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. Willis M. Kitchen
Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

4. Article Number
P 274 007 452

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X Sheryl Kant

6. Signature — Agent
X

7. Date of Delivery
9-16-88

8. Addressee's Address *(ONLY if requested and fee paid)*
same as above

PS Form **3811**, Mar. 1987 ★ U.S.G.P.O. 1987-178-268 **DOMESTIC RETURN RECEIPT**

P 274 007 452

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

Sent to Mr. Willis M. Kitchen, Gulf	
Street and No. 1901 North 66th St. Coast Lead	
P.O., State and ZIP Code Tampa, FL 33619	
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 9-14-88 Permit: AC 29-145531	

PS Form 3800, June 1985 ★ U.S.G.P.O. 1985-480-794

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 PERMIT

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

September 14, 1988

Enclosed is construction permit No. AC 29-145531 for Gulf Coast Lead Company, Inc. to construct a new 78 ton refining kettle and make other changes at their existing secondary lead smelter located in Tampa, Hillsborough County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any Party to this permit has the right to seek judicial review of the permit 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 this permit is 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:

William Thomas, SW District
Robert Wallace, P.E.
Victor San Agustin, HCEPC
Bruce Miller, EPA

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 Martha J. Wise.

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 J. Wise
Clerk

9-14-88
Date

Final Determination

Gulf Coast Lead Company, Inc.
Hillsborough County
Tampa, Florida

78 Ton Refining Kettle
Permit No. AC 29-145531

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

September 12, 1988

Final Determination

The Technical Evaluation and Preliminary Determination for the proposed new 78 ton refining kettle and other changes at Gulf Coast Lead Company, Inc.'s secondary lead smelting facility located in Tampa, Hillsborough County, Florida, was distributed on July 6, 1988.

Copies of the Technical Evaluation and Preliminary Determination were available for public inspection at the Environmental Protection Commission of Hillsborough County and the Department's offices in Tampa and Tallahassee. The Notice of Proposed Agency Action was published in the Tampa Tribune on August 9, 1988.

In a letter dated August 12, 1988, the Environmental Protection Agency (EPA) asked that the emission netting calculations be based on actual emissions and that the construction permit specify the stack height and allowable emissions for the new 78 ton refining kettle.

The Preliminary Determination and Technical Evaluation stated that there would be no increase in allowable particulate matter and allowable lead emissions from this facility. This was accomplished by the applicant reducing the allowable emissions from two existing sources (a 50 ton melt kettle and a 22 ton keel cast kettle) by an amount equal to the allowable emissions of the new 78 ton refining kettle. Although actual emissions from the facility may increase even though the allowable emissions are unchanged, there is no regulatory requirement to determine the contemporaneous emission changes. The maximum increase in actual emissions will be equal to the allowable emissions from the new 78 ton refining kettle which is 1028.2 lbs/yr of lead (0.28 lbs/hr for 3,672 hours/year). These limits are federally enforceable. Had an increase in actual emissions exceeded the significant emission rate for lead (1200 lbs/yr), the project would have been subject to additional regulations.

To determine the ambient air impact of this facility requires that the maximum allowable emissions, not actual emissions, be used in the model. Using the maximum allowable lead emissions from all the sources at the facility and a GEP stack height of 125 feet, instead of the 30 foot stack proposed by the applicant, the July 1986 version of the ISCLT model results provided reasonable assurance that the ambient air quality standard for lead of 1.5 ug/m^3, quarterly average, will not be exceeded. In response to EPA's comments, the Department has reworded Specific Condition No. 6 to require a 125 foot high stack. The applicant may request the construction permit be amended by providing

alternative proposals for stack heights and emissions, along with an engineering evaluation that shows all federal, state, and county regulations will be complied with at the new conditions. The Department will provide EPA with a copy of any request received.

The final action of the Department will be to issue the permit as proposed in the Technical Evaluation and Preliminary Determination except for the changes discussed above.

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:
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Permit Number:AC 29-145531
Expiration Date: July 1, 1989
County: Hillsborough
Latitude/Longitude: 27° 57' 43"N
82° 22' 49"W
Project: 78 Ton Refining Kettle

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 drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Authorization to construct a 78 ton refining kettle that uses an 8.8 MMBtu/hr natural gas fired heating system, knock-out chamber, 2700 ft^2 baghouse in parallel with a 1350 ft^2 baghouse (reuse of existing unit), 12,000 ACFM fan, and a dross receptical ventilation system that includes an adjustable slot hood, provided the allowable emissions from the existing 50 ton refining kettle (AO 29-95365) are reduced to 0.50 lbs PM/hr (0.92 TPY) and 0.20 lbs Pb/hr (0.37 TPY), the keel cast kettle (AO 29-130736) is shut down. The project will be constructed at the permittee's secondary lead smelting facility located at 1901 North 66th Street, Tampa, Hillsborough County, Florida. The UTM coordinates of this plant are Zone 17, 364.048 km E and 3093.548 km N.

Construction shall be in accordance with the permit application and plans, documents, and reference material submitted except for the changes stated in the Preliminary Determination and Technical Evaluation or the General and Specific Conditions herein.

Attachments:

1. Application received February 16, 1988.
2. HCEPC letter dated March 11, 1988.
3. HCEPC letter dated April 13, 1988.
4. Environmental Engineering Consultants letter dated April 26, 1988.
5. EPA letter dated August 12, 1988.

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.

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 noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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)
(x) 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.

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. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction [Subsection 17-4.07(1), FAC].

2. Normal charge to the 78 ton kettle will contain a maximum of 150,000 lbs of blast lead, 3000 lbs of antimony, 300 lbs of tin, 162 lbs of arsenic, 60 lbs of red phosphorous, 30 lbs of selenium, and 100 lbs of sulfur.

3. Only natural gas shall be used to heat the charge. Maximum heat input is 8.8 MMBtu/hr, or approximately 8,000 CFH of natural gas.

SPECIFIC CONDITIONS:

4. The plant shall maintain production and fuel usage logs on its operation that will allow the Department to determine compliance with Specific Conditions Nos. 1, 2, and 3.

5. All reasonable precautions shall be taken to minimize generation of unconfined emissions of particulate matter in accordance with the provision in Subsection 17-2.610(3), F.A.C. These provisions are applicable to any source including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

6. Pursuant to Rules 17-2.620(2), F.A.C., and 1-3.22(3) of the Rules of the Environmental Protection Commission of Hillsborough County, the permittee shall not allow the discharge of air pollutants which contribute to an objectionable odor.

7. The 2 foot diameter stack for the 78 ton kettle shall have a minimum height of 125 feet above grade.

8. Operation of the sources at the facility shall not exceed the following limits. Emissions shall be determined by the applicable test methods described in 40 CFR 60, Appendix A (October 28, 1981, December 14, 1983, and April 16, 1982, Federal Registers).

Source	hrs/yr	PM Emissions lbs/hr	PM Emissions TPY	Pb Emissions lbs/hr	Pb Emissions TPY	VE % Opacity
Blast & Slag* Furnace	7,800	2.50	9.75	1.81	7.06	5
Blast & Slag Furnace Slag & Prod. Tap	7,800	0.15	0.59	0.06	0.23	5
Blast Furnace Charging	7,800	0.55	2.15	0.22	0.86	5***
50 T Melt Kettle** (3 Total)	3,672	0.50	0.92	0.20	0.37	5
22 T Keel Cast Kettle	0	0	0	0	0	0
78 T Refining Kettle	3,672	0.70	1.29	0.28	0.51	5
All other sources at the facility	--	--	--	--	--	5
Total	--	4.40	14.70	2.57	9.03	--

*Only 1 blast furnace may be operated at one time.
** Only 2 50 T melt kettles may be operated at one time.
***10% opacity allowed during charging operation only.

9. Pursuant to 40 CFR 60.8, within 60 days after achieving the maximum production rate of 12,500 lbs/hr of refined lead, but not later than 180 days after initial start-up, the permittee shall test the emissions for the following pollutants and submit two copies of test data to the Air Section of the Environmental Protection Commission of Hillsborough County within 45 days of such testing. Testing procedures shall be consistent with the requirements of 40 CFR 60 and Section 17-2.700, FAC.

(x) Lead
(x) Particulate Matter*
(x) Opacity

*PM emission estimate may be obtained from Lead emission tests [40 CFR 60 Appendix A, EPA Method 12, Section 8].

Testing of emissions must be accomplished at the maximum production rate of 12,500 lbs/hr. The actual production rate shall be specified in each test result. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data [Subsection 403.161(1)(c), Florida Statutes].

10. The Environmental Protection Commission of Hillsborough County shall be notified of the following in writing:

a. The date on which construction of the new source begins, postmarked not more than 30 days after such date, pursuant to 40 CFR 60.7(a)(1).

b. The anticipated date of initial start-up, postmarked not more than 60 days and not less than 30 days prior to such date, pursuant to 40 CFR 60.7(a)(2).

c. The actual date of initial start-up postmarked within 15 days after the date, pursuant to 40 CFR 60.7(a)(30).

d. The date the compliance test will be performed, postmarked at least 30 days prior to such date, pursuant to 40 CFR 60.8(d).

11. The 22 ton keel cast kettle shall be permanently taken out of service prior to placing the new 78 ton kettle in commercial operation. Any valid permit to operate the 22 ton kettle shall be returned to the Department.

PERMITTEE:
Gulf Coast Lead Company, Inc.

Permit Number: AC 29-145531
Expiration Date: July 1, 1989

SPECIFIC CONDITIONS:

12. The permit to operate the 50 ton kettle shall limit its emissions to the standards listed in Specific Condition No. 8 of this construction permit.

13. The applicant will submit a complete application for permit to operate the 78 tons refining kettle to the Environmental Protection Commission of Hillsborough County at least 90 days prior to the expiration date of this permit, or 45 days after placing the 78 ton kettle in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration or until the issuance of an operation permit.

14. The permittee shall submit annual reports, which include the production, hours of operation, and emissions of the 78 ton kettle, to the Environmental Protection Commission of Hillsborough County.

Issued this 13 day of Sept, 1988

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

Dale Twachtmann, Secretary

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

FROM: Steve Smallwood

SUBJ: Approval of Gulf Coast Lead Company, Inc.
State Construction Permit Number: AC 29-145531

DATE: September 12, 1988

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to construct a 78 ton lead refining kettle and reduce the allowable emissions from two existing pot furnaces.

The facility is located in Tampa, Hillsborough County, Florida.

Day 90, after which the permit will be issued by default, is September 16, 1988.

EPA took exception to the Department allowing the applicant to select a combination of emission limits and stack heights to comply with the ambient air quality standard for lead. The Department responded by setting a specific emission limit and stack height in the construction permit. We have reasonable assurance that these parameters will comply with the regulations. The applicant may request that this permit be amended in the future to allow an alternate emission limit or stack height which also results in compliance with the air pollution control regulations.

SS/WH/s

attachments

Check Sheet

Company Name: Gulf Coast Lead
Permit Number: AC29-145531
PSD Number: _____
Permit Engineer: _____

Application:

- ☑ Initial Application
  - ☑ Incompleteness Letters
  - ☑ Responses
  - ☐ Waiver of Department Action
  - ☐ Department Response
  - ☑ Other

Cross References:
☐
☐
☐

Intent:

- ☑ Intent to Issue
- ☑ Notice of Intent to Issue
- ☑ Technical Evaluation
- ☒ BACT or LAER Determination
- ☑ Unsigned Permit

  Correspondence with:
  - ☐ EPA
  - ☐ Park Services
  - ☐ Other
- ☑ Proof of Publication
  - ☐ Petitions - (Related to extensions, hearings, etc.)
  - ☐ Waiver of Department Action
  - ☐ Other

Final Determination:

- ☑ Final Determination
- ☑ Signed Permit
- ☒ BACT or LAER Determination
  - ☐ Other

Post Permit Correspondence:

- ☐ Extensions/Amendments/Modifications
- ☑ Other

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:	4. Article Number
Mr. Willis M. Kitchen, Vice Pres. Gulf Coast Lead Company, Inc. 1901 North 66th Street Tampa, Florida 33619	P 938 762 603
	Type of Service: ☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail ☐ 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 D. Slaurr	
7. Date of Delivery 6-26-89	

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

P 938 762 603

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

Sent to Mr. Willis M. Kitchen, Gulf	
Street and No. 1901 N. 66th St. Coast Lead	
P.O., State and ZIP Code Tampa, FL 33619	
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 29-145531	

PS Form 3800, June 1985

Florida Department of Environmental Regulation

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

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

June 22, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Dear Mr. Kitchen:

Re: Amendment of Construction Permit No. AC 29-145531

The Department is in receipt of Joyce Morales - Caramella's June 12, 1989, letter requesting your permit to construct a secondary lead smelter be extended. The purpose of the extension is to allow time for EPA to correct the ISCLT model needed to evaluate the ambient air quality impact of the facility and to rule on the validity of the referenced permit. This request is acceptable and the expiration of permit No. AC 29-145531 is changed from July 1, 1989, to July 1, 1990. A copy of this letter must be filed with the referenced construction permit and shall become a part of that permit.

Sincerely,

Dale Twachtmann
Secretary

DT/ks

cc: Bruce Miller, EPA
Bill Thomas, SW District
Jerry Campbell, EPCHC
Joyce Morales - Caramella, Gulf Coast Lead Co., Inc.

attachment

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

TO: Dale Twachtmann

FROM: Steve Smallwood

DATE: June 22, 1989

SUBJ: Amendment of Construction Permit No. AC 29-145531
Gulf Coast Lead Company, Inc.

Attached for your approval and signature is a letter that will extend the expiration date of a construction permit for a secondary lead smelter issued to Gulf Coast Lead Company, Inc. of Tampa, Hillsborough County, Florida.

The extension of this permit is not controversial. I recommend your approval and signature.

SS/WH/s

attachment

PM
6-12-89
Tampa, FL

file copy

GULF COAST LEAD CO., INC.

LEAD PRODUCTS -- WHOLESALE ONLY

OFFICE AND PLANT
1901 NORTH 66TH STREET • TAMPA, FLORIDA 33619
PHONE: 626-0303—626-6151

RECEIVED
JUN 14 1989
DER - BAQM

June 12, 1989

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

Mr. Scott Sheplak, Air Permitting Section
Environmental Protection Commission of
Hillsborough County
1900 - 9th Avenue
Tampa, Florida 33605

RE: Permit # AC29-145531

Dear Messrs. Fancy and Sheplak:

Gulf Coast Lead Company respectfully requests that the referenced permit to construct a 78 ton refining kettle, be extended for a period of one year, to July 1, 1990.

Although the permit was issued by the Department on September 14, 1988, construction was never begun. On December 29, 1988, additional information was submitted to EPA, as requested. The Company is still awaiting EPA's concurrence that the referenced permit is valid.

In addition to the question of the validity of the existing permit, there have been concerns expressed by FDER staff in Tallahassee that the model EPA uses to determine impact produces erroneous results. It is the Company's understanding that EPA has retained the services of a consultant to correct the deficiencies in the model and that the corrected model will be available towards the end of 1989.

I look forward to hearing from you soon concerning this request for an extension of the permit.

Sincerely,

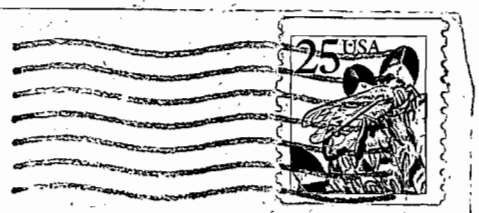
GULF COAST LEAD COMPANY, INC.

Joyce Morales-Caramella

Joyce Morales-Caramella
Environmental Director
copied: H. Hanks
B. Thomas, SW Dist.

GULF COAST LEAD CO., INC.
1901 NORTH 66TH STREET
TAMPA, FLORIDA 33619

TAMPA, FL 336
PM
12 JUN
1989



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

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: File

FROM: Willard Hanks wmh

DATE: January 5, 1989

SUBJ: Gulf Coast Lead Company, Inc. AC29-145531

Here is some background on the permit for Gulf Coast Lead that EPA does not like.

Gulf Coast Lead Company operates an existing secondary lead smelter facility in Tampa, Hillsborough County, Florida. The facility has five existing sources whose lead emissions are regulated by the Florida Lead SIP promulgated by EPA.

The Company applied for a permit to construct a new 78 ton refining kettle on February 16, 1988. The Company proposed to reduce the allowable emissions for two of the existing lead sources by an amount equal to the allowable lead emissions for the proposed new source. Thus, the total allowable emissions from the facility would not change.

The new source emits 0.7 TPY PM and 0.28 TPY lead which is less than the significant emission rate for these pollutants. I concluded that the application would not be subject to PSD and only NSPS, RACT, and NAAQS for lead would govern the emissions from the new source.

Reducing the allowable emissions from the existing sources does not violate the Florida lead SIP. Modeling the impact of the emissions from the new source, assuming a 125 ft. stack to avoid the directional downwash part of the calculation (Company proposed 30 ft), and using the reduced allowable emissions for the existing sources provided me with reasonable assurance that the NAAQS would not be exceeded.

The Department issued a construction permit requiring the new source to meet NSPS and install a 125 ft stack (originally proposed that the company select a stack height and lower emission standard that complied with the NAAQS because of problems with the required EPA model) and required the allowable emission from two existing sources to be reduced.

The EPA is threating to find the construction permit deficient unless contemporaneous emissions changes from the facility, which they requested during the public notice period, are determined.

I see no regulatory reason to determine the change in actual emissions. The emissions from the 78 ton kettle are new. They are less than the significant emission rate and, thus, do not trigger PSD. The actual emissions from the other sources from the facility may be unchanged, even though the Company voluntarily reduced the permitted emissions. The permitted emissions from the facility remain the same, although actual emissions are increased by the new kettle. The permitted limits from the facility still equal the allowable emission limit in the Florida SIP which EPA has concluded was the maximum that could occur without exceeding the NAAQS. DER's construction permit probably requires a stack that is higher than necessary to comply with the NAAQS. Until the problems with EPA's new required model are corrected, we will be unable to evaluate the impact of shorter stacks.

WH/plm

GULF COAST LEAD CO., INC.

LEAD PRODUCTS -- WHOLESALE ONLY

OFFICE AND PLANT
1901 NORTH 66TH STREET • TAMPA, FLORIDA 33619
PHONE: 626-0303—626-6151

December 29. 1988

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency
345 Courtland Street
Atlanta, Georgia 30365

Dear Mr. Miller:

On December 2, 1988, Gulf Coast Lead Company, Inc. received a letter from Steve Smallwood, Florida Department of Environmental Regulation, requesting that the Company answer your letter of November 10, 1988 to C. H. Fancy.

In your letter to Mr. Fancy, you stated that representative actual emission rates and production rates be used in netting calculations instead of using old allowable emission limits for the existing sources.

Actual emissions (in pounds per hour) for all sources at Gulf Coast Lead Company for the last two years were as follows:

	1987 Stack Test		1988 Stack Test	
	Particuates	Lead	Particulates	Lead
Furnace	0.85	0.0207	1.15	0.0913
Refining	0.25*	0.0047*	0.17*	0.0014*
Keel Cast	0.04	0.0007	0.04	0.0003

* Stack tests performed with two 52 ton kettles operating.

Hours of operation for 1986 and 1987 were as follows:

	1986 Hours of Operation	1987 Hours of Operation
Furnace	7600	7800
Refining	3000*	3360*
Keel Cast	310	280

* Sometimes two 52 ton kettles operating simultaneously.

Annual emissions, in tons per year, for 1986 and 1987 and average emissions for 1986-1987 follow:

	1986 Annual Emissions		1987 Annual Emissions		1986/1987 Average Annual Emissions	
	Part.	Lead	Part.	Lead	Part.	Lead
Furnace	3.230	0.079	4.485	0.356	3.86	0.218
Refining	0.375	0.00705	0.286	0.00235	0.330	0.0047
Keel	0.0062	0.00011	0.0056	0.00004	0.0059	0.00008
			FACILITY TOTAL:		4.20	0.223

The proposed source is a 78 ton refining kettle. Based on 1986/1987 emissions for the two 50 ton kettles, it is estimated actual emissions for the 78 ton kettle will average 0.16 pounds/hour of particulate and 0.0023 pounds/hour of lead. ([1986 #/hr + 1987 #/hr]/2 x [3/4]*) *Since stack tests were run on two 52 ton kettles operating simultaneously, it is assumed that actual emissions for the 78 ton kettle will be 3/4 of the total emissions for the two 52 ton kettles.

Assumming the new kettle will operate 12 hours/day, five days/week, 50 weeks/year, annual particulate emissions for the source will average 0.24 tons per year. This amounts to an increase in particulate emissions for the facility of 5.7%. Annual lead emissions for the new kettle should average 0.0034 pounds/hour, which is a 1.5% increase in lead emissions for the entire facility.

The increase in actual emissions for Gulf Coast Lead Company should be even less than calculated in the previous paragraph of this letter. The refining operation is limited by the amount of blast lead available to be refined. Since the blast furnace is not being expanded, it is reasonable to assume that the operation of the 78 ton kettle will replace part of the operation of the

three 52 ton kettles presently permitted. The 22 ton keel cast kettle will be eliminated.

I trust this information is the information you were seeking. If you have any questions, please do not hesitate to call.

The Company regrets that actual emissions are not also used to calculate the impact on ambient air quality. Running the EPA model, FDER has determined the source must be constructed with a 125 foot high stack instead of the proposed 30 foot stack. Considering the predicted increase in emissions, this seems a bit ludicrous.

Sincerely,

GULF COAST LEAD COMPANY, INC.

Joyce Morales-Caramella

Joyce Morales-Caramella
Environmental Director

cc: Lonnie Payne, GCL
Willis Kitchen, GCL
Steve Smallwood, FDER
Willard Hanks, FDER
Jerry Campbell, EPCHC
Bill Thomas, FDER

CHF - Let's Discuss

CHF - Because of the time, I'm not going to kick this one back for redo, but it's not well written throughout. Some parts are very good others not. We need better QA on our permits.

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

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

Condition #5 is not properly written. It should specific the particular measure that are to be taken.

CHF ① did the applicant request a 30 ft stack? ② Was it not permitable? ③ If not why did we not propose to deny the application instead of amending his application?

TO: Dale Twachtmann

FROM: Steve Smallwood

SUBJ: Approval of Gulf Coast Lead Company, ~~Inc.~~
State Construction Permit Number: AC 29-145531

DATE: September 12, 1988

that was the whole point of the rule change.

Attached for your approval and signature is a permit prepared by Central Air Permitting for the above mentioned company to construct a 78 ton lead refining kettle and reduce the allowable emissions from two existing pot furnaces.

The facility is located in Tampa, Hillsborough County, Florida.

Day 90, after which the permit will be issued by default, is September 16, 1988.

EPA took exception to the Department allowing the applicant to select a combination of emission limits and stack heights to comply with the ambient air quality standard for lead. The Department responded by setting a specific emission limit and stack height in the construction permit. We have reasonable assurance that these parameters will comply with the regulations. The applicant may request that this permit be amended in the future to allow an alternate emission limit or stack height which also results in compliance with the air pollution control regulations.

SS/WH/s

attachments

CHF - I agree with EPA. Permits need to be specific. The applicant "selects" the stack height he want in the application. Tell SSC engineers not to propose this type of thing in future permits.

If anyone thinks it is necessary or desirable to do so I'd like to listen to the rationale. 9-12-88

~~Patty~~ 8/6

You may wish to further edit (change) this.

Clay

Just some comments
PA

Steve

Judy -
Send wang note to JSS (can back) return this to me
Steve
9-6-88

12-6

Willard - I explained to Steve that we did not have time to send out incompleteness letter as we got this on about day 28. Please keep file on this. Also, just tell me status on the permit. Thanks.

Clair

PERMANENT FILES

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

November 18, 1988

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Dear Mr. Kitchen:

RE: Permit No. AC 29-145531

The Environmental Protection Agency (EPA) is reguesting additional information on the emissions from your secondary lead smelting operation in Tampa. See the attached letter and the definition of "actual emissions" in the Department's regulations. We believe they want this information to be sure that the proposed 78 ton refining kettle is not subject to the prevention of significant deterioration (PSD) regulations.

As the time allowed to furnish the information is relatively short, we request you send the information directly to EPA and provide this office and the Environmental Protection Commission of Hillsborough County with a copy of your response.

If we can be of assistance in this matter, please call Willard Hanks at (904)488-1344.

Sincerely,

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

SS/WH/mch

Attach: EPA letter dated Nov. 10, 1988

cc: Bruce Miller, EPA
Jerry Campbell, EPCHC
Bill Thomas, SW District

PM
11-10-88
Atlanta, GA

file copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

RECEIVED
NOV 15 1988
DER - BAQM

NOV 10 1988

4APT/APB-aes

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

Re: Gulf Coast Lead Company

Dear Mr. Fancy:

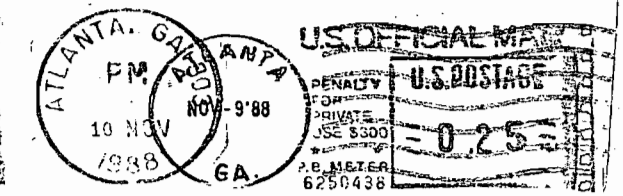
We have reviewed the final determination and final permit for the modification of the Gulf Coast Lead Company located in Tampa, Florida. The following comment was discussed on September 24, 1988, during a conversation between Willard Hanks of your staff and Karrie-Jo Shell of my staff.

Our previous comment that representative actual emission rates and production rates be used in netting calculations, instead of old allowable emission limits for the existing sources, was not addressed. As you know, federal regulations specify that a decrease in actual emissions is creditable only to the extent that the old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions. Additionally, old allowable emission data can only be used in netting calculations when old actual emission data is either unreliable or unavailable. Therefore, unless adequate justification for not using old actual emission rates is presented, we cannot concur with the final determination and permit as issued.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

AIR-4



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, FL 32399-2400

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Please respond to this issue within 30 days so that a decision on concurrence can be made. If we do not hear from you within this timeframe, or if our concerns are not adequately addressed, the permit may be considered deficient.

If you have any questions, please call me or Karrie-Jo Shell of my staff at (404) 347-2864.

Sincerely,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

cc: Gulf Coast Lead Company
1901 North 66th Street
Tampa, Florida 33619

copied: Hillard Hanks
CHF/BT

PM
9-28-88
Tampa, FL

file copy

GULF COAST LEAD CO., INC.

LEAD PRODUCTS -- WHOLESALE ONLY

OFFICE AND PLANT
1901 NORTH 66TH STREET • TAMPA, FLORIDA 33619
PHONE: 626-0303—626-6151

September 26, 1988

RECEIVED
SEP 29 1988
DER - BAQM

Mr. Willard Hanks
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Gulf Coast Lead Company
Construction Permit # AC29-145531

Dear Mr. Hanks:

I am writing this letter to confirm our conversation of this day regarding the referenced permit.

The Final Determination attached to the referenced permit states in part that: "The applicant may request the construction permit be amended by providing alternative proposals for stack heights and emissions", etc. It was agreed that the request for amendment may come at anytime between now and the expiration of the permit, July 1, 1989. You stated the permit could be modified after its issuance as long as there are no increases in total emissions and all local, state and federal regulations will be complied with under the new conditions.

As you are aware, Gulf Coast Lead Company does not believe a 125 foot high stack is needed on the proposed 78 ton kettle in order to be in compliance with the ambient air quality standard for lead. Even FDER has expressed concern that there appears to be serious problems with the model used by EPA to determine complaince with ambient air quality standards. As such, the Company wanted to make sure it has the right to pursue alternatives to the 125 foot stack even though the permit is not contested.

If you have any questions please do not hesitate to call.

Sincerely,

GULF COAST LEAD COMPANY, INC.

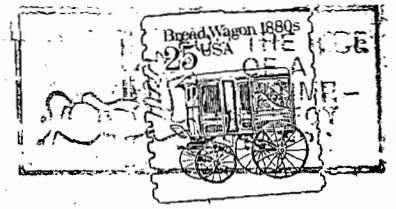
Joyce Morales-Caramella

Joyce Morales-Caramella
Environmental Director

cc: William Thomas
copied: Victor San Agustin, HCEPC
CHF/BT
Hao-Hang Chu

GULF COAST LEAD CO., INC.
1901 NORTH 66TH STREET
TAMPA, FLORIDA 33619

TAMPA, FL 336
PM
27 SEP



Mr. Willard Hanks
Florida Dept. of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

GULF COAST LEAD CO., INC.

LEAD PRODUCTS -- WHOLESALE ONLY

OFFICE AND PLANT
1901 NORTH 66TH STREET • TAMPA, FLORIDA 33619
PHONE: 626-0303—626-6151

August 16, 1988

Mr. William Thomas
Florida Dept. of Environmental Regulation
4520 Oak Fair Boulevard
Tampa, Florida 33610

RE: Air Construction Permit, FDER File # AC29-145531

Dear Mr. Thomas:

Attached is the affidavit from the April 9, 1988 Tampa Tribune from the Intent to Issue notice published for the referenced permit.

Please call me if you have any questions.

Sincerely,

GULF COAST LEAD COMPANY, INC.

Joyce D. Morales-Caramella

Joyce D. Morales-Caramella
Environmental Director

copied: Hillard Hanks
Victor San Agustin, HCEPC

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

	Initial / Date
1. TO: (NAME, OFFICE, LOCATION) Mr. Willard Hanks	Initial / Date
2. CAPS - BAQM	Initial / Date
3. Tallahassee RECEIVED AUG 22 1988 DER - BAQM	Initial / Date
4.	Initial / Date

REMARKS:

Dear Willard:

Enclosed please find a copy of "Proof of Publication" of "Notice of Intent" for Gulf coast lead Co., Permit No: AC 29-145531.

I have transferred the PATS from TPA to BAQ. If I can be of help to you please call.

Thanks,

Mirza

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: MIRZA BAIG.

DATE

PHONE

THE TAMPA TRIBUNE

Published Daily
Tampa, Hillsborough County, Florida

State of Florida
County of Hillsborough } ss.

Before the undersigned authority personally appeared G. T. Gleason, who on oath says that he is Controller of The Tampa Tribune, a daily newspaper published at Tampa in Hillsborough County, Florida; that the attached copy of advertisement being a LEGAL NOTICE

in the matter of NOTICE OF INTENT

was published in said newspaper in the issues of August 9, 1988

Affiant further says that the said The Tampa Tribune is a newspaper published at Tampa, in said Hillsborough County, Florida, and that the said newspaper has heretofore been continuously published in said Hillsborough County, Florida, each day and has been entered as second class mail matter at the post office in Tampa, in said Hillsborough 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 person, firm, or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

G. T. Gleason

Sworn to and subscribed before me, this 9th *day of* August *A.D. 19* 88

Deborah Faina

(SEAL)

Notary Public, State of Florida
My Commission Expires Aug. 26, 1990
Bonded Thru Troy Fain - Insurance Inc.

State of Florida
Department of
Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to construct a 78 ton refining kettle and baghouse at Gulf Coast Lead Company, Inc.'s secondary lead smelter located at 1901 North 66th Street in Tampa, Hillsborough County, Florida. Emissions from other existing equipment at the plant will be reduced so that this project does not cause a net emissions increase of any regulated air pollutant. Neither a BACT or LAER determination was required. The project, as permitted, will not cause a violation of any ambient air quality standard. The Department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400 within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57 Florida Statutes. If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

The application is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays at:
Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Fl 32399-2400
Dept. of Environmental Regulation
Southwest District
4520 Live Oak Fair Blvd.
Tampa, Fl 33610-7347
Environmental Protection Commission of Hillsborough County
1410 North 21st Street
Tampa, Fl 33605

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.
6195 8/9/88

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

August 17, 1988

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Dear Mr. Kitchen:

Re: File No. AC 29-145531, 78 Ton Refining Kettle

On July 6, 1988, the Department distributed the Technical Evaluation and Preliminary Determination for Gulf Coast Lead's proposed plant modifications that include a new 78 ton refining kettle. Since this document was distributed, your staff has requested a copy of the model results used by the Department during the review of the application and the Environmental Protection Agency has told us that they would be submitting written comments on the Department's intent to issue the construction permit.

Attached are copies of seven ISCLT model runs for Gulf Coast Lead Company that your staff requested. As noted in the Department's letter of July 5, 1988, the initial modeling, model-runs B-G, were based on the July 1986 version of ISCLT (UNAMAP version 6.0).

Model-run A uses the latest model approval by EPA at that time, the 1988 version (UNAMAP version 6.5).

Please notice the differences in the modeling results, A and B, between the two versions of the ISCLT model using exactly the same input data. Regulations (January, 53 FR 392-395), require that any refined modeling to show compliance with ambient air quality standard be based on the latest version of ISCLT model (UNAMAP version 6).

We have received written comments on your proposed modification from EPA. They said that the change in actual emissions (not permitted emissions) should have been used in evaluating the project and that the allowable emissions and stack height have to be listed in the permit to construct. The Department is sending copy of EPA's letter to you for comments.

If you have any questions concerning the processing of this application, please call Shao-Hang Chu or Willard Hanks at (904)488-1344 or write to me at the Division of Air Resources Management in Tallahassee.

Sincerely,

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

CHF/WH/s

attachment

PM
8-12-84
Atlanta, GA

file copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUG 12 1988

4APT/APB-aes

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32300-2400

Re: Gulf Coast Lead Company, Inc.

Dear Mr. Fancy:

This is to acknowledge receipt and provide comment on your July 5, 1988, technical evaluation and preliminary determination for the proposed addition of a 78 ton lead refining kettle at the above referenced facility in Tampa, Florida. The emissions from this kettle are to be controlled by a baghouse and the reduction of particulate (PM and lead) emissions from two existing refining kettles will be used to ensure there will be no net emissions increase.

In analyzing the ambient impacts from the proposed 78 ton kettle, it was discovered that the National Ambient Air Quality Standard for lead would be exceeded due to downwash conditions from the 30 foot stack for the baghouse emissions from the proposed kettle. The technical evaluation stated that the stack height would need to be raised to 125 feet or the emissions limits for one or more of the sources reduced to protect the standard. The preliminary determination then proposed a construction permit allowing the company to construct the kettle provided it could be demonstrated that the NAAQS for lead would be protected using the currently approved EPA models prior to the operation of the new kettle. According to the determination, this could be accomplished through raising the stack height without a permit revision or requesting that the emissions limits be modified prior to operation of the kettle. EPA can not concur with this preliminary determination or the proposed permit unless the above deficiency is corrected prior to the issuance of the permit.

In addition to the above, EPA requests that the netting calculations for particulate matter and lead emissions be performed using actual emission rates and production times for the existing sources providing emissions reductions. These calculations and the company's submittal of actual emissions data should be appended to the technical evaluation.

RECEIVED

AUG 16 1988

DER-BAQM

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET
ATLANTA, GEORGIA 30365

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300
AIR-4

ATLANTA, GA 303
PM
12 AUG
1988

AIR HOUSING BUILDING A NATION OF NEIGHBORS
U.S. OFFICIAL MAIL
PENALTY FOR PRIVATE USE $300
U.S. POSTAGE
AUG 12 '88
ATLANTA GA

Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32300-2400

20

We request that the above issues be addressed prior to issuing the final determination. Please contact me or Mr. Michael Brandon at (404) 347-2864 if you have any questions or comments regarding this letter.

Sincerely,

Bruce P. Miller

Bruce P. Miller, Chief
Air Programs Branch
Air, Pesticides, and Toxics
Management Division

copied: Willard Hanks
Shao Hang Chu
Bill Thomas, SW Dist
Ivan Chorvinko, HCEPC

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. Willis M. Kitchen
Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th SCreet
Tampa, FL 33619

4. Article Number
P 702 175 471

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X Sheryl Kouf

6. Signature – Agent
X

7. Date of Delivery
7-8-88

8. Addressee's Address *(ONLY if requested and fee paid)*
Same as above

PS Form **3811**, Mar. 1987 ★ U.S.G.P.O. 1987-178-268 **DOMESTIC RETURN RECEIPT**

P 702 175 471

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

Sent to Mr. Willis M. Kitchen, Gulf Coast Lead	
Street and No. 1901 North 66th St.	
P.O., State and ZIP Code Tampa, FL 33619	
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: 7-6-88 Permit: AC 29-145531	

PS Form 3800, June 1985

Florida Department of Environmental Regulation

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

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

July 5, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Dear Mr. Kitchen:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for Gulf Coast Lead Company, Inc. to construct a 78 ton refining kettle with a baghouse.

In order to comply with the air pollution control regulations, the kettle will need a higher stack than was proposed in the application. This matter is discussed in the attachment.

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

Sincerely,

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

CHF/wh

Attachments

cc: William Thomas, SW District
Robert Wallace, P.E.
Victor San Agustin, HCEPC

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Application for Permit by:

Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

DER File No. AC 29-145531

INTENT TO ISSUE

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

The applicant, Gulf Coast Lead Company, Inc., applied on February 16, 1988, to the Department of Environmental Regulation for a permit to construct a 78 ton refining kettle with baghouse at their secondary lead smelter located at 1901 North 66th Street, Tampa, Hillsborough County, Florida.

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

Pursuant to Section 403.815, F.S. and DER Rule 17-103.150, FAC, you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit applications. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless 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. Petitions must comply with the requirement of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copy enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. 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, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions will be dismissed.

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:

William Thomas, SW District
Robert Wallace, P.E.
Victor San Agustin, HCEPC

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

28-5.15 Requests for Formal and Informal Proceedings

(1) Requests for proceedings shall be made by petition to the agency involved. Each petition shall be printed, typewritten or otherwise duplicated in legible form on white paper of standard legal size. Unless printed, the impression shall be on one side of the paper only and lines shall be double spaced and indented.

(2) All petitions filed under these rules should contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name and address of the petitioner or petitioners;

(c) All disputed issues of material fact. If there are none, the petition must so indicate;

(d) A concise statement of the ultimate facts alleged, and the rules, regulations and constitutional provisions which entitle the petitioner to relief;

(e) A statement summarizing any informal action taken to resolve the issues, and the results of that action;

(f) A demand for the relief to which the petitioner deems himself entitled; and

(g) Such other information which the petitioner contends is material.

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 7-6-88.

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 Jane Wise 7-6-88
Clerk Date

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to construct a 78 ton refining kettle and baghouse at Gulf Coast Lead Company, Inc.'s secondary lead smelter located at 1901 North 66th Street in Tampa, Hillsborough County, Florida. Emissions from other existing equipment at the plant will be reduced so that this project does not cause a net emissions increase of any regulated air pollutant. Neither a BACT or LAER determination was required. The project, as permitted, will not cause a violation of any ambient air quality standard. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative determination (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Department's Office of General Counsel, 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32399-2400, within fourteen (14) days of publication of this notice. Failure to file a petition within this time period constitutes a waiver of any right such person has to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

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

Environmental Protection Commission
of Hillsborough County
1410 North 21st Street
Tampa, Florida 33605

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

Gulf Coast Lead Company, Inc.
Hillsborough County
Tampa, Florida

78 Ton Refining Kettle
File No. AC 29-145531

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

July 5, 1988

I. General Information

A. Applicant

Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

B. Request

An application for permit to construct a 78 ton lead refining kettle with a baghouse at a secondary lead smelter (SIC 3341) was submitted to the Environmental Protection Commission of Hillsborough County on February 16, 1988. The application was considered complete on receipt of Environmental Engineering Consultants, Inc.'s April 26, 1988, letter.

C. Project

The applicant operates a secondary lead smelter at 1901 North 66th Street, Tampa, Hillsborough County, Florida. The UTM coordinates of this site are Zone 17, 364.048 km E and 3093.548 km N.

The applicant proposes to reduce the permitted lead emissions from an existing 50 ton refining kettle from 0.50 lbs/hr to 0.20 lbs/hr, shutdown an existing 22 ton kettle, and install a new 78 ton refining kettle with a baghouse connected to a 30 foot high, 2 foot diameter stack.

D. Emissions

The applicant is proposing to reduce the allowable emissions from the existing 50 ton refining kettle from 1.00 lbs PM/hr and 0.40 lbs Pb/hr to 0.50 lbs PM/hr and 0.20 lbs Pb/hr. By ceasing operation of the 22 ton kettle, its allowable emissions of 0.20 lbs PM/hr and 0.08 lbs Pb/hr are eliminated. The emissions from the proposed 78 ton kettle will be 0.70 lbs PM/hr and 0.28 lbs Pb/hr. As a result of these changes, the project will not cause a net change in allowable emissions from this facility. A summary of the emissions, before and after the proposed project, are shown in the following table.

Source	Pollutant	Emissions (lbs/hr) Present	Proposed	Change
Blast Furnace	PM	2.50	2.50	0
	Pb	1.810	1.810	0
Blast Furnace Prod. Tap	PM	0.15	0.15	0
	Pb	0.060	0.060	0
Blast Furnace Charge	PM	0.55	0.55	0
	Pb	0.220	0.220	0
50 Ton Kettle	PM	1.00	0.50	-0.50
	Pb	0.40	0.20	-0.20
22 Ton Kettle (shutdown)	PM	0.20	0	-0.20
	Pb	0.080	0	-0.080
78 Ton Kettle (proposed)	PM	0	0.70	+0.70
	Pb	0	0.28	+0.28

There will also be emissions, the products of combustion, created by the burning of fuel to heat the lead in the new kettle. As only natural gas is burned to melt the charge, the emissions from the fuel and their impact on the ambient air quality are not considered significant.

II. Rule Applicability

A. State Regulations

The proposed project (installing a new kettle, reducing the allowable emissions from an existing kettle, and ceasing operation of another kettle at a secondary lead smelter (SIC 3341)) is subject to preconstruction review under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2, Florida Administrative Code.

The facility is in an area designated nonattainment for particulate matter and ozone (17-2.410), unclassifiable for sulfur dioxide (17-2.430), and attainment for the other criteria pollutants (17-2.420).

The plant is a major facility because the emissions of lead (Pb) exceed 5 TPY (17-2.100).

The project is not subject to the Prevention of Significant Deterioration Regulations (17-2.500) and New Source Review for Nonattainment Areas (17-2.510) because it does not cause a significant emissions rate increase of any criteria pollutant.

Chapter 17-2, FAC, does not list a reasonably available control technology (RACT) standard for VOC emissions from secondary lead smelters (17-2.650(1)). The new refining kettle is not subject to RACT regulation for particulate matter (17-2.650(2)) because the emissions from the source are less than 5 lbs/hr and 15 TPY (17-2.650(2)(b)1.).

The application is subject to 17-2.520, Sources not Subject to Prevention of Significant Deterioration or Nonattainment Requirements. Emissions from the facility are subject to 17-2.300(3)(f), ambient air quality standard for lead, and (for the new kettle), 17-2.660, Standards of Performance for New Stationary Sources (NSPS, Subpart L).

B. Federal Regulations

The project is not subject to review under the PSD regulations because the proposed changes do not cause a significant net emissions increase of any criteria pollutant. The new refining kettle is subject to the new source performance standards for secondary lead smelters (40 CFR 60, Subpart L). The existing sources at the plant remain subject to the lead implementation plan that was promulgated by EPA on November 1, 1985.

III. Technical Evaluation

Smaller amounts of antimony (3000 lbs), arsenic (162 lbs), selenium (30 lbs), sulfur (100 lbs), and phosphorous (60 lbs) along with 78 tons of blast lead are placed in a pot furnace and melted by a 8.8 MMBtu/hr natural gas burner over a 10 to 12 hour period. The charge produces about 75 tons of hard lead. The emissions from the kettle pass through a new knock-out chamber. The flow is then split and sent to either the existing 1350 ft^2 baghouse that had served the 22 ton pot for the keel cast facility that is being replaced or to a new 2700 ft^2 baghouse. Either baghouse is capable of removing over 99% of the particulate matter in the discharge from the kettle. A 12,000 acfm flow on the clean side of the baghouses send the gas through a 24" diameter, 30 foot high stack (proposed) into the atmosphere. The applicant estimates the emissions from the baghouses will be 0.002 lbs PM/hr (0.034 TPY during the 3,672 hr/yr this source operates) and 0.0006 lbs/hr (0.0012 TPY) lead.

The dross is removed from the kettle and placed in drums. The emissions from this operation are captured by slot type hoods. These fumes pass through the baghouses before being discharged to the atmosphere.

As part of this project, use of the 22 ton keel casting kettle will be discontinued and the operation time of the existing 50 ton refining kettle will be reduced from 4,368 to

3,672 hours per year. The applicant proposes to reduce the allowable emission from the 50 ton kettle to the quantities shown in Table 1.

These emissions comply with RACT, NSPS, and the Lead Implementation Plan.

However, modeling (see Section IV) shows the combined impact of the emissions from the facility, as proposed, will exceed the ambient air quality standard for lead because of downwash.

To comply with the ambient air quality standard the applicant, as a minimum, will have to raise the height of the 78 ton kettle stack to minimize downwash, lower the allowable emissions from the 78 ton kettle, or employ some combination of higher stack/lower emission rate. Higher stacks and/or lower emission limits may also be needed for other sources at the facility.

IV. Air Quality Analysis

The Department modeled proposed changes of the emissions from the plant and found the impact at the plant boundary would exceed the ambient air quality standard of 1.5 ug/m^3, quarterly arithmetic mean, for lead. The model input and results for all sources at the facility are detailed in Table 2 and summarized below:

All Five Sources Combined

Maximum Seasonal Ground Level Concentration

Quarter 1	Quarter 2	Quarter 3	Quarter 4
2.5 ug/m^3	1.58 ug/m^3	1.26 ug/m^3	2.12 ug/m^3

The modeled exceedance was due primarily to downwash from the proposed 78 ton kettle with a 30 foot high stack. Model input and results for the new kettle alone are:

The Proposed 78 Ton Kettle Lead Source

Lead Emission	0.28 lb/hr
Stack Height	30 ft.
Stack Diameter	2 ft.
Flow Rate	12,000 ACFM
Exit Temperature	95°F

Maximum Quarterly Ground-Level Concentration

Quarter 1	Quarter 2	Quarter 3	Quarter 4
1.56 ug/m^3	1.00 ug/m^3	.77 ug/m^3	1.44 ug/m^3

Note: The above model results were obtained using the July 1986 version of the EPA model, ISCLT. In January 1988, EPA adopted a new version of ISCLT which is expected to produce higher modeled impacts due to downwash conditions. This latest version of the model was not available to the Department for this analysis.

To determine if there are feasible alternatives for the proposed project that will comply with the air quality standard, the Department remodeled the emissions from the plant with a 125 foot high stack replacing the proposed 30 foot stack for the 78 ton refining kettle. Based on the July 1986 version of ISCLT, a 125 ft. high stack on this source would appear to be sufficient to avoid downwash. The stack parameters used for this model are shown in the following table.

Gulf Coast Lead Sources

Source	Emissions (lbs Pb/hr)	Stack Parameters Height (ft)	Diameter (ft)	Flow (ACFM)	Temp (°F)
Blast Furnace	1.810	150	2	26,000	150
Blast Furnace Prod. Tag	0.060	36	1.24	3,090	90
Blast Furnace Charge	0.220	55	1.83	8,300	95
50 Ton Kettle	0.200	30	2.17	14,000	95
78 Ton Kettle	0.280	125	2	12,000	95

Although this model shows the ambient air standard for lead, using these parameters, is not exceeded, the latest version of ISCLT may produce higher predicted impacts.

Compliance with the ambient air quality standard may also be achieved with a lower stack and/or lower allowable emissions. The applicant has the option of requesting any permit to construct be revised to show a different stack height or emission limits, not only for the 78 ton kettle but for other sources at the facility as well. Such request must be submitted to the Bureau of Air Quality Management, along with supporting modeling results from the latest EPA approved model, prior to placing the 78 ton refining kettle in service.

V. Conclusion

The Department has reviewed the application and concluded that the proposed 78 ton refining kettle will need, as a minimum, a higher stack and/or lower allowable emissions to comply with the air pollution control regulation. The Department proposes to issue a permit to construct for the project that will require a higher stack on the new source and/or other changes to comply with the ambient air quality standard.

The General and Specific Conditions in the draft permit will require the facility to comply with the air pollution control regulations.

Table 1
Allowable Emissions

Source	Present Emissions Part. Matter		Lead		Proposed Emissions Part. Matter		Lead	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Blast Furnace*	2.50	9.75	1.810	7.06	2.50	9.75	1.81	7.06
Blast Furnace Tap*	0.15	0.59	0.060	0.23	0.15	0.59	0.06	0.23
Blast Furnace Charge*	0.55	2.15	0.220	0.86	0.55	2.15	0.22	0.86
50T Melt Kettle (3)**	1.00	2.18	0.400	0.87	0.50	0.92	0.20	0.37
22T Keel Cast Kettle	0.20	0.24	0.080	0.01	-	-	-	-
78T Refining Kettle***	-	-	-	-	0.70	1.29	0.28	0.51
Total	4.40	14.91	2.570	9.03	4.40	14.70	2.57	9.03

*Operation time is 7,800 hrs/year
**Operation time is reduced from 4,368 to 3,672 hrs/year
***Operation time is 3,672 hrs/year

Table 2
ISCLT Model Run (30' stack on 78 ton kettle) and 1981 Meteorological Data
UNAMAP 6.0 July 1986 Version

Source	X Coord. (m)	Y Coord. (m)	INPUT Stack Height (m)	Gas Temp. (°K)	Gas Velocity (m/sec)	Stack Dia. (m)	Ht. Bldg. (m)	Width Bldg. (m)	Emission (g/s)
Blast Furnace Tap	-22.86	-35.05	10.97	305	12.97	0.358	15.24	70.41	7.6×10^{-3}
Blast Furnace Charge	-15.24	-35.05	16.76	308	3.99	0.559	15.24	70.41	2.78×10^{-2}
50 Ton Kettle	-16.76	38.10	9.14	308	4.82	0.660	15.24	70.41	2.53×10^{-2}
78 Ton Kettle	36.58	-44.20	9.14	308	4.85	0.610	15.24	122.84	3.54×10^{-2}
Blast Furnace	-18.29	-44.20	45.72	339	10.51	0.610	15.24	122.84	$2.285 \times 10^{-}$

Maximum Impact at Plant Boundary (ug/m^3) for 1981*

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Blast Furnace Tap	0.180	0.145	0.122	0.169
Blast Furnace Charge	0.371	0.317	0.256	0.383
50 Ton Kettle	0.394	0.445	0.535	0.384
78 Ton Kettle	1.561	1.005	0.774	1.442
Blast Furnace	0.005	0.026	0.033	0.006
All Plant	2.505	1.577	1.261	2.117

*Highest impact may not have been at the plant boundary

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:
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, Florida 33619

Permit Number:AC 29-145531
Expiration Date: July 1, 1989
County: Hillsborough
Latitude/Longitude: 27° 57' 43"N
82° 22' 49"W
Project: 78 Ton Refining Kettle

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 drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

Authorization to construct a 78 ton refining kettle that uses an 8.8 MMBtu/hr natural gas fired heating system, knock-out chamber, 2700 ft^2 baghouse in parallel with a 1350 ft^2 baghouse (reuse of existing unit), 12,000 ACFM fan, and a dross receptical ventilation system that includes an adjustable slot hood, provided the allowable emissions from the existing 50 ton refining kettle (AO 29-95365) are reduced to 0.50 lbs PM/hr (0.92 TPY) and 0.20 lbs Pb/hr (0.37 TPY), the keel cast kettle (AO 29-130736) is shut down and stack heights and/or allowable emission limits are employed throughout the facility that are demonstrated to be sufficient to meet the ambient air quality standard for lead. The project will be constructed at the permittee's secondary lead smelter located at 1901 north 66th Street, Tampa, Hillsborough County, Florida. The UTM coordinates of this plant are Zone 17, 364.048 km E and 3093.548 km N.

Construction shall be in accordance with the permit application and plans, documents, and reference material submitted unless otherwise stated in the Preliminary Determination and Technical Evaluation or the General and Specific Conditions herein.

Attachments:

1. Application received February 16, 1988.
2. HCEPC letter dated March 11, 1988.
3. HCEPC letter dated April 13, 1988.
4. EEC letter dated April 26, 1988.

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.

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 noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

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)
(x) 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.

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. All applicable rules of the Department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction [Subsection 17-4.07(1), FAC]. Normal charge to the 78 ton kettle will contain a maximum of 150,000 lbs of blast lead, 3000 lbs of antimony, 300 lbs of tin, 162 lbs of arsenic, 60 lbs of red phosphorous, 30 lbs of selenium, and 100 lbs of sulfur.

2. Only natural gas fuel shall be used to heat the charge. Maximum heat input is 8.8 MMBtu/hr, approximately 8,000 CFH of natural gas.

SPECIFIC CONDITIONS:

3. The plant shall maintain logs on its operation that will allow the Department to determine compliance with Specific Conditions Nos. 1 and 2.

4. All reasonable precautions shall be taken to minimize control generation of unconfined emissions of particulate matter in accordance with the provision in Subsection 17-2.610(3), FAC. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. Reasonable precautions shall include but are not limited to wetting of lead dross prior to disposal and removal of particulate matter from plant grounds on an as needed basis.

5. Pursuant to Rules 17-2.620(2), FAC, and 1-3.22(3) of the Rules of the Environmental Protection Commission of Hillsborough County, the permittee shall not allow the discharge of air pollutants which contribute to an objectionable odor.

6. Operation of the sources at the facility shall not exceed the following limits. Emissions shall be determined by the applicable test methods described in 40 CFR 60, Appendix A. Prior to placing the 78 ton kettle into service, the permittee shall demonstrate to the Department, using the latest EPA-approved dispersion model, that the facility will not cause or contribute to a violation of the ambient air quality standard for lead (17-2.300) at these emission limits and at stack heights to be proposed by the permittee, or at some combination of lower emission limits and proposed stack heights, to be incorporated as a permit amendment.

		PM Emissions		Pb Emissions		VE
Source	hrs/yr	lbs/hr	TPY	lbs/hr	TPY	% Opacity
Blast & Slag* Furnace	7,800	2.50	9.75	1.810	7.06	5
Blast & Slag Furnace Slag & Prod. Tap	7,800	0.15	0.59	0.06	0.23	5
Blast Furnace Charging	7,800	0.55	2.15	0.22	0.86	5***
50 T Melt Kettle** (3 Total)	3,672	0.50	0.92	0.20	0.37	5
22 T Keel Cast Kettle	0	0	0	0	0	0
78 T Refining Kettle	3,672	0.70	1.29	0.28	0.51	5
All other sources at the facility	--	--	--	--	--	5
Total	--	4.40	14.70	2.57	9.03	--

*Only 1 blast furnace may be operated at one time.
** Only 2 50 T melt kettles may be operated at one time.
***10% opacity allowed during charging operation only.

7. Pursuant to 40 CFR 60.8, within 60 days after achieving the maximum production rate of 12,500 lbs/hr of refined lead but not later than 180 days after initial start-up, the permittee shall test the emissions for the following pollutants and submit two copies of test data to the Air Section of the Environmental Protection Commission of Hillsborough County within 45 days of such testing. Testing procedures shall be consistent with the requirements of 40 CFR 60 and Section 17-2.700, FAC.

(x) Lead
(x) Particulate Matter*
(x) Opacity

*PM emission estimate may be obtained from Lead emission tests [40 CFR 60 Appendix A, EPA Method 12, Section 8].

Testing of emissions must be accomplished at approximately the maximum production rate of 12,500 lbs/hr. The actual production rate shall be specified in each test result. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data [Subsection 403.161(1)(c), Florida Statutes].

8. The Environmental Protection Commission of Hillsborough County shall be notified of the following in writing:

a. The date on which construction of the new source begins, postmarked not more than 30 days after such date, pursuant to 40 CFR 60.7(a)(1).

b. The anticipated date of initial start-up, postmarked not more than 60 days and not less than 30 days prior to such date, pursuant to 40 CFR 60.7(a)(2).

c. The actual date of initial start-up postmarked within 15 days after the date, pursuant to 40 CFR 60.7(a)(30).

d. The date the compliance test will be performed, postmarked at least 30 days prior to such date, pursuant to 40 CFR 60.8(d).

9. The 22 ton keel cast kettle shall be permanently taken out of service prior to placing the new 78 ton kettle in commercial operation. Any valid permit to operate the 22 ton kettle shall be returned to the Department.

PERMITTEE:
Gulf Coast Lead Company, Inc.

Permit Number: AC 29-145531
Expiration Date: July 1, 1989

SPECIFIC CONDITIONS:

10. The permit to operate the 50 ton kettle shall be amended to show the limits listed in Specific Condition No. 6 of this construction permit.

11. The applicant will submit a complete application for permit to operate the 78 tons refining kettle to the Environmental Protection Commission of Hillsborough County at least 90 days prior to the expiration date of this permit, or 45 days after placing the 78 ton kettle in operation, whichever date occurs first. The permittee may continue to operate in compliance with all terms of this construction permit until its expiration or until the issuance of an operation permit.

12. The permittee shall submit annual reports, which include the operation of the 78 ton kettle, to the Environmental Protection Commission of Hillsborough County.

Issued this_____day of_____, 1988

STATE OF FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION

_____
Dale Twachtmann, Secretary

6-17-88
COMMISSION Tampa, FL
RODNEY COLSON
PAM IORIO
RUBIN E. PADGETT
JAN KAMINIS PLATT
HAVEN POE
JAMES D. SELVEY
PICKENS C. TALLEY II

ENVIRONMENTAL PROTECTION COMMISSION
HILLSBOROUGH COUNTY

ROGER P. STEWART
DIRECTOR

1900 - 9th AVE
TAMPA, FLORIDA 33605

TELEPHONE (813) 272-5960

RECEIVED
JUN 20 1988
DER - BAQM

M E M O R A N D U M

DATE: June 15, 1988

TO: Willard Hanks THRU Bill Thomas, P.E.

FROM: Victor San Agustin VSA THRU Jerry Campbell, P.E. JC

RE: Construction Permit for Gulf Coast Lead's Refining Kettle

This memo requests that you review the following specific conditions below and that you consider incorporating them in the construction permit. Normally, we would first review BAQM's preliminary determination and them recommend changes or additions to the draft specific conditions. Since I will be on vacation by June 18 and I will not be around to comment on the preliminary determination, I am sending to you the Environmental Protection Commission of Hillsborough County's recommendations in advance.

SPECIFIC CONDITIONS:

1. All applicable rules of the department including design discharge limitations specified in the application shall be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction [Subsection 17-4.07(1), F.A.C.].

2. Pursuant to Subsection 17-2.650(2)(b)1., F.A.C., maximum allowable particulate emissions from the baghouse exhaust shall not exceed 0.7 lbs./hr. and 1.29 tons per year, as requested by the permittee in order to exempt the source from the requirements of particulate RACT.

3. Pursuant to 40 CFR 52.535(C)(1)(iv), visible emissions from the baghouse exhaust shall not exceed 5% opacity.

VSA:Gulf Coast Lead

SPECIFIC CONDITIONS: (Continued)

4. As requested by the permittee, Lead emissions shall not exceed 0.28 Lbs./hr. and 0.51 tons/year. Any physical changes to the stack characteristics or flow parameters listed in this application which affect the maximum modelled impact shall be considered a modification of this permit and shall reruire prior approval.

5. In order to demonstrate compliance with the annual allowable emission rates in Specific Condition Nos. 2 and 4, hours of operation shall not exceed 3700 hours/year.

6. Pursuant to 40 CFR 60.8, within 60 days after achieving the maximum production rate of 12,500 lbs/hr. of refined lead but not later than 180 days after initial start-up, test the emissions for the following pollutants and submit two copies of test data to the Air Section of the Environmental Protection Commission of Hillsborough County within 45 days of such testing. Testing procedures shall be consistent with the requirements of 40 CFR 60 and Section 17-2.700, F.A.C.

(x) Lead
(x) Particulate Matter *
(x) Opacity

*PM emission estimate may be obtained from Lead emission tests [40 CFR 60 Appendix A, EPA Method 12., Section 8]

7. Compliance with the emission limitations of Specific Condition Nos. 2, 3, and 4 shall be determined using EPA Methods 1, 2, 3, 4, 5, 9 and 12 contained in 40 CFR 60, Appendix A and adopted by reference in Section 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Section 17-2.700, F.A.C. and 40 CFR 60, Appendix A.

8. The Environmental Protection Commission of Hillsborough County shall be notified of the following in writing:

a. The date in which construction of the new source begins, postmarked not more than 30 days after such date, pursuant to 40 CFR 60.7(a)(1).

b. The anticipated date of initial start-up, postmarked not more than 60 days and not less than 30 days prior to such date, pursuant to 40 CFR 60.7(a)(2).

c. The actual date of initial start-up postmarked within 15 days after the date, pursuant to 40 CFR 60.7(a)(3).

d. The date the compliance test will be performed at least 30 days prior to such date, pursuant to 40 CFR 60.8(d).

SPECIFIC CONDITIONS: (Continued)

9. Testing of emissions must be accomplished at approximately the maximum production rate of 12,500 Lbs./hr. The actual production rate shall be specified in each test result. Failure to submit the input rates or operation at conditions which do not reflect actual operating conditions may invalidate the data [Subsection 403.161(1)(c), Florida Statutes].

10. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Subsection 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition of wrecking, or industrial related activities such as loading, unloading, storing and handling. Reasonable precautions shall include bur are not limited to wetting of lead dross prior to disposal and removal of partiuclate matter from plant grounds on an as needed basis.

11. Pursuant to Chapter 1-3.22(3) of the Rules of the Environmental Protection Commission of Hillsborough County, the permittee shall not allow the discharge of air pollutants which contribute to an objectionable odor.

12. An application for an operation permit shall be submitted to the Environmental Protection Commission of Hillsborough County within 45 days of completion of compliance testing or at least 60 days prior to the expiration date of this permit, whichever occurs first.

Your consideration of our recommendations will be appreciated. Please call Jerry Campbell if you have any questions.

cc: Hillard Nailor
CHF/BT
Bill Thomas, SW Dist.
Thao-Hang Chu

PM
29 apr 1988
Tampa FL

File Copy
AC 29-145531

RECEIVED

MAY 0 2 1988

DER - BAQM

April 26, 1988

ENVIRONMENTAL
ENGINEERING
CONSULTANTS

Mr. Victor San Agustin
Senior Air Permit Engineer
Environmental Protection Commission
of Hillsborough County
1900 9th Avenue
Tampa, FL 33605

RECEIVED

APR 26 198

E.P.C. OF H.C.
AIR PROGRAM

Dear Victor:

On behalf of our client, Gulf Coast Lead Company, Environmental Engineering Consultants, Inc. (EEC), offers the following response to your letters of March 11, 1988 and April 13, 1988 regarding the Company's application to construct a 78 ton refining kettle.

March 11, 1988 Letter

1. The proposed 78 ton kettle will be used for making hard lead only. Sodium nitrate, calcuium solids and caustic soda are used only in the refining of soft lead and therefore, are not to be considered in this application.

   The normal and maximum utilization rate for the raw materials used in making hard lead will be as follows for the 78 ton kettle:

Normal Hard Lead

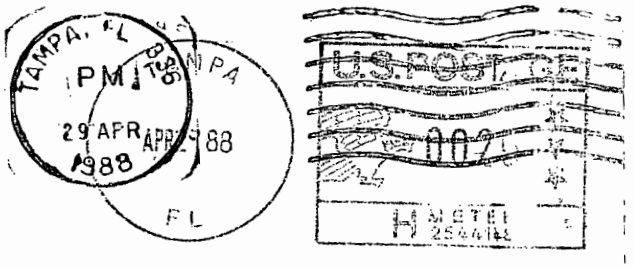
	Normal (lbs/charge)	Maximum (lbs/charge)
Blast Lead	150,000	150,000
Antimony	1,725	3,000
Tin	147	300
Arsenic	162	150
Red Phosphorous	15	15

5119 NORTH FLORIDA AVENUE
P.O. BOX 7854
TAMPA, FLORIDA 33673

813/237-3781
813/238-0036

Environmental Protection Commission
of
Hillsborough County

1900 9th Avenue
Tampa, Florida 33605



Mr. Willard Hanks, CAPS Engineer
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Antimony, tin and arsenic are added approximately 1 hour before pumping. Red phosphorous is added just before pumping. In addition to the normal hard lead produced two pots per week of low antimony lead are produced. The following raw materials are added to the pot:

Low Antimony Lead (lbs/charge)	
Blast Lead	150,000
Antimony	600
Tin	150
Arsenic	150
Selenium	30
Sulfur	100
Red Phosphorous	60

2. Gulf Coast Lead Company has provided EEC with material balance information on the most common kind of hard lead made at the site. This data has been used to calculate the emissions from the baghouse. The results are listed in Table 1. The results are based on the following assumptions:

1. The antimony, tin, arsenic and selenium not accountd in the final product are discharged to the baghouse. In actuallity, some are removed in the dross, the drop out box or remains in the pot.

2. At a baghouse exhaust temperature of 95 degrees F, each of the elements is a solid and is collected by the bahouse.

3. The baghouse efficiency is estimated at 99+%, this is a conservative estimate, most baghouse are 99.9%.

3. The air flow is calculated at 11,189 dscfm.

April 13, 1988 Letter

1. Based on Gulf Coast Lead Company's latest emission test data obtained during February, 1988, the following information has been updated:

	Blast Furnance	Blast Furnace (Tapping)	Blast Furnace (Charging)	50-Ton Kettle	78-Ton Kettle
Stack Ht. (ft.)	150	45	65	25	30
Diameter	2'	Square 1.1'	22"	26"	2'
Flow (ACFM)	26,000	3,090	8,300	14,000	12,000
Temperature ^{o}F	150-240	90	95	95	95

2. Attached is a site plan with distances and building dimensions.

3. A dross receptical ventilation system similar to the ones inuse on Gulf Coast Lead Company's present refining kettles will be installed. The hoods are slot type, adjustable for different drums sizes and retractable to allow for drum placement and charging of the pot. A drawing is attached for your information.

Please have the BAQM send both Gulf Coast Lead Company and Environmental Engineering Consultants, Inc. a copy of the model input and results.

If we can be of any further assistance, please give me a call.

Sincerely,

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

James Wm. Estler,
Senior Environmental Engineer

JWE/nd

Enclosures

cc: Joyce Morales-Caramella, GCLC

Copied: Willard Nonis
CHFIBT
B. Stewart, SW Dist
5.3.88 MS

TABLE 1

MATERIAL BALANCE INFORMATION

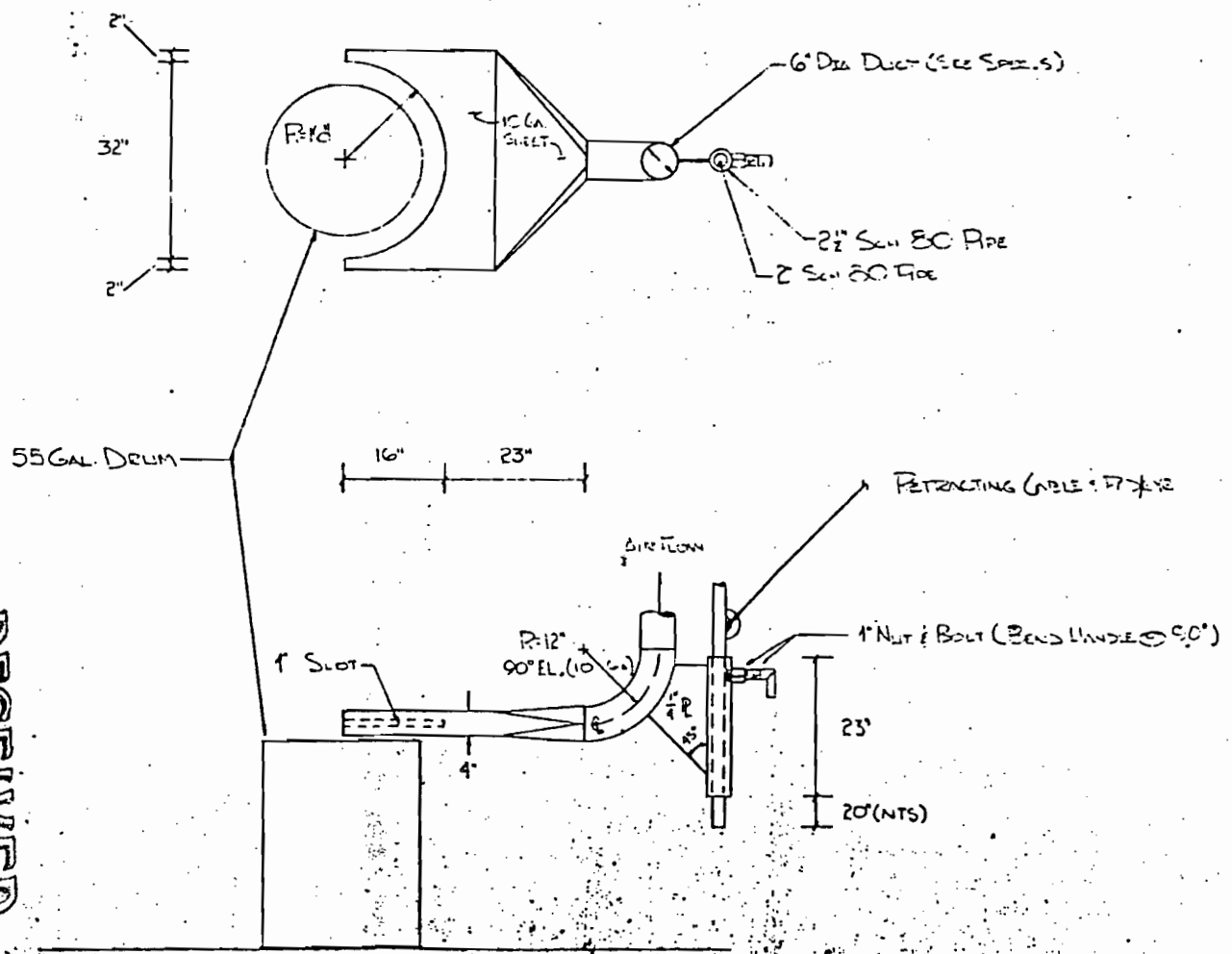
Blast Lead	Additives (lbs)	Total (lbs)	Product	Discharge To Baghouse	Discharge From Baghouse*
156,000 lbs/charge			150,00 lbs/charge		
Sb 1.4% (2,184 lbs)	1,725	3,909	2.6% (3,900 lbs)	9.0 lbs	.09 lbs/hr.
Sn 0.1% (156 lbs)	147	303	0.2% (300 lbs)	3.0 lbs	.03 lbs/hr.
As 0.06% (93.6 lbs)	162	255.6	0.17% (255.0 lbs)	0.6 lbs	.006 lbs/hr
Se 0.0% (0.00 lbs)	30	30	0.017% (25.5 lbs)	4.5 lbs	0.045 lbs/hr

* Based on an efficiency of 99+%.

BY RCB DATE 9-10-80 SUBJECT 55 GAL. DRUM DRESS HOOD SHEET NO. 1 OF 1
CHKD. BY DATE JOB NO.

SPECIFICATIONS

1. Q = 689 CFM
2. V = 3500 FPM
3. DUCT: 6" FLEXIBLE GALV STEEL (0.012")

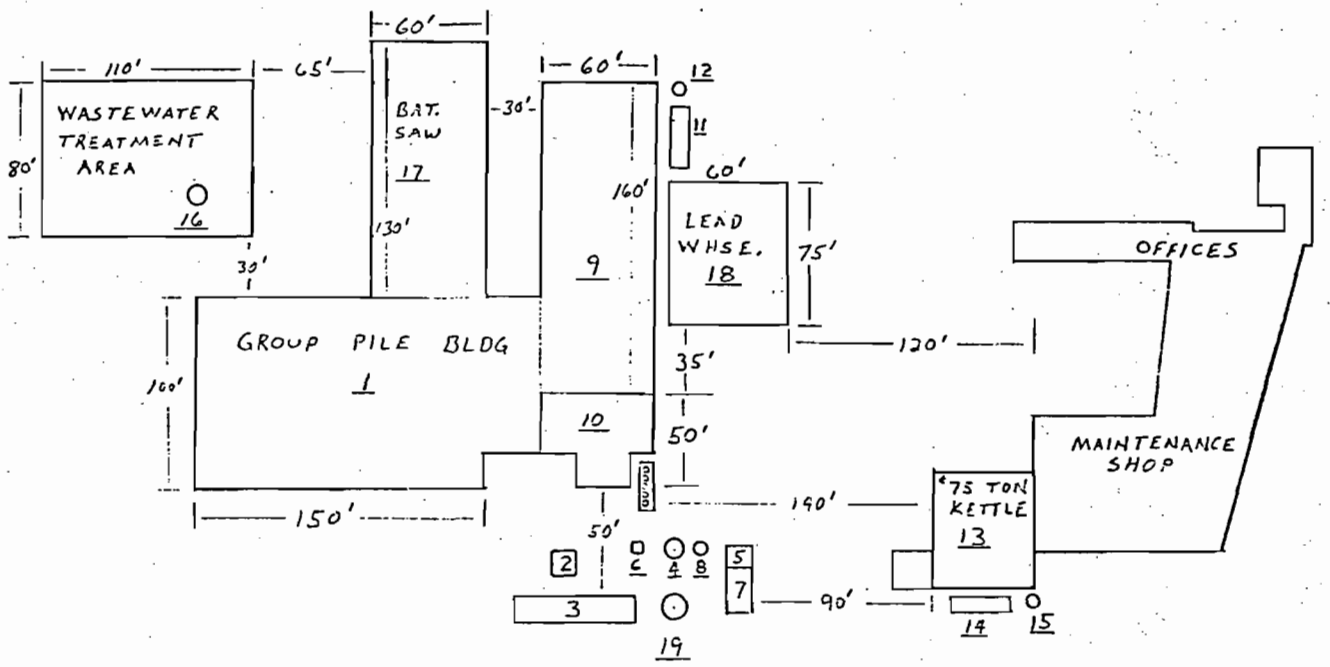


SCALE: 1" = 2"

NOTE: HOOD IS RETRACTED FOR DRUM REMOVAL W/ WINCH & PULLEY (FIELD POSITIONED)

GULF COAST LEAD – LOCATION OF MANUFACTURING PROCESSES AND EMISSION POINTS

J. Guida
4/88



LEGEND

NO.	STRUCTURE	LENGTH	WIDTH	HEIGHT	NO.	STRUCTURE	LENGTH	WIDTH	HEIGHT
1	GROUP PILE BLDG.	150'	100'	20'	11	REFINING BAGHOUSE	20'	12'	30'
2	ELECTRICAL BLDG	12'	12'	9'	12	REFINING STACK	26" Round	—	30'
3	FURNACE BAGHOUSES	65'	20'	30'	13	75 TON KETTLE BLDG*	60'	50'	20'
4	OLD FURNACE STACK	2' Round	—	97'	14	75 TON KET. BAGHOUSE*	20'	12'	30'
5	TAPPING BAGHOUSE	10'	12'	30'	15	75 TON KETTLE STACK*	2' Round	—	30'
6	TAPPING STACK	12.5" SQ	12.5" SQ	36'	16	WATER TANK	12' Round	—	30'
7	CHARGING BAGHOUSE	20'	12'	30'	17	BAT. SAW BLDG.	130'	60'	24'
8	CHARGING STACK	2' Round	—	65'	18	LEAD WARE HOUSE	75'	60'	20'
9	REFING BLDG.	160'	60'	18'	19	NEW FURNACE STACK	2' Round (TOP)	3.5' Round (Base)	150'
10	FURNACE BLDG	50'	60'	50'					

* PROPOSED

PM
14 April 1988
Tampa, FL

File Copy

ROGER P. STEWART
DIRECTOR

1900 - 9th AVE
TAMPA, FLORIDA 33605

TELEPHONE (813) 272-5960

AC 29-147504

RECEIVED
APR 18 1988
DER - BAQM

April 13, 1988

Mr. Jim Estler
Environmental Engineering Consultants, Inc.
Post Office Box 7854
Tampa, FL 33673

Dear Mr. Estler:

RE: Construction Permit for Gulf Coast Lead's 78 Ton Refining Kettle

The purpose of this letter is to request for more additional information pertaining to the above application. The Bureau of Air Quality Management (BAQM) in Tallahassee is also reviewing this application and requests for the following:

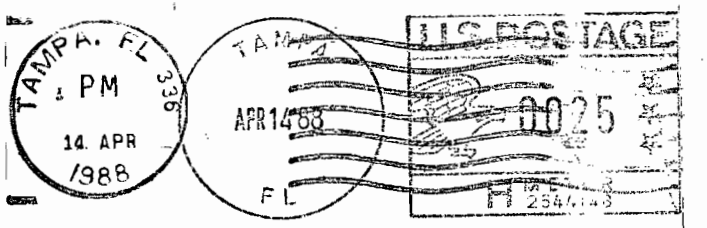
1. To assure compliance with the ambient lead standard, BAQM intends to conduct a dispersion model for the entire plant. Please verify the accuracy of the following stack parameters:

	Blast Furnace	Blast Furnace (Tapping)	Blast Furnace (Charging)	50-Ton Kettle	78-Ton Kettle
Stack Ht.(ft.)	97	45	65	25	30
Diameter (ft.)	2	1.1	2	2	2
Flow (ACFM)	14,880	3,090	5,760	14,000	12,000
Temperature ^{o}F	150-240	150	150	95	95

2. The dispersion model used will account for building downwash. On the enclosed plot plan, please specify the lengths, widths, and heights of Buildings 1, 2, 3, 5, 6, 7, 9, 10, 13, and 14. Also, please hand write on the plot plan the approximate distances between these buildings.

Hillsborough County Environmental Protection Commission

1900 9th Avenue
Tampa, Florida 33605



Willard Hanks
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

3. Please specify in your response to my March 11, 1988 letter, reasonable precautions that Gulf Coast Lead will take to minimize dust emissions during the handling of dross from the kettle.

Thank you for your assistance in this matter. If I can be of assistance, please call me.

Sincerely,

Victor San Agustin

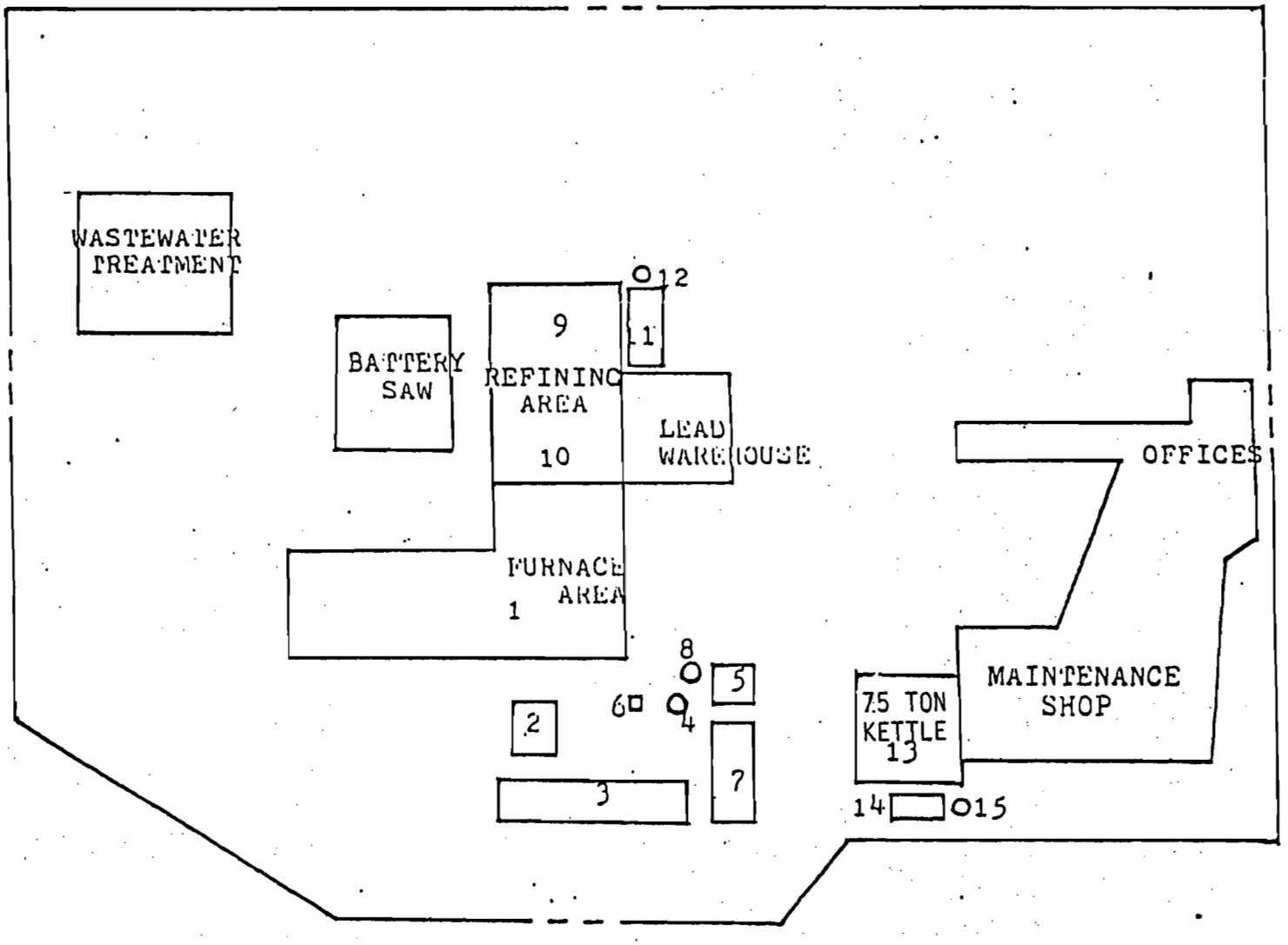
Victor San Agustin
Senior Air Permit Engineer

pjb

xc Joyce Morales, Gulf Coast Lead
Willard Hanks, BAQM

Copied: Willard Hanks
CHF/BT
Bill Thomas, Tampa
4.19.88

ATTACHMENT E



GULF COAST LEAD COMPANY

LOCATION OF MANUFACTURING PROCESSES & EMISSION POINTS

HIRZA DAIG

ENVIRONMENTAL PROTECTION COMMISSION
HILLSBOROUGH COUNTY

ROGER P. STEWART
DIRECTOR

1900 - 9th AVE
TAMPA, FLORIDA 33605

TELEPHONE (813) 272-5960

March 11, 1988

Mr. Willis M. Kitchen, Vice President
Gulf Coast Lead Company, Inc.
1901 North 66th Street
Tampa, FL 33619

Dear Mr. Kitchen:

The staff of the Environmental Protection Commission of Hillsborough County acknowledges the receipt of your application for a permit to construct a 78 ton refining kettle, knockout chamber, and baghouse.

Review of the application shows that it is incomplete. Pursuant to Section 17-4.07, F.A.C., we request you submit the following additional information:

1. Section III.A. of the application indicates antimony, tin, and "other alloying and refining elements" are used as raw materials in this operation. Please specify all the alloying and refining elements and their individual maximum utilization rates. During my March 9, 1988, inspection refining materials noted were calcium solids, sodium nitrate, arsenic, antimony, caustic soda, and phosphorus.

2. Complete Section III.C. for emissions of toxic contaminants which arise from mixing the kettle contents with these alloying and refining elements.

3. List the DSCFM flow rate as required by Section III.H. of the form.

Further review of the application is temporarily held in abeyance, pending receipt of your complete response. Please submit your complete response no later than April 8, 1988.

Sincerely,

Victor San Agustin

Victor San Agustin
Senior Air Permit Engineer

ch

cc Bill Thomas, FDER

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)	Initial / Date
MAGGIE JANES – CAPS	
2. BAQM – TWIN TOWERS	Initial / Date
3. DER – TALLAHASSEE	Initial / Date
4.	Initial / Date

RECEIVED
APR 1 1988
DER-BAQM

REMARKS:

Dear Maggie!

As per your request attached is the permit application for "Gulf Coast Lead."

If I Can be of any help to you please call.

Thanks,

Mirza

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: MIRZA P. BAIG
TAMPA, DER

DATE 4-1-88

PHONE S.C. 552-7612

AC-29-145531

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

RECEIVED
FEB 16, 1988

PAID $100.00

SOUTHWEST DISTRICT
7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610-9544

E.P.C. OF H.C.

BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY
RICHARD D. GARRITY, PH.D.
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Secondary Lead Smelter [ ] New[1] [X] Existing[1]

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

COMPANY NAME: Gulf Coast Lead Company, Inc. COUNTY: Hillsborough

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) 78 Ton Refining Kettle with Baghouse

SOURCE LOCATION: Street 1901 North 66th Street City Tampa

UTM: East 364.048 North 3093.548

Latitude 27 ° 57 ' 43 "N Longitude 82 ° 22 ' 49 "W

APPLICANT NAME AND TITLE: Willis M. Kitchen, Vice President

APPLICANT ADDRESS: 1901 North 66th Street, Tampa, Florida 33619

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Gulf Coast Lead Company, Inc.

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

*Attach letter of authorization

Signed: Willis M. Kitchen

Willis M. Kitchen, Vice President
Name and Title (Please Type)

Date: Feb. 16th, 1988 Telephone No. 813-626-6151

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)

FEB 18 1988

SOUTH WEST DISTRICT
TAMPA

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: Robert E. Wallace

Robert E. Wallace III, P.E.
Name (Please Type)

Environmental Engineering Consultants, Inc.
Company Name (Please Type)

P.O. Box 7854; Tampa, Florida 33673
Mailing Address (Please Type)

Florida Registration No. #21608 Date: 2/6/88 Telephone No. (813) 237-3781

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.

See Attachment A.

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

Start of Construction 5/1/88 Completion of Construction 11/1/88

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.)

Duct and Hood:	$13,000.00	Catwalk:	$6,000.00
Baghouse and Knockout Chamber:	$21,500.00	Structural Steel:	$9,000.00
Blower:	$ 6,000.00		
Stack:	$ 9,500.00	Total =	$65,000.00

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

A029-130736 Issued: 7/17/87 Expires: 7/15/92

E. Requested permitted equipment operating time: hrs/day 12 ; days/wk 6 ; wks/yr 52 ; if power plant, hrs/yr ____; if seasonal, describe: Total annual hours of operation will be limited to 3672 (this reflects the above schedule less company holidays). However, days per week and hours per day may vary from that detailed above.

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? Yes

   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. Particulates and Ozone

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

3. Does the State "Prevention of Significant Deterioriation" (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? Yes

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? No

   a. If yes, for what pollutants? ____

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

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

F. 4.: Source is listed in 40 CFR 60, Subpart L, Secondary Lead Smelters.

H.: See Attachment B

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		
Blast Lead	Particulate Lead	.03 lb/ton* .01 lb/ton*	13,000	Attachment C, 13-15
Antimony, Tin and	other alloying	and refining	elements as required to meet customer	
specifications.				

*From AP-42 Table 7.11 - 1.

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

1. Total Process Input Rate (lbs/hr): 156,000 lbs/charge; 13,000 lbs/hr @ 12 hours/charge.

2. Product Weight (lbs/hr): 150,000 lbs/charge; 12,500 lbs/hr @ 12 hours/charge.

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[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/hr	T/yr	
Particulate	.002	.034	17-2.650 (2)(b)	**	.19	.40	13-15
Lead	.0006	.0012	Lead SIP	***	.06	.12	13-15

[1]See Section V, Item 2.

**Less than 15 tons/year and less than 5 lbs/hour for facility.

[2]Reference 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)

***9.03 tons/year and 2.57 lbs/hour for facility.

[3]Calculated from operating rate and applicable standard.

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

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

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Baghouse *	Particulate	99+%	> 1 micron	Design & Past Tests

* One existing and one proposed baghouse. Fabricated by GCL, patterned after Wheelabrator - Frye Model 126.

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	0.006	0.008	8.8

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

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A

Density: N/A lbs/gal Typical Percent Nitrogen: N/A

Heat Capacity: _____ BTU/lb 1100 BTU/CF 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.

Dross is recycled to blast furnace.

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

Stack Height: 30 ft. Stack Diameter: 2 ft.

Gas Flow Rate: 12,000 ACFM _____ DSCFM Gas Exit Temperature: 95 °F.

Water Vapor Content: 2.0 % Velocity: 64 _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

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 Diamter: _____ 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)]

   SEE ATTACHMENT D

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

   SEE ATTACHMENT D

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

   SEE ATTACHMENT D

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

   SEE ATTACHMENTS C AND D

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

   SEE ATTACHMENT D

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

   SEE ATTACHMENT C

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

   SEE ATTACHMENT E

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

   SEE ATTACHMENT F

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

$100.00

10. With an application for operation permit, attach a Certificate of Completion of Con struction indicating that the source was constructed as shown in the constructi , permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

Not Applicable

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

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:

[1]Explain method of determining efficiency.
[2]Energy 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:

[1]Explain method of determining efficiency.
[2]Energy 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:

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

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

A. Company Monitored Data not applicable

1. _____no. sites _____ TSP _____( ) SO^{2}* _____ 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.

ATTACHMENT A

PROJECT DESCRIPTION

This project consists of replacing the existing 22 ton lead melting pot at the keel cast facility with a 75 ton refining kettle for refining hard lead. A new ventilation system, blower, stack and a spark arrestor will also be included in this project. Emissions will be controlled by utilizing the existing keel cast baghouse and constructing one additional fabric filter baghouse and spark arrestor box.

Over the past several years orders for cast lead keels have significantly decreased. The proposed refining installation will allow for better utilization of the work force. A portion of the current alloyed lead production will be diverted to the proposed installation. The 75 ton refining kettle will also be used to continue the keel cast operation. This project will allow Gulf Coast Lead Company, Inc. (GCL) to meet the changing sales requirements within its product line. In meeting these various project demands, no increases in the overall plant production capacity are proposed for this project.

The project will result in full compliance with applicable standards and regulations. The overall allowable lead emissions from GCL will not be changed. The overall allowable particulate emission will be reduced and remain under the RACT exemption level of 5 lbs/hr and 15 tons/year. This will be accomplished by requesting lower limits at other sources at GCL and adjusting the hours of operation at the existing refining facility.

ATTACHMENT A (Continued)

Attachment B illustrates the results of the past five years of stack sampling, existing permit conditions and proposed permit conditions. At the time of issuance of a construction permit for this proposed project, the emission limitations of permit A029-95365 will require modification.

ATTACHMENT B

STACK TEST RESULTS (LBS/HR)

	A029-95366						A029-95365		A029-130736	
	Blast Furnace		Furnace Tapping		Furnace Charging		Refining		Keel Cast	
Year	Part.	Lead	Part.	Lead	Part.	Lead	Part.	Lead	Part	Lead
1987	0.59	0.01	0.12	0.002	0.14	0.010	0.25	0.005	0.04	0.007
1986	0.45	0.08	VE	VE	VE	VE	VE	VE	VE	VE
1985	2.08	1.16	0.37	0.008	0.08	0.014	0.11	0.014	0.02	0.002
1984	2.31	1.67	VE	VE	VE	VE	VE	VE	VE	VE
1983	0.54	0.20	VE	VE	VE	VE	VE	VE	VE	VE
5-Yr. Average	1.19	0.62	0.25	0.005	0.11	0.012	0.18	0.009	0.03	0.001

ATTACHMENT B (Continued)

EXISTING PERMIT CONDITIONS

	A029-95366			A029-95365	A029-130736	
	Blast Furnace	Furnace Tapping	Furnace Charging	Refining	Keel Cast	Total
Op. Hrs/Yr.	7800	7800	7800	4368	2400	
Part. Lb/Hr.	2.50	0.15	0.55	1.00	0.20	4.40
Part. T/Yr.	9.75	0.59	2.15	2.18	0.24	*14.91
Lead Lb/Hr.	1.81	0.06	0.22	0.40	0.08	2.57
Lead T/Yr.	7.06	0.23	0.86	0.87	0.01	**9.03

*Requested By GCL to exempt from RACT.

**Lead SIP

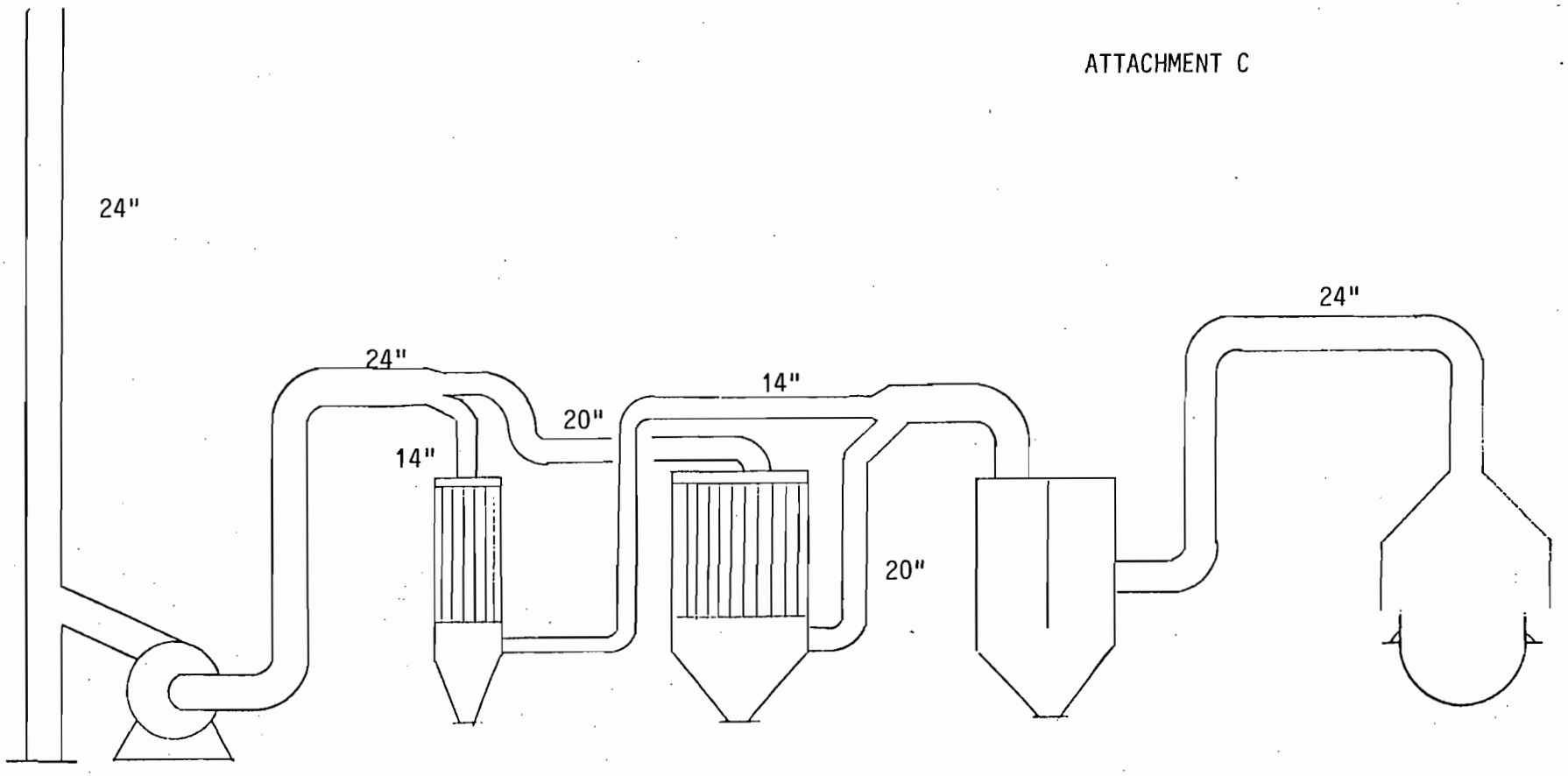
ATTACHMENT B (Continued)

PROPOSED PERMIT CONDITIONS IN CONJUNCTION WITH KEEL CAST

MODIFICATION TO A 75 TON REFINING KETTLE

	Blast Furnace	Furnace Tapping	Furnace Charging	Existing Refining	New 75 Ton Refining	Total
Op. Hrs/Yr.	7800	7800	7800	3672	3672	
Part. Lb/Hr.	2.50	0.15	0.55	0.50	0.70	4.40
Part. T/Yr.	9.75	0.59	2.15	0.92	1.29	14.70
Lead Lb/Hr.	1.81	0.06	0.22	0.20	0.28	2.57
Lead T/Yr.	7.06	0.23	0.86	0.37	0.51	9.03

ATTACHMENT C



STACK (NEW) 15

12,000 ACFM

1350 ft^2 BAGHOUSE 14

2700 ft^2 BAGHOUSE (NEW) 14

KNOCK-OUT CHAMBER (NEW)

75 TON KETTLE (NEW) 13

ENVIRONMENTAL ENGINEERING CONSULTANTS, INC.

CONSULTING ENGINEERS and ENVIRONMENTAL SCIENTISTS

ATTACHMENT D

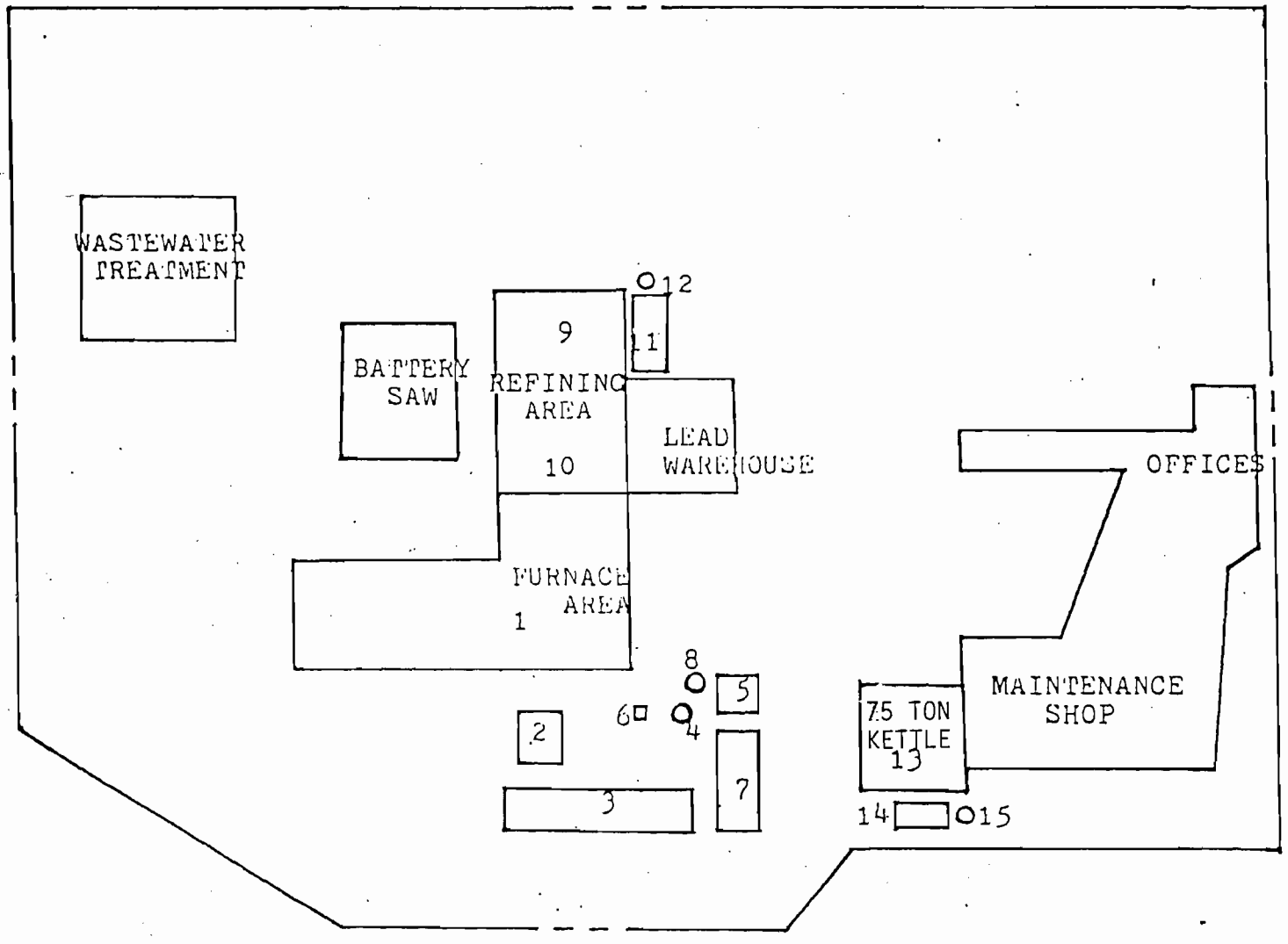
The refining process is a batch operation. Kettle capacity is 78 tons/charge or 75 tons of finished lead. The operation requires from 10 to 12 hours to complete and will be performed on an average of 6 days per week.

Emissions have been estimated based on the existing refining operation at GCL and AP42. Total emissions from GCL will not exceed the current plant wide allowable for lead. Based on historical data, GCL is requesting to reallocate the current allowable emission rates and operating hours to offset emissions from the proposed 78 ton refining and keel cast operations.

Particulate removal efficiencies of 99+% are common for fabric filter baghouses in the secondary lead industry. The existing baghouse contains 1,350 sq. ft. of cloth and the proposed baghouse will contain 2,700 sq. ft. of cloth. The fan will be designed for a maximum flow of 12,000 CFM, with an air to cloth ratio of 3 to 1. This ratio is consistant with good engineering practice.

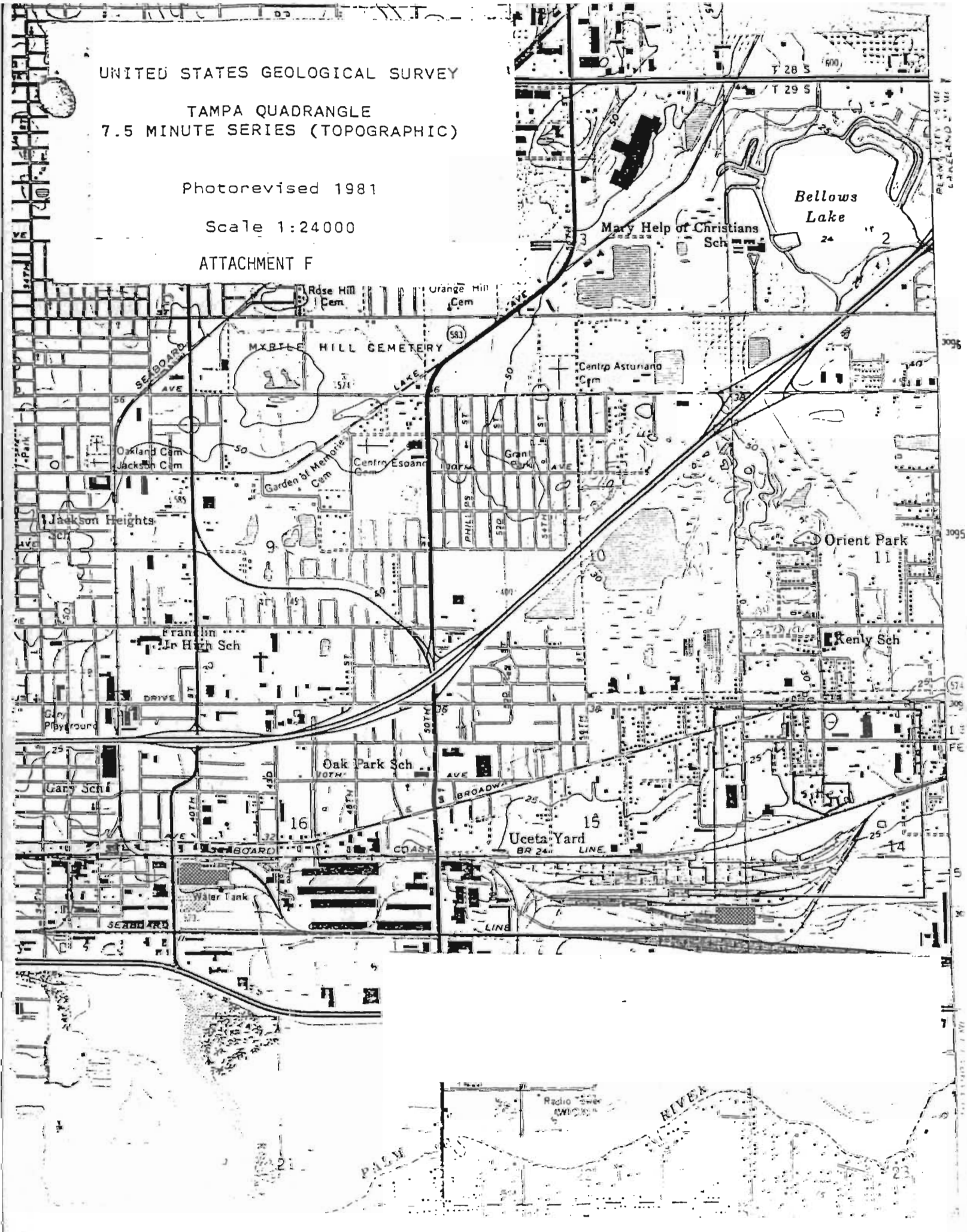
Compliance with Chapter 17-2, FAC and the "Code of Federal Regulations, 40 CFR 60, Subpart L, will be established following construction using EPA Methods 1, 2, 3, 4, 9 and 12.

ATTACHMENT E



GULF COAST LEAD COMPANY

LOCATION OF MANUFACTURING
PROCESSES & EMISSION POINTS



Print all input data
Print only combined conc.
Rural mode
NOT using regulatory mode
Receptor height = 0

GULF COAST LEAD - FIRST YEAR OF FIVE YEAR RUN 1981-85
(1 2 1 0 0 2 0 0 3 2 2 0 0 0 0 0 1 0 1 0 0 1 1 0
5 6 16 10 4

200.	300.	500.	1000.	2000.	5000.
22.5	22.5				
-185.	140.	0.			
-100.	140.	0.			
0.	140.	0.			
92.	140.	0.			
92.	0.	0.			
92.	-92.	0.			
0.	-92.	0.			
-100.	-92.	0.			
-185.	-92.	0.			
-185.	0.	0.			

(7X,6F7.5)

N	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 1A13
NNE	A	.00000	.00046	.00000	.00000	.00000	.00000	12842 2A13
NE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 3A13
ENE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 4A13
E	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 5A13
ESE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 6A13
SE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 7A13
SSE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 8A13
S	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 9A13
SSW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284210A13
SW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284211A13
WSW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284212A13
W	A	.00000	.00000	.00000	.00000	.00000	.00000	1284213A13
WNW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284214A13
NW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284215A13
NNW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284216A13
N	B	.00056	.00231	.00046	.00000	.00000	.00000	12842 1B13
NNE	B	.00109	.00370	.00278	.00000	.00000	.00000	12842 2B13
NE	B	.00055	.00185	.00093	.00000	.00000	.00000	12842 3B13
ENE	B	.00000	.00000	.00093	.00000	.00000	.00000	12842 4B13
E	B	.00010	.00278	.00185	.00000	.00000	.00000	12842 5B13
ESE	B	.00000	.00000	.00046	.00000	.00000	.00000	12842 6B13
SE	B	.00007	.00185	.00046	.00000	.00000	.00000	12842 7B13
SSE	B	.00051	.00093	.00093	.00000	.00000	.00000	12842 8B13
S	B	.00098	.00046	.00139	.00000	.00000	.00000	12842 9B13
SSW	B	.00003	.00093	.00093	.00000	.00000	.00000	1284210B13
SW	B	.00007	.00185	.00093	.00000	.00000	.00000	1284211B13
WSW	B	.00003	.00093	.00231	.00000	.00000	.00000	1284212B13
W	B	.00007	.00185	.00324	.00000	.00000	.00000	1284213B13
WNW	B	.00003	.00093	.00000	.00000	.00000	.00000	1284214B13
NW	B	.00007	.00185	.00000	.00000	.00000	.00000	1284215B13
NNW	B	.00000	.00000	.00139	.00000	.00000	.00000	1284216B13
N	C	.00055	.00231	.01157	.00231	.00000	.00000	12842 1C13
NNE	C	.00010	.00324	.01389	.00000	.00000	.00000	12842 2C13
NE	C	.00006	.00185	.00648	.00000	.00000	.00000	12842 3C13
ENE	C	.00051	.00093	.00509	.00046	.00000	.00000	12842 4C13
E	C	.00065	.00556	.00509	.00046	.00000	.00000	12842 5C13
ESE	C	.00001	.00046	.00139	.00093	.00000	.00000	12842 6C13
SE	C	.00012	.00370	.00741	.00231	.00000	.00000	12842 7C13
SSE	C	.00001	.00046	.00324	.00000	.00000	.00000	12842 8C13
S	C	.00054	.00185	.00370	.00046	.00000	.00000	12842 9C13
SSW	C	.00003	.00093	.00370	.00046	.00000	.00000	1284210C13

SW	C	.00000	.00000	.00463	.00046	.00000	.00000	1284211C13
WSW	C	.00051	.00093	.00694	.00000	.00000	.00000	1284212C13
W	C	.00007	.00231	.01481	.00093	.00000	.00000	1284213C13
WNW	C	.00003	.00093	.00093	.00000	.00000	.00000	1284214C13
NW	C	.00000	.00000	.00185	.00046	.00093	.00000	1284215C13
NNW	C	.00006	.00185	.00509	.00000	.00000	.00000	1284216C13
N	D	.00162	.00556	.00972	.03056	.00093	.00000	12842 1D13
NNE	D	.00049	.00463	.00417	.00926	.00000	.00000	12842 2D13
NE	D	.00010	.00093	.00787	.01806	.00000	.00000	12842 3D13
ENE	D	.00076	.00231	.00787	.00833	.00000	.00000	12842 4D13
E	D	.00112	.00093	.01296	.01250	.00000	.00000	12842 5D13
ESE	D	.00071	.00185	.00648	.00278	.00000	.00046	12842 6D13
SE	D	.00076	.00231	.00787	.00463	.00000	.00046	12842 7D13
SSE	D	.00030	.00278	.00694	.00880	.00000	.00046	12842 8D13
S	D	.00044	.00417	.01667	.00741	.00000	.00093	12842 9D13
SSW	D	.00054	.00509	.00972	.01019	.00046	.00093	1284210D13
SW	D	.00010	.00093	.00370	.00370	.00000	.00000	1284211D13
WSW	D	.00056	.00046	.00139	.00370	.00000	.00000	1284212D13
W	D	.00081	.00278	.01250	.01481	.00000	.00000	1284213D13
WNW	D	.00005	.00046	.00370	.01157	.00417	.00046	1284214D13
NW	D	.00015	.00139	.00926	.01898	.00602	.00000	1284215D13
NNW	D	.00030	.00278	.00787	.02685	.00139	.00046	1284216D13
N	E	.00000	.01019	.01991	.00000	.00000	.00000	12842 1E13
NNE	E	.00000	.00741	.00324	.00000	.00000	.00000	12842 2E13
NE	E	.00000	.00463	.00139	.00000	.00000	.00000	12842 3E13
ENE	E	.00000	.00324	.00509	.00000	.00000	.00000	12842 4E13
E	E	.00000	.00880	.00926	.00000	.00000	.00000	12842 5E13
ESE	E	.00000	.00463	.00417	.00000	.00000	.00000	12842 6E13
SE	E	.00000	.00741	.00139	.00000	.00000	.00000	12842 7E13
SSE	E	.00000	.00278	.00463	.00000	.00000	.00000	12842 8E13
S	E	.00000	.00278	.00185	.00000	.00000	.00000	12842 9E13
SSW	E	.00000	.00602	.00231	.00000	.00000	.00000	1284210E13
SW	E	.00000	.00278	.00139	.00000	.00000	.00000	1284211E13
WSW	E	.00000	.00139	.00093	.00000	.00000	.00000	1284212E13
W	E	.00000	.00417	.00556	.00000	.00000	.00000	1284213E13
WNW	E	.00000	.00231	.00556	.00000	.00000	.00000	1284214E13
NW	E	.00000	.00602	.01204	.00000	.00000	.00000	1284215E13
NNW	E	.00000	.00509	.00926	.00000	.00000	.00000	1284216E13
N	F	.02196	.03241	.00000	.00000	.00000	.00000	12842 1F13
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ENE	F	.00871	.00787	.00000	.00000	.00000	.00000	12842 4F13
E	F	.01382	.01204	.00000	.00000	.00000	.00000	12842 5F13
ESE	F	.00505	.00556	.00000	.00000	.00000	.00000	12842 6F13
SE	F	.00353	.00509	.00000	.00000	.00000	.00000	12842 7F13
SSE	F	.00213	.00185	.00000	.00000	.00000	.00000	12842 8F13
S	F	.00392	.00139	.00000	.00000	.00000	.00000	12842 9F13
SSW	F	.00186	.00278	.00000	.00000	.00000	.00000	1284210F13
SW	F	.00133	.00000	.00000	.00000	.00000	.00000	1284211F13
WSW	F	.00233	.00231	.00000	.00000	.00000	.00000	1284212F13
W	F	.00658	.00602	.00000	.00000	.00000	.00000	1284213F13
WNW	F	.00825	.01296	.00000	.00000	.00000	.00000	1284214F13
NW	F	.01283	.01435	.00000	.00000	.00000	.00000	1284215F13
NNW	F	.00964	.01157	.00000	.00000	.00000	.00000	1284216F13
N	A	.00051	.00046	.00000	.00000	.00000	.00000	12842 1A14
NNE	A	.00057	.00137	.00000	.00000	.00000	.00000	12842 2A14
NE	A	.00051	.00046	.00000	.00000	.00000	.00000	12842 3A14
ENE	A	.00006	.00092	.00000	.00000	.00000	.00000	12842 4A14
E	A	.00068	.00321	.00000	.00000	.00000	.00000	12842 5A14
ESE	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 6A14

SE	A	.00003	.00046	.00000	.00000	.00000	.00000	12842 7A14
SSE	A	.00011	.00183	.00000	.00000	.00000	.00000	12842 8A14
S	A	.00003	.00046	.00000	.00000	.00000	.00000	12842 9A14
SSW	A	.00008	.00137	.00000	.00000	.00000	.00000	1284210A14
SW	A	.00008	.00137	.00000	.00000	.00000	.00000	1284211A14
WSW	A	.00011	.00183	.00000	.00000	.00000	.00000	1284212A14
W	A	.00079	.00504	.00000	.00000	.00000	.00000	1284213A14
WNW	A	.00003	.00046	.00000	.00000	.00000	.00000	1284214A14
NW	A	.00003	.00046	.00000	.00000	.00000	.00000	1284215A14
NNW	A	.00003	.00046	.00000	.00000	.00000	.00000	1284216A14
N	B	.00049	.00046	.00229	.00000	.00000	.00000	12842 1B14
NNE	B	.00144	.00046	.00229	.00000	.00000	.00000	12842 2B14
NE	B	.00049	.00046	.00275	.00000	.00000	.00000	12842 3B14
ENE	B	.00098	.00092	.00321	.00000	.00000	.00000	12842 4B14
E	B	.00121	.00778	.01053	.00000	.00000	.00000	12842 5B14
ESE	B	.00012	.00366	.00183	.00000	.00000	.00000	12842 6B14
SE	B	.00058	.00321	.00549	.00000	.00000	.00000	12842 7B14
SSE	B	.00068	.00595	.00549	.00000	.00000	.00000	12842 8B14
S	B	.00016	.00458	.00183	.00000	.00000	.00000	12842 9B14
SSW	B	.00106	.00321	.00916	.00000	.00000	.00000	1284210B14
SW	B	.00006	.00183	.00504	.00000	.00000	.00000	1284211B14
WSW	B	.00009	.00275	.00870	.00000	.00000	.00000	1284212B14
W	B	.00080	.00962	.02198	.00000	.00000	.00000	1284213B14
WNW	B	.00049	.00046	.00046	.00000	.00000	.00000	1284214B14
NW	B	.00000	.00000	.00000	.00000	.00000	.00000	1284215B14
NNW	B	.00098	.00092	.00137	.00000	.00000	.00000	1284216B14
N	C	.00001	.00046	.00321	.00046	.00000	.00000	12842 1C14
NNE	C	.00050	.00092	.00137	.00092	.00000	.00000	12842 2C14
NE	C	.00056	.00321	.00321	.00046	.00000	.00000	12842 3C14
ENE	C	.00007	.00229	.00458	.00046	.00000	.00000	12842 4C14
E	C	.00116	.00778	.01694	.00229	.00000	.00000	12842 5C14
ESE	C	.00010	.00366	.00412	.00046	.00000	.00000	12842 6C14
SE	C	.00016	.00549	.00687	.00183	.00000	.00000	12842 7C14
SSE	C	.00009	.00321	.01190	.00183	.00000	.00000	12842 8C14
S	C	.00007	.00229	.00458	.00092	.00000	.00000	12842 9C14
SSW	C	.00008	.00275	.00641	.00275	.00000	.00000	1284210C14
SW	C	.00001	.00046	.00229	.00046	.00000	.00000	1284211C14
WSW	C	.00005	.00183	.00549	.00137	.00000	.00000	1284212C14
W	C	.00009	.00321	.02656	.01694	.00000	.00000	1284213C14
WNW	C	.00056	.00321	.00366	.00275	.00000	.00000	1284214C14
NW	C	.00004	.00137	.00458	.00046	.00000	.00000	1284215C14
NNW	C	.00102	.00275	.00137	.00183	.00000	.00000	1284216C14
N	D	.00004	.00092	.00321	.00137	.00000	.00000	12842 1D14
NNE	D	.00004	.00092	.00504	.00412	.00000	.00000	12842 2D14
NE	D	.00104	.00183	.00275	.00275	.00046	.00000	12842 3D14
ENE	D	.00054	.00137	.00641	.00229	.00000	.00000	12842 4D14
E	D	.00018	.00412	.01282	.01557	.00000	.00046	12842 5D14
ESE	D	.00012	.00275	.00366	.00321	.00000	.00000	12842 6D14
SE	D	.00016	.00366	.00641	.00412	.00000	.00000	12842 7D14
SSE	D	.00052	.00092	.00778	.00137	.00046	.00000	12842 8D14
S	D	.00008	.00183	.00137	.00046	.00000	.00000	12842 9D14
SSW	D	.00060	.00275	.00549	.00366	.00000	.00000	1284210D14
SW	D	.00000	.00000	.00092	.00137	.00000	.00000	1284211D14
WSW	D	.00010	.00229	.00275	.00137	.00000	.00000	1284212D14
W	D	.00006	.00137	.02427	.02381	.00046	.00000	1284213D14
WNW	D	.00008	.00183	.00275	.00366	.00000	.00000	1284214D14
NW	D	.00010	.00229	.00824	.00275	.00000	.00000	1284215D14
NNW	D	.00000	.00000	.00824	.00366	.00000	.00000	1284216D14
N	E	.00000	.00229	.00275	.00000	.00000	.00000	12842 1E14
NNE	E	.00000	.00458	.00092	.00000	.00000	.00000	12842 2E14

NE	E	.00000	.00458	.00137	.00000	.00000	.00000	12842 3E14
ENE	E	.00000	.00595	.00504	.00000	.00000	.00000	12842 4E14
E	E	.00000	.01969	.01969	.00000	.00000	.00000	12842 5E14
ESE	E	.00000	.00824	.00549	.00000	.00000	.00000	12842 6E14
SE	E	.00000	.00916	.00687	.00000	.00000	.00000	12842 7E14
SSE	E	.00000	.00412	.00366	.00000	.00000	.00000	12842 8E14
S	E	.00000	.00412	.00092	.00000	.00000	.00000	12842 9E14
SSW	E	.00000	.00321	.00137	.00000	.00000	.00000	1284210E14
SW	E	.00000	.00458	.00229	.00000	.00000	.00000	1284211E14
WSW	E	.00000	.00183	.00412	.00000	.00000	.00000	1284212E14
W	E	.00000	.00412	.01145	.00000	.00000	.00000	1284213E14
WNW	E	.00000	.00183	.00366	.00000	.00000	.00000	1284214E14
NW	E	.00000	.00321	.00962	.00000	.00000	.00000	1284215E14
NNW	E	.00000	.00458	.00229	.00000	.00000	.00000	1284216E14
N	F	.00112	.00366	.00000	.00000	.00000	.00000	12842 1F14
NNE	F	.00535	.00687	.00000	.00000	.00000	.00000	12842 2F14
NE	F	.00374	.01007	.00000	.00000	.00000	.00000	12842 3F14
ENE	F	.00789	.01282	.00000	.00000	.00000	.00000	12842 4F14
E	F	.02332	.04945	.00000	.00000	.00000	.00000	12842 5F14
ESE	F	.00568	.01557	.00000	.00000	.00000	.00000	12842 6F14
SE	F	.00381	.01053	.00000	.00000	.00000	.00000	12842 7F14
SSE	F	.00132	.00824	.00000	.00000	.00000	.00000	12842 8F14
S	F	.00203	.00275	.00000	.00000	.00000	.00000	12842 9F14
SSW	F	.00201	.00595	.00000	.00000	.00000	.00000	1284210F14
SW	F	.00187	.00504	.00000	.00000	.00000	.00000	1284211F14
WSW	F	.00141	.00549	.00000	.00000	.00000	.00000	1284212F14
W	F	.00313	.00962	.00000	.00000	.00000	.00000	1284213F14
WNW	F	.00251	.01236	.00000	.00000	.00000	.00000	1284214F14
NW	F	.00535	.02015	.00000	.00000	.00000	.00000	1284215F14
NNW	F	.00502	.01145	.00000	.00000	.00000	.00000	1284216F14
N	A	.00154	.00045	.00000	.00000	.00000	.00000	12842 1A15
NNE	A	.00018	.00181	.00000	.00000	.00000	.00000	12842 2A15
NE	A	.00018	.00181	.00000	.00000	.00000	.00000	12842 3A15
ENE	A	.00059	.00091	.00000	.00000	.00000	.00000	12842 4A15
E	A	.00086	.00362	.00000	.00000	.00000	.00000	12842 5A15
ESE	A	.00005	.00045	.00000	.00000	.00000	.00000	12842 6A15
SE	A	.00009	.00091	.00000	.00000	.00000	.00000	12842 7A15
SSE	A	.00009	.00091	.00000	.00000	.00000	.00000	12842 8A15
S	A	.00000	.00000	.00000	.00000	.00000	.00000	12842 9A15
SSW	A	.00014	.00136	.00000	.00000	.00000	.00000	1284210A15
SW	A	.00005	.00045	.00000	.00000	.00000	.00000	1284211A15
WSW	A	.00086	.00362	.00000	.00000	.00000	.00000	1284212A15
W	A	.00023	.00226	.00000	.00000	.00000	.00000	1284213A15
WNW	A	.00005	.00045	.00000	.00000	.00000	.00000	1284214A15
NW	A	.00000	.00000	.00000	.00000	.00000	.00000	1284215A15
NNW	A	.00009	.00091	.00000	.00000	.00000	.00000	1284216A15
N	B	.00004	.00091	.00091	.00000	.00000	.00000	12842 1B15
NNE	B	.00106	.00272	.00408	.00000	.00000	.00000	12842 2B15
NE	B	.00118	.00543	.00272	.00000	.00000	.00000	12842 3B15
ENE	B	.00116	.00498	.00181	.00000	.00000	.00000	12842 4B15
E	B	.00301	.00408	.00679	.00000	.00000	.00000	12842 5B15
ESE	B	.00209	.00453	.00181	.00000	.00000	.00000	12842 6B15
SE	B	.00069	.00498	.00589	.00000	.00000	.00000	12842 7B15
SSE	B	.00126	.00725	.00408	.00000	.00000	.00000	12842 8B15
S	B	.00096	.00045	.00181	.00000	.00000	.00000	12842 9B15
SSW	B	.00083	.00815	.00453	.00000	.00000	.00000	1284210B15
SW	B	.00067	.00453	.00317	.00000	.00000	.00000	1284211B15
WSW	B	.00026	.00589	.00408	.00000	.00000	.00000	1284212B15
W	B	.00057	.01313	.01404	.00000	.00000	.00000	1284213B15
WNW	B	.00059	.00272	.00045	.00000	.00000	.00000	1284214B15

NW	B	.00047	.00000	.00136	.00000	.00000	.00000	1284215B15
NNW	B	.00100	.00136	.00091	.00000	.00000	.00000	1284216B15
N	C	.00002	.00181	.00181	.00045	.00000	.00000	12842 1C15
NNE	C	.00002	.00181	.00543	.00000	.00000	.00000	12842 2C15
NE	C	.00003	.00317	.00498	.00000	.00000	.00000	12842 3C15
ENE	C	.00003	.00317	.00634	.00091	.00000	.00000	12842 4C15
E	C	.00056	.01178	.02310	.00045	.00000	.00000	12842 5C15
ESE	C	.00048	.00226	.00453	.00000	.00000	.00000	12842 6C15
SE	C	.00004	.00453	.00543	.00091	.00000	.00000	12842 7C15
SSE	C	.00003	.00362	.00589	.00000	.00000	.00000	12842 8C15
S	C	.00001	.00091	.00408	.00000	.00000	.00000	12842 9C15
SSW	C	.00002	.00226	.00770	.00136	.00000	.00000	1284210C15
SW	C	.00001	.00091	.00543	.00000	.00000	.00000	1284211C15
WSW	C	.00047	.00181	.00543	.00136	.00000	.00000	1284212C15
W	C	.00051	.00589	.02310	.00362	.00000	.00000	1284213C15
WNW	C	.00000	.00045	.00408	.00000	.00000	.00000	1284214C15
NW	C	.00002	.00181	.00498	.00000	.00000	.00000	1284215C15
NNW	C	.00047	.00136	.00136	.00000	.00000	.00000	1284216C15
N	D	.00000	.00091	.00498	.00362	.00000	.00000	12842 1D15
NNE	D	.00000	.00091	.01223	.00317	.00045	.00000	12842 2D15
NE	D	.00000	.00091	.00725	.00272	.00000	.00000	12842 3D15
ENE	D	.00000	.00136	.01178	.00362	.00000	.00000	12842 4D15
E	D	.00000	.01132	.03216	.00770	.00000	.00000	12842 5D15
ESE	D	.00000	.00226	.00770	.00045	.00000	.00000	12842 6D15
SE	D	.00000	.00317	.00589	.00136	.00000	.00000	12842 7D15
SSE	D	.00000	.00498	.00815	.00226	.00045	.00000	12842 8D15
S	D	.00000	.00136	.00181	.00091	.00000	.00000	12842 9D15
SSW	D	.00000	.00181	.00362	.00226	.00045	.00000	1284210D15
SW	D	.00000	.00045	.00045	.00181	.00000	.00000	1284211D15
WSW	D	.00000	.00091	.00136	.00181	.00000	.00000	1284212D15
W	D	.00000	.00136	.01766	.00815	.00091	.00000	1284213D15
WNW	D	.00000	.00181	.00272	.00091	.00000	.00000	1284214D15
NW	D	.00000	.00045	.00589	.00272	.00045	.00000	1284215D15
NNW	D	.00000	.00136	.00861	.00317	.00000	.00000	1284216D15
N	E	.00000	.00181	.00136	.00000	.00000	.00000	12842 1E15
NNE	E	.00000	.01042	.00317	.00000	.00000	.00000	12842 2E15
NE	E	.00000	.01087	.00362	.00000	.00000	.00000	12842 3E15
ENE	E	.00000	.00634	.00408	.00000	.00000	.00000	12842 4E15
E	E	.00000	.04348	.01449	.00000	.00000	.00000	12842 5E15
ESE	E	.00000	.00634	.00408	.00000	.00000	.00000	12842 6E15
SE	E	.00000	.01042	.00317	.00000	.00000	.00000	12842 7E15
SSE	E	.00000	.00679	.00453	.00000	.00000	.00000	12842 8E15
S	E	.00000	.00181	.00272	.00000	.00000	.00000	12842 9E15
SSW	E	.00000	.00498	.00000	.00000	.00000	.00000	1284210E15
SW	E	.00000	.00272	.00000	.00000	.00000	.00000	1284211E15
WSW	E	.00000	.00408	.00045	.00000	.00000	.00000	1284212E15
W	E	.00000	.00815	.00362	.00000	.00000	.00000	1284213E15
WNW	E	.00000	.00362	.00000	.00000	.00000	.00000	1284214E15
NW	E	.00000	.00408	.00091	.00000	.00000	.00000	1284215E15
NNW	E	.00000	.00634	.00226	.00000	.00000	.00000	1284216E15
N	F	.00138	.00317	.00000	.00000	.00000	.00000	12842 1F15
NNE	F	.00602	.00815	.00000	.00000	.00000	.00000	12842 2F15
NE	F	.01280	.00996	.00000	.00000	.00000	.00000	12842 3F15
ENE	F	.01003	.02083	.00000	.00000	.00000	.00000	12842 4F15
E	F	.03199	.04846	.00000	.00000	.00000	.00000	12842 5F15
ESE	F	.01014	.01313	.00000	.00000	.00000	.00000	12842 6F15
SE	F	.00772	.01404	.00000	.00000	.00000	.00000	12842 7F15
SSE	F	.00836	.01087	.00000	.00000	.00000	.00000	12842 8F15
S	F	.00184	.00272	.00000	.00000	.00000	.00000	12842 9F15
SSW	F	.00357	.00453	.00000	.00000	.00000	.00000	1284210F15

SW	F	.00234	.00272	.00000	.00000	.00000	.00000	1284211F15
WSW	F	.00168	.00136	.00000	.00000	.00000	.00000	1284212F15
W	F	.00184	.00272	.00000	.00000	.00000	.00000	1284213F15
WNW	F	.00112	.00091	.00000	.00000	.00000	.00000	1284214F15
NW	F	.00245	.00362	.00000	.00000	.00000	.00000	1284215F15
NNW	F	.00317	.00543	.00000	.00000	.00000	.00000	1284216F15
N	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 1A16
NNE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 2A16
NE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 3A16
ENE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 4A16
E	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 5A16
ESE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 6A16
SE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 7A16
SSE	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 8A16
S	A	.00003	.00000	.00000	.00000	.00000	.00000	12842 9A16
SSW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284210A16
SW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284211A16
WSW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284212A16
W	A	.00003	.00000	.00000	.00000	.00000	.00000	1284213A16
WNW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284214A16
NW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284215A16
NNW	A	.00003	.00000	.00000	.00000	.00000	.00000	1284216A16
N	B	.00115	.00317	.00091	.00000	.00000	.00000	12842 1B16
NNE	B	.00125	.00498	.00272	.00000	.00000	.00000	12842 2B16
NE	B	.00061	.00226	.00136	.00000	.00000	.00000	12842 3B16
ENE	B	.00021	.00362	.00226	.00000	.00000	.00000	12842 4B16
E	B	.00157	.00226	.00136	.00000	.00000	.00000	12842 5B16
ESE	B	.00048	.00000	.00045	.00000	.00000	.00000	12842 6B16
SE	B	.00099	.00045	.00045	.00000	.00000	.00000	12842 7B16
SSE	B	.00056	.00136	.00045	.00000	.00000	.00000	12842 8B16
S	B	.00061	.00226	.00000	.00000	.00000	.00000	12842 9B16
SSW	B	.00064	.00272	.00000	.00000	.00000	.00000	1284210B16
SW	B	.00061	.00226	.00136	.00000	.00000	.00000	1284211B16
WSW	B	.00053	.00091	.00045	.00000	.00000	.00000	1284212B16
W	B	.00144	.00815	.00226	.00000	.00000	.00000	1284213B16
WNW	B	.00051	.00045	.00091	.00000	.00000	.00000	1284214B16
NW	B	.00003	.00045	.00045	.00000	.00000	.00000	1284215B16
NNW	B	.00104	.00136	.00045	.00000	.00000	.00000	1284216B16
N	C	.00003	.00045	.00679	.00091	.00000	.00000	12842 1C16
NNE	C	.00016	.00272	.01268	.00045	.00000	.00000	12842 2C16
NE	C	.00120	.00408	.01042	.00045	.00000	.00000	12842 3C16
ENE	C	.00064	.00272	.00679	.00181	.00000	.00000	12842 4C16
E	C	.00034	.00589	.01449	.00181	.00000	.00000	12842 5C16
ESE	C	.00056	.00136	.00181	.00000	.00000	.00000	12842 6C16
SE	C	.00016	.00272	.00453	.00045	.00000	.00000	12842 7C16
SSE	C	.00056	.00136	.00408	.00045	.00000	.00000	12842 8C16
S	C	.00008	.00136	.00498	.00091	.00000	.00000	12842 9C16
SSW	C	.00013	.00226	.00362	.00000	.00000	.00000	1284210C16
SW	C	.00013	.00226	.00498	.00000	.00000	.00000	1284211C16
WSW	C	.00018	.00317	.00272	.00000	.00000	.00000	1284212C16
W	C	.00018	.00317	.01178	.00091	.00000	.00000	1284213C16
WNW	C	.00008	.00136	.00136	.00045	.00000	.00000	1284214C16
NW	C	.00005	.00091	.00453	.00045	.00000	.00000	1284215C16
NNW	C	.00005	.00091	.00634	.00091	.00000	.00000	1284216C16
N	D	.00006	.00091	.00589	.00770	.00000	.00000	12842 1D16
NNE	D	.00088	.00589	.01223	.00634	.00000	.00000	12842 2D16
NE	D	.00079	.00453	.01540	.01223	.00000	.00000	12842 3D16
ENE	D	.00033	.00498	.01721	.01268	.00000	.00000	12842 4D16
E	D	.00245	.00770	.01087	.00815	.00000	.00000	12842 5D16
ESE	D	.00021	.00317	.00226	.00136	.00000	.00000	12842 6D16

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 SE D  .00018 .00272 .00770 .00181 .00000 .00000      12842 7D16
SSE D  .00033 .00498 .00815 .00408 .00000 .00000      12842 8D16
  S D  .00127 .00453 .01495 .00408 .00000 .00000      12842 9D16
SSW D  .00124 .00408 .01087 .00408 .00000 .00000      1284210D16
 SW D  .00057 .00136 .00226 .00317 .00000 .00000      1284211D16
WSW D  .00018 .00272 .00091 .00091 .00000 .00000      1284212D16
  W D  .00054 .00091 .00453 .00362 .00000 .00000      1284213D16
WNW D  .00003 .00045 .00317 .00317 .00136 .00000      1284214D16
 NW D  .00057 .00136 .00543 .00453 .00000 .00000      1284215D16
NNW D  .00030 .00453 .00408 .00498 .00000 .00000      1284216D16
  N E  .00000 .00317 .01268 .00000 .00000 .00000      12842 1E16
NNE E  .00000 .00634 .01359 .00000 .00000 .00000      12842 2E16
 NE E  .00000 .00272 .01766 .00000 .00000 .00000      12842 3E16
ENE E  .00000 .00725 .00951 .00000 .00000 .00000      12842 4E16
  E E  .00000 .00996 .01223 .00000 .00000 .00000      12842 5E16
ESE E  .00000 .00362 .00226 .00000 .00000 .00000      12842 6E16
 SE E  .00000 .00362 .00136 .00000 .00000 .00000      12842 7E16
SSE E  .00000 .00181 .00272 .00000 .00000 .00000      12842 8E16
  S E  .00000 .00272 .00045 .00000 .00000 .00000      12842 9E16
SSW E  .00000 .00181 .00136 .00000 .00000 .00000      1284210E16
 SW E  .00000 .00136 .00045 .00000 .00000 .00000      1284211E16
WSW E  .00000 .00136 .00136 .00000 .00000 .00000      1284212E16
  W E  .00000 .00181 .00181 .00000 .00000 .00000      1284213E16
WNW E  .00000 .00091 .00091 .00000 .00000 .00000      1284214E16
 NW E  .00000 .00543 .00408 .00000 .00000 .00000      1284215E16
NNW E  .00000 .00634 .00861 .00000 .00000 .00000      1284216E16
  N F  .01231 .02355 .00000 .00000 .00000 .00000      12842 1F16
NNE F  .01667 .01676 .00000 .00000 .00000 .00000      12842 2F16
 NE F  .02050 .02264 .00000 .00000 .00000 .00000      12842 3F16
ENE F  .01853 .02219 .00000 .00000 .00000 .00000      12842 4F16
  E F  .03359 .02536 .00000 .00000 .00000 .00000      12842 5F16
ESE F  .01022 .00679 .00000 .00000 .00000 .00000      12842 6F16
 SE F  .00902 .00861 .00000 .00000 .00000 .00000      12842 7F16
SSE F  .00473 .00317 .00000 .00000 .00000 .00000      12842 8F16
  S F  .00323 .00589 .00000 .00000 .00000 .00000      12842 9F16
SSW F  .00307 .00543 .00000 .00000 .00000 .00000      1284210F16
 SW F  .00336 .00272 .00000 .00000 .00000 .00000      1284211F16
WSW F  .00213 .00091 .00000 .00000 .00000 .00000      1284212F16
  W F  .01039 .00906 .00000 .00000 .00000 .00000      1284213F16
WNW F  .00626 .00408 .00000 .00000 .00000 .00000      1284214F16
 NW F  .00872 .00951 .00000 .00000 .00000 .00000      1284215F16
NNW F  .01209 .01404 .00000 .00000 .00000 .00000      1284216F16
     298.       298.       298.       293.       288.       288.
     298.       298.       298.       293.       288.       288.
     298.       298.       298.       293.       288.       288.
     298.       298.       298.       293.       288.       288.
    1653.
    1102.
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   10000.
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    1102.
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       0.
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     .02
    .035
   -30.0



     .07
     .07
     .10
     .15
     .35
     .55
  6        -22.86     -35.05   10.97          305.   12.97   .3583   15.24   70.411
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
   0.0076     0.0076     0.0076     0.0076
  8        -15.24     -35.05   16.76          308.    3.99   .5588   15.24   70.411
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
   0.0278     0.0278     0.0278     0.0278
 12         -16.76      38.10    9.14          308.    4.82   .6604   15.24   70.411
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
    70.41      70.41      70.41      70.41     70.41      70.41      70.41      70.41
   0.0253     0.0253     0.0253     0.0253
 15          36.58     -44.20    9.14          308.    4.85   .6096   15.24  122.840
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
   122.84     122.84     122.84     122.84    122.84     122.84     122.84     122.84
   122.84     122.84     122.84     122.84    122.84     122.84     122.84     122.84
   0.0354     0.0354     0.0354     0.0354
 19         -18.29     -44.20   45.72          339.   10.51   .6096   15.24  122.840
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
    15.24      15.24      15.24      15.24     15.24      15.24      15.24      15.24
   122.84     122.84     122.84     122.84    122.84     122.84     122.84     122.84
   122.84     122.84     122.84     122.84    122.84     122.84     122.84     122.84
   0.2285     0.2285     0.2285     0.2285
LINES     475
O?
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Gulf Coast Lead SO_2 Modeling

```
GULF COAST LEAD SO2 MODELING
   4       1     1          1 1   1 1                    1 1
    25     5    36
      400.       500.       600.       750.       900.
        10         10
       7.0

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11111111111111111111111111111111111111111111111111
 12842    70 12842    70
   10          77.9                      45.72  350. 45.72  0.62
   20         5252. -2000.-18800.        149.4  423.  28.7  7.32
   30         2692. -2000.-18800.        149.4  418.  14.4  7.32
   40          655. -2000.-18800.        149.4  342.  19.9  7.32
   50          349. -5900. -3200.         44.3  473.   6.6  4.72
   60         282.5 -3900. -6300.         93.3  438.  22.5  3.70
   70         282.5 -3900. -6300.         93.3  438.  32.4  3.10
   80         321.4 -3900. -6300.         93.3  427.  35.4  3.20
   90         421.6 -3900. -6300.         93.3  443.  24.6  2.90
  100         513.4 -3900. -6300.         93.3  415.  20.6  4.50
  110         853.6 -3900. -6300.         93.3  415.  23.7  5.40
  120          9.68   -0.5-11400.         20.7  316.  11.5  1.07

C)
GULF COAST LEAD SO2 MODELING
   4       1     1          1 1   1 1                    1 1
    25     5    36
      400.       500.       600.       750.       900.
```

```
        10        10
       7.0

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00000000000000000000000000000000000000000000000000
 12842    70 12842    70
   10         77.9                    45.72  350. 45.72  0.62
   20         5252. -2000.-18800.     149.4  423.  28.7  7.32
   30         2692. -2000.-18800.     149.4  418.  14.4  7.32
   40          655. -2000.-18800.     149.4  342.  19.9  7.32
   50          349. -5900. -3200.      44.3  473.   6.6  4.72
   60        282.5 -3900. -6300.       93.3  438.  22.5  3.70
   70        282.5 -3900. -6300.       93.3  438.  32.4  3.10
   80        321.4 -3900. -6300.       93.3  427.  35.4  3.20
   90        421.6 -3900. -6300.       93.3  443.  24.6  2.90
  100        513.4 -3900. -6300.       93.3  415.  20.6  4.50
  110        853.6 -3900. -6300.       93.3  415.  23.7  5.40
  120         9.68   -0.5-11400.       20.7  316.  11.5  1.07
  130         14.3   -0.5-11400.       38.4  327.  11.0  2.44
  140         3.05   -0.5-11400.       40.4  314.  16.0  2.13
  150        153.3   -0.5-11400.       45.6  339.  10.6  2.44
  160         36.5 -2100. -5500.       33.5  381.  23.9  0.61
  170          4.8 -1800.  2900.       12.6  450.  20.0  1.24
  180         41.5 -3800. -6300.       19.8  389.  10.5  2.41
  190         21.4 -3900. -1900.       45.7  500.  21.3  1.91
  200         20.0  4400. -1100.       67.0  494.  16.9  3.50
  210         10.0 -3900.  8000.       15.6  505.  3.43  1.37
  220        166.6 -5900. -2800.       85.4  402.  18.2  3.40
  230        114.0 -5900. -2800.       85.4  397.  11.5  3.70
  240        107.0 -5900. -2800.       85.4  436.  17.9  2.90
  250          7.0   100.  2600.       15.2  505.   6.8  0.85

C)
1                ISCST (DATED 86170)
                 AN AIR QUALITY DISPERSION MODEL IN
                 SECTION 1.  GUIDELINE MODELS
                 IN UNAMAP (VERSION 6)  JULY 86.
                 SOURCE:  FILE 6 ON UNAMAP MAGNETIC TAPE FROM NTIS.
1

                        *** GULF COAST LEAD SO2 MODELING                    ***


            CALCULATE (CONCENTRATION=1,DEPOSITION=2)                  ISW(1) =   1
            RECEPTOR GRID SYSTEM (RECTANGULAR=1 OR 3, POLAR=2 OR 4)   ISW(2) =   4
            DISCRETE RECEPTOR SYSTEM (RECTANGULAR=1,POLAR=2)          ISW(3) =   1
            TERRAIN ELEVATIONS ARE READ (YES=1,NO=0)                  ISW(4) =   0
            CALCULATIONS ARE WRITTEN TO TAPE (YES=1,NO=0)             ISW(5) =   0
            LIST ALL INPUT DATA (NO=0,YES=1,MET DATA ALSO=2)          ISW(6) =   1

            COMPUTE AVERAGE CONCENTRATION (OR TOTAL DEPOSITION)
            WITH THE FOLLOWING TIME PERIODS:
              HOURLY (YES=1,NO=0)                                     ISW(7) =   0
              2-HOUR (YES=1,NO=0)                                     ISW(8) =   0
              3-HOUR (YES=1,NO=0)                                     ISW(9) =   1
              4-HOUR (YES=1,NO=0)                                    ISW(10) =   0
              6-HOUR (YES=1,NO=0)                                    ISW(11) =   0
              8-HOUR (YES=1,NO=0)                                    ISW(12) =   0
              12-HOUR (YES=1,NO=0)                                   ISW(13) =   0
              24-HOUR (YES=1,NO=0)                                   ISW(14) =   1
            PRINT 'N'-DAY TABLE(S) (YES=1,NO=0)                      ISW(15) =   1

            PRINT THE FOLLOWING TYPES OF TABLES WHOSE TIME PERIODS ARE
```

SPECIFIED BY ISW(7) THROUGH ISW(14):

DAILY TABLES (YES=1,NO=0)	ISW(16) = 0
HIGHEST & SECOND HIGHEST TABLES (YES=1,NO=0)	ISW(17) = 1
MAXIMUM 50 TABLES (YES=1,NO=0)	ISW(18) = 1
METEOROLOGICAL DATA INPUT METHOD (PRE-PROCESSED=1,CARD=2)	ISW(19) = 1
RURAL-URBAN OPTION (RU.=0,UR. MODE 1=1,UR. MODE 2=2,UR. MODE 3=3)	ISW(20) = 0
WIND PROFILE EXPONENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(21) = 1
VERTICAL POT. TEMP. GRADIENT VALUES (DEFAULTS=1,USER ENTERS=2,3)	ISW(22) = 1
SCALE EMISSION RATES FOR ALL SOURCES (NO=0,YES)0)	ISW(23) = 0
PROGRAM CALCULATES FINAL PLUME RISE ONLY (YES=1,NO=2)	ISW(24) = 1
PROGRAM ADJUSTS ALL STACK HEIGHTS FOR DOWNWASH (YES=2,NO=1)	ISW(25) = 2
PROGRAM USES BUOYANCY INDUCED DISPERSION (YES=1,NO=2)	ISW(26) = 1
CONCENTRATIONS DURING CALM PERIODS SET = 0 (YES=1,NO=2)	ISW(27) = 1
REG. DEFAULT OPTION CHOSEN (YES=1,NO=2)	ISW(28) = 1
TYPE OF POLLUTANT TO BE MODELLED (1=SO2,2=OTHER)	ISW(29) = 1
DEBUG OPTION CHOSEN (1=YES,2=NO)	ISW(30) = 0

NUMBER OF INPUT SOURCES	NSOURC = 25
NUMBER OF SOURCE GROUPS (=0,ALL SOURCES)	NGROUP = 0
TIME PERIOD INTERVAL TO BE PRINTED (=0,ALL INTERVALS)	IPERD = 0
NUMBER OF X (RANGE) GRID VALUES	NXPNTS = 5
NUMBER OF Y (THETA) GRID VALUES	NYPNTS = 36
NUMBER OF DISCRETE RECEPTORS	NXWYPT = 0
SOURCE EMISSION RATE UNITS CONVERSION FACTOR	TK=.10000E+07
HEIGHT ABOVE GROUND AT WHICH WIND SPEED WAS MEASURED	ZR = 7.00 METERS
LOGICAL UNIT NUMBER OF METEOROLOGICAL DATA	IMET = 9
DECAY COEFFICIENT FOR PHYSICAL OR CHEMICAL DEPLETION	DECAY = .000000E+00
SURFACE STATION NO.	ISS = 12842
YEAR OF SURFACE DATA	ISY = 70
UPPER AIR STATION NO.	IUS = 12842
YEAR OF UPPER AIR DATA	IUY = 70
ALLOCATED DATA STORAGE	LIMIT = 43500 WORDS
REQUIRED DATA STORAGE FOR THIS PROBLEM RUN	MIMIT = 8158 WORDS

1

*** GULF COAST LEAD SO2 MODELING ***

*** METEOROLOGICAL DAYS TO BE PROCESSED ***
(IF=1)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 0
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*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00

F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** GULF COAST LEAD SO2 MODELING ***

*** RANGES OF POLAR GRID SYSTEM ***
(METERS)

400.0, 500.0, 600.0, 750.0, 900.0,

*** RADIAL ANGLES OF POLAR GRID SYSTEM ***

(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

1

*** GULF COAST LEAD SO2 MODELING ***

*** SOURCE DATA ***

SOURCE NUMBER	TYPE	WAKE	NUMBER PART. CATS.	EMISSION RATE TYPE=0,1 (GRAMS/SEC) TYPE=2 (GRAMS/SEC) *PER METER**2	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	HEIGHT (METERS)	TEMP. TYPE=0 (DEG.K); VERT.DIM TYPE=1 (METERS)	EXIT VEL. TYPE=0 (M/SEC); HORZ.DIM TYPE=1,2 (METERS)	DIAMETER TYPE=0 (METERS)	BLDG. HEIGHT TYPE=0 (METERS)	BLDG. LENGTH TYPE=0 (METERS)	BLDG. WIDTH TYPE=0 (METERS)
10	0	0	0	.77900E+02	.0	.0	.0	45.72	350.00	45.72	.62	.00	.00	.00
20	0	0	0	.52520E+04	-2000.0	-18800.0	.0	149.40	423.00	28.70	7.32	.00	.00	.00
30	0	0	0	.26920E+04	-2000.0	-18800.0	.0	149.40	418.00	14.40	7.32	.00	.00	.00
40	0	0	0	.65500E+03	-2000.0	-18800.0	.0	149.40	342.00	19.90	7.32	.00	.00	.00
50	0	0	0	.34900E+03	-5900.0	-3200.0	.0	44.30	473.00	6.60	4.72	.00	.00	.00
60	0	0	0	.28250E+03	-3900.0	-6300.0	.0	93.30	438.00	22.50	3.70	.00	.00	.00
70	0	0	0	.28250E+03	-3900.0	-6300.0	.0	93.30	438.00	32.40	3.10	.00	.00	.00
80	0	0	0	.32140E+03	-3900.0	-6300.0	.0	93.30	427.00	35.40	3.20	.00	.00	.00
90	0	0	0	.42160E+03	-3900.0	-6300.0	.0	93.30	443.00	24.60	2.90	.00	.00	.00
100	0	0	0	.51340E+03	-3900.0	-6300.0	.0	93.30	415.00	20.60	4.50	.00	.00	.00
110	0	0	0	.85360E+03	-3900.0	-6300.0	.0	93.30	415.00	23.70	5.40	.00	.00	.00
120	0	0	0	.96800E+01	-.5	-11400.0	.0	20.70	316.00	11.50	1.07	.00	.00	.00
130	0	0	0	.14300E+02	-.5	-11400.0	.0	38.40	327.00	11.00	2.44	.00	.00	.00
140	0	0	0	.30500E+01	-.5	-11400.0	.0	40.40	314.00	16.00	2.13	.00	.00	.00
150	0	0	0	.15330E+03	-.5	-11400.0	.0	45.60	339.00	10.60	2.44	.00	.00	.00

160	0 0	0	.36500E+02	-2100.0	-5500.0	.0	33.50	381.00	23.90	.61	.00	.00	.00
170	0 0	0	.48000E+01	-1800.0	2900.0	.0	12.60	450.00	20.00	1.24	.00	.00	.00
180	0 0	0	.41500E+02	-3800.0	-6300.0	.0	19.80	389.00	10.50	2.41	.00	.00	.00
190	0 0	0	.21400E+02	-3900.0	-1900.0	.0	45.70	500.00	21.30	1.91	.00	.00	.00
200	0 0	0	.20000E+02	4400.0	-1100.0	.0	67.00	494.00	16.90	3.50	.00	.00	.00
210	0 0	0	.10000E+02	-3900.0	8000.0	.0	15.60	505.00	3.43	1.37	.00	.00	.00
220	0 0	0	.16660E+03	-5900.0	-2800.0	.0	85.40	402.00	18.20	3.40	.00	.00	.00
230	0 0	0	.11400E+03	-5900.0	-2800.0	.0	85.40	397.00	11.50	3.70	.00	.00	.00
240	0 0	0	.10700E+03	-5900.0	-2800.0	.0	85.40	436.00	17.90	2.90	.00	.00	.00
250	0 0	0	.70000E+01	100.0	2600.0	.0	15.20	505.00	6.80	.85	.00	.00	.00

* CALM HOURS (=1) FOR DAY 9 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 20 * 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 24 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
* CALM HOURS (=1) FOR DAY 25 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 26 * 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0
* CALM HOURS (=1) FOR DAY 27 * 1 0 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 28 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0
* CALM HOURS (=1) FOR DAY 39 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 42 * 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 44 * 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 45 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 53 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 55 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0
* CALM HOURS (=1) FOR DAY 56 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 65 * 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 69 * 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 74 * 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 75 * 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 77 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
* CALM HOURS (=1) FOR DAY 78 * 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1
* CALM HOURS (=1) FOR DAY 79 * 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 83 * 1 1 1 1 1 1 1 1 0 0 0 0 1 0 0 0 0 0 0 0 1 1 1 1
* CALM HOURS (=1) FOR DAY 84 * 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 85 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 86 * 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 90 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 0
* CALM HOURS (=1) FOR DAY 91 * 0 0 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 92 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 97 * 0 1 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 99 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 100 * 1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1
* CALM HOURS (=1) FOR DAY 101 * 1 0 1 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 1 0 0
* CALM HOURS (=1) FOR DAY 102 * 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 104 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 105 * 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 107 * 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 1
* CALM HOURS (=1) FOR DAY 108 * 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1
* CALM HOURS (=1) FOR DAY 109 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 111 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 112 * 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 114 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 115 * 0 0 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 116 * 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 117 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 118 * 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 119 * 0 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 123 * 0 0 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0
* CALM HOURS (=1) FOR DAY 124 * 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 126 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 127 * 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
* CALM HOURS (=1) FOR DAY 131 * 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 136 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0
* CALM HOURS (=1) FOR DAY 137 * 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 138 * 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 143 * 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 146 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1

* CALM HOURS (=1) FOR DAY 147 * 1 1 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 154 * 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 156 * 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0
* CALM HOURS (=1) FOR DAY 158 * 0 0 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 159 * 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 160 * 1 0 1 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 161 * 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
* CALM HOURS (=1) FOR DAY 162 * 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 163 * 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 164 * 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 165 * 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 167 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 168 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 169 * 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 170 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 171 * 0 1 1 1 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 172 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 173 * 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 174 * 0 1 1 0 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 175 * 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 176 * 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 179 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
* CALM HOURS (=1) FOR DAY 180 * 1 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 182 * 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 183 * 0 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 184 * 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 185 * 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 188 * 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 189 * 0 1 0 1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 190 * 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
* CALM HOURS (=1) FOR DAY 192 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 193 * 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0
* CALM HOURS (=1) FOR DAY 195 * 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 196 * 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 197 * 0 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 198 * 0 0 0 1 1 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 199 * 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 200 * 0 1 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 201 * 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
* CALM HOURS (=1) FOR DAY 210 * 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 211 * 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 216 * 0 0 1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 217 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 218 * 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 219 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 226 * 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 228 * 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1
* CALM HOURS (=1) FOR DAY 229 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 233 * 0 0 1 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 236 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0
* CALM HOURS (=1) FOR DAY 237 * 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 1
* CALM HOURS (=1) FOR DAY 238 * 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 239 * 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 244 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 248 * 0 1 0 1 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 249 * 0 0 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0
* CALM HOURS (=1) FOR DAY 251 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 254 * 0 1 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
* CALM HOURS (=1) FOR DAY 262 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 265 * 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 276 * 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 277 * 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 288 * 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 289 * 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
* CALM HOURS (=1) FOR DAY 293 * 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
* CALM HOURS (=1) FOR DAY 294 * 0 1 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```
 * CALM HOURS (=1) FOR DAY 295 *  0  0  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0
 * CALM HOURS (=1) FOR DAY 296 *  0  0  0  0  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 298 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1
 * CALM HOURS (=1) FOR DAY 299 *  1  1  1  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 302 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0  0  0
 * CALM HOURS (=1) FOR DAY 305 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1
 * CALM HOURS (=1) FOR DAY 307 *  0  0  0  0  0  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 309 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1
 * CALM HOURS (=1) FOR DAY 310 *  1  0  0  0  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0  0
 * CALM HOURS (=1) FOR DAY 311 *  0  1  1  1  1  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 312 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  1  0  0  0
 * CALM HOURS (=1) FOR DAY 314 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 315 *  0  0  1  1  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  0
 * CALM HOURS (=1) FOR DAY 316 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0  0  0
 * CALM HOURS (=1) FOR DAY 319 *  0  0  0  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 321 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 322 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0  0
 * CALM HOURS (=1) FOR DAY 324 *  0  0  0  0  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  0
 * CALM HOURS (=1) FOR DAY 333 *  0  1  0  0  0  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 334 *  1  1  0  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 338 *  0  0  0  0  0  0  1  1  0  1  0  0  0  0  0  0  0  0  0  0  0  0  1  1
 * CALM HOURS (=1) FOR DAY 339 *  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0
 * CALM HOURS (=1) FOR DAY 340 *  0  0  1  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 343 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0
 * CALM HOURS (=1) FOR DAY 345 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 346 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  0
 * CALM HOURS (=1) FOR DAY 347 *  0  0  0  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0  0
 * CALM HOURS (=1) FOR DAY 349 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0
 * CALM HOURS (=1) FOR DAY 351 *  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1
 * CALM HOURS (=1) FOR DAY 354 *  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  0
 * CALM HOURS (=1) FOR DAY 355 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  0  1  0
 * CALM HOURS (=1) FOR DAY 356 *  0  1  0  0  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 358 *  0  0  0  0  0  0  0  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
 * CALM HOURS (=1) FOR DAY 360 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 361 *  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  1  1  1  1
 * CALM HOURS (=1) FOR DAY 362 *  1  1  1  1  1  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 363 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1
 * CALM HOURS (=1) FOR DAY 365 *  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  1  0  0
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'N'-DAY
365 DAYS
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* 365-DAY AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 30.91245 AND OCCURRED AT (900.0, 270.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 400.0	500.0	600.0	750.0	900.0
360.0 /	20.39849	21.69786	22.37701	22.80663	22.87273
350.0 /	19.78445	20.79057	21.22031	21.32957	21.17831
340.0 /	20.46599	22.00850	22.85417	23.39707	23.50812
330.0 /	21.12680	23.12187	24.39821	25.47332	25.88509
320.0 /	21.52670	23.56164	24.79678	25.69952	25.90407
310.0 /	22.14201	24.37217	25.64097	26.44363	26.45771
300.0 /	22.56994	25.25257	26.97998	28.38945	28.80005
290.0 /	21.81985	24.20751	25.78404	27.08822	27.44958
280.0 /	21.44113	23.93640	25.87279	27.91453	28.94508
270.0 /	21.66549	24.48755	26.78319	29.37079	30.91245
260.0 /	20.95409	23.17420	24.78576	26.33437	27.11000

250.0 /	20.41758	22.27544	23.65086	25.04204	25.83188
240.0 /	20.14073	22.01731	23.50337	25.15192	26.17959
230.0 /	19.39944	20.91547	22.13025	23.49159	24.35933
220.0 /	19.02320	20.18106	21.10084	22.17382	22.89885
210.0 /	18.90468	19.98889	20.79628	21.70018	22.31070
200.0 /	18.30720	19.15664	19.75359	20.35292	20.71090
190.0 /	17.94555	18.68015	19.18557	19.66223	19.91329
180.0 /	17.96802	18.82168	19.46840	20.15739	20.57392
170.0 /	17.87818	18.64598	19.16782	19.63729	19.84429
160.0 /	17.89426	18.68828	19.28081	19.88681	20.18953
150.0 /	17.80494	18.60806	19.21768	19.85492	20.18380
140.0 /	17.49780	18.30924	19.01722	19.86727	20.39823
130.0 /	17.47753	18.30015	18.99076	19.79263	20.29637
120.0 /	17.46075	18.13631	18.65306	19.24584	19.59348
110.0 /	18.07765	18.81234	19.22213	19.53352	19.57324
100.0 /	21.27492	23.21292	24.08943	24.30936	23.87681
90.0 /	24.93186	28.42634	30.14706	30.79269	30.26707
80.0 /	23.45818	25.73029	26.46288	26.09288	25.04574
70.0 /	21.68422	23.21800	23.64651	23.29198	22.51024
60.0 /	20.87648	22.24539	22.70095	22.56469	22.03063
50.0 /	20.03868	21.09420	21.45138	21.49380	21.28374
40.0 /	20.03491	21.08997	21.41485	21.39215	21.21355
30.0 /	21.09673	22.72434	23.43442	23.61627	23.42323
20.0 /	21.29832	23.12666	24.07386	24.52109	24.33370
10.0 /	20.69266	22.15582	22.93929	23.44362	23.50201

1

HIGH
3-HR
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 738.02660 AND OCCURRED AT (600.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 400.0	500.0	600.0	750.0	900.0
360.0 /	645.31190 (208, 5)	737.14970 (208, 5)	738.02660 (208, 5)	674.42470 (208, 5)	597.71060 (208, 5)
350.0 /	425.27360 (147, 4)	432.86630 (147, 4)	424.85390 (147, 4)	405.36680 (147, 4)	399.69330 (124, 4)
340.0 /	356.94410 (147, 4)	454.29590 (194, 5)	479.36050 (194, 5)	445.40820 (194, 5)	404.67600 (124, 4)
330.0 /	411.20360 (208, 6)	456.31900 (71, 4)	516.95100 (71, 4)	560.54070 (71, 4)	568.03800 (71, 4)
320.0 /	481.13980 (147, 4)	494.30730 (147, 4)	479.97460 (147, 4)	489.14700 (355, 4)	461.45860 (71, 4)
310.0 /	533.20230 (147, 4)	553.77040 (147, 4)	536.10570 (147, 4)	490.70870 (147, 4)	447.19820 (147, 4)
300.0 /	430.36140 (147, 4)	435.39920 (147, 4)	422.60490 (147, 4)	435.24930 (124, 4)	442.90550 (124, 4)
290.0 /	356.78770 (124, 4)	382.85360 (124, 4)	406.92380 (124, 4)	434.98570 (124, 4)	448.13580 (124, 4)
280.0 /	350.17020 (124, 4)	374.64720 (124, 4)	398.08830 (124, 4)	428.14680 (124, 4)	447.41530 (124, 4)
270.0 /	344.90560 (147, 4)	362.63000 (124, 4)	388.09650 (182, 6)	418.09080 (71, 4)	441.29530 (71, 4)
260.0 /	403.85790 (166, 4)	428.85430 (334, 4)	466.90330 (352, 4)	463.42330 (352, 4)	438.69580 (71, 4)
250.0 /	375.63380 (166, 4)	350.92590 (24, 5)	356.48980 (24, 5)	382.14880 (71, 4)	420.98970 (71, 4)
240.0 /	352.85190 (39, 5)	449.85410 (24, 5)	466.19620 (24, 5)	428.81180 (277, 5)	387.84860 (277, 5)
230.0 /	367.68130 (77, 5)	365.15430 (77, 5)	388.86880 (65, 4)	370.13410 (65, 4)	342.85250 (77, 5)
220.0 /	385.02470 (77, 5)	389.01380 (77, 5)	392.77670 (77, 5)	397.92870 (77, 5)	402.38620 (77, 5)
210.0 /	398.05620 (77, 5)	416.47450 (182, 5)	414.63510 (77, 5)	427.63420 (77, 5)	441.13180 (77, 5)
200.0 /	405.68920 (77, 5)	414.97460 (77, 5)	424.02970 (77, 5)	437.03400 (77, 5)	449.11870 (77, 5)
190.0 /	407.70010 (77, 5)	414.96270 (77, 5)	420.72330 (77, 5)	426.13850 (77, 5)	427.15110 (77, 5)
180.0 /	404.73940 (77, 5)	407.54970 (77, 5)	407.18610 (77, 5)	400.30330 (77, 5)	385.59800 (77, 5)
170.0 /	398.11100 (77, 5)	395.16690 (77, 5)	387.50850 (77, 5)	367.35290 (77, 5)	380.38930 (358, 5)
160.0 /	389.42330 (77, 5)	380.59070 (77, 5)	384.76050 (321, 5)	370.12380 (358, 5)	373.01250 (358, 5)
150.0 /	380.24240 (77, 5)	366.30600 (77, 5)	358.24980 (147, 4)	366.90800 (358, 5)	359.78000 (358, 5)
140.0 /	371.84470 (77, 5)	355.81170 (147, 4)	355.60060 (358, 5)	360.89420 (358, 5)	346.91760 (358, 5)
130.0 /	365.09300 (77, 5)	366.66790 (156, 3)	396.63620 (156, 3)	374.88970 (156, 3)	337.85910 (358, 5)
120.0 /	360.41140 (77, 5)	349.34800 (147, 4)	348.47480 (358, 5)	350.01430 (358, 5)	333.58700 (358, 5)

110.0 /	357.81850 (77, 5)	346.67880 (147, 4)	342.78860 (358, 5)	346.07340 (358, 5)	333.23050 (358, 5)
100.0 /	365.06300 (193, 4)	344.70030 (147, 4)	388.07310 (187, 3)	390.57370 (187, 3)	353.13720 (187, 3)
90.0 /	450.21690 (193, 4)	446.23840 (162, 5)	483.00560 (353, 5)	504.17120 (353, 5)	466.45920 (353, 5)
80.0 /	539.87930 (99, 5)	573.90530 (99, 5)	545.74210 (170, 4)	500.46820 (170, 4)	433.15490 (170, 4)
70.0 /	609.12030 (119, 4)	649.93080 (119, 4)	599.74410 (119, 4)	525.03480 (170, 4)	478.28760 (192, 6)
60.0 /	447.25340 (26, 5)	477.12430 (26, 5)	509.90190 (101, 5)	518.10160 (101, 5)	497.51210 (101, 5)
50.0 /	395.69510 (235, 5)	404.51820 (100, 5)	384.83590 (191, 4)	373.13870 (116, 5)	349.35310 (116, 5)
40.0 /	501.38050 (191, 4)	566.96460 (77, 5)	589.89540 (77, 5)	574.91140 (77, 5)	538.55420 (77, 5)
30.0 /	588.12350 (91, 4)	693.09030 (77, 5)	732.65640 (77, 5)	714.31640 (77, 5)	661.74680 (77, 5)
20.0 /	603.08010 (91, 4)	641.63400 (91, 4)	618.88290 (91, 4)	555.26680 (91, 4)	523.33680 (101, 6)
10.0 /	565.48860 (147, 4)	641.34710 (147, 4)	667.15010 (147, 4)	653.35450 (147, 4)	616.38180 (147, 4)

2ND HIGH
3-HR
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* SECOND HIGHEST 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 638.57390 AND OCCURRED AT (600.0, 360.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 400.0	500.0	600.0	750.0	900.0
360.0 /	574.15040 (147, 4)	631.19400 (147, 4)	638.57390 (147, 4)	608.79970 (147, 4)	566.82950 (147, 4)
350.0 /	361.18920 (89, 4)	384.75700 (89, 4)	377.89800 (208, 5)	393.20370 (124, 4)	387.35020 (147, 4)
340.0 /	352.59450 (219, 4)	367.56970 (208, 6)	400.89560 (326, 4)	411.78850 (326, 4)	403.63060 (71, 4)
330.0 /	402.80160 (219, 4)	447.82840 (208, 6)	436.16440 (208, 6)	412.39380 (124, 4)	416.71850 (124, 4)
320.0 /	363.22170 (107, 4)	408.13070 (107, 4)	467.24110 (355, 4)	453.48690 (71, 4)	453.80650 (355, 4)
310.0 /	393.64790 (134, 4)	411.06120 (134, 4)	409.83150 (210, 4)	430.83220 (124, 4)	435.19910 (124, 4)
300.0 /	417.66330 (244, 4)	402.23650 (227, 4)	419.52540 (252, 4)	418.54840 (252, 4)	420.23900 (71, 4)
290.0 /	354.45400 (147, 4)	367.72760 (227, 4)	394.74540 (28, 4)	418.46210 (71, 4)	427.91810 (71, 4)
280.0 /	344.11250 (147, 4)	361.58770 (120, 4)	386.14340 (71, 4)	421.04530 (71, 4)	435.86800 (71, 4)
270.0 /	343.94310 (120, 5)	361.25950 (182, 6)	384.06300 (124, 4)	413.55210 (124, 4)	436.69660 (124, 4)
260.0 /	346.49210 (147, 4)	415.73900 (352, 4)	465.55340 (334, 4)	443.88670 (334, 4)	419.41290 (352, 4)
250.0 /	348.57450 (147, 4)	344.70940 (147, 4)	345.96840 (124, 4)	367.34370 (124, 4)	387.07750 (124, 4)
240.0 /	352.32810 (24, 5)	423.18240 (39, 5)	426.24990 (277, 5)	423.76200 (24, 5)	382.61000 (71, 4)
230.0 /	353.66550 (147, 4)	353.93180 (65, 4)	361.45530 (77, 5)	353.59700 (77, 5)	339.34010 (147, 4)
220.0 /	356.28340 (147, 4)	355.49800 (147, 4)	354.34240 (147, 4)	360.72090 (356, 5)	367.59920 (356, 5)
210.0 /	368.73460 (182, 5)	406.23970 (77, 5)	392.41080 (182, 5)	378.80720 (356, 5)	391.63350 (356, 5)
200.0 /	360.53780 (147, 4)	361.57910 (147, 4)	369.25090 (356, 5)	380.44120 (356, 5)	390.87460 (356, 5)
190.0 /	361.77300 (147, 4)	363.31060 (147, 4)	364.85250 (147, 4)	367.17290 (147, 4)	369.50150 (147, 4)
180.0 /	362.23910 (147, 4)	363.88800 (147, 4)	365.53820 (147, 4)	368.01440 (147, 4)	373.81880 (358, 5)
170.0 /	361.90730 (147, 4)	363.26480 (147, 4)	364.53170 (147, 4)	366.39020 (358, 5)	367.74070 (147, 4)
160.0 /	360.83860 (147, 4)	373.07300 (321, 5)	365.99500 (77, 5)	362.14550 (147, 4)	361.66700 (147, 4)
150.0 /	359.17440 (147, 4)	358.94980 (147, 4)	355.96900 (358, 5)	356.28000 (147, 4)	353.17420 (147, 4)
140.0 /	357.11510 (147, 4)	354.14860 (77, 5)	353.80320 (147, 4)	349.44420 (147, 4)	343.45710 (147, 4)
130.0 /	354.89060 (147, 4)	352.49280 (147, 4)	352.78550 (358, 5)	354.86990 (358, 5)	333.76740 (147, 4)
120.0 /	352.72990 (147, 4)	339.92120 (77, 5)	344.88820 (147, 4)	336.20630 (147, 4)	325.21500 (147, 4)
110.0 /	350.83160 (147, 4)	338.13560 (77, 5)	341.35000 (147, 4)	331.21340 (147, 4)	318.63860 (147, 4)
100.0 /	356.98740 (77, 5)	341.07290 (193, 4)	359.14500 (156, 5)	350.57950 (156, 5)	334.56730 (358, 5)
90.0 /	407.59420C(198, 4)	426.70080 (108, 5)	464.49060 (162, 5)	478.34390 (190, 6)	456.67340 (190, 6)
80.0 /	424.34880 (45, 5)	523.77340 (170, 4)	522.97280 (99, 5)	442.64450 (137, 5)	385.97650 (40, 5)
70.0 /	456.36760 (170, 4)	572.58700 (170, 4)	585.85820 (170, 4)	490.89290 (119, 4)	457.59010 (101, 5)
60.0 /	416.39090 (197, 4)	472.40270 (101, 5)	454.91230 (65, 5)	414.71420 (358, 4)	417.44430 (253, 6)
50.0 /	382.69490 (100, 5)	402.26060 (235, 5)	381.42340 (116, 5)	344.80130 (77, 5)	333.22840 (77, 5)
40.0 /	499.13890 (77, 5)	532.13120 (191, 4)	530.30820 (358, 5)	555.57520 (358, 5)	536.67260 (358, 5)
30.0 /	585.24960 (219, 4)	607.16640 (91, 4)	572.23680 (91, 4)	561.91270 (356, 5)	524.10840 (356, 5)
20.0 /	489.79040 (162, 4)	511.41550 (162, 4)	483.79790 (25, 5)	498.31690 (101, 6)	495.74150 (91, 4)
10.0 /	558.72030 (208, 5)	605.41410 (208, 5)	621.28750 (346, 4)	625.49270 (346, 4)	593.97860 (346, 4)

1

MAX 50
3-HR
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* 50 MAXIMUM 3-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	738.02660	5	208	600.0	360.0	26	597.71060	5	208	900.0	360.0
2	737.14970	5	208	500.0	360.0	27	596.50520	4	219	500.0	30.0
3	732.65640	5	77	600.0	30.0	28	593.97860	4	346	900.0	10.0
4	714.31640	5	77	750.0	30.0	29	590.29170	4	127	500.0	360.0
5	693.09030	5	77	500.0	30.0	30	589.89540	5	77	600.0	40.0
6	674.42470	5	208	750.0	360.0	31	588.12350	4	91	400.0	30.0
7	667.15010	4	147	600.0	10.0	32	585.85820	4	170	600.0	70.0
8	661.74680	5	77	900.0	30.0	33	585.24960	4	219	400.0	30.0
9	653.35450	4	147	750.0	10.0	34	583.80880	5	208	600.0	10.0
10	649.93080	4	119	500.0	70.0	35	583.12380	5	77	400.0	30.0
11	645.31190	5	208	400.0	360.0	36	578.84900	4	127	600.0	360.0
12	641.63400	4	91	500.0	20.0	37	574.91140	5	77	750.0	40.0
13	641.34710	4	147	500.0	10.0	38	574.15040	4	147	400.0	360.0
14	638.57390	4	147	600.0	360.0	39	573.90530	5	99	500.0	80.0
15	631.19400	4	147	500.0	360.0	40	572.58700	4	170	500.0	70.0
16	625.49270	4	346	750.0	10.0	41	572.31590	4	346	500.0	10.0
17	621.28750	4	346	600.0	10.0	42	572.23680	4	91	600.0	30.0
18	618.88290	4	91	600.0	20.0	43	572.07620	5	356	600.0	30.0
19	616.38180	4	147	900.0	10.0	44	568.03800	4	71	900.0	330.0
20	609.12030	4	119	400.0	70.0	45	566.96460	5	77	500.0	40.0
21	608.79970	4	147	750.0	360.0	46	566.82950	4	147	900.0	360.0
22	607.16640	4	91	500.0	30.0	47	565.48860	4	147	400.0	10.0
23	605.41410	5	208	500.0	10.0	48	561.91270	5	356	750.0	30.0
24	603.08010	4	91	400.0	20.0	49	560.54070	4	71	750.0	330.0
25	599.74410	4	119	600.0	70.0	50	558.72030	5	208	400.0	10.0

1

HIGH
24-HR
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 199.91930 AND OCCURRED AT (600.0, 90.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 400.0	500.0	600.0	750.0	900.0
360.0 /	138.57590C(127, 1)	147.63980C(127, 1)	142.20070C(127, 1)	134.92770 (71, 1)	150.17760 (71, 1)
350.0 /	114.41110 (89, 1)	119.69030 (89, 1)	122.67570 (89, 1)	127.48810 (89, 1)	131.68500 (89, 1)
340.0 /	114.43520 (71, 1)	119.62050 (71, 1)	123.92950C(91, 1)	128.52450C(91, 1)	130.02170C(91, 1)
330.0 /	124.69760 (71, 1)	136.74180 (71, 1)	145.85760 (71, 1)	153.26030 (71, 1)	154.23920 (71, 1)
320.0 /	120.41740 (71, 1)	126.55490 (71, 1)	130.10630 (71, 1)	130.45220 (71, 1)	126.11320 (71, 1)
310.0 /	118.39680 (71, 1)	121.76670 (71, 1)	123.26860 (71, 1)	121.68650 (71, 1)	125.28580C(91, 1)
300.0 /	119.14880 (71, 1)	122.32980 (71, 1)	123.45830 (71, 1)	124.51030 (297, 1)	122.35660 (80, 1)
290.0 /	119.52320 (71, 1)	122.73300 (71, 1)	123.83550 (71, 1)	121.21510 (71, 1)	122.94970 (80, 1)
280.0 /	119.44420 (71, 1)	122.88260 (71, 1)	124.33590 (71, 1)	122.34600 (71, 1)	121.80270 (80, 1)
270.0 /	118.83400 (71, 1)	122.65050 (71, 1)	124.78660 (71, 1)	124.24480 (71, 1)	123.46940C(138, 1)

260.0 /	117.54110 (71, 1)	121.74560 (71, 1)	124.73200 (71, 1)	126.27980 (71, 1)	123.93920 (71, 1)
250.0 /	115.37510 (71, 1)	119.75480 (71, 1)	123.44430 (71, 1)	127.17340 (71, 1)	128.17270 (71, 1)
240.0 /	112.17640 (71, 1)	116.27550 (71, 1)	120.11580 (71, 1)	125.13680 (71, 1)	128.90080 (71, 1)
230.0 /	107.89860 (71, 1)	111.11150 (71, 1)	114.26650 (71, 1)	118.82470 (71, 1)	123.06820 (71, 1)
220.0 /	102.66040 (71, 1)	104.39890 (71, 1)	106.03730 (71, 1)	108.28910 (71, 1)	111.16810 (37, 1)
210.0 /	103.19980 (110, 1)	102.65230 (110, 1)	102.11660 (110, 1)	101.34900 (110, 1)	103.45360C(116, 1)
200.0 /	105.86410 (110, 1)	105.81920 (110, 1)	105.67880 (110, 1)	105.28390 (110, 1)	104.65450 (110, 1)
190.0 /	107.58470 (110, 1)	107.48780 (110, 1)	107.04400 (110, 1)	105.69370 (110, 1)	103.51370 (110, 1)
180.0 /	108.25050 (110, 1)	107.54210 (110, 1)	106.16960 (110, 1)	102.94130 (110, 1)	99.44273C(116, 1)
170.0 /	107.95910 (110, 1)	106.23070 (110, 1)	103.57000 (110, 1)	98.22264 (110, 1)	97.26192C(358, 1)
160.0 /	106.97500 (110, 1)	104.05130 (110, 1)	102.83460C(171, 1)	106.91940C(171, 1)	103.16310C(171, 1)
150.0 /	105.65610 (110, 1)	101.61140 (110, 1)	112.57640C(160, 1)	113.97290C(160, 1)	107.12300C(160, 1)
140.0 /	104.36790 (110, 1)	99.47922 (110, 1)	98.25201C(200, 1)	93.22035C(200, 1)	92.75453C(358, 1)
130.0 /	103.40660 (110, 1)	98.05706 (110, 1)	99.84657C(156, 1)	105.21480 (72, 1)	145.65670 (72, 1)
120.0 /	102.95370 (110, 1)	97.53246 (110, 1)	91.92857C(358, 1)	95.98209 (96, 1)	92.86239 (96, 1)
110.0 /	103.06640 (110, 1)	97.91077 (110, 1)	92.62043C(358, 1)	98.31549C(183, 1)	100.59240C(183, 1)
100.0 /	103.69330 (110, 1)	108.16400C(162, 1)	115.29150C(162, 1)	116.96830C(162, 1)	114.49570C(162, 1)
90.0 /	152.18300C(190, 1)	189.48770C(190, 1)	199.91930C(190, 1)	189.18370C(190, 1)	167.66720C(190, 1)
80.0 /	136.29900C(147, 1)	153.68710C(147, 1)	155.14200C(147, 1)	144.46710C(147, 1)	129.89780C(147, 1)
70.0 /	186.36510C(119, 1)	192.97110C(119, 1)	178.39540C(119, 1)	150.20930C(119, 1)	133.28160 (186, 1)
60.0 /	139.47310 (186, 1)	167.40700 (186, 1)	180.83220 (186, 1)	184.82710 (186, 1)	180.29930 (186, 1)
50.0 /	108.28270 (110, 1)	114.32540C(116, 1)	132.90340 (223, 1)	162.30280 (223, 1)	185.10450 (223, 1)
40.0 /	127.81030C(91, 1)	135.35010C(91, 1)	140.81850C(116, 1)	142.66320C(116, 1)	151.18030 (223, 1)
30.0 /	175.38670C(91, 1)	185.32660C(91, 1)	180.69060C(91, 1)	167.07510C(91, 1)	164.78440 (71, 1)
20.0 /	173.53850C(91, 1)	188.10900C(91, 1)	188.66840C(91, 1)	180.73770C(91, 1)	176.49520 (80, 1)
10.0 /	135.61260C(91, 1)	149.14720C(91, 1)	152.62900C(91, 1)	148.97960C(91, 1)	142.37010C(91, 1)

*** GULF COAST LEAD SO2 MODELING ***

* SECOND HIGHEST 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *
* FROM ALL SOURCES *
* FOR THE RECEPTOR GRID *

* MAXIMUM VALUE EQUALS 171.14340 AND OCCURRED AT (900.0, 20.0) *

DIRECTION / (DEGREES) /	RANGE (METERS) 400.0	500.0	600.0	750.0	900.0
360.0 /	113.23570 (208, 1)	125.13980 (208, 1)	129.35830 (89, 1)	134.16780 (89, 1)	135.43440 (89, 1)
350.0 /	109.09510 (71, 1)	112.56800 (71, 1)	116.02010 (71, 1)	120.81460 (71, 1)	124.59980 (71, 1)
340.0 /	108.26460C(91, 1)	117.61960C(91, 1)	123.54410 (71, 1)	126.84530 (71, 1)	127.35540 (71, 1)
330.0 /	107.90300C(91, 1)	116.56940C(116, 1)	121.73140C(91, 1)	126.26890C(91, 1)	128.02240C(91, 1)
320.0 /	104.08030C(116, 1)	112.54170C(116, 1)	119.28320C(154, 1)	113.19860C(154, 1)	116.93850 (80, 1)
310.0 /	102.97670C(91, 1)	106.69440C(91, 1)	111.07700C(91, 1)	118.47130C(91, 1)	120.30350 (80, 1)
300.0 /	103.54130C(91, 1)	107.76690 (297, 1)	119.16860 (297, 1)	121.01180 (71, 1)	121.92980 (297, 1)
290.0 /	103.73920C(91, 1)	107.11010C(91, 1)	110.27070C(91, 1)	114.14600C(91, 1)	116.56510C(91, 1)
280.0 /	103.49700C(91, 1)	106.77960C(91, 1)	109.91490C(91, 1)	113.94710C(91, 1)	116.81640C(91, 1)
270.0 /	102.83380C(91, 1)	105.90240C(91, 1)	112.40890 (120, 1)	112.94750C(91, 1)	119.31910 (71, 1)
260.0 /	101.79860C(91, 1)	104.52500C(91, 1)	107.24520C(91, 1)	111.17220C(91, 1)	114.65930C(91, 1)
250.0 /	100.46850C(91, 1)	102.74750C(91, 1)	105.02730C(91, 1)	108.48960C(91, 1)	120.87940 (290, 1)
240.0 /	98.93612C(91, 1)	100.72950C(91, 1)	102.46280C(91, 1)	105.09330C(91, 1)	107.90930C(91, 1)
230.0 /	97.27561C(91, 1)	98.63283C(91, 1)	99.85331C(91, 1)	101.53070C(91, 1)	108.54680C(127, 1)
220.0 /	99.90002 (110, 1)	98.49062 (110, 1)	97.49189C(116, 1)	99.24932C(116, 1)	110.28410 (71, 1)
210.0 /	96.74526 (71, 1)	97.59676C(116, 1)	98.97150C(116, 1)	101.14400C(116, 1)	100.62050 (110, 1)
200.0 /	97.17422C(116, 1)	98.64156C(116, 1)	100.10870C(116, 1)	102.27650C(116, 1)	104.35380C(116, 1)
190.0 /	97.87059C(116, 1)	99.33112C(116, 1)	100.63920C(116, 1)	102.19240C(116, 1)	103.09020C(116, 1)
180.0 /	98.28402C(116, 1)	99.52639C(116, 1)	100.36100C(116, 1)	100.61950C(116, 1)	98.55434 (110, 1)
170.0 /	98.37196C(116, 1)	99.17117C(116, 1)	99.20796C(116, 1)	97.49339C(116, 1)	93.40714C(116, 1)
160.0 /	98.14913C(116, 1)	98.31972C(116, 1)	100.05520 (110, 1)	94.32831C(358, 1)	99.50214C(319, 1)
150.0 /	97.68857C(116, 1)	100.14260C(160, 1)	96.52014 (110, 1)	93.76996C(358, 1)	94.06079C(358, 1)
140.0 /	97.10396C(116, 1)	96.10790C(192, 1)	95.66873C(192, 1)	92.95466C(358, 1)	85.42288 (359, 1)
130.0 /	96.51307C(116, 1)	94.90202C(116, 1)	92.09325 (110, 1)	98.18917C(156, 1)	94.33956 (81, 1)

120.0 /	95.99616C(116, 1)	94.25010C(116, 1)	91.72150 (110, 1)	92.17239C(358, 1)	91.29635C(358, 1)
110.0 /	95.56713C(116, 1)	93.99256C(116, 1)	92.49245 (110, 1)	92.60619C(358, 1)	90.99153C(358, 1)
100.0 /	98.50691C(193, 1)	106.39950C(190, 1)	114.06280 (187, 1)	116.59960 (187, 1)	111.48670 (187, 1)
90.0 /	137.29500C(147, 1)	159.46720C(147, 1)	165.86830C(147, 1)	164.83070C(158, 1)	159.97600C(158, 1)
80.0 /	133.08960C(119, 1)	138.10220C(119, 1)	129.71540C(119, 1)	112.82570C(119, 1)	118.86950 (178, 1)
70.0 /	113.31250C(161, 1)	126.89200 (186, 1)	133.67350 (186, 1)	135.73120 (186, 1)	127.94310C(358, 1)
60.0 /	136.56870C(119, 1)	139.29320C(119, 1)	128.74240C(119, 1)	134.33950 (223, 1)	141.85340 (223, 1)
50.0 /	106.01650C(116, 1)	113.33810 (235, 1)	118.70560C(116, 1)	136.05360 (222, 1)	155.40190 (222, 1)
40.0 /	119.61210C(116, 1)	133.97620C(116, 1)	136.48920C(91, 1)	135.39850C(91, 1)	139.83930C(116, 1)
30.0 /	135.76860C(116, 1)	157.05190C(116, 1)	165.40500C(116, 1)	163.99540C(116, 1)	156.30290C(116, 1)
20.0 /	121.93570 (110, 1)	130.81580 (80, 1)	149.44760 (80, 1)	167.84380 (80, 1)	171.14340C(91, 1)
10.0 /	124.69380C(116, 1)	132.25260C(116, 1)	132.37720C(116, 1)	133.89550 (110, 1)	140.50230 (80, 1)

MAX 50
24-HR
SGROUP# 1

*** GULF COAST LEAD SO2 MODELING ***

* 50 MAXIMUM 24-HOUR AVERAGE CONCENTRATION (MICROGRAMS/CUBIC METER) *

* FROM ALL SOURCES *

RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)	RANK	CON.	PER.	DAY	X OR RANGE (METERS)	Y(METERS) OR DIRECTION (DEGREES)
1	199.91930C	1	190	600.0	90.0	26	164.83070C	1	158	750.0	90.0
2	192.97110C	1	119	500.0	70.0	27	164.78440	1	71	900.0	30.0
3	189.48770C	1	190	500.0	90.0	28	163.99540C	1	116	750.0	30.0
4	189.18370C	1	190	750.0	90.0	29	162.30280	1	223	750.0	50.0
5	188.66840C	1	91	600.0	20.0	30	161.15740C	1	162	600.0	90.0
6	188.10900C	1	91	500.0	20.0	31	160.69960C	1	147	750.0	90.0
7	186.36510C	1	119	400.0	70.0	32	159.97600C	1	158	900.0	90.0
8	185.32660C	1	91	500.0	30.0	33	159.64430C	1	162	750.0	90.0
9	185.10450	1	223	900.0	50.0	34	159.46720C	1	147	500.0	90.0
10	184.82710	1	186	750.0	60.0	35	159.15060	1	71	750.0	30.0
11	180.83220	1	186	600.0	60.0	36	157.05190C	1	116	500.0	30.0
12	180.73770C	1	91	750.0	20.0	37	156.30290C	1	116	900.0	30.0
13	180.69060C	1	91	600.0	30.0	38	155.40190	1	222	900.0	50.0
14	180.29930	1	186	900.0	60.0	39	155.14200C	1	147	600.0	80.0
15	178.39540C	1	119	600.0	70.0	40	155.11850C	1	91	900.0	30.0
16	176.49520	1	80	900.0	20.0	41	154.59800C	1	158	600.0	90.0
17	175.38670C	1	91	400.0	30.0	42	154.23920	1	71	900.0	330.0
18	173.53850C	1	91	400.0	20.0	43	153.68710C	1	147	500.0	80.0
19	171.14340C	1	91	900.0	20.0	44	153.26030	1	71	750.0	330.0
20	167.84380	1	80	750.0	20.0	45	152.62900C	1	91	600.0	10.0
21	167.66720C	1	190	900.0	90.0	46	152.18300C	1	190	400.0	90.0
22	167.40700	1	186	500.0	60.0	47	151.18030	1	223	900.0	40.0
23	167.07510C	1	91	750.0	30.0	48	150.88290C	1	162	500.0	90.0
24	165.86830C	1	147	600.0	90.0	49	150.30450C	1	162	900.0	90.0
25	165.40500C	1	116	600.0	30.0	50	150.20930C	1	119	750.0	70.0