date of the above referenced permit. The following shall be changed and added to the permit.

Expiration Date Change:

From: December 31, 1990
To: June 30, 1991

Attachment to be Added:

o Mr. John Z. Randall's letter received October 1, 1990.

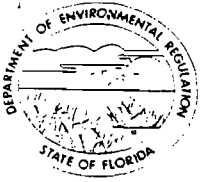
This letter must be attached to the above referenced permit and shall become a part of that permit.

Sincerely,

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

SS/BM/plm

c: C. Collins, Central Dist.
D. Nester, OCEPD



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Steve Smallwood
FROM: Clair Fancy *CF*
DATE: October 29, 1990
SUBJ: Amendment to Construction Permit No. AC 48-158976
Citrus Central, Inc.

Attached for your approval and signature is a letter extending the expiration date for the above referenced construction permit.

The Bureau recommends approval of this amendment.

CF/BM/plm

Attachment



CITRUS CENTRAL, INC.

P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE 889-4101

RECEIVED

OCT 1 1990.

DER-BADW

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
Fl. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

Sept. 27, '90

Dear Mr. Fancy:

I am writing to request another extension on our Metals Division construction permit #AC 48-1555976. As you may be aware, EPA and FDER still have not agreed on our proposed protocol for the air emissions compliance test at this plant; and it will not be possible to obtain lab results and submit the final report to you under the current Dec. '90 deadline. The air samples will take at least 45 days for lab analysis alone. If regulatory officials can agree on a protocol, we will schedule tests for Jan. '91 and anticipate submitting the final report to you by March '91.

Please grant us another extension of at least three months, so we can work out a mutually acceptable and understood protocol for testing. Thank you for your assistance in this matter.

Sincerely,

CITRUS CENTRAL, INC.

John Z. Randall
President & C.E.O.

cc. R. Cannon
D. Nester, Org. Cty. E.P.
C. Collins, Centr. Fl. DER.
S. Neck, A.C.E.

BA/CHF
Bruce Mitchell } 10/2/90 RM

P 423 104 506

RECEIPT FOR CERTIFIED MAIL

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

PS Form 3800, June 1985
* U.S.G.P.O. 1989-234-555

Sender	
John Z Randall	
Street and No.	
Citrus Central, Inc.	
P.O., State and ZIP Code	
P.O. BOX 607774	
Postage	\$
Orlando, FL	
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	
AC 48-158976	
6-13-90	

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: John Z. Randall Citrus Central, Inc. P.O. BOX 607774 Orlando, FL 32860	4. Article Number P 423 104 506
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 - Address X <i>JZ</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X <i>[Signature]</i>	
7. Date of Delivery <i>6-13-90</i>	



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

June 8, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central, Inc.
Post Office Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Re: Permit Expiration Date Extension
Metals Division Permit with Thermal Oxidizer
AC 48-158976

The Department is in agreement with your requests dated March 16 and May 24, 1990, for an extension of the expiration date of the above referenced permit. The following shall be changed and added to the permit.

Expiration Date Change:

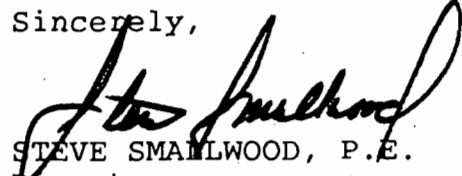
From: July 1, 1990
To: December 31, 1990

Attachments to be Added:

10. Mr. John Z. Randall's letter received March 23, 1990.
11. Mr. John Z. Randall's letter received May 29, 1990.

This letter must be attached to the above referenced permit and shall become a part of that permit.

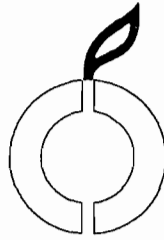
Sincerely,


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

SS/BM/plm

c: C. Collins, Central Dist.

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

RECEIVED

MAR 23 1990

DER - BAQM

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
Fl. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

March 16, '90

Dear Mr. Fancy:

We at Citrus Central, Inc. are requesting an extension on our construction permit for the Metals Division (#AC 48-155976). There has been a problem with having our air emissions compliance test protocol approved by your department's Central District engineers. (Please review the enclosed letter from Mr. Collins, which outlines some of the problems that need to be resolved before testing emissions.)

Please grant us another extension of at least two months, so we can work out a mutually acceptable and understood protocol for testing. Thank you for your assistance in this matter.

Sincerely,

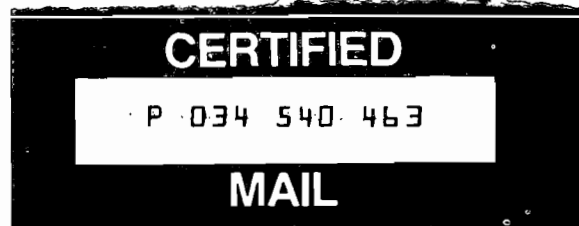
CITRUS CENTRAL, INC.

John Randall
John Z. Randall
President & C.E.O.

cc. R. Cannon
D. Nester, Org. Cty. E.P.
C. Collins, Centr. Fl. DER.
S. Neck, A.C.E.

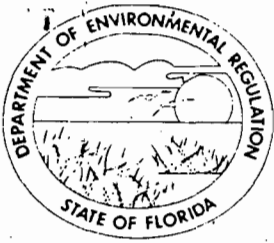
cc: *A. Rawls M. Baig B. Mitchell*
CHF/JRP/RT

CITRUS CENTRAL, INC.
P.O. Box 607774
Orlando, FL 32860-7774



Attn. - Mr. Clair Fancy, Dep. Chief.
FI. DER. - BAQM.
2600 Blair Stone Rd.
Tallahassee
FL. 32399-2400

Handwritten address in black ink. The word "Attn." is underlined. The address is written in a cursive style.



Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767 • 407-894-7555

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

March 6, 1990

OCD-AP-90-0871

Mr. Stephen L. Neck, P.E.
Air Consulting & Engineering
2106 Northwest 67th Place
Suite 4
Gainesville, Florida 32606

Orange County - AP
Permit AC48-155976
Citrus Central Metals

Dear Mr. Neck:

We are in receipt of your January 22, 1990 letter concerning a proposed compliance test at Citrus Central Metals, Inc.

The referenced permit was issued by CAPS in Tallahassee and therefore any changes in Specific Condition No. 8 should be coordinated with Mr. Jim Pennington, P.E. The use of referred Method 25A would require an Alternate Sampling Procedure approved by Mr. John Brown, P.E.

When expected VOC concentrations are predicted, by sound engineering judgment, to be less than 100 ppm then it is not necessary to prove equivalency with Method 25. It is necessary however, to secure approval of an Alternate Sampling Procedure.

It should be understood that when reference is made to Method 25, we are referring to the latest revised method which specifies the use of audit gases, etc. Please clarify this fact when you communicate with the Air Resources Management Division.

Other points that need clarification are:

1. Reflect emission limits as 11.5 and 15.1 lbs/hr VOC from fugitive sources and the thermal oxidizer, respectively. Your plans says lbs/hr as carbon. The permit limits are stated as VOC.
2. Agree to test between 90% and 100% of the maximum permitted conditions which include 6.5 gal/hr of spent VOC's to fuel the thermal oxidizer.
3. Explain points F and G on the diagram. Do any VOC's escape at these points?

Mr. Stephen L. Neck, P.E.
OCD-AP-90-0871
March 13, 1990
Page Two

4. Do you intend for us to treat the drawing as confidential?
5. Does your total enclosure cover the flash off area after the coated material leaves the oven?

Please provide us with the EPA approved test protocol that you referenced in the first paragraph of your letter.

We are enclosing a copy of Rule 17-2.700(3) for your use in applying for the Alternate Sampling Procedure, also a memo from EPA which was received on March 12, 1990.

Regards,

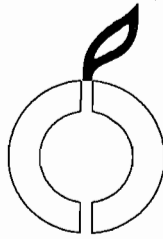
Charles M. Collins
Charles M. Collins, P.E.
Program Administrator
Air Resources Management

CMC:j

cc: Dennis Nester, Orange County
John Brown, Tallahassee
✓ Susan Arrington

Enclosures: 2
Rule 17-2.700(3)
EPA Memo

CITRUS CENTRAL, INC.



RECEIVED
P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE 407-889-4101
MAY 29 1990

DER - BAQM

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
Fl. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

May 24, '90

Dear Mr. Fancy:

This letter is a follow up to one sent to you and dated March 16th. It was certified and signed by G. Aman at your offices on 3/23/90. As in that letter, we at Citrus Central, Inc. are requesting an extension on our construction permit for the Metals Division (#AC 48-155976).

There has been a problem with having our air emissions compliance test protocol approved by your department's engineers. (Please review the enclosed letter to Mr. Pennington which outlines some of the problems that need to be resolved before testing emissions.) We still have not received a response from the 4/30/90 letter sent to FDER.'s Mr. Pennington.

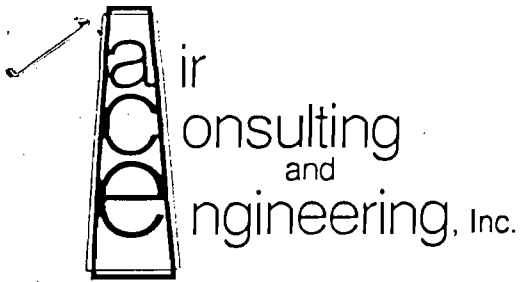
Please grant us another extension of at least two months, so we can work out a mutually acceptable and understood protocol for testing. Thank you for your assistance in this matter.

Sincerely,

CITRUS CENTRAL, INC.

John Z. Randall
President & C.E.O.

cc. R. Cannon
D. Nester, Org. Cty. E.P.
C. Collins, Centr. Fl. DER.
J. Pennington (ASP file) }
BA/CHF } 5-30-90 RAN
Bruce Mitchell }



April 30, 1990
195 89 11
200 90 02

Mr. James K. Pennington, P.E.
Administrator
Florida Department of
Environmental Regulation
Bureau of Air Regulation
Permitting and Standards
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Pennington:

I wish to address your April 24, 1990, request for additional information concerning the "Alternate Sampling Procedure" requests for Citrus Central, Inc., and Spiralkote, Inc. (copy enclosed). The following discussion is offered by point:

1. The requested authorizations are being sent under separate cover.
2. The specific method for reporting actual VOC emissions was addressed by Point 4 under "Day 2 Testing" of the March 21, 1990, submittal. In brief, the total VOC emissions are a combination of demonstrated incinerator emissions and demonstrated fugitive losses. These are presented as a percentage of the documented usage times the EPA Method 24 VOC content of that documented usage. The emission results will, therefore, be reported as lb/Hr actual VOC.
3. Agreed
4. Emission Points F and G are "wicket preheat" exhausts. The concentration of these gas streams is the same as the incinerator effluent discharge (Point A). Thus, it is only necessary to measure volumetric exhaust flows for these two points to arrive at mass emissions for F and G.
5. There is no "flash-off area" after the coated material leaves the oven. This area of the process is the "cooler" section where outside air is injected and withdrawn with flows adjusted to maintain a negative pressure. However, to demonstrate that this negative draft is indeed maintained, a temporary total enclosure (TTE) will be constructed over this area in addition to the other areas mentioned in the protocol. Flow through natural draft openings will be monitored. All TTE's will be constructed to conform with "Guidance on Addressing Capture

Page 2

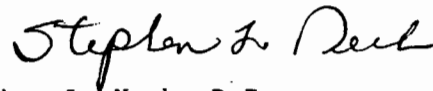
Mr. James K. Pennington, P.E.

April 30, 1990

Efficiency in Enforcing VOC SIP Regulations," EPA March 16, 1990. Enclosure details cannot be given at present, but conformance will be demonstrated at the time of testing. It is quite probable that Day 1 testing and Day 2 testing will be interrupted by an off day to ensure adequate time for TTE construction and evaluation.

Please contact me if you wish additional clarification.

Respectfully,



Stephen L. Neck, P.E.

SLN:klp

Enclosures

cc: Mr. Chuck Collins (FDER--Orlando)
Mr. Dennis Nester (Orange County Pollution Control Department)
Ms. Susan Arrington (Citrus Central, Inc.)
Mr. Russell Canon (Citrus Central, Inc.)
Mr. Bruno Ferraro (Grove Scientific)



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

TO: Steve Smallwood
FROM: *JKP* Clair Fancy *JKP*
DATE: June 8, 1990
SUBJ: Permit Expiration Date Extension
Citrus Central, Inc.
Metal Division Permit with Thermal Oxidizer, AC 48-158976

Attached for your approval and signature is a permit expiration date extension prepared by the Bureau of Air Regulation for Citrus Central for the facility located in Plymouth, Orange County, Florida.

The extension is not controversial.

I recommend your approval and signature.

CF/BM/plm

Attachments

ok



Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767 • 407-894-7555

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary
Alex Alexander, Deputy Assistant Secretary

March 6, 1990

OCD-AP-90-0871

Mr. Stephen L. Neck, P.E.
Air Consulting & Engineering
2106 Northwest 67th Place
Suite 4
Gainesville, Florida 32606

RECEIVED
MAR 14 1990
DER-BAQ

Orange County - AP
Permit AC48-155976
Citrus Central Metals

Dear Mr. Neck:

We are in receipt of your January 22, 1990 letter concerning a proposed compliance test at Citrus Central Metals, Inc.

The referenced permit was issued by CAPS in Tallahassee and therefore any changes in Specific Condition No. 8 should be coordinated with Mr. Jim Pennington, P.E. The use of referred Method 25A would require an Alternate Sampling Procedure approved by Mr. John Brown, P.E.

When expected VOC concentrations are predicted, by sound engineering judgment, to be less than 100 ppm then it is not necessary to prove equivalency with Method 25. It is necessary however, to secure approval of an Alternate Sampling Procedure.

It should be understood that when reference is made to Method 25, we are referring to the latest revised method which specifies the use of audit gases, etc. Please clarify this fact when you communicate with the Air Resources Management Division.

Other points that need clarification are:

1. Reflect emission limits as 11.5 and 15.1 lbs/hr VOC from fugitive sources and the thermal oxidizer, respectively. Your plans says lbs/hr as carbon. The permit limits are stated as VOC.
2. Agree to test between 90% and 100% of the maximum permitted conditions which include 6.5 gal/hr of spent VOC's to fuel the thermal oxidizer.
3. Explain points F and G on the diagram. Do any VOC's escape at these points?

Mr. Stephen L. Neck, P.E.
OCD-AP-90-0871
March 13, 1990
Page Two

4. Do you intend for us to treat the drawing as confidential?
5. Does your total enclosure cover the flash off area after the coated material leaves the oven?

Please provide us with the EPA approved test protocol that you referenced in the first paragraph of your letter.

We are enclosing a copy of Rule 17-2.700(3) for your use in applying for the Alternate Sampling Procedure, also a memo from EPA which was received on March 12, 1990.

Regards,

Charles M. Collins
Charles M. Collins, P.E.
Program Administrator
Air Resources Management

CMC:j

cc: Dennis Nester, Orange County
✓ John Brown, Tallahassee
Susan Arrington

Enclosures: 2
Rule 17-2.700(3)
EPA Memo

Mr. Stephen L. Neck, P.E.
OCD-AP-90-0871
March 13, 1990
Page Two

4. Do you intend for us to treat the drawing as confidential?
5. Does your total enclosure cover the flash off area after the coated material leaves the oven?

Please provide us with the EPA approved test protocol that you referenced in the first paragraph of your letter.

We are enclosing a copy of Rule 17-2.700(3) for your use in applying for the Alternate Sampling Procedure, also a memo from EPA which was received on March 12, 1990.

Regards,

Charles M. Collins
Charles M. Collins, P.E.
Program Administrator
Air Resources Management

CMC:j

cc: Dennis Nester, Orange County
✓ John Brown, Tallahassee
Susan Arrington

Enclosures: 2
Rule 17-2.700(3)
EPA Memo

P 938 762 735

RECEIPT FOR CERTIFIED MAIL

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

PS Form 3800, June 1985

Sent to Mr. John Z. Randall, Citrus	
Street and No. Central, Inc.	
P. O. Box 607774	
P.O. State and ZIP Code Orlando, FL 32860	
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 Permit: AC 48-158976 Mailed: 11-7-89	

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. John Z. Randall Citrus Central Inc. P. O. Box 607774 Orlando, FL 32860	4. Article Number P 938 762 735 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
5. Signature — Address X	Always obtain signature of addressee or agent and DATE DELIVERED.
6. Signature — Agent X	8. Addressee's Address (ONLY if requested and fee paid)
7. Date of Delivery	

PS Form 3811, Mar. 1988

* U.S.G.P.O. 1988-212-865

DOMESTIC RETURN RECEIPT



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 26, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central Inc.
Post Office Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Re: Permit Expiration Date Extension
Metals Division Permit with Thermal Oxidizer
AC 48-158976

The Department is in agreement with your request dated October 11, 1989, for an extension of the expiration date of the above referenced permit. The following shall be changed and added to the permit.

Expiration Date Change:

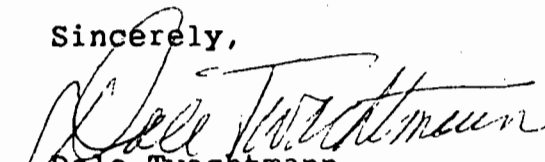
From: April 1, 1990
To: July 1, 1990

Attachment to be Added:

9. Citrus Central letter received October 13, 1989.

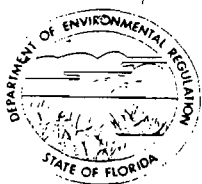
This letter must be attached to the above mentioned permit and shall become a part of that permit.

Sincerely,


Dale Twachtmann
Secretary

DT/kt

cc: C. Collins, Central District



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

RECEIVED
OCT 25 1989

For Routing To Other Than The Addressee	
To: _____	Location: _____
To: _____	Location: _____
To: _____	Location: _____
From: _____	Date: _____

Interoffice Memorandum

Office of the Secretary

TO: Dale Twachtmann
FROM: Steve Smallwood *Steve Smallwood*
DATE: October 24, 1989
SUBJ: Permit Expiration Date Extension
Citrus Central, Inc.
Metal Division Permit with Thermal Oxidizer, AC 48-158976

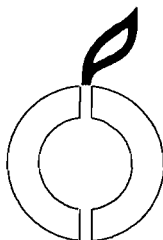
Attached for your approval and signature is a permit expiration date extension prepared by the Bureau of Air Regulation for Citrus Central for the facility located in Plymouth, Orange County, Florida.

I recommend your approval and signature.

attachment

SS/pr

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

RECEIVED

OCT 13 1989

DER-BAQM

Oct. 11, 1989

Mr. Clair Fancy, Deputy Chief
Bureau of Air Quality Mgmt.
Fl. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

Dear Mr. Fancy:

We at Citrus Central, Inc. are requesting an extension on our construction permit for the Metals Division (#AC 48-155976). There has been another delay in shipment of the equipment needed to use the auxiliary fuel burning capability on the new thermal oxidizer, so we can't perform the air emissions, compliance tests yet.

Please consider granting an extension of at least two months, because we anticipate the delays to postpone our compliance testing by at least that much time. Thank you for your assistance in this matter.

Sincerely,

CITRUS CENTRAL, INC.

A handwritten signature in cursive script that reads "John Z. Randall".

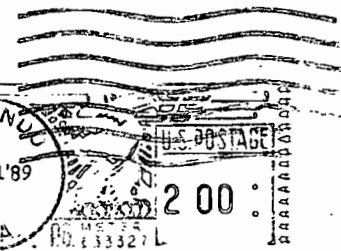
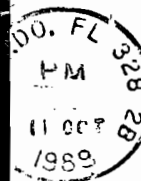
John Z. Randall
President & C.E.O.

cc. R. Cannon
D. Nester, Org. Cty. E.P.
C. Collins, Centr. Fl. DER.

P. Laval
CHF/BT

CITRUS CENTRAL, INC.
P.O. Box 607774
Orlando, FL 32860-7774

RETURN TO SENDER
IF ADDRESSEE IS UNREACHABLE
REQUESTED



Mr. Clair Fancy, P.E.
Deputy Chief - B.A.Q.M.
FL. D.E.R.

2600 Blair Stone Rd.
Tallahassee

FL.

32399-2400

Permit NO: AC 48-155976

Issued: May 8, 1989

Expires: April 1, 1990

VOC

Coil Coater lines 1 & 2

UV press line 1

2 Cooler-UV press line 2

Thermal Oxidizer

Extensions:

1. From: April 1, 1990

To: July 1, 1990 on Oct 26, 1989.

2. From: July 1, 1990

To: Dec 31, 1990 on June 8, 1990

3. From: Dec 31, 1990

To: June 30, 1991 on Oct 29, 1990.

4. From: June 30, 1991

To:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

4APT-AC

AUG 11 1989

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

RECEIVED

AUG 14 1989

DER-BAQM

Subject: Review of VOC Capture Efficiency Test Procedures in Protocol Proposed for Coil Coaters C1 and C2 and U.V. Press Lines P1 and P2 at Citrus Central, Inc., Located in Plymouth, Florida

Dear Mr. Fancy:

As requested in your letter of July 6, 1989, we have reviewed the referenced protocol. Based upon this review, we have identified two concerns which will be addressed in greater detail in the remainder of this letter. In order to facilitate the discussion of our concerns regarding the protocol that Air Consulting and Engineering (ACE) has proposed, we have enclosed a copy of comments we made on a previous Citrus Central test protocol that we reviewed in May 1989.

The primary problems that we have identified in the ACE protocol are its reliance on material safety data sheet (MSDS) information rather than analytical (i.e., Method 24) data to determine liquid VOC input and its failure to mention whether or not Citrus Central foresees the need to claim any capture efficiency credit for VOC "preincineration" that may occur in their drying oven air recirculation loops.

We do not recommend that MSDS be used to determine liquid VOC input because our experience with VOC capture efficiency testing has led us to the conclusion that measuring liquid VOC input represents one of the largest potential sources of error during capture efficiency tests. Since this aspect of capture efficiency represents such a large source of potential error we have determined that, ideally, the liquid input measurement portion of gas/liquid capture efficiency tests should incorporate the following features:

1. Utilize appropriate analytical techniques (i.e., Method 24 or 24A) rather than MSDS to determine the VOC content of coating materials used.

2. Utilize procedures that accurately account for the change in coating reservoir VOC content and diluent solvent additions over the course of a test.

We consider actual coating analytical data to be better than MSDS for determining coating VOC content because we are aware of at least one major enforcement case (Austill Packaging) where a source has challenged the accuracy of MSDS information as part of its defense when gas/liquid capture efficiency tests indicated violations of an applicable capture efficiency standard. Since actual coating analytical data should be more accurate than manufacturers' VOC content estimates, test results based upon analytical VOC results should be more reliable and defensible when used as evidence in support of an enforcement action. The need to account for coating reservoir VOC content changes and diluent solvent additions is addressed in more detail in Item 3 of our May 19, 1989, comments on Citrus Central's previous test protocol.

Our position on providing credit for VOC preincineration is discussed in Item 4 of our May 19 letter and is as follows: if Citrus Central anticipates claiming capture efficiency credit for such VOC destruction they should propose the procedures they intend to use and obtain approval for the procedures prior to conducting the tests. According to a recent draft of capture efficiency procedures developed by EPA's Emission Measurement Branch (EMB), one possible approach to use when oven preincineration is a possibility is to build a temporary total enclosure around the source being tested and determine (1) the amount of liquid VOC used by the affected facility (L), (2) the source's fugitive VOC emissions (F), and (3) the VOC emitted from the source's control device (E). If all three of these quantities can be measured or converted to the same basis, the overall efficiency (OE) for the control system can then be calculated as follows:

$$OE = (L - F - E) \times 100/L$$

While this approach does not allow for a direct measurement of capture efficiency, it does provide a fairly straightforward way to determine a source's overall control efficiency.

Another fact that the Bureau of Air Quality Management should be aware of is that EPA's Emission Measurement Branch (EMB) is in the process of developing capture efficiency testing guidelines. Since these guidelines have not been finalized yet, there is always the potential that any protocol you develop during your discussions with Citrus Central may not be acceptable according to the guidance that EMB intends to issue around the first of October. Therefore, if the testing at Citrus Central takes place after the final EMB guidance is issued, it may be necessary to make adjustments to any protocol that is negotiated prior to issuance of the guidance.

prior to analysis, the same response factor is obtained for all the organic carbon in the sample regardless of the actual compounds present in the gas phase being sampled.

If the gas phase at Citrus Central will contain multiple VOC's and Citrus Central still wants to use Method 25A for sampling, they should specify (including sample calculations) how they will convert the Method 25A results to a mass basis suitable for conducting the material balance used to determine VOC capture efficiency. Using "typical" FID response factors to convert Method 25A results to a mass basis would not be acceptable because such response factors are monitor specific. However, we could consider approving an approach utilizing response factors determined for the actual analyzer used during the testing.

Irrespective of the Method 25A issues raised regarding capture efficiency testing, Citrus Central should be aware that it is unlikely that we would approve the use of Method 25A for determining incinerator destruction efficiency. The basis for this position is that partially oxygenated compounds generated in the incineration process and present at the outlet site will typically have a lower analyzer response factor than compounds present at the incinerator inlet and will, consequently, cause a high bias in destruction efficiency results. Therefore Citrus Central should consider using Method 25 for gas phase sampling if VOC destruction efficiency is to be demonstrated in conjunction with capture efficiency.

3. The protocol submitted for review proposed back calculating VOC usage in the liquid phase from solids deposition rate data and Method 24A analyses. Since this approach will result in a high bias in capture efficiency results if make up solvent usage is not accounted for or if the VOC content of material in the coating reservoir decreases over time due to solvent evaporation, the test protocol for Citrus Central should address how they intend to account for these factors. In addition, the testing at Citrus Central should include multiple analysis for solids deposition on the substrate being coated so that the variability of this measurement and its effect on overall test results can be evaluated.

As an alternative to calculations based upon solids deposition and coating analyses, VOC usage could be measured directly at Citrus Central. If this is done, coating weight or volume usage should be measured with methods that are accurate to within ± 1 percent. The basic formula that could be used to determine net VOC usage during a test would then be as follows:

$$\text{VOC} = V_i D_i W_i + V_a D_a W_a - V_f D_f W_f$$

Where: VOC = Net VOC usage, lb

V = Volume, gal

D = Density, lb/gal

If you have any questions about the information contained in this letter, please contact Mr. David McNeal of my staff at 404/347-2904.

Sincerely yours,



Roger O. Pfaff, Chief
Air Compliance Branch
Air, Pesticides and Toxics
Management Division

Enclosure

cc: Mr. Pradeep Ravel
FL Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Mr. Stephen L. Neck, P.E.
Air Consulting and Engineering, Inc.
2106 NW 67th Place, Suite 4
Gainesville, FL 32606

cc: *B. Arrington, Citrus Central*
J. Pennington
C. Collins
CHF/BT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MAY 19 1989

4APT-AC

Mr. James K. Pennington, P.E., Administrator
Compliance Monitoring Section
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Review of VOC Capture Efficiency Testing Protocol Proposed for
Citrus Central, Inc.

Dear Mr. Pennington:

As requested by Pradeep Raval of your staff, the referenced protocol has been reviewed in order to identify any changes that should be made in it prior to capture efficiency testing that will be conducted at Citrus Central's metal coil coating facility. Based upon this review we have the following comments:

1. Since Citrus Central was looking for general guidance prior to developing a formal protocol for their specific facility, they submitted a protocol for testing conducted at a printing facility that also used an incinerator for VOC control. Although we have prepared comments based on the printing facility's plan, final approval for testing at Citrus Central cannot be granted until an acceptable source specific protocol is submitted. In addition to containing source specific information such as a process description, a list of solvents used, etc., Citrus Central's protocol should address the concerns raised in Items 2 through 4 below.
2. Citrus Central has proposed gas/liquid material balance procedures for determining capture efficiency and intends to measure hydrocarbon concentrations in the gas phase using EPA Method 25A. Such an approach should be adequate if the coating material used at Citrus Central contains a single VOC solvent and if the analyzer used during the testing is calibrated with this solvent. If the coatings used during the tests contain multiple solvents, Method 25 would be preferable to Method 25A for determining gas phase hydrocarbon concentrations because different flame ionization detector (FID) response factors obtained for different organic compounds make it difficult to relate Method 25A results to a mass basis if more than one solvent is present. Converting Method 25 results to a mass basis when multiple hydrocarbons are present is much easier because all organic carbon is converted to methane prior to FID analysis. Since all organic carbon in a Method 25 sample is converted to methane

Green Copy

- W = VOC content, weight fraction
- i = Initial
- a = Additions during test
- f = Final

Based upon the equation presented above, it can be seen that it may be necessary to collect and analyze multiple coating samples per test run if coating VOC content changes during the course of a run due to addition of makeup solvent or evaporation.

4. Based upon discussions between David McNeal of my staff and Pradeep Raval it appears that Citrus Central will be recirculating oven air for heat conservation purposes. We are aware of at least two sources in Florida that have attempted to claim capture efficiency credit for VOC destruction that the sources claim is achieved in similar recirculation loops. These sources have attempted to claim this credit because any VOC destroyed in the oven will not be measured during the capture efficiency sampling conducted at the incinerator inlet. If Citrus Central intends to claim any such credit, the procedures they intend to use should be outlined in the protocol so that they can be approved prior to testing. One recommended way of accounting for destruction achieved in the oven recirculation loop would be to collect an integrated Tedlar bag sample of stack gas at the incinerator inlet during each test run. This sample could then be analyzed for CO and CO₂ using EPA Method 10B procedures, and net oven recirculation loop destruction efficiency could then be calculated as follows:

$$E = \frac{(\text{CO}_2) + (\text{CO}) - (\text{CH}_3)_{\text{fuel}} - (\text{CO}_2)_{\text{ambient}}}{\text{TGNMO} + (\text{CO}_2) + (\text{CO}) - (\text{CH}_3)_{\text{fuel}} - (\text{CO}_2)_{\text{ambient}}} \times 100$$

Where E= Burner recirculation loop destruction efficiency, %

(CO₂) = Carbon dioxide concentration at incinerator inlet, ppm

(CO) = Carbon monoxide concentration at incinerator inlet, ppm

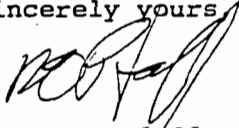
(CH₃)_{fuel} = Methane contained in fuel used in burners that heat recirculated oven air, ppm (adjusted to concentration in air volume at incinerator inlet)

(CO₂)_{ambient} = Ambient carbon monoxide concentration, ppm

TGNMO = Total gaseous non-methane organic concentration at incinerator inlet, ppm

The equation presented above is based upon standard material balance principles and assumes that with the exception of CO₂ contained in the ambient air or generated by burning natural gas in the oven system, all CO₂ or CO present at the incinerator inlet is the product of VOC "pre-incineration" in the oven recirculation loop(s).

If you have any questions about the guidance contained in this letter please contact Mr. David McNeal of my staff at 404/347-2904.

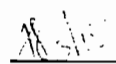
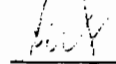


Sincerely yours


Roger O. Pfaff, Chief
Air Compliance Branch
Air, Pesticides and Toxics
Management Division

cc: Mr. Pradeep Raval
Florida Department of Environmental
Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

bc: Thomas P. Lyttle
Jeffery Pallas
Stuart Perry

DMcNEAL:4/12/89:draft:pab:DISK NO: 1 DOC NAME: CITRUS
5/2/89:draft:pab FILE No.: 11.2.9
ksc:5/5/89:final

McNEAL	LEDBETTER	BEALS	HANSEN	PFAFF
<u>DMC</u>	<u></u>	<u></u>	<u></u>	<u></u>
5/15/89		5/15/89	5/15/89	5/16



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

July 6, 1989

Mr. David McNeal
Air Compliance Branch
EPA Region IV
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. McNeal:


Re: Review of Testing Protocol for Citrus Central, Inc.

The Department has received a testing protocol from Air Consulting and Engineering concerning the capture and destruction efficiency for Citrus Central's metal coil coating plant located in Plymouth, Orange County, Florida.

Please review the attached letters and inform DER and Citrus Central if any issue needs to be addressed further.

If you have any questions please call Pradeep Raval at (904) 488-1344 or write to me at the above address.

Sincerely,


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

CHF/PR

Attachments

cc: J. Pennington, BAQM
S. Arif, BAQM
S. Arrington, Citrus Central } 7.10.89
B. Neek, Air Reg. }
C. Collins, Dept. } PR



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

June 26, 1989

Mr. Steve Neck, P.E.
Air Consulting and Engineering, Inc.
2106 N.W. 67th Place, Suite 4
Gainesville, Florida 32606

Dear Mr. Neck:

This letter is in response to your letter of May 8, 1989, regarding the Citrus Central test protocol. The following is an item by item response to the items in your letter.

AC 48-158976

1. The Bureau concurs with your choice of utilizing Method 25 for determining capture efficiency. As mentioned in your letter that duplicate Method 25 testing will be performed at points A and B, along with duplicate analyses of EPA audit gases. The Bureau's policy on split samples analysis is that the test will be considered inconclusive if either Research Triangle Park or Clean Air Engineering analyses indicates failure.
- 2-3. The Bureau recommends that, testing for the two "wicket" preheat exhausts and point C should be performed to determine the validity of the claim that low VOC concentrations exist at these points. If this fact is established, the operating permit may be amended in not requiring annual compliance tests for the two points.
4. The permittee may operate in accordance with the construction permit operating levels only after the new thermal oxidizer is operating normally. Operation beyond the expiration date of the construction permit, April 1, 1990, requires a valid permit to operate. Compliance test results need to be submitted with the application for an operation permit at least 90 days prior to the construction permit expiration date. The testing should be scheduled accordingly.

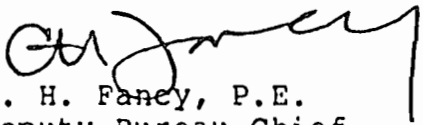
Steve Neck, P.E.
June 26, 1989
page two

AC 48-155533

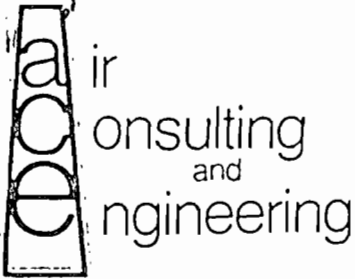
1. Material inventory data should be available to determine compliance on a daily basis in accordance with the permit amendment dated June 21, 1989. However, for the initial compliance test purposes, the use of two prior months material inventory data is acceptable in determining VOC emissions by a material balance for the can plant.

If you have any questions, please contact Syed Arif or Pradeep Raval at (904) 488-1344.

Sincerely,


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

CF/SA/ht



May 8, 1989
999 89 911

RECEIVED
JUN 2 1989
DER-BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: CITRUS CENTRAL INC TEST PROTOCOL FOR FDER PERMIT NUMBER AC48-155976

Dear Mr. Fancy:

The referenced construction permit "Specific Condition 8" asks for a test protocol to be submitted that will adequately allow for a determination of incinerator capture efficiency and therefore fugitive emissions. I believe incinerator and fugitive emissions can satisfactorily be categorized in accordance with permit conditions by performing United States Environmental Protection Agency Method 25 testing at the incinerator outlet (Point A) and the combined C1 and C2 supply duct (Point B). Testing at both locations will be combined with EPA reference Methods 1-4 Sampling for purposes of generating carbon mass flow at these locations. This information will be combined with a careful accounting of material usage during testing of all production (C1 and C2 Coil Coating Lines and P1 and P2 U.V. Press Lines). Use of vender supplied MSDS EPA Method 24 data will allow for a determination of total volatile organic constituents, and further vender supplied information will allow for a close determination of the carbon content of that volatile portion. This data will then be compiled into a system mass balance.

The only other emission outlets are the C1 and C2 Preheat Outlet stacks on the roof. This system is used to preheat the cooled "wickets" that hold the metal to be coated. It should not be necessary to document emissions from these sources as they are part of the fugitive portion determined by a mass balance around the incinerator.

To be in strict accordance with mass balance techniques, a determination of the mass of VOC return to the system should be made. This can be done by performing a velocity traverse between the stack and the excess flow vent incinerator return (Point C). However, such a measurement would require additional sample ports to be installed and an actual measurement would be awkward. The information gained will also be of negligible impact as incinerator outlet VOC concentrations are expected to be very low, in

Page 2
Mr. C. H. Fancy
May 8, 1989

fact, negligibly low in comparison with VOC inlet concentrations. If this was not the case, the incinerator would not meet the maximum emission rate of 15.1 pounds per hour (lbs/Hr). Thus it is suggested that testing of any kind at Point C will be deemed unnecessary.

As addressed in the permit, the incinerator is allowed to burn up to 6.5 gallons/hour (gal/hr) of spent solvents and overall emissions are based on such firing. As of my inspection date, this system was not operational. Should testing be conducted prior to spent solvent firing it is assumed that the proposed test results will be utilized to determine a capture rate and that only incinerator outlet retesting would be necessary to ensure outlet emission compliance. Furthermore, it is apparent that compliance testing can be delayed until within 90 days before the permit expiration date of April 1, 1990, in accordance with the "Specific Conditions." This protocol then assumes the understanding that testing as presented is not required until late December 1989, allowing current operational activity. Please provide clarification if this assumption is not in keeping with FDER policy or intent.

Air Consulting and Engineering, Inc. (ACE), will perform all EPA Method 25 testing in duplicate and also make use of EPA audit gases. A high and low concentration audit gas will be sampled in duplicate. Research Triangle Laboratories and Clean Air Engineering are currently envisioned to perform these analyses. I believe such a procedure to be the best approach in obtaining accurate test results.

A final point to be addressed in this protocol concerns the permit for the "Can Facility" (FDER Permit Number AC48-155533). According to Specific Conditions 6 of this permit compliance has to be demonstrated through material usage and volatile content. Specific Condition 4(f) calls for a monthly accounting. The question then arises as to what period of time constitutes a compliance test and at what time an operating permit should be filed? In lieu of FDER input, ACE will consider two months accounting as proof of compliance.

In summary, the submitted test protocol will be considered as accepted upon FDER review of the following points:

AC48-155976

1. Duplicate EPA Method 25 testing at Points A and B (Figure 1) plus extensive documentation of material usage with VOC content analysis.
2. No testing of the two "Wicket" preheat exhausts.
3. No testing at Point C (Figure 1).
4. Compliance testing not required until late December 1989. Current production allowed until April 1, 1990, without an operating permit.

Page 3
Mr. C. H. Fancy
May 8, 1989

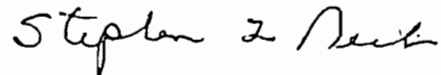
AC48-155533

1. Generation of two months material inventory data with analysis of VOC emission via mass balance required to demonstrate compliance with construction permit. Annual submission of monthly data required thereafter.

Please inform ACE and Citrus Central, Inc., of your evaluation of this proposal. Also please feel free to contact either party by phone if clarification is necessary, especially if such communication will improve response time.

Respectfully,

AIR CONSULTING AND ENGINEERING, INC.



Stephen L. Neck, P.E.

SLN:klp

cc: Ms. Susan Arrington (Citrus Central, Inc.)
Mr. Chuck Collins (FDER--Orlando, FL)
Mr. Dennis Nester (Orange County Pollution Control Department)
Mr. Bruno Ferraro (Grove Scientific)

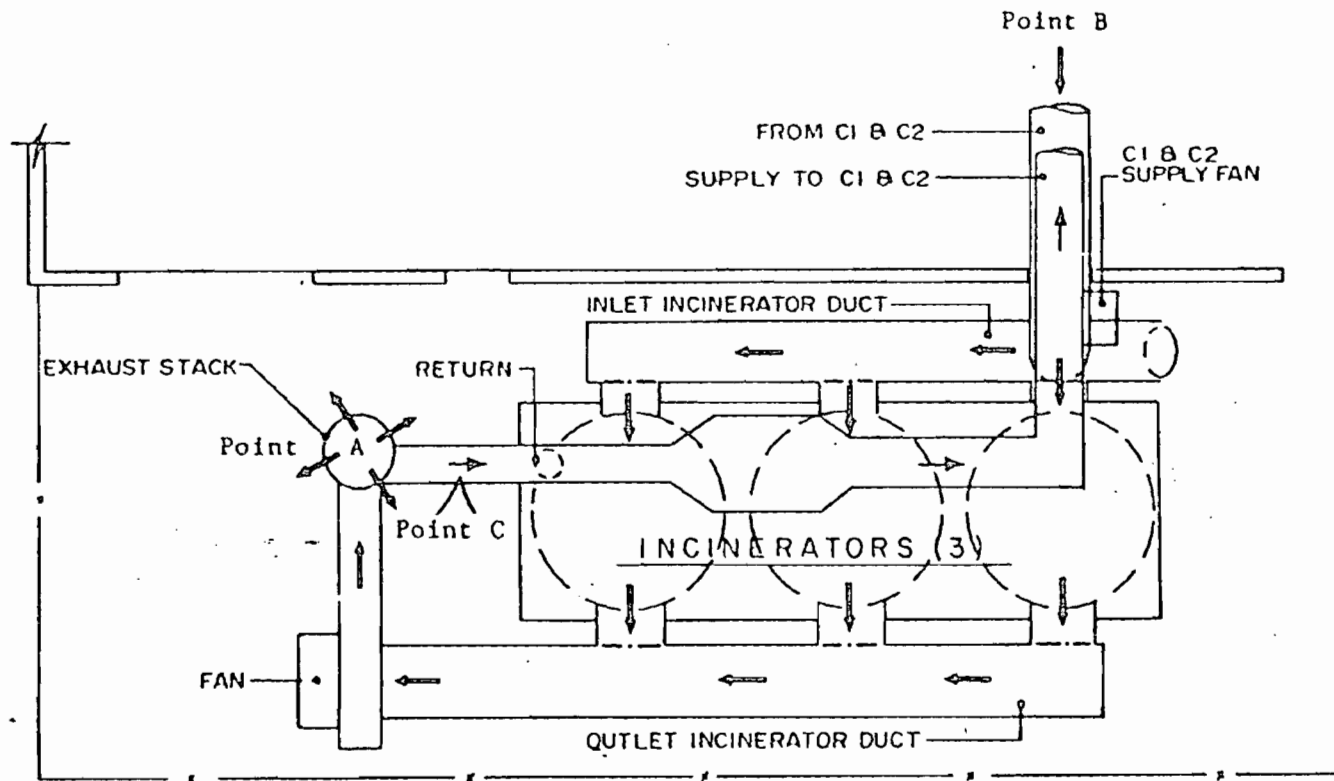
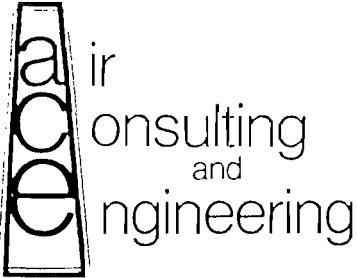


FIGURE I.
 REGENERATIVE FLOW SCHEMATIC
 CITRUS CENTRAL METALS
 PLYMOUTH, FLORIDA

AIR CONSULTING
 and
 ENGINEERING

file



May 8, 1989
999 89 911

RECEIVED
JUN 2 1989
DER-BAQM

Mr. C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: CITRUS CENTRAL INC TEST PROTOCOL FOR FDER PERMIT NUMBER AC48-155976

Dear Mr. Fancy:

The referenced construction permit "Specific Condition 8" asks for a test protocol to be submitted that will adequately allow for a determination of incinerator capture efficiency and therefore fugitive emissions. I believe incinerator and fugitive emissions can satisfactorily be categorized in accordance with permit conditions by performing United States Environmental Protection Agency Method 25 testing at the incinerator outlet (Point A) and the combined C1 and C2 supply duct (Point B). Testing at both locations will be combined with EPA reference Methods 1-4 Sampling for purposes of generating carbon mass flow at these locations. This information will be combined with a careful accounting of material usage during testing of all production (C1 and C2 Coil Coating Lines and P1 and P2 U.V. Press Lines). Use of vender supplied MSDS EPA Method 24 data will allow for a determination of total volatile organic constituents, and further vender supplied information will allow for a close determination of the carbon content of that volatile portion. This data will then be compiled into a system mass balance.

The only other emission outlets are the C1 and C2 Preheat Outlet stacks on the roof. This system is used to preheat the cooled "wickets" that hold the metal to be coated. It should not be necessary to document emissions from these sources as they are part of the fugitive portion determined by a mass balance around the incinerator.

To be in strict accordance with mass balance techniques, a determination of the mass of VOC return to the system should be made. This can be done by performing a velocity traverse between the stack and the excess flow vent incinerator return (Point C). However, such a measurement would require additional sample ports to be installed and an actual measurement would be awkward. The information gained will also be of negligible impact as incinerator outlet VOC concentrations are expected to be very low, in

Page 2
Mr. C. H. Fancy
May 8, 1989

fact, negligibly low in comparison with VOC inlet concentrations. If this was not the case, the incinerator would not meet the maximum emission rate of 15.1 pounds per hour (lbs/Hr). Thus it is suggested that testing of any kind at Point C will be deemed unnecessary.

As addressed in the permit, the incinerator is allowed to burn up to 6.5 gallons/hour (gal/hr) of spent solvents and overall emissions are based on such firing. As of my inspection date, this system was not operational. Should testing be conducted prior to spent solvent firing it is assumed that the proposed test results will be utilized to determine a capture rate and that only incinerator outlet retesting would be necessary to ensure outlet emission compliance. Furthermore, it is apparent that compliance testing can be delayed until within 90 days before the permit expiration date of April 1, 1990, in accordance with the "Specific Conditions." This protocol then assumes the understanding that testing as presented is not required until late December 1989, allowing current operational activity. Please provide clarification if this assumption is not in keeping with FDER policy or intent.

Air Consulting and Engineering, Inc. (ACE), will perform all EPA Method 25 testing in duplicate and also make use of EPA audit gases. A high and low concentration audit gas will be sampled in duplicate. Research Triangle Laboratories and Clean Air Engineering are currently envisioned to perform these analyses. I believe such a procedure to be the best approach in obtaining accurate test results.

A final point to be addressed in this protocol concerns the permit for the "Can Facility" (FDER Permit Number AC48-155533). According to Specific Conditions 6 of this permit compliance has to be demonstrated through material usage and volatile content. Specific Condition 4(f) calls for a monthly accounting. The question then arises as to what period of time constitutes a compliance test and at what time an operating permit should be filed? In lieu of FDER input, ACE will consider two months accounting as proof of compliance.

In summary, the submitted test protocol will be considered as accepted upon FDER review of the following points:

AC48-155976

1. Duplicate EPA Method 25 testing at Points A and B (Figure 1) plus extensive documentation of material usage with VOC content analysis.
2. No testing of the two "Wicket" preheat exhausts.
3. No testing at Point C (Figure 1).
4. Compliance testing not required until late December 1989. Current production allowed until April 1, 1990, without an operating permit.

Page 3
Mr. C. H. Fancy
May 8, 1989

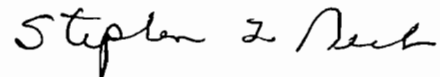
AC48-155533

1. Generation of two months material inventory data with analysis of VOC emission via mass balance required to demonstrate compliance with construction permit. Annual submission of monthly data required thereafter.

Please inform ACE and Citrus Central, Inc., of your evaluation of this proposal. Also please feel free to contact either party by phone if clarification is necessary, especially if such communication will improve response time.

Respectfully,

AIR CONSULTING AND ENGINEERING, INC.



Stephen L. Neck, P.E.

SLN:klp

cc: Ms. Susan Arrington (Citrus Central, Inc.)
Mr. Chuck Collins (FDER--Orlando, FL)
Mr. Dennis Nester (Orange County Pollution Control Department)
Mr. Bruno Ferraro (Grove Scientific)

Copied P. Raval
J. Pennington
D. McNeil, EPA } 6-2-89 PR

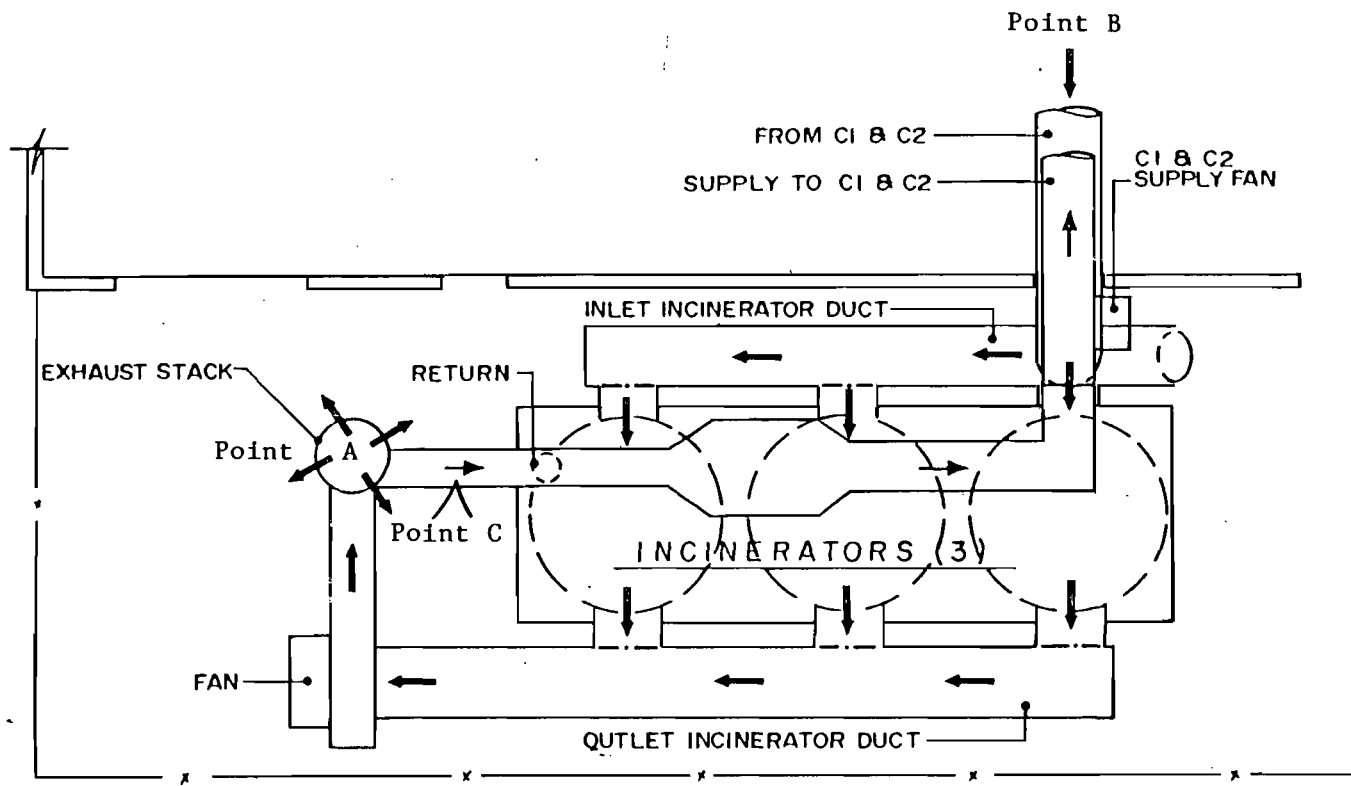
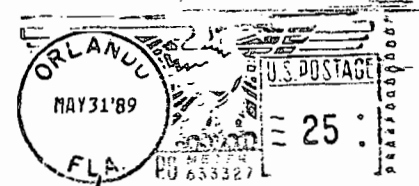


FIGURE I.
 REGENERATIVE FLOW SCHEMATIC
 CITRUS CENTRAL METALS
 PLYMOUTH, FLORIDA

AIR CONSULTING
 and
 ENGINEERING

CITRUS CENTRAL, INC.
P.O. Box 607774
Orlando, FL 32860-7774



FI. D. E. R. , B. A. Q. M.
Attn. - Mr. Clair Fancy, Dep. Chief
2600 Blair Stone Rd.
Tallahassee

FL.

32399-2400

P 274 010 417

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

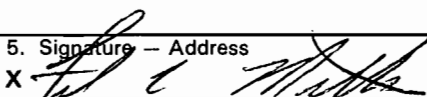
U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Mr. John Z. Randall, Exec. VP	
Citrus Central, Inc.	
P.O. Box 607774	
Orlando, FL 32860	
P.O., State and ZIP Code	
Postage	S
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	S
Postmark or Date mailed: 3/31/89	
Permits: AC 48-155533 and -158976	

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. John Z. Randall Executive V.P. Citrus Central, Inc. P.O. Box 607774 Orlando, FL 32860	4. Article Number P 274 010 417
	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 <u>DATE DELIVERED</u> .
5. Signature - Address X 	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 4/4/89	

File Copy



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

March 31, 1989

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Executive Vice President
Citrus Central, Inc.,
P. O. Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permits for Citrus Central, Inc. to increase the hours of operation and changes of material usage at the existing can assembly plant and to replace an existing incinerator with a new thermal oxidizer at the metals plant.

Please submit any written comments you wish to have considered concerning the Department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/ks

Attachments

cc: S. Arrington, Citrus Central, Inc.
C. Collins, CF District

Pradeep Raval } 3-31-89 RAM
Pradeep File }

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 March 31, 1989.

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.

Randy Carter
Clerk

3-31-89
Date

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permits by:

Citrus Central, Inc.
P. O. Box 607774
Orlando, Florida 32860

DER File Nos. AC 48-155533
AC 48-158976

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its intent to issue permits (copies 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, Citrus Central, Inc., applied on October 28 and December 27, 1988, to the Department of Environmental Regulation for permits to increase the hours of operation and material usage at their existing can assembly and end seal compounding plant; to replace an older incinerator with a new thermal oxidizer; and, to increase the annual operating hours and the use of spent solvents as fuel for the thermal oxidizer at the existing metals plant.

The Department has permitting jurisdiction under Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 and 17-4. The project is not exempt from permitting procedures. The Department has determined that air construction permits are 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 Permits. 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 permits.

The Department will issue the permits 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

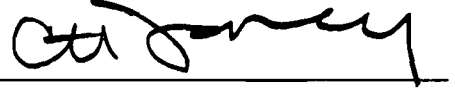
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

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 applicant 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 as 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.
Deputy Chief
Bureau of Air Quality
Management

Copies furnished to:

John Z. Randall, Citrus Central, Inc.
Susan Arrington, Citrus Central, Inc.
Charles Collins, CF District

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 permits to Citrus Central, Inc., Post Office Box 607774, Orlando, Florida 32860 to undertake two modifications at their facility in Plymouth, Orange County, Florida. The first modification involves an increase in the hours of operation and changes in material usage at their existing can assembly and end seal compounding plant. The second modification involves the replacement of an older incinerator with a new and more efficient thermal oxidizer; an increase in the annual operating hours; and the use of spent solvents as fuel for the thermal oxidizer at the existing metals plant. The project will emit volatile organic compounds (VOCs) and a negligible quantity of products of natural gas combustion. A determination of Best Available Control Technology (BACT) was not required. 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 normal 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 Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dept. of Environmental Regulation
Central Florida District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803-3767

Any person may send written comments on the proposed action to Mr. Bill Thomas 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

Citrus Central Inc.
Orlando, Orange County, Florida

Can Assembly Plant
Permit No. AC 48-155533

Metals Plant
Permit No. AC 48-158976

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

March 31, 1989

**Technical Evaluation
and
Preliminary Determination**

**Citrus Central Inc.
Orlando, Orange County, Florida**

**Can Assembly Plant
Permit No. AC 48-155533**

**Metals Plant
Permit No. AC 48-158976**

**Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting**

March 31, 1989

I. Application

A. Applicant

Citrus Central Inc.
P. O. Box 607774
Orlando, Florida 32860

B. Project and Location

The applicant proposes to undertake two modifications at their facility in Plymouth, Orange County, Florida. The first modification involves increasing the hours of operation and changes in material usage at their existing can assembly and end seal compounding plant. The second modification involves the replacement of an older incinerator with a new and more efficient thermal oxidizer; an increase in the annual operating hours; and the use of spent solvents as fuel for the thermal oxidizer at the existing metals plant. The project will emit volatile organic compounds (VOCs) and a negligible quantity of products of natural gas combustion.

The UTM coordinates of this facility are Zone 17, 445.6 km East and 3174 km North.

C. Facility Category

The Citrus Central can assembly and end seal compounding plant and the metals plant are classified in accordance with the Standard Industrial Classification (SIC) Code as: Group No. 34, Fabricated Metal Products; Industry No. 3411, Metal Cans.

In accordance with the NEDs Source Classification Code (SCC) the source is classified under Fabricated Metal Products, 3-09-999-97, and 4-90-900-13, natural gas-fired incinerator used for organic solvent evaporation.

Citrus Central's application packages for the can plant and the metals plant were received on September 30, and December 27, 1988, respectively, and were deemed complete on March 6, 1989.

II. Project Description

A. Can Assembly Plant

The can plant operates seven existing lines which shape metal sheets into cylinders by welding seams. Side striping is done using a two part epoxy Valspar product to protect the seams. The

coating is dried/cured by passing the can bodies through a natural gas fired tunnel heater and also a radio frequency heater. Some can bodies are then sprayed with a 360° inside spray and dried in a two zone natural gas-fired oven. The facility also has lid press lines each with an end seal liner (gasket) applicator. In the manufacture of metal can lids, one process makes metal pull tabs while another makes foil pull tabs. There are no add on VOC controls in the can assembly plant. Emissions from the 360° spray and side stripe lines are emitted through stacks to the atmosphere. No new lines/equipment is expected to be installed as part of this modification.

B. Metals Plant

A Reeco Re-Therm VF Model Thermal Oxidizer will be installed to replace the old incinerator. Heat generated from the burning of natural gas and any available spent solvents will be returned to the ovens to dry the coatings on metal sheets.

The metals plant consists of three sources:

- a) Sheet Metal Coil coatings lines 1 and 2 with ovens 1 and 2.
- b) UV Press and Coating Line
- c) 2 color UV Press line

All three existing sources will expand the hours of operation to 8760 annually. The three sources will capture all the VOC emissions, except from the isopropyl alcohol utilizing area, and incinerate them in the thermal oxidizer which is rated at 95% DRE.

The capture efficiency estimated by the applicant is 80%. However, this has been questioned by EPA. To resolve the uncertainty, DER shall require the applicant to provide proof of the actual capture efficiency after construction and prior to obtaining an operation permit. The construction permit may be amended if warranted by the test results.

III. Rule Applicability

These modifications will result in emissions of volatile organic compounds (VOCs) and negligible quantities of products of natural gas combustion. The project is subject to a review in accordance with Chapters 17-2 and 17-4 of the Florida Administrative Code (F.A.C.) and Chapter 403 of the Florida Statutes.

The facility is classified as major in accordance with F.A.C. Rule 17-2.100.

The facility is located in Orange County, which is designated as an air maintenance area for ozone, in accordance with F.A.C. Rule 17-2.460, and attainment for the other criteria pollutants in accordance with F.A.C. Rule 17-2.420.

The project is not subject to a Prevention of Significant Deterioration (PSD) Review because it will be a minor modification to a major facility resulting in a less than significant net emissions increases of PM, SO₂, NO_x, and CO, in accordance with F.A.C. Rule 17-2.500(2)(d)4. However, in accordance with F.A.C. Rule 17-2.400(1)(d), the emission limiting standards, permit limitations and air pollution control measures that were required under the SIP or nonattainment corrective plan as a minimum, shall remain in effect.

The project is subject to F.A.C. Rule 17-2.650(1)(f), Specific Emission Limitations for can coating operations. No owner or operator of can coating lines subject to 17-2.650(1)(f)1 may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds in excess of the total discharge that would occur if each coating line complied with the emission limitations contained in 17-2.650(1)(f)1.b.(i) through (iv). Compliance with these limitations for any given day's operation shall be determined by using the method contained in 45 FR 80824. Emission limitations for coil coating operations are specified in F.A.C. Rule 17-2.650(1)(f)2.

Standards of Performance for the Beverage Can Surface Coating Industry, 40 CFR 60 Subpart WW, does not apply to this operation because the definition does not include containers in which fruit or vegetable juices are packaged.

Standards of Performance for Metal Coil Surface Coating, 40 CFR 60, Subpart TT, does not apply to the metals plant since the project only involves the replacement of the control device which will result in a net reduction of emissions from the source.

The project is subject to compliance testing and reporting requirements in accordance with F.A.C. Rule 17-2.700. EPA Methods 24 and 25 shall be used for determining compliance in accordance with F.A.C. Rule 17-2.700(6)(b).

IV. Source Impact Analysis

A. Emission Limitations

There will be an increase in emissions from the can assembly plant modification and a decrease in emissions from the metals plant. Table 1 shows VOC emissions estimates for the can assembly plant. It should be noted that the applicant is willing to be restricted to the 'actual' emissions from the can plant instead of the 'allowables' in order to avoid PSD review requirements. Table 2 shows the VOC emissions estimates for the metals plant. Table 3 contains the emission changes for the facility.

Specifically, the emissions limitations pursuant to F.A.C. Rule 17-2.650 (RACT) are as follows:

1. Can Coating:

(i) 2.8 pounds per gallon of coating (0.34 kilograms per liter) excluding water, delivered to the coating applicator of;

(A) Sheet base coat (exterior and interior) and overvarnish, or

(B) Two-piece can exterior (basecoat and overvarnish operation).

(ii) 4.2 pounds per gallon of coating (0.50 kilograms per liter), excluding water delivered to the coating applicator from two- and three-piece can interior body spray and two-piece can exterior end (spray or roll coat) operations.

(iii) 5.5 pounds per gallon of coating (0.66 kilograms per liter), excluding water, delivered to the coating applicator from three-piece can side-seam spray operations.

(iv) 3.7 pounds per gallon of coating (0.44 kilograms per liter), excluding water, delivered to the coating applicator from can side seam and end sealing compound operations.

The emission limits may be achieved by the application of low solvent content coating technology or incineration, provided that 90 percent of the volatile organic compounds (VOC measured as total combustible carbon) which enter the incinerator are oxidized to carbon dioxide and water.

Table 1: Citrus Central - Plymouth Can Division Actual and Allowable VOC Emissions

Compound	Solvent Density	Vol % Solids	Vol % Solvent	lbs VOC/ gal solids	Usage gal/yr	Actual Emiss. TPY	Allow. lb VOC/ gal ctg	Allow. lbs VOC/ gal solids	Allow. Emiss. TPY
1. Tab Lube	6.436		93		3000	8.98			8.98
2. Isopropanol	6.586		100		1500	4.94			4.94
3. Jet Ink	7.42		84		38	0.12			0.12
4. Jet Makeup	6.77		100		95	0.32			0.32
5. Jet Wash	6.75		100		76	0.26			0.26
6. USA 7286	6.4		100		1500/2	2.4			2.4
7. MEK	6.76		100		148	0.5			0.5
8. AMSCO	5.67		100		2420	6.86			6.86
9. Valspar	8.07	23.3		5.49	20500	13.11	4.2	8.76	20.92
10. 730(A)	7.03	17.5		33.14	1930	5.6	5.5	25.27	4.26
11. 730(B)	7.03	20.34		27.53	1930	5.4	5.5	25.27	4.96
12. D&A S9372A	5.9	36.9		10	9572	17.7	3.7	9.92	17.52
13. D&A W9307	-	62		0	641	0	3.7	7.44	1.47
14. D&A 5101	6.0	37.5		9.3	781	1.4	3.7	9.65	1.41
15. D&A 9179	5.7	36.5		9.9	3856	6.9	3.7	10.55	7.42
16. D&A 1697	5.7	35.9		10.3	76	0.14	3.7	10.55	0.14
Subtotal (9-16)						50.25			58.1
Total (1-16)						74.63			82.48

Table 2 Citrus Central - Metal Division
Actual and Allowable VOC Emissions

Operation	Compound	Usage	Current Emissions		Proposed Emissions Controlled TPY	
			Uncontrolled lb/hr	Controlled TPY		
Sheet Metal Coater 1 & 2 and ovens 1 & 2	Technical #930		3.35			
	Inmont H-29		51.57			
	Lilly 8110		0.1			
	Lilly 83210		0.09			
	Valspar (V) 9382		0.07			
	V 9009		0.09			
	V 2799		0.09			
	V 4134		11.59			
	V 3846		0.2			
	V 1167		91.39			
	V 9434		0.08			
	V 6265		50.68			
	V 85 x 219		0.8			
	V 6256		5.55			
	V 281-V-216		0.05			
	Reliance 855W2353		0.08			
	Total for coatings	34.9 gal/hr			47.26	
		Butyl Cellusolve Glycol Ether MIBK Mineral spirits				
		Total for Solvent	38 lb/hr			40.0
		Subtotal			93.74	87.26

Table 2 (continued)
Metal Division
Actual and Allowable VOC Emissions

UV Press Line 1	End Stock Varnish	15.7			
	Body Stock Varnish	15.7			
	GPI Suncure Ink	7.8			
	Acme Ink	7.8			
	Total for Coatings			0.15	4.75
	MIBK	8.4			
	IPA	1.25			
	Total for Solvents			18.63	6.33
2 Color UV Press Line No. 2	UV 980-C Reliance	11.8			
	UV 971-HC Reliance	12.25			
	GPI Suncure Ink	1.25			
	Acme ink	0.5			
	MIBK				
	IPA				
	Subtotal			21.09	9.34
Spent Solvent	max. 70 lb/hr	avg. 17.8 lb/hr		0	3.9
Total for Plant				133.61	111.58

2. Coil Coating

2.6 pounds per gallon of coating (0.31 kilograms per liter), excluding water delivered to a coating applicator for prime and topcoat or single-coat operations.

The emission limit may achieved by the application of low solvent content coating technology or incineration, provided that 90 percent of the volatile organic compounds (VOC measured as a total combustible carbon) which enter the incinerator are oxidized to carbon dioxide and water.

Table 3
Emission Changes - Citrus Central Facility

<u>Plant</u>	<u>Current Actual Emissions TPY</u>	<u>Proposed Emiss. TPY</u>	<u>Net Change TPY</u>
Can Division	26.2	74.6	+48.4
Metals Division	133.6	111.6	-22.0
<u>Total</u>			<u>+26.4</u>

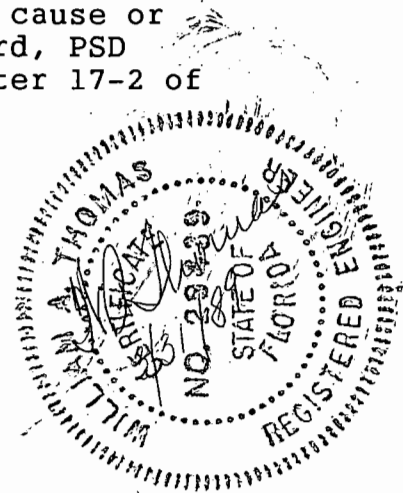
In the event that specific standards are promulgated for VOCs which are classified as toxics, an amendment to the proposed permit may be required.

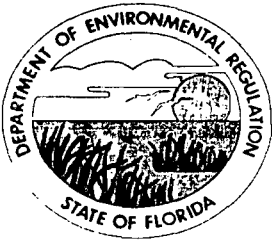
B. Air Quality Impact Analysis

The technical evaluation of this project determined that ambient air modeling or monitoring would not be required to provide reasonable assurance that Florida's air quality standards will not be violated.

V. Conclusion

Based on the information provided by the applicant, the Department has reasonable assurance that the proposed construction/installation of the can assembly and end sealing plant, and metals plant, 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.





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

PERMITTEE:

Citrus Central Inc.
Plymouth Can Division
Post Office Box 607774
Orlando, FL 32860

Permit Number: AC 48-155533

Expiration Date: December 1, 1989

County: Orange

Latitude/Longitude: 28°41'31"
81°33'21"

Project: Can Assembly and End
Seal Compounding
Plant

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of the Can Assembly and End Seal Compounding plant producing metal cans and lids. The existing plant consists of seven lines which form cans, weld seams, apply side stripping varnish and dry the coating in natural gas-fired ovens at 450°F. There is one stack per side stripe applicator, two stacks for ovens 3a and 3b, the others have no stacks. A 360° spray is applied to some cans on two production lines where one line has five applicator vents through a stack and the other has six applicators and a stack. The product from each line is dried in a dual side-by-side, two zone natural gas fired oven which has two stacks. Five end conversion presses and sealing lines form and seal lids and vent emissions into the plant.

The Can Assembly Plant is located at the Citrus Central Inc. facility on Route 437, Plymouth, Orange County, Florida. The UTM coordinates of the facility are Zone 17, 445.6 km East and 3174 km North.

The source shall be 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. Citrus Central's application package received September 30, 1988.
2. DER's letter dated October 26, 1988.
3. Citrus Central's response received November 16, 1988.
4. Citrus Central's MSDS submitted received January 9, 1989.
5. DER's letter dated January 20, 1989.
6. Citrus Central's letter received February 17, 1989.
7. Citrus Central's letter received March 6, 1989.
8. Preliminary Determination dated March 31, 1989.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations 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. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE :
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

GENERAL CONDITIONS:

b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, 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 date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Can Assembly and End Seal Compounding Plant may operate continuously (8760 hours/year).

2. The maximum material utilization rates are as stated in the application for the specific coatings and solvents to be used.

3. The maximum allowable volatile organic compound (VOC) emissions for the plant shall not exceed 74.6 TPY, as determined in the technical evaluation (based on material utilization rates).

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

SPECIFIC CONDITIONS:

4. The permittee shall comply with F.A.C. Rule 17-2.620(1)(a), whereby no person shall store, pump, handle, process, load, unload, or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions should include but shall not be limited to the following:

- a) tightly cover or close all VOC containers when they are not in use;
- b) tightly cover, where possible, all open troughs, basins, baths, tanks, etc., when they are not in use;
- c) maintain all piping, valves, fittings, etc., in good operating condition;
- d) prevent excessive air turbulence across exposed VOC's;
- e) immediately confine and clean up VOC spills and make certain wastes are placed in closed containers for reuse, recycling or proper disposal; and
- f) maintain a monthly accounting of each VOC based on beginning and ending inventories, deliveries, shipments, etc.

5. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620.

6. Initial and annual compliance tests shall be conducted using EPA Method 24 for VOCs in accordance with the 1987 version of 40 CFR 60, Appendix A, or using manufacturer's specifications with material balance.

7. Only natural gas shall be fired in the dryers/ovens. The maximum emissions from 50,000 CF/hr of natural gas combustion are expected to be as follows:

Pollutant	Emissions	
	lb/hr	TPY
Particulates, PM	0.02	0.11
Sulfur Dioxide, SO ₂	0.01	0.01
Carbon Monoxide, CO	0.17	0.80
Nitrogen Oxides, NO _x	0.70	3.07
VOCs	0.01	0.01

PERMITTEE :
Citrus Central Inc.

Permit Number: AC 48-155533
Expiration Date: December 1, 1989

SPECIFIC CONDITIONS:

8. A minimum of 15 days prior notification of the compliance tests shall be given to DER's Central Florida District office. The compliance test results shall be submitted to the district office within 45 days of test completion.

9. The permittee may use other RACT compliant end seal compounds (3.7 lb/gal of coating less water), only after written notification to DER's Central Florida District office as to the compound specifications and emissions calculations in accordance with 40 FR 60824 to compare against current compounds being used.

10. Any change in the method of operation, raw materials, equipment or operating hours shall be submitted to DER's Central Florida District office for approval.

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

12. An application for an operation permit must be submitted to the Central Florida 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. 17-4.220).

Issued this _____ day
of _____, 1989

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Dale Twachtmann, Secretary



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

PERMITTEE:
Citrus Central Inc.
Metals Division
Post Office Box 607774
Orlando, FL 32860

Permit Number: AC 48-155976
Expiration Date: April 1, 1990
County: Orange
Latitude/Longitude: 28°41'31"
81°33'21"
Project: Metals Division with
REECO Thermal Oxidizer

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rule(s) 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 drawing(s), plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the permitting of the existing Metals Division sources consisting of metal coil coater lines Nos. 1 and 2, UV press line No. 1 and 2-color UV press line No. 2. Emissions of volatile organic compounds (VOCs) from all these sources will be controlled by a REECO thermal oxidizer with a 95% destruction efficiency. The metal plant is located at the Citrus Central Inc. facility on Route 437, Plymouth, Orange County, Florida.

The UTM coordinates of the facility are Zone 17, 445.6 km East and 3174 km North.

The sources shall be 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. Citrus Central's application package received September 30, 1988.
2. DER's letter dated October 26, 1988.
3. Citrus Central's response received November 16, 1988.
4. Citrus Central's MSDS submitted received January 9, 1989.
5. DER's letter dated January 20, 1989.
6. Citrus Central's letter received February 17, 1989.
7. Citrus Central's letter received March 6, 1989.
8. Preliminary Determination dated March 31, 1989.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions" and as such are binding upon the permittee and enforceable pursuant to the authority of Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is hereby placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations 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. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute 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, plant or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

6. The permittee shall at all times 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, access to the premises, at reasonable times, where the permitted activity is located or conducted for the purpose of:

- a. Having access to and copying any records that must be kept under the conditions of the permit;
- b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and
- c. Sampling or monitoring 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 notify and provide the Department with the following information:

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

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

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 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 arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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 17-4.12 and 17-30.30, 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 is required to be kept at the work site of the permitted activity during the entire period of construction or operation.

13. This permit also constitutes:

- () Determination of Best Available Control Technology (BACT)
- () Determination of Prevention of Significant Deterioration (PSD)
- () Compliance with New Source Performance Standards

14. The permittee shall comply with the following monitoring and record keeping requirements:

- a. Upon request, the permittee shall furnish all records and plans required under Department rules. The retention period for all records will be extended automatically, unless otherwise stipulated by the Department, during the course of any unresolved enforcement action.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

GENERAL CONDITIONS:

b. The permittee shall retain 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), copies of all reports required by this permit, and records of all data used to complete the application for this permit. The time period of retention shall be at least three years from the date of the sample, measurement, 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 date(s) analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. 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 submitted or corrected promptly.

SPECIFIC CONDITIONS:

1. The Metals Division plant may operate continuously (8760 hours/year).

2. The maximum material utilization rates are as stated in the application for the specific coatings and solvents which are to be used.

3. The maximum allowable volatile organic compound (VOC) emissions from the thermal oxidizer shall not exceed 15.1 lbs/hr and 60.0 TPY. The emission limitation in lbs/hr includes the flexibility of the thermal incinerator to fire up to 6.5 gals/hr of spent solvent (7.0 lbs/gal density), and up to 78.1 TPY of spent solvent in the thermal oxidizer. Fugitive VOC emissions, according to material balance calculations, shall not exceed 11.8 lbs/hr, and 51.6 TPY.

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

SPECIFIC CONDITIONS:

4. Visible emissions shall not exceed 5% opacity.
5. The permittee shall comply with F.A.C. Rule 17-2.620(1)(a), whereby no person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. To comply, procedures to minimize pollutant emissions should include but shall not be limited to the following:
 - a) tightly cover or close all VOC containers when they are not in use;
 - b) tightly cover, where possible, all open troughs, basins, baths, tanks, etc., when they are not in use;
 - c) maintain all piping, valves, fittings, etc., in good operating condition;
 - d) prevent excessive air turbulence across exposed VOC's;
 - e) immediately confine and clean up VOC spills and make certain wastes are placed in closed containers for reuse, recycling or proper disposal; and
 - f) maintain a monthly accounting of each VOC based on beginning and ending inventories, deliveries, shipments, etc.
6. No objectionable odors shall be allowed, in accordance with F.A.C. Rule 17-2.620.
7. Only natural gas shall be fired as fuel in the thermal oxidizer except as provided in Specific Condition No. 3. The maximum emissions from 69,000 cf/hr of natural gas combustion are expected to be as follows:

Pollutant	Emissions	
	lb/hr	TPY
Particulates, PM	0.03	0.15
Sulfur Dioxide, SO ₂	0.01	0.02
Carbon Monoxide, CO	0.24	1.10
Nitrogen Oxides, NO _x	0.97	4.23
VOCs	0.02	0.09

8. Initial and annual compliance tests shall be conducted using EPA Method 25 for VOC emissions from the thermal oxidizer, in accordance with the 1987 version of 40 CFR 60, Appendix A. The

PERMITTEE:
Citrus Central Inc.

Permit Number: AC 48-155976
Expiration Date: April 1, 1990

SPECIFIC CONDITIONS:

capture efficiency test protocol shall be agreed upon with the Bureau of Air Quality Management prior to testing. Fugitive VOC emissions shall be determined based on a material balances. The VOC emission contributions for various compounds shall be determined

using either EPA Method 24 or using manufacturer's specifications and material balances.

9. A minimum of 15 days prior notification of the compliance tests shall be given to DER's Central Florida District office. The compliance test results shall be submitted to the district office within 45 days of test completion.

10. Any change in the method of operation, raw materials, equipment or operating hours shall be submitted to DER's Central Florida District office for approval.

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

12. An application for an operation permit must be submitted to the Central Florida 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. 17-4.220).

Issued this _____ day
of _____, 1989

**STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION**

Dale Twachtmann, Secretary

ATTACHMENTS AVAILABLE UPON REQUEST

Best Available Copy

file

03/01/89

12:41

8407 889 8320

CITRUS CENTRAL

001



CITRUS CENTRAL, INC.

PO BOX 111111 TAMPA FL 33611-1111 TEL: 813-250-7774

FAX: (813) 250-4370

TO: Mr. Pradeep Raval
COMPANY: Fla. DER - B.A.Q.M.
FAX NO.: 1-904-488-6579

TOTAL NUMBER OF PAGES 3 (INCLUDING COVER LETTER)

FROM: Susan Arrington
DATE: 3/2/89

These Annual air Reports for our Metals Div.'s '88 usage should help in determining actual VOC's emitted in the recent past. I'll be sending other information to you to answer your questions.

*P. Raul
C. Collins
CHF/BT } PR
3-2-89*

RECEIVED

MAR 2 1989

DER - BAQM

Best Available Copy

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA
DISTRICT
3318 MACUIRE BOULEVARD
SUITE 332
ORLANDO, FLORIDA 32803



Bob Martinez
GOVERNOR
Dale Twachman
SECRETARY
Alex Alexander
DISTRICT MANAGER

II.

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 1989 prior to March 1st of the following year.

I GENERAL INFORMATION

- Source Name: Citrus Central, Inc. - Metals Division
- Permit Number: A048-121501
- Source Address: Highway 441, Plymouth, FL
- Description of Source: Two color ink and Varnish
U.V. Press, Line #2

II ACTUAL OPERATING HOURS: 24 hrs/day 5 days/week 50 days/yr

III RAW MATERIAL INPUT PROCESS WEIGHT: (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight	
GPI INK	4,723.39	LB./YR.
ACME INK	1,693.00	LB./YR.
U.V. 97L-HC Reliance, (B/S Varnish)	1,296.8	GALL./YR.
U.V. 980-C-(Reliance)(E/S Varnish)	6,097	GALL./YR.
Methyl isobutyl Ketone	13,630.6	GALL./YR.
Isopropyl Alcohol	514.8	GALL./YR.

IV PRODUCT OUTPUT (Specify applicable units)

N/A; Coated Metal

Permit # A048 12/501

Best Available Copy

V TOTAL FUEL USAGE including standby fuel. If fuel is oil, specify type and sulfur content (e.g., No. 6 oil with 18 S). N/A

10^6 cubic foot Natural Gas
10^3 gallons Oil, BS
10^3 gallons Propane
10^6 Black Liquor Solids
10^3 kilograms
Tons Coal
Tons Carbonaceous
Tons Refuse

Other (Specify type and units)

VI EMISSION RATE(S) (tons/yr)

Particulates Sulfur Dioxide Total Reduced Sulfur
Nitrogen Oxide Carbon Monoxide Fluoride
15.87 Hydrocarbon Other (Specify type and units)
(Total VOC)

VII METHOD OF CALCULATING EMISSION RATES (e.g., use of fuel and material balances, emission factors drawn from AP 42, etc.)

Use of MSD Sheets, Supplier's technical data and materials balance

VIII CERTIFICATION:

I hereby certify that the information given in this report is correct to the best of my knowledge.

Signature of John Z. Randall
SIGNATURE OF OWNER OR AUTHORIZED REPRESENTATIVE
2/28/89
DATE

John Z. Randall, Pres. & C.E.O.
TYPED NAME AND TITLE

Best Available Copy

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA DISTRICT

3310 MAGUIRE BOULEVARD
SUITE 333
ORLANDO, FLORIDA 32068



Bob Martinez
GOVERNOR
Dale Twachma,
SECRETARY
Alex Alexander
DISTRICT MANAGER

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 19 88 prior to March 1st of the following year.

I GENERAL INFORMATION

- Source Name: Citrus Central, Inc. - Metals Division
- Permit Number: A048-140743
- Source Address: Highway 441, Plymouth, FL
- Description of Source: Sheet metal coater and oven #1 and #2 with thermal incinerator.

II ACTUAL OPERATING HOURS: 24 hrs/day 5 days/week 50 hrs/yr

III. RAW MATERIAL INPUT PROCESS WEIGHT: (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight	Units/yr
Valspar 85x219 Coating	400 Gall./Yr.	tons/yr
Inmont H-29	20,289 Gall./Yr.	tons/yr
Valspar 1167	41,579 Gall./Yr.	tons/yr
Valspar 6265	21,832 Gall./Yr.	tons/yr
Valspar 4134	5,667 Gall./Yr.	tons/yr
Valspar 9009	55 Gall./Yr.	tons/yr
Valspar 6256	3,168 Gall./Yr.	tons/yr
Lilly 8110	1,567 Gall./Yr.	tons/yr

IV PRODUCT OUTPUT (Specify applicable units) (Continued on Page 3)...

N/A; Coated Metal

Best Available Copy

V TOTAL FUEL USAGE including standby fuels. If fuel is oil, specify type and sulfur content (o.g., No. 6 oil with 18 S).

<u>26.7</u>	10 ⁶ cubic foot Natural Gas	_____	10 ³ kilograms
_____	10 ³ gallons _____ Oil, _____ SS	_____	_____ tons Coal
_____	10 ³ gallons Propane	_____	_____ tons Carbonaceous
_____	10 ⁶ Btu's Liquefied Petroleum Gas	_____	_____ tons Oil

Other (Specify type and units) _____

VI EMISSION RATE(S) (tons/yr)

<u>0.067</u>	Particulates	<u>0.008</u>	Sulfur Dioxide	<u>N/A</u>	Total Reduced Sulfur
<u>1.869</u>	Nitrogen Oxide	<u>0.467</u>	Carbon Monoxide	<u>N/A</u>	Fluoride
<u>93.74</u>	Hydrocarbon (Total VOC)	Other (Specify type and units) _____			

VII METHOD OF CALCULATING EMISSION RATES (o.g., use of fuel and materials balance, emission factors from AP 42, etc.)

Coating emissions calculated using actual stack/source tests done in 1988 per EPA, Method 25. Using the highest emitting coating, giving off 1.8 Lb. VOC. After control, per gallon of coating put into coaters.

VIII CERTIFICATION: Fuel emissions determined per AP-42.

I hereby certify that the information given in this report is correct to the best of my knowledge.

John Z. Randall
SIGNATURE OF OWNER OR
AUTHORIZED REPRESENTATIVE

2/28/89
DATE

John Z. Randall, Pres. & C.E.O.
PRINTED NAME AND TITLE

Best Available Copy permit #A048140743

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA
DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 332
ORLANDO, FLORIDA 32003



Bob Martinez
GOVERNOR
Dale Twachtman
SECRETARY
Alex Alexander
DISTRICT MANAGER

ANNUAL OPERATING REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 1988 prior to March 1st of the following year.

I GENERAL INFORMATION

- 1. Source Name: Citrus Central, Inc. - Metals Division
- 2. Permit Number: A048-140743
- 3. Source Address: Highway 441, Plymouth, FL
- 4. Description of Source: Sheet metal coater and ovens, #1 and #2 with thermal incinerator.

II ACTUAL OPERATING HOURS: 24 hrs/day 5 days/week 50 weeks/yr

CONTINUED

RAW MATERIAL INPUT PROCESS WEIGHT: (List separately all materials put into process and specify applicable units if other than tons/yr)

B.

Raw Material	Input Process Weight	Units
Lilly #8607K Coating	1,788 Gall./Yr.	gall/yr
Valspar 3846 Coating	110 Gall./Yr.	gall/yr
Butyl Cellosolve (or Glycol ether)	14,677 Gall./Yr.	gall/yr
Methyl Isobutyl Ketone	3,759.2 Gall./Yr.	gall/yr
Mineral Spirits	10,291 Gall./Yr.	gall/yr

IV PRODUCT OUTPUT (Specify applicable units)

N/A; Coated Metal

Best Available Copy

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA
DISTRICT
3310 MAGUIRE BOULEVARD
SUITE 322
ORLANDO, FLORIDA 32809



Bob Martine
GOVERNOR
Dale Twachtman
SECRETARY
Alex Alexander
DISTRICT MANAGER

III.

ANNUAL OPERATION REPORT FORM FOR AIR EMISSIONS SOURCES

For each permitted emission point, please submit a separate report for calendar year 1988 prior to March 10 of the following year.

I. GENERAL INFORMATION

- 1. Source Name: Citrus Central, Inc. - Metals Division
- 2. Permit Number: A048-148307
- 3. Source Address: Highway 441, Plymouth, FL
- 4. Description of Source: Four color U.V. Press and coating, Line #1

II. ACTUAL OPERATING HOURS: 24 hrs/day 5 days/wk 50 wk/yr

III. RAW MATERIAL INPUT PROCESS WEIGHTS: (List separately all materials put into process and specify applicable units if other than tons/yr)

Raw Material	Input Process Weight	
G.P. I	8,772.01 LB./YR.	tons/yr
Acme Ink	3,144.00 LB./YR.	tons/yr
U.V. 971-HC Reliance (B/S Varnish)	2,408.25 GALL./YR.	tons/yr
Methyl isobutyl Ketone	11,306.20 GALL./YR.	tons/yr
Isopropyl Alcohol	514.80 GALL./YR.	tons/yr

IV. PRODUCT OUTPUT (Specify applicable units)

N/A; Coated Metal

III
permit # A048 148309

Best Available Copy

V TOTAL FUEL USAGE including standby fuel. 12 (not in oil, specify type and sulfur content (e.g., No. 6 oil with 18 S). N/A

_____ 10 ⁶ cubic foot Natural Gas	_____ 10 ³ kerosene
_____ 10 ³ gallons _____ oil, _____ US _____	_____ 10 ³ kerosene
_____ 10 ³ gallons Propane	_____ 10 ³ kerosene
_____ 10 ⁶ British Liqueur Solids	_____ 10 ³ kerosene

Other (Specify type and units) _____

VI EMISSION RATE(S) (tons/yr)

_____ Particulates	_____ Sulfur Dioxide	_____ Total Reduced Sulfur
_____ Nitrogen Oxide	_____ Carbon Monoxide	_____ Fluoride

8.25 Hydrocarbon Other (Specify type and units) _____
(Total VOC)

VII METHOD OF CALCULATING EMISSION RATES (e.g., use of fuel and material balance, calculation factors from AP 42, etc.)

Use of M.S.D. Sheets, Supplier's technical data and materials balance.

VIII CERTIFICATION

I hereby certify that the information given in this report is correct to the best of my knowledge.

John E. Randall
SIGNATURE OF OWNER OR
AUTHORIZED REPRESENTATIVE
2/28/89
DATE

John E. Randall, Pres. & C.E.O.
TYPED NAME AND TITLE

CITRUS CENTRAL, INC.



PO BOX 60774, Orlando, Florida, USA 32860-2774
PHONE (305) 885-0181

FAX: (407) 885-0320

TO: Mr. Pradeep Raval
COMPANY: Fla. DER. B.A.Q.M.
FAX NO.: 1-904-488-6579

TOTAL NUMBER OF PAGES 8 (INCLUDING COVER LETTER)

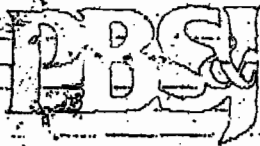
RECEIVED

FROM: S. Arrington
DATE: 3/6/89

MAR 6 1989

DER-BAQM

After going thru the charts on
pages of Chemicals at our Metals Div
I realized what the confusion is about.
I've sent a later explanation from our charts
which shows the "double seaper" systems
used on all three of our air pollution
sources. If you'd send me a copy
of your calculations that you had worked
up last Friday, I think we are on
the right track as is.



ENVIRONMENTAL LABORATORIES

Best Available Copy

5635 EAST COLONIAL DRIVE
ORLANDO, FLORIDA 32807
305/277-4443

April 4, 1988

RECEIVED

MAR 6 1989

DER:BAQM

Mr. A. T. Sawicki, P.E.
Air Permitting Section
Florida Department of Environmental Regulation
3319 Maguire Blvd., Suite 332
Orlando, FL 32803

RE: Citrus Central, Inc., Metals Division
Completeness Summary
Coating Lines No. 1 & 2
A048-140743

Dear Mr. Sawicki:

The following is a response to your February 19, 1988 request for additional information.

Item 1: Attached is a sketch which locates the double scraper systems in relation to coating lines #1 and 2 and the UV press lines (A048-65254 and A048-121501) and which locates hoods and duct work which may collect VOC emissions from the double scraper system.

Each double scraper system is an integral part of each individual press or coater and is not a separate piece of equipment shared by multiple sources. During the coating or printing process, a large roller applies the ink or varnish to the metal. A double scraper system is used on each of these coaters or presses to clean excess varnish or ink off the rollers. The hoods are located above the coaters or presses but are ineffective in controlling emissions from the double scraper systems.

Item 2: Each coating line or press line operates independently and does not share any common piece of equipment (except for the Core-Pak incinerator which controls VOC emissions). Material utilization rates are determined by production records for each of these production lines. Utilization rates were verified by conducting a mass balance using purchase receipts, hazardous waste manifests and actual production for each coater or press line.

Item 3: The capture efficiencies of the double scrapers for Coaters #1 and 2 are estimated at zero. The reasons for this are:

Best Available Copy

Mr. A. T. Sawicki, P.E.
April 4, 1988
Page 2

- o The hoods are located above the top of the coaters while the double scraper is located closer to the floor.
- o The solvents are heavier than air and tend to settle.

The capture efficiency for the coating emissions applied to the metal sheets is greater than 95% because of the short exposure time of the coated metal sheets to the atmosphere. *estimated at*

The results of the stack test conducted on March 30, 1988 will be forwarded to you within 45 days to address your request for total VOC emissions and capture information.

Item 4: I have attached a list of utilized material (including thinners and solvents) that this facility wishes to be permitted for. It is difficult to accurately estimate the quantity of each coating to be used during the year. Citrus Central wishes to be permitted to use a maximum of 42 gallons/hr (325.08#/hr) or 252,000 gallons/year (975.24 tons/yr) of coating and 40 lbs/hr or 240,000 lbs/year of solvent. The coating usage rates represent the maximum design capacity of both coaters combined. The solvent usage rate represents the amount of solvent used at the sources in 1987 with a nominal margin for error. It is important to note that most of the solvent is collected and disposed of as a hazardous flammable waste and is not lost as air pollution emissions (see letter dated 1/26/88 for emission calculations). The emission estimates from the requested coating usage is calculated using the worst case coating (Valspar 4134 - 6.2 #VOC/gallon) as follows:

$$(42 \text{ gal/hr})(6.2 \# \text{ VOC/gal}) = 260.4 \# \text{ VOC/hr available}$$

$$(260.4 \# \text{ VOC/hr})(1-0.979) = 5.47 \# \text{ /hr emissions}$$

$$(5.47 \# \text{ /hr})(6000 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lbs})$$

$$= 16.41 \text{ tons/yr}$$

Best Available Copy

Mr. A. T. Sawicki, P.E.
April 4, 1988
Page 3.

Emissions from solvents are based on the 1987 annual operation report as stated in my January 29, 1988 letter to you. Since we have requested a slightly higher usage rate for the solvents, we have proportionally increased the emission estimate.

- o Fugitive emission from solvents for 1987 = 4.87 tons/yr.
- o Utilized 219,316 lbs of solvent in 1987.
- o Requesting 240,000 lbs/yr or a 9.5% increase.

Therefore, fugitive emissions are estimated as follows:

$$(4.87 \text{ tons/yr}) (9.5\%) = 0.46 \text{ tons/yr increase}$$

$$4.87 \text{ tons/yr} + 0.46 \text{ tons/yr} = 5.33 \text{ tons/yr}$$

Total estimated emissions are:

$$5.33 \text{ tons/yr} + 16.41 \text{ tons/yr} = 21.74 \text{ tons/yr}$$

Allowable emissions

$$(42 \text{ gal/hr})(6000 \text{ hrs/yr})(2.8\% \text{ VOC/gal})(1 \text{ ton}/2000 \text{ lbs})$$

$$= 352.8 \text{ tons/yr}$$

Based on a telephone conversation between Bruno Ferraro and Teresa Heron (DER BAQM) on 3/29/88, and referencing the original permit applications for these sources on file in Tallahassee, the permitted emission rate of VOCs from each coater/oven combination is 161 tons/yr or 322 tons/yr total for both sources. Our request of 21.74 tons/yr represents a significant decrease in permitted VOC emissions.

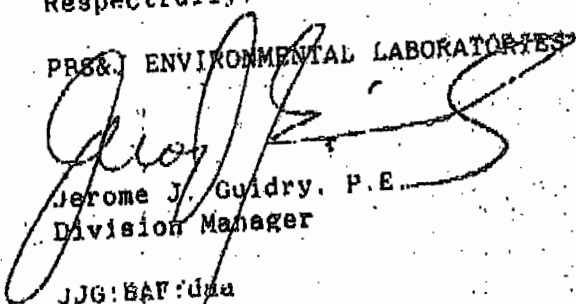
Best Available Copy

Mr. A. T. Sawicki, P.E.
April 4, 1988
Page 4

If you have any additional questions regarding this
submittal, please call me at 277-4443 or Bruno Ferraro at
298-2282.

Respectfully,

PR&S ENVIRONMENTAL LABORATORIES



Jerome J. Guidry, P.E.
Division Manager

JJG:BAF:uma

- cc: Bruno Ferraro
- Joe Busco
- Bill Fendley
- Russell Cannon
- John Z. Randall

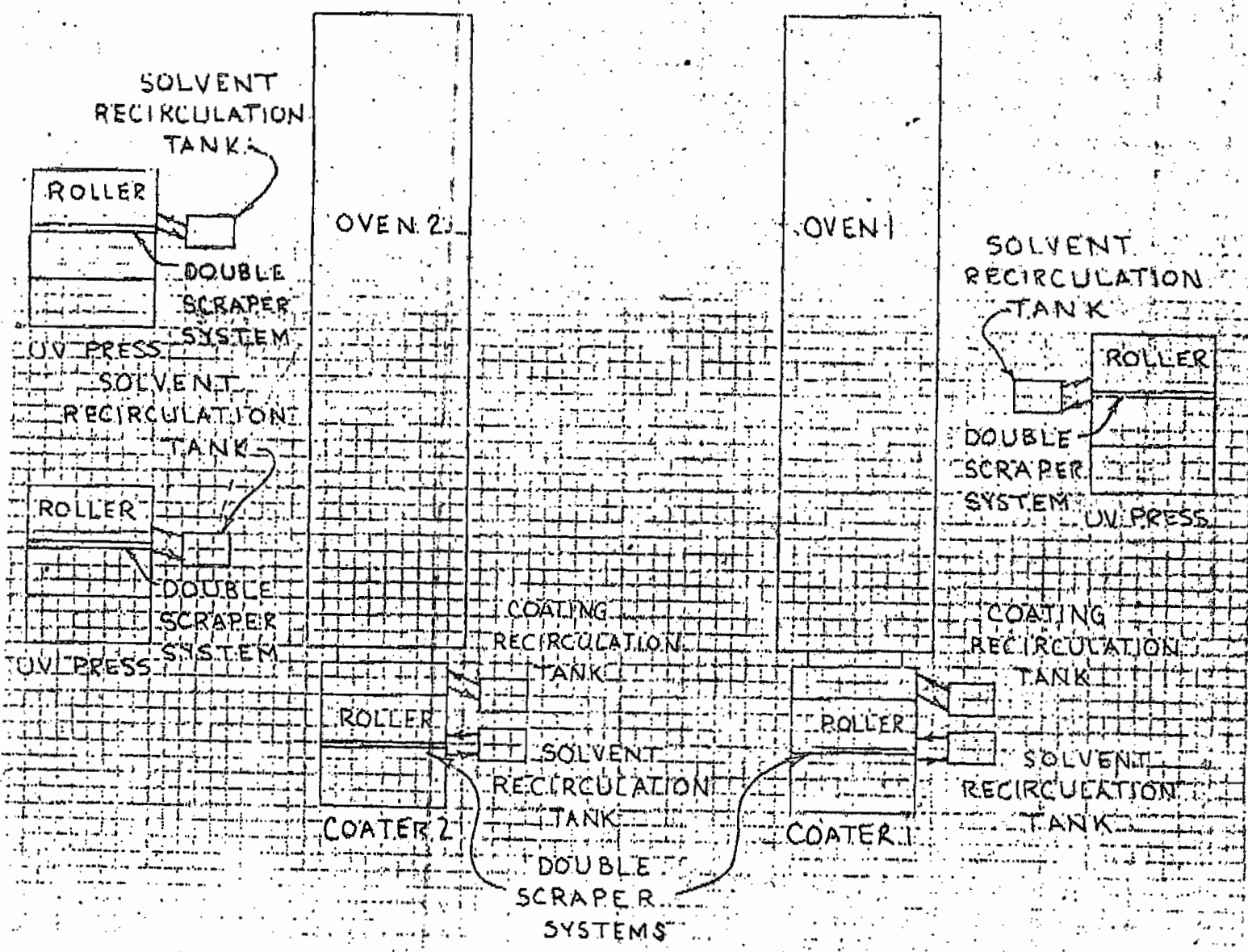
A7:x

1st, Buckley, Schuh & Jernigan, Inc.
CONSULTING ENGINEERS and PLANNERS

Best Available Copy

COMP. BY:
CHK. BY: BAF
DATE: 19 MARCH 88
SHEET NO.: 1 OF 2
JOB NO.:

SUBJECT: CITRUS CENTRAL INC - METALS DISC
SIMPLIFIED FLOOR PLAN SKETCH



NOT TO SCALE

ost, Buckley, Schuh & Jernigan, Inc.

Best Available Copy

COMP. BY: DA

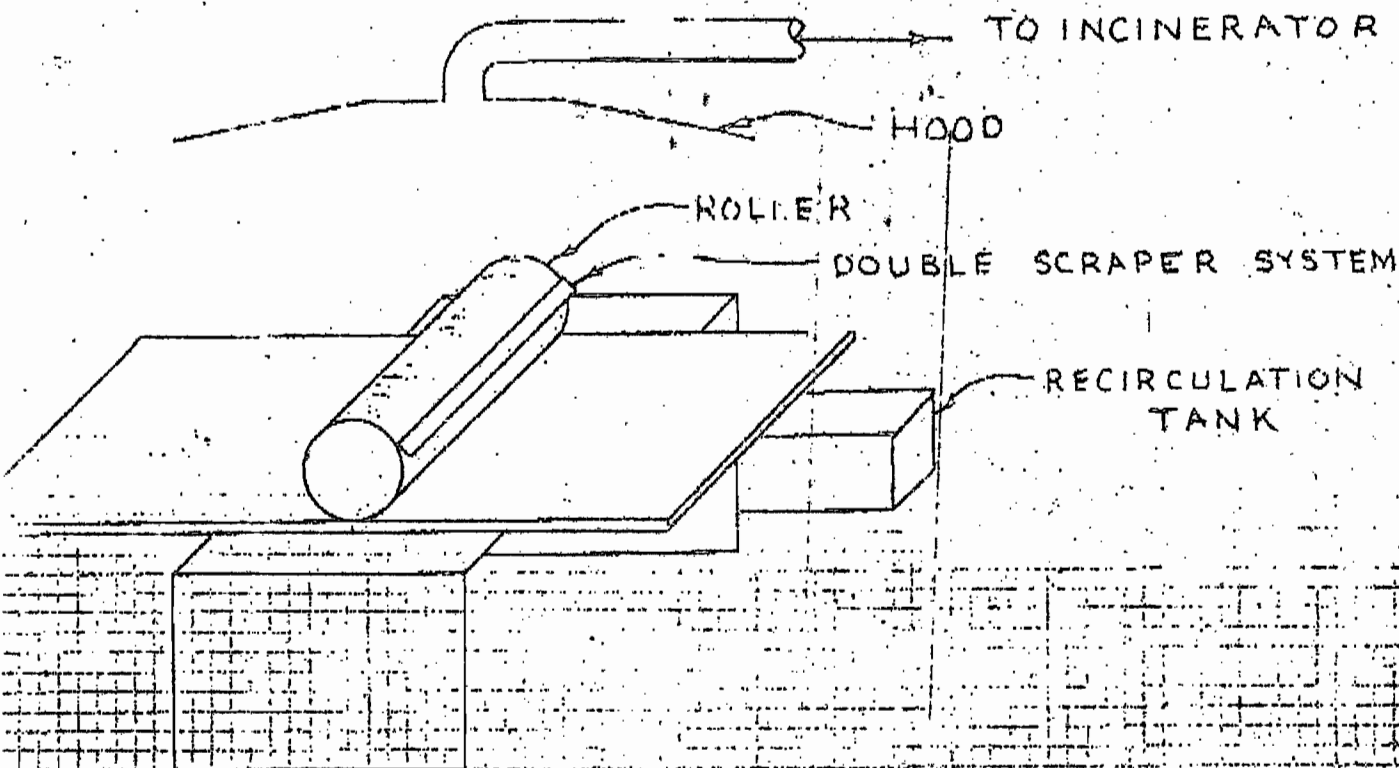
CHK. BY: CAF

DATE: 14 MARCH 88

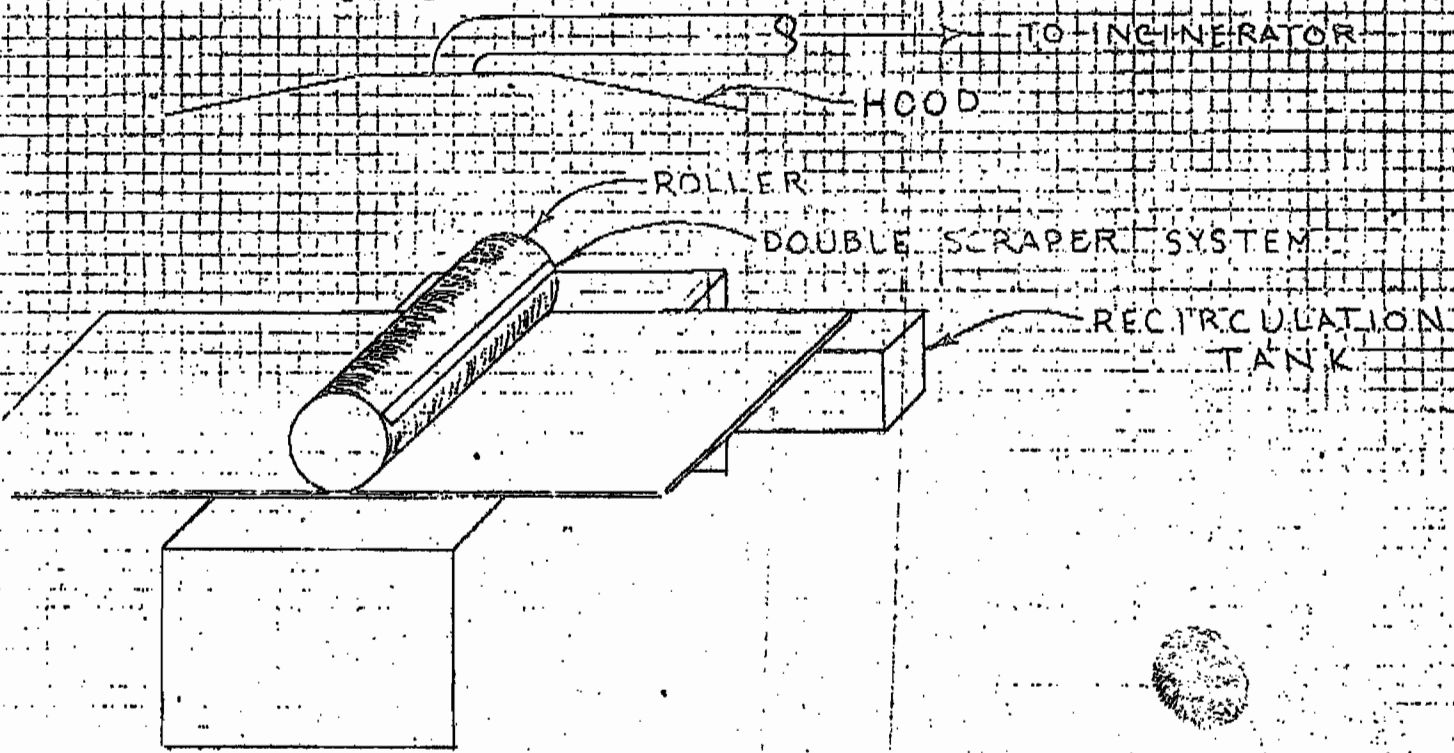
SHEET NO.: 2 OF 2

JOB NO.: _____

SUBJECT: CITRUS CENTRAL INC - METALS DIV -
TYPICAL HOOD SYSTEM SUPPLIED SIDE VIEWS



TYPICAL SETUP OF COATER ONE AND COATER TWO



UV PRESS

NOT TO SCALE

Best Available Copy

MATERIALS UTILIZED

Description	CONTAMINATED		Utilization Rate - lbs/hr	Ratio to Flow Diagram
	Type	USE		
Inmont H-29	VOC	67.3		
Lilly 8110	VOC	72		
Lilly 8607	VOC	54		
Valspar 9382	VOC	50.8		
Valspar 9009	VOC	70		
Valspar 4134	VOC	80.1		
Valspar 3846	VOC	70		
Valspar 1167	VOC	82.4		
Valspar 9434	VOC	57.7		
Valspar 6265	VOC	66.1		
Valspar 85 x 219	VOC	76.1		
Valspar 6256	VOC	67.0		
Reliance 855W2353	VOC	28.0		
Valspar 281-V-216	VOC	59.0		
Butyl Cellulosyl/ Glycol/Ether	VOC	100		
MIRK	VOC	100		
Mineral Spirits	VOC	100		

PM
2-14-89
Orlando, FL

file copy

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

Mr. Clair Fancy, P.E.
Deputy Chief, B.A.Q.M.
Fla. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

RECEIVED

FEB 16 1989

Feb. 14, 1989

Dear Mr. Fancy:

DER-BAQM

Re: Completeness Summary for Permits' modifications and combination of AC 48-158976 (Metals Div.) and AC 48-155533 (Plymouth Can Div.)

Following is the response you requested in your letter dated Jan. 20, 1989. (The numbers prefixing my answers correspond to the questions in that letter).

1. Enclosed are copies of Annual Operation Reports which is the simplest way to indicate emissions histories at the two plants. The reports for the Can Div. only go back to 1986, because this is when the facility's construction permit was first issued. For this plant, emissions were 37.62 tons/yr. in 1986, and 31.27 t.p.y. in 1987. For the Metals Div., emissions were 12 tons in 1983; 29 tons in '84; 49 tons in '85; 25 tons in '86; 60 tons in '87. (See enclosed reports having a circled 1. handwritten at the top of the pages.)
2. You should also find enclosed a copy of Wadsworth Labs. analyses on Metals Div.'s solvent by-product, (which will be used as fuel in the new Reeco Thermal Oxidizer). The lab results indicate no detection of heavy metals or chlorinateds as are listed in vol. 52, no. 130, July 8, 1987 issue of the Federal Register, for burning of Hazardous Waste in Boilers. (The document from the lab will have a handwritten and circled 2. at the top of the page.)
3. The manufacturer of the new Thermal Oxidizer to be used at the Metals Div. sent an information package entitled "Capture Testing Protocol", including methods of efficiency calculation as well as equipment detail drawings. (These enclosed papers are marked with a circled 3. at the top.)
4. From page III. C-4 of our application for Metals Div.'s permit modification dated 12/5/88, solvent by-product is of the following mixture and resulting emissions:
 - A. MIBK recovered in scrap to be burned in thermal oxidizer-
(31.45 tons)(0.75) = 23.59 tons/yr.
(23.59 t.p.y.)(95% DRE) = 22.41 tons VOC. destructed
(23.59 - 22.41 destructed tons VOC.) = 1.18 tons VOC/yr. emitted

4. B. IPA solvent scrap to be burned --

$(4.67 \text{ tons/yr.})(0.40) = 1.87 \text{ tons VOC}$

Increase in hours of production to an allowable of
8760 hr./yr.--

$(1.87 \text{ tons})(8760/7488) = 2.19 \text{ tons/yr.}$

VOC emissions--

$(2.19 \text{ tons/yr.})(95\% \text{ DRE}) = 2.08 \text{ tons destructed}$

$(2.19 - 2.08) = 0.11 \text{ tons VOC/yr. emitted}$

TOTAL VOC emissions after control from burning of solvent by-
product = 1.29 tons VOC/ yr.

5. Regarding the last question asking if there is any other
equipment that we plan to install, we reviewed our ap-
plication package sent to you 12/5/88 and could not find
anything else which would be added.

If there are any other questions, please contact me or Susan
Arrington at the phone number on the letterhead.

Sincerely,

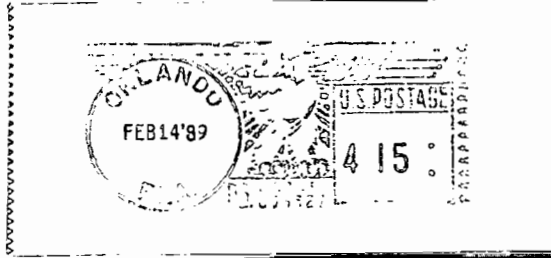
Citrus Central, Inc.


John Z. Randall
President & C.E.O.

cc. J. Busco
B. Fendley
R. Cannon
B. Hargrove
E. Zysset

*copied to: P. Raval
C. Collins
CHF/BT*

CITRUS CENTRAL, INC.



CERTIFIED
P 034 540 445
MAIL

**CITRUS
CENTRAL
INC.**



CITRUS CENTRAL, INC.
P. O. BOX 607774
ORLANDO, FL 32860-7774

MR. CLAIR FANCY, P. E.
Depty. Chief - B.A.Q.M., FLA. D.E.R.
2600 BLAIR STONE RD.
TALLAHASSEE
FL. 32399-2400

CAPTURE SCOOP DETAIL CITRUS CENTRAL INC

DWG.# BS-1-22-89-JTC-1

REECO PROJECT 638

NUMBER OF SCOOPS REQ'D = (8)

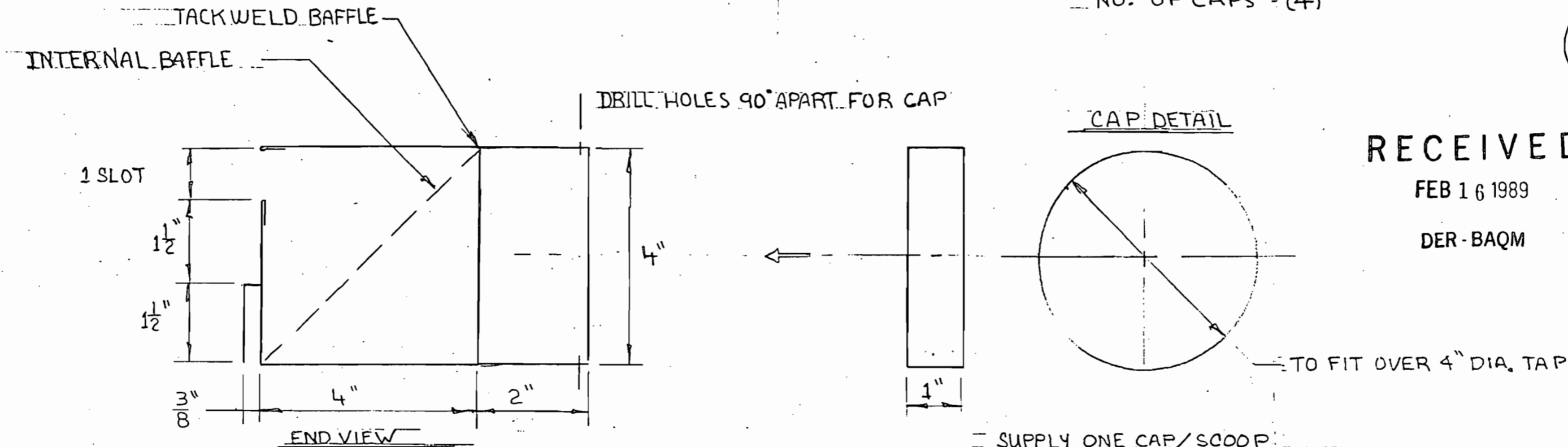
NO. OF CAPS = (4)

3.

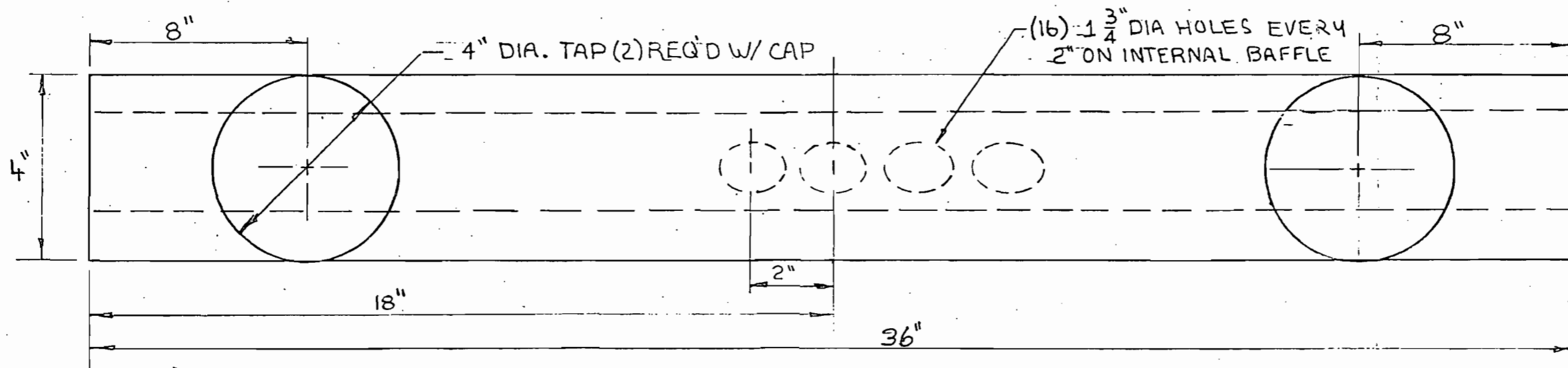
RECEIVED

FEB 16 1989

DER-BAQM



SUPPLY ONE CAP/SCOOP



MATERIAL : H.R.S. - 18 GA

PRELIMINARY

INFORMATION ONLY

3.

CAPTURE SCOOP DETAIL CITRUS CENTRAL INC

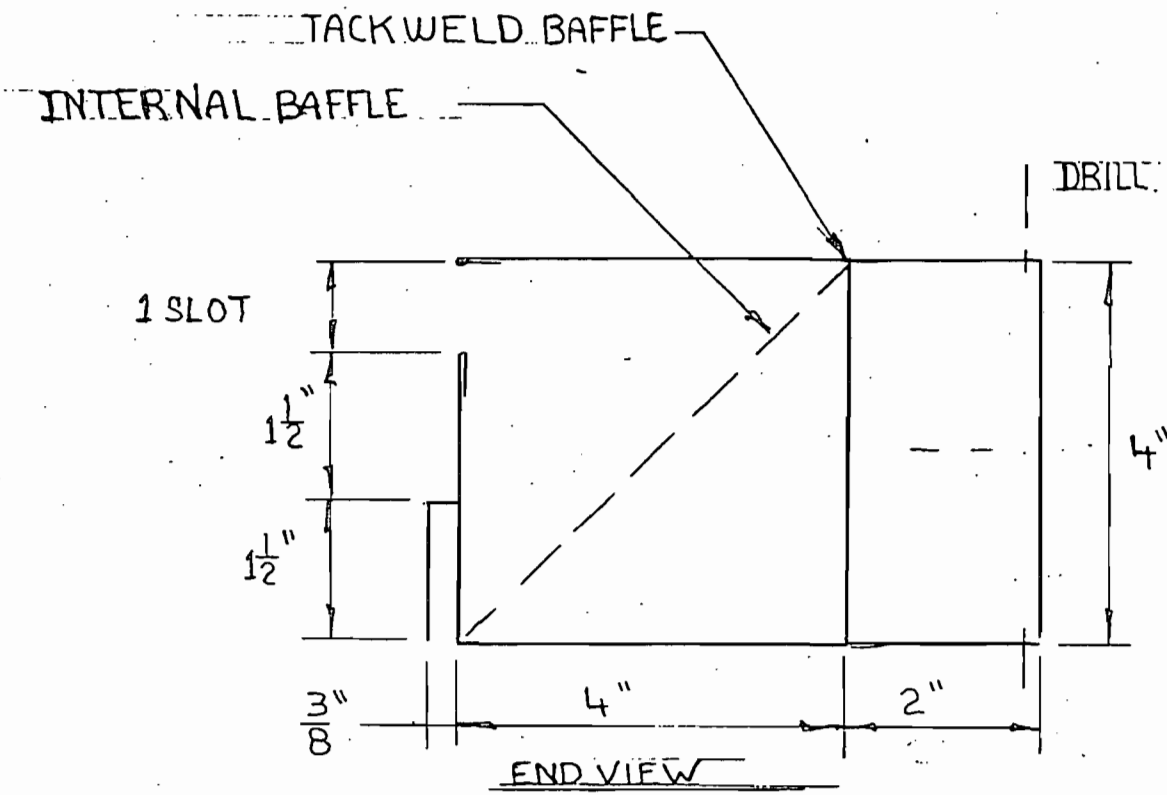
DWG.# BS-1-22-89-JTC-1

REECO PROJECT 638

NUMBER OF SCOOPS REQ'D = (8)

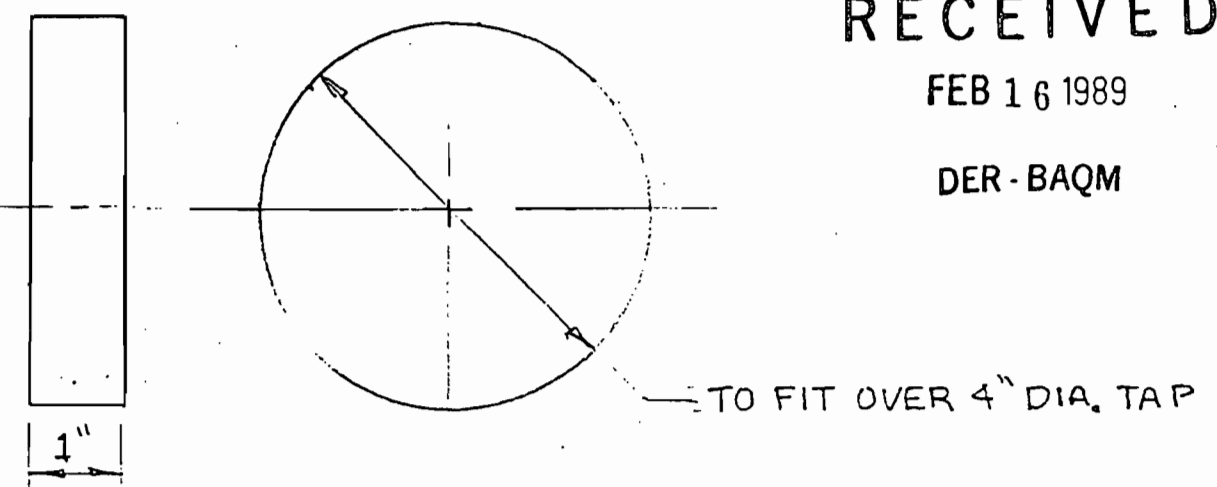
NO. OF CAPS = (4)

3.



DRILL HOLES 90° APART FOR CAP

CAP DETAIL

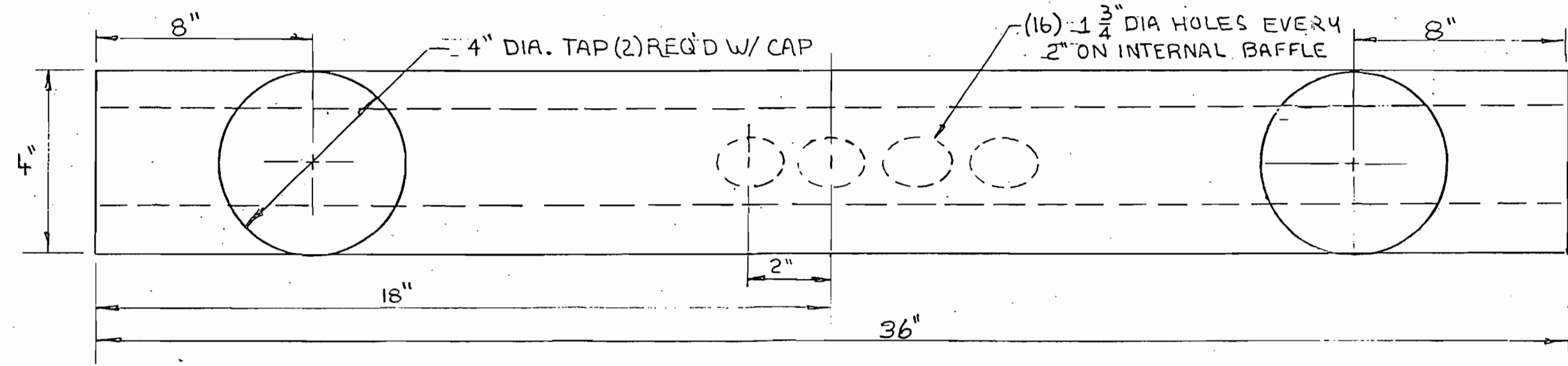


RECEIVED

FEB 16 1989

DER-BAQM

SUPPLY ONE CAP/SCOOP



① MATERIAL : H.R.S. - 18 GA.

PRELIMINARY

INFORMATION ONLY

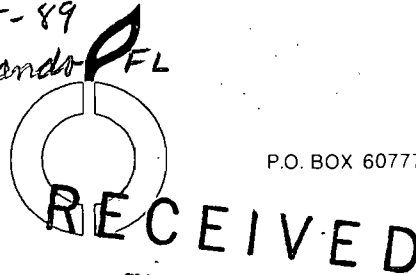
3.

PM
2-15-89
Orlando FL

file copy

CITRUS CENTRAL, INC.

P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101



FEB 17 1989

DER-BAQM

Feb. 14, 1989

Mr. Clair Fancy, P.E.
Deputy Chief, B.A.Q.M.
Fla. D.E.R.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

Dear Mr. Fancy:

Re: Completeness Summary for Permits' modifications and combination of AC 48-158976 (Metals Div.) and AC 48-155533 (Plymouth Can Div.)

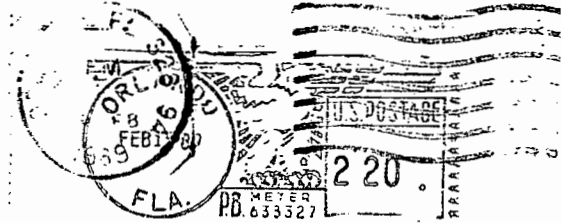
Following is the response you requested in your letter dated Jan. 20, 1989. (The numbers prefixing my answers correspond to the questions in that letter).

1. Enclosed are copies of Annual Operation Reports which is the simplest way to indicate emissions histories at the two plants. The reports for the Can Div. only go back to 1986, because this is when the facility's construction permit was first issued. For this plant, emissions were 37.62 tons/yr. in 1986, and 31.27 t.p.y. in 1987. For the Metals Div., emissions were 12 tons in 1983; 29 tons in '84; 49 tons in '85; 25 tons in '86; 60 tons in '87. (See enclosed reports having a circled 1. handwritten at the top of the pages.)
2. You should also find enclosed a copy of Wadsworth Labs. analyses on Metals Div.'s solvent by-product, (which will be used as fuel in the new Reeco Thermal Oxidizer). The lab results indicate no detection of heavy metals or chlorinateds as are listed in vol. 52, no. 130, July 8, 1987 issue of the Federal Register, for burning of Hazardous Waste in Boilers. (The document from the lab will have a handwritten and circled 2. at the top of the page.)
3. The manufacturer of the new Thermal Oxidizer to be used at the Metals Div. sent an information package entitled "Capture Testing Protocol", including methods of efficiency calculation as well as equipment detail drawings. (These enclosed papers are marked with a circled 3. at the top.)
4. From page III. C-4 of our application for Metals Div.'s permit modification dated 12/5/88, solvent by-product is of the following mixture and resulting emissions:
 - A. MIBK recovered in scrap to be burned in thermal oxidizer-
 $(31.45 \text{ tons})(0.75) = 23.59 \text{ tons/yr.}$
 $(23.59 \text{ t.p.y.})(95\% \text{ DRE}) = 22.41 \text{ tons VOC. destructed}$
 $(23.59 - 22.41 \text{ destructed tons VOC.}) = 1.18 \text{ tpy. emitted}$
With proposed increased hours of operation from 7488 to 8760 per year: $(1.18 \text{ tpy.})(8760/7488) = 1.38 \text{ tpy. VOC}$

CITRUS CENTRAL, INC.
P.O. Box 607774
Orlando, FL 32860-7774

RECEIVED
FEB 17 1983
DER-BAQM

RETURN RECEIPT
REQUESTED



FLORIDA D.E.R.
B.A.Q.M.
Attn. - Mr. Clair Fancy, P.E., Depty. Chief
2600 Blair Stone Rd.
Tallahassee
FL. 32399-2400

4. B. IPA solvent scrap to be burned --

$$(4.67 \text{ tons/yr.})(0.40) = 1.87 \text{ tons VOC}$$

Increase in hours of production to an allowable of
8760 hr./yr.--

$$(1.87 \text{ tons})(8760/7488) = 2.19 \text{ tons/yr.}$$

VOC emissions--

$$(2.19 \text{ tons/yr.})(95\% \text{ DRE}) = 2.08 \text{ tons destructed}$$

$$(2.19 - 2.08) = 0.11 \text{ tons VOC/yr. emitted}$$

TOTAL VOC emissions after control from burning of solvent by-
product = 1.38 (from A. above) + 0.11 (from B. above)
= 1.49 tons/yr. VOC

5. Regarding the last question asking if there is any other
equipment that we plan to install, we reviewed our ap-
plication package sent to you 12/5/88 and could not find
anything else which would be added.

If there are any other questions, please contact me or Susan
Arrington at the phone number on the letterhead.

Sincerely,

Citrus Central, Inc.

John Z. Randall
John Z. Randall
President & C.E.O.

^{2/15/89}
Please accept this
revision in place of
the cover letter of
the same date included
in our Completeness Sum-
mary response to your
offices. ~~It~~ (Two sentences
were left off this first
page during printing.)
Thank you, JZR -

Copied: P. Rival
C. Collins
CHF/BT

CITRUS CENTRAL, INC.

P 274 007 556

RECEIPT FOR CERTIFIED MAIL

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

* U.S.G.P.O. 1985-480-794

PS Form 3800, June 1985

Sent to Mr. John Z. Randall, Citrus	
Street and No. P.O. Box 607774 Central	
P.O., State and ZIP Code Orlando, FL 32860-7774	
Postage	S
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	S
Postmark or Date Mailed: 1-20-89 Permit: AC 48-155533 AC 48-158976	

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. John Z. Randall Citrus Central Inc. P. O. Box 607774 Orlando, Florida 32860	4. Article Number P 274 007 556
	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 - Address X <i>[Signature]</i>	8. Addressee's Address (ONLY if requested and fee paid)
6. Signature - Agent X	
7. Date of Delivery 1/23/89	



Florida Department of Environmental Regulation

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

Bob Martinez, Governor

Dale Twachtman, Secretary

John Shearer, Assistant Secretary

January 20, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central Inc.
P.O. Box 607774
Orlando, Florida 32860

Dear Mr. Randall:

Re: Review of Application for Metal Division's
Permit Amendment, AC 48-158976; and
Plymouth Can Division, AC 48-155533.

The Department has reviewed your application package received on December 27, 1988 and deemed it incomplete. Please submit the following information, including all assumptions, calculations, and reference materials needed to resume the completeness review:

1. Please quantify the contemporaneous emission increases and decreases at your facility (Metal Division as well as Can Division), for a period beginning five years prior to the filing of this application.
2. Submit results of a chemical analysis done on the waste solvent to indicate whether or not it contains any heavy metals or chlorinated compounds.
3. Explain the manner in which the capture efficiency for VOCs was determined. Submit manufacturer's test data, if available, to support the 80% capture efficiency assumption.
4. Please quantify and qualify the amount of spent solvent(s) to be used as fuel in the thermal oxidizer, and also evaluate the resultant emissions.

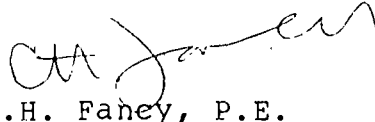
John Z. Randall
January 20, 1989
Page Two

5. Please state if any additional new equipment will be installed (other than the proposed thermal oxidizer) or if any equipment replacements will be undertaken at the facility as a part of this project.

As suggested by Susan Arrington, the review and permitting of the two divisions at the Plymouth Facility will be done concurrently because they are interrelated.

If you have any questions please call Pradeep Raval at (904) 488-1344 or write to me at the above address.

Sincerely,

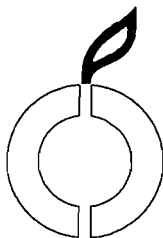


C.H. Fahey, P.E.
Deputy Bureau Chief
Bureau of Air Quality
Management

CAF/PD/h

cc: C. Collins, CF District
S. Arrington, Citrus Central Inc.

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

Clair Fancy
Department Of Environmental Regulation
2800 Blair Stone Road
Tallahassee, FL 32301

RECEIVED

DEC 27 1988

DER - BAQM

Reference: AO48-140743
AO48-148309
AO48-121501

Dear Mr. Fancy:

Enclosed is Citrus Central Inc.'s application for a construction permit to amend and combine the above referenced permits. With this application, we are proposing the following modifications: 1) replacement of our aging fume incinerator with new and more efficient equipment on the coating lines (AO48-1400743); 2) addition of fume hoods directed to the new incinerator to control previously uncontrolled emissions from the UV lines (AO48-148309 and AO48-121501); 3) an increase in permitted operating hours to 8760 hours per year; and 4) combination of all of the above referenced permits into one permit. As demonstrated by the enclosed permit application, the proposed modifications will result in a significant net decrease in emissions from the facility.

Current emission controls on sheet metal coating lines/ovens numbers 1 & 2 will be replaced with a new REECO Re-Therm VF Model Thermal Oxidizer. This equipment has a minimum DRE of 95%, as opposed to 90% with the existing equipment. The new equipment will also be used to control VOC emissions from the UV lines. New high efficiency hoods will be installed at the coaters and the UV lines to ensure maximum control of VOC emissions.

With the exception of an increase in operating hours to 8760, this application includes no changes in the use of coatings or solvents at the facility or in other operations at the facility covered by the above referenced permits. As with the existing incinerator, the REECO will recover heat and return it to the process to heat the ovens.

Due to the capture and control of emissions by a single control device from each of the previously separately permitted sources, we are requesting that the sources be combined into one permit. Combination of the permits will facilitate more accurate compliance monitoring.

Attn. - Mr. C. FANCY

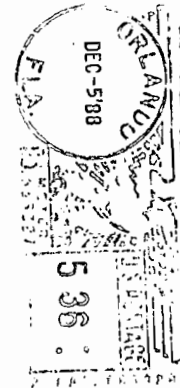
Fla. D. E. R. - B. A. Q. M.

2800 BLAIR STONE RD.

Tallahassee

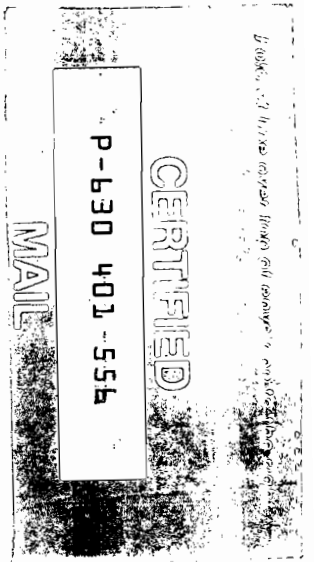
FL.

32301



**RETURN RECEIPT
REQUESTED**

**PRIORITY
MAIL**



Please feel free to contact me if you have any questions regarding this submission.

Sincerely,

A handwritten signature in black ink that reads "Susan Arrington". The signature is written in a cursive style with a large, looping initial 'S'.

Susan Arrington
Citrus Central Inc.

\$ 200.00 pd
12-27-88

AC 48-158976

STATE OF FLORIDA

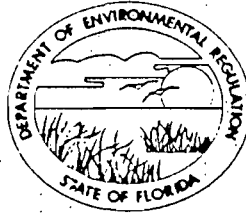
DEPARTMENT OF ENVIRONMENTAL REGULATION

RECEIVED

BOB GRAHAM
GOVERNOR

DEC 27 1988 VICTORIA J. TSCHINKEL
SECRETARY

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32331



DER-BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Coating lines & UV press lines [] New¹ [X] Existing¹

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

COMPANY NAME: Citrus Central Inc., Metals Division COUNTY: Orange

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Thermal oxidizer

SOURCE LOCATION: Street Highway 441 city Plymouth

UTM: East 17-445.6 km North 3174.0 km

Latitude 28 ° 41 ' 31 "N Longitude 81 ° 33 ' 21 "W

APPLICANT NAME AND TITLE: John Z. Randall, Executive Vice President

APPLICANT ADDRESS: P.O. Box 17774, Orlando, FL 32860

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Citrus Central, Inc.

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

*Attach letter of authorization

Signed: John Z. Randall

John Z. Randall, Executive Vice President
Name and Title (Please Type)

Date: 12/5/88 Telephone No. 407-889-4101

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

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

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

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Kenneth E. Given

Kenneth E. Given
Name (Please Type)

Solvent Engineering & Consulting
Company Name (Please Type)

3227 Bonnybrook Drive North, Lakeland, FL 33811
Mailing Address (Please Type)

Florida Registration No. 23203 Date: 11/21/88 Telephone No. 813-644-0022

SECTION II: GENERAL PROJECT INFORMATION

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

Replace existing control device for AO 48-14073 (incinerator, 90% DRE) with thermal oxidizer (95% DRE). Currently uncontrolled emissions from UV press lines (AO 48-148309 & AO 48-121501) will also be controlled by the new device.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction January 1989 Completion of Construction August 1989

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

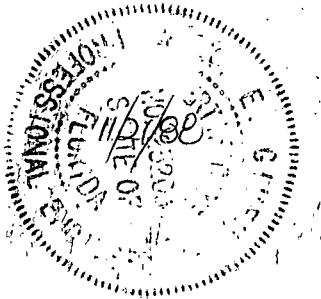
\$1,200,000.00

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

AO 48-140743 Coating/Lines ovens 1 & 2 Issued 09-28-88 Expires 09-03-93

AO 48-148309 UV Press & Coating line No. 1 Issued 08-03-88 Expires 08-03-93

AO 48-121501 Two Color UV Press line Issued 09-03-86 Expires 08-22-91



E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr _____; if seasonal, describe: _____

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

1. Is this source in a non-attainment area for a particular pollutant? No
a. If yes, has "offset" been applied? No
b. If yes, has "Lowest Achievable Emission Rate" been applied? No
c. If yes, list non-attainment pollutants. N/A

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? Yes

a. If yes, for what pollutants? VOC

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted.

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

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

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

See Attachment III.A

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

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

1. Total Process Input Rate (lbs/hr): See Attachment III. A

2. Product Weight (lbs/hr): NA

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

See Attachment III.C

Name of Contaminant	Emission ¹		Allowed ² Emission Rate per Rule 17-2	Allowable ³ Emission lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	

¹See Section V, Item 2.

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

³Calculated from operating rate and applicable standard.

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

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
REECO Re-Therm Model VF	VOC	95% min.	N/A	See Attachment V
Oxidizer/Boiler				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.0069	0.019	18.0
Solvents	6.5 gal/hr	10.0 gal/hr	1.0

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

Fuel Analysis:

Percent Sulfur: 0 Percent Ash: N/A
 Density: 7.0 lbs/gal Typical Percent Nitrogen: N/A
 Heat Capacity: 16,000 BTU/lb BTU/lb 120,000 BTU/gal
 Other Fuel Contaminants (which may cause air pollution): N/A

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

Annual Average N/A Maximum N/A

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

Spent solvents will be used as auxillary fuel for the oxidizer/boiler. Metal will be sold for scrap. Ash will be disposed of as hazardous waste..

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

Stack Height: 50 ft. Stack Diameter: 4.0 ft.
 Gas Flow Rate: 46,916* ACFM 23,545* DSCFM Gas Exit Temperature: 550 Max. °F.
 Water Vapor Content: 4.0 % Velocity: 62 FPS
 * Maximum

SECTION IV: INCINERATOR INFORMATION N/A

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

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

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

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

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

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

Brief description of operating characteristics of control devices: _____

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A

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

Yes No

Contaminant	Rate or Concentration

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

Yes No

Contaminant	Rate or Concentration

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

Contaminant	Rate or Concentration

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

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

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

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

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

1.

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

2.

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

¹Explain method of determining efficiency.

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

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

3.

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

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

4.

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

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

F. Describe the control technology selected:

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

¹Explain method of determining efficiency.

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION N/A

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

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

B. Meteorological Data Used for Air Quality Modeling

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

C. Computer Models Used

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

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [] Yes [] No

b. Was instrumentation calibrated in accordance with Department procedures?

[] Yes [] No [] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from _____ / _____ / _____ to _____ / _____ / _____
month day year month day year

2. Surface data obtained from (location) _____

3. Upper air (mixing height) data obtained from (location) _____

4. Stability wind rose (STAR) data obtained from (location) _____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

Attachments

III. A Raw Materials and Chemicals Used in the Process

III.C Airborne Contaminants Emitted

V Supplemental Requirements

- a. Plot Plans (supplements 7 & 8)
- b. Control Device Description (supplements 4 , 5, & 6)
- c. Auxiliary Fuel DRE

Attachment III. A Raw Materials and Chemicals Used in the Process

a. Sheet Metal Coil Coater/Oven Nos. 1 and 2

1) Coatings permitted in AO48-140743, specific condition 5 at a maximum utilization rate of 34.0 gallons/hour total for both coating lines:

<u>Description</u>	<u>lb VOC/gal less water</u>	<u>Density (lb/gal)</u>
Technical #930	5.7	8.4
Inmont H-29	7.7	11.5
Lilly 8110	5.7	7.9
Lilly 83210	5.3	7.9
Valspar 9382	4.0	7.8
Valspar 9009	5.0	9.2
Valspar 2799	5.5	8.0
Valspar 4134	6.2	7.8
Valspar 3486	5.5	7.9
Valspar 1167	6.2	7.5
Valspar 9434	4.9	8.5
Valspar 6265	5.5	8.3
Valspar 85 x 219	6.0	8.4
Valspar 6256	5.3	7.9
Reliance 855W2353	2.8	12.5
Valspar 281-V-216	4.8	8.1

2) Solvents permitted at a maximum utilization rate of 38 pounds/hour total for both coating lines:

<u>Description</u>	<u>VOC % by Weight</u>
Butyl Cellosolve	100
Glycol Ether	100
MIBK	100
Mineral Spirits	100

b. UV Press & Coating Line #1
Permitted Utilization Rates: AO48-148309

1) Coatings

	<u>Utilization Rate*</u>	<u>lb VOC/gal</u>	<u>Density</u>
End stock varnish	15.7 lbs/hr	0.719 lb/gal	9.26 lb/gal
Body stock varnish	15.7	0.9986 lb/gal	9.61
GPI suncure ink	7.8	0.8157 lb/gal	8.0
Acme Inks	7.8	1.2554 lb/gal	11.25

* per AO48-148309 condition # 7

2) Solvents

<u>Description</u>	<u>VOC % by Weight</u>	<u>Utilization Rate</u>
MIBK	100	8.40 lbs/hour*
Isopropyl Alcohol	100	1.25 lbs/hour†

* per AO48-148309

† based on 26 Jan 88 letter from Jerome Guidry to A.T. Sawicki and anticipated utilization forecast

c. Two color ink UV Press Line
Permitted Utilization Rates: AO48-121501

1) Coatings

	<u>Utilization Rate</u>	<u>lb VOC/gal</u>	<u>Density</u>
End stock varnish	11.8 lbs/hr	0.719 lb/gal	9.26 lb/gal
Body stock varnish	12.25	0.9986 lb/gal	9.61
GPI suncure ink	1.25	0.8157 lb/gal	8.0
Acme Inks	0.5	1.2554 lb/gal	11.25

2) Solvents

<u>Description</u>	<u>VOC % by Weight</u>	<u>Utilization Rate</u>
MIBK	100	14.37 lbs/hour*
Isopropyl Alcohol	100	0.62 lbs/hour*

* based on 26 Jan 88 letter from Jerome Guidry to A.T. Sawicki and anticipated utilization forecast

Attachment III.C Airborne Contaminants Emitted

a. Sheet Metal Coil Coater/Oven Nos. 1 and 2

1) Coatings as permitted in AO48-140743, specific condition 5

Current Maximum Utilization and Potential VOC emissions (if uncontrolled)

34.9 gal/hour X 6,000 hours X 7.7 lbs VOC/gal = 1,612,380 lbs/yr = 806.19 Tons/yr

Current Allowable Emissions

806.19 Tons/year controlled by 90% DRE incinerator = 80.62 Tons/year

Modified Maximum Utilization and Potential VOC emissions (if uncontrolled*)

34.9 gal/hour X 8,760 hours X 7.7 lbs VOC/gal = 2,354,074 lbs/yr = 1,177 Tons/yr

Modified Maximum Utilization and Potential VOC emissions (controlled)

1,177 Tons/yr controlled by 95% DRE incinerator = 58.85 Tons/yr

* Uncontrolled emissions are unlikely. The curing of coatings depends on the heat recovered from the incinerator. If the incinerator is inoperable, the coating process can not continue.

2) Solvents as permitted in AO48-140743, specific condition 6. Maximum utilization rate of 38 pounds/hour total for both coating lines.

<u>Description</u>	<u>VOC % by Weight</u>
Butyl Cellosolve	100
Glycol Ether	100
MIBK	100
Mineral Spirits	100

Current Allowable VOC emissions

38 lbs/hour X 100% VOC X 6000 hours = 228,000 lbs/yr = 114 Tons/year

Proposed Maximum Utilization and Potential VOC emissions (if uncontrolled*)

38 lbs/hour X 100% VOC X 8,760 hours = 332,880 lbs/yr = 166.44 Tons/year

Approximately 80% of solvent emissions to be captured by incineration system resulting in 20% fugitive emissions

166.44 Tons x 0.20 = 33.29 Tons/yr fugitive emissions

133.15 Tons/yr captured by incineration system with 95% DRE will result in 6.66 Tons/yr solvent emissions

Total solvent VOC emissions = 6.66 Tons/yr + 33.29 Tons/yr = 39.15 Tons/yr

- b. UV Press and Coating Line
As permitted in AO48-148309

1) Coatings

<u>Description</u>	<u>VOC Content by Weight</u>
Acme Ink (various colors)	2.8 lb/gal (max)
GPI Suncure Ink (various colors)	2.8 lb/gal (max)
Body Stock Varnish (synonymous with UV overprint varnish)	2.8 lb/gal (max)
End Stock Varnish (synonymous with Re-Lite outside UV varnish)	2.8 lb/gal (max)

Allowable VOC emissions

Allowable VOC emissions from coatings is calculated according to the following equations:

$$[\text{Permitted Utilization Rate (lb/hr)}] [1/\text{density (gal/lb)}] = \text{Utilization Rate (gal/hr)}$$

$$[\text{Utilization Rate (gal/hr)}] [\text{Max. VOC Content (lb VOC/gal)}] = \text{Permitted VOC emissions (lbs VOC/hr)}$$

$$[\text{Permitted VOC Emissions (lbs VOC/hr)}] [\text{operating hours (hrs/yr)}] = \text{Annual emissions (lbs VOC/yr)}$$

$$[\text{Annual emissions (lbs VOC/yr)}] [1 \text{ Ton}/2000 \text{ lbs}] = \text{Tons VOC emissions/yr}$$

End stock varnish:

$$[15.7 \text{ lb/hr}] [1 \text{ gal}/9.26 \text{ lb}] = 1.70 \text{ gal/hr utilization rate}$$

$$[1.70 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 4.76 \text{ lb VOC/hr permitted VOC emissions}$$

$$[4.76 \text{ lb/hr}] [7488 \text{ hr/yr}] = 35,548 \text{ lb VOC/yr permitted VOC emissions}$$

$$[35,548 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 17.82 \text{ Tons/yr permitted VOC emissions}$$

Body stock varnish:

$$[15.7 \text{ lb/hr}] [1 \text{ gal}/9.61 \text{ lb}] = 1.63 \text{ gal/hr utilization rate}$$

$$[1.63 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 4.56 \text{ lb VOC/hr permitted VOC emissions}$$

$$[4.56 \text{ lb/hr}] [7488 \text{ hr/yr}] = 34,145.28 \text{ lb VOC/yr permitted VOC emissions}$$

$$[34,145.28 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 17.07 \text{ Tons/yr permitted VOC emissions}$$

GPI Suncure Ink:

$$[7.8 \text{ lb/hr}] [1 \text{ gal}/8.0 \text{ lb}] = 0.975 \text{ gal/hr utilization rate}$$

$$[0.975 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 2.73 \text{ lb VOC/hr permitted VOC emissions}$$

$$[2.73 \text{ lb/hr}] [7488 \text{ hr/yr}] = 20442.24 \text{ lb VOC/yr permitted VOC emissions}$$

$$[20442.24 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 10.22 \text{ Tons/yr permitted VOC emissions}$$

Acme Inks:

[7.8 lb/hr] [1 gal/11.25 lb] = 0.693 gal/hr utilization rate

[0.693 gal/hr] [2.8 lb VOC/gal] = 1.94 lb VOC/hr permitted VOC emissions

[1.94 lb/hr] [7488 hr/yr] = 14526.72 lb VOC/yr permitted VOC emissions

[14526.72 lb/yr] [1 Ton/2000 lbs] = 7.26 Tons/yr permitted VOC emissions

Total AO48-148309 coating emissions = 17.82+17.07+10.22+7.26 = 52.37 Tons/yr

Total proposed modification (increase to 8760 hrs/yr)
= 52.37 [8760/7488] = 61.27 Tons/yr

Approximately 80% of coating emissions will be captured by 95% DRE incineration system; resulting in 20% fugitive emissions.

61.27x 0.20 = 12.25 Tons/yr fugitive emissions

48.02 Tons/yr controlled by 95% DRE incinerator = 2.45 Tons/yr

12.25 Tons/yr + 2.45 Tons/yr = 14.70 Tons/yr total coating VOC emissions from UV Press & Coating Line

2) Solvents

a) MIBK

Current Utilization Rate = 8.4 lbs/hour @ 7488 hr/yr = 31.45 Tons/yr (per AO48-148309 condition # 7)

Approximately 75% of MIBK recovered in scrap, 25% lost as VOC emissions (based on actual volumes of waste shipped off-site)

$31.45 \text{ Tons/yr} \times 0.25 = 7.86 \text{ Tons/yr MIBK emissions}$

Total proposed modification (increase to 8760 hrs/yr)
 $= 7.86 [8760/7488] = 9.20 \text{ Tons/yr}$

Approximately 88% of the MIBK is used in the double scraper system. Emissions from this system will be controlled by the incinerator.

$88\% \text{ of } 9.20 \text{ Tons/yr} = 8.09 \text{ Tons/yr}$

Approximately 80% of the MIBK emissions from the double scraper system will be captured by the 95% DRE incineration system; resulting in 20% fugitive emissions

$8.09 \text{ Tons/yr} \times 0.20 = 1.62 \text{ Tons/yr fugitive emissions}$

$8.09 \text{ Tons/yr} - 1.62 \text{ Tons/yr} = 6.47 \text{ Tons/yr captured @ } 95\% \text{ DRE} = 0.32 \text{ Tons/yr}$

Total MIBK emissions from UV Press & Coating Line = $1.62 + 0.32 = 1.94 \text{ Tons/yr}$

b) Isopropyl alcohol (IPA)

Current utilization = 9333.3 lbs/yr = 4.67 Tons/yr (per 26 Jan 88 letter from Jerome Guidry to A.T. Sawicki and projected utilization rates)

Approximately 40% recovered in scrap, 60% lost as VOC emissions (based on actual volumes of waste shipped off site)

$4.67 \text{ Tons/yr} \times 0.60 = 2.80 \text{ Tons/yr IPA emissions}$

Total proposed modification (increase to 8760 hrs/yr)
 $= 2.80 [8760/7488] = 3.28 \text{ Tons/yr}$

Total proposed solvent VOC emissions prior to controls = $9.20 \text{ Tons MIBK} + 3.28 \text{ Tons IPA} = 12.48 \text{ Tons/yr}$

Total proposed solvent VOC emissions after controls = 3.28 Tons IPA + 1.94 Tons MIBK = 5.22Tons/yr

c. Two Color Ink UV Press Line AO48-121501

1) Coatings

<u>Description</u>	<u>VOC Content by Weight</u>
Acme Ink (various colors)	2.8 lb/gal (max)
GPI Suncure Ink (various colors)	2.8 lb/gal (max)
Body Stock Varnish (synonymous with UV overprint varnish)	2.8 lb/gal (max)
End Stock Varnish (synonymous with Re-Lite outside UV varnish)	2.8 lb/gal (max)

Allowable VOC emissions

Allowable VOC emissions from coatings is calculated according to the following equations:

$$[\text{Permitted Utilization Rate (lb/hr)}] [1/\text{density (gal/lb)}] = \text{Utilization Rate (gal/hr)}$$

$$[\text{Utilization Rate (gal/hr)}] [\text{Max. VOC Content (lb VOC/gal)}] = \text{Permitted VOC emissions (lbs VOC/hr)}$$

$$[\text{Permitted VOC Emissions (lbs VOC/hr)}] [\text{operating hours (hrs/yr)}] = \text{Annual emissions (lbs VOC/yr)}$$

$$[\text{Annual emissions (lbs VOC/yr)}] [1 \text{ Ton}/2000 \text{ lbs}] = \text{Tons VOC emissions/yr}$$

End stock varnish:

$$[11.8 \text{ lb/hr}] [1 \text{ gal}/9.26 \text{ lb}] = 1.274 \text{ gal/hr utilization rate}$$

$$[1.274 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 3.57 \text{ lb VOC/hr permitted VOC emissions}$$

$$[3.57 \text{ lb/hr}] [7488 \text{ hr/yr}] = 26711.19 \text{ lb VOC/yr permitted VOC emissions}$$

$$[26711.19 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 13.36 \text{ Tons/yr permitted VOC emissions}$$

Body stock varnish:

$$[12.25 \text{ lb/hr}] [1 \text{ gal}/9.61 \text{ lb}] = 1.27 \text{ gal/hr utilization rate}$$

$$[1.27 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 3.556 \text{ lb VOC/hr permitted VOC emissions}$$

$$[3.556 \text{ lb/hr}] [7488 \text{ hr/yr}] = 26627.33 \text{ lb VOC/yr permitted VOC emissions}$$

$$[26627.33 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 13.31 \text{ Tons/yr permitted VOC emissions}$$

GPI Suncure Ink:

$$[1.25 \text{ lb/hr}] [1 \text{ gal}/8.0 \text{ lb}] = 0.15625 \text{ gal/hr utilization rate}$$

$$[0.15625 \text{ gal/hr}] [2.8 \text{ lb VOC/gal}] = 0.4375 \text{ lb VOC/hr permitted VOC emissions}$$

$$[0.4375 \text{ lb/hr}] [7488 \text{ hr/yr}] = 3276 \text{ lb VOC/yr permitted VOC emissions}$$

$$[3276 \text{ lb/yr}] [1 \text{ Ton}/2000 \text{ lbs}] = 1.64 \text{ Tons/yr permitted VOC emissions}$$

Acme Inks:

[0.5 lb/hr] [1 gal/11.25 lb] = 0.044 gal/hr utilization rate

[0.044 gal/hr] [2.8 lb VOC/gal] = 0.123 lb VOC/hr permitted VOC emissions

[0.123 lb/hr] [7488 hr/yr] = 921.02 lb VOC/yr permitted VOC emissions

[921.02 lb/yr] [1 Ton/2000 lbs] = 0.46 Tons/yr permitted VOC emissions

Total AO48-121501 coating emissions = 13.36+13.31+1.64+0.46 = 28.77 Tons/yr

Total proposed modification (increase to 8760 hrs/yr)
= 28.77 [8760/7488] = 33.66 Tons/yr

Approximately 80% of coating emissions will be captured by 95% DRE incineration system; resulting in 20% fugitive emissions.

$33.66 \times 0.20 = 6.73$ Tons/yr fugitive emissions

26.93 Tons/yr controlled by 95% DRE incinerator = 1.35 Tons/yr

6.73 Tons/yr + 1.35 Tons/yr = 8.08 Tons/yr total coating VOC emissions from UV Press & Coating Line

2) Solvents

a) MIBK

Current Utilization Rate (reference: 26 Jan 88 letter from Jerome Guidry to A.T. Sawicki)

107,624.4 lb/yr = 14.37 lb/hr

Approximately 75% of MIBK recovered in scrap, 25% lost as VOC emissions (based on actual volumes of waste shipped off-site)

MIBK emissions = 0.25 x Current utilization = 26,906 lbs/yr = 13.45 Tons/yr

Total proposed modification (increase to 8760 hrs/yr)
= 13.45 [8760/7488] = 15.73 Tons/yr

Approximately 88% of the MIBK is used in the double scraper system.

Emissions from this system will be controlled by the incinerator.

88% of 15.73 Tons/yr = 13.84 Tons/yr

Approximately 80% of the MIBK emissions from the double scraper system will be captured by the 95% DRE incineration system; resulting in 20% fugitive emissions

13.84 Tons/yr x 0.20 = 2.77 Tons/yr fugitive emissions

13.84 Tons/yr - 2.77 = 11.07 Tons/yr captured @ 95% DRE = 0.55 Tons/yr

Total MIBK emissions from the 2-Color UV line = 2.77+0.55 =3.32 Tons/yr

b) Isopropyl alcohol (IPA)

Current utilization = 4666.6 lbs/yr (reference: 26 Jan 88 letter from Jerome Guidry to A.T. Sawicki and projected utilization rates)

Approximately 40% recovered in scrap, 60% lost as VOC emissions (based on actual volumes of waste shipped off-site)

IPA emissions = 0.60 x current utilization = 2,799.96 lbs/yr = 1.40 Tons/yr

Total proposed modification (increase to 8760 hrs/yr)
= 0.933 [8760/7488] = 1.64 Tons/yr

Total permitted solvent VOC emissions = 13.45 Tons MIBK + 1.64 Tons IPA = 15.09 Tons/yr

Total proposed solvent VOC emissions = 15.73 Tons MIBK + 1.64 Tons IPA = 17.37 Tons/yr (if uncontrolled)

Total proposed solvent VOC emissions = 3.32 Tons MIBK + 1.64 Tons IPA = 4.96 Tons/yr

Summary of proposed VOC emissions after application of controls

	<u>Current Permits</u>	<u>Proposed</u>
Sheet Metal Coaters		
Coatings	80.16 Tons/yr	58.85 Tons/yr
Solvents	114.0	39.95
UV Press & Coating Line		
Coatings	52.37	14.70
Solvents	15.65	5.22
2-Color UV Line		
Coatings	28.76	8.08
Solvents	14.38	<u>4.96</u>
Total	305.32	131.76

Other Airborne Emissions
(Maximum = Potential)

	<u>lbs/hr</u>	<u>T/yr</u>
Particulates	0.0345	0.15
SO ₂	0.004	0.018
CO	0.24	1.1
NO _x	0.97	4.23
VOC(fuels)	0.28	1.23

Particulates

source: natural gas (fuel for incinerator)

[0.0069 x 10⁶ CF/hr] [5 lbs/10⁶ CF] = 0.0345 lbs particulate/hr
[0.0345 lbs/hr] [8760 hrs/yr] [1 ton/2000 lbs] = 0.15 Ton/yr

SO₂

source: natural gas

[0.0069 x 10⁶ CF/hr] [0.6 lbs/10⁶ CF] = 0.004 lbs SO₂/hr
[0.004 lbs/hr] [8760 hrs/yr] [1 ton/2000 lbs] = 0.018 Tons/yr

CO

source: natural gas

[0.0069 x 10⁶ CF/hr] [35 lbs/10⁶ CF] = 0.24 lbs CO/hr
[0.24 lbs/hr] [8760 hrs/yr] [1 ton/2000 lbs] = 1.1 Tons/yr

VOC

source: natural gas

[0.0069 x 10⁶ CF/hr] [3 lbs/10⁶ CF] = 0.0207 lbs VOC/hr
[0.0207 lbs/hr] [8760 hrs/yr] = 0.09 Tons/yr

source: auxiliary fuel - spent solvents

[6.5 gal/hr] [7 lbs/gal] = 45.5 lbs/hr
[45.5 lbs/hr] [1 - 0.9943*] = 0.26 lbs VOC/hr
[0.26 lbs/hr] [8760 hrs/yr] [1 Ton/2000 lbs] = 1.14 Tons/yr

*DRE for burning spent solvent fuel. See Supplement V.c.

NO_x

source: natural gas

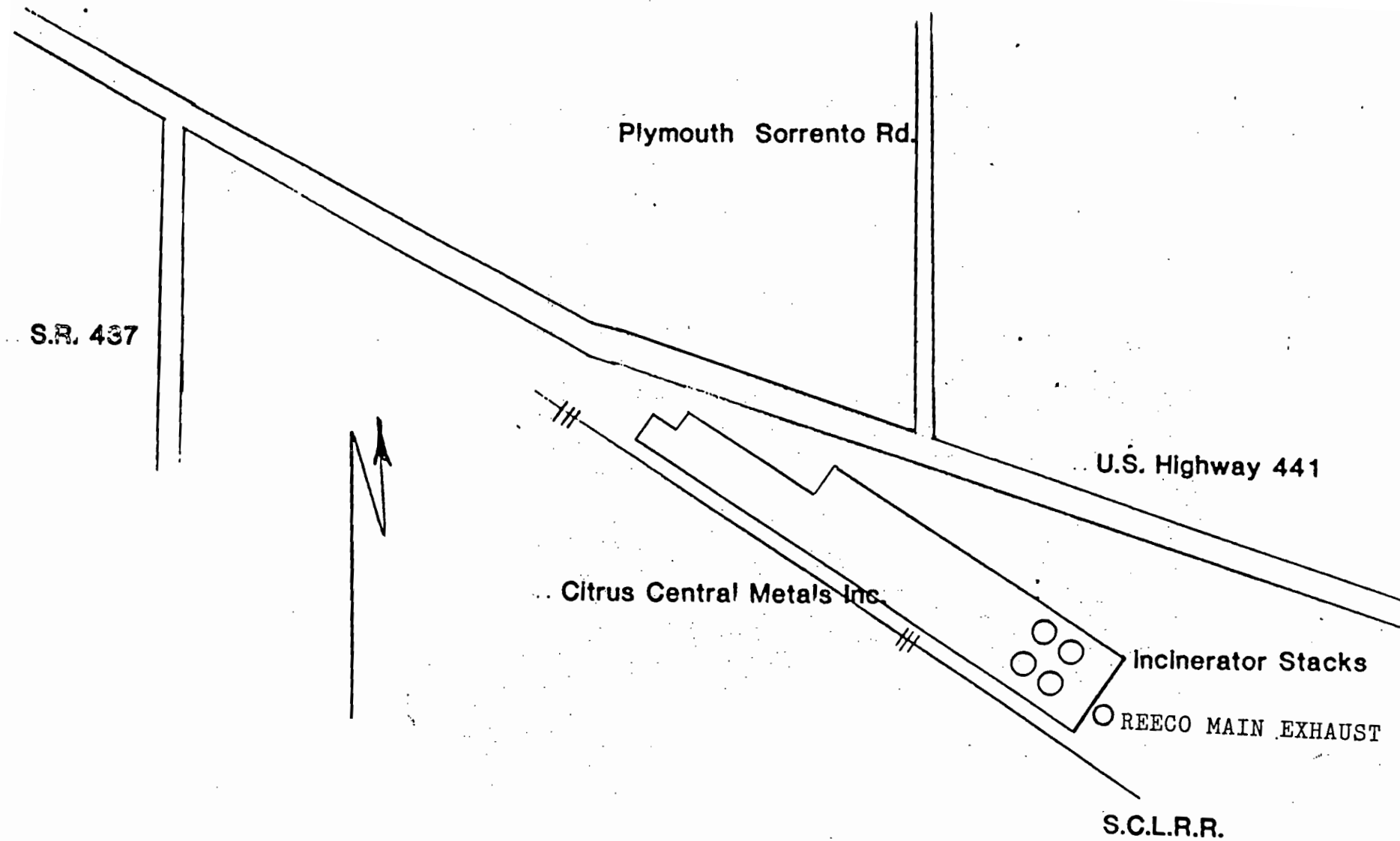
[0.0069 x 10⁶ CF/hr] [140 lbs/10⁶ CF] = 0.966 lbs VOC/hr
[0.966 lbs/hr] [8760 hrs/yr] [1 ton/2000 lbs] = 4.23 Tons/yr

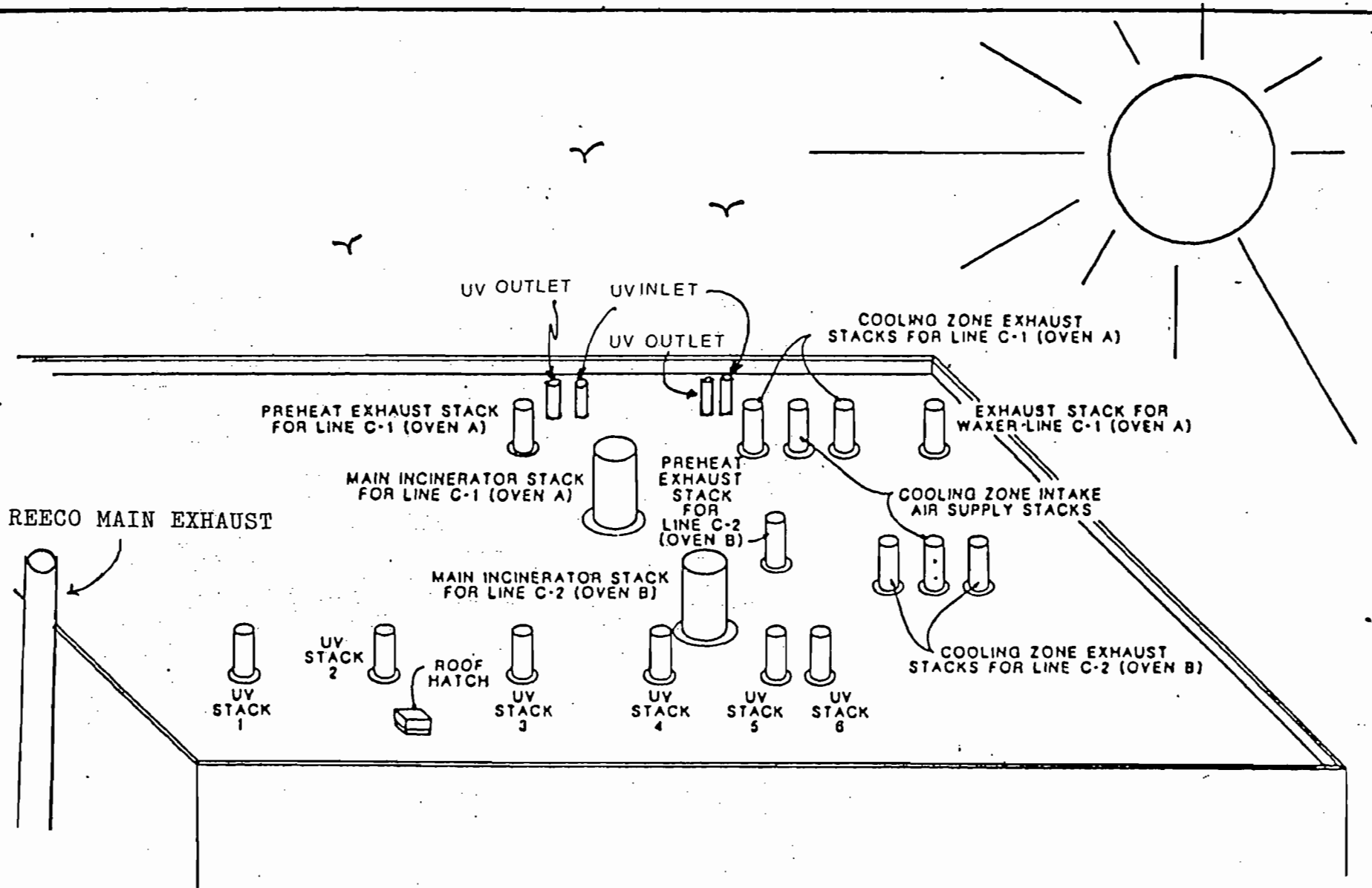
ATTACHMENT V.a.

Plot Plans

**Supplement 7
Establishment Location and Points of Air Emissions**

**Supplement 8
Outlets for Airborne Emissions**





ATTACHMENT V.b

Control Device Description

REECO Thermal Oxidizing System

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

2.1

GENERAL DESCRIPTION

This proposal covers the supply of a RE-THERM thermal oxidizing system for VOC control. The RE-THERM system uses the principle of thermal oxidation with regenerative heat recovery. This is a proven technology which offers many advantages over other VOC control methods:

1. Low VOC Emissions

The RE-THERM system oxidizes airborne hydrocarbons including volatile organic compounds (VOC's) and other odor causing constituents. This oxidation converts the hydrocarbons into harmless carbon dioxide and water vapor. The effectiveness of destroying VOC's is maintained continually.

2. A Forgiving System

The system handles VOC's of any type and in any concentration. It can accommodate future changes in process flow and solvent concentration as well as sudden fluctuations.

3. Simple, Rugged and Reliable

The RE-THERM unit has, over the years, proven to be extremely reliable in a number of different applications with severe operating conditions. The reason is the rugged construction and the few moving parts.

The system is induced - not pressurized. The main exhaust fan therefore operates on purified air and is not subject to potential contamination from untreated fumes. This desirable condition is possible due to the thermal efficiency of the RE-THERM and its low exhaust temperature.

4. Unattended Operation

In normal operation, the RE-THERM runs without operator intervention. The start-up sequence is controlled by the programmable controller. The system dynamically adjusts to variations in volume and solvent loading.

The exclusive RE-THERM System has been developed by and is proprietary to REECO. The patented designs include the original Spherical RE-THERM (Pat. No. 3,895,918), the Vertical Flow Unit (Pat. No. 4,454,826), the Variable Thermal Energy Recovery System (Pat. No. 4,302,426) and various other features.

The principle of operation is described on the following pages.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

2.2

GENERAL DESCRIPTION (Continued)

RE-THERM DESCRIPTION

The RE-THERM Unit is a thermal oxidizer (incinerator) for fume and odor control. It converts airborne Volatile Organic Compounds (VOC), hydrocarbons, and odor-causing constituents to harmless carbon dioxide (CO₂) and water vapor. Energy consumption is less than for any other incinerator on the market.

The RE-THERM combines highly efficient regenerative heat recovery with ideal time, temperature, and turbulent characteristics and provides the most effective and economical fume and odor control.

The RE-THERM consists of an incineration chamber located above the energy recovery chambers. These chambers contain ceramic heat exchange media (stoneware).

The solvent-laden air enters the inlet header and is directed to one energy recovery chamber through an inlet flow control valve. The air passes through the stoneware bed (that has been preheated in a previous cycle) and is heated by the stoneware. It enters the incineration chamber at a temperature very close to the incineration temperature.

The oxidation process is completed in the incineration chamber. A gas (or oil) burner maintains a preset incineration temperature. If the incoming air contains sufficient concentration of solvents, the energy in the solvents provide the necessary heat to operate the RE-THERM and the burner goes automatically to pilot.

One energy recovery chamber is at any given time in idle mode (transition from inlet to outlet mode or vice versa). One of the other chambers is in inlet mode and the other is in the outlet mode.

The air leaves the incineration chamber through the stoneware bed of the chamber in outlet mode. There the hot air gives up its heat to the stoneware and continues to the exhaust fan. The temperature of the air at this point is only slightly higher than that of the air entering the RE-THERM.

The retention time at the incineration temperature is approximately 1.0 second. One by one the chambers change from inlet (preheat) mode to outlet (recovery) mode and back to inlet mode. In this fashion, energy is absorbed from the clean purified air from the incineration chamber stored in the heat exchange media to preheat the next cycle of incoming process fumes.

The odd number of heat recovery chambers allows the RE-THERM to maintain a continuous flow from the process. Only one chamber at a time is being switched between preheat and recovery mode. The remaining chambers maintain continuous flow

The RE-THERM is furnished with an automatic emergency by-pass. In the event of an overtemperature condition or an electrical power outage, this fail safe feature will place all inlet and outlet valves in full open position.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.
CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

3.1

BASE DATA AND DESIGN CRITERIA

Location:	Plymouth, Florida
Altitude:	100 Feet Above Sea Level
Process:	Coating of Metals
Process Volume:	19,000 SCFM (70°F)
Process Temperature:	265°F (Average design)
Contaminants:	Xylene Cyclohexanone Butyl Alcohol Butyl Acetate MIBK Naptha
Contaminant Rate:	4.6 MM BTU/HR (Maximum)
Negative Pressure Upstream of Incinerator:	-2 Inch WG
Operating Cycle:	6,300 HRS/YR Total Operation
Purification Temperature:	1600°F

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

4.1

EQUIPMENT SUPPLY

RE-THERM UNIT

One (1) Thermal Oxidizer Type "VF" with regenerative heat recovery consisting of the following components:

HEAT RECOVERY CHAMBERS .

The RE-THERM Unit consists of three (3) regenerative Heat Recovery Chambers, in the form of cylinders, fabricated from 3/16" carbon steel plate. A grid (cold face) supports the bed of heat recovery elements (stoneware). The height of the bed depends on the thermal efficiency.

INCINERATION CHAMBER

The Incineration Chamber, located above the heat recovery chambers is fabricated of a minimum 3/16" carbon steel plate. The burner(s) are located on the side of the chamber. One end of the incineration chamber contains an access door.

A connection will be provided for supply of high-temperature air to the Return-To-Process System.

All chambers are factory preassembled, match-marked, and shipped knocked down for field erection.

INTERNAL REFRACTORY

Due to the importance of the refractory and the special skills required for installation, REECO's price for Equipment Supply also includes installation of all refractory material.

The regenerative heat recovery chambers and the purification chamber are lined with two layers of gunned (or soft) refractory.

For the gunned refractory, the layer closest to the steel is a soft insulating refractory and the top layer is a hard high-temperature refractory. The two layers are reinforced with the stainless steel anchors. The thicknesses of the layers depend on temperature and operating conditions.

When used, soft refractory is applied in the incineration chamber only.

FLOW CONTROL VALVES

A number of RE-THERM Flow Control Valves (two for each chamber) with heavy duty cast iron body and disc, stainless steel shaft, graphite sleeve bearings and hydraulic rotary actuators.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

4.2

RE-THERM UNIT (Continued)

INLET DUCT HEADER

The Inlet Duct Header is fabricated from carbon steel plate, all welded construction. The duct is factory fitted and match-marked before shipment.

OUTLET DUCT MANIFOLD

The Outlet Duct Manifold is fabricated from carbon steel plate, all welded construction. The manifold duct is factory fitted with the outlet connection to the RE-THERM exhaust fan and match-marked before disassembly and shipment.

VARIABLE ENERGY RECOVERY

The Variable Energy Recovery is to prevent over temperature in the central chamber at high solvent load conditions. A high temperature valve with electric actuator, automatically controlled by a temperature controller, is located in the bottom of the central chamber.

A duct with a stainless steel mixing tube connects the valve with the outlet manifold duct. Upon high temperature condition in the central chamber, the refractory lined valve allows a portion of hot gas to bypass the energy recovery chambers.

VOLUME CONTROL SYSTEM

The Volume Control System maintains a preset plenum negative pressure. This feature will automatically adjust the RE-THERM exhaust fan volume to match changes in process exhaust flows.

The volume control system instrumentation is installed in the control panel.

FANS, MOTORS, AND DRIVES

The RE-THERM Exhaust Fan is a heavy-duty industrial centrifugal fan. The fan includes Volume Control Damper, drive, guards, drain connection, and quick opening inspection door. Isolation and expansion joints are provided at fan inlet and discharge.

Electric motor type TEFC, NEMA Design B.

EXHAUST STACK

The Exhaust Stack is a ground mounted straight stack located adjacent to the RE-THERM, guyed at certain levels. The base of the stack will be fitted with an evase connection to the exhaust fan discharge.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

4.3

RE-THERM UNIT (Continued)

HYDRAULICS

Prepackaged hydraulic power unit for actuating of the flow control valves. The unit includes a TEFC motor and solenoid valves, reservoir with fluid level gauge, fixed displacement pump, strainer, filter, relief valve, pressure gauge and shut-off valves.

BURNER AND CONTROLS

North American burner, or equal, suitable for natural gas. The burner includes IRI or FM approved gas train, combustion blower and safety controls.

MOTOR CONTROL CENTER

Motor Control Center (MCC) for starting the motors is furnished by REECO. The MCC is designed for operation with 480 volt, 3 phase, 60 hertz. The MCC has NEMA 12 enclosure and must be located indoors in a non-hazardous area, adjacent to the Control Panel.

The MCC includes individual starters modules for each motor. The starters include breaker type disconnects, overload protection and interlock switches. Auxiliary contacts are provided as required for proper electrical interface.

The Motor Control Center includes the following:

- One (1) Main Breaker
- One (1) Starter for the RE-THERM Exhaust Fan
- One (1) Starter for the RE-THERM Burner Combustion Air Blower
- One (1) Starter for the RE-THERM Hydraulic Pump
- One (1) Transformer for the RE-THERM Control Panel

AUXILIARY FUEL BURNER

Additional burner to permit the thermal oxidation of auxiliary fuel. The burner is designed to accept only those fuels containing the same type of solvents as listed in the design specifications.

The burner will be provided with holding tank, filters, pump, fuel train, controls and safety features.

Note: Purchaser to provide required containment area.

RE-THERM UNIT (Continued)

REECOMATIC - BURNER CONTROL SYSTEM

The REECOMATIC System automatically brings the RE-THERM unit to operating temperature. A programmable logic controller will regulate the temperature rise at a rate of approximately 500°F per hour.

When the unit reaches its set point, the central chamber temperature control takes over.

During shut-down the REECOMATIC automatically controls the temperature ramp down.

SERVICE PLATFORMS

A platform for service and maintenance of the burner(s) is provided. A ladder connects the platform with ground level.

CONTROL CABINET

Control Cabinet NEMA 12 for indoor location in a non-hazardous area within 25 feet of the RE-THERM. The control cabinet is completely prewired to terminal strips.

The cabinet is a minimum of 12 gauge sheet metal and will have a minimum of 25% free mounting space to permit addition of future control devices.

All wiring is identified at both ends with designations corresponding to the elementary wiring diagrams.

Wire and cable will be stranded copper with 600 volt insulation Type MTW, THHN, or THWN. Minimum size conductors will be 14 AWG.

CONTROL CABINET INSTRUMENTATION

One Allen Bradley PLC 2/16 Controller programmed for automatic start-up, shut-down, ramping of incinerator temperature, monitoring of safety interlocks, and fault annunciation. A programmer for this PLC is available at extra cost as a maintenance accessory.

The following instrumentation is included and mounted in the control cabinet.

One (1) Barber-Colman indicator controller, or equal, for central chamber temperature.

Two (2) Barber-Colman indicators, or equal, for RE-THERM inlet and outlet temperatures.

One (1) Barber-Colman indicator with shut-down feature, or equal, for excessive central chamber temperature.

One (1) Chessel six-pen strip chart, or equal, for recording of temperatures.

RE-THERM UNIT (Continued)

SAFETY CONTROLS AND OTHER FEATURES

Safety controls incorporated in the equipment are supplied on the basis of generally accepted insurance standards. Additional safety controls and other features required by Purchaser or by any local law, regulation, ordinance, or special insurance requirements shall be paid by Purchaser.

EQUIPMENT REGULATED BY OSHA

The equipment described in this proposal complies with REECO interpretation of applicable standards of OSHA in effect at the time of this Proposal. However, heat insulation of ductwork, for personnel protection, is not included but can be provided at an additional cost to Purchaser.

The manner in which the equipment is installed and operated will dictate if additional safety devices beyond those described in this proposal may be required. These can be furnished at additional cost to Purchaser.

The equipment is shipped painted as described under "PAINT". All OSHA safety color coding except for ladders and handrails will be furnished by the Purchaser.

The noise level of the combustion blower and exhaust fan, as well as noise variables in conjunction with the surrounding, cannot be predetermined. If the noise level from the system, or as amplified by harmonics of other equipment, exceeds the Standards, REECO can furnish the necessary sound absorption materials at additional charge.

PAINT

The RE-THERM housing and structural supports will be given one coat of primer and one coat of finish paint. This proposal is based on the following REECO standard paint type and color.

Primer - Anchor Paint Co., B-5793 Tan
Finish - Anchor Paint Co., B-5794 Kodiak Brown

The Control Cabinet exterior is painted in accordance with customer's color selection. The interior is glossy white.

DRAWINGS

General arrangement and layout drawings will be furnished.

Any additional cost or fees incurred for preparation of special drawings or data required by Purchaser and state or local agencies shall be paid by Purchaser.

RE-THERM UNIT (Continued)

OPERATING INSTRUCTION MANUALS

Three (3) copies of Operation and Maintenance Instructions will be furnished.

INSTALLATION

REECO will install the RE-THERM unit. Our price for this work is based on the following.

1. There exists no overhead obstructions.
2. There is clear access to at least two sides of the site.
3. Foundations are the responsibility of the purchaser.
4. The work will be performed by a non-union contractor.
5. Prices quoted for installation are based on an eight (8) hour/day, five (5) days/week, forty (40) hours/week total. Any delay, not caused by REECO, shall be to purchaser's account.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

4.7

PROCESS EXHAUST & RETURN-TO-PROCESS SYSTEM

Process exhaust ductwork and a Return-to-Process System will be supplied. Process exhaust ductwork is described below. The Return-to-Process System will allow 1600°F air to be drawn and mixed to 950°F for return to the two (2) coater ovens. The system (components described below) will consist of a connection to the RE-THERM central chamber, a dilution air damper, a supply fan, motor, and drive, required pressure and temperature controls and ductwork.

PROCESS EXHAUST DUCTWORK

Process Exhaust Ductwork will be fabricated from carbon steel plate, properly sized, expansion jointed and stiffened per the specified design requirements.

The ductwork will consist of a main duct run to pick-up four (4) hoods with floor sweeps; one (1) at "2 color UV press" column line 17, one (1) each at coating lines no. 1 & 2 between column line 18 and 19, and two (2) coating line oven exhaust between the column line 18 and 19.

The main duct run will continue to run in an easterly direction below column line 19, turn to a southernly direction along the offices and exit the building through the aluminum siding, turn down to the RE-THERM inlet.

Ductwork will be supported by a series of pipe supports, anchor bolted (by others) to the existing concrete floor.

NOTE: Insulation of process exhaust ductwork, if required, by others.

COATER HOODS

Four (4) Coater Hoods, made from carbon steel, will be supplied to reduce fugitive emissions from the "No. 1 and No. 2 coating lines" and the "UV Color Press Lines", included on each hood is a one vane axial fan, motor, (2) stainless steel floor scoops, flexible hose and additional connections between fan and hood.

RETURN TO PROCESS DUCTWORK

Return to process ductwork will be fabricated from 316 L stainless steel plate, properly sized, stiffened, expansion jointed, and insulated per the specified design conditions.

The ductwork will consist of a main duct run starting at the RE-THERM purification chamber, entering the building through the aluminum siding, traveling in a northernly direction, along the offices, turn to a westernly direction at column line 19 with branch lines down to coating line ovens, No. 1 and No. 2 inlets.

Ductwork will be supported by a series of pipe supports, anchor bolted (by others) to the existing concrete floor.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. 1L-41-8-176
April 28, 1988

4.8

SUPPLY FAN, MOTOR AND DRIVE

The supply fan is a heavy-duty, industrial fan suitable for continuous operation at 950°F. The fan includes drive, guard, and inspection door.

Fan Rating: 23,950 ACFM @ 950°F 11" wg (HOT)

Electric Motor Type TEFC, NEMA Design B

Motor Size: 125 HP

MOTOR CONTROL CENTER

The Motor Control Center will be expanded to provided starters for:

One (1) Supply Fan

Four (4) Hood Exhaust Fans

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.
CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

5.1

TECHNICAL DATA FOR EQUIPMENT

RE-THERM Model	"VF-C"
Process Air (or Gas) Volume	20,000 SCFM (70°F)
Process Air (or Gas) Temperature	265 °F
Maximum Operating Temperature	1800°F
Thermal Energy Recovery (T.E.R.)	85 %
Hydraulic Pump Motor Size	2 HP
Number of Burners	2
Burner Size	10.0 MM BTU/HR each
Number of Energy Recovery Chambers	3
Fan Volume, Rating	40,362 ACFM @ 531°F
Fan Static Pressure, Rating (HOT)	22.9 " WG
Fan Power Consumption	134 BHP
Fan Motor Size	200 HP
Motor Voltage	480 V. 3 P 60Hz
Exhaust Stack Height	30 Feet
Auxiliary Burner, Max. Heat Input	1.0 MM BTU/HR

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

CITRUS CENTRAL, INC.
Plymouth, FL

Proposal No. IL-41-8-176
April 28, 1988

9.1

PERFORMANCE GUARANTEE

REECO guarantees that the standard RE-THERM unit will convert 95% of the total volatile organics in the exhaust air to carbon dioxide, water and noncombustibles at specified flow rates and ingoing solvent concentrations above 1,000 PPM. For solvent loads less than 1,000 PPM, the outlet emission will not exceed 50 PPM.

NOTE: This guarantee is based on the following provisions:

1. The exhaust flow will not exceed specified value.
2. The RE-THERM is installed and operated in accordance with REECO's Operating and Maintenance Instructions.
3. EPA Test Methods ²⁵18 is used to determine solvent concentrations.
4. The performance will be based on five test samples taken consecutively, of which the high and low value will be discarded. The test result will be arithmetic average of the three remaining tests.
5. All performance tests will be paid by Purchaser.

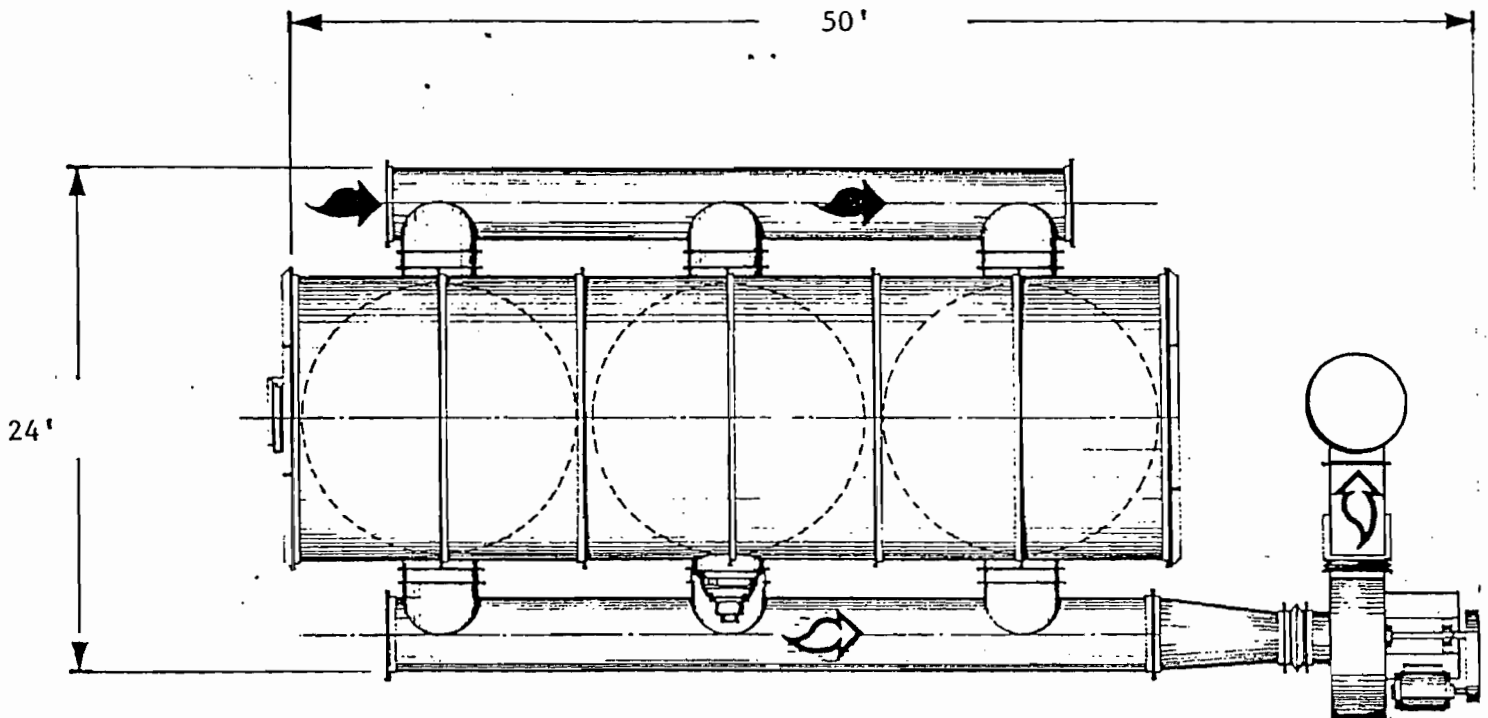
If REECO fails to meet the Performance Guarantee, REECO will be given reasonable time to investigate and take corrective action without cost to Purchaser to ensure that the Performance Guarantee is met.

For applications where higher destruction efficiencies are required, this can be achieved through one or more of the following optional design features:

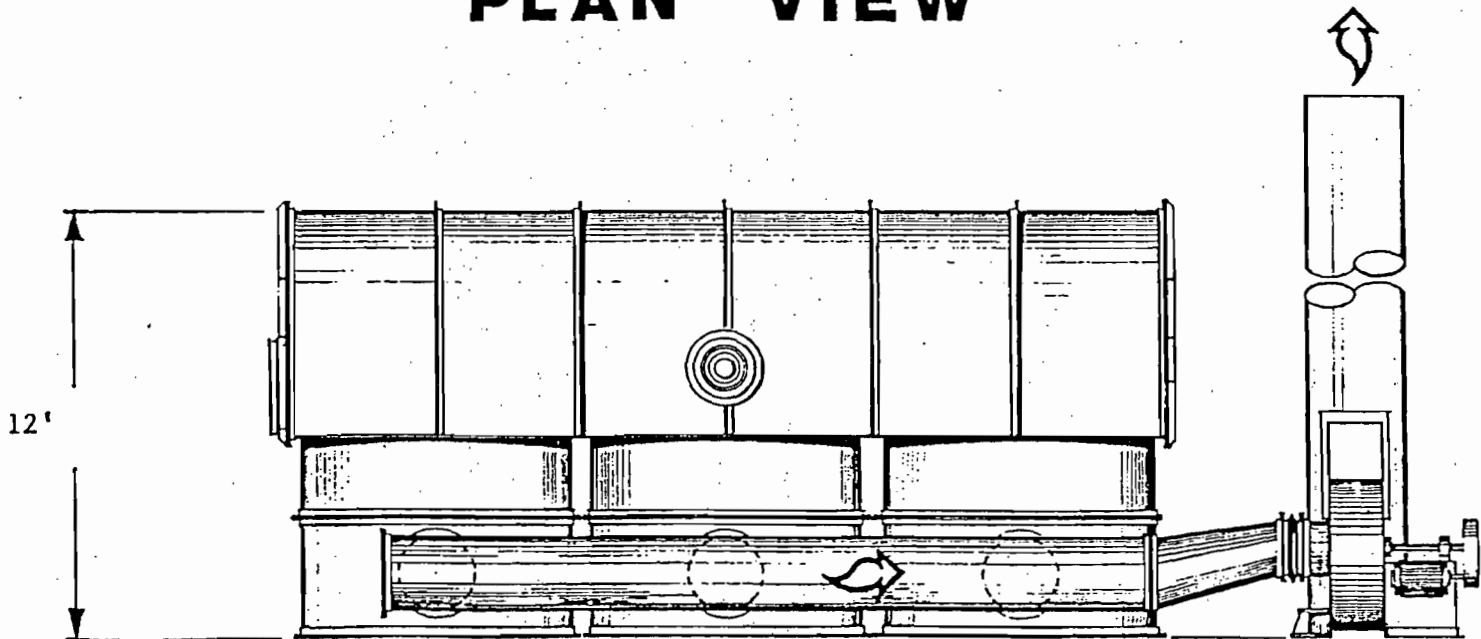
- Higher design and operational temperatures
- Chamber Flushing
- Valve Sealing

A description of optional features is contained elsewhere in this proposal.

NOTE: This is a proposal drawing. All dimensions are subject to final engineering review.



PLAN VIEW



ELEVATION

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

ENGINEERING STUDY

CITRUS CENTRAL METALS

REECO PROJECT 638

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

ENGINEERING STUDY
FILTRATION SCIENCES CORPORATION
REECO PROJECT 638

TABLE OF CONTENTS

	SECTION
Letter of Transmittal	I
Introduction	II
Summary and Conceptual Engineering	III
Field Measurements	IV
Air Flow	
Emission Rates	
Oven Heatload	
Capture of Coater Emissions	V
Solvent Data	VI
Table of Typical Coatings and Run Time	
Solvent Composition of Coatings	
Typical Substrate and Coating Usage	
Oven Heat Load	VII
Metal Heat Load	
Infiltration Air Heat Load	
Heat of Evaporation	
Radiation Losses	
System Energy Calculations	VIII



REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

BOX 600 • 520 SPEEDWELL AVENUE • MORRIS PLAINS, NJ 07950 • PHONE (201) 538-8585
TWX (710) 986-7420 FAX (201) 538-0407

April 22, 1988

Citrus Central, Inc.
P.O. Box 17774
Orlando, FL 32860

Attention: Mr. Joseph Busco, Vice President

Subject: Engineering study conducts at Citrus Central, Metals Division,
Orlando, FL

Reference: 1. Citrus Central PO No. 2978, 2/24/88
2. REECO Project No. 638

Gentlemen:

We are pleased to issue the original and two copies of the engineering study for Citrus Central's metal coating operation.

The study contains results of measurements made on March 21 and 22, 1988, discussions with Citrus Central's production personnel and subsequent evaluation of data. An equipment proposal has been prepared by our sales department and will be forwarded under separate cover. For further information regarding this study, you may contact me at my office. For further information regarding the proposal, please contact Mr. George Yundt, REECO's Regional Sales Manager for your area.

Thank you for your cooperation and hospitality during the course of this study, and I look forward to continuing to work with you and your staff in the future.

Very truly yours,

A handwritten signature in cursive script that reads "James T. Cash".

James T. Cash
Project Engineer

JTC:1k
jtc2

cc: George Yundt - REECO
Rich Sacco - REECO
Eric Mangler - REECO
Bruno Ferraro - Grove Scientific

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988.

SECTION II

INTRODUCTION

An Engineering Study was conducted on March 21 and 22, 1988, at the Citrus Central Metals Division in Orlando, FL. This survey was conducted by Eric Mangler and James Cash, with assistance from Bruno Ferraro of Grove Scientific, and included the following:

- A. Site inspection and review of existing process equipment for the following:
 - 1) Coater 1 Oven
 - 2) Coater 2 Oven
 - 3) U. V. Press
 - 4) Two Color Press, U. V.
- B. Collection of data regarding:
 - 1) Exhaust Flows
 - 2) Solvent Concentration
 - 3) Operating Temperature
 - 4) Physical Layout of Process Equipment and VOC Control Equipment
- C.
 - 1) Air flow measurements were made with a 48" Dwyer standard pitot tube and a 0-2 in. Dwyer manometer.
 - 2) Air temperature measurements were made with a Solomat MPM 500 hot wire anemometer.
 - 3) Solvent concentration measurements were made with a Bacharach Model TLV Sniffer and a Foxboro Century O.V.A. 128 G.C.

An evaluation of the operation and recommendations for improvements to achieve proper VOC emission compliance are presented in sections III and V.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION III

SUMMARY AND CONCEPTUAL ENGINEERING

A. PROCESS DESCRIPTION

Citrus Central's Metals Division is engaged in the printing and coating of three piece metal cans. Two solvent based coating lines and two press lines are located at the Orlando, FL plant.

B. OVENS

The two National Standard/Wagner coating line convection ovens are identical in construction features and operation. Each oven is divided into six heating zones, a cooling zone and a wicket and conveyor chain preheat zone. The heating and preheat zones all have independent temperature control. The zones convey drying air to the product through separate recirculation fans, fan discharge ductwork and "supply" nozzles. The heat source for the ovens consists of two hot air manifolds, to which each zone recirculation fan inlet plenum is connected, via a modulating damper controlled by a proportioning temperature control loop. These hot air manifolds are supplied with clean hot air exhausting from the existing CE Corpak fume incinerator.

As each zone calls for heat, the modulating temperature damper opens, allowing hot air to enter the recirculating air stream from the hot air manifold. Thus, varying amounts of return air are utilized in the ovens at different times.

The oven exhaust volumes are relatively fixed. The preheat zone supply and exhaust dampers work in opposition and are controlled from the same temperature control loop. As each zone draws in different amounts of return air, the oven balance changes as a result. This has the effect of drawing in more or less makeup air from the inlet and outlet ends of the oven. The maximum exhaust volume for each oven is 6,500 SCFM for a combined exhaust volume of 13,000 SCFM. A possible reduction of approximately 1,000 SCFM may be achievable at the oven by reducing the open area of the entrances. A smaller opening will reduce the volume of infiltration air and raise the oven exhaust temperature, thus decreasing the energy demand of the system.

The basic operation of the oven will remain unchanged in the proposed REECO system.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION III

SUMMARY AND CONCEPTUAL ENGINEERING (continued)

C. COATER HOODING

The hooding over the 4 coating stations (one each at two coating lines and two press lines) is presently ineffective due to the limited air volume being exhausted. REECO recommends the following improvements:

1. The addition of air pick up scoops near the double scraper system and the solvent cleaning system.
2. Further enclosure of the coating stations.
3. An exhaust volume of 1,500 SCFM per coater.

A capture efficiency of 80 percent or higher is expected at the coaters.

D. EVALUATION OF EXISTING CONDITIONS

In reviewing the operation of Citrus Central's coating line ovens, three important parameters must be considered when constructing energy balances for the process. These are:

1. The exhaust volume per oven.
2. The heat requirements of the ovens for each product.
3. The oven exhaust solvent load for each product.

This data is presented for the three representative cases in sections IV, V AND VII.

E. EXISTING INCINERATOR

The existing gas fired Corpak incinerator is currently being severely over utilized. It is handling the exhaust from both ovens, instead of one oven and one coater hood as was originally designed. The consequences of this overloading are:

1. Insufficient exhaust rate from each oven to maintain adequate static balance under all conditions.
2. Insufficient exhaust rates from 4 coaters, allowing noxious fugitive emissions into the work place.
3. Severe erosion of the incinerator's insulation lining due to high internal velocities. This necessitates frequent and costly repairs, and has left the incinerator in marginally serviceable condition.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION III

SUMMARY AND CONCEPTUAL ENGINEERING (continued)

4. Insufficient burner capacity to guarantee oven zone temperatures in periods of little or no solvent generation. (The incinerator now relies on the supplemental fuel valve from the solvents in order to maintain temperature under high flow conditions.)

F. PROPOSAL FOR NEW EQUIPMENT:

After careful consideration of the foregoing, REECO proposes replacing the existing Corpak incinerator with an 85% thermally efficient model VFC-20000 RE-THERM thermal oxidizer. The 20,000 SCFM sizing is based upon handling 7,000 SCFM each from the two ovens and 1,500 SCFM each from the four coaters. The 7,000 SCFM figure is consistent with National Standard/Wagners original design parameters.

The RE-THERM will be offered with a central chamber tap capable of supplying a 1600°F air stream to a mixing/tempering station, which in turn will supply 1000° air to the existing hot air supply manifolds. This will eliminate the necessity for any changes in the existing oven temperature or pressure control schemes. The RE-THERM will essentially replace the Corpak as a heat source. However, the proper capacity and rugged construction of the RE-THERM, coupled with its high thermal and destruction efficiencies, will allow it to far out perform the Corpak. The frequent rebuilds and maintenance of the current incinerator lining and heat exchanger will be eliminated.

The RE-THERM is being proposed with a standard induced draft fan. This will keep the incinerator and all process exhaust ductwork under negative pressure, eliminating any potential hot leaks.

A second 1000°F rated fan will furnish the driving potential to draft 1600°F from the RE-THERM incineration chamber, mix it with ambient tempering air, and deliver the resultant 1000°F air stream to the oven hot air manifolds. This arrangement of fans provides thermal fail safe reliability for major system components and has been successfully employed by REECO in the past.

In addition to its higher thermal efficiency, the RE-THERM will be offered with an auxiliary fuel burner system, which can be fired on liquid solvent by-products from the existing process. The use of this fuel source will further reduce the natural gas consumption of the oven/incinerator combination, by approximately \$24,000/yr as well as eliminate the need for costly processing prior to proper, environmentally safe disposal.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION III

SUMMARY AND CONCEPTUAL ENGINEERING (continued)

Section VII shows the calculated fuel consumption figures for the RE-THERM as compared to a 40% efficient recuperative incinerator, such as a Corpak. 40% efficiency was selected because it produces a 976°F outlet temperature which is comparable to the existing and proposed systems. Fuel costs have been based on the three representative product cases for each incinerator.

Section VIII shows the potential energy recoverable from the liquid solvent byproducts generated by the plant. Approval to operate such an auxiliary fuel system will be required by the state authorities.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

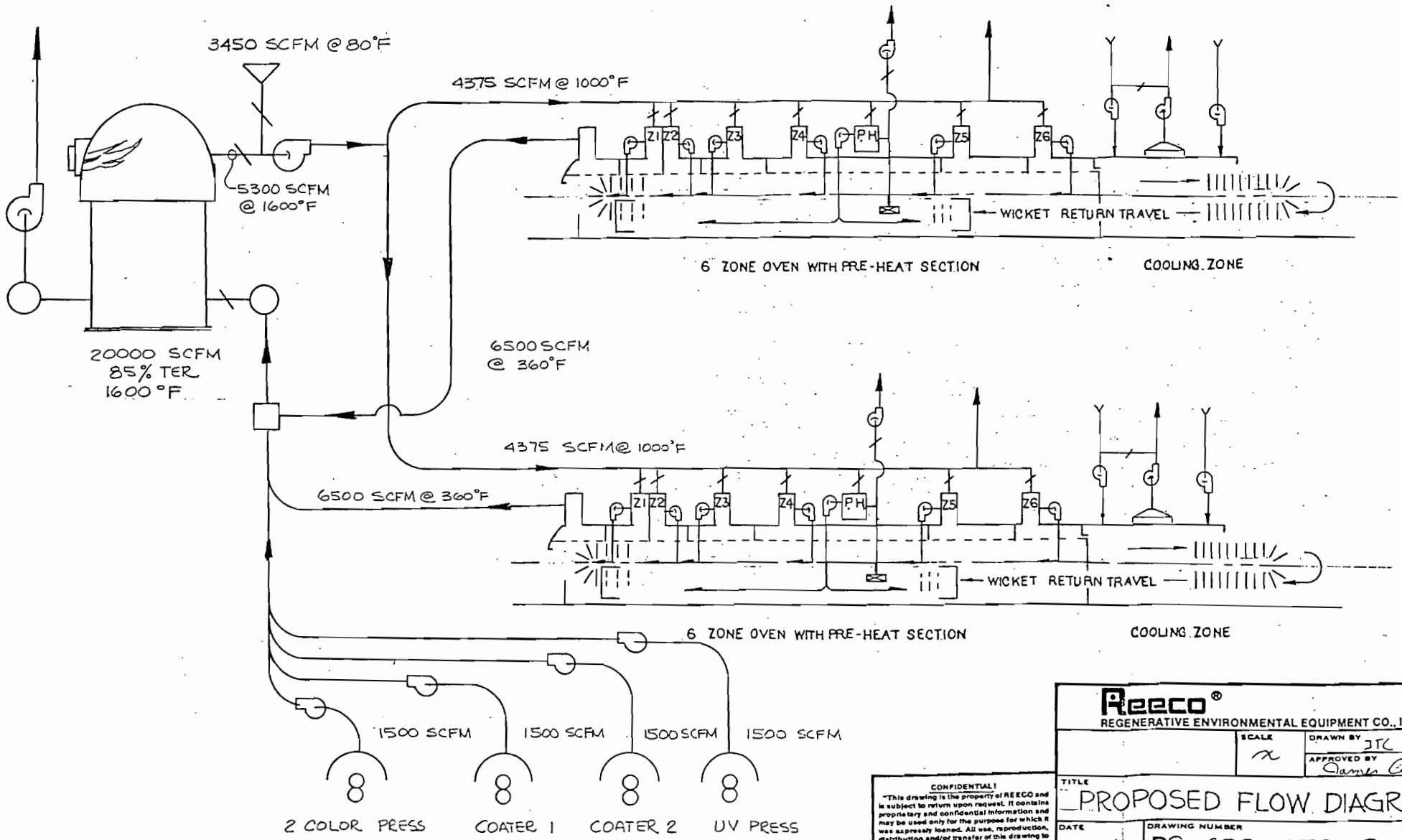
SECTION III

TABLE I SUMMARY AND CONCEPTUAL ENGINEERING

The following table summarizes the flow and energy data upon which the REECO equipment proposal is based. Three typical process conditions have been selected as representative of Citrus Central's entire product range.

Summary of Design Exhaust Volumes and Solvent Concentration to the Control Equipment

PRESS CONDITION	1	2	3
Run Time	4,368 HRS/YR	936 HRS/YR	468 HRS/YR
Product C1	1167	6265	6265
Product C2	H-29	6,265	4,134
Potential Energy Available from C1 & C2 (VOC HHV)	1,075,446 BTU/HR	2,750,670 BTU/HR	4,496,877 BTU/HR
Air Volume C1 & C2	13,000 SCFM	13,000 SCFM	13,000 SCFM
Potential Energy Available from (4) Coating Hoods (VOC HHV)	127,890 BTU/HR	127,890 BTU/HR	127,890 BTU/HR
Air Volume (4) Coater Hoods	6,000 SCFM	6,000 SCFM	6,000 SCFM
Total Exhaust Volume	19,000 SCFM @ 265°F	19,000 SCFM @ 265°F	19,000 SCFM @ 265°F
Total Energy from VOC's	1,203,336 BTU/HR	2,878,560 BTU/HR	4,624,767 BTU/HR
Oven Heat Load (See Section VII)	4,380,661 BTU/HR	4,773,224 BTU/HR	4,603,483 BTU/HR



CONFIDENTIAL!
 "This drawing is the property of REECO and is subject to return upon request. It contains proprietary and confidential information and may be used only for the purpose for which it was expressly loaned. All use, reproduction, distribution and/or transfer of this drawing to third parties without written authorization of REECO is prohibited. No patent, copyright or trademark rights are granted or implied."

Reeco [®] REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.	
SCALE X	DRAWN BY JTC
APPROVED BY James Cash	
TITLE PROPOSED FLOW DIAGRAM	
DATE 4/29/38	DRAWING NUMBER BS-638-JTC-3

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

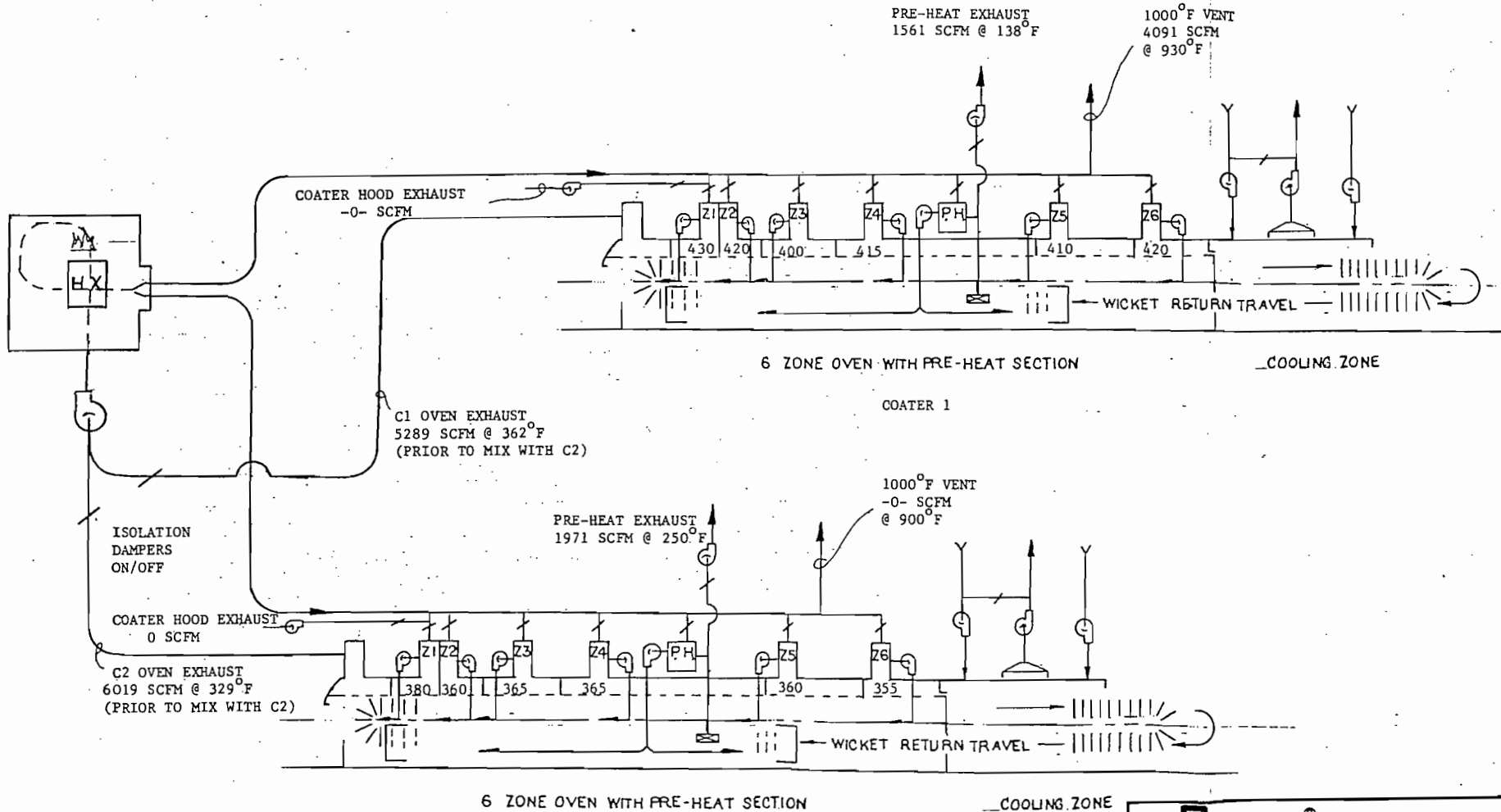
SECTION IV

SUMMARY OF FIELD AIR FLOW MEASUREMENTS

Product C₁ = 6265
Product C₂ = H-29
Date: March 22, 1988
Conducted by : EJM, JTC

SUMMARY OF AIR FLOW MEASUREMENT FOR C₁ & C₂

TEST LOCATION	EXHAUST VOLUME SCFM	TEMPERATURE °F	VOC MIXTURE PPM _v @ CCH
C1 Oven Exhaust	5,289	362	700
C1 Preheat Exhaust	1,561	138	---
C1 "1000°F" Vent	4,091	930	---
C2 Oven Exhaust	6,019	329	390
C2 Preheat Exhaust	1,971	250	---
C2 "1000 °F" Vent	-0-	900	---



Reeco[®]
REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

SCALE: NTS
DRAWN BY: JTC
APPROVED BY: *James Park*

TITLE: C₁ C₂ AIR FLOW SCHEMATIC

DATE: 4/13/89
DRAWING NUMBER: BS-638-JTC-1

CONFIDENTIAL!
"This drawing is the property of REECO and is subject to return upon request. It contains proprietary and confidential information and may be used only for the purpose for which it was expressly loaned. All use, reproduction, distribution and/or transfer of this drawing to third parties without written authorization of REECO is prohibited. No patent, copyright or trademark rights are granted or implied."

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION IV

MEASURED EMISSION RATES

Per Air Flow and Solvent Concentration Measurements on 3/22/88

Coater = C₁
 Product = 6265
 PPM_v @ Methane = 700
 Air Volume (Transient) = 6020 SCFM

Table 1 Emission Data

SOLVENT	APPROX. WT %	M.W.	F.I.D. RESP. FACTOR	MOLE FRACTION	MIXTURE M.W.	MIXTURE RESP. FACTOR
Mineral Spirits	80%	110	0.80	.795	109	.84**
NAPTHA	20%	106	1.00*	.205		

*Assumed

**Mixture F.I.D. Response Factor = (Response Factor) x (Mole Fraction)

Calculations

$$\begin{aligned}
 \text{Emissions} &= \frac{\text{SCFM (PPM}_v\text{)} (\text{R.F.}) (\text{AVG. M.W.}) (60)}{387 \times 10^6} \\
 &= \frac{6020 (700) (0.84) (109) (60)}{387 \times 10^6} \\
 &= 59.8 \text{ lbs/HR}
 \end{aligned}$$

Check: Compares with 86.4 lbs/HR as calculated from lay down rates (See Section VI).

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION IV

MEASURED EMISSION RATES (continued)
 Per Air flow and Solvent Concentration Measurements on 3/22/88

Coater = C₂
 Product = R-29
 PPM_v @ Methane = 390
 Air Volume (Transient) = 5289 SCFM

Table 2 Emission Data

SOLVENT	APPROX. WT %	M.W.	F.I.D. RESP. FACTOR	MOLE FRACTION	MIXTURE M.W.	MIXTURE RESP. FACTOR
Cellosolves	33.3*	125	0.44	.28		
NAPTHA	33.3*	106	1.00*	.33	106.9	0.765**
MIBI	33.3*	90	0.80	.39		

*Assumed

**Mixture F.I.D. Response Factor = (Response Factor) x (Mole Fraction)

$$\begin{aligned}
 \text{Measured Emissions} &= \frac{\text{SCFM (PPM}_v\text{) (R.F.) (AVG. M.W.) (60)}}{387 \times 10^6} \\
 &= \frac{5289 (390) (0.756) (106.9) (60)}{387 \times 10^6} \\
 &= 26.15 \text{ lbs/HR}
 \end{aligned}$$

Check: Compares with 28.1 lbs/HR as calculated from lay down rates (See Section VI).

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION IV

MEASURED EMISSION RATE (continued)

Conclusion:

The measured solvent emission rates from the C₁ and C₂ coater lines may be interpreted as a rough confirmation of the calculated lay down rates. It is the calculated lay down rates which are used to size the control equipment.

Discrepancies between measured and calculated data may be explained by the following inaccuracies:

1. The weight percents given by the coating manufacturer are only approximate.
2. The exhaust volume of the ovens is not constant.
3. Empirical data on Response Factors for the F.I.D. was not available for several of the components.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

CUSTOMER CITRUS CENTRAL

PROJ. NO. 638

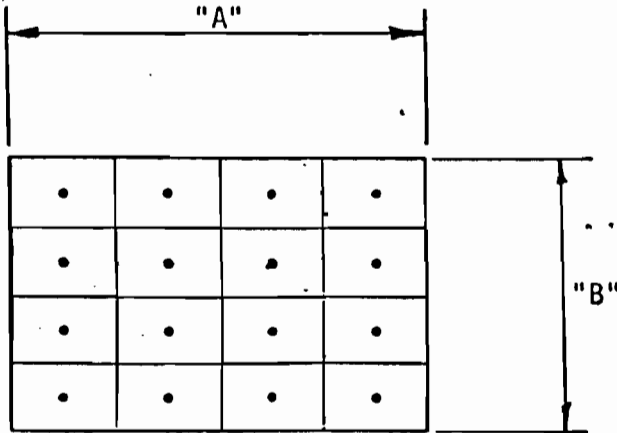
SYSTEM No 1 Oven EXH. (Prior to mix with No 2)

12:10 p.m.

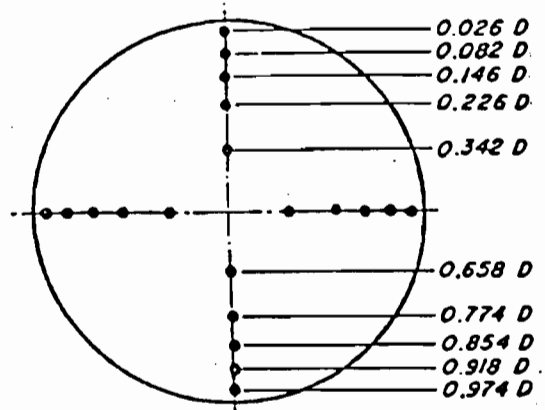
DATE 3/22/88

BY EJM/IC

Duct Size: " x " FT² or 26" Diameter = FT²



Pilot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pilot traverse points in a circular duct. 10 or 20 locations in centers of equal annular area.*

* 6 or 12 locations for small ducts.
20 or 40 locations for very large ducts.

N	\sqrt{P}	E	\sqrt{P}	W	\sqrt{P}	S	\sqrt{P}	
.02	.1414	.30	.548	.40	.63			
.02	.1414	.24	.47	.44	.66			
.04	.2	.32	.565					
.08	.283	.45	.670					
.10	.316	.54	.734					
	1.08		2.987		1.29			
							5.357	
							= 12	
							16 or 20	

Temperature at Point of Measurement 362 °F -1.2"Sp Avg. \sqrt{P} = .446

Vel = $4005 \sqrt{\frac{460 + T}{530}}$ x Avg. \sqrt{P} = 2225 FPM x Area = ACFM

Vel = $4005 \sqrt{\frac{822}{530}}$ x .446 = 2225 FPM x 3.69 = 8203 ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = 8203 ACFM $\left[\frac{530}{460 + T} \right]$ = 5289 SCFM

REMARKS: Location poor due to elbow preceding & following
Sheet 404 s/s CRN. Bake 410
Mail - 6265 Zone Set Temps: Z1 = 430 / Z2 = 420 / Z3 = 400
Z4 = 415 / Z5 = 410 / Z6 = 420

Stack Damper Sp = 0.5 "Sp PH = 3

DATE:

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

CUSTOMER CITRUS CENTRAL

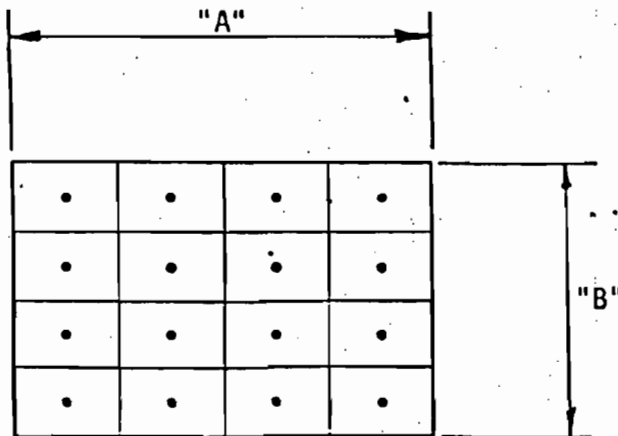
PROJ. NO. 638

SYSTEM CI "1000" Vent

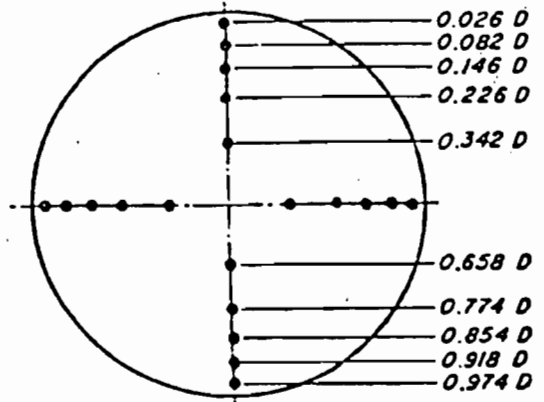
DATE 3/22/88

BY EJM/IC

Duct Size: " x " FT² or 32" Diameter = 5.59 FT²



Pilot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pilot traverse points in a circular duct. 10 or 20 locations* in centers of equal annular area.

* 6 or 12 locations for small ducts.
20 or 40 locations for very large ducts.

N	√P	E	√P	W	√P	S	√P	
.08	.283	.08	.283	.08	.283	.10	.316	
.08	.283	.08	.283	.09	.3	.10	.316	
.08	.283	.08	.283	.10	.316	.10	.316	
.08	.283			.10	.316			
								4.144
								= 14
	1.132		.849		1.215		.948	16 or 20

Temperature at Point of Measurement 930 °F

Avg. √P = .296

Vel = 4005 $\sqrt{\frac{460 + T}{530}}$ x Avg. √P = _____ FPM x Area = _____ ACFM

Vel = 4005 $\sqrt{\frac{1390}{530}}$ x .296 = 1919 FPM x 5.59 = 10,731 ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = 10,731 ACFM $\left[\frac{530}{460 + T} \right]$ = 4091 SCFM

REMARKS: Duct Location : Roof

DATE: _____

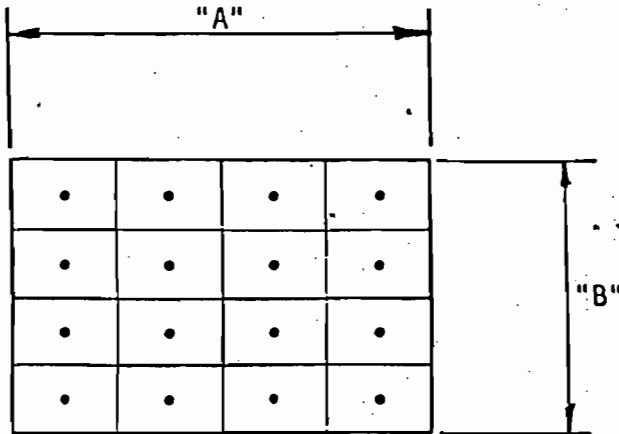
REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

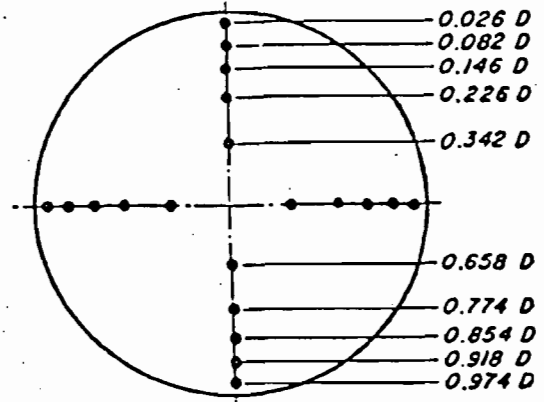
CUSTOMER CITRUS CENTRAL
 SYSTEM CL PH EXH

PROJ. NO. 638
 DATE 3/22/88
 BY EJM/IC

Duct Size: " x " FT² or 18" Diameter = 1.77 FT²



Pitot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pitot traverse points in a circular duct. 10 or 20 locations* in centers of equal annular area.
 * 6 or 12 locations for small ducts.
 20 or 40 locations for very large ducts.

N	\sqrt{P}	E	\sqrt{P}	W	\sqrt{P}	S	\sqrt{P}	
.04	.2	.06	.245					
.04	.2	.06	.245					
.06	.245	.06	.245					
.06	.245	.06	.245					
							=	16 or 20

Temperature at Point of Measurement 138 °F Avg. \sqrt{P} = .234

Vel = $4005 \sqrt{\frac{460 + T}{530}}$ x Avg. \sqrt{P} = _____ FPM x Area = _____ ACFM

Vel = $4005 \sqrt{\frac{598}{530}}$ x .234 = 995 FPM x 1.77 = 1762 ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = 1762 ACFM $\left[\frac{530}{460 + T} \right]$ = 1561 SCFM

REMARKS: _____

DATE: _____

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

CUSTOMER CITRUS CENTRAL

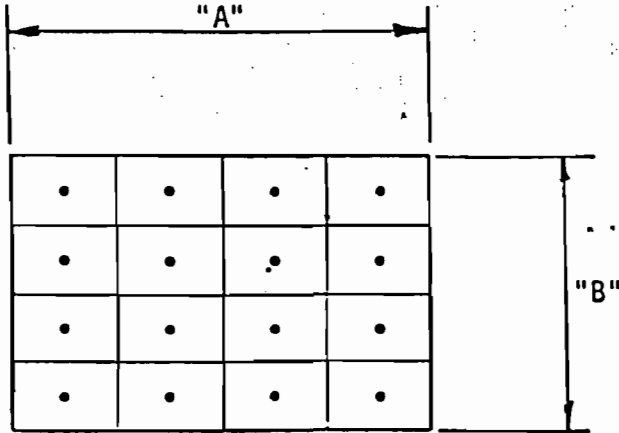
PROJ. NO. 638

SYSTEM No 2 Oven EXH

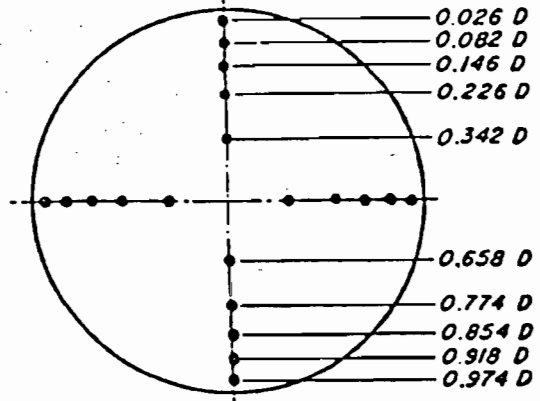
DATE 3/22/88

BY EJM/JC

Duct Size: " x " FT² or 26" Diameter = 3.69 FT²



Pilot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pilot traverse points in a circular duct. 10 or 20 locations* in centers of equal annular area.

* 6 or 12 locations for small ducts.
20 or 40 locations for very large ducts.

N	\sqrt{P}	E	\sqrt{P}	W	\sqrt{P}	S	\sqrt{P}	
06	.245	.23	.479	.40	.632			
16	.4	.32	.565	.20	.447			
30	.548	.36	.6					
22	.469	.36	.6					
12	.346	.40	.632					
	2.008		2.876		1.08			
							5.964	
							= 12	
							16 or 20	

Temperature at Point of Measurement 329 °F Sp= 1.9 Avg. \sqrt{P} = .497

Vel = $4005 \sqrt{\frac{460 + T}{530}}$ x Avg. \sqrt{P} = _____ FPM x Area = _____ ACFM

Vel = $4005 \sqrt{\frac{789}{530}}$ x .497 = 2428 FPM x 3.69 = 8961 ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = 8961 ACFM $\left[\frac{530}{460 + T} \right]$ = 6019 SCFM

REMARKS: 202 Body Stock 60# 75/25 Sheet

Mat'1 H29 z1 = 380 / z2 = 360 / z3 = 365

Thinner - None z4 = 365 / z5 = 360 / z6 = 355

PH = 270

Stack Damper 1.25"Sp

DATE: 3/22 Time: 12:45 p.m.

Form No. E-4130-01

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

CUSTOMER CITRUS CENTRAL, INC.

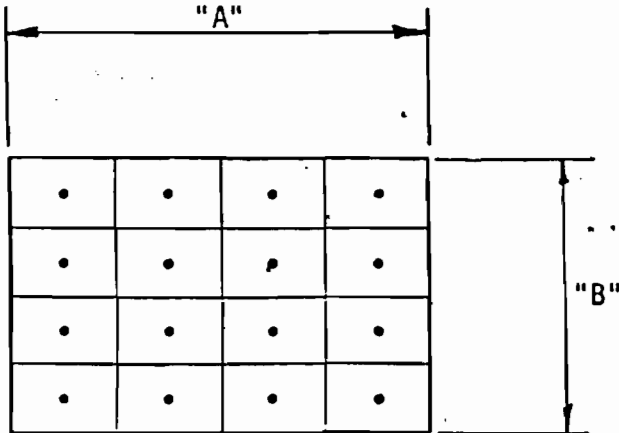
SYSTEM C2 P.H. EXH

PROJ. NO. 638

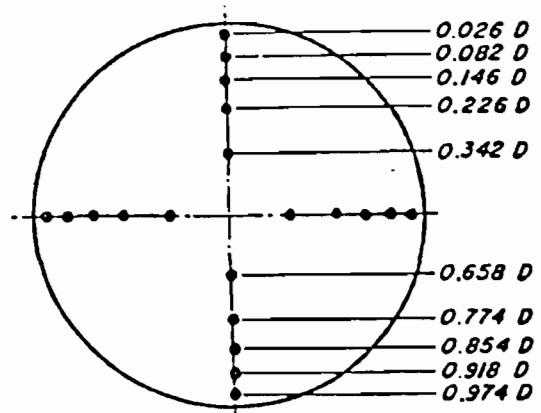
DATE 3/22/88

BY EJM/JC

Duct Size: " x " FT² or 18" Diameter = 1.77 FT²



Pilot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pilot traverse points in a circular duct. 10 or 20 locations* in centers of equal annular area.

* 6 or 12 locations for small ducts. 20 or 40 locations for very large ducts.

N	\sqrt{P}	E	\sqrt{P}	W	\sqrt{P}	S	\sqrt{P}
.08	.283	.12	.346				
.08	.283	.12	.346				
.10	.316	.10	.316				
.12	.346						
.12	.346						
							$\frac{2.58}{8}$
							16 or 20

Temperature at Point of Measurement 250 °F Avg. \sqrt{P} = .322

Vel = $4005 \sqrt{\frac{460 + T}{530}}$ x Avg. \sqrt{P} = FPM x Area = ACFM

Vel = $4005 \sqrt{\frac{710}{530}}$ x .322 = 1492 FPM x 1.77 = 2641 ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = 2641 ACFM $\left[\frac{530}{460 + T} \right]$ = 1971 SCFM

REMARKS: 2:05 p.m.

DATE:

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

DUCT TRAVERSE SHEET

CUSTOMER CITRUS CENTRAL

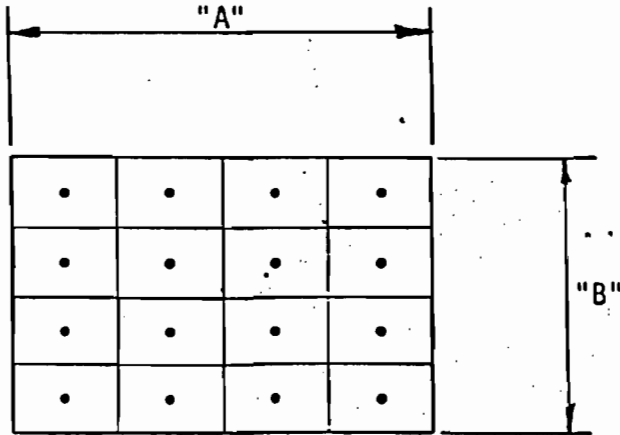
PROJ. NO. 638

SYSTEM C2 "1000" Vent

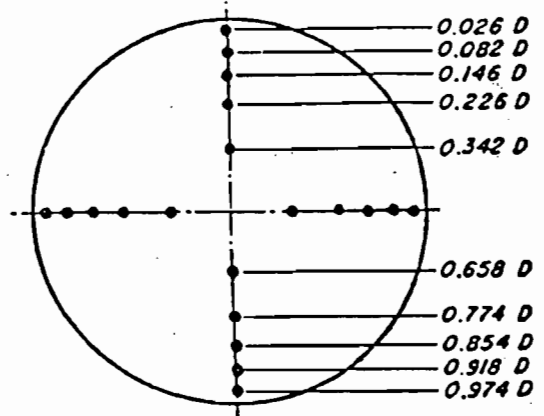
DATE 3/22/88

BY EIM/IC

Duct Size: " x " FT² or 32" Diameter = 5.59 FT²



Pitot traverse points in a rectangular duct. Centers of 16 to 64 equal areas. Locations not more than 6" apart.



Pitot traverse points in a circular duct. 10 or 20 locations* in centers of equal annular area.

* 6 or 12 locations for small ducts.
20 or 40 locations for very large ducts.

N	√P	E	√P	W	√P	S	√P	
0		0						
0		0						
0		0						
0		0						
0		0						
0								
							=	16 or 20

Temperature at Point of Measurement 900 °F

Avg. √P =

Vel = 4005 √ $\frac{460 + T}{530}$ x Avg. √P = FPM x Area = ACFM

Vel = 4005 √ $\frac{ }{530}$ x = FPM x = ACFM

SCFM = ACFM $\frac{530}{460 + T}$ = ACFM $\left[\frac{530}{460 + T} \right]$ = SCFM

REMARKS: No Flow at 2:00 p.m. 3/22/88

DATE: _____

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION V

PROJECTED CAPTURE OF COATER EMISSIONS

TABLE I CCM1 2 COLOR U.V. PRESS

	USED FOR CLEANING PRESS PLATES AND BLANKETS	USED IN DOUBLE SCRAPER SYSTEM
Solvent	MIBK	MIBK
Solvent Usage	12,788 lbs/yr	13,196 lbs/yr
Run Time	6,240 HRS/YR	6,240 HRS/YR
Solvent/HR	2.05 lbs/HR	2.11 lbs/HR
Capture*	80%	80%
Solvent Captured	1.7 lbs/HR	1.69 lbs/HR
HHV	16,500 BTU/lb	16,500 BTU/lb
Heat Value	27,051 BTU/HR	27,914 BTU/HR
Total Potential Heat Energy from Captured Emission		54,965 BTU/HR

*Estimated Achievable Capture from Coating Station.

IPA and water solution not included in capture system.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION V

PROJECTED CAPTURE OF COATER EMISSIONS (continued)

TABLE II CCMI U.V. PRESSLINE

	USED FOR CLEANING PRESS PLATES AND BLANKETS	USED IN DOUBLE SCRAPER SYSTEM
Solvent	MIBK	MIBK
Solvent Usage	10,591 lbs/yr	10,928 lbs/yr
Run Time	6,240 HR/yr	6,240 HR/yr
Solvent/HR	1.69 lbs/HR	1.75 lbs/HR
Capture*	80%	80%
Solvent Captured	1.36 lbs/HR	1.40 lbs/HR
HHV	16,500 BTU/lb	16,500 BTU/lb
Heat Value	22,404 BTU/HR	23,117 BTU/HR
Total Potential Heat Energy from Captured Emission		45,520 BTU/HR

*Estimated Achievable Capture from Coating Station.

IPA and water solution not included in capture system.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION V

PROJECTED CAPTURE OF COATER EMISSIONS (continued)

TABLE III COATERS C1 & C2

	DOUBLE SCRAPER SYSTEM	
	Butyl Cellosolve	MIBK
Solvent Usage	8,903 lbs/yr	6,157 lbs/yr
Run Time	6,240 HR/yr	6,240 HR/yr
Solvent/HR	1.43 lbs/HR	0.99 lbs/HR
Capture*	80%	80%
Solvent Captured	1.14 lbs/HR	0.79 lbs/HR
HHV	12,600 BTU/lb	16,500 BTU/lb
Heat from Combustion	14,381 BTU/HR	13,024 BTU/HR
Total Potential Heat Energy from Emission		27,405 BTU/HR

*Estimated Achievable Capture from Coating Station.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION V

SUMMARY OF PROJECTED CAPTURE OF COATER EMISSIONS

<u>PROCESS</u>	<u>AIR VOLUME</u>	<u>CAPTURE PERCENT</u>	<u>HEAT VALUE OF EMISSION</u>
2 Color U.V. Press A048-12501	1500 SCFM	80%	54,965 BTU/HR
U.V. Press Line A048-65254	1500 SCFM	80%	45,520 BTU/HR
Coaters 1 & 2 A048-140763	3000 SCFM	80%	27,405 BTU/HR
TOTAL	6000 SCFM	80%	127,890 BTU/HR

CONCEPTUAL ENGINEERING

The hooding over the 4 coating stations is presently ineffective due to the limited air volume being exhausted. REECO recommends the following improvements:

1. The addition of air pick up scoops near the double scraper system and the solvent cleaning system.
2. Further enclosure of the coater.
3. An exhaust valve of 1500 SCFM per coater.

A capture efficiency of 80 percent or higher is expected.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION VI

SOLVENT DATA

TABLE OF TYPICAL COATINGS AND RUN TIME (continued)

1167*

Solvent	Approximate WT %	HHV BTU/lb	(WT %) HHV
Mineral Spirits	80%	16,000	12,800
NAPTHA	20%	13,500	12,700
Average HHV for 1167			15,500 BTU/lb

*Per M.S.D.S. Sheet, Valspar Corporation, 2/17/87

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION VI

SOLVENT COMPOSITION OF COATINGS (continued)

6265*

Solvent	Approximate WT %	HHV BTU/lb	(WT %) HHV
Xylene	7%	18,500	1,276
Cyclohexanone	13.8%	18,000	2,484
Butyl Alcohol	13.8%	15,300	2,111
Butyl Acetate	13.8%	11,000	1,518
MIK	7%	16,500	1,155
NAPTHA	2.8%	13,500	378
Mixed Diabasic Esters	41.4%	15,000	6,210
Average HHV for 6265			15,132 BTU/lb

*Per M.S.D.S. Sheet, Valspar Corporation 12/7/87

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION VI

SOLVENT COMPOSITION OF COATINGS (continued)

4143*

Solvent	Approximate WT %	HHV BTU/lb	(WT %) HHV
Xylene	43.75%	18,500	8,093
MIK	18.75%	16,500	3,093
MEK	6.25%	18,300	1,143
ISOPHORONE	12.5%	14,000	1,750
NAPHTHA	18.75%	13,500	2,531
Average HHV for 4143			16,610 BTU/lb

*Per M.S.D.S. Sheet, Valspar Corporation, 2/17/87

SECTION VI
TYPICAL SUBSTRATE AND COATING USAGE

COATINGS	H-29	1167	6265	4143
Normal Substrate Density	202 Body Stock 2.0 lbs/Sheet	202 Single Straight 2.6 lbs/Sheet	404 Single Straight 2.5 lbs/Sheet	202 Single Straight 2.6 lbs/Sheet
Sheets/HR	4,250	5,000	5,000	4,000 Sheets/HR
lbs/HR Substrate	8,500 lbs/HR	13,000 lbs/HR	12,500 lbs/HR	10,400 lbs/HR
Coating Application Rate	10.2 GAL/HR	10.75 GAL/HR	14.4 GAL/HR	27.12 GAL/HR
Density	8.42 lb/GAL	7.5 lb/GAL	8.34 lb/GAL	7.85 lb/GAL
Weight of Coating	85.88 lb/HR	80.625	120 GAL/HR	212.9 lb/HR Coating
Percent Solvent	32.7%	50%	72% Solvent	80% Solvent
Weight Solvent	28.1 lbs/HR Solvent	40.31 lbs/HR	86.4 lbs/HR Solvent	170 lb/HR Solvent
Average HHV of Solvent	14,000 BTU/lb	15,500 BTU/lb	15,132 BTU/lb	16,610 BTU/lb
Potential Heat Energy	393,400 BTU/HR	624,805 BTU/HR	1,307,404	2,823,700 BTU/HR
Thinner Mixture	NONE	Mineral Spirit	Butyl Cellosolve	MIBK
Usage/HR	3.5 lbs/HR	2 pts/5 GAL Coating 5.39 lbs/HR	2 pts/% GAL Coating 18.05 lbs/HR	4 pts/5 GAL Coating
HHB		16,000	12,600	16,500
Potential Heat Energy		57,241 BTU/HR	67,931 BTU/HR	297,842 BTU/HR
Total Potential Heat Energy	393,400 BTU/HR	682,046 BTU/HR	1,375,335 BTU/HR	3,121,542 BTU/HR

Note: Per Russel Cannon, 4/18/88, Citrus Central, Inc.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION VII

OVEN HEAT LOAD

In order to determine the amount of energy required by the ovens and to size the new equipment appropriately, a heat balance was performed. It consists of the following:

Energy required by the ovens =

- [Heat load of product metal] +
- [Heat load of wicket and conveyor chain] +
- [Heat load of solvent evaporation] +
- [Heat load of makeup air] +
- [Heat losses to surroundings]

TABLE I METAL HEATING RATE

PRODUCT	H-29		1167		6265		4143	
Normal Substrate	202	B/S	202	S/S	404	S/S	202	S/S
Feed Rate	4,250 Sheets/HR		5,000 Sheets/HR		5,000 Sheets/HR		4,000 Sheets/HR	
Density	2.0	lbs/Sheet	2.6	lbs/Sheet	2.5	lbs/Sheet	2.6	lbs/Sheet
Can Metal Weight Rate	8,500 lbs/HR		13,000 lbs/HR		12,500 lbs/HR		10,400 lbs/HR	
Wicket WT Rate (at 5.75 lbs. each)	24,437 lbs/HR		28,750 lbs/HR		28,750 lbs/HR		23,000 lbs/HR	
Chain WT Rate at 2.5 lbs/ft (10 wickets = 1 ft.)	1,062 lbs/HR		1,250 lbs/HR		1,250 lbs/HR		1,000 lbs/HR	
Total Metal Weight Rate	36,999 lbs/HR		43,000 lbs/HR		42,500 lbs/HR		34,400 lbs/HR	

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION VII

OVEN HEAT LOAD (continued)

TABLE II

METAL HEAT LOAD CALCULATIONS .

PRODUCT	H-29	1167	6265	4143
Total Metal Rate	36,999 lbs/hr	43,000 lbs/hr	42,500 lbs/hr	34,400 lbs/hr
Inlet Temperature	80°F	80°F	80°F	80°F
Peak Metal Temp.*	360°F	415°F	405°F	350°
Change of Temp.	280°F	385°F	325°F	270°F
Specific Heat of Steel	-----0.107 BTU/lb/°F-----			
Calculated Heat Load	1,108,490 BTU/HR	1,541,335 BTU/HR	1,477,937 BTU/HR	1,288,280 BTU/HR

*Per sheet metal temperature vs. time testing 1/15-20/87 by ADAMS.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
 April 22, 1988

SECTION VII

OVEN HEAT LOAD (continued)

TABLE III HEAT OF SOLVENT EVAPORATION

COATING	H-29	1167	6265	4143
Solvent from Coating	28.1 lbs/HR	40.31 lbs/HR	86.4 lbs/HR	170 lbs/HR
Thinning Solvent	---	3.5 lbs/HR	5.39 lbs/HR	18.0 lbs/HR
TOTAL	28.1 lbs/HR	43.81 lbs/HR	91.79 lbs/HR	188.0 lbs/HR
Avg. Heat of Vaporization	180 BTU/lb	180 BTU/lb	180 BTU/lb	180 BTU/lb
Calculated Heat Load of Evaporation	5,058 BTU/HR	7,885 BTU/HR	16,522 BTU/HR	33,840 BTU/HR
Contingency	15%	15%	15%	15%
Heat Load of Evaporation	5,816 BTU/HR	9,068 BTU/HR	19,000 BTU/HR	38,916 BTU/HR

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION VII

OVEN HEAT LOAD (continued)

TABLE IV INFILTRATION AIR HEAT LOAD (MAKEUP AIR)

<u>LOCATION</u>	<u>VELOCITY</u>	<u>AREA</u>	<u>ACFM</u>	<u>SCFM</u>
Oven Loading Entrance	100 FPM AVG (By Design)	16 Ft	1,600 @ 85°F	1,555
Slot to Cooling Zone in Zone 6	500 FPM	.26 Ft	130 @ 85°F	126
Pre-Heat Entrance	100 FPM	4.4 Ft	440 @ 85°F	427

Total Infiltration
Air Volume

2,108 SCFM
at 85°F

CALCULATIONS

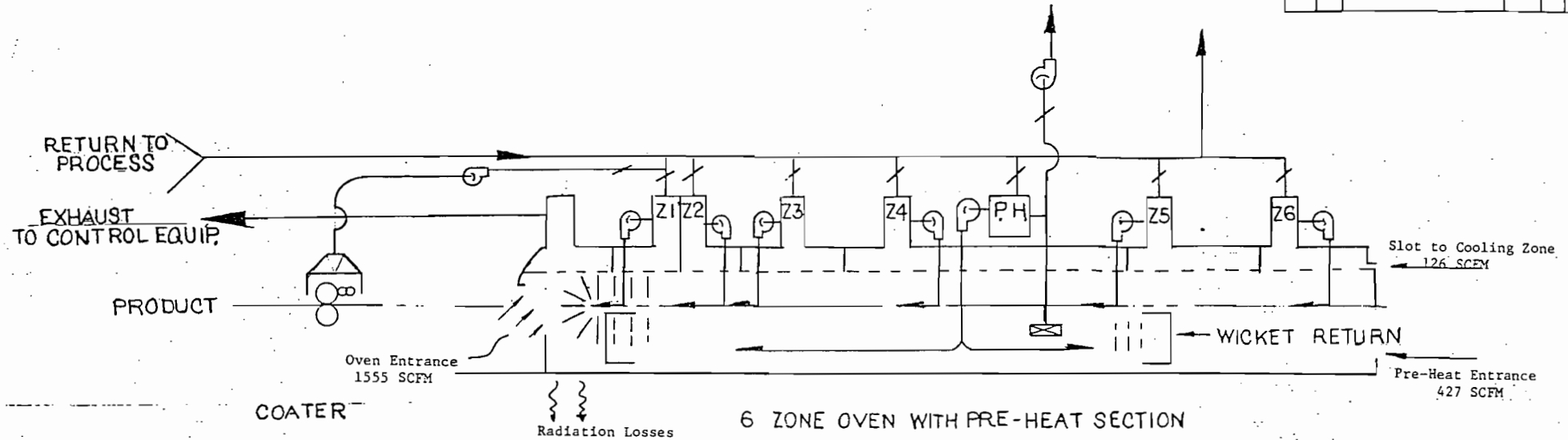
Oven Exhaust Air Temperature = 350°F Avg.

Air Heat Load = 1.08 (SCFM) (T₀ - T₁)/Available Energy

$$= 1.08 (2108) (350 - 85)/.845$$

$$= 717,525 \text{ BTU/HR}$$

DATE	SYM	REVISION RECORD	AUTH.	DR.	CK.



OVEN HEAT LOAD

	H-29	1167	6265	4134
Heat of Evaporation	5816 BTU/HR	9068 BTU/HR	19,000 BTU/HR	38,916 BTU/HR
Metal Heat Load	1,108,490 BTU/HR	1,477,937 BTU/HR	1,477,937 BTU/HR	1,288,280 BTU/HR
Infiltration Air Heat Load	717,525 BTU/HR	717,525 BTU/HR	717,525 BTU/HR	717,525 BTU/HR
Radiation Losses	172,150 BTU/HR	172,150 BTU/HR	172,150 BTU/HR	172,150 BTU/HR
Total Oven Heat Load Per Coating	2,003,981 BTU/HR	2,376,680 BTU/HR	2,386,612 BTU/HR	2,216,871 BTU/HR

Reeco®
REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

SCALE NTS	DRAWN BY JTC
	APPROVED BY <i>James Cash</i>

CONFIDENTIAL!
"This drawing is the property of REECO and is subject to return upon request. It contains proprietary and confidential information and may be used only for the purpose for which it was expressly loaned. All use, reproduction, distribution and/or transfer of this drawing to third parties without written authorization of REECO is prohibited. No patent, copyright or trademark rights are granted or implied."

TITLE OVEN HEAT LOAD	
DATE 4/22/88	DRAWING NUMBER BS-638-JTC-2

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO Project 638
April 22, 1988

SECTION VII

OVEN HEAT LOAD (continued)

TABLE V (HEAT LOSS TO SURROUNDINGS)

1) Summation of Surfaces Exposed to Air

Vertical - 4255 Ft²
Horizontal - 675 Ft²
4930 Ft²

CF = 116°F

HF = 415°F

Ambient = 80°F

E = 0.12

4" Mineral Wool Oven Panels

Heat Loss = 30 BTU/Ft²

Heat Loss = 4930 Ft² x $\frac{30 \text{ BTU}}{\text{Ft}^2}$ = 147,900

2) Surfaces Exposed to Concrete (Preheat Floor)

Floor Area = 495 Ft²

HF = 415°F

CF = 175°F

4" Mineral Wool

Heat Loss = 50 BTU/Ft²

Heat Loss = 495 Ft² x $\frac{50 \text{ BTU}}{\text{Ft}^2}$ = 24,750

3) Total Heat loss from Radiation/Convection = 147,900
+ 24,750
172,650 BTU/HR - worst case

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO PROJECT # 638

April 29, 1988

SECTION VIII

ENERGY CALCULATION SUMMARY

The table below is a summary of the detailed fuel cost calculations on the following pages.

It shows the fuel savings of the 85% T.E.R. RE-THERM unit compared with a conventional incinerator having tube type heat exchanger and 40% Thermal Energy Recovery (T.E.R.).

	RE-THERM @ 85% TER	Conventional Incinerator @ 40% TER
Annual Fuel Cost	\$ 285,883	\$ 574,413
Annual Fuel Savings	\$ 261,530	

These calculations are based on the operating conditions given on the following pages, including a fuel cost of \$5.30 /MM BTU and 6,240 hours of operation per year.

These calculations include the fuel for return to process air at approximately 1,000°F. These calculations do not include the fuel value from liquid solvent by-products. The addition of a liquid solvent burner will reduce the annual fuel cost by approximately \$24,000.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO PROJECT # 638

April 29, 1988

SECTION VIII

SYSTEM ENERGY CALCULATION

These calculations are based on MAXIMUM Solvent Load.

C1-6265

C2-4134

	<u>RE-THERM</u> <u>@ 85% T.E.R.</u>	<u>INCINERATOR</u> <u>@ 40% T.E.R.</u>
Process Exhaust Volume	19,000 SCFM	19,000 SCFM
Incinerator Inlet Temperature	265°F	265°F
Contaminant Rate (VOC's)	2,878,560 BTU/HR	2,878,560 BTU/HR
Purification Temperature	1600°F	1450°F
Incinerator Outlet Temperature (with return to process air)	355 °F	976 °F
Gross Fuel Energy Required including return to process air	5,370,000 BTU/HR	13,251,266 BTU/HR
Fuel Cost @ \$5.30/MM BTU	\$28.46/HR	\$70.22/HR
Annual Fuel Cost @ 938 HRS/YR	\$26,695 /YR	\$65,871 /YR

NOTE: For comparison purposes only. The actual fuel cost will differ based on burner adjustment, equipment radiation losses and equipment location.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO PROJECT # 638

April 29, 1988

SECTION VIII

SYSTEM ENERGY CALCULATION

These calculations are based on AVERAGE contaminant rate.

C1-6265

C2-6265

	<u>RE-THERM</u> <u>@ 85% T.E.R.</u>	<u>INCINERATOR</u> <u>@ 40% T.E.R.</u>
Process Exhaust Volume	19,000 SCFM	19,000 SCFM
Incinerator Inlet Temperature	265°F	265°F
Contaminant Rate (VOC's)	2,878,560 BTU/HR	2,878,560 BTU/HR
Purification Temperature	1600°F	1450°F
Incinerator Outlet Temperature (with return to process air)	371 °F	976 °F
Gross Fuel Energy Required including return to process air	7,520,000 BTU/HR	15,440,347 BTU/HR
Fuel Cost @ \$5.30/MM BTU	\$39.85/HR	\$81.83/HR
Annual Fuel Cost @ 938 HRS/YR	\$37,384 /YR	\$76,758 /YR

NOTE: For comparison purposes only. The actual fuel cost will differ based on burner adjustment, equipment radiation losses and equipment location.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO PROJECT # 638

April 29, 1988

SECTION VIII

SYSTEM ENERGY CALCULATION

These calculations are based on MINIMUM contaminant rate.

C1-1167

C2-H-29

	<u>RE-THERM</u> <u>@ 85% T.E.R.</u>	<u>INCINERATOR</u> <u>@ 40% T.E.R.</u>
Process Exhaust Volume	19,000 SCFM	19,000 SCFM
Incinerator Inlet Temperature	265°F	265°F
Contaminant Rate (VOC's)	1,203,336 BTU/HR	1,203,336 BTU/HR
Purification Temperature	1600°F	1450°F
Incinerator Outlet Temperature (with return to process air)	385 °F	976 °F
Gross Fuel Energy Required including return to process air	9,581,012 BTU/HR	17,485,164 BTU/HR
Fuel Cost @ \$5.30/MM BTU	\$50.77/HR	\$92.67/HR
Annual Fuel Cost @ 4,368 HRS/YR	\$221,804/YR	\$404,784/YR

NOTE: For comparison purposes only. The actual fuel cost will differ based on burner adjustment, equipment radiation losses and equipment location.

REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

REECO PROJECT # 638
April 29, 1988

SECTION VIII

PROCESS SOLVENT BYPRODUCT UTILIZATION

The following table is a summary of the solvent byproducts that were classified and disposed of as hazardous wastes in 1987. If this solvent is burned in the RE-THERM as an alternative fuel, two cost savings will be realized. First, the costs of tracking and disposing of the solvents will be eliminated (not to mention the "cradle to grave" liabilities) and second, the heat value of the solvent will assist in fueling the incinerator, and thereby reduce the plant's natural gas costs.

TABLE I: SUMMARY OF SOLVENT BYPRODUCTS AVAILABLE FOR INCINERATION

SOLVENT	Weight disposed of as hazardous waste in 1987
Butyl Cellosolve	88,977 LBS/YR
MIBK	166,852 LBS/YR
Mineral Spirits	45,922 LBS/YR
TOTAL	301,751 LBS/YR

EXPECTED FUEL SAVINGS

Fuel Value of Solvent Byproducts = (lbs/yr) (HHV)
= (301,751 lbs/yr) (15,000 BTU/LB)
= 4526 mm BTU/YR

Annual Fuel Savings = (Heat value of waste solvent) (Price of Fuel)
= (4526 mm BTU) (\$5.30/mm BTU)
= \$23,989/YR



REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

BOX 600 • 520 SPEEDWELL AVENUE • MORRIS PLAINS, NJ 07950 • PHONE (201) 538-8585
TWX (710) 986-7420 FAX (201) 538-0407

VIA UPS NEXT DAY SERVICE

September 30, 1988

Grove Scientific
6140 Edgewater Drive
Suite F
Orlando, FL 32810

Attention: Mr. Bruno A. Ferrero

Reference: REECO Project 638

Dear Bruno:

Per our conversation on September 30, 1988, the information you requested is as follows:

Burner Capacity - 9.0 mm BTU/hr each
Solvent Burner - 1 mm BTU/hr (approximately 10 gal/hr)
Maximum Natural Gas Consumption - 316 SCFM
Average Natural Gas Consumption, 2 lines running - 115 SCFM

Description of RE-THERM: 20,000 SCFM, Model VFC RE-THERM with 85% T.E.R.
(Thermal Energy Recovery).

A detailed description of the incinerator is contained and proposal. Please edit to your satisfaction.

If I can be of any further assistance, please do not hesitate to call.

Sincerely,

James T. Cash
Project Engineer

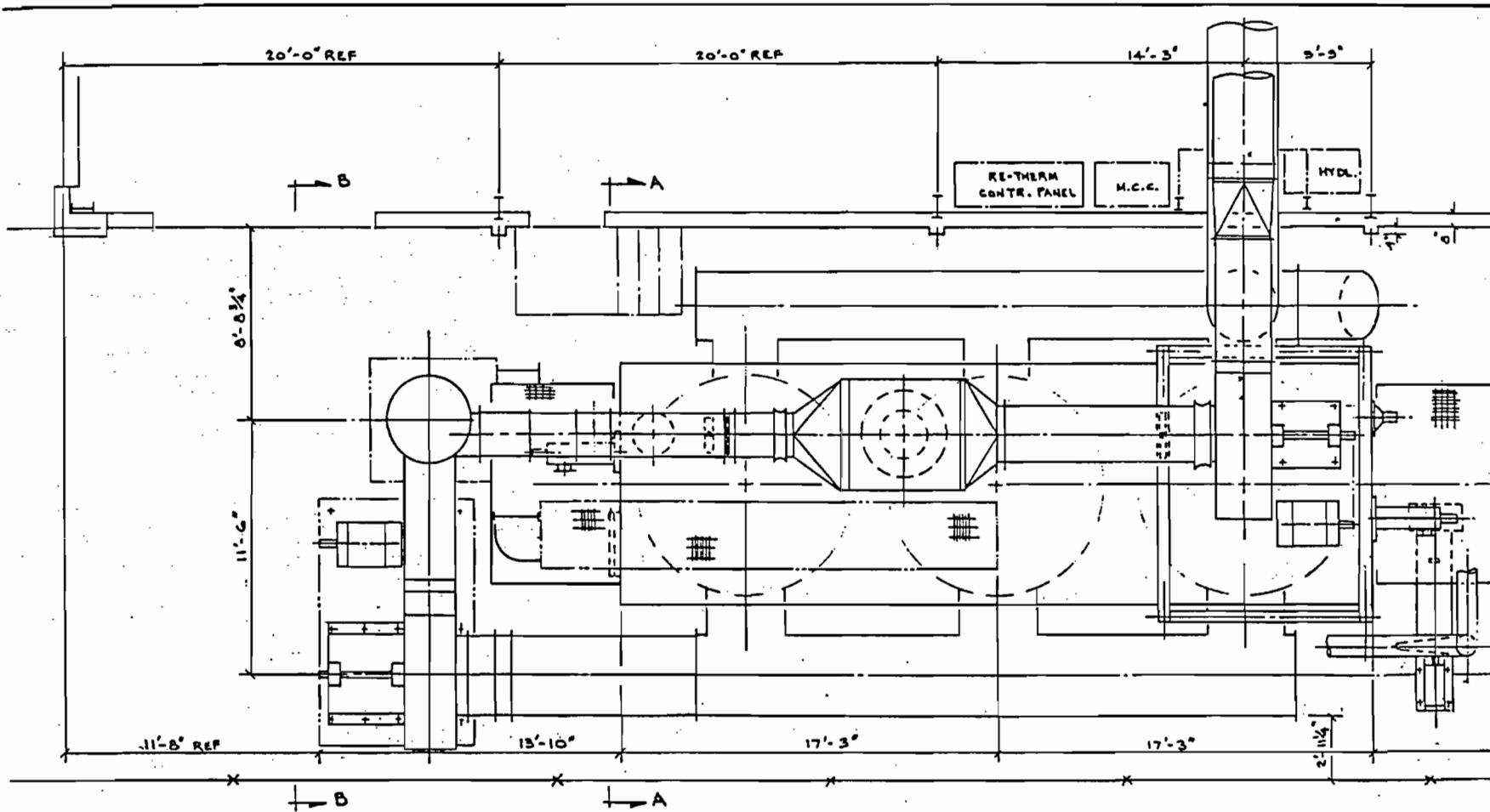
JTC:lk
jtc28

cc: R. Noone
G. Yundt
Chron File
Project File

INFORMATION ONLY

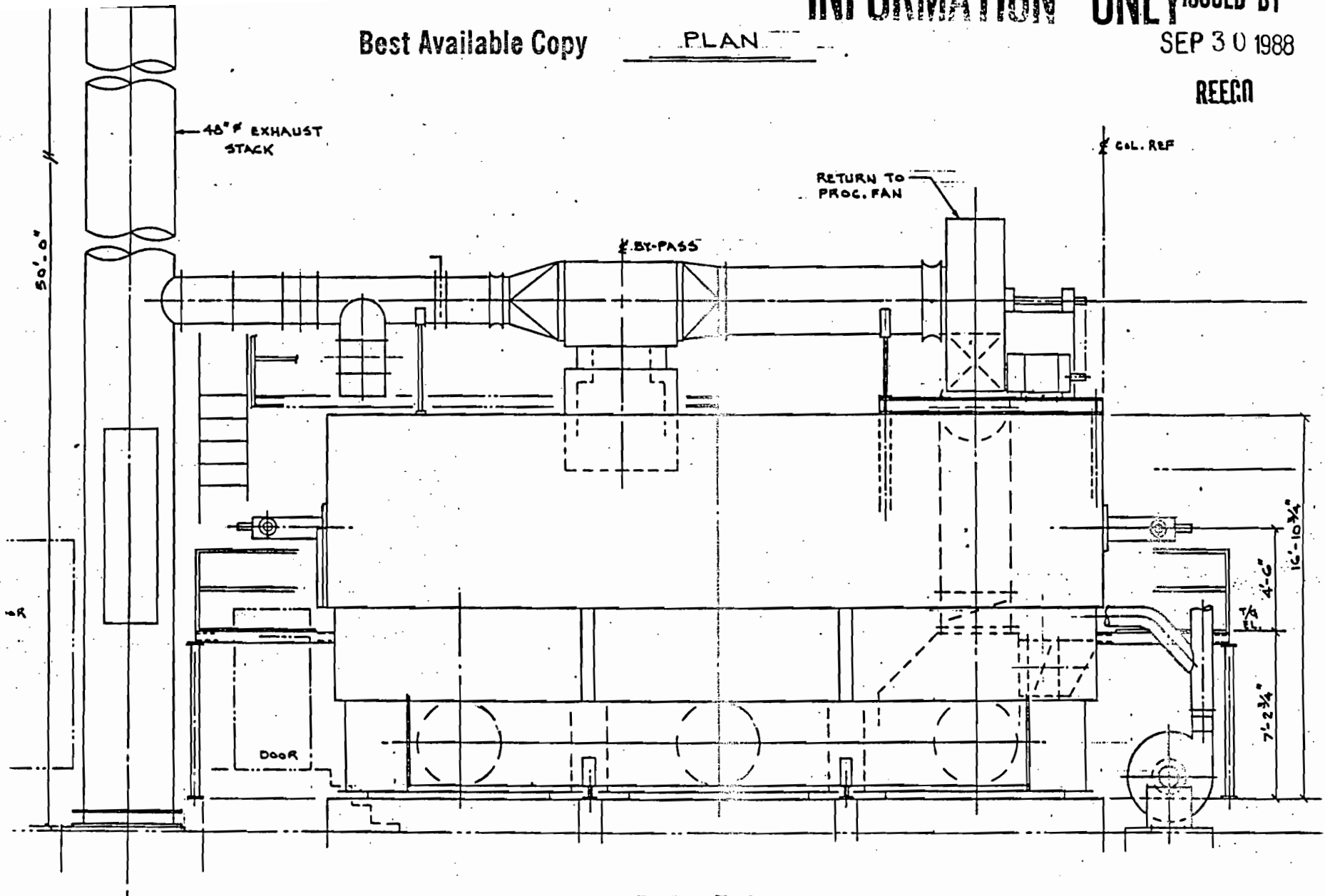
ISSUED BY
SEP 30 1988

REECO



PLAN

SKETCH 093088ITC-2



ELEVATION

SKETCH # 093088 JTC-1

ATTACHMENT V.c

Auxiliary Fuel DRE



REGENERATIVE ENVIRONMENTAL EQUIPMENT CO., INC.

BOX 600 • 620 SPEEDWELL AVENUE • MORRIS PLAINS, NJ 07950 • PHONE (201) 538-8585
TWX (710) 886-7420 FAX (201) 538-0407

FACSIMILE IDENTIFICATION SHEET

TO: GEORGE YUNDT DATE: SEPTEMBER 27, 1988
COMPANY: REECO FAX #: _____
LOCATION: N. CAROLINA
FROM: R. L. PENNINGTON DEPARTMENT: ENGINEERING
NO. OF PAGES TRANSMITTED INCLUDING THIS SHEET: 6
SUBJECT: TESTING OF SOLVENT COMBUSTION
REFERENCE: _____

MESSAGE/COMMENTS:

ATTACHED IS THE INFORMATION ON THE TESTING OF THE SOLVENT COMBUSTION IN THE RE-THERM UNIT. YOU WILL NOTE, TEST ONE REFLECTS OPERATION WITH SOLVENT LADEN AIR ON NATURAL GAS. TEST FOUR REFLECTS THE SAME CONDITION, HOWEVER COMBUSTION USING THE SOLVENT. AS YOU CAN SEE, THERE WAS A 33% INCREASE IN THE DESTRUCTION EFFICIENCY ACROSS THE UNIT WITH THE UTILIZATION OF THE SOLVENT AS A FUEL.

COMBUSTION OF THE SOLVENT WITHOUT THE SOLVENT LADEN PROCESS STREAM SHOWN IN TEST TEN, IT REFLECTS A DESTRUCTION EFFICIENCY OF 99.43%.

I WAS UNABLE TO FIND THE OTHER ARTICLE REGARDING THE COURT REGULATIONS. I TRUST THIS INFORMATION WILL SUFFICE.

REGARDS


RODNEY L. PENNINGTON, P.E.
VICE PRESIDENT ENGINEERING

RLP/LG

ATTACHMENTS

NOTE: IF YOU DID NOT RECEIVE ALL PAGES INDICATED ABOVE, NOTIFY REECO OPERATOR IMMEDIATELY FOR RE-TRANSMISSION (201) 538-8585.

DESCRIPTION OF PROGRAM

The sampling was conducted in the duct that carries the gasses to the Reeco Incinerator and the exhaust stack venting the system.

Testing parameters were as follows:

<u>Test No.</u>	<u>Solvent Laden</u> <u>Air Stream</u>	<u>Fuel</u>	<u>Primary Chamber</u> <u>Temperature</u>
1	on	Natural Gas	1400 degrees F → 96.57%
2	off	" "	1400
3	off	Solvent 1	1400
4	on	"	1400 → 97.7%
5	off	"	1500
6	on	"	1500
7	on	"	1600
8	off	"	1600
9	on	"	1700
10	off	"	1700 → 99.43%
11	off	Solvent 2	1700
12	on	Solvent 2	1700

Total hydrocarbon analysis was conducted with an A.I.D. Inc. Portable Gas Chromatograph Model 511A equipped with a flame ionization detector. Samples were extracted with a DuPont Model P-4000 Constant Flow Sampler and teflon tubing and collected in a Tedlar gas sampling bag. Peak area concentrations were calculated using a Shimadzu Electronic Integrator Model C-R3A. Calibration of the gas chromatograph was performed at a

TEST RESULTS SUMMARY

Reeco Fume Incinerator
 VOC Emission Sampling Program
 Test Period 1

Conducted - May 7, 1986

(Solvent Air ON, Fuel GAS, Chamber @ 1400 F)

Test 1 (10:30am - 11:00am)

Parameter	Inlet	Solvent Feed	Outlet	DRE
Hydrocarbon Emissions - Pounds/hour				
Total Hydrocarbons *	266.894	- -	11.048	95.860
Methanol	72.733	- -	2.582	96.451
Methyl Ethyl Ketone	89.411	- -	1.728	98.067
Methyl Isobutyl Ketone	92.465	- -	0.360	98.892
	<u>461.50</u>		<u>15.71</u>	→ 96.57%
System Flow Rates				
Feet/second	40.60	- -	93.95	- -
ACFM	98,280	- -	100,586	- -
SCFM	94,789	- -	81,562	- -
Sample Location Temperature				
Degrees Fahrenheit	78	- -	178	- -

* As Methane

TEST RESULTS SUMMARY

14

Reaco Fuse Incinerator
 VOC Emission Sampling Program
 Test Period 4

Conducted - May 7, 1986

(Solvent Air ON, Fuel SOLVENT 1, Chamber @ 1400 F)

Test 4 (3:00pm - 3:30pm)

Parameter	Inlet	Solvent Feed	Outlet	DRE
Hydrocarbon Emissions - Pounds/hour				
Total Hydrocarbons *	243.488	- -	11.089	95.446
Methanol	219.248	9.246	1.306	99.428
Methyl Ethyl Ketone	81.959	123.610	2.917	98.581
Methyl Isobutyl Ketone	3.303	4.638	0.125	98.423
	<u>547.99</u>	<u>137.49</u>	15.437	⇒ 97.7 %
System Flow Rates				
Feet/second	40.60	- -	33.35	- -
ACFM	98,280	- -	100,586	- -
SCFM	94,789	- -	81,562	- -
Sample Location Temperature				
Degrees Fahrenheit	78	- -	178	- -
* As Methane				

Reaco Fume Incinerator
 VOC Emission Sampling Program

Test Period 10

Conducted - May 9, 1986

(Solvent Air OFF, Fuel SOLVENT 1, Chamber @ 1700 F)

Test 10 (10:05am - 10:35am)

Parameter	Inlet	Solvent Feed	Outlet	DRE
Hydrocarbon Emissions - Pounds/hour				
Total Hydrocarbons	--	--	0.644	--
Methanol	--	9.246	0.025	99.730
Methyl Ethyl Ketone	--	123.610	0.037	99.970
Methyl Isobutyl Ketone	--	4.638	0.075	98.384
		<u>137.49</u>	<u>0.781</u>	→ 99.43%
System Flow Rates				
Feet/second	--	--	31.57	--
ACFM	--	--	95,233	--
SCFM	--	--	75,805	--
Sample Location Temperature				
Degrees Fahrenheit	--	--	194	--
* As Methane				

Certified P-630 401 554
11-14-84
Orlando, FL

file copy

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774
PHONE (305) 889-4101

RECEIVED

NOV 16 1988

DER-BAQM

Mr. C.H. Fancy, P.E.
Deputy Chief B.A.Q.M.
Fl. D.E.R.-Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, Fl. 32399-2400

Nov. 4, 1988

Dear Mr. Fancy:

Re: C.C.I. Plymouth Can facility's air permit
Modification request, permit # AC 48-155533

In response to the questions in your letter dated Oct. 26, 1988, I submit the following explanations.

1. The material utilization rates were determined by actual plant usages during the previous year. We then added in 30% more usage to cover the requested increase in operating hours from 6,120 to 8,760 per year, (a 30% increase in hours). Therefore, if we do need to operate at the new, maximum capacity of 8,760 hours, we will be permitted also to emit V.O.C.'s at the same hourly rate as we currently are allowed.
2. The clean-up solvents are used as follows:
 - a. USA. 7286 Blend is a lacquer thinner, used in the machine shop and on can line (side-seam spray nozzles) parts cleaning.
 - b. Methyl ethyl ketone is used to clean machinery where can body coatings adhere, in can assembly operations.
 - c. Hexane or AMSCO Solv.1487 is used in bringing dried end compounds back up to viscosity and % solids specifications, by mixing into the drums of re-opened compound.
3. It appears that the consultants who worked on our permit #AO 48-133047 did not quite understand our plant's machinery or its capabilities. That is probably the reason that they claimed only five production lines used the can side-seam spray process. We would like our new permit to be corrected, and state that seven can lines are capable of applying the side-seam spray.
4. The new application's description of the radio frequency heater and natural gas-fired tunnel on each of the seven can lines' side-seam spray process is correct. Again, the consultants who worked on the current permit did not

CITRUS CENTRAL, INC.
P.O. BOX 17774
ORLANDO, FLORIDA 32860-7774



Fla. DER. - Twin Towers Office
Attn. - Mr. C. H. Fancy, B.A.Q.M. Dep. Chief
2600 Blair Stone Rd.

Tallahassee

RETURN RECEIPT
REQUESTED

FL.

32399-2400

accurately outline our operations. We would like our new permit to reflect the actual processes at this facility, as given in this letter and our most recent application.

If there are any further questions regarding the air permit application for this facility, please write to me at the address on the letterhead or contact Susan Arrington at the phone number above.

Sincerely,



John Z. Randall

cc: Pradeep Raval, P.E.-DER., Tallahassee, Fl.
Bill Hargrove, CCI.
George Lawson, " "
Susan Arrington, " "

*copied: C. Collins, CF District
CHF/BT*

PM
10-26-88
Orlando, FL

file copy

CITRUS CENTRAL, INC.



P.O. BOX 607774 / Orlando, Florida, U.S.A. 32860-7774

RECEIVED
PHONE (305) 889-4701

OCT 28 1988

DER-BAQM

October 26, 1988

Mr. Alex Alexander, District Manager
DER Central District Air Section
3319 Maguire Blvd, Suite 232
Orlando, FL 32802

Dear Mr. Alexander:

Would you please begin sending all correspondence regarding all Citrus Central, Inc. air pollution sources permitting and compliance to Ms. Susan Arrington at the above letterhead's address and do not copy the engineers of record for these facilities any longer. We will provide the engineers with information as necessary.

Sincerely,

CITRUS CENTRAL, INC.

John Z. Randall
John Z. Randall
Executive Vice President
& General Manager

ar

cc: S. Arrington
G. Lawson

P. Raval - DER.
B. Thomas - " "



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 26, 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. John Z. Randall
Citrus Central, Inc.
Post Office Box 607774
Orlando, Florida 322860

Dear Mr. Randall:

Re: Review of Application for Modification of Plymouth
Can Division's Can Assembly Plant
Permit No. AC 48-155533

The Department has received and reviewed your application package dated September 30, 1988. Please submit the following information including all assumptions, calculations, and reference materials needed to resume the completeness review:

1. Please explain how the material utilization rates were obtained.
2. Explain how the use of the three clean-up chemicals listed in your application differs. Which part of the process is each one normally used in? How do you intend to evaluate the quantity (mass/volume) of chemicals recovered from the clean-up operation in calculating the quantity of VOCs emitted?
3. The application indicates that there are six production lines equipped to apply side stripe spray. The current permit AO 48-133047 states that there are five. Please clarify.
4. The application also indicates that there is a radio-frequency heater and a small natural gas fired tunnel oven associated with each of the six side stripe spray lines. The current operation permit states otherwise. Please clarify.

Mr. John Z. Randall
Page Two
October 26, 1988

If you have any questions please call Pradeep Raval (permitting)
at (904)488-1344 or write to me at the above address.

Sincerely,



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

CHF/PR/s

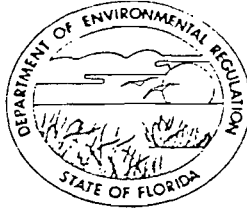
Enclosure

cc: C. Collins, CF District
S. Arrington, Citrus Central, Inc.

DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA DISTRICT

3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Citrus Central, Inc.
P. O. Box 17774
Orlando, Fl. 32860

Attention: John Z. Randall,
Executive Vice President

I. D. Number:
Permit/Certification
Number: AO48-133047
Date of Issue: 12/24/87
Expiration Date: 12/8/92
County: Orange
Latitude/Longitude:
28°41'31"N/81°33'21"W
UTM: 17-445.6 KmE
UTM: 3174.0 KmN
Project: Can Assembly and End
Sealing Compound Facility

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

The permittee can operate a Can Assembly and End Sealing Compound Facility producing metal cans and can ends (lids). This facility operates seven can assembly lines which shape metal into a cylindrical shape and then weld the seam to hold the shape. Five of these lines apply a side striping varnish to the seam to prevent rusting or reaction with can contents. To rapidly dry the varnish, five lines utilize natural gas fired ovens that are maintained at 450° F and vent emissions into the atmosphere. The remaining three of five lines utilize air drying. This facility operates five lid press lines each with an end seal liner (lid gasket applicator). These sources do not have any VOC collection or control systems and do not exhaust emissions through any stacks. The VOCs are released into the ambient in-plant air after the gasket compound is applied to the lids and the lids dry at the packaging area.

These sources are located at the Citrus Central, Inc. facility at Route 437, Plymouth, Orange County, Florida.

General Conditions are attached to be distributed to the permittee only.



ENVIRONMENTAL LABORATORIES

6635 EAST COLONIAL DRIVE
ORLANDO, FLORIDA 32807
407/277-4443

RECEIVED

OCT 5 1988

September 30, 1988

DER-BAQM



Mr. Tom Sawicki
Florida Department of Environmental Regulation
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767

Reference: Permit Modification Request
Citrus Central Inc. - Plymouth Can Division
Can Assembly and End Seal Compounding
Permit #A048-133047

Dear Mr. Sawicki:

I have enclosed four (4) copies of the above referenced Application to Operate/Construct Air Pollution Source (with attachments) along with a check for \$500 for the application fee. This is a request for modification of the existing permit. Please call me at 277-4443 or Bruno Ferraro at 298-2282 if you have any questions.

Sincerely,

PBS&J ENVIRONMENTAL LABORATORIES

Jerome J. Guidry, P.E.

JJG/kf

cc: Susan Arrington
Edgar Zysett
John Z. Randall
Joe Busco
Bruno Ferraro

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Bill Thomas

Initial

Date

2.

Bureau of Air Quality Manag.

Initial

Date

3.

Initial

Date

4.

Initial

Date

RECEIVED

REMARKS:

OCT 5 1988

DER-BAQM

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

FROM:

John Turner

DATE

10/3/88

PHONE

SC 325-1202

APPLICATION TRACKING SYSTEM

10/03/88

APPL NO:155533

AC

APPL RECVD:09/30/88 TYPE CODE:AC SUBCODE:00

LAST UPDATE:10/03/88

DER OFFICE RECVD:ORL DER OFFICE TRANSFER TO:BAQ APPLICATION COMPLETE:___/___/___

DER PROCESSOR:BILL THOMAS

APPL STATUS:AC DATE:09/30/88 (ACTIVE/DENIED/WITHDRAWN/EXEMPT/ISSUED/GENERAL)

RELIEF:___ (SSAC/EXEMPTIONS/VARIANCE)

(Y/N) N MANUAL TRACKING DISTRICT:30 COUNTY:48
(Y/N) N DNR REVIEW REQD? LAT/LONG:28.41.31/81.33.21
(Y/N) N PUBLIC NOTICE REQD? BASIN-SEGMENT:___
(Y/N) N GOV BODY LOCAL APPROVAL REQD? COE #:_____
(Y/N) Y LETTER OF INTENT REQD? _ (I/ISSUE D/DENY) ALT#:_____

PROJECT SOURCE NAME:CITRUS CENTRAL/ASSEMBLY & COMPOUND

STREET:ROUTE 437 CITY:PLYMOUTH
STATE:FL ZIP:_____ PHONE:_____

APPLICATION NAME:RANDALL, JOHN Z.
STREET:POST OFFICE BOX 17774 CITY:ORLANDO
STATE:FL ZIP:32860 PHONE:305-889-4101

AGENT NAME:POST BUCKLEY SCHUH & JERNIGAN
STREET:889 NORTH ORANGE AVENUE CITY:ORLANDO
STATE:FL ZIP:32801 PHONE:305-423-7275

FEE #1 DATE PAID:09/30/88 AMOUNT PAID:00500 RECEIPT NUMBER:00126692

B DATE APPLICANT INFORMED OF NEED FOR PUBLIC NOTICE - - - ___/___/___
C DATE DER SENT DNR APPLICATION/SENT DNR INTENT - - - ___/___/___
D DATE DER REQ. COMMENTS FROM GOV. BODY FOR LOCAL APP. - - - ___/___/___
E DATE #1 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #2 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #3 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #4 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #5 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
E DATE #6 ADDITIONAL INFO REQ--REC FROM APPLICANT - - - ___/___/___
F DATE GOVERNING BODY REQUESTED SURVEY RESULTS/REPORTS - - - ___/___/___
G DATE FIELD REPORT WAS REQ--REC - - - ___/___/___
H DATE DNR REVIEW WAS COMPLETED - - - ___/___/___
I DATE APPLICATION WAS COMPLETE - - - ___/___/___
J DATE GOVERNING BODY PROVIDED COMMENTS OR OBJECTIONS - - - ___/___/___
K DATE NOTICE OF INTENT WAS SENT--REC TO APPLICANT - - - ___/___/___
L DATE PUBLIC NOTICE WAS SENT TO APPLICANT - - - ___/___/___
M DATE PROOF OF PUBLICATION OF PUBLIC NOTICE RECEIVED - - - ___/___/___
N WAIVER DATE BEGIN--END (DAY 90) - - - ___/___/___

COMMENTS:MODIFICATION A048-133047

DEPARTMENT OF ENVIRONMENTAL REGULATION

CENTRAL FLORIDA DISTRICT

3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803-3767



BOB MARTINEZ
GOVERNOR
DALE TWACHTMANN
SECRETARY
ALEX ALEXANDER
DISTRICT MANAGER

Permittee:
Citrus Central, Inc.
P. O. Box 17774
Orlando, Fl. 32860

Attention: John Z. Randall,
Executive Vice President

I. D. Number:
Permit/Certification
Number: AO48-133047
Date of Issue: 12/24/87
Expiration Date: 12/8/92
County: Orange
Latitude/Longitude:
28°41'31"N/81°33'21"W
UTM: 17-445.6 KmE
UTM: 3174.0 KmN
Project: Can Assembly and End
Sealing Compound Facility

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

The permittee can operate a Can Assembly and End Sealing Compound Facility producing metal cans and can ends (lids). This facility operates seven can assembly lines which shape metal into a cylindrical shape and then weld the seam to hold the shape. Five of these lines apply a side striping varnish to the seam to prevent rusting or reaction with can contents. To rapidly dry the varnish, five lines utilize natural gas fired ovens that are maintained at 450° F and vent emissions into the atmosphere. The remaining three of five lines utilize air drying. This facility operates five lid press lines each with an end seal liner (lid gasket applicator). These sources do not have any VOC collection or control systems and do not exhaust emissions through any stacks. The VOCs are released into the ambient in-plant air after the gasket compound is applied to the lids and the lids dry at the packaging area.

These sources are located at the Citrus Central, Inc. facility at Route 437, Plymouth, Orange County, Florida.

General Conditions are attached to be distributed to the permittee only.

PERMITTEE:
Citrus Central, Inc.

I. D. Number:
Permit/Certification Number:
AO48-133047

Attention: John Z. Randall,
Executive Vice President

Date of Issue:
Expiration Date: 12/8/92

SPECIFIC CONDITIONS:

1. No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor pursuant to Rule 17-2.620(2) F.A.C. Objectionable odor is defined as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance pursuant to Rule 17-2.100(131) F.A.C. Odor is defined as a sensation resulting from stimulation of the human olfactory organ pursuant to Rule 17-2.100(132) F.A.C.
2. There shall be no discharges of liquid effluents or contaminated runoff to surface or ground water without prior approval from this office.
3. All unconfined emissions of particulate matter generated at this site shall be adequately controlled. (Rule 17-2.610(3), F.A.C.) Area must be watered down should unconfined emissions occur.
4. This permit does not preclude compliance with any applicable local permitting requirements and regulations.
5. This source is permitted to operate 6120 hours/year.
6. The actual and maximum allowable VOC emissions at this facility are listed in Table 1, Summary of Emissions, below. The maximum allowable emissions shall not be exceeded.

TABLE 1
SUMMARY OF EMISSIONS

Department	Material	LB VOC Per Gal Coating Less Water	LB VOC Per Gal Solids	Gallons Coating Per Yr.	Gallons Coating Per day	Gallons Solids Applied	LB VOC Emitted Per day	LB VOC Emitted Per hr.	TPY VOC
Press	9179XHV	3.13	5.46	2953.0	11.6	6.6	36.2	1.51	
	S90372A	3.67	7.32	5649.0	22.2	11.1	81.0	3.38	
	5101	3.23	5.76	2934.0	11.5	5.8	33.1	1.38	
Assembly	17254	4.93	14.94	1100.0	4.3	1.4	21.3	0.89	
Total Actual Emissions							171.6	7.15	22

PERMITTEE:
Citrus Central, Inc.

I. D. Number:
Permit/Certification Number:
AO48-133047

Attention: John Z. Randall,
Executive Vice President

Date of Issue:
Expiration Date: 12/8/92

SPECIFIC CONDITIONS:

Allowable VOC Emissions

Department	Material	LB VOC Per Gal-Coating Less Water	LB VOC Per Gal Solids	Gallons Coating Per Yr.	Gallons Coating Per day	Gallons Solids Applied	LB VOC Emitted Per day	LB VOC Emitted Per hr.	TPY VOC
Press	9179XHV	3.7	7.44			6.6	49.3	2.06	
	S9372A	3.7	7.44			11.1	82.4	3.43	
	5101	3.7	7.44			5.8	42.8	1.78	
Assembly	17254	5.5	21.76			1.4	31.0	1.29	
Maximum Allowable Emissions							205.6	8.56	25

7. Compliance shall be determined by the procedures described in 45 FR 80824: For any 24-hour period, compliance shall be based on total actual emissions calculated from daily units of production records (number of each type of can, sheet or end), application rates of each coating (gallons/units of production), solvents and solids content of each coating. This would then be compared to the total allowable emissions for that production mix assuming each coating complied with applicable emission limitations. The pounds of solvent per gallon of coating shall be based on a certified analysis of the VOC content of each coating given to the user by the supplier. This analysis must be verifiable by laboratory analyses.
8. This facility shall comply with all the requirements specified in the EPA policy memorandum 40 CFR Part 51, "Compliance with VOC Emission Limitations for Can Coating Operations" Federal Register/Vol 45, No. 237 December 8, 1980/Rules and Regulations (45 FR 80824).
9. This facility shall comply with Rule 17-2.650(1)(f)1.b.(iii) and (iv), FAC, RACT regulations for Can Coating Operations.
10. Rule 17-2.620(1)(a) F.A.C., no person shall store, pump, handle, process, load, unload, or use in any process or installation volatile organic compounds or organic solvents without applying known and ordered by the department. Currently, there are no control strategies associated with this operation other than crew efficiency to minimize pollutant emissions. To comply, the following procedures to minimize pollutant emissions, shall be utilized, but shall not be limited to:

PERMITTEE:
Citrus Central, Inc.

Attention: John Z. Randall,
Executive Vice President

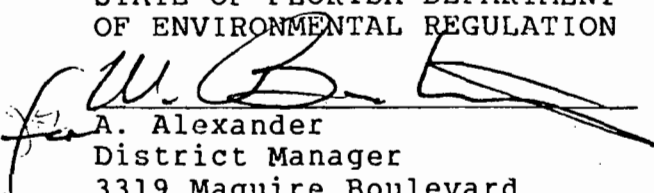
I. D. Number:
Permit/Certification Number:
AO48-133047
Date of Issue:
Expiration Date: 12/8/92

SPECIFIC CONDITIONS:

- a. maintain tightly fitting covers, lids, etc., on all containers of VOC when they are not being handled, tapped, etc.;
 - b. where possible and practical, procure/fabricate a tightly fitting cover for any open trough, basin, bath, etc., of VOC so that it can be covered when not in use;
 - c. all fittings, valve lines, etc., shall be properly maintained;
 - d. prevent excessive turbulence across exposed VOC;
 - e. all VOC spills shall be attended to immediately and the waste properly disposed of, recycled, etc.
 - f. maintain a monthly accounting of each VOC based on beginning and ending inventories, deliveries, shipments, etc.
11. Each calendar year on or before March 1, submit for this facility, an Annual Operations Report DER Form 17-1.202(6) for the preceding calendar year in accordance with Rule 17-4.14, F.A.C.
 12. Hazardous wastes generated in connection with any of the sources at this facility must be disposed of in accordance with Rule 17-30, F.A.C.
 13. An operation permit renewal must be submitted at least 60 days prior to the expiration date of this permit (Rule 17-4.09, F.A.C.).

ISSUED DECEMBER 24, 1987

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION


A. Alexander
District Manager
3319 Maguire Boulevard
Suite 232
Orlando, Florida 32803
(305) 894-7555

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 126692

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from Citrus Central, Inc. Date Sept 30, 1988

Address P.O. Box 60774 Orlando 32860 Dollars \$ 500.00

Applicant Name & Address _____

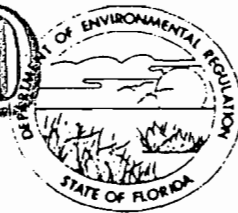
Source of Revenue Modif. of AWR 133047

Revenue Code 001032 OK 031071 Application Number AWR-155533

By S. [Signature]

DEPARTMENT OF ENVIRONMENTAL REGULATION

RECEIVED PAID 500 SEP 30 1988 SOUTHWEST DISTRICT CENTRAL FLORIDA DISTRICT OCT 5 1988



BOB GRAHAM GOVERNOR

VICTORIA J. TSCHINKEL SECRETARY

RICHARD D. GARRITY, PH.D. DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Can Manufacturer [] New¹ [X] Existing¹

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

COMPANY NAME: Citrus Central Inc. - Plymouth Can Division COUNTY: Orange

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Seal Compounding

SOURCE LOCATION: Street Route 437 City Plymouth 32768

UTM: East 445600 meters North 3174000 meters

Latitude 28 ° 41 ' 31 "N Longitude 81 ° 33 ' 21 "W

APPLICANT NAME AND TITLE: John Z. Randall, Executive Vice President

APPLICANT ADDRESS: P.O. Box 607774, Orlando, FL 32860

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Citrus Central, Inc.

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

*Attach letter of authorization

Signed: John Z. Randall, Executive Vice President Name and Title (Please Type)

Date: 9/30/88 Telephone No. (407) 889-4101

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

This is to certify that the engineering features of this pollution control project have been examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

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

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed Jerome J. Guidry
Jerome J. Guidry, P.E.
Name (Please Type)

PBS&J Environmental Laboratories
Company Name (Please Type)
6635 East Colonial Drive, Orlando, FL 32807
Mailing Address (Please Type)

Florida Registration No. 32589 Date: 9-29-88 Telephone No. (407) 277-4443

SECTION II: GENERAL PROJECT INFORMATION

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

To modify an existing Can Manufacturing facility to include an increase and/or change in material usage and emissions and update the existing operation permit.
This project will result in full compliance with Chapter 17-2 FAC.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction N/A Completion of Construction N/A

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

N/A, use of low solvent technology or water base compounds is the method of pollution control.

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

- A048-133047 Can Assembly and End Sealing Compound facility
- A048-140743 Coating lines No. 1 and No. 2 (Metals Division)
- A048-65254 and A048-121501 UV Press Lines (Metals Division)



E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;
if power plant, hrs/yr: _____ ; if seasonal, describe: 8760 hrs/yr

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

1. Is this source in a non-attainment area for a particular pollutant? No

a. If yes, has "offset" been applied? N/A

b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A

c. If yes, list non-attainment pollutants. Ozone Maintenance

2. Does best available control technology (BACT) apply to this source?
If yes, see Section VI. No

3. Does the State "Prevention of Significant Deterioration" (PSD)
requirement apply to this source? If yes, see Sections VI and VII. No

4. Do "Standards of Performance for New Stationary Sources" (NSPS)
apply to this source? No

5. Do "National Emission Standards for Hazardous Air Pollutants"
(NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply
to this source? Yes

a. If yes, for what pollutants? VOC

b. If yes, in addition to the information required in this form,
any information requested in Rule 17-2.650 must be submitted. Attached

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

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

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

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Tab Lube	VOC	93	3000	A
Isopropanol	VOC	100	1500	A
Jet Ink	VOC	84	38	B
Jet Makeup	VOC	100	95	B
Jet Wash	VOC	100	76	B

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

gal/yr

1. Total Process Input Rate (-lbs/hr): 48,063

2. Product Weight (lbs/hr): N/A

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

Name of Contaminant	Emission ¹		Allowed Emission Rate per Rule 17-2	Allowable Emission ³ lbs/hr	Potential ⁴ Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	hr	
VOC	21.33	93.41	See Attachments	24.12	21.33	? 93.41	G
						105.7 ↗	
Natural Gas	Negligible						

¹See Section V, Item 2.

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

³Calculated from operating rate and applicable standard.

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

Note: Emission in lbs/hr is not representative of actual emissions.
Use Tons/yr for actual emissions.

Description	Contaminants		Utilization Rate - $\frac{\text{lb/hr}}{\text{gal/yr}}$	Relate to Flow Diagram
	Type	% Wt		
Lacquer Thinner (7286 Blend)	VOC	100	1500	C
MEK	VOC	100	148	C
Hexane	VOC	100	2420	C
360° Spray	VOC	36	20500	D
Side Stripe Spray	VOC	76.6	3860	E
End Seal Compound	VOC	*	14926	F

*See specification sheets and attached calculations for the specific VOC content of each End Seal Compound.

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.005	0.0087	8.74

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

Fuel Analysis:

Percent Sulfur: _____ Percent Ash: _____

Density: _____ lbs/gal Typical Percent Nitrogen: _____

Heat Capacity: _____ BTU/lb _____ BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

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

Annual Average N/A Maximum N/A

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

 Metal waste is sold for recycling. Laquer thinner is recycled. Hazardous solvent waste is manifested and disposed of in accordance with 60 CFR at an approved site. Domestic waste is treated on site at a sewage treatment plant

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

Stack Height: _____ ft. Stack Diameter: _____ ft.
 Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
 Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

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

Description of Waste _____

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

Approximate Number of Hours of Operation per day _____ day/wk _____ wks/yr. _____

Manufacturer _____

Date Constructed _____ Model No. _____

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

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

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

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

Stack I - 360 Spray - 12oz and 404 spray exhaust

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

Stack Height: 45 ft. Effective Stack Diameter: 2.33 ft.
Gas Flow Rate: 2500 ACFM 2200 DSCFM Gas Exit Temperature: Ambient, 80 °F.
Water Vapor Content: 10 max % Velocity: 2.44 FPS

Stack II - 360 spray - Oven Heat Exhaust (both ovens)

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

Stack Height: 45 ft. Effective Stack Diameter: 2.1 ft.
Gas Flow Rate: 6000 ACFM 2960 DSCFM Gas Exit Temperature: 450 °F.
Water Vapor Content: 15 % Velocity: 7.2 FPS

Stack III - 360 Spray - Emergency Cool Down (both ovens)

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

Stack Height: 45 ft. Effective Stack Diameter: 2.7 ft.
Gas Flow Rate: 10,500 ACFM 5178 DSCFM Gas Exit Temperature: 450 °F.
Water Vapor Content: 15 % Velocity: 7.6 FPS

Stack IV - 360 Spray - Cooling Zone (both ovens)

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

Stack Height: 45 ft. Effective Stack Diameter: 4.8 ft.
Gas Flow Rate: 10,400 ACFM 7272 DSCFM Gas Exit Temperature: 280 °F.
Water Vapor Content: 2 % Velocity: 2.4 FPS

Stack V - 360 Spray - 6oz spray line

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

Stack Height: 45 ft. Effective Stack Diameter: 2.7 ft.
Gas Flow Rate: 2500 ACFM 2200 DSCFM Gas Exit Temperature: Ambient, 80 °F.
Water Vapor Content: 10 max % Velocity: 1.8 FPS

Stack 1 - Side stripe spray vent line 1

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 2 - Side Stripe spray vent line 2

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 3A- Side stripe spray vent line 3A

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 3B - Side stripe spray vent line 3B

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 6 - Side stripe spray vent line 6

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 7 - Side stripe spray vent line 7

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

Stack Height: 48 ft. Stack Diameter: 0.83 ft.
Gas Flow Rate: 3000 ACFM 2820 DSCFM Gas Exit Temperature: 80 °F.
Water Vapor Content: 1 % Velocity: 23.1 FPS

Stack 3AA - Side stripe oven exhaust line 3A

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

Stack Height: 48 ft. Stack Diameter: 1.0 ft.
Gas Flow Rate: 500 ACFM 365 DSCFM Gas Exit Temperature: 250 °F.
Water Vapor Content: 2 % Velocity: 2.7 FPS

Stack 3BB - Side stripe oven exhaust line 3B

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

Stack Height: 48 ft. Stack Diameter: 1.0 ft.
Gas Flow Rate: 500 ACFM 365 DSCFM Gas Exit Temperature: 250 °F.
Water Vapor Content: 2 % Velocity: 2.7 FPS

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

Stack Height: _____ ft. Stack Diameter: _____ ft.
Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
Water Vapor Content: _____ % Velocity: _____ FPS

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

Stack Height: _____ ft. Stack Diameter: _____ ft.
Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: _____ °F.
Water Vapor Content: _____ % Velocity: _____ FPS

Brief description of operating characteristics of control devices: _____

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

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A

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

Yes No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

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

Yes No

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

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

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

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

1. Control Device/System:

2. Operating Principles:

3. Efficiency:*

4. Capital Costs:

*Explain method of determining

- 5. Useful Life:
- 7. Energy:
- 9. Emissions:

- 6. Operating Costs:
- 8. Maintenance Cost:

Contaminant

Rate or Concentration

Contaminant	Rate or Concentration

10. Stack Parameters

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

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

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

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

¹Explain method of determining efficiency.
²Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:¹

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:²

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:¹

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:²

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

¹Explain method of determining efficiency.

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

- (5) Environmental Manager:
- (6) Telephone No.:
- (7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

b. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:¹

Contaminant

Rate or Concentration

(8) Process Rate:¹

10. Reason for selection and description of systems:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION N/A

A. Company Monitored Data

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

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

Other data recorded _____

Attach all data or statistical summaries to this application.

Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

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

B. Meteorological Data Used for Air Quality Modeling

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

C. Computer Models Used

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

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

D. Applicants Maximum Allowable Emission Data

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

E. Emission Data Used in Modeling

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

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

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

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

SUPPLEMENTAL REQUIREMENTS

Supplement 1, 2 and 3: See attached Modification Request, MSDS and specifications sheets.

Compliance will be demonstrated by EPA Method 24 or 24A when applicable for End Seal Compounds and sources regulated by 17-2.650 or by an annual operation report for other sources regulated by 17-2.620.

Supplement 4 and 5: N/A

Supplement 6, 7 and 8 attached

CITRUS CENTRAL, INC.
PLYMOUTH CAN DIVISION
PERMIT NO. A048-133047
MODIFICATION REQUEST

Modification 1

Change hours of operation to 8760 hours/year based on 24 hours/day and 365 days/yr.

Modification 2

In the manufacturing of metal can lids, one process involves the manufacturing of metal pull tabs. Used in this process is the raw material "Anchor #3810 Tab Lube" used as a surface lubricant to facilitate the metal cutting. Tab lube is used on all five (5) "End Conversion Presses". In some cases, Plymouth Can may have to prepare a custom batch of Tab Lube using food grade oil and isopropanol (IPA).

Projected material usage and VOC emissions are calculated in the attached table. The MSDS is also attached. There are no stacks associated with this system. This source is regulated under 17-2.620(1)(a) and (2).

Modification 3

Some cans are made with a foil pull tab. Each foil pull tab is marked with a production code. This production code is printed onto each tab from two production lines using an ink jet printer. Three raw materials are used in this process. The projected usage and emissions are calculated in the attached table. The MSDS are also attached. There are no stacks associated with this process. This source is regulated by 17-2.620(1)(a) and (2)

Modification 4

Three (3) solvents are used for clean-up throughout this facility. These solvents are used to clean equipment and hoses that become clogged with excess coatings. Though these solvents will be used sparingly, they are required to maintain the proper working order of the equipment. The types and quantities of solvent are listed below. Emissions are compiled in the attached table.

USA 7286 Blend (Lacquer Thinner):

Usage Rate = 1500 gal/yr - 100% VOC

Approximately 50% of the 7286 lacquer thinner will be recycled or disposed of as hazardous waste. These are conservative estimates of projected usage and recycling for the next year. We are assuming 50% evaporative loss of this solvent. This source is regulated by 17-2.620 (1)(a) and (2).

Methyl Ethyl Ketone (MEK):

Usage Rate = 148 gal/yr (100% VOC)

AMSCO - Solv 1487 - Hexane:

Usage Rate = 2420 gal/yr (100% VOC)

Modification 5

During can assembly, some cans are coated with a low solvent paint referred to as "360⁰ spray". This paint is a Valspar Corporation product 9780-003 and contains some VOC. The MSDS and specification sheets are attached. This source is composed of two production lines: one line with five applicators and one stack and a second line with six applicators and one stack. Products from each line are dried in a dual side-by-side two-zone oven fired by natural gas. There are two stacks associated with this oven. Usage rates and emissions are compiled in the attached table.

This source is regulated by 17-2.650 (1)(f)1a.iii. The emission limiting standard is referenced by 17-2.650 (1)(f)1.b.(ii) which is 4.2 lbs VOC/gal of coating, excluding water, delivered to the coating applicator from two-and three-piece can interior body spray and two-piece can exterior end (spray or roll coat) operations.

Modification 6

The side stripe coating 17254 is being replaced by a Valspar product. This new side stripe coating is a two part epoxy referenced as 730T0026 (component A) 730TD027 (component B). Six production lines are equipped to apply the side stripe spray either to the inside or outside of the can using separate nozzles. Each nozzle is vented by a stack for a total of 6 stacks. Associated with each of these production lines is a radio-frequency heater and a small natural gas fired tunnel oven used to cure the side stripe epoxy. There are two stacks associated with the ovens on lines 3a and 3b. The other ovens are unvented. Usage rates and emissions are compiled in the attached table.

Allowable emissions per 17-2.650(1)(f)1.b(iii) are 5.5 lbs VOC per gallon less water.

7
-
Applying the "Bubble Concept" to this source brings it into compliance with total facility emissions.

Modification 7

Updated material usage and emissions for the end seal compounding operation are included in the attached table. The MSDS and specification sheets are also attached. There are five End Conversion Presses at this facility.

The End Seal Compound process is regulated under 17-2.650(1)(f)1.a.(v) and the emission limiting standard of 17-2.650(1)(f)1.b.(iv). 3.7 lbs VOC/gal less water.

To allow for flexibility at this facility, we wish to be permitted to use 14,926 gallons per year of compliant end seal compound. Material usage is dependent on sales; therefore, we cannot predict which compounds will be used. We do not wish to be restricted by only the use of the above listed compounds. To facilitate experimentation with new compounds, we request a permit condition that allows the use of unknown compliant compounds (those not exceeding 3.7 lbs VOC/gal of coating less water).

Facility-Wide Emission Calculation for Table IIIC of the Application

$$\text{Allowable Emissions} = (105.65 \text{ T/yr})(2000 \text{ lbs/Ton})(1 \text{ yr}/8760 \text{ hrs}) = 24.12 \text{ lbs/hr VOC}$$

$$\text{Maximum Emissions} = (93.41 \text{ Ton/yr})(2000 \text{ lbs/Ton})(1 \text{ yr}/8760 \text{ hrs}) = 21.33 \text{ lbs/hr VOC}$$

E30
E35

Citrus Central Inc., Plymouth Can Division

MODIFICATION 2

End Conversion Presses

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT %	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
ANCHOR #3810 TAB LUBE	19,308	6.436	3000	93	8.98	2.05
ISOPROPANOL	9,879	6.586	1500	100	4.94	1.13
TOTALS	29,187		4,500		13.92	3.18
ALLOWABLE EMISSIONS					13.92	3.18

MODIFICATION 3

Foil Pull Tab Production

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT %	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
RV 355 JET INK	282	7.42	38	84	0.12	0.03
JET MAKEUP 392	643	6.77	95	100	0.32	0.07
JET WASH 300	513	6.75	76	100	0.26	0.06
TOTALS	1,438		209		0.70	0.16
ALLOWABLE EMISSIONS					0.70	0.16

MODIFICATION 4

Clean-up Operations

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT %	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
USA 7286 BLEND	9,600	6.4	1500	100	2.40	0.55
METHYL ETHYL KETONE	1,000	6.76	148	100	0.50	0.11
AMSCO - SOLV 1487	13,721	5.67	2420	100	6.86	1.57
TOTALS	24,321		4,068		9.76	2.23
ALLOWABLE EMISSIONS					9.76	2.23

NOTE: 50 PERCENT OF 7286 TO BE RECYCLED OR DISPOSED OF AS HAZARDOUS WASTE
EMISSIONS ARE THUS HALF OF USAGE

NOTE: EMISSIONS = USAGE / DENSITY x VOC CONTENT / 2000
OR
USAGE x VOC PERCENTAGE / 2000

Citrus Central Inc., Plymouth Can Division

MODIFICATION 5

360 degree Inside Spray

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT (lb/gal)	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
VALSPAR 9780-003	175,890	8.58	20500	3.11	31.88	7.28
ALLOWABLE EMISSIONS				4.2	43.05	9.83

MODIFICATION 6

Side Stripe

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT (lb/gal)	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
730T0026 (COMPONENT A)	14,050	7.28	1930	5.7	5.50	1.26
730TD027 (COMPONENT B)	14,649	7.59	1930	5.7	5.50	1.26
TOTALS	28,699		3,860		11.00	2.51
ALLOWABLE EMISSIONS				5.5	10.61	2.42

MODIFICATION 7

End Seal Compounding Operations

COMPOUND	USAGE (lb/yr)	DENSITY (lb/gal)	USAGE (gal/yr)	VOC CONTENT (lb/gal)	VOC EMISSIONS (ton/yr)	VOC EMISSIONS (lb/hr)
DEWEY & ALMY 9372A	71,500	7.47	9572	3.7	17.71	4.04
DEWEY & ALMY W9307	7,000	10.92	641	0.0	0.00	0.00
DEWEY & ALMY 5101	6,200	7.94	781	3.5	1.37	0.31
DEWEY & ALMY 9179	29,000	7.52	3856	3.6	6.94	1.58
DEWEY & ALMY 1697	615	8.11	76	3.7	0.14	0.03
TOTALS	114,315		14,926		26.16	5.97
ALLOWABLE EMISSIONS				3.7	27.61	6.30

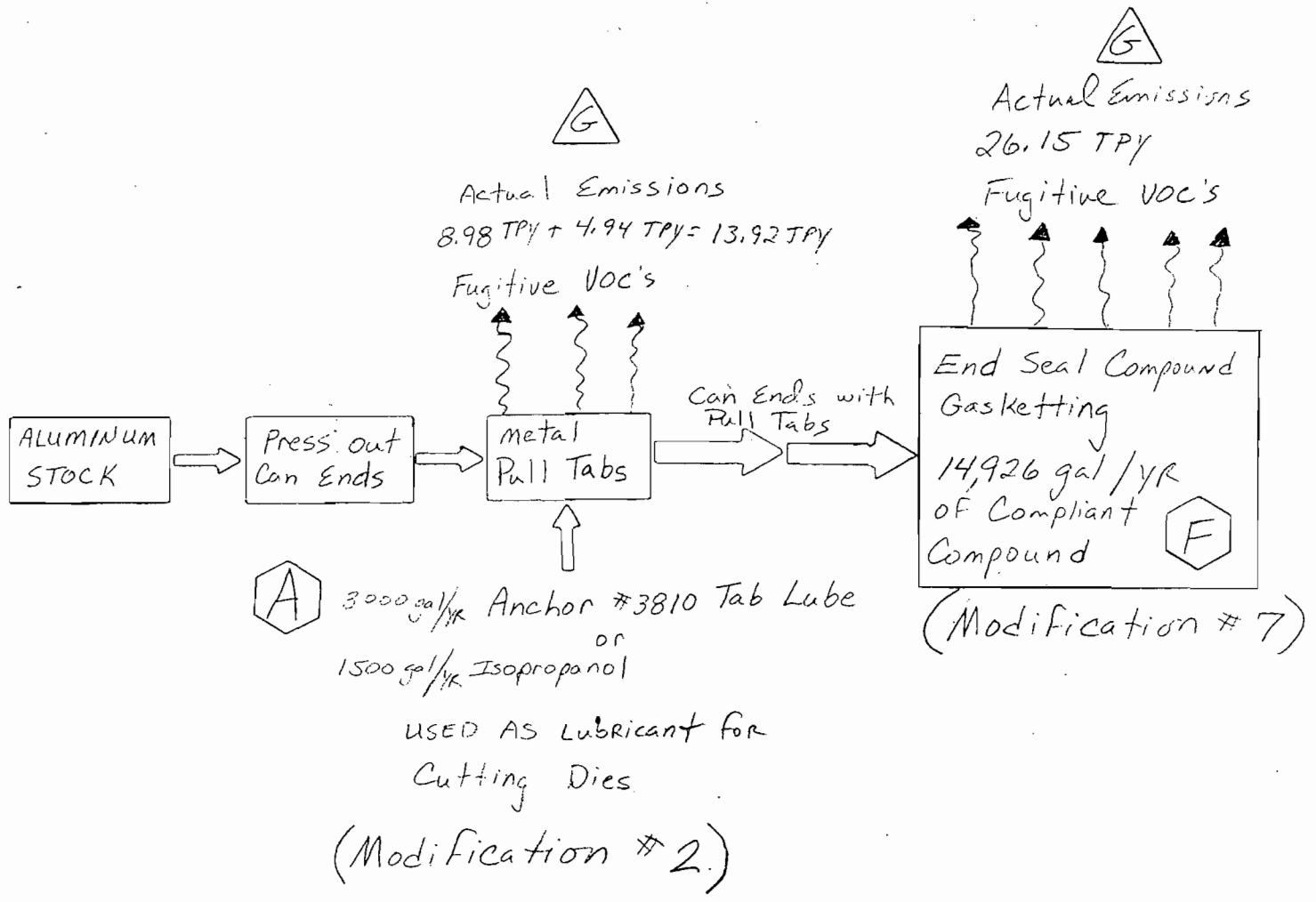
NOTE: EMISSIONS = USAGE / DENSITY x VOC CONTENT / 2000
OR
USAGE x VOC PERCENTAGE / 2000

Citrus Central Inc., Plymouth Can Division

Facility-wide Emission Summary

COMPOUND	USAGE (gal/yr)	VOC Emissions (ton/yr)	
		Actual	Allowable
ANCHOR #3810 TAB LUBE	3,000	8.98	8.98
ISOPROPANOL	1,500	4.94	4.94
RV 355 JET INK	38	0.12	0.12
JET MAKEUP 392	95	0.32	0.32
JET WASH 300	76	0.26	0.26
USA 7286 BLEND	1,500	2.40	2.40
METHYL ETHYL KETONE	148	0.50	0.50
AMSCO - SOLV 1487	2,420	6.86	6.86
VALSPAR 9780-003	20,500	31.88	43.05
730T0026 (COMPONENT A)	1,930	5.50	5.31
730TD029 (COMPONENT B)	1,930	5.50	5.31
DEWEY & ALMY 9372A	9,572	17.71	17.71
DEWEY & ALMY W9307	641	0.00	1.19
DEWEY & ALMY 5101	781	1.37	1.44
DEWEY & ALMY 9179	3,856	6.94	7.13
DEWEY & ALMY 1697	76	0.14	0.14
	48,063	93.41	105.65

SUBJECT: Citrus Central Inc
Plymouth Can - 5 End Conversion Presses
Supplement 6



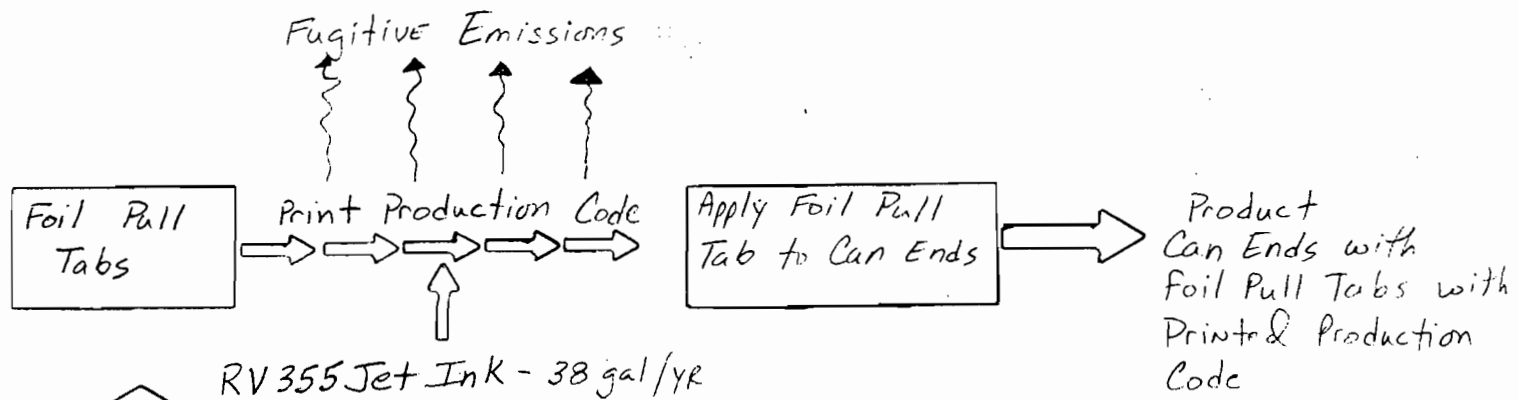
Flow Diagram of 5 Conversion Presses

SUBJECT: Citrus Central Inc - Plymouth Can
Foil Pull Tab Production Code

COMP. BY: Bruno Ferraro
CHK. BY: _____
DATE: 9-22-88
SHEET NO.: 2
JOB NO.: 03-027.00



Actual Emissions
 $0.12 \text{ TPY} + 0.32 \text{ TPY} + 0.26 \text{ TPY} = 0.7 \text{ TPY}$



- RV355 Jet Ink - 38 gal/yr
- (B) Jet Makeup 392 - 95 gal/yr
- Jet Wash 300 - 76 gal/yr

(Modification #3)

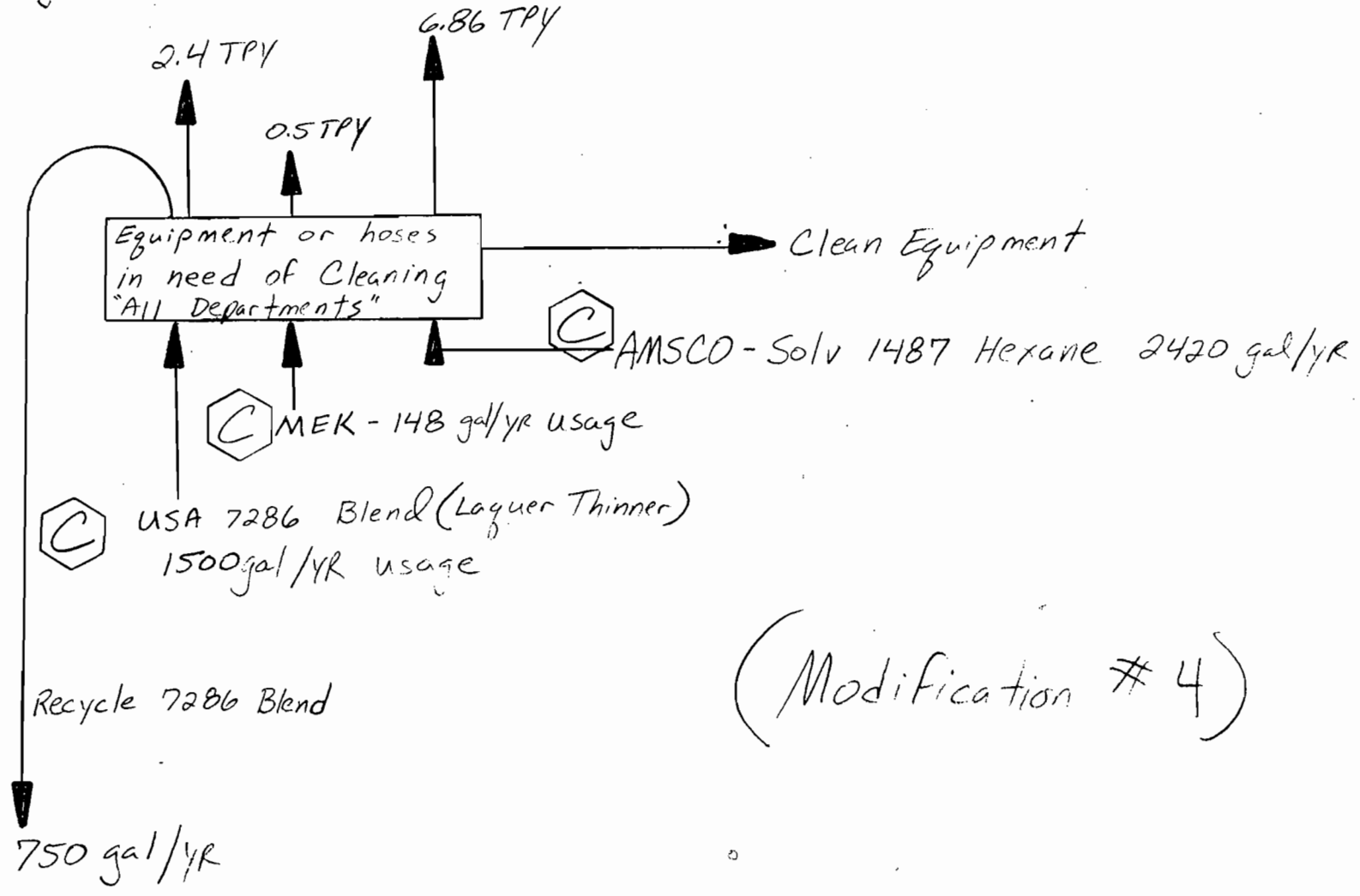
Flow Diagram of 2 Label Machines - Dot Matrix

SUBJECT: Citrus Central Inc - Plymouth Can
Clean-up Solvents

COMP. BY: Bruce Ferraro
CHK. BY: _____
DATE: 9-23-88
SHEET NO.: 3
JOB NO.: 03-027.00

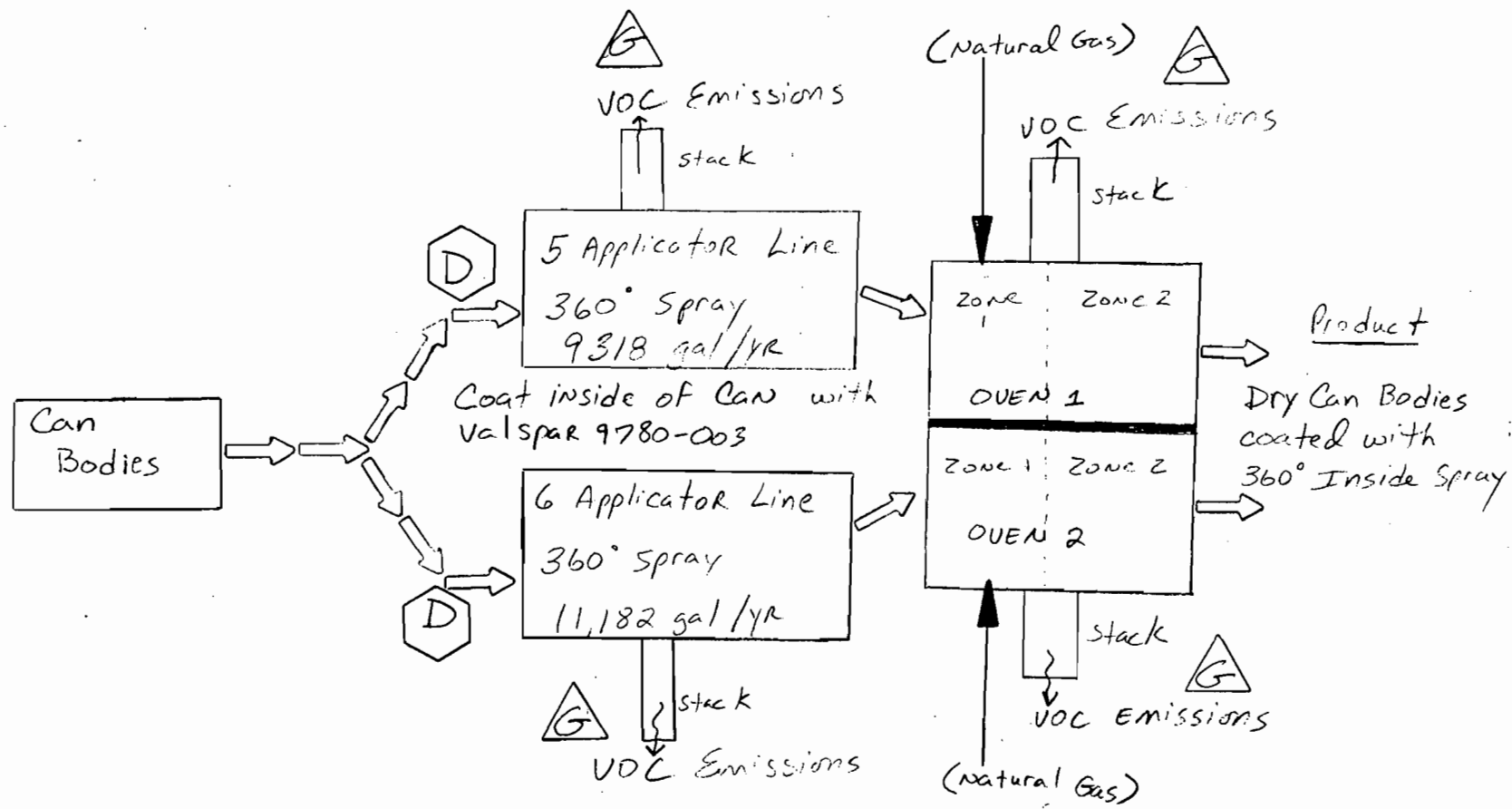


Fugitive VOC Emissions



Flow Diagram of "Clean-up Process Facility Wide"

SUBJECT: Citrus Central Inc - Plymouth Can
360° Inside Spray Applicators and Ovens



Total Combined VOC Emissions
From the 11 Applicator Lines and
2 drying Ovens = 31.9 TPY Actual Emissions

Flow Diagram 360° Spray Lines - (Modification # 5)

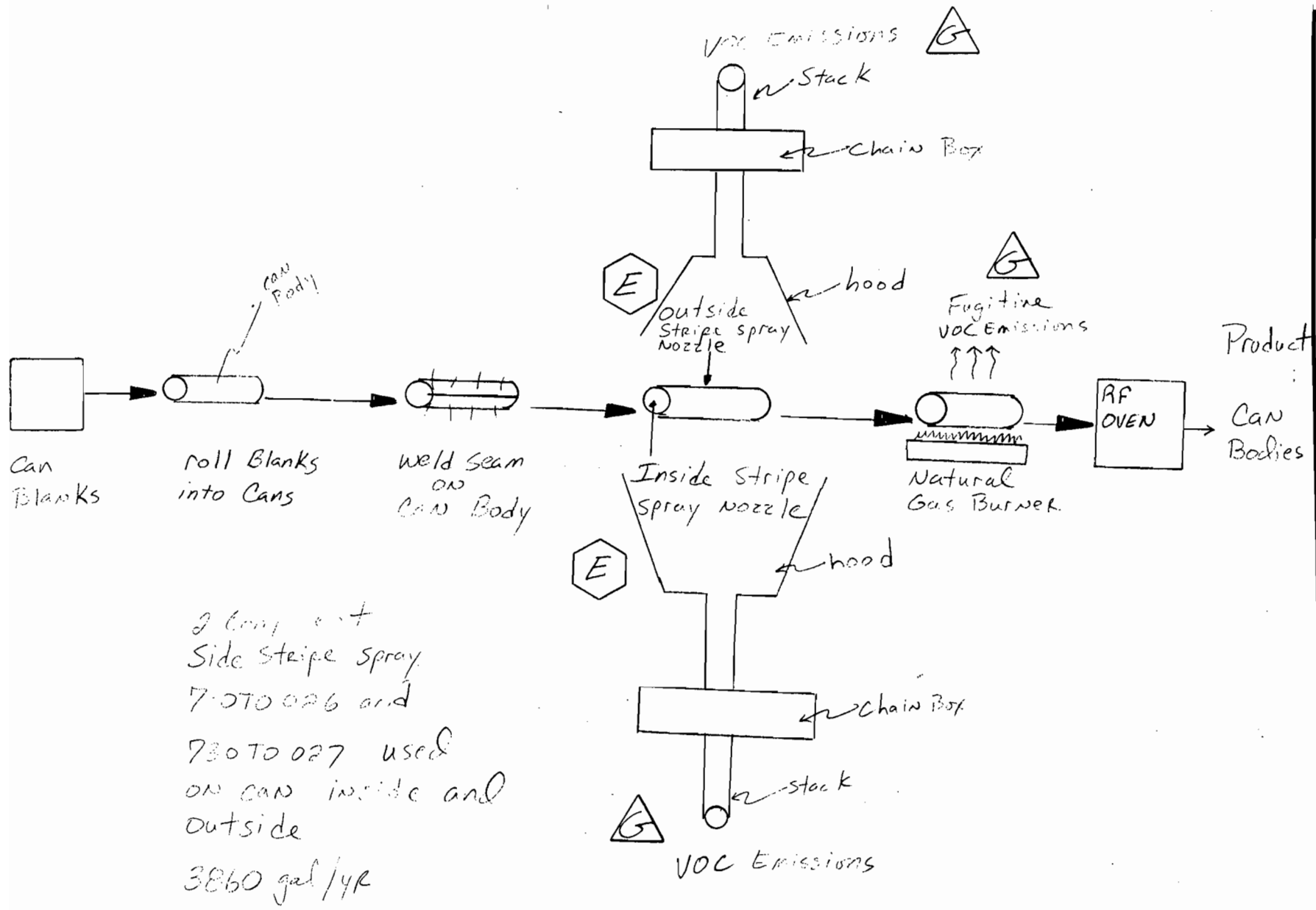
GROVE

SCIENTIFIC

SUBJECT: Citrus Central Inc - Plymouth Can
Side Stripe Flow Diagram (Modification # 6.)
 SHEET NO.: 5
 DATE: 9-22-88
 JOB NO.: 03-027.00

COMP. BY: Bruce Terlarco

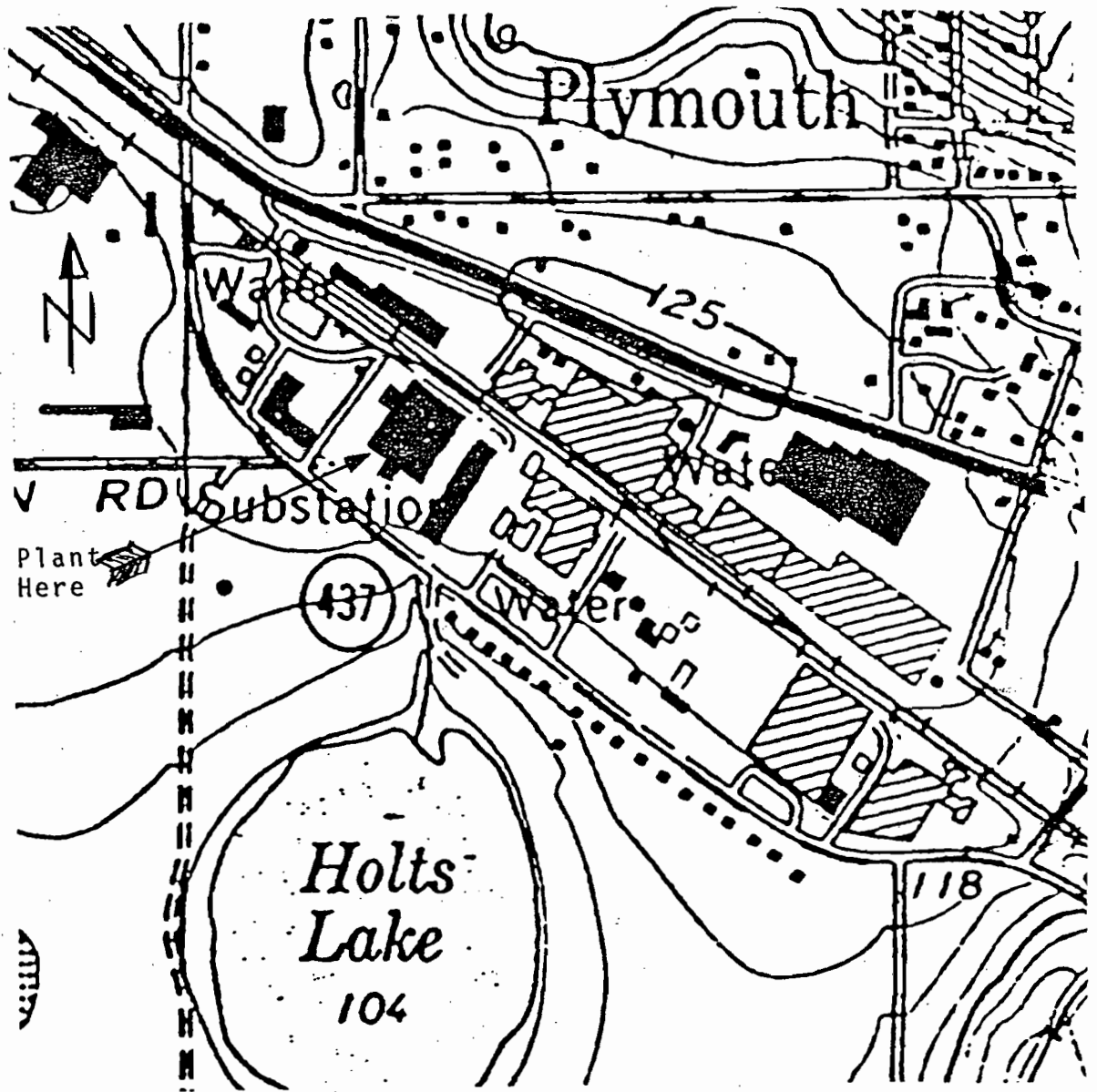
CHK. BY: _____



2 Comp out
 Side stripe spray
 730TO026 and
 730TO027 used
 on can inside and
 outside
 3860 gal/yr

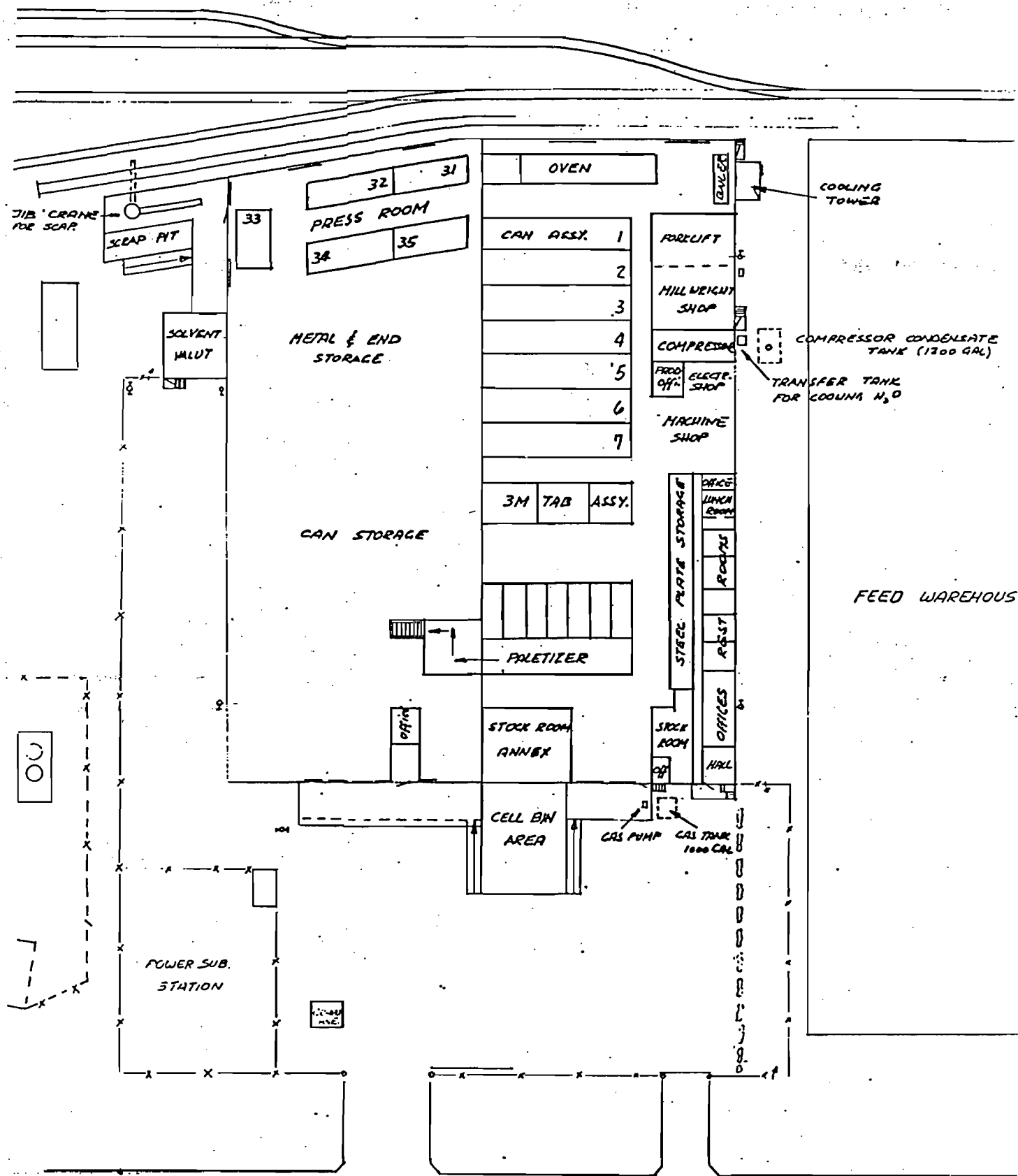
Total Combined VOC Emission from three(3) of seven(7)
 Can assembly lines including fugitive and vented
 sources = 11.0 TPY

Supplement 7



Citrus Central, Inc., Plymouth Can Division,
Route 437, Plymouth, Florida 32768
Phone: (305) 889-4116

Citrus Central, Inc. - Plymouth Can Division Plot Plan



Supplement 8

MODIFICATION 2

TAB LUBE

U.S. DEPARTMENT OF LABOR

WAGE AND LABOR STANDARDS ADMINISTRATION
 Bureau of Labor Standards

MATERIAL SAFETY DATA SHEET

SECTION I	
MANUFACTURER'S NAME JENKIN-GUERIN, INC.	EMERGENCY TELEPHONE NO. (314) 652-2905
ADDRESS (Number, Street, City, State, and ZIP Code) 4480 HUNT AVENUE ST. LOUIS, MO. 63110	JACK KROUSE
CHEMICAL NAME AND SYNONYMS PETROLEUM HYDROCARBON	TRADE NAME AND SYNONYMS ANCHOR #3810 TAB LUBE
CHEMICAL FAMILY PETROLEUM HYDROCARBON	FORMULA

SECTION II. HAZARDOUS INGREDIENTS					
PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS		500	FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)

SECTION III. PHYSICAL DATA					
BOILING POINT (°F.) INITIAL	350	SPECIFIC GRAVITY (H ₂ O=1) @60/60° F.	0.772		
VAPOR PRESSURE (mm Hg.)	0.27mm	PERCENT VOLATILE BY VOLUME (%)	93		
VAPOR DENSITY (AIR=1) @ 230° F	0.348#/FT ³	EVAPORATION RATE (Ethyl Ether=1)	LESS THAN	0.1	
SOLUBILITY IN WATER	NIL				
APPEARANCE AND ODOR	WATER WHITE COLOR WITH MILD MINERAL OIL ODOR				

SECTION IV. FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT (Method used)	141° F C.O.C.	FLAMMABLE LIMITS	Lel Uel
EXTINGUISHING MEDIA	FOAM, DRY CHEMICAL, CO ₂		
SPECIAL FIRE FIGHTING PROCEDURES	NONE		
UNUSUAL FIRE AND EXPLOSION HAZARDS	PRODUCT IS COMBUSTIBLE		

NOTE: ALL INGREDIENTS COMPLY WITH THE FEDERAL FOOD DRUG ADMIN. REQUIREMENTS UNDER

(1) Regulation 178.3910, surface lubricants used in the manufacture of metallic articles, These regulations appeared in the Federal Register of April 1, 1970, pages 700 thru 705.

Best Available Copy

178.3570. The solvent is used periodically and should be allowed to evaporate so that the residue coating left on the can parts consists only of Item 1, thus the solvent residue is well below the .015 milligrams per square inch allowed.

SECTION V. HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	TWA 200 PPM STEL 500 PPM
EFFECTS OF OVEREXPOSURE	DIZZINESS, DROWSY
EMERGENCY AND FIRST AID PROCEDURES	
INHALATION: REMOVE TO FRESH AIR. INGESTION: DO NOT INDUCE VOMITING.. CALL PHYSICIAN IMMEDIATELY. SKIN: WASH WITH SOAP AND WATER. EYES: FLUSH WITH PLENTY OF WATER.	

SECTION VI. REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	NONE KNOWN
INCOMPATIBILITY (Materials to avoid)		STRONG OXIDIZERS	
HAZARDOUS DECOMPOSITION PRODUCTS			
CO, CO ₂			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	NONE KNOWN

SECTION VII. SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
ABSORB WITH SUITABLE OIL ABSORBENT OR SAND.	
WASTE DISPOSAL METHOD	
MIX WITH FUEL OIL AND BURN IN AN INCINERATOR OR FURNANCE, OR USE ACCEPTED LOCAL, STATE & FEDERAL PETROLEUM DISPOSAL METHODS.	
<i>UN # 1893 Combustible Based Solvent</i>	

SECTION VIII. SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type)			
ONLY IF VAPOR OR MIST EXCEEDS TLV.			
VENTILATION	LOCAL EXHAUST IF TLV IS EXCEEDED	SPECIAL	NONE
	MECHANICAL (General) IF TLV IS EXCEEDED	OTHER	NONE
PROTECTIVE GLOVES	NO	EYE PROTECTION	NO
OTHER PROTECTIVE EQUIPMENT			

SECTION IX. SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	USE AND STORE IN A WELL VENTILATED AREA.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.	
OTHER PRECAUTIONS	

WASTE IPA Flammable UN 1219
Liquid

0001

EXXON
CHEMICALS

MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor as "essentially similar" to Form LSB-005-4)

EXXON CHEMICAL AMERICAS • P.O. BOX 3272, HOUSTON, TEXAS 77001
A division of EXXON CHEMICAL COMPANY, a division of EXXON CORPORATION

Isopropyl
Alcohol
Anhydrous
PRODUCT

SECTION I - IDENTIFICATION OF PRODUCT

MANUFACTURER'S NAME EXXON CHEMICAL AMERICAS		EMERGENCY TELEPHONE NO. 713 - 870-6000
ADDRESS (Number, Street, City, State and ZIP Code) P. O. BOX 3272, HOUSTON, TEXAS 77001		
TRADE NAME Isopropyl Alcohol Anhydrous, Isopropanol Anhydrous	CHEMICAL NAME 2-propanol	
CHEMICAL FAMILY Aliphatic Alcohol	CHEMICAL FORMULA (CH ₃) ₂ CHOH	

SECTION II - HAZARDOUS COMPONENTS OF MIXTURES

The precise composition of this product is proprietary information. A more detailed disclosure will be provided by Exxon Medical or Industrial Hygiene personnel to qualified Medical or Industrial Hygiene personnel as privileged information upon request in case of need for specific treatment.

Not Applicable to High Purity Chemicals.

SECTION III - TYPICAL PHYSICAL DATA

APPEARANCE Clear, colorless liquid.	ODOR Alcohol type odor.
BOILING POINT (°F/°C) 82°C (180°F)	SPECIFIC GRAVITY/ @60°/60°F (15.5/15.5°C) 0.79 at 15.5/15.5°C (60/60°F)
VAPOR PRESSURE (mm Hg @ 100°F/38°C) 90 mm Hg at 38°C (100°F)	PERCENT VOLATILE (BY VOLUME) COMPONENTS WITH B.P. EQUAL TO OR LESS THAN 212°F/100°C 100%
VAPOR DENSITY (AIR = 1) 2.1	EVAPORATION RATE (N-BUTYL ACETATE = 1) 2.4
SOLUBILITY IN WATER Completely	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (°F/°C SETA CC - ASTM D3278) Tag closed cup 12°C (53°F)	FLAMMABLE LIMITS (PERCENT BY VOLUME)	LEL 2.0	UEL 12.0
FIRE EXTINGUISHING MEDIA Dry chemical or alcohol-type foam. Waterspray may be ineffective.			
SPECIAL FIRE FIGHTING PROCEDURES Use waterspray to cool fire-exposed surfaces and to protect personnel.			
UNUSUAL FIRE AND EXPLOSION HAZARDS WARNING! This product is FLAMMABLE. Respiratory protection required for fire fighting personnel. Stay upwind, if possible. Cool exposed tanks with water.			
HAZARDOUS PRODUCTS OF COMBUSTION No unusual products of combustion.			

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as

to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer any warranty against patent infringement.

(over)

SECTION V - HEALTH HAZARD DATA			
	OSHA	ACGIH - 1981	OTHER
THRESHOLD LIMIT VALUE(S)	400 ppm	400 ppm	
EFFECTS OF OVEREXPOSURE	ACUTE Vapor irritates eyes, nose & throat. Liquid will damage eye tissue.		
	CHRONIC Prolonged and/or repeated skin contact may be irritating.		
EMERGENCY AND FIRST AID PROCEDURES If overcome by vapors, remove to fresh air and if breathing stopped, give artificial respiration. Keep individual calm. Call a physician. If eye contact occurs, flush with water for at least 15 minutes and call a physician.			

SECTION VI - ACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID Not Applicable.
	STABLE	X	
INCOMPATIBILITY (MATERIALS TO AVOID FOR PURPOSES OF TRANSPORT, HANDLING & STORAGE ONLY) Alkylene oxides, acid anhydrides, inorganic acids, organic acids, halogens, phosphorus trichloride, aldehydes, monomers, polymerizable esters, hydrogen with palladium and storing this product in aluminum vessels.			
HAZARDOUS DECOMPOSITION PRODUCTS NONE			

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Keep public away. Shut off source if possible to do so without hazard. Eliminate sources of ignition. Warn occupants of downwind areas of explosion hazard. Prevent liquid from entering sewers, watercourses or low areas.	
WASTE DISPOSAL (INSURE CONFORMITY WITH LOCAL DISPOSAL REGULATIONS) Contain spilled liquid with sand or earth. Dilute contained spill with water. Recover free liquid by pumping or with a suitable absorbant. Consult a disposal expert and ensure conformity to local regulation.	

SECTION VIII - PERSONAL PROTECTION INFORMATION		
RESPIRATORY PROTECTION Use approved respiratory protection such as air-supplied mask if used in enclosed space.		
VENTILATION	LOCAL EXHAUST Face velocity > 60 fpm in confined space.	SPECIAL
	MECHANICAL (General) Explosion-proof ventilation equipment.	OTHER No smoking or open lights.
PROTECTIVE GLOVES Chemically resistant gloves.		EYE PROTECTION Chemical splash goggles or face shield.
OTHER PROTECTIVE EQUIPMENT Usually not needed.		

SECTION IX - HANDLING AND STORAGE PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING. Keep container closed when not in use. Do not handle or store near flame, heat or strong oxidants. Adequate ventilation required. Containers of material may be hazardous when emptied. Emptied containers retain product residues (vapor, liquid, etc.). Observe all Hazard Precautions outlined in this sheet.	
OTHER PRECAUTIONS All handling equipment should be electrically grounded.	

DATE OF ISSUE August, 1981	REVIEWED BY: <i>[Signature]</i>
----------------------------	---------------------------------

MODIFICATION 3

JET INK

MATERIAL SAFETY DATA SHEET

DATE OF PREPARATION:

May 1, 1985

RECEIVED

AUG 19 1985
Citrus Central, Inc.



American
Technologies

FOR ADDITIONAL
INFORMATION:
312/244-2501

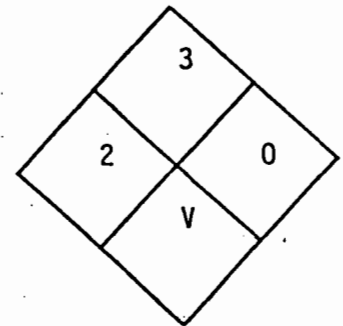
SECTION I. IDENTIFICATION

PRODUCT NAME: Jet RV-355 Ink

PRODUCT FORM: Liquid mixture

SECTION II. HEALTH HAZARD SUMMARY

Flammable liquid
Avoid skin contact
Absorbed through skin
Harmful if swallowed
Vapors are heavier than air



HMIS System

SECTION III. COMPONENT HAZARD DATA

COMPONENT	TLV/PEL	CAS Reg. #
Methanol	200 ppm	67-56-1
2-Propanol (Isopropyl Alcohol)	400 ppm	67-63-0
Methyl Ethyl Ketone	200 ppm	78-93-3

Methanol, 2-Propanol and Methyl Ethyl Ketone are absorbed through the skin.

MATERIAL SAFETY DATA SHEET

FOR: Jet RV-355 Ink

SECTION IV. PHYSICAL DATA

APPEARANCE AND ODOR: Ketone odor. Deeply violet colored material.

BOILING POINT: greater than 145°F

SPECIFIC GRAVITY: 0.890 7.42 lbs/gal

% VOLATILE BY WEIGHT: 84%

VAPOR DENSITY COMPARED TO AIR: Vapors are heavier than air.

SOLUBILITY IN WATER: Resin & dye precipitate; solvents are miscible.

pH: Neutral

EVAPORATION RATE: Slower than ether.

SECTION V. FIRE AND EXPLOSION DATA

FLASH POINT: 36°F (CC)

LOWER EXPLOSIVE LIMIT: greater than 1.6%

AUTO IGNITION TEMPERATURE: 852°F

EXTINGUISHING MEDIA: Alcohol foam, CO₂, dry chemical.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes, carbon monoxide, carbon dioxide.

SPECIAL FIREFIGHTING PROCEDURES: Use self-contained breathing apparatus.

UNUSUAL FIRE HAZARDS: Vapors are heavier than air and may travel along the ground. Keep sources of ignition away.



SECTION VI. HEALTH HAZARD DATA

A. ACUTE EFFECTS OF OVEREXPOSURE:

EYES: Can cause severe irritation, redness, blurred vision, tearing.

SKIN: Can cause moderate irritation, drying and dermatitis; can be absorbed through the skin in toxic amounts from repeated and prolonged exposure.

BREATHING: Excessive inhalation of vapors can cause nasal and lung irritation, dizziness, weakness, fatigue, nausea, and even possible asphyxiation.

INGESTION: Contains methanol. Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and death.

B. FIRST AID PROCEDURES:

SKIN: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse.

EYES: Flush repeatedly with large amounts of water, lifting upper and lower lids occasionally; get medical attention.

INGESTION: Give two glasses of water and induce vomiting immediately. (Stick finger down throat). Call a physician. Never give anything by mouth to an unconscious person.

BREATHING: If affected, remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration and get medical attention.

C. CHRONIC EFFECTS OF OVEREXPOSURE:

Chronic overexposure to components of this makeup have been found to have the following effects on laboratory animals: liver abnormalities, damage to the kidney, lungs, brain, eyes, spleen, and central nervous system.

Overexposure to humans to components of this product have been suggested as the cause of the following effects in humans: kidney damage, eye damage.

MATERIAL SAFETY DATA SHEET

FOR:

Jet RV-355 Ink

SECTION VII. REACTIVITY

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

PRODUCT IS STABLE.

INCOMPATIBLE WITH THE FOLLOWING CHEMICALS. Strong oxidizers.

SECTION VIII. PERSONAL PROTECTION AND CONTROLS

- A. VENTILATION AND RESPIRATION: Do not use in a closed area without ventilation. Keep vapors below the TLV or use a NIOSH approved respirator for organic solvents.
- B. EYE PROTECTION: Use safety glasses.
- C. SKIN PROTECTION: Use solvent-resistant gloves, such as nitrile rubber.
- D. OTHER: Avoid breathing mists of ink. Remove stains from skin with pumice soap or use a light rinse of denatured alcohol.

SECTION IX. SPILL AND LEAK PROCEDURES

- A. SMALL SPILL: Cover with sand, vermiculite, earth, or other inert material. Transfer to container for disposal.
- B. WASTE DISPOSAL: Do not flush down drain. Incinerate according to the law or dispose in a chemical landfill.

SECTION X. STORAGE AND HANDLING PRECAUTIONS

Flammable liquid storage may be necessary. Consult state laws. Keep sources of ignition away. Storage of this product above 110°F may void the warranty.

THE INFORMATION ACCUMULATED IS BELIEVED TO BE CORRECT, BUT IS NOT WARRANTED.

MATERIAL SAFETY DATA SHEET



DATE OF PREPARATION: April 30, 1985



American
Technologies

FOR ADDITIONAL
INFORMATION:
312/244-2501

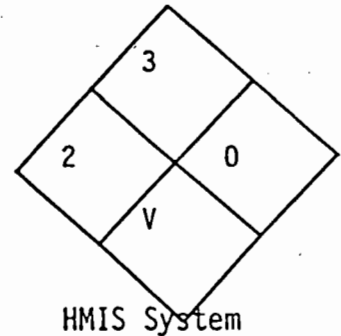
SECTION I. IDENTIFICATION

PRODUCT NAME: Jet Makeup 392

PRODUCT FORM: Liquid mixture

SECTION II. HEALTH HAZARD SUMMARY

Flammable liquid
Avoid skin contact
Absorbed through skin
Harmful if swallowed
Vapors are heavier than air



SECTION III. COMPONENT HAZARD DATA

COMPONENT	TLV/PEL	CAS Reg. #
Methanol (methyl alcohol)	200 ppm	67-56-1
2-Propanol (Isopropyl Alcohol)	400 ppm	67-63-0
Methyl Ethyl Ketone	200 ppm	78-93-3

Methanol, 2-Propanol, and Methyl Ethyl Ketone are absorbed through the skin.

MATERIAL SAFETY DATA SHEET

FOR: Jet 392 Makeup

SECTION IV. PHYSICAL DATA

APPEARANCE AND ODOR: Ketone odor. Colorless liquid.

BOILING POINT: greater than 145°F.

SPECIFIC GRAVITY: 0.812 *6.77 lbs/gal*

% VOLATILE BY WEIGHT: 100%

VAPOR DENSITY COMPARED TO AIR: Vapors are heavier than air.

SOLUBILITY IN WATER: 100% Soluble.

pH: Neutral

EVAPORATION RATE: Slower than ether.

SECTION V. FIRE AND EXPLOSION DATA

FLASH POINT: 31°F (CC)

LOWER EXPLOSIVE LIMIT: greater than 1.6%

AUTO IGNITION TEMPERATURE: 852°F

EXTINGUISHING MEDIA: Alcohol foam, CO₂, or dry chemical.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes, carbon monoxide, carbon dioxide.

SPECIAL FIREFIGHTING PROCEDURES: Use self-contained breathing apparatus.

UNUSUAL FIRE HAZARDS: Vapors are heavier than air and may travel along the ground. Keep sources of ignition away.



SECTION VI. HEALTH HAZARD DATA

A. ACUTE EFFECTS OF OVEREXPOSURE:

EYES: Can cause severe irritation, redness, blurred vision, tearing.

SKIN: Can cause moderate irritation, drying and dermatitis; can be absorbed through the skin in toxic amounts from repeated and prolonged exposure.

BREATHING: Excessive inhalation of vapors can cause nasal and lung irritation, dizziness, weakness, fatigue, nausea, and even possible asphyxiation.

INGESTION: Contains methanol. Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and death.

B. FIRST AID PROCEDURES:

SKIN: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse.

EYES: Flush repeatedly with large amounts of water, lifting upper and lower lids occasionally; get medical attention.

INGESTION: Give two glasses of water and induce vomiting immediately. (Stick finger down throat). Call a physician. Never give anything by mouth to an unconscious person.

BREATHING: If affected, remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration and get medical attention.

C. CHRONIC EFFECTS OF OVEREXPOSURE:

Chronic overexposure to components of this makeup have been found to have the following effects on laboratory animals: liver abnormalities, damage to the kidney, lungs, brain, eyes, spleen, and central nervous system.

Overexposure to humans to components of this product have been suggested as the cause of the following effects in humans: kidney damage, eye damage.

MATERIAL SAFETY DATA SHEET

FOR:

Jet 392 Makeup

SECTION VII. REACTIVITY

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

PRODUCT IS STABLE.

INCOMPATIBLE WITH THE FOLLOWING CHEMICALS. Strong oxidizers.

SECTION VIII. PERSONAL PROTECTION AND CONTROLS

- A. VENTILATION AND RESPIRATION: Do not use in a closed area without ventilation. Keep vapors below the TLV or use a NIOSH approved respirator for organic solvents.
- B. EYE PROTECTION: Use safety glasses.
- C. SKIN PROTECTION: Use solvent-resistant gloves, such as nitrile rubber.
- D. OTHER: Avoid breathing mists of ink. Remove stains from skin with pumice soap or use a light rinse of denatured alcohol.
-

SECTION IX. SPILL AND LEAK PROCEDURES

- A. SMALL SPILL: Cover with sand, vermiculite, earth, or other inert material. Transfer to container for disposal.
- B. WASTE DISPOSAL: Do not flush down drain. Incinerate according to the law or dispose in a chemical landfill.
-

SECTION X. STORAGE AND HANDLING PRECAUTIONS

Flammable liquid storage may be necessary. Consult state laws. Keep sources of ignition away. Storage of this product above 110°F may void the warranty

THE INFORMATION ACCUMULATED IS BELIEVED TO BE CORRECT, BUT IS NOT WARRANTED.

MATERIAL SAFETY DATA SHEET

RECD. DATE OF PREPARATION: May 8, 1985

AUG 19 1985
Citrus Control, Inc.
Plymouth & Plant



FOR ADDITIONAL
INFORMATION:
312/244-2501

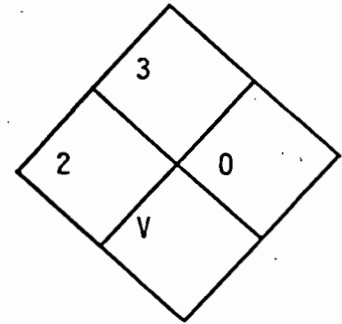
SECTION I. IDENTIFICATION

PRODUCT NAME: Jet Wash 300

PRODUCT FORM: Liquid Mixture

SECTION II. HEALTH HAZARD SUMMARY

Flammable liquid
Avoid skin contact
Absorbed through skin
Harmful if swallowed
Vapors are heavier than air



HMIS System

SECTION III. COMPONENT HAZARD DATA

COMPONENT	TLV/PEL	CAS Reg. #
Methanol	200 ppm	67-56-1
Isopropyl Alcohol (2-Propanol)	400 ppm	67-63-0
Methyl Ethyl Ketone (2-Butanone)	200 ppm	78-93-3
Methyl Cellosolve (Ethylene glycol monomethyl ether)	5 ppm	109-86-4

Methyl cellosolve, methanol, 2-Propanol, and methyl ethyl ketone absorbed through skin.

MATERIAL SAFETY DATA SHEET

FOR:

Jet Wash 300

SECTION IV. PHYSICAL DATA

APPEARANCE AND ODOR: Ketone odor. Colorless liquid.

BOILING POINT: greater than 145°F

SPECIFIC GRAVITY: 0.8100 6.75

% VOLATILE BY WEIGHT: 100%

VAPOR DENSITY COMPARED TO AIR: Heavier than air.

SOLUBILITY IN WATER: 100% Soluble.

pH: neutral

EVAPORATION RATE: slower than ether.

SECTION V. FIRE AND EXPLOSION DATA

FLASH POINT: 32° closed cup

LOWER EXPLOSIVE LIMIT: greater than 1.6%

AUTO IGNITION TEMPERATURE: greater than 550°F

EXTINGUISHING MEDIA: Alcohol foam, CO₂, water fog, and dry chemical.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes, carbon monoxide, carbon dioxide.

SPECIAL FIREFIGHTING PROCEDURES: Use self-contained breathing apparatus.

UNUSUAL FIRE HAZARDS: 2-Butanone and the alcohols can react vigorously with oxidizing materials.



SECTION VI. HEALTH HAZARD DATA

A. ACUTE EFFECTS OF OVEREXPOSURE:

EYES: Can cause severe irritation, redness, blurred vision, tearing.

SKIN: Can cause moderate irritation, drying and dermatitis; can be absorbed through the skin in toxic amounts from repeated and prolonged exposure.

BREATHING: Excessive inhalation of vapors can cause nasal and lung irritation, dizziness, weakness, fatigue, nausea, and even possible asphyxiation.

INGESTION: Contains methanol. Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, and death.

B. FIRST AID PROCEDURES:

SKIN: Wash thoroughly with soap and water. Remove contaminated clothing and launder before reuse.

EYES: Flush repeatedly with large amounts of water, lifting upper and lower lids occasionally; get medical attention.

INGESTION: Give two glasses of water and induce vomiting immediately. (Stick finger down throat). Call a physician. Never give anything by mouth to an unconscious person.

BREATHING: If affected, remove to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration and get medical attention.

C. CHRONIC EFFECTS OF OVEREXPOSURE:

Chronic overexposure to components of this wash have been found to have the following effects on laboratory animals: liver abnormalities, damage to the kidney, lungs, brain, eyes, spleen, and central nervous system.

Overexposure to humans to components of this product have been suggested as the cause of the following effects in humans: kidney damage, eye damage.

Recent data indicates that prolonged exposure of test animals to methoxyethanol can have the following adverse chronic effects: testicular changes, blood changes, birth defects, fetotoxicity/embryotoxicity, infertility, maternal toxicity.

MATERIAL SAFETY DATA SHEET

FOR:

Jet Wash 300

SECTION VII. REACTIVITY

HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

PRODUCT IS STABLE.

INCOMPATIBLE WITH THE FOLLOWING CHEMICALS.

strong oxidizing or reducing agents. Solvents will react vigorously with

SECTION VIII. PERSONAL PROTECTION AND CONTROLS

A. VENTILATION AND RESPIRATION:

Do not use in a closed area without ventilation.

Keep vapors below the TLV or use a NIOSH approved respirator for organic

B. EYE PROTECTION:

Use safety glasses

C. SKIN PROTECTION:

Use solvent-resistant gloves, such as nitrile rubber.

D. OTHER:

Avoid breathing mists of ink. Remove stains from skin with pumice soap or use a light rinse of denatured alcohol.

SECTION IX. SPILL AND LEAK PROCEDURES

A. SMALL SPILL:

Cover with sand, vermiculite, earth, or other inert material.

B. WASTE DISPOSAL:

Transfer to a container for disposal.

Do not flush down drain. Incinerate according to the law or dispose in a chemical landfill.

SECTION X. STORAGE AND HANDLING PRECAUTIONS

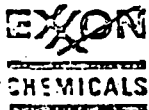
Flammable liquid storage may be necessary. Consult state laws. Keep sources of ignition away. Storage of this product above 110°F may void the warranty.

THE INFORMATION ACCUMULATED IS BELIEVED TO BE CORRECT, BUT IS NOT WARRANTED.

MODIFICATION 4
CLEAN-UP SOLVENT

WASTE MEK Flammable Liquid UN 1193

F005



MATERIAL SAFETY DATA SHEET

(Approved by U.S. Department of Labor as "essentially similar" to Form LSH-005-4)

EXXON CHEMICAL AMERICAS • P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, a Division of EXXON CORPORATION

Methyl Ethyl Ketone (MEK) PRODUCT

SECTION I - IDENTIFICATION OF PRODUCT

MANUFACTURER'S NAME EXXON CHEMICAL AMERICAS		EMERGENCY TELEPHONE NO. 713 - 870-6000
ADDRESS (Number, Street, City, State and ZIP Code) P. O. BOX 3272, HOUSTON, TEXAS 77001		
TRADE NAME Methyl Ethyl Ketone (MEK)	CHEMICAL NAME 2-Butanone	
CHEMICAL FAMILY Ketone	CHEMICAL FORMULA $CH_3COCH_2CH_3$	

SECTION II - HAZARDOUS COMPONENTS OF MIXTURES

The precise composition of this product is proprietary information. A more detailed disclosure will be provided by Exxon Medical or Industrial Hygiene personnel to qualified Medical or Industrial Hygiene personnel as privileged information upon request in case of need for specific treatment.

Not Applicable to High Purity Chemicals

SECTION III - TYPICAL PHYSICAL DATA

APPEARANCE Clear, colorless liquid.	7 ODOR Lacquer thinner-type.
8 BOILING POINT (°F/°C) 79.6°C (175.4°F)	9 SPECIFIC GRAVITY/ @60°/60°F (15.5/15.5°C) 0.807 at 20/20°C (68/68°F) - 6.73 #/gal
10 VAPOR PRESSURE (mm Hg @ 100°F/38°C) 190 mm Hg at 38°C (100°F)	11 PERCENT VOLATILE (BY VOLUME) COMPONENTS WITH B.P. EQUAL TO OR LESS THAN 212°F/100°C 100%
12 VAPOR DENSITY (AIR = 1) 2.5	13 EVAPORATION RATE (N-BUTYL ACETATE = 1) 5.6
14 SOLUBILITY IN WATER Appreciable (26 wt. %)	15

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

17 FLASH POINT (°F/°C SETA CC - ASTM D3278) Tag closed cup -6°C (21°F)	18 FLAMMABLE LIMITS (PERCENT BY VOLUME)	19 LEL 1.8	20 UEL 10.0
21 FIRE EXTINGUISHING MEDIA Dry chemical or alcohol-type foam. Waterspray may be ineffective.			
22 SPECIAL FIRE FIGHTING PROCEDURES Use waterspray to cool fire-exposed surfaces and to protect personnel.			
23 UNUSUAL FIRE AND EXPLOSION HAZARDS WARNING! This product is FLAMMABLE. Respiratory protection required for fire fighting personnel. Stay upwind, if possible. Cool exposed tank with water.			
24 HAZARDOUS PRODUCTS OF COMBUSTION No unusual products of combustion.			

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of our knowledge and belief, accurate and reliable as of the date compiled. However, no representation, warranty or guarantee is made as

to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information. We do not offer any warranty against product performance.

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE(S)	OSHA	ACGIH - 1981	OTHER
	200 ppm	200 ppm	
EFFECTS OF OVEREXPOSURE	ACUTE	Vapor irritates eyes, nose & throat. Liquid will damage eye tissue.	
	CHRONIC	Liquid is irritating to skin, causing dermatitis.	
EMERGENCY AND FIRST AID PROCEDURES If overcome by vapors, remove to fresh air and if breathing stopped, give artificial respiration. Keep individual calm. Call a physician. If skin contact occurs, wash affected parts thoroughly with soap and water; launder clothing before re-use. If eye contact occurs, flush with water for at least 15 minutes & call a physician.			

SECTION VI - ACTIVITY DATA

STABILITY	UNSTABLE	CONDITIONS TO AVOID
	STABLE	
INCOMPATIBILITY (MATERIALS TO AVOID FOR PURPOSES OF TRANSPORT, HANDLING & STORAGE ONLY) Strong oxidants, caustic, amines, alkanolamines, aldehydes, ammonia, will dissolve some plastics, rubber and coatings, chlorinated compounds.		
HAZARDOUS DECOMPOSITION PRODUCTS NONE		

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Keep public away. Shut off source if possible to do so without hazard. Eliminate sources of ignition. Warn occupants of downwind areas of explosion hazard. Prevent liquid from entering sewers, watercourses or low areas.
WASTE DISPOSAL (INSURE CONFORMITY WITH LOCAL DISPOSAL REGULATIONS)	Contain spilled liquid with sand or earth. Dilute contained spill with water. Recover free liquid by pumping or with a suitable absorbant. Consult a disposal expert and ensure conformity to local regulation.

SECTION VIII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION Use approved respiratory protection such as air-supplied mask if used in enclosed spaces.		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General)	OTHER
	Face velocity > 60 fpm in confined space.	
	Explosion-proof ventilation equipment.	No smoking or open lights
PROTECTIVE GLOVES	Chemically resistant gloves.	EYE PROTECTION
		Chemical splash goggles or face shield.
OTHER PROTECTIVE EQUIPMENT Usually not needed.		

SECTION IX - HANDLING AND STORAGE PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	Keep container closed when not in use. Do not handle or store near flame, heat or strong oxidants. Adequate ventilation required. Containers of this material may be hazardous when emptied. Emptied containers retain product residues (vapor, liquid, etc.). Observe all Hazard Precautions outlined in this sheet.
OTHER PRECAUTIONS	All handling equipment should be electrically grounded.
DATE OF ISSUE	August, 1981
REVISIONS	10/11
REVIEWED BY	<i>Richard O. Pittman</i> Industrial Hygiene Coordinator

MATERIAL SAFETY DATA

FOR COATINGS, RESINS, AND RELATED MATERIALS

DATE OF PREP 12/5/83

Section I

United Solvents of America, Inc.
3756 Silver Star Road
Orlando, Florida 32804

EMERGENCY TELEPHONE NO 305-299-5477

PRODUCT CLASS Solvent Blend

MANUFACTURER'S CODE IDENTIFICATION:

TRADE NAME USA 7286 Blend

Section II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT WT.	TLV		LEL	VAPOR PRESSURE mm/Hg
		PPM	mg/M ³		
Acetone	30	750		2.6%	226.3@20°C
Isopropyl Alcohol	10	400		2.3%	33@20°C
Methanol	<5	200		6.0%	98@20°C
Lactol Spirits	40	300		1.0%	38@20°C
Methyl Isobutyl Ketone	<5	50		1.22%	15@20°C
Methyl Ethyl Ketone	<5	200		1.8%	70@20°C
Ethylene Glycol Monobutyl Ether	<5	50		1.1%	.6@20°C
Toluene	5	100		1.0%	23@20°C

Section III - PHYSICAL DATA

BOILING RANGE 133-340°F (56-171°C)

VAPOR DENSITY



HEAVIER



LIGHTER THAN AIR

EVAPORATION RATE



FASTER



SLOWER THAN ETHER

PERCENT VOLATILE 100%
BY VOLUMEWEIGHT PER 6.4#
GALLON

Section IV - FIRE AND EXPLOSION HAZARD DATA

DOT CATEGORY: Extremely Flammable

FLASH POINT -4°F (-20°C) TCC

LEL 1.0%

EXTINGUISHING MEDIA Use National Fire Prevention Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or foam) designed to extinguish NFPA Class 1B flammable liquid fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Do not apply to hot surfaces.

SPECIAL FIRE FIGHTING PROCEDURES Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build up and possible autoignition or explosion when exposed to extreme heat. If water is used, fog nozzles are preferable.

Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE See Section II.

EFFECTS OF OVEREXPOSURE Inhalation: Anesthetic. Irritation of the respiratory tract on acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma. Skin or eye contact: Primary irritation.

EMERGENCY FIRST AID PROCEDURES Fumes: Remove from exposure. Restore breathing, keep warm and quiet. Notify a physician. Splash (eyes): Flush immediately with copious water for definitive medical treatment. Splash (skin): Wash affected areas with water. Remove contaminated clothing. Consult a physician.

Section VI - REACTIVITY DATA

STABILITY UNSTABLE STABLE

INCOMPATIBILITY (Materials to avoid)

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS POLYMERIZATION
CONDITIONS TO AVOID

MAY OCCUR

WILL NOT OCCUR

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD Dispose in accordance with local, state and federal regulations. Incinerate in approved facility. Do not incinerate closed containers.

Section VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION In outdoor or open areas, use Bureau of Mines approved mechanical filter respirator to remove solid air borne or particles of overspray during spray application. In restricted ventilation areas, use Bureau of Mines approved chemical-mechanical filters designed to remove a combination of particulate and gas and vapor. In confined areas, use Bureau of Mines approved air line type respirator or hoods.

VENTILATION Provide general dilution for local exhaust ventilation in volume and pattern to keep TLV of most hazardous ingredient in Section II below acceptable limit and LEL in Section IV below stated limit.

PROTECTIVE GLOVES Required for prolonged or repeated contact.

EYE PROTECTION Use safety eye wear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT Prevent prolonged skin contact to contaminated clothing.

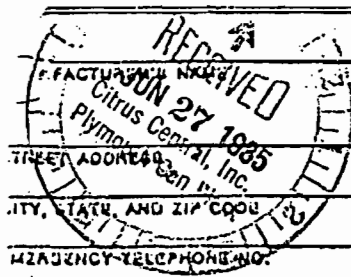
Section IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE Do not store above 120°F. Store large quantities in buildings designed and protected for storage NFPA Class 1B flammable liquids.

OTHER PRECAUTIONS Do not take internally. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful. Avoid free fall of liquid in excess of a few inches.

Press Dept, Solvent Compounds

Section I



AMSCO Division
Union Oil Company of California

3100 South Meacham Road

Palatine, Illinois 60067

(312) 885-5467

CHEMICAL NAME AND SYNONYMS not applicable	TRADE NAME AMSCO Solv 1487, Hexane, Mixed Hexanes
CHEMICAL FAMILY Petroleum Hydrocarbon Fraction	FORMULA not applicable

Section II -- HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS

	%	TLV (Units)	SOLVENTS	%	TLV (Units)
 NFPA 704M			Solvent	100	160 ppm
CATALYST			ADDITIVES		
VEHICLE			OTHERS		
HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)

Section III -- PHYSICAL DATA

BOILING POINT (°F.)	152-157	SPECIFIC GRAVITY (H ₂ O=1)	0.68	<i>5.67 #/gal</i>
VAPOR PRESSURE (mm Hg.)	137 @ 68° F.	PERCENT VOLATILE BY VOLUME (%)	100	
VAPOR DENSITY (AIR=1)	3	EVAPORATION RATE (n=Evap, c=1)	8.1	
SOLUBILITY IN WATER	negligible			
APPEARANCE AND ODOR	clear, colorless, characteristic			

Section IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	0° F., TCC	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	foam, CO ₂ , dry chemical, water spray		1	2
SPECIAL FIRE FIGHTING PROCEDURES	wear self-contained breathing apparatus			
UNUSUAL FIRE AND EXPLOSION HAZARDS	water may be unsuitable except as a cooling medium			

Section V -- HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 160 ppm

EFFECTS OF OVEREXPOSURE: Drying of skin. Eye irritation. Excessive inhalation may cause anesthesia, headache, dizziness, nausea, upper respiratory irritation.

EMERGENCY AND FIRST AID PROCEDURES
 Inhalation: remove to fresh air, apply artificial respiration if necessary, call a physician.
 Skin contact: wash with mild soap and water, apply a mild skin cream, in severe cases contact a physician.
 Eye contact: flush with water, call a physician. Ingestion: call a physician.

Section VI -- REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	heat, sparks, open flame, fire
COMPATIBILITY (Materials to avoid) strong oxidizing agents			
HAZARDOUS DECOMPOSITION PRODUCTS thermal decomposition may yield carbon monoxide and carbon dioxide			

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	

Section VII -- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
 Flush with water into retaining area or container. Avoid sparks, fire or hot metal surfaces.
 Small quantities may be absorbed onto an appropriate absorbant.

WASTE DISPOSAL METHOD
 Incinerate under safe conditions or dispose of in accordance with applicable local, state and federal regulations.

Section VIII -- SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)
 Respiration with organic cartridge if concentration is above 164 ppm.

VENTILATION	LOCAL EXHAUST	Whatever is sufficient to	SPECIAL
	MECHANICAL (General)	concentration below the	OTHER
			keep workroom TLV.
PROTECTIVE GLOVES	impermeable	EYE PROTECTION	chemical goggles
OTHER PROTECTIVE EQUIPMENT			
apron			
barrier cream			

Section IX -- SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
 Keep cool and away from sources of ignition. Use with adequate ventilation. Avoid prolonged or repeated personal contact.

OTHER PRECAUTIONS

MODIFICATION 5

360° SPRAY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VOC DATA SHEET:

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer: The Valspar Corporation
 Coating Identification: 9780-003
 Batch Identification: All Batches
 Supplied To: Citrus Central

Properties of the coating as supplied¹ to the customer:

- A. Coating Density (D_c)_s : 8.58 lb/gal kg/l
 ASTM D1475 Standard Wt/gal cup
- B. Total Volatiles (W_v)_s : 72.2 Weight Percent
 ASTM D2369 Other²
- C. Water Content: 1. (W_w)_s 57.3 Weight Percent
 ASTM D3792 ASTM D4017 Water content as charged
 2. (V_w)_s 59.0 Volume Percent
 Calculated Other²
- D. Organic Volatiles (W_o)_s : 14.9 Weight Percent
- E. Nonvolatiles Content (V_n)_s : 23.3 Volume Percent
- F. VOC Content (VOC)_s: 1. 3.11 lb/gal coating less water
 or kg/l coating less water
 2. 5.49 lb/gal solids
 or kg/l solids
- G. Solvent Density: 8.07 lb/gal

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed: [Signature] Date: 8/30/88

MODIFICATION 6

SIDE STRIPE


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
VOC DATA SHEET:
PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer: The Valspar Corporation
 Coating Identification: 730T026
 Batch Identification: All Batches
 Supplied To: Citrus Central

Properties of the coating as supplied¹ to the customer:

- A. Coating Density (D_c)_s : 7.28 lb/gal kg/l
 ASTM D147b Standard Wt/gal cup
- B. Total Volatiles (W_v)_s : 79.67 Weight Percent
 ASTM D2369 Other²
- C. Water Content: 1. (W_w)_s Weight Percent
 ASTM D3792 ASTM D4017 Water content as charged
 2. (V_w)_s Volume Percent
 Calculated Other²
- D. Organic Volatiles (W_o)_s : 79.67 Weight Percent
- E. Nonvolatiles Content (V_n)_s : 17.50 Volume Percent
- F. VOC Content (VOC)_s: 1. 5.80 lb/gal coating less water
 or kg/l coating less water
 2. 33.14 lb/gal solids
 or kg/l solids
- G. Solvent Density: 7.03 lb/gal

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed: *Janet A. Polson* Date: 8/30/88


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
VOC DATA SHEET:
PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer: The Valspar Corporation
 Coating Identification: 730T027
 Batch Identification: All Batches
 Supplied To: Citrus Central

Properties of the coating as supplied to the customer:

- A. Coating Density (D_c)_s : 7.59 lb/gal kg/l
 ASTM D1475 Standard Wt/gal cup
- B. Total Volatiles (W_v)_s : 73.78 Weight Percent
 ASTM D2369 Other²
- C. Water Content: 1. (W_w)_s - Weight Percent
 ASTM D3792 ASTM D4017 Water content as charged
 2. (V_w)_s - Volume Percent
 Calculated Other²
- D. Organic Volatiles (W_o)_s : 73.78 Weight Percent
- E. Nonvolatiles Content (V_n)_s : 20.34 Volume Percent
- F. VOC Content (VOC)_s: 1. 5.60 lb/gal coating less water
 or kg/l coating less water
 2. 27.53 lb/gal solids
 or kg/l solids
- G. Solvent Density: 7.03 lb/gal

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed: *Janet Wilson* Date 8/30/88



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VOC DATA SHEET:

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer: The Valspar Corporation
 Coating Identification: 730T026/730T027 Blend
 Batch Identification: All Batches
 Supplied To: Citrus Central

Properties of the coating as supplied¹ to the customer:

- A. Coating Density (D_c)_s : 7.44 lb/gal kg/l
 ASTM D1475 Standard Wt/gal cup
- B. Total Volatiles (W_v)_s : 76.61 Weight Percent
 ASTM D2369 Other²
- C. Water Content: 1. (W_w)_s Weight Percent
 ASTM D3792 ASTM D4017 Water content as charged
2. (V_w)_s Volume Percent
 Calculated Other²
- D. Organic Volatiles (W_o)_s : 76.61 Weight Percent
- E. Nonvolatiles Content (V_n)_s : 18.92 Volume Percent
- F. VOC Content (VOC)_s: 1. 5.70 lb/gal coating less water
 or kg/l coating less water
2. 30.13 lb/gal solids
 or kg/l solids
- G. Solvent Density: 7.03 lb/gal

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed: Janet W. Bales Date: 8/2/88

SIDE STRIPE
"A" COMPONENT

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

872680211
PAGE 1
72-730T026

CUSTOMER NAME : CITRUS CENTRAL
CUSTOMER INVOICE : 4212171
CUSTOMER NUMBER: 168733000
***** SECTION 1: PRODUCT IDENTIFICATION *****

MANUFACTURERS ADDRESS : 1101 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415
MFG TELEPHONE NUMBER : (612) 332-7371
24 HR EMERGENCY PHONE NO : 1-800-228-5635
CHEMICAL NAME OR FAMILY : PAINT PRODUCT
FORMULA : 730T026-142-A-00
TRADE NAME : 72 730T026 10/55 GL DRUMS

***** SECTION 2: HAZARDOUS INGREDIENTS *****

NAME	APPROX WT %	RECM LEVEL	TLV	PEL
COMMON(NA):POLYAMIDE RESIN CAS:UNKNOWN CHEMICAL: POLYAMIDE PESIN (solid)	15%	NOT EST	NOT EST	NOT EST
COMMON(NA):XYLENE CAS:1330-20-7 CHEMICAL: PHENYL, DIMETHYL solvent	10%	NOT EST	100.00 (1)	100.00 (1)
COMMON(NA):N-BUTYL ALCOHOL CAS:71-36-3 CHEMICAL: 1-BUTANOL solvent	20%	NOT EST	50.00 (1)	100.00 (1)
COMMON(NA):PROPYLENE GLYCOL MONO PROPYL ETHER CAS:1569-01-3 CHEMICAL: 2-PROPANOL,1-PROPOXY-solvent	25%	NOT EST	NOT EST	NOT EST
COMMON(NA):METHYL ETHYL KETONE CAS:78-93-3 CHEMICAL: 2-BUTANONE solvent	25%	NOT EST	200.00 (1)	200.00 (1)

90% by wt

(1) = PPM

***** SECTION 3: PHYSICAL DATA *****

BOILING POINT: 173 DEG F.
VAPOR PRESSURE MM HG AT 77 DEG F: 91.0
VAPOR DENSITY (AIR = 1.0): 4.00
SPECIFIC GRAVITY: 0.97 7.25 #/gal
PERCENT VOLATILE BY VOLUME: 84.05
EVAPORATION RATE (BUTYL ACETATE = 1): 3.80
SOLUBILITY IN WATER: NC
APPEARANCE AND ODOR: NORMAL FOR A COATINGS PRODUCT.

***** SECTION 4: FIRE AND EXPLOSION HAZARD *****

FLASH POINT ICC/PM DEG F : 65
LOWER EXPLOSIVE LIMIT : 1.00
UPPER EXPLOSIVE LIMIT : 13.80

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM, AND/OR WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:
FIRE FIGHTERS MUST WEAR SELF CONTAINED BREATHING APPARATUS OR AIR MASKS.
CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:
NONE

***** SECTION 5: HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: NOT REQUIRED FOR MIXTURE.

EFFECTS OF OVEREXPOSURE:
IMMEDIATE EFFECTS (ACUTE):
CAN BE ABSORBED THROUGH THE SKIN.
MAY AFFECT THE BRAIN, NERVOUS SYSTEM OR RESPIRATORY SYSTEM CAUSING
DIZZINESS, HEADACHE, NAUSEA OR RESPIRATORY IRRITATION.
OVEREXPOSURE TO INGREDIENTS IN THIS PRODUCT MAY CAUSE NOSE AND
THROAT IRRITATION, EYE IRRITATION, SKIN IRRITATION, LIVER DAMAGE.
DELAYED EFFECTS (CHRONIC):

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

PAGE 2
72-730T026

***** SECTION 5: HEALTH HAZARD DATA *****

****CONTINUED****

EYE DAMAGE AND PAIN.
POSSIBLE SENSITIZATION.
CONTAINS INGREDIENTS WHICH MAY CAUSE LIVER DAMAGE, KIDNEY DAMAGE,
HEARING LOSS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE - ANY
RESPIRATORY OR SKIN CONDITION.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: REMOVE PERSON FROM EXPOSURE AREA. IF BREATHING HAS
STOPPED, USE MOUTH-TO-MOUTH RESUSCITATION AND GET MEDICAL ATTENTION.
EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.
SKIN CONTACT: REMOVE CONTAMINATED CLOTHING UNDER SAFETY SHOWER
AND DELUGE EXPOSED AREAS WITH WATER. GET MEDICAL ATTENTION.

POSSIBLE ROUTES OF ENTRY: INHALATION, INGESTION, SKIN ABSORPTION.

***** SECTION 6: REACTIVITY DATA *****

THIS PRODUCT IS STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY: STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:

AMMONIA COMPOUNDS NITROGEN OXIDES HALIDES
CARBON DIOXIDE/MONOXIDE

HAZARDOUS POLYMERIZATION: NONE

***** SECTION 7: SPILL OR LEAK PROCEDURES *****

VENTILATE AREA. AVOID BREATHING OF VAPORS. USE SELF-CONTAINED
BREATHING APPARATUS OR AIRMASK FOR LARGE SPILLS IN A CONFINED AREA.
ELIMINATE IGNITION SOURCES.
REMOVE WITH INERT ABSORBENT AND NON-SPARKING TOOLS.
AVOID ALL PERSONAL CONTACT.

WASTE DISPOSAL METHOD:

DISPOSE IN CHEMICAL DISPOSAL AREA OR IN A MANNER THAT COMPLIES WITH LOCAL,
STATE, AND FEDERAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

***** SECTION 8: SPECIAL PROTECTION INFORMATION *****

RESPIRATORY PROTECTION:

WEAR APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING
AND AFTER APPLICATION UNLESS AIR MONITORING VAPOR/MIST LEVELS ARE BELOW
APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURERS DIRECTIONS FOR
RESPIRATOR USE.

VENTILATION:

REQUIRED FOR SPRAYING OR IN A CONFINED AREA, VENTILATION EQUIPMENT SHOULD BE
EXPLOSION PROOF. ELIMINATE IGNITION SOURCES

PROTECTIVE GLOVES: NEOPRENE OR OTHER NONPOROUS.

EYE PROTECTION: CHEMICAL TYPE GOGGLES.

OTHER PROTECTIVE EQUIPMENT: NEOPRENE OR PLASTIC APRON AND
PROTECTIVE CLOTHING COVERING EXPOSED SKIN AREAS.

***** SECTION 9: SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

CONTAINERS SHOULD BE GROUNDED WHEN POURING. AVOID FREE FALL OF LIQUID
IN EXCESS OF A FEW INCHES.

KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. KEEP CONTAINER
CLOSED WHEN NOT IN USE. DO NOT STORE ABOVE 120 DEG F. BASED ON THE PRODUCT FLASH
POINT AND VAPOR PRESSURE SUITABLE STORAGE SHOULD BE PROVIDED IN ACCORDANCE WITH
OSHA REGULATION 1910.106. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE,
INCLUDING FLAMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON OR
NEAR CONTAINER. ALL LABEL WARNINGS MUST BE OBSERVED UNTIL THE CONTAINER HAS
BEEN CLEANED OR RECONDITIONED.

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

PAGE 3
72-73CT026

***** SECTION 9: SPECIAL PRECAUTIONS ***** CONTINUED*****
NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL
OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM
DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND
INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

ISSUE DATE: C32787

ABBREVIATIONS USED:

OSHA-OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION;
IARC-INTERNATIONAL AGENCY FOR RESEARCH ON CANCER; LEL-LOWER EXPLOSIVE LIMITS;
UEL-UPPER EXPLOSIVE LIMITS; MG CU M-MILLIGRAMS PER METERS CUBED; MM-MILLIMETERS
MPPCF-MILLIONS OF PARTICLES PER CUBIC FOOT; MSHA-MINE SAFETY AND HEALTH
ADMINISTRATION; NA-NOT APPLICABLE; NIOSH-NATIONAL INSTITUTE OF OCCUPATIONAL
SAFETY AND HEALTH; NOT EST-NOT ESTABLISHED; NTP-NATIONAL TOXICOLOGY PROGRAM;
PB-LEAD; PEL-PERMISSIBLE EXPOSURE LEVEL; PPM-PARTS PER MILLION;
TCC/PM-TAG CLOSED CUP/PENSKY-MARTEN; PECM-RECOMMENDED; TLV-THRESHOLD LIMIT VALUES.

***** DISCLAIMER SECTION *****

THE FURNISHING OF THE INFORMATION CONTAINED HEREIN DOES NOT CONSTITUTE A REPRESENTATION BY VALSPAR THAT ANY PRODUCT OR PROCESS IS FREE FROM PATENT INFRINGEMENT CLAIMS OF ANY THIRD PARTY OR DOES IT CONSTITUTE THE GRANTING OF A LICENSE UNDER ANY PATENT OF VALSPAR OR ANY THIRD PARTY. VALSPAR ASSUMES NO LIABILITY FOR ANY INFRINGEMENT WHICH MAY ARISE OUT OF THE USE OF THE PRODUCT. VALSPAR WARRANTS THAT ITS PRODUCTS MEET THE SPECIFICATIONS WHICH IT SETS FOR THEM. VALSPAR DISCLAIMS ALL OTHER WARRANTIES RELATING TO THE PRODUCTS, AND DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. RECEIPT OF PRODUCTS FROM VALSPAR CONSTITUTES ACCEPTANCE OF THE TERMS OF THIS WARRANTY, CONTRARY PROVISIONS OF PURCHASE ORDERS NONWITHSTANDING. IN THE EVENT THAT VALSPAR FINDS THAT THE PRODUCTS DELIVERED ARE OFF-SPECIFICATION, VALSPAR WILL, AT ITS SOLE DISCRETION, EITHER REPLACE THE PRODUCTS OR REFUND THE PURCHASE PRICE THEREOF, AND VALSPAR'S CHOICE OF ONE OF THESE REMEDIES SHALL BE BUYERS SOLE REMEDY. VALSPAR WILL UNDER NO CIRCUMSTANCES BE LIABLE FOR CONSEQUENTIAL DAMAGES, EXCEPT INSOFAR AS A LIABILITY IS MANDATED BY LAW. VALSPAR WILL DELIVER PRODUCTS AT AGREED TIMES INSOFAR AS IT IS REASONABLY ABLE TO DO SO, BUT VALSPAR SHALL NOT BE LIABLE FOR FAILURE TO DELIVER ON TIME WHEN THE FAILURE IS BEYOND ITS REASONABLE CONTROL.

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

872680212
PAGE 1
72-7301027

CUSTOMER NAME : CITRUS CENTRAL CUSTOMER NUMBER: 162733000

CUSTOMER INVOICE : 4212171

***** SECTION 1: PRODUCT IDENTIFICATION *****

MANUFACTURERS ADDRESS : 1101 THIRD STREET SOUTH, MINNEAPOLIS, MN 55415
MFG TELEPHONE NUMBER : (612) 332-7371
24 HR EMERGENCY PHONE NO : 1-800-223-5635
CHEMICAL NAME OR FAMILY : PAINT PRODUCT
FORMULA : 7301027-142-A-00
TRADE NAME : 72 7501027 10/55 GL DRUMS

***** SECTION 2: HAZARDOUS INGREDIENTS *****

NAME	APPROX WT %	HECM LEVEL	TLV	PEL
COMMON(NA):EPOXY RESIN CAS:25036-25-3 CHEMICAL: PHENOL,4,4'-(1-METHYLETHY LIDENE)BIS- POLYMER WITH (CHLOROMETHYL) OXI RANE <i>solid</i>	15%	NOT EST	NOT EST	NOT EST
COMMON(NA):XYLENE CAS:1330-20-7 CHEMICAL: PHENYL, DIMETHYL <i>solvent</i>	1%	NOT EST	100.00 (1)	100.00 (1)
COMMON(NA):N-BUTYL ALCOHOL CAS:71-36-3 CHEMICAL: 1-BUTANOL <i>solvent</i>	20%	NOT EST	50.00 (1)	100.00 (1)
COMMON(NA):PROPYLENE GLYCOL MONO PROPYL ETHER CAS:1569-01-3 CHEMICAL: 2-PROPANOL,1-PROPOXY- <i>solvent</i>	25%	NOT EST	NOT EST	NOT EST
COMMON(NA):METHYL ETHYL KETONE CAS:78-93-3 CHEMICAL: 2-BUTANONE <i>solvent</i>	25%	NOT EST	200.00 (1)	200.00 (1)
COMMON(NA):TOLUENE CAS:108-88-3 CHEMICAL: PHENYL, METHYL <i>solvent</i>	5%	NOT EST	100.00 (1)	200.00 (1)
	<u>76%</u>			

(1) = PPM

***** SECTION 3: PHYSICAL DATA *****

BOILING POINT: 173 DEG F.
VAPOR PRESSURE MM HG AT 77 DEG F: 91.0
VAPOR DENSITY (AIR = 1.0): 4.00
SPECIFIC GRAVITY: 0.91 *7.59 #/gal*
PERCENT VOLATILE BY VOLUME: 51.27
EVAPORATION RATE (BUTYL ACETATE = 1): 3.80
SOLUBILITY IN WATER: NO
APPEARANCE AND ODOR: NORMAL FOR A COATINGS PRODUCT.

***** SECTION 4: FIRE AND EXPLOSION HAZARD *****

FLASH POINT ICC/PM DEG F : 65
LOWER EXPLOSIVE LIMIT : 1.20
UPPER EXPLOSIVE LIMIT : 12.00

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL, FOAM, AND/OR WATER FOG.

SPECIAL FIRE FIGHTING PROCEDURES:
FIRE FIGHTERS MUST WEAR SELF CONTAINED BREATHING APPARATUS OR AIR MASKS.
CONTAINERS EXPOSED TO FIRE SHOULD BE KEPT COOL WITH WATER SPRAY.

UNUSUAL FIRE AND EXPLOSIVE HAZARDS:
NONE

***** SECTION 5: HEALTH HAZARD DATA *****

THRESHOLD LIMIT VALUE: NOT REQUIRED FOR MIXTURE.

EFFECTS OF OVEREXPOSURE:
IMMEDIATE EFFECTS (ACUTE):
EYE IRRITATION.

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

PAGE 2
72-730T027

***** SECTION 5: HEALTH HAZARD DATA *****CONTINUED*****

CAN BE ABSORBED THROUGH THE SKIN.
MAY AFFECT THE BRAIN, NERVOUS SYSTEM OR RESPIRATORY SYSTEM CAUSING
DIZZINESS, HEADACHE, NAUSEA OR RESPIRATORY IRRITATION.
OVEREXPOSURE TO INGREDIENTS IN THIS PRODUCT MAY CAUSE NOSE AND
THROAT IRRITATION, EYE IRRITATION, SKIN IRRITATION.
DELAYED EFFECTS (CHRONIC):
POSSIBLE SENSITIZATION.
CONTAINS INGREDIENTS WHICH MAY CAUSE LIVER DAMAGE, KIDNEY DAMAGE,
HEARING LOSS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE - ANY
RESPIRATORY OR SKIN CONDITION.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: REMOVE PERSON FROM EXPOSURE AREA. IF BREATHING HAS
STOPPED, USE MOUTH-TO-MOUTH RESUSCITATION AND GET MEDICAL ATTENTION.
EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES. GET MEDICAL ATTENTION.
SKIN CONTACT: WASH WITH SOAP AND WATER.

POSSIBLE ROUTES OF ENTRY: INHALATION, INGESTION, SKIN ABSORPTION.

***** SECTION 6: REACTIVITY DATA *****

THIS PRODUCT IS STABLE
CONDITIONS TO AVOID: NONE
INCOMPATIBILITY: STRONG OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS:
HALIDES CARBON DIOXIDE/MONOXIDE

HAZARDOUS POLYMERIZATION: NONE

***** SECTION 7: SPILL OR LEAK PROCEDURES *****

VENTILATE AREA. AVOID BREATHING OF VAPORS. USE SELF-CONTAINED
BREATHING APPARATUS OR AIRMASK FOR LARGE SPILLS IN A CONFINED AREA.
ELIMINATE IGNITION SOURCES.
REMOVE WITH INERT ABSORBENT AND NON-SPARKING TOOLS.
AVOID ALL PERSONAL CONTACT.

WASTE DISPOSAL METHOD:
DISPOSE IN CHEMICAL DISPOSAL AREA OR IN A MANNER THAT COMPLIES WITH LOCAL,
STATE, AND FEDERAL REGULATIONS. DO NOT INCINERATE CLOSED CONTAINERS.

***** SECTION 8: SPECIAL PROTECTION INFORMATION *****

RESPIRATORY PROTECTION:
WEAR APPROPRIATE, PROPERLY FITTED RESPIRATOR (NIOSH/MSHA APPROVED) DURING
AND AFTER APPLICATION UNLESS AIR MONITORING VAPOR/MIST LEVELS ARE BELOW
APPLICABLE LIMITS. FOLLOW RESPIRATOR MANUFACTURERS DIRECTIONS FOR
RESPIRATOR USE.

VENTILATION:
REQUIRED FOR SPRAYING OR IN A CONFINED AREA, VENTILATION EQUIPMENT SHOULD BE
EXPLOSION PROOF. ELIMINATE IGNITION SOURCES

PROTECTIVE GLOVES: NEOPRENE OR OTHER NONPOROUS.
EYE PROTECTION: USUAL EYE PROTECTION FOR APPLYING PAINT.
OTHER PROTECTIVE EQUIPMENT: NEOPRENE OR PLASTIC APRON AND
PROTECTIVE CLOTHING COVERING EXPOSED SKIN AREAS.

***** SECTION 9: SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

CONTAINERS SHOULD BE GROUNDED WHEN POURING. AVOID FREE FALL OF LIQUID
IN EXCESS OF A FEW INCHES.
KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAMES. KEEP CONTAINER
CLOSED WHEN NOT IN USE. DO NOT STORE ABOVE 120 DEG F. BASED ON THE PRODUCT FLASH
POINT AND VAPOR PRESSURE SUITABLE STORAGE SHOULD BE PROVIDED IN ACCORDANCE WITH
OSHA REGULATION 1910. 106. EMPTY CONTAINERS MAY CONTAIN PRODUCT RESIDUE,

Best Available Copy

V A L S P A R C O R P O R A T I O N
MATERIAL SAFETY DATA SHEET

PAGE 3
72-730T027

***** SECTION 9: SPECIAL PRECAUTIONS *****CONTINUED*****
INCLUDING FLAMABLE OR EXPLOSIVE VAPORS. DO NOT CUT, PUNCTURE OR WELD ON OR
NEAR CONTAINER. ALL LABEL WARNINGS MUST BE OBSERVED UNTIL THE CONTAINER HAS
BEEN CLEANED OR RECONDITIONED.

NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL
OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM
DAMAGE. INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND
INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

ISSUE DATE: 032787

ABBREVIATIONS USED:

OSHA-OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION;
IARC-INTERNATIONAL AGENCY FOR RESEARCH ON CANCER; LEL-LOWER EXPLOSIVE LIMITS;
UEL-UPPER EXPLOSIVE LIMITS; MG CU M-MILLIGRAMS PER METERS CUBED; MM-MILLIMETERS
MPPCF-MILLIONS OF PARTICLES PER CUBIC FOOT; MSHA-MINE SAFETY AND HEALTH
ADMINISTRATION; NA-NOT APPLICABLE; NIOSH-NATIONAL INSTITUTE OF OCCUPATIONAL
SAFETY AND HEALTH; NOT EST-NOT ESTABLISHED; NTP-NATIONAL TOXICOLOGY PROGRAM;
PB-LEAD; PEL-PERMISSIBLE EXPOSURE LEVEL; PPM-PARTS PER MILLION;
TCC/PM-TAG CLOSED CUP/PENSKY-MARTEN;PECM-RECOMMENDED;TLV-THRESHOLD LIMIT VALUES.

***** DISCLAIMER SECTION *****

THE FURNISHING OF THE INFORMATION CONTAINED HEREIN DOES NOT CONSTITUTE A
REPRESENTATION BY VALSPAR THAT ANY PRODUCT OR PROCESS IS FREE FROM PATENT
INFRINGEMENT CLAIMS OF ANY THIRD PARTY OR DOES IT CONSTITUTE THE GRANTING OF A
LICENSE UNDER ANY PATENT OF VALSPAR OR ANY THIRD PARTY. VALSPAR ASSUMES NO
LIABILITY FOR ANY INFRINGEMENT WHICH MAY ARISE OUT OF THE USE OF THE PRODUCT.
VALSPAR WARRANTS THAT ITS PRODUCTS MEET THE SPECIFICATIONS WHICH IT SETS FOR
THEM. VALSPAR DISCLAIMS ALL OTHER WARRANTIES RELATING TO THE PRODUCTS, AND
DISCLAIMS ALL WARRANTIES RELATING TO THEIR APPLICATION, EXPRESS OR IMPLIED.
INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR
PARTICULAR PURPOSE. RECEIPT OF PRODUCTS FROM VALSPAR CONSTITUTES ACCEPTANCE OF
THE TERMS OF THIS WARRANTY, CONTRARY PROVISIONS OF PURCHASE ORDERS NONWITHSTAND
ING. IN THE EVENT THAT VALSPAR FINDS THAT THE PRODUCTS DELIVERED ARE
OFF-SPECIFICATION, VALSPAR WILL, AT ITS SOLE DISCRETION, EITHER REPLACE THE
PRODUCTS OR REFUND THE PURCHASE PRICE THEREOF, AND VALSPAR'S CHOICE OF ONE OF
THESE REMEDIES SHALL BE BUYERS SOLE REMEDY. VALSPAR WILL UNDER NO CIRCUM-
STANCES BE LIABLE FOR CONSEQUENTIAL DAMAGES, EXCEPT INSOFAR AS A LIABILITY IS
MANDATED BY LAW. VALSPAR WILL DELIVER PRODUCTS AT AGREED TIMES INSOFAR AS IT
IS REASONABLY ABLE TO DO SO, BUT VALSPAR SHALL NOT BE LIABLE FOR FAILURE TO
DELIVER ON TIME WHEN THE FAILURE IS BEYOND ITS REASONABLE CONTROL.

MODIFICATION 7
END SEAL COMPOUNDS

W. R. GRACE & CO., DEWEY AND ALMY CHEMICAL DIVISION
55 Hayden Avenue
Lexington, MA 02173

EMERGENCY PHONE NO. (617)861-6600

-----SECTION I - IDENTIFICATION-----

PRODUCT (TRADE) NAME: DAREX Composite Can Compound 5101

General Chemical Description: Solvent-based sealant

-----SECTION II-INGREDIENTS-----

<u>Hazardous Ingredients</u>	<u>% by Weight</u>	<u>Maximum Exposure Value (ppm)</u> <u>(8 hour time-weighted average)</u>	
		<u>OSHA PEL*</u>	<u>ACGIH TLV**</u>
n-hexane	20	500	50
other hexanes	10	not listed	500
toluene	8	200	100
isopropyl alcohol	1	400	400

* 29 CFR Section 1910.1000, July 1, 1984

** 1984-1985 recommendation, American Conference of Governmental Industrial Hygienists

<u>Non-hazardous Ingredients</u>	<u>% by Weight</u>
Rubber, resin, filler, plasticizer, pigment, and modifiers (including water).	61

-----SECTION III-PHYSICAL DATA-----

Vapor density of n-hexane (air=1): 3.0 Specific Gravity (water=1): 0.95
Solubility in water: not soluble Volatiles (% by weight): 50
Appearance and Odor: Gray liquid; petroleum solvent odor

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point: below 20°F(Pensky-Martens)
Flammable Limits (n-hexane): 1.1 - 7.5%
Extinguishing Media: Carbon dioxide, dry chemical, foam.

-----SECTION V-REACTIVITY DATA-----

Product is stable; hazardous polymerization will not occur.
Incompatible with strong oxidizers.

DAREX Composite Can Compound 5101

-----SECTION VI-Spill OR LEAK PROCEDURES-----Handling Precautions: See Section VIII.For small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers.For large spills: Dike area to prevent spreading. Shovel or pump to drum or salvage tank. Absorb residual material with sand, vermiculite, or other absorbent material.

Use only clean-up equipment approved for flammable materials and areas. Dispose of as a flammable material in accordance with current local, state, and Federal regulations.

EPA Hazardous Waste Number is: F005

-----SECTION VII-HEALTH HAZARD DATA-----Threshold Limit Values: See Section II.Effects of OverexposureEmergency First Aid ProceduresInhalation: Vapors can produce headache, nausea, dizziness, disorientation, numbness in fingers and toes, and irritation of nose and throat.

Remove to fresh air.

Eyes: Irritation upon direct contact.

Immediately flush eyes with water for at least 15 minutes; get medical attention.

Skin: Irritation upon direct contact.

Remove contaminated clothing; wash affected area with water.

Ingestion: Harmful if swallowed.

Dilute with water or milk; do not induce vomiting; get medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

-----SECTION VIII-SPECIAL PRECAUTIONS-----Handling and Storing

- Wear eye protection if direct contact likely.
- Wear gloves and protective clothing if direct contact likely.
- Avoid skin and eye contact. Avoid breathing vapors.
- Treat as flammable material. Keep away from heat, sparks, and open flames.
- Avoid static electricity - ground containers when transferring product.
- Relieve possible internal pressure in container before opening by partially unscrewing bung.
- Vapors are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Provide adequate ventilation to protect from these hazards and to keep below maximum exposure values.
- Empty containers retain hazardous product residues, both liquid and vapor.
- Keep container closed when not in use.

Prepared 10/03/85

Page 2 of 2

W. R. GRACE & CO., DEWEY AND ALMY CHEMICAL DIVISION
55 Hayden Avenue
Lexington, MA 02173

EMERGENCY PHONE NO. (617)861-6600

-----SECTION I - IDENTIFICATION-----

PRODUCT (TRADE) NAME: DAREX Compound S9372A

General Chemical Description: Solvent-based sealant

-----SECTION II-INGREDIENTS-----

<u>Hazardous Ingredients</u>	<u>% by Weight</u>	<u>Maximum Exposure Value (ppm)</u> (8 hour time-weighted average)	
		<u>OSHA PEL*</u>	<u>ACGIH TLV**</u>
n-hexane	29	500	50
other hexanes	11	not listed	500
toluene	7	200	100
isopropyl alcohol	less than 4	400	400

* 29 CFR Section 1910.1000, July 1, 1984

** 1984-1985 recommendation, American Conference of Governmental Industrial Hygienists

<u>Non-hazardous Ingredients</u>	<u>% by Weight</u>
Rubber, resin, filler, pigment, and modifiers (including water).	51

-----SECTION III-PHYSICAL DATA-----

Vapor density of n-hexane (air=1): 3.0 Specific Gravity (water=1): 0.90
Solubility in water: not soluble Volatiles (% by weight): 50
Appearance and Odor: Gray liquid; petroleum solvent odor

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point: Below 20°F(Pensky-Martens)
Flammable Limits (n-hexane): 1.1 - 7.5%
Extinguishing Media: Carbon dioxide, dry chemical, foam.

-----SECTION V-REACTIVITY DATA-----

Product is stable; hazardous polymerization will not occur.
Incompatible with strong oxidizers.

DAREX Compound S9372A

-----SECTION VI-SPILL OR LEAK PROCEDURES-----

Handling Precautions: See Section VIII.

For small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers.

For large spills: Dike area to prevent spreading. Shovel or pump to drum or salvage tank. Absorb residual material with sand, vermiculite, or other absorbent material.

Use only clean-up equipment approved for flammable materials and areas. Dispose of as a flammable material in accordance with current local, state, and Federal regulations.

EPA Hazardous Waste Number is: F005

-----SECTION VII-HEALTH HAZARD DATA-----

Threshold Limit Values: See Section II.

Effects of OverexposureEmergency First Aid Procedures

Inhalation: Vapors can produce headache, nausea, dizziness, disorientation, numbness in fingers and toes, and irritation of nose and throat.

Remove to fresh air.

Eyes: Irritation upon direct contact.

Immediately flush eyes with water for at least 15 minutes; get medical attention.

Skin: Irritation upon direct contact.

Remove contaminated clothing; wash affected area with water.

Ingestion: Harmful if swallowed.

Dilute with water or milk; do not induce vomiting; get medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

-----SECTION VIII-SPECIAL PRECAUTIONS-----Handling and Storing

- Wear eye protection if direct contact likely.
- Wear gloves and protective clothing if direct contact likely.
- Avoid skin and eye contact. Avoid breathing vapors.
- Treat as flammable material. Keep away from heat, sparks, and open flames.
- Avoid static electricity - ground containers when transferring product.
- Relieve possible internal pressure in container before opening by partially unscrewing bung.
- Vapors are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Provide adequate ventilation to protect from these hazards and to keep below maximum exposure values.
- Empty containers retain hazardous product residues, both liquid and vapor.
- Keep container closed when not in use.

Prepared 10/03/85

Page 2 of 2

W. R. GRACE & CO., DEWEY AND ALMY CHEMICAL DIVISION
55 Hayden Avenue
Lexington, MA 02173

EMERGENCY PHONE NO. (617)861-6600

-----SECTION I - IDENTIFICATION-----

PRODUCT (TRADE) NAME: DAREX Compound W9307

General Chemical Description: Water-based sealant

-----SECTION II-INGREDIENTS-----

<u>Hazardous Ingredients</u>	<u>% by Weight</u>	<u>Maximum Exposure Value (ppm)</u> <u>(8 hour time-weighted average)</u>	
		<u>OSHA PEL*</u>	<u>ACGIH TLV**</u>
ammonia	below 0.1	50	25

* 29 CFR Section 1910.1000, July 1, 1984

** 1984-1985 recommendation, American Conference of Governmental Industrial Hygienists

<u>Non-hazardous Ingredients</u>	<u>% by Weight</u>
Water, rubber, resin, filler, plasticizer, pigment, and modifiers.	above 99.9

-----SECTION III-PHYSICAL DATA-----

Solubility in water: water dilutable Specific Gravity (water=1): 1.31 10.92 #/gal
Appearance and Odor: Gray liquid; odor of latex Volatiles (% by weight): 29

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point: Non-flammable
Extinguishing Media: Carbon dioxide, dry chemical, foam.

-----SECTION V-REACTIVITY DATA-----

Product is stable; hazardous polymerization will not occur.

-----SECTION VI-SPILL OR LEAK PROCEDURES-----

Wipe up, or absorb with vermiculite or other absorbent material. Rinse area with water.

Dispose of all product wastes and water rinses in accordance with current local, state, and Federal regulations.

Material is not a hazardous waste as defined in 40 CFR Sec. 261.3.

-----SECTION VII-HEALTH HAZARD DATA-----

Threshold Limit Values: See Section II.

	<u>Effects of Overexposure</u>	<u>Emergency First Aid Procedures</u>
<u>Inhalation:</u>	Ammonia vapors could produce irritation of nose and throat.	Remove to fresh air.
<u>Eyes:</u>	Irritation upon direct contact.	Immediately flush eyes with water for at least 15 minutes; get medical attention.
	Vapors can produce irritation.	Remove to fresh air; flush eyes with water.
<u>Skin:</u>	Possible irritation.	Remove contaminated clothing; wash affected area with water.
<u>Ingestion:</u>	None known.	

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

-----SECTION VIII-SPECIAL PRECAUTIONS-----Handling and Storing

- Wear eye protection if direct contact likely.
- Wear gloves and protective clothing if direct contact likely.
- Avoid breathing vapors.
- Keep from freezing.

GRACE

Dewey and Almy Chemical Division

W.R. Grace & Co.
55 Hayden Avenue
Lexington, Mass. 02173

(617) 861-6600

August 29, 1988

Ms. Susan Arrington
Citrus Central Inc.
P. O. Box #17774
Orlando, FL 32860

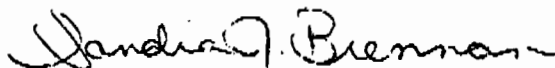
Dear Ms. Arrington

Mr. Dan Yinger has asked us to send you VOC information for DAREX CMPD 9307.

The VOC (Volatile Organic Compound) value for this compound is reported on the attached U.S.E.P.A. Coating Supplier VOC Data Sheet, along with other relevant information.

If we can be of any further assistance, please let us know.

Very truly yours,



Sandra J. Brennan
Associate Process Chemist
Process Development

SJB/nh
attachment

cc: Mr. D. Yinger - Dewey and Almy, Atlanta

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

Coating Manufacturer: W. R. Grace & Co., Dewey and Almy Chemical Division

Coating Identification: DAREX CMPD 9307

Batch Identification: ---

Supplied To: Citrus Central, Inc.

Properties of the coating as supplied* to the customer:

A. Coating Density (D_c)_s : 10.88 lb/gal 1.3 kg/l
(ASTM D1475)

B. Total Volatiles (W_v)_s : 29 Weight Percent
 ASTM D2369 Other**

C. Water Content: 1. (W_w)_s 29 Weight Percent
 ASTM D3792 ASTM D4017 Other**
2. (V_w)_s 38 Volume Percent
 Calculated Other**

D. Organic Volatiles (W_o)_s : N/A Weight Percent

E. Nonvolatiles Content (V_n)_s : 62 Volume Percent

F. VOC Content (VOC)_s : 0.0 lb/gal less water 0.0 kg/l less water
AND 0.0 lb/gal solids 0.0 kg/l solids

Remarks: All values have been calculated based on formulation and processing information.

*The subscript "s" denotes each value is for the "as supplied" coating.
**Identify methods used under "Remarks".

Signed: Sandra Brennan Date 8/29/88

GRACE

SAFETY DATA

W. R. GRACE & CO., DEWEY AND ALMY CHEMICAL DIVISION
55 Hayden Avenue
Lexington, MA 02173

EMERGENCY PHONE NO. (617)861-6600

-----SECTION I - IDENTIFICATION-----

PRODUCT (TRADE) NAME: DAREX Compound 9179X HV

General Chemical Description: Solvent-based sealant

-----SECTION II-INGREDIENTS-----

<u>Hazardous Ingredients</u>	<u>% by Weight</u>	<u>Maximum Exposure Value (ppm)</u> <u>(8 hour time-weighted average)</u>	
		<u>OSHA PEL*</u>	<u>ACGIH TLV**</u>
n-hexane	32	500	50
other hexanes	11	not listed	500

* 29 CFR Section 1910.1000, July 1, 1984

** 1984-1985 recommendation, American Conference of Governmental Industrial Hygienists

<u>Non-hazardous Ingredients</u>	<u>% by Weight</u>
Rubber, resin, filler, pigment, and modifiers (including water).	57

-----SECTION III-PHYSICAL DATA-----

Vapor density of n-hexane (air=1): 3.0 Specific Gravity (water=1): 0.94
Solubility in water: not soluble Volatiles (% by weight): 43
Appearance and Odor: White liquid; petroleum solvent odor

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point: below 20°F(Pensky-Martens)
Flammable Limits (n-hexane): 1.1 - 7.5%
Extinguishing Media: Carbon dioxide, dry chemical, foam.

-----SECTION V-REACTIVITY DATA-----

Product is stable; hazardous polymerization will not occur.
Incompatible with strong oxidizers.

-----SECTION VI-Spill OR LEAK PROCEDURES-----

Handling Precautions: See Section VIII.

For small spills: Wipe up, or absorb with vermiculite or other absorbent material. Collect waste in sealed containers.

For large spills: Dike area to prevent spreading. Shovel or pump to drum or salvage tank. Absorb residual material with sand, vermiculite, or other absorbent material.

Use only clean-up equipment approved for flammable materials and areas. Dispose of as a flammable material in accordance with current local, state, and Federal regulations.

EPA Hazardous Waste Number is: D001

-----SECTION VII-HEALTH HAZARD DATA-----

Threshold Limit Values: See Section II.

	<u>Effects of Overexposure</u>	<u>Emergency First Aid Procedures</u>
<u>Inhalation:</u>	Vapors can produce headache, nausea, dizziness, disorientation, numbness in fingers and toes, and irritation of nose and throat.	Remove to fresh air.
<u>Eyes:</u>	Irritation upon direct contact.	Immediately flush eyes with water for at least 15 minutes; get medical attention.
<u>Skin:</u>	Irritation upon direct contact.	Remove contaminated clothing; wash affected area with water.
<u>Ingestion:</u>	Harmful if swallowed.	Dilute with water or milk; do not induce vomiting; get medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

-----SECTION VIII-SPECIAL PRECAUTIONS-----Handling and Storing

- Wear eye protection if direct contact likely.
- Wear gloves and protective clothing if direct contact likely.
- Avoid skin and eye contact. Avoid breathing vapors.
- Treat as flammable material. Keep away from heat, sparks, and open flames.
- Avoid static electricity - ground containers when transferring product.
- Relieve possible internal pressure in container before opening by partially unscrewing bung.
- Vapors are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Provide adequate ventilation to protect from these hazards and to keep below maximum exposure values.
- Empty containers retain hazardous product residues, both liquid and vapor.
- Keep container closed when not in use.

Prepared 10/04/85

Page 2 of 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

Coating Manufacturer: W. R. Grace & Co., Dewey and Almy Chemical Division

Coating Identification: DAREX Compound 9179A HV

Batch Identification: ----

Supplied To: Citrus Central, Inc.

Properties of the coating as supplied* to the customer:

A. Coating Density (D_c)_s : 7.52 lb/gal 0.9 kg/l
(ASTM D1475)

B. Total Volatiles (W_v)_s : 47.5 Weight Percent
 ASTM D2369 Other**

C. Water Content: 1. (W_w)_s 0.3 Weight Percent
 ASTM D3792 ASTM D4017 Other**
2. (V_w)_s 0.3 Volume Percent
 Calculated Other**

D. Organic Volatiles (W_o)_s : 47.2 Weight Percent

E. Nonvolatiles Content (V_n)_s : 36.5 Volume Percent

F. VOC Content (VOC)_s : 3.6 lb/gal less water 0.4 kg/l less water
AND 9.9 lb/gal solids 1.2 kg/l solids

Remarks: All values have been calculated based on formulation and processing information. The actual solvent density has been used to calculate VOC content in lb/gal solids.

*The subscript "s" denotes each value is for the "as supplied" coating.
**Identify methods used under "Remarks".

Signed: Kathleen M. Davis Date 1/27/87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

Coating Manufacturer: W. R. Grace & Co., Dewey and Almy Chemical Division

Coating Identification: DAREX Compound S9372A

Batch Identification: ----

Supplied To: Citrus Central, Inc.

Properties of the coating as supplied* to the customer:

A. Coating Density (D_c)_s : 7.47 lb/gal 0.99 kg/l

(ASTM D1475)

B. Total Volatiles (W_v)_s : 50.0 Weight Percent

ASTM D2369 Other**

C. Water Content: 1. (W_w)_s 0.3 Weight Percent

ASTM D3792 ASTM D4017 Other**

2. (V_w)_s 0.3 Volume Percent

Calculated Other**

D. Organic Volatiles (W_o)_s : 49.7 Weight Percent

E. Nonvolatiles Content (V_n)_s : 36.9 Volume Percent

F. VOC Content (VOC)_s : 3.7 lb/gal less water 0.44 kg/l less water

^{AND} 10.0 lb/gal solids 1.20 kg/l solids

Remarks: All values have been calculated based on formulation and processing information. The actual solvent density (5.9 lb/gal) has been used to calculate VOC content in lb/gal solids.

*The subscript "s" denotes each value is for the "as supplied" coating.
 **Identify methods used under "Remarks".

Signed: Kayleen M. O'Brien Date 1/27/87

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

Coating Manufacturer: W. R. Grace & Co., Dewey and Almy Chemical Division

Coating Identification: DAREX Composite Can Compound 5101

Batch Identification: ----

Supplied To: Citrus Central, Inc.

Properties of the coating as supplied* to the customer:

A. Coating Density (D_c)_s : 7.94 lb/gal 1.0 kg/l

(ASTM D1475)

B. Total Volatiles (W_v)_s : 50.0 Weight Percent

ASTM D2369 Other**

C. Water Content: 1. (W_w)_s 10 Weight Percent

ASTM D3792 ASTM D4017 Other**

2. (V_w)_s 10 Volume Percent

Calculated Other**

D. Organic Volatiles (W_o)_s : 40 Weight Percent

E. Nonvolatiles Content (V_n)_s : 37.5 Volume Percent

F. VOC Content (VOC)_s : 3.5 lb/gal less water 0.4 kg/l less water

AND

9.3 lb/gal solids 1.1 kg/l solids

Remarks: All values have been calculated based on formulation and
processing information. The actual solvent density has been used
to calculate VOC content in lb/gal solids.

*The subscript "s" denotes each value is for the "as supplied" coating.
 **Identify methods used under "Remarks".

Signed: Kathleen M. (Burr) Date 1/27/87

GRACE



Dewey and Almy Chemical Division

W. R. Grace & Co.
5225 Phillip Lee Drive, S.W.
Atlanta, Ga. 30336

(404) 691-8646

May 27, 1988

Ms. Susan Arrington
CITRUS CENTRAL, INC.
1900 West New Hampshire
Orlando, Florida 32804

Dear Susan:

In regards to the upcoming replacement of SLC 9101D with SLC 1697-34, please find the specification comparison as follows, in relation to the lining of 603 diameter ends on high fat packs:

	<u>9101D</u>	<u>1697-34</u>
Specific Gravity:	1.54	1.48
Total Solids:	44.0%	54.5%
Viscosity:	2400-3200 Cps	3000-4000 Cps
Film Volume:	130mm ³	130mm ³
Film Weight:	200 mg.	192 mg.
Color:	Yellow	Yellow
Factor:	7.84 Lbs/Gal.	8.11 Lbs/Gal.
VOC:	4.4 Lbs/Gal	3.7 Lbs/Gal.
Diluent:	Hexane/Toluene/ Cyclohexane	Hexane/Alcohol
Yield:	997 Ends/Lb.	1285 Ends/Lb.
Selling Price:	115.0¢/Lb.	155.4¢/Lb.
Cost/1000:	115.4¢/SU	120.9¢/SU
Sealing Units/Lb:	.286	.368

1697-34 is priced FOB San Leandro, CA.
9101D is priced FOB Atlanta, GA.

In running 1697-34, the following differences must be considered:

1. All high solids compliant material must be agitated with a high speed mixer to ensure a homogenous fluid prior to lining. Grovhac stirring for one hour prior will suffice.

Ms. Susan Arrington
May 27, 1988
Page Two

2. Due to the heavier viscosity, cut edge placement and compound distribution are better achieved with the use of smaller drill nozzles, i.e., if 9101D is currently lined with 68 drill nozzles, to maintain the same lining pressure with 1697-34 a 70 drill nozzle would be appropriate.

I would like to attend the replacement process when the drums become available from our San Leandro plant. In the meantime, I shall do my best to expedite your order. Should you have further questions, please give me a call.

Sincerely,

Dan

Daniel W. Yinger
Sales Engineer
Container Products

DWY:wam

cc: Mr. J. E. Brock
Mr. R. D. Lemasson

N.C.O.

J. Swiatkowski

J. Guidry - P.B.S. + J.

GRACE

SAFETY DATA

W. R. GRACE & CO., DEWEY AND ALMY CHEMICAL DIVISION
55 Hayden Avenue
Lexington, MA 02173

EMERGENCY PHONE NO. (617)861-6600

-----SECTION I - IDENTIFICATION-----

PRODUCT (TRADE) NAME: DAREX EXP CMPD S1697-34-1

General Chemical Description: Solvent-based sealant

-----SECTION II-INGREDIENTS-----

<u>Hazardous Ingredients</u>	<u>% by Weight</u>	<u>Maximum Exposure Value (ppm)</u> <u>(8 hour time-weighted average)</u>	
		<u>OSHA PEL*</u>	<u>ACGIH TLV**</u>
n-hexane	28 approx.	500	50
other hexanes	11 approx.	not listed	500
isopropyl alcohol	less than 4	400	400
ethyl alcohol	less than 4	1000	1000

* 29 CFR Section 1910.1000, July 1, 1987

** 1987 recommendation, American Conference of Governmental Industrial Hygienists

<u>Other Ingredients</u>	<u>% by Weight</u>
Rubber, resin, filler, pigment, and modifiers (including water).	54 approx.

-----SECTION III-PHYSICAL DATA-----

<u>Vapor density of n-hexane (air=1):</u> 3.0	<u>Specific Gravity (water=1):</u> 1.0
<u>Solubility in water:</u> not soluble	<u>Volatiles (% by weight):</u> 46 approx.
<u>Appearance and Odor:</u> Yellow liquid; petroleum solvent odor	

-----SECTION IV-FIRE AND EXPLOSION HAZARD DATA-----

Flash Point: below 20°F (Pensky-Martens)
Flammable Limits (n-hexane): 1.1 - 7.5%
Extinguishing Media: Carbon dioxide, dry chemical, foam.

Fire-fighters should wear the usual protective gear, self contained breathing apparatus.

Combustion will result in the release of the usual decomposition products including oxides of carbon.

-----SECTION V-REACTIVITY DATA-----

Product is stable; hazardous polymerization will not occur.
Incompatible with strong oxidizers.

Prepared 06/03/88

Page 1 of 2

-----SECTION VI-SPILL OR LEAK PROCEDURES-----

Handling Precautions: See Section VIII.

For small spills: Wipe up, or absorb with sand or other absorbent material. Collect waste in sealed containers.

For large spills: Dike area to prevent spreading. Shovel or pump to drum or salvage tank. Absorb residual material with sand, or other absorbent material.

Use only clean-up equipment approved for flammable materials and areas. Dispose of as a flammable material in accordance with current local, state, and Federal regulations.

EPA Hazardous Waste Number is: D001

-----SECTION VII-HEALTH HAZARD DATA-----

Threshold Limit Values: See Section II.

	<u>Signs & Symptoms of Acute Exposure</u>	<u>Emergency First Aid Procedures</u>
<u>Inhalation:</u>	Vapors can produce headache, nausea, dizziness, disorientation, numbness in fingers and toes, and irritation of nose and throat.	Remove to fresh air.
<u>Eyes:</u>	Irritation upon direct contact.	Immediately flush eyes with water for at least 15 minutes; get medical attention.
<u>Skin:</u>	Irritation upon direct contact.	Wash affected area with water; if irritation occurs and persists, get medical attention. Remove contaminated clothing.
<u>Ingestion:</u>	Harmful if swallowed.	Dilute with water or milk; do not induce vomiting; get medical attention.

GET MEDICAL ATTENTION IF SYMPTOMS PERSIST

-----SECTION VIII-SPECIAL PRECAUTIONS-----Handling and Storing

- Wear eye protection if direct contact likely.
- Wear gloves and protective clothing if direct contact likely.
- Avoid skin and eye contact. Avoid breathing vapors.
- Treat as flammable material. Keep away from heat, sparks, and open flames.
- Avoid static electricity - ground containers when transferring product.
- Relieve possible internal pressure in container before opening by partially unscrewing bung.
- Vapors are heavier than air and will settle and collect in low areas and pits, displacing breathing air. Provide adequate ventilation to protect from these hazards and to keep below maximum exposure values.
- Empty containers retain hazardous product residues, both liquid and vapor.
- Keep container closed when not in use.

Prepared 06/03/88

Page 2 of 2

RECEIVED

SEP 5 1988

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

For PLYM. CAN'S water-based end seal compound

113

117

Coating Manufacturer: W. R. Grace & Co., Dewey and Almy Chemical Division

Coating Identification: DAREX CMPD 9307

Batch Identification: ---

Supplied To: Citrus Central, Inc.

Properties of the coating as supplied* to the customer:

A. Coating Density (D_c)_s : 10.88 lb/gal 1.3 kg/l

(ASTM D1475)

B. Total Volatiles (W_v)_s : 29 Weight Percent

ASTM D2369 Other**

C. Water Content: 1. (W_w)_s 29 Weight Percent

ASTM D3792 ASTM D4017 Other**

2. (V_w)_s 38 Volume Percent

Calculated Other**

D. Organic Volatiles (W_o)_s : N/A Weight Percent

E. Nonvolatiles Content (V_n)_s : 62 Volume Percent

F. VOC Content (VOC)_s : 0.0 lb/gal less water 0.0 kg/l less water

AWD 0.0 lb/gal solids 0.0 kg/l solids

Remarks: All values have been calculated based on formulation and processing information.

*The subscript "s" denotes each value is for the "as supplied" coating.
**Identify methods used under "Remarks".

Signed: Jandia Brennan Date 8/29/88

c.c. - B. Ferraro